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Final Report

Volume 2 – Sector Evaluation Matrices

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AAP	Annual Action Programme
ACP	African, Caribbean and Pacific Group of States
AF	Action Fiche
AfDB	African Development Bank
AFS	Afrique du Sud
AGCI	Agencia de Cooperacion Internacional de Chile
AGM	Annual General Meeting
AHIF	Avian and Human Influenza Facility
AIDCO	EuropeAid Co-operation Office
AIDS	Acquired Immune Deficiency Syndrome
AIMS	Agricultural Information Management System
AITVN	Asian Institute of Technology Centre in Vietnam
ALA	Asia and Latin America
ALBAN	América Latina – Becas de Alto Nivel
ALFA	América Latina Formación Académica
AMESD	African Monitoring of the Environment for Sustainable Development
ANDI	African Network for Drugs and Diagnostics Intervention
ANEP	Administración Nacional de Educación Pública
ANII	National Innovation and Research Agency
ANPR	National Agency For Scientific Research Promotion
AP	Action Plan
APAARI	Asia Pacific Association of Agricultural Research Institutions
APRP	Agricultural Productivity Research Project
ARD	Agricultural Research for Development
ARG	Africa Research Grants
ART	Anti-Retroviral Therapy
ARV	Antiretroviral
ASAL	Arid and Semi-Arid Lands
ASARECA	Association for Strengthening Agricultural Research in Eastern and Central Africa
ASEAN	Association of Southeast Asian Nations
AU	African Union
AUC	African Union Commission
AU-IBAR	African Union Interafrican Bureau for Animal Resources
BILAT	Bilateral EU Cooperation in Science, Technology and Innovation
BIOPAMA	Programme for Biodiversity and Protected Areas Management
BS	Budget Support
CA	Central Asia
CAADP	Comprehensive Africa Agriculture Development Programme
CAAST-Net	Network for the Coordination and Advancement of sub-Saharan Africa-EU Science & Technology Cooperation
CALIBRE	Cambodia and Laos Initiative for Building Human Resources for the Environment
CAREC	Regional Environmental Centre for Central Asia
CAREN	Central Asian Research and Education Network
CARICOM	Caribbean Community
CC	Climate Change
CCAFS	Climate Change, Agriculture and Food Security Research Programme
CCAI	Climate Change Adaptation Initiative
CCCA	Cambodian Climate Change Alliance
CCS	Carbon Capture and Storage
CCT	Clean Coal Technologies
CDM	Clean Development Mechanism
CEWG	Consultative Expert Working Group on Research and Development
CfP	Call for Proposals
CG	Consultative Group
CGIAR	Consultative Group for International Agricultural Research

CIAT	International Center for Tropical Agriculture
CIDA	Canadian International Development Agency
CIFOR	Center for International Forestry Research
CIP	International Potato Centre
CIRAD	Centre de Coopération Internationale en Recherche Agronomique pour le Développement
CLARA	Cooperación Latino Americana de Redes Avanzadas
CMU	Chiang Mai University
CN	Country Note
COM	Communication from the European Commission to other institutions
COMESA	Common Market for Eastern and Southern Africa
CONCYTEC	Consejo Nacional de Ciencia, Tecnología e Innovación Tecnológica
CORAF	Conseil ouest et centre africain pour la recherche et le développement agricoles
CORDIS	Community Research and Development Information Service
CPR	CGIAR Research Programme
CRIS	Common RELEX Information System
CRP	CGIAR Research Programme
CSE	Country Strategy Evaluation
CSO	Civil Society Organisation
CSP	Country Strategy Paper
CSR	Corporate Social Responsibility
CTA	Coffee and Tea Authority
DAC	Development Assistance Committee
DCI	Development Co-operation Instrument
DFID	Department for International Development
DG	European Commission's Directorate-General
DG AGRI	European Commission's Directorate-General for Agriculture and Rural Development
DG DEV	European Commission's former Directorate-General for Development and Relations with ACP States
DG DEVCO	European Commission's Directorate-General for Development Co-operation
DG ENTR	European Commission's Directorate-General Enterprise and Industry
DG SANCO	European Commission's Directorate-General for Health & Consumers
DG SANTE	European Commission's Directorate-General for Health and Food Safety
DonNU	Donetsk National University
DRC	Democratic Republic of Congo
DST	Department of Science and Technology
EAC	East African Community
EACEA	Education, Audiovisual & Culture Executive Agency
EAMR	External Assistance Management Report
EAV	European Added Value
EBTC	European Business & Technology Centre
EC	European Commission
ECA	Economic Commission for Africa
ECHO	European Commission's Humanitarian Aid and Civil Protection department (ECHO), formerly known as the European Community Humanitarian Aid Office
EDCTP	European and Developing Countries Clinical Trials Platform
EDF	European Development Fund
EEAS	European External Action Service
EECA	Eastern Europe and Central Asia
EFARD	European Forum of Agricultural Research for Development
EIAR	Ethiopian Institute for Agricultural Research
EIARD	European Initiative for Agricultural Research for Development
EIB	European Investment Bank
ELMCA	Efficient Lighting Management Curricula for Asia
EM	Erasmus Mundus
ENP	European Neighbourhood Policy
ENPI	European Neighbourhood and Partnership Instrument
ENRTP	Environment and Sustainable Management of Natural Resources including Energy

EnvCC	Environment and Climate Change
EO	Earth Observation
EPA	Environmental Protection Authority
EQ	Evaluation Question
ERA	European Research Area
ESASTAP	European-South African Science and Technology Advancement Project
ESRT	Environmentally & Socially Responsible Tourism Capacity Development Programme
EU	European Union
EUD	European Union Delegation
EU-LAC	European Union-Latin America and Caribbean
EUMETSAT	European Organisation for the Exploitation of Meteorological Satellites
EUR	Euro
EUROPAN	Apoyo Presupuestario de la Unión Europea al Programa Articulado Nutricional
EuropeAid	European Commission's Directorate-Generale Development and Cooperation
FAAP	Framework for African Agricultural Productivity
FANR	Food, Agriculture and Natural Resources Directorate of SADC
FAO	Food and Agriculture Organization of the United Nations
FARA	Forum for Agricultural Research in Africa
FED	Fonds européen de développement
FLEGT	Forest Law Enforcement, Governance and Trade
FORENET	Forestry Research Network
FP	Framework Programme
FRI	Forest Research Institute
FSNA	Food Security, Nutrition and Agriculture
FSTP	Food Security Thematic Programme
FTA	Forests, Trees and Agroforestry
FTE	Full-Time Employment
FWP	Frame Work Programme
GAVI	Global Alliance for Vaccines and Immunization
GBS	General Budget Support
GCARD	Global Conferences on Agricultural Research for Development
GCC	Global Climate Change
GCCA	Global Climate Change Alliance
GEANT	Pan-European Research and Education Network
GFAR	Global Forum on Agriculture Research
GHG	Greenhouse Gas
GHPF	Global Health Policy Forum
GIZ	Gesellschaft für Internationale Zusammenarbeit
GMES	Global monitoring for environment and security
GoB	Government of Belize
GoE	Government of Egypt
GoI	Government of India
GoSA	Government of South Africa
GoT	Government of Tunisia
GoUA	Government of Ukraine
GPARD	Global Programme on Agricultural Research for Development
GSPoA	Global Strategy and Plan of Action
HE	Higher Education
HEI	Higher Education Institution
HIV	Human Immunodeficiency Virus
HQ	Headquarters
IAVI	International AIDS Vaccine Initiative
ICARE	EU-China Institute for Clean and Renewable Energy
ICRAF	World Agroforestry Centre (former International Centre for Research in Agroforestry)
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
ICT	Information and Communication Technology

IFAD	International Fund for Agricultural Development
IGFA	International Group of Funding Agencies for Global Change Research
IICA	Instituto Interamericano de Cooperación para la Agricultura
IL	Intervention Logic
ILRI	International Livestock Research Institute
INCO	International Co-operation
INERA	Institut de l'Environnement et Recherches Agricoles
INTERACT	Infectious Diseases Network for Treatment and Research in Africa
IPCC	Intergovernmental Panel on Climate Change
IPM	International Partnership on Microbicides
IPP	Institute of Plant Protection
IPRs	Intellectual Property Rights
ISG	Inter-service Steering Group
IWMI	International Water Management Institute
JAES	Joint Africa-EU Strategy
JC	Judgement Criterion
JOLISAA	Joint Learning in Innovation Systems in African Agriculture
JRC	Joint Research Centre
JSO	Joint Support Office
JSTCC	Joint Science and Technology Cooperation Committee
KALRO	Kenya Agricultural and Livestock Research Organization
KARI	Kenyan Agricultural Research Institute
KASAL	Kenyan Arid and Semi-Arid Land Research Programme
KEFRI	Kenya Forestry Research Institute
KMC	Knowledge Management and Communication
LA	Latin America
MA	Master of Arts
MCLCP	Mesa de Concertación de Lucha Contra la Pobreza
MDG	Millennium Development Goal
MDTF	Multi-Donor Trust Fund
MEDA	Mediterranean Partnership
MESA	Monitoring of Environment and Security in Africa
MFI	Microfinance Institution
MINAGRI	Ministerio de Agricultura
MINAM	Ministerio del Ambiente
MIP	Multi-Annual Indicative Programming
MIRA	Mediterranean Innovation and Research Action
MoHURD	Chinese Ministry of Housing and Urban Development
MoU	Memorandum of Understanding
MR	Monitoring Report
MRC	Mekong River Commission
MRV	Monitoring, Reporting and Verification
MS	Member State
MSc	Master of Science
MSFD	Marine Strategy Framework Directive
MSIRI	Mauritius Sugar Industry Research Institute
MTOP	Medium Term Operational Plan
MTR	Mid-Term Review
NARES	National Agricultural Research and Extension Services
NARI	National Agricultural Research and Innovation
NARS	National Agricultural Research Systems
NEPAD	New Partnership for Africa's Development
NET	National Expert Team
NGO	Non-Governmental Organisation
NIP	National Indicative Programme
NREN	National Research and Education Network

NSA	Non-State Actor
OECD	Organisation for Economic Co-operation and Development
oQSG	Office Quality Support Group
ORT	Oral Rehydration Therapy
PAEPARD	Platform for African-European Partnership on Agricultural Research for Development
PAN	Programa Articulado Nutricional
PanAf	Pan-African Programme
PASAF	Projet d'appui à la sécurité alimentaire par la fertilité des sols dans les régions du centre nord et du plateau central au Burkina Faso
PASRI	Programme d'appui au système de recherche et Innovation
PCD	Policy Coherence for Development
PHC	Primary Health Care
PhD	Doctor of Philosophy
PHI	Public Health, Innovation and Intellectual Property Team
PMU	Programme Management Unit
PP-AP	Pilot Project-Action Préparatoire
PRD	Poverty Related Diseases
PS	Project Synopsis
RCEE	Research Centre for Energy and Environment
RDC	Democratic Republic of the Congo
RDI	Research, Development and Innovation
READI	Regional Asia Dialogue Instrument
REAFOR	Programme de Relance de la Recherche Agricole et Forestière
REDD	Reducing emissions from deforestation and forest degradation
REGULATEL	Latin American Forum of Telecommunications Regulators
RICTSP	Regional Information and Communication Technologies Support Programme
RO	Research Organisation
ROM	Results-Oriented Monitoring
RSA	Regional Strategy Asia
RSP	Regional Strategy Paper
RTD	Research and Technology Development
RuSACCOs	Rural Savings and Credit Cooperatives
SACCAR	Southern African Centre for Cooperation in Agricultural Research
SADC	Southern African Development Community
SAfECCS	South Africa-Europe Cooperation on Carbon Capture and Storage
SAN	Seguridad Alimentaria y Nutricional
SATNET	Network for Knowledge Transfer on Sustainable Agricultural Technologies and Market Linkages for South and Southeast Asia
SATuRN	South African Treatment and Resistance Network
SBS	Sector Budget Support
SCAR	Standing committee on Agricultural Research
SCP	Sustainable Consumption and Production
SDG	Sustainable Development Goal
SEA	South East Asia
SEC	Miscellaneous documents from the European Commission
SERFOR	Servicio Nacional Forestal y de Fauna Silvestre
SICAF	Climate Change, Agriculture, and Food Security Research Programme
SICAs	Specific International Cooperation Actions
SIDS	Small Island Developing States
SIFOR	Smallholder Innovation for Resistance
SISS	Science, Information Society and Space
SME	Small and Medium Enterprise
SPF	Small Project Facility
SPI	Sustainable Product Innovation
SPIN VCL	Sustainable Product Innovation in Vietnam, Cambodia and Laos
SPS	Sanitary and Phytosanitary Issues
SPSP	Sector Policy Support Programme

SRF	Strategy and Results Framework
SRP	Sugar Research Programme
SSA	Swaziland Sugar Association
STCU	Science and Technology Centre Ukraine
STEP	Sustainable Tourism, Environmental Sustainability and Poverty Reduction
STI	Science, Technology and Innovation
STISA	Science, Technology and Innovation Strategy for Africa
SuPP Urb	Sustainable Public Procurement in Urban Administrations in China
SWD	Commission staff working document
S&T	Science and Technology
TA	Technical Assistance
TACIS	Technical Assistance to the Commonwealth of Independent States
TAP	Technical and Administrative Provisions
TASP	Trade and Agricultural Support Programme
TB	Tuberculosis
TDR	Special Programme for Research and Training in Tropical Diseases
TEIN	Trans-Eurasia Information Network
TP	Tuberculosis
TREC-STEP	Tiruchirappalli Regional Engineering College Science & Technology Entrepreneurs Park
TU	Technical University
TUD	Technical University of Delft
UA	Ukraine
UK	United Kingdom
UN	United Nations
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
US	United States of America
USAID	United States Agency for International Development
USD	US-Dollar
WB	World Bank
WHO	World Health Organization

Note: The Evaluation uses the common acronym "**EC**" to refer to either the "Commission of the European Union" (post-Lisbon Treaty) or the "European Commission" (pre-Lisbon Treaty), as applicable.

Part A

Food Security, Nutrition and Agriculture

Part A – Food Security, Nutrition and Agriculture

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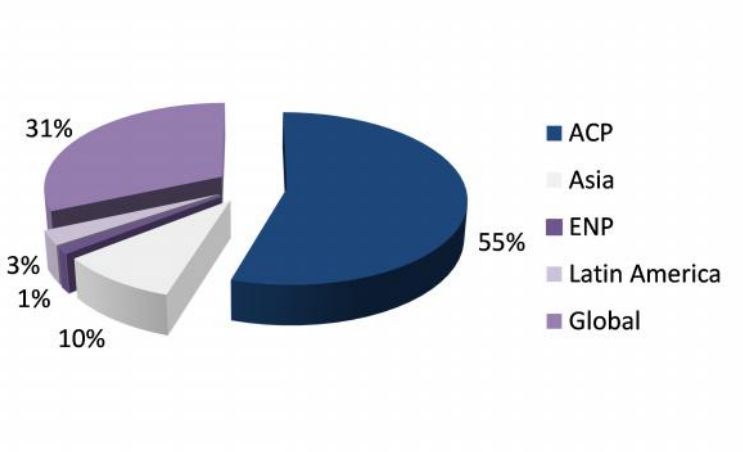
Sector introduction Food Security, Nutrition and Agriculture

Overall introduction

Over the period 2007-2013 DEVCO financing for Research and Innovation (R&I) in Food Security, Nutrition and Agriculture (FSNA) amounts to EUR 511 million (45% of total financial support to R&I). A total of 381 contracts have been issued to 219 contractors worldwide resulting in an average amount of EUR 1.3 million per contract, with contracted amounts ranging from under EUR 10,000 to above EUR 50 million. About 60% of contracts have been issued under DCI-FOOD (Development Co-operation Instrument for food security) instrument and nearly one-third under the European Development Fund (EDF), the rest being covered by regional and thematic instruments. Main contractor channels include international organisations (48%), research organisations (19%), civil society (9%) and private sector firms (6%). Contract titles show as main activities: research, innovation or technology transfer, education, training and capacity development. The geographic distribution of financial commitments is given in Figure 1 below.

Figure 1 FSNA commitments per region



Source: Common RELEX Information System (CRIS), Particip analysis

Table 1 further below provides an analysis of contractor types and benefitting zones. The 48% of total sector funding that is channelled through international organisations benefits global (28% of sector funding), regional (14%) and to a lesser extent national (5%) Research and Innovation programmes. At the global level, international organisations account for 89% of the sector funding. At the regional level, R&I funding is channelled through three types of channels in similar proportions: international organisations, national EU and non-EU organisations. At the country level, national EU and non-EU organisations are the main contractors, representing about 80% of DEVCO R&I funding. This suggests that, with regard to the production and availability of R&I as a global public good, DG DEVCO has invested mostly in its relationship with international organisations. At the regional and national level, a wider range of players needs to be taken into account.

In view of the importance of support to international organisations, Volume 3 of this report presents a range of detailed Case Studies on DEVCO support to global and regional organisations and programmes:

Global level:

- Consultative Group on International Agricultural Research (CGIAR);
- Global Programme on Agricultural Research for Development (GPARD);
- Global Forum on Agriculture Research (GFAR).

Regional level:

- ACP (African, Caribbean and Pacific Group of States) Sugar Research Programme;
- Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA, East Africa);
- Pro-poor Agricultural Innovation for food security in the Andean Region;
- Technology Transfer (South East Asia).

Policy documents

The intervention logic for EU support to R&I for Food and Nutrition Security has been constructed from the following official policy documents:

- DCI Regulation (2006) 1905 that sets the EU's global objective for food and nutrition security towards achieving Millennium Development Goal (MDG) 1 (poverty and hunger);
- COM(2006)21: A thematic strategy for food security, advancing the food security agenda to achieve the MDG;
- EC(2007)1924: Food security thematic programme, thematic strategy paper and multiannual indicative programme 2007-2010;
- COM(2010)127: An EU policy framework to assist developing countries in addressing food security challenges, SEC 2010(379);
- EC(2010)9263: Food security thematic programme, thematic strategy paper (update) and multiannual indicative programme 2011-2013.

These policy documents outline a series of arguments on food security and the need for research and innovation, the contribution it can make, and the way it should be carried out.

Intervention Logic FSNA

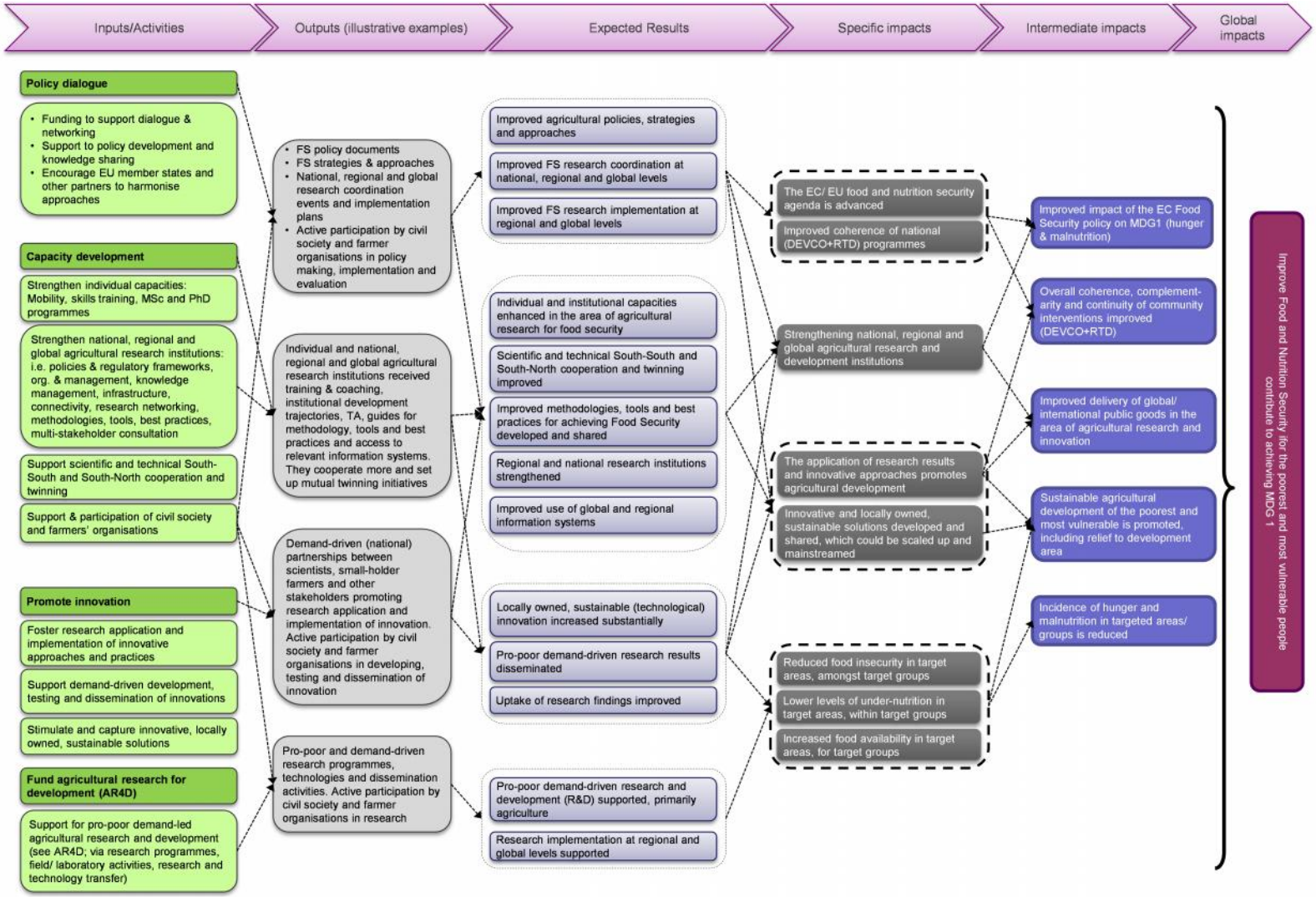
According to the official documents cited, over the period 2007-2013, the EU's efforts were aimed at contributing to improve the food security situation of the poorest and most vulnerable people, and as such contribute to achieving MDG 1 on poverty and hunger. Food insecurity is exacerbated by environmental degradation, poor productive systems, badly functioning markets and limited human capacity (COM(2006) 21:4). Food security is multi-disciplinary and, involves three dimensions of food: availability, access by households and food quality and use (EC(2007) 1924:6). To keep pace with evolving food security level at the local, national and regional levels, there is need to support the development and testing of innovative, sustainable and locally owned policies, strategies and approaches, as well as the dissemination of best practices (COM(2006) 21:11,17). The EU concentrated its efforts on interlinked areas of specific and intermediate impact, shown towards the right of the intervention logic diagram. The five areas of intermediate impact are:

1. To improve the impact of the EC Food Security policy, particularly by strengthening its focus on MDG 1 and improving the overall coherence, complementarity and continuity of EU (DG DEVCO and DG RTD) interventions.
2. To improve the overall coherence, complementarity and continuity of EU interventions
3. To improve the delivery of global/international public goods in the area of agricultural research and innovation, by strengthening national, regional and global agricultural research institutions and co-operation.
4. To promote sustainable agricultural development of the poorest and most vulnerable, including the transition from relief to development, by seeking to foster agricultural development through the application of research results and innovative approaches and, in particular, the development of innovative, locally-owned and sustainable solutions that can be scaled up and mainstreamed.
5. To reduce the incidence of hunger and malnutrition within the areas or groups targeted by its interventions, by reducing food insecurity and under-nutrition and by increasing food availability.

In the outputs and expected results defined for the EU's work one can similarly recognise four broad areas of intervention, which are also evident in the inputs and activities columns in the intervention logic:

1. Improved policy and research co-ordination and implementation at regional and global levels;
2. Strengthened individual and institutional capacity and improved research co-operation and networking;
3. Increased locally owned sustainable (technological) innovation;
4. Improved pro-poor demand-driven agricultural research and development, primarily in agriculture.

Figure 2 *Intervention logic Food Security, Nutrition and Agriculture*



In brief, the intended logic is that:

- The EU invests in (a) strengthening global, regional and national agricultural policies; multi-stakeholder research co-ordination and implementation and (b) improving the capacity of relevant research and innovation institutions and multi-stakeholder networks, so as to improve the delivery of global, regional and national public goods that significantly reduce the incidence of hunger and malnutrition (MDG 1).
- The 'Public Good', the delivery of which is to be supported, may be defined as: innovative, locally owned and sustainable solutions that can be shared, scaled up and mainstreamed to promote sustainable agricultural development of the poorest and most vulnerable.
- 'Solutions' may refer to policies, strategies and approaches to research and innovation or to specific research results or (technological) innovations that contribute to this purpose.

Alignment of EU support with the Intervention Logic

The Intervention Logic for FSNA defines four key activities supported by DG DEVCO:

- Policy dialogue;
- Capacity development;
- Promoting innovation;
- Agricultural research for development (AR4D).

The evaluation confirmed the EU investment in each of these four complementary activities. DEVCO funding is used to promote multi-stakeholder driven agricultural and policy research; the application of multi-stakeholder approaches and networking for innovation and research uptake; capacity strengthening of agricultural researchers, research and development institutions and their networks; and, to promote multi-stakeholder policy dialogues at various levels in order to increase EU coherence and complementarity and to enhance partner country agricultural and agricultural R&I policies.

DG DEVCO also aligns its interventions with country policies and strategies where available and, with varying degrees of success, actively supports regional and global policy processes to deliver better-coordinated and more coherent results. The logic to simultaneously invest in these different complementary components of the global FSNA R&I system is embedded in the way DG DEVCO allocates finance to different partners, programs and projects. In addition, the European AR4D approach also clearly reflects such a comprehensive approach, insisting on multi-stakeholder participation to achieve development impact 'down the chain' at the farmers' level. The country visits confirmed the mainstreaming of this comprehensive, multi-stakeholder and multi-level approach to supporting R&I for FSNA. At the same time oftentimes a low priority is attached to R&I policy dialogue within FSNA sector programmes. Several projects demonstrated however that R&I policy dialogue might nevertheless take place at the project level, as project implementers have incorporated it as an essential element of their comprehensive, multi-stakeholder approach to R&I.

Box 1 Pro-poor innovation

IssAndes is a good example of a project that integrated innovation at different levels in a regional and multi-stakeholder approach with a strong pro-poor focus. The project has been able to improve food and nutrition security of more than 5,000 poor rural families in the Andean region (Bolivia, Peru, Ecuador and Colombia). It has done so by working on a number of areas; facilitating technological and institutional innovation processes, strengthening the capacity to innovate of research and development partners, promoting more responsive research and innovation and influencing national and local policies.

The study results also confirm that DEVCO support is geared towards improving the delivery of global, regional and national public goods from R&I: innovative, locally owned and sustainable solutions that can be shared, scaled up and mainstreamed to promote sustainable agricultural development of the poorest and most vulnerable (see example in Box 1 above).

The approach to achieving delivery varies across geographic levels. At the global level, together with other European donors, DG DEVCO supports the CGIAR Consortium and its Research Programmes, being one of its main funders. Also together with other European donors, organised in European Initiative for Agricultural Research for Development (EIARD), DG DEVCO promotes multi-stakeholder collaboration and dialogue systematically and supports innovative approaches to Research and Innovation (AR4D) by funding specific Consultative Group (CG) Research Programmes directly. Complementarily, the EU plays an active role in the governance of the CGIAR to ensure institutional reform and effective implementation. At the regional level, few strong regional research and innovation networks or organisations are available, including those by the same CGIAR Research Programmes, so DG

DEVCO targets its funding directly to programmes with clearly formulated AR4D objectives. At the national level, finally, situations differ from country to country. Where an Science and Technology (S&T) agreement exists, DEVCO-supported R&I programmes and projects are mostly aligned with national programmes and priorities. Where no such agreement exists DEVCO R&I activities are aligned with national R&I policies on FSNA. Where no such policy exists, or when implementation is weak, particularly in low (middle) income countries, the effectiveness of DEVCO supported R&I activities is doubtful, particularly when provided under budget support.

While the above shows that most elements of the Intervention Logic are covered in practice, it also suggests that DEVCO actually follows three distinct impact pathways within its overall logic of R&I support to FSNA:

1. (Multi-donor) coordinated support to international organisations aiming at (improving) the delivery of international (global, regional) public goods related to agricultural Research and Innovation, addressing specific global development challenges;
2. Project support to specific multi-stakeholder research and innovation projects (regional, national), aiming directly at pro-poor, locally owned and sustainable solutions to specific problems with regard to FSNA in developing countries and regions;
3. Support to multi-stakeholder research and innovation processes with the aim to improve national R&I capacity and competitiveness in (emerging) economies (mostly national level).

Agricultural Research and Innovation for Development

In the FSNA sector, the systematic introduction of the comprehensive European multi-stakeholder and multi-level AR4D approach to identifying, researching and addressing common problems through locally owned solutions, constitutes a common element. However, given the fact that conditions for application, installed capacities of partners and objectives differ, each pathway requires a different mix of support to policy dialogue, capacity development, research and innovation. The study results suggest that in lower income developing countries in particular, where research and/or innovation systems are weakly developed, in order to improve the effectiveness of R&I programmes a strong and synchronised investment is necessary in developing the capacity and particularly, the organisations and institutions that enable scaling up (advisory services, non-governmental organisations (NGOs), farmer organisations). For example by coordinating Research and Innovation and collaborative grants in a particular sector with long term (institutional) development grants in the same sector so as to ensure long term viability of research and innovation processes for that sector.

Attention to results

The evidence suggests that while intentions (objectives, goals, expectations) are well documented for all programmes and projects, the results achieved in practice are not (or at least not evenly) documented for all projects. This was confirmed by partners in the field who pointed at the fact that (budgetary, time, mental) space for documenting and capitalising on development outcomes in DEVCO and RTD funded R&I programmes and projects was limited. At the same time the case and country studies show that further scrutiny yields considerable evidence in this particular area. The conclusion is that a more systematic effort on the part of DG DEVCO to encourage and facilitate documentation and capitalisation on development outcomes from DEVCO supported programmes and projects would serve to intensify the learning and sharing of lessons with regard to good EU R&I practice and increase the visibility and evaluability of DG DEVCO financed R&I programmes and projects.

Sampling approach used: global, regional and national impact

Table 1 FSNA contracts in R&I by contractor channel and benefitting zone

Contract benefitting zone	Contractor type	No. of contracts	No. of contractors	Average per contract (EUR)	Average per contractor (EUR)	Total contracted (EUR)	% of subtotal	% of total
Global	International	4	2	35,763,432	71,526,864	143,053,727	89%	28%
	Regional	1	1	2,999,188	2,999,188	2,999,188	2%	1%
	National EU	6	6	1,970,809	1,970,809	11,824,852	7%	2%
	National Non-EU	2	2	1,674,562	1,674,562	3,349,124	2%	1%
	Subtotal	**13**	**11**	**12,402,069**	**14,656,990**	**161,226,891**	**100%**	**32%**
Regional	International	19	6	3,829,335	12,126,229	72,757,371	36%	14%
	Regional	14	3	340,305	1,588,089	4,764,267	2%	1%
	National EU	90	57	652,542	1,030,329	58,728,769	29%	11%
	National Non-EU	91	54	720,066	1,213,444	65,525,986	32%	13%
	Subtotal	**214**	**120**	**942,880**	**1,681,470**	**201,776,393**	**100%**	**39%**
Country	International	9	5	2,691,000	4,843,801	24,219,004	16%	5%
	Regional	3	2	1,317,819	1,976,729	3,953,458	3%	1%
	National EU	77	65	734,186	869,728	56,532,350	38%	11%
	National Non-EU	65	44	976,135	1,442,017	63,448,748	43%	12%
	Subtotal	**154**	**116**	**962,036**	**1,277,186**	**148,153,560**	**100%**	**29%**
Total		**381**	**219**	**1,341,619**	**2,334,050**	**511,156,844**		**100%**

Source: CRIS, Particip analysis

Global level: Looking across the benefitting zones, international organisations represent almost half of DG DEVCO total funding. Therefore, at the global level, the CGIAR and its International Research Centres and Programmes, and GFAR, the global multi-stakeholder platform supported by the EU to develop and maintain a global policy dialogue with regard to a demand-driven agricultural research and innovation agenda for international AR4D, have been included as Case Studies and have been targeted for further scrutiny during country visits. The other global programme, GPARD, a targeted global call for proposals, was included as a Case Study as well, because it represents a different modality for funding R&I as compared to CGIAR funding.

Regional level: The ACP Sugar Research Programme was selected as a Case Study for its links with EDF funding and political dialogue between Europe and the ACP Group. At the regional level, three Case Studies were done, covering EU funding in South Asia (Technology Transfer project), East Africa (ASARECA) and the Latin American Andes region (Pro-poor Innovation project).

National level: In the country selection the coincidence with the location of the headquarters of global and regional programmes in a particular country has been taken into account, particularly with regard to visiting as wide a range as possible of CG Centres and Research Programs. The choice of Ethiopia, Kenya, Burkina Faso, and Peru, made it possible to visit the headquarters, offices and/or projects of the International Livestock Research Institute (ILRI), the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), the International Water Management Institute (IWMI), the International Potato Centre (CIP), the International AgroForestry Research Centre (ICRAF), and the International Centre for Tropical Agriculture (CIAT). In the FSNA sector, the country-level contracts extracted from the CRIS database represent 15% of all contracts and 27% of their total value in the sample countries of this evaluation (emphasis was put on downloading the largest contracts in each category). Due to differences in the average amounts contracted per project, the proportions of the value contracted per category differ. At the national level, regional contractors do not play a significant role, but otherwise national level was distributed relatively even over the remaining contractor types.

1 EQ 1: Development policy objectives

To what extent has EU support to R&I through DG DEVCO been successful in promoting the overall development policy objectives of the EU?

1.1 JC 11: Link between R&I activities and EU development objectives (as per European Consensus and Agenda for Change – MDGs, etc.)

Summary judgement

At the policy level EU development objectives on Food Security, Nutrition and Agriculture are fully aligned with the European Consensus for Development of 2005 and the Millennium Development Goal (MDG) agenda. In the four main strategic EU high-level development policy documents and sector policy communications on FSNA and development, the link between R&I in the FSNA sector and the MDGs is explicitly made. Besides, there is a specific EC non-paper with Guidelines on Agricultural Research for Development (EC 2008, guidelines ARD). A working document outlining the approach to Research and Innovation for sustainable agriculture taken by DG DEVCO was presented in November 2014 (EC 2014, approach AR4D). In the area of Food Security, Nutrition and Agriculture, besides of MDG 1 (Eradication of Extreme Poverty and Hunger), the FSNA policies are also relevant to achieve MDG 7 on Environmental Sustainability, given the emphasis in the European Consensus the need for sustainability, and MDG 3, to Promote Gender Equality and Empower Women given the majority role women play in both farming and nutrition (I-111).

At the operational level, R&I interventions relevant to the FSNA sector are also linked to development objectives, though often only implicitly. In the national interventions studied, general reference but no explicit links were found. At country level project implementation shows good levels of alignment with EU development objectives (I-111) and where appropriate with specific MDGs. In countries with weak domestic FSNA policies and/or implementation, under budget support alignment with EU development objectives and effectiveness may be reduced (Burkina Faso Country Note (CN)). In both regional and global programmes MDGs are referenced to. In the DG DEVCO project documentation that would relate to Research and Innovation, hardly any explicit link to MDGs is found. Implicitly, the R&I activities link to global goods issues including environment, security and poverty reduction. As the MDGs are not further operationalised it cannot be established whether the DEVCO interventions contribute to the pursuit of these goals (I-111).

In the activities supported, the link between R&I activities and EU development of objectives shows three complementary impact pathways. In the first place, a more direct approach supporting demand-driven research and technological innovation in developing countries to reduce food insecurity through pro-poor agricultural development; in the second place a more indirect approach supporting the provision of international public goods through global, regional and national agricultural research and innovation partnerships. A third approach is an approach of supporting multi-stakeholder research and innovation processes with the aim to improve R&I capacity and competitiveness in (emerging) economies. This combination has remained during the period (EC(2007) 1924). Towards 2010, a thematic shift may be noticed as at that point in time malnutrition seems to receive increasing emphasis (COM(2010) 127). Another lesson incorporated during the period was an emphasis on the need to ensure coherence, complementarity and continuity of EU – including its Member States – supported interventions, not just policy and interventions at EU level, in order to ensure the effectiveness of the EU's Food Security policy in favour of the poorest and most vulnerable (EC(2010) 9263). The second approach of supporting agricultural research and innovation partnerships seems particularly important in view of the complex, fragmented character of the Food Security, Nutrition and Agriculture for development sector, with its numerous public, private and NGO players, farmers' organisations and donor agendas.

The R&I needs for FSNA and the MDGs as well as global public goods do feature in the related policy statements. R&I needs in partner countries, in turn, are related to developing capacities for effective and appropriate R&I in each development context. In Peru, it was noted that FSNA project result indicators used by the EU (ROM) and the OECD indicators for the SDGs were not clearly aligned, raising doubts about the communicability of the results to other donors (Peru CN) (I-112).

In the FSNA sector, the EU participates actively in various regional and global fora on R&I and FSNA (GFAR, FARA) (I-113). Multi-stakeholder consultation – including private sector, farmers' organisa-

tions, relevant government institutions and civil society organisations – is seen as the main vehicle to identify R&I needs pertinent to agricultural research. This is in line with the European vision on AR4D which itself was developed in close consultation with European co-ordination bodies such as European Initiative for Agricultural Research for Development (EIARD), European Forum of Agricultural Research for Development (EFARD), and SCAR (I-112). EU participation in international fora is mentioned in several policy documents (I-113).

1.1.1 Indicator 111: DEVCO-supported R&I activities explicitly linked to relevant MDGs

At the national, partner country level, the project and planning documents analysed for Peru (*D-19404* and Peru CN) and for Burkina Faso (c-*144103, c-216021* and Burkina Faso CN) mention EU development objectives, or national objectives and MDG explicitly; reference is made to improving MDG 8, on Global Partnership, governance, social development and food security. For all other countries analysed, all programming documents' references to MDGs are (very) indirect and mostly relate to poverty reduction (Chile AAP 2007-2010, *D-21454*, Congo REAFOR); or to sustainable development (Kenyan Arid and Semi-Arid Land Research Programme), but no other references to MDGs and European Consensus and Agenda for Change have been found.

In general, EU FSNA R&I objectives at the national level are formulated in accordance with national development strategies, PRSP or otherwise, and specified to meet R&I needs at the national level. The Mauritius Empowerment Programme, supported by the EU, aiming to ease the burden of unemployment, enhance job prospects, reduce labour and skills mismatches and promote SME development features special programmes for women. This is relevant in the context of FSNA and MDG 3 (Promote Gender Equality and Empower Women), given the majority role women play in both farming and nutrition.

Some Country Strategy Papers (CSPs) make explicit links between R&I activities in the area of FSNA and relevant MDGs. Chile's CSP refers to environmental/sustainable development, MDG 7; and for Mauritius, various references to environmental impacts are made, including the aim to contribute to (environmental) sustainability and MDG 7. In the Mozambique Food Facility Sector Policy Support Program to PROAGRIII, the MDGs are mentioned as part of the context of PROAGRI (*D-21859*). In the documents for the Sector Budget Support for Peru no reference is made to MDGs. Burkina Faso's CSP aims to contribute to food security, poverty reduction but also aims for coherence with other MDG objectives for health, education and more sustainable management of natural resources. And Tanzania's CSP makes a clear link between improving the competitiveness of the tea and coffee sectors and rural livelihoods in the context of poverty reduction.

In Burkina Faso, Ethiopia, Kenya and Peru the link between R&I activities and EU development policy objectives in general was quite strong. However, in Burkina Faso the weak implementation of domestic policy on FSNA using budget support may have weakened the EU focus on agricultural development and national food and nutrition security, as formulated in the EU Agenda of Change (Burkina Faso CN). In Ethiopia the applied research under the CIP caused significant increases in productivity, and has helped avoiding the devastation of the Ethiopian coffee industry, thereby contributing to poverty reduction and food security objectives. Also the Livelihoods Project is consistent with EU development objectives: Through its innovative approach linking RuSACCOs with MFIs, it has been able to increase savings and significantly contributed to poverty reduction and food security efforts in selected areas of Ethiopia (Ethiopia CN). DEVCO R&I bilateral support in Kenya was heavily slanted towards food security and rural livelihoods, with considerable attention given to adaptation to climate change and environmental sustainability.

In Mauritius however, the support to R&I through the ACP-Sugar Research Programme is primarily aimed at increasing competitiveness, which lies in the periphery of the European Consensus. Still, four projects under the programme focused on specific measures for increased sustainability of the sugar sector (bio-pesticides, energy, water, waste) and these projects are more clearly linked to the European Consensus, MDG 7 and Sustainable Growth as specified in Agenda for Change. The sugar sector is still a key sector to the country (even though the relative economic importance has been dramatically reduced), and environmental issues are not systematically taken into account (Mauritius CN).

At the regional level, the Pro-Poor Innovation programme (IssAndes) for the Andes region explicitly links with EU development objectives through its focus on the delivery of public goods that contribute to food security and to Millennium Goal 1 of reducing hunger and extreme poverty (Pro-Poor Innovation Results-Oriented Monitoring ROM 2013 and Pro-Poor Innovation proposal 2010). Agricultural research is considered a public good that has proven its capacity to reduce poverty and guarantee food security.

Also ASARECA's vision is based on the recognition that agriculture-led development will make it possible to achieve the MDGs relating to poverty and hunger (ASARECA Strategic plan 2007-2016): Agricultural research can contribute to a long-term strategy to increase productivity and pro-poor growth

and enable evidence-based policy making (Action Fiche for ASARECA Operational Plan 2008-2012). Besides, ASARECA refers explicitly to its strive to develop solutions to the challenges created by Climate Change (MDG 7) and drives the sub-region towards meeting the Comprehensive Africa Agriculture Development Programme (CAADP) Agenda which explicitly aims at eliminating hunger and reducing poverty by improving agriculture across the African continent (Action Fiche for ASARECA Operational Plan 2008-2012 and ASARECA MDTF Fifth review mission aide memoire June 2012).

The objectives of ILRI as a major international research institute and part of the global CGIAR system are broadly aligned with the MDGs and the development objectives of the EU and ILRI is sensitive to the priorities pushed by the EU in the donor dialogue (Ethiopia CN).

The AU-IBAR bee health project in Kenya is funded through Intra-ACP. The initiative Participation of African Nations in SPS Organisations began in 2009 and financed the participation of African experts in negotiations under the umbrellas of the World Animal Health Organisation and the Codex Alimentarius. The AU-IBAR bee health project helped to promote rural smallholder incomes, and addressed a global public good problem in animal health, which affects Europe. Both contribute to the integration of developing countries into global trade and promoting trade with Europe, which are core EU development goals and is linked to MDG 8 (Kenya CN).

At global level, implemented under GPARD, the Smallholder Innovation for Resistance (SIFOR) project in Kenya concerned climate change adaptation, targeting small-scale farmers on the coast, where the rains are becoming erratic. This is in line with MDG 7 and the EU goals of reducing vulnerability to climate change and supporting resilience (Kenya CN).

EU global support to CGIAR was fully consistent with EU global policies, as well as MDG 1 and 7; institutions headquartered in Kenya (ILRI and ICRAF) have increasingly been aligned to poverty reduction at household and community levels, environmental sustainability, and adaptation to climate change (Kenya CN).

1.1.2 Indicator 112: R&I needs feature in EU high-level development policy documents and sector policy Communications

Both the 2005 Consensus on Development and the DCI Regulation refer to FSNA, and R&I is also mentioned in the DCI. “The primary and overarching objective of EU development co-operation is the eradication of poverty in the context of sustainable development, including pursuit of the Millennium Development Goals” (Consensus on Development 2005). Expected global impact was defined in 2006 (DCI Regulation (2006) 1905) as follows: “To improve food security in favour of the poorest and most vulnerable people and to contribute to achieving the MDG on poverty and hunger (MDG 1)”. R&I needs are specified as the need to contribute to the provision of international public goods, in particular pro-poor demand driven research and technological innovation, as well as South-South and South-North co-operation and twinning. The emphasis on, on the one hand, to reduce food insecurity by promoting pro-poor agricultural development and, on the other, to do so through the delivery of international public goods, has remained during the period (EC(2007)1924). The MDG most directly relevant to Food Security, Nutrition and Agriculture (FSNA) is MDG 1: The eradication of extreme poverty and hunger. But, also MDG 7 on Environmental Sustainability, given the emphasis in the European Consensus the need for sustainability, and MDG 3, to Promote Gender Equality and Empower Women given the majority role women play in both farming and nutrition should be taken into account.

Specific EU development policy objectives on Food Security, Nutrition and Agriculture have followed the European Consensus for Development of 2005 and the MDG agenda. In the four main strategic EU high-level development policy documents and sector policy communications related to FSNA, the link between R&I in the FSNA sector and the MDGs is explicitly made. Of the four main strategic documents related to FSNA and development, all did refer to the need for R&I explicitly. Besides, there is a specific EC non paper with Guidelines on Agricultural Research for Development and a working document on Research and Innovation for sustainable agriculture and food and nutrition security (COM(2006) 21, EC(2007) 1924, COM(2010) 127, EC(2010) 9263, EC 2008, guidelines ARD, EC 2014, approach AR4D).

A shift is noticed when towards 2010 malnutrition seems to receive increasing emphasis in the sectoral policy framework to assist developing countries in addressing food security challenges (COM(2010) 127). Another lesson incorporated during the period was an emphasis on the need to ensure coherence, complementarity and continuity of EU interventions – including the Member States -, not just EU policy and interventions, in order to ensure the effectiveness of the EU’s Food Security policy in favour of the poorest and most vulnerable (EC(2010) 9263). The latter one seems particularly important in view of the complex, fragmented character of the Food Security, Nutrition and Agriculture for development sector, with its numerous public, private and NGO players, farmers’ organisations and donor agendas.

1.1.3 Indicator 113: EU participates effectively in global fora identifying R&I needs for MDGs and post-MDG era

The Commission has actively supported platforms for stakeholder consultation, both at the regional and global level, through its support to platforms such as the Global Forum for Agricultural Research (GFAR) and the Forum for Agricultural Research in Africa (FARA). In consultative platforms at global level, DG DEVCO aligns its efforts with EU development objectives. Much emphasis is placed on supporting the dialogues that enable multiple stakeholders at different levels, national, regional, global to coordinate their work better and agree on a joint Agricultural Research and Development (ARD) agenda.

DG DEVCO supports the GFAR, a global multi-stakeholder forum directed towards strengthening the governance of international research system to improve its response to demands from poor smallholder farmers, to increase the role of multiple stakeholders in priority setting and implementation and to improve accountability to users of research products. GFAR also organises the biannual Global Conference on Agricultural Research for Development (GCARD) that represents the stakeholder and partner consultation of the CGIAR Consortium (CGIAR Annual Action Programme). The EU is further involved in the GPARD, a multi-stakeholder dialogue-driven agricultural research and innovation planning programme, the European Forum on Agricultural Research for Development (EFARD), and the European Initiative for Agricultural Research for Development (EIARD). The ongoing EU supported interventions under the GPARD are in accordance with the views of the agricultural research institutes in the developing countries and likely with those of the EU member states (GPARD Profile).

Similarly, the role of the European Commission through DG DEVCO has been consistent in supporting the CGIAR reform towards more stakeholder-demand driven research. DG DEVCO staff has provided governance and technical support to the Consortium Board and Office and their participation in the Fund Council. Key persons interviewed were unanimous about the positive role of the Commission in supporting the CGIAR reform process towards more demand-driven pro-poor agricultural Research and Innovation (Interviews CGIAR and GFAR). Of some dissonance, therefore, is the fact that DEVCO financial support is channelled through the more restrictive Window 3 directly to the CGIAR Centres/programmes rather than following the main drive of the reform and channel most funds through Windows 1 and 2 directly to the Consortium. The reason given for this seems a technicality: the lack of a fiduciary agreement between the EU and the World Bank, who hosts the CGIAR Fund that serves Windows 1 and 2.

1.2 JC 12: Extent to which R&I has informed sector policy dialogue and sector support at national and regional levels

Summary judgement

Some evidence of the intention to incorporate lessons from R&I in national strategies, or R&I results being used in dialogue could be gathered, but no systematic and specific reporting has been found. The EU-China Dialogue on Agriculture aimed to bring about deliberations on a wide range of R&I related issues especially at the level of implementation. This Dialogue built an institutional framework for cooperative and collaborative exploration in the field of organic farming, through a wide range of approaches including exchanges, training courses, internships and joint research projects. It heavily involved R&I actors, in particular faculty, staff and students from Higher Education Institutions (HEIs) in both China and the EU. Also in the case of a nutritional programme in Peru, one of several programmes developed under Peru's integral strategy to fight against poverty (CRECER), it is explicitly mentioned that it is based on a model developed from evidence of the impact that the interventions have on all determining factors of malnutrition among children under five years.

A range of examples were found where R&I has informed sector policy dialogue and support, especially in Ethiopia, Kenya and Peru as well as at regional and global levels. In Peru for example, CIP has contributed to the development, strategy and implementation of a new law on nutrition and food security and the law on family agriculture. Evidence from the country visits suggests that CGIAR centres and research are relatively successful in informing policy dialogue and sector support. Impact on policy processes has been central to the approach of a number of EU-funded CGIAR research programmes, at national, local regional and global level (CGIAR Case Study).

For R&I results being carried over to other sectors and general policies, no evidence was found.

1.2.1 Indicator 121: Design of support to the sector incorporates results and lessons learnt from R&I (same sector)

Of all the FSNA projects considered only two examples were found in Peru and Kenya of use of R&I results and lessons learnt. The *Programa Articulado Nutricional* (PAN), a Peruvian nutritional pro-

gramme, is one of the strategic programmes developed under the national CRECER ('grow') strategy, prioritised by the Government of Peru. It focuses on malnutrition, which is considered to be one of the crucial causes of poverty. PAN focuses on chronic child malnutrition, with the 2009 budget amounting to EUR 269 million and PAN's goal is to reduce malnutrition from 25% (in 2005) to 16% (in 2011). The key element of this strategy consists in a multi-sector intervention, which combines centralised governmental execution at national level with decentralised implementation at local and regional level. The CRECER strategy includes several strategic programmes tackling poverty from different approaches: mother and child health, nutrition, basic education and identity documents, among others. PAN is monitored by the *Mesa de Concertación de Lucha Contra la Pobreza* (MCLCP, a co-ordination mechanism involving civil society organisations and government actors). The MCLCP has been created with the aim of fighting against poverty in a more effectively coordinated way, in order to enhance the design, management and monitoring of the Government's social policy. This innovative approach of budget support is based on R&I findings and lessons learnt. The support strategy includes lessons learnt in three regions, which are fundamental to adapt and strengthen the PAN strategy. It is based on a model developed based on evidence from research on of the impact of interventions on outcomes and all determining factors of malnutrition among children under five years (*D-21564*).

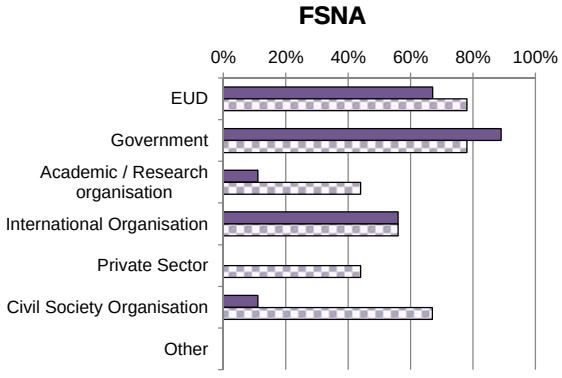
In Peru the EUD was able to invest in systematisation and sharing of the lessons learnt in the EUROPAN process by mobilizing extra funding by the Latin American Cooperation and Technical Instrument (Peru CN).

In Kenya, ICRAF has collaborated with the Kenya Forestry Research Institute (KEFRI) and the Kenya Agriculture and Livestock Research Organization (KALRO) to write an agro-forestry strategic plan. Under the FP7 REDD and Impacts of Reducing Emissions from Deforestation and Forest Degradation (IREDD) projects, ICRAF looked at payments for ecosystem services from a climate change perspective. Lessons learnt from research conducted by ICRAF and other CGIAR centres in multiple countries were used to advise Kenyan authorities on the formulation of their national Climate Action Plan (Kenya CN).

1.2.2 Indicator 122: R&I results used in dialogue at national and regional levels

The online survey among EUD also informed about the participation of the EU(D) in policy dialogues in the FSNA sector at national level. Of the eight EUDs in countries with R&I support in FSNA and that provided information on policy dialogue, six Delegations reported to have actually participated in policy dialogue. In total nine different types of FSNA policy dialogues have taken place in these countries. The following graph (Figure 3) provides details on the different group of stakeholders that have acted as organisers of or participants in these FSNA-specific dialogues.

Figure 3 Organisers and participants of FSNA sector policy dialogues



N = 9 policy dialogues in 6 different countries

Source: EUD survey, Particip analysis

Note: Multiple organisers and participant groups per policy dialogue possible. The graph shows the percentage of all policy dialogues in the given sector (i) that were co-organised (dark bars) by the indicated institution/ stakeholder group and (ii) in which the indicated institution/stakeholder group participated (light bars).

The national government is the lead or co-organiser in at least 85% of the dialogues. The EUDs themselves appear as organisers in two thirds of the policy dialogues in all sectors. Both the EUDs and the government also participate in most (80%) of the policy dialogues whereas academic and research

institutions participate in more than 40% of the dialogues. This result should be interpreted with some caution due to the low sample size.

The perceived success of the FSNA dialogues varies, but they were on average considered less successful, with three quarters of the dialogues considered as having 'low' or 'very low' success (based on data for eight dialogues). Main reasons for the low success of dialogues in different sectors included little R&I focus and exclusion of some important stakeholder groups, whereas successful dialogues were those that informed development strategies and plans or triggered specific follow-up actions, especially by national governments.

In addition to these national policy dialogues, one EUD referred to a regional R&I policy dialogue on sugar research, with research institutes in the ACP region as main stakeholders. The dialogue focused on research to improve the competitiveness of cane sugar and the EUD followed up on the implementation of a local research project resulting from the dialogue.

Document reviews and country visits found that R&I results used in dialogue at national and regional level vary from country to country.

At the country level, the EU-China Dialogue on Agriculture, initiated in 2006, aimed to bring about deliberation on a wide range of issues including non-tariff barriers (sanitary and phytosanitary issues), quality policy (geographical indications and organic products), exchange of information, food technologies and rural development (CSP China 2007-2013). At the level of implementation, interventions during the reporting period aimed to explore new forms of collaboration in the field of organic farming. This entailed the setting up of a summer school, training courses, internships and joint research projects. In addition, partners developed common curricula in organic farming as well as building a pool of experts. The BioAsia project organised 12 visits of professors to the EU, enabled a one-year exchange of 12 Chinese PhD students to EU HEIs and graduated 48 students from the summer school (*c-108962*). The intervention heavily involved R&I actors, in particular faculty, staff and students from HEIs in both China and the EU. The EU-China dialogue and the BioAsia project made use of a wide range of approaches. Apart from high-level policy dialogue, they sought to create an institutional framework that enabled the co-operative and collaborative exploration of common themes of interest as well as promote researcher mobility.

In Ethiopia, both projects examined give evidence of considerable policy dialogue involving both national and EU officials and researchers. The applied research on coffee in the CIP is clearly widely discussed among officials and researchers alike and the results fed into the national extension services. The Livelihoods project is an example of a project that has potential to influence policy. The project was finalised in October 2015 and results were presented to both federal and regional authorities in Ethiopia in a national learning forum. The regional Government and the federal cooperative agency have stated that they consider scaling up the innovative approach in the region and in other areas of the country. According to an EU official, the Ministry of Agriculture plans to mainstream the approach. This suggests that the innovative approach adopted in the project has informed sector policy thinking bottom-up. It remains to be seen, however, to what extent the lessons learnt will be effectively be incorporated in PSNP IV, which is starting soon (Ethiopia CN).

In Kenya sectoral R&I institutions, such as KALRO and KEFRI, have five-year strategic plans aligned with Vision 2030 and are responsible for representing R&I interests at the Ministerial level, including advising in policy development and dialogue. Project documentation suggests that R&I results from DEVCO-supported research projects at these institutions also filtered into EU policy dialogue with government regarding FSNA and EnvCC (Kenya CN).

In the three projects examined in Peru, policy dialogue has been an important part of the approach. The IssAndes project (Pro-Poor Innovation Proposal, 2010), proposes to implement collective learning and knowledge-sharing events (courses, workshops, encounters, and electronic conferences) on innovation generation processes and methodological themes and to collect and document experiences and lessons learnt in the territories where capacity building will be implemented (*D-24536*). Institutional innovation in the implementation of Sector Budget Support through EUROPAN has contributed to a better definition of policy and more effective sector support. The innovative approach of the budget support focalised the support in the poorest districts in the poorest regions of Peru and this approach has been converted to law; the *Fondo del Estimulo al Desempeño* (2014). The success of EUROPAN has contributed to the advancing of the concept of result-based management towards performance based management. The EUD has had a prominent role in the development of the innovative approach and in the policy dialogue. Part of the PAQOCHA project in Peru has involved dialogue with local and regional policy makers to set up regional alpaca producers' platforms, to work together with the *Ministerio de Viviendas*, and to share agricultural best practices learned and to train 'market innovation facilitators'. *Soluciones Prácticas* collaborated with different government institutions to invest in national accreditation and recognition of the community extension workers, the kamayoc, trained in the PAQOCHA project (Peru CN).

In Burkina Faso R&I was not part of the sector policy dialogue and budget support did not prioritise R&I for development. It is therefore unlikely that R&I informed policy dialogue in any direct manner. Indirect linkages may have been present. R&I project leaders generally do make an effort to link up with government policy makers to inform them of their activities and results, both at the provincial and national level (including at the occasion of the national farm days). For example, *Fertipartenaires* raised awareness amongst state extension agencies about the advantages of manure fosses over compost stored on the ground, and about various soil fertility management techniques. Similarly, *Improving yields of sorghum and millet* fed back information about alternatives to chemical treatment of seeds for crop protection to agricultural policy makers. Such awareness may have led to influence policy planning in the ministry of agriculture, but no evidence has been found that it actually did (Burkina Faso CN).

In Tanzania, the evaluation of General Budget Support (GBS) does not go into depth on sector policy dialogues. The Mozambique food facility sector policy support programme to PROAGRI II (*D-21859*) is based on policy dialogue within the agriculture, but like for Peru's PAN strategy, no evidence is found of R&I results used in this dialogue. In Mauritius, due to the technical oriented program, there is little influence on the sector policy dialogue (Mauritius CN). DEVCO support to the sugar sector in Mauritius includes a dissemination phase where the project results will be presented at seminars, targeting policy makers, EUD and stakeholders within the sugar sector. The lead institution, the MSIRI, communicates regularly with national decision makers, but the technical oriented programme as such has had little influence on the sector policy dialogue. Also, many of the projects were still in their final phase and as such communication of the results to actual stakeholders were in the waiting (Mauritius CN).

At the regional level, policy dialogue and impact on policy processes has been central to the approach of IssAndes. They had a very strong impact on policies of ministries in Peru and in Ecuador they had an impact at provincial and community level. In Peru, CIP has contributed elements of the new law and strategy on nutrition and food security and the law on family agriculture. Working together with the ministry on the implementation of the law. These laws are prepared together with permanent multi-stakeholder and multi-sectoral commissions with different ministries and stakeholders (organisations, public and private) (Peru CN).

At global level, CGIAR centres and programmes (CCAFS, ILRI, ICRAF) are found to be successful in informing policy dialogue at local, national, regional and global levels. The Climate Change, Agriculture, and Food Security (CCAFS or SICAF) research programme, a CGIAR CRP centred at ILRI, works on climate change and agriculture, climate, low emissions, and policy and innovation in five world regions, one of them being East Africa (Kenya, Ethiopia, Tanzania, and Uganda). One of the key elements of the CCAFS approach is to consult with and have impact on policy makers at all levels. They actively translate research results at local levels to policy input on national, regional and global level. In Kenya for example, they mobilise African experts to assist African climate negotiators to state their positions more effectively on the basis of scientific evidence (CGIAR Case Study, Kenya CN).

Coordinated by the Climate and Policy Centre in Addis, SICAF mobilises African experts to assist African climate negotiators to state their positions more effectively on the basis of scientific evidence. The project 'Quantifying weather and climate impacts on health in developing countries' at ILRI, which studied the health consequences of climate change (specifically, impacts on Rift Valley Fever and malaria), developed a decision tree that was used to inform government climate change adaptation policy. And ICRAF foresight studies have advised the Government on how its institutional devolution is likely to affect ecosystem management (Kenya CN).

The research project of the Centre for International Forestry Research (CIFOR) on Securing tenure rights for forest-dependent communities works mainly at the level of policies concerning forest tenure reform. A key component of the project is to create a multi-stakeholder dialogue. In Peru this includes SERFOR, MINAM, MINAGRI, Procuderia, various NGOs and organisations and representation of the EUD. Finally, the GPARD project SIFOR/*Parque de la Papa* works with the local government (landscape governance, education), the FAO (seeds in framework of the International Treaty of Phytogenetical Resources) and UNESCO (Biocultural heritage).

1.2.3 Indicator 123: Results identified by R&I in a given sector used in other sectors and in support to other sectors

Little evidence has emerged from the research conducted. For example, in the SBS monitoring reports and evaluations for Peru and for PROAGRI in Mozambique no information was found on R&I results used in other sectors.

In Burkina Faso a clear example was found of the difficulties to extend results beyond a given sector. The participating farmers have received significant benefits from EU-supported R&I projects, for example through the projects *Fertipartenaires* and *Increasing yields of Millet and Sorghum*. However,

collaboration with provincial extension services has not guaranteed follow-up towards wider adoption of farming practices and techniques by a wider audience. Key mechanisms for dissemination such as the *Comités de concertation villageois* (CCV) in the case of Fertipartenaires lack legal status and financing and only few have been integrated in local structures, such as the *Cadre villageois de développement*. In the case of "Increasing yields of Millet and Sorghum", collaboration with local extension services was close but no information exists on wider adoption beyond the farmers directly involved in the project. An interviewee stated: "Strengthening the research community is not enough; other institutions that are fundamental to achieving impact are too weak." (Burkina Faso CN).

2 EQ 2: Impact on partner country research communities

To what extent has DEVCO funding of R&I enabled research communities in partner countries to build up and develop their own R&I capacity, including the ability to actively engage in research networks (regional and international)?

2.1 JC 21: Degree of alignment and coherence of DG DEVCO support to R&I with relevant policies and strategies

Summary judgement

The DEVCO support aims to be well aligned and coherent with relevant domestic policies and strategies, which is expressed in various country level strategic documents, as well as in the strategies of regional and global programmes and organisations. Evidence at country level confirms alignment with national government policies, but oftentimes a lack or weakness of government policy or implementation strategy stands in the way of stronger alignment. In those countries that have specific S&T or R&I policies, especially for specific sectors, alignment is feasible (I-211).

At regional level, alignment is critically assessed in two cases (ASARECA and Technology Transfer). At global level DG DEVCO aligns its efforts with EU development objectives, especially via the CGIAR and GPARD. In the cases of CGIAR, alignment with country level priorities and with CAADP is not optimal though improving according to three Country Notes for Peru, Kenya and Ethiopia (I-212).

The regional and global consultative platforms DG DEVCO supports align their efforts in the field of FSNA with EU development objectives. CGIAR has increased the alignment of research priorities with the Comprehensive Africa Agriculture Development Programme (CAADP). GFAR and the biannual GCARD conference aim for alignment with national agendas. However, a lack of alignment between CGIAR and GFAR is still noted, causing inadequate attention to national priorities and constraints in AR4D. The on-going EU supported interventions under the GPARD are in accordance with the views of the agricultural research institutes in the developing countries and likely with those of the EU member states (I-213).

2.1.1 Indicator 211: DG DEVCO support aligned with national research priorities in partner countries

At the national level, and in terms of alignment with partner countries, both in CSPs and during field studies references were made to the alignment with country demands, consistency with government's objectives and specific areas of support in sectors agreed between EU and the country. The extent to which CSPs specifically mention Research and Innovation differs and ranges from higher education to social cohesion and from communication and information to agricultural research and crop research.

In most countries, alignment is sought with overall country policies; though oftentimes this is most visible at the sectoral level. This is the case for example in Peru where a more project-based approach is taken, and alignment is sought at national and sub-national regional level. Alignment of DEVCO supported projects with regional and national policies on rural development is generally strong. All of the projects aim to impact regional and national development policies. Alignment of DEVCO support to the national R&I strategy is in its first stage as is the implementation of a national R&I strategy, including the strengthening of the national innovation system. Consequently, the R&I components of DEVCO projects address national development priorities but are not yet explicitly linked to national strategies on innovation and development (Peru CN).

In five CSPs and also in several other Country Notes the lack of policy or strategy on the side of the countries is noted as hampering the alignment – Burkina Faso, Chile, Jamaica, Tanzania, Kenya and

Mozambique. For the latter country, the CSP finds there is a lack of alignment between the policy priorities emerging from Research and Innovation and the agriculture sector policy targets in the GBS Performance Assessment Framework (PAF).

In Kenya, DEVCO R&I bilateral support was also aligned with government priorities, given government emphasis on food security and the unavoidably close connection to environmental sustainability and climate change adaptation in a country where much of the population lives in ecologically fragile zones. However, also the Kenyan Government has no R&I priorities and no real government R&I strategy. A new dimension of coherence and alignment with national policies and priorities is that, due to devolution and the emergence of counties and their Governors as relevant players, there are now a large numbers of public authorities, NGOs, policies, and documents to align to (Kenya CN).

In Burkina Faso EU R&I support is perceived as well aligned to the priorities of the country, both under budget and project support. In projects this is mainly due to the efforts of the researchers and innovators themselves who create coherence with national development objectives by inserting national priorities into international research if these latter are open enough, which is not always the case (Burkina Faso CN). The CSP for Burkina Faso does align with the four pillars of the National Poverty Reduction Strategy. However, research for ICRISAT1/ICR25 was found to be not responsive to farmers' needs and priorities and not aligned with national priorities (Burkina Faso CN). Coordination among development partners supporting R&I is deficient, even though the MRSI adopted a new strategy in 2011 (Burkina Faso CN).

The CSPs for Uruguay and Mauritius mention that alignment to the country's R&D strategy or to the country's education and innovation investments can be done well. In Mauritius, support to the Sugar Research Programme is aligned with National Adaptation Strategies and AMSP. With the phasing out of the Sugar Protocols, it is imperative that the government ensures the viability and competitiveness of the sugar sector in Mauritius. The original project documents for the Sugar Research Programme were prepared eight years before funding was secured, and interviewees state that there were limited options for thoroughly adapting the project documents to the prevailing situation at the time of funding. A more thorough revision of the project documents might have led to more tangible results and impact (Mauritius CN).

For the EU activities in Ethiopia there seems to be little explicit alignment with the national S&T strategy in Ethiopia and no particular intention to do so. However, the national policy has also developed more in the latter part of the period covered with the publication of a new S&T Strategy in 2012 only. At the sectoral level, projects and programmes are strongly aligned with relevant policy frameworks and strategies. The EU support to the coffee sector is well aligned to government policy though over years there have been differences (gaps in support) and degree of focus varied. The DEVCO-funded Livelihoods project explicitly builds on existing government social safety net programmes, notably the PNSP and the HABP, bringing an innovative approach to contribute to their effective realisation. As stated in the project's final report[1], the microfinance model of the project also assists in the realisation of the rural development policy of Ethiopia through mobilisation of savings and increasing access to credit to support investment. Moreover, the project's approach also contributes to the goals of Ethiopia's Growth and Transformation Plan, which puts a major emphasis on cooperatives development as a means to ensure smallholder farmers access to improved agricultural technologies and markets (Ethiopia CN).

2.1.2 Indicator 212: Regional and global DG DEVCO support for R&I reflects and builds on the relevant R&I strategies

At regional level, according to several monitoring reports of the R&I support, the alignment and coherence with relevant policies and strategies is not considered sufficient.

The *Pro-Poor Innovation programme* in the Andes (IssAndes) seems to be well aligned with the food and nutrition security priority of the countries in the region and also to the regional strategies and plans for the Andean community (Pro-Poor Innovation ROM 2013). However, the Peru CN found that since the political crisis within the *Comunidad Andina* there is a gap as to coherent and aligned regional policies. This will make the implementation of an effective regional approach even more difficult.

ASARECA has its strategy and actions well aligned with the CAADP goals, and aims to meet the agricultural agenda of AU/NEPAD (New Partnership for Africa's Development) and the Sustainable Development Goals SDGs (ASARECA, Operational Plan 2, 2014-2018). However, a review notes that engagement of ASARECA in the development of countries' CAADP compacts has been less than antici-

[1] HEBDEZ Business & Consultancy PLC, 29 October 2015, EC project to improve the livelihood of the most vulnerable households in southern region. Generating best practices on new microfinance access model for a National Learning Platform (final report), World Vision Ethiopia, Addis Ababa.

pated. It is noted that it needs to be more proactive in the wider community of Science & Technology institutions operating in the region, assuming leadership in the CAADP agenda to address challenges for agricultural research and technology uptake, catalysing more effective co-operation and guide interventions at sub-regional and continental level (AF for ASARECA operational plan 2008-2012).

Also, the *Technology Transfer project* is in line with regional policies by contributing to improve agricultural productivity and placing a strong emphasis on the inclusion of those who have been excluded or disadvantaged in terms of agricultural technology. However, the comment is made that a regional needs assessment should have been conducted to identify regional priorities and common social, economic and environment effects (*c-261086*).

To promote regional alignment the *Southern African Development Community (SADC) Secretariat* wants to support, in the area of agriculture and food security, the Development of a Regional Agricultural Information Management system (AIMS) which is seen as an essential tool for the Food, Agriculture and Natural Resources Directorate of SADC (FANR) to play its facilitating role and coordinating functions in the region; and support to the Regional Coordination of Agricultural Research. The FANR Directorate recognises the need to advocate and facilitate the formal setting up of the NARS within SADC MS and coordinate among these NARS at regional level through the emergence of a sub-regional organisation (Southern Africa development Community).

At the global level, DG DEVCO aligns its efforts in terms of R&I to FSNA with EU development objectives. The EU's main partner to reach the first priority of the European Food Security Thematic Programme (FSTP) is the *CGIAR*. DG DEVCO actively participated in the reform of this worldwide conglomerate of international agricultural research institutes in order to allow it to become more responsive to national research priorities and demands from smallholder farmers. For example, the DG DEVCO contribution agreement with the CGIAR (2014-2018) was drawn up taking into account the main lesson learned from the 2011 and 2012 independent evaluation and reviews: a close involvement with farmers and decision makers at all levels improves the likelihood of positive impact of research results. Furthermore, CGIAR was encouraged to align better with national research priorities, given the 2011 evaluation conclusion that the CGIAR frequently did not (CGIAR Case study).

Thanks to the growing orientation of the CGIAR system towards stakeholder involvement and translating research results into development processes and outcomes, there has been increasing emphasis on integration into regional and international networks including all stakeholders, from the farm and community level up to government, the private sector, and other research organisations (Kenya CN). The CGIAR centres CIFOR, CIP and ICRAF are working together with different ministries and government agencies (MINAM, MINAGRI, SERFOR, *Ministerio de Salud* (MINSA), *Ministerio de la Producción*). They seem well aligned with national priorities. CIP will be investing more in relations with CONCYTEC the coming years (Peru CN). ILRI was conscious of a push from CGIAR donors (including the EU) to ensure that its work was better aligned with partners including African governments (Ethiopia CN).

The *CAADP process* and associated institutions could have made better use of CGIAR capacity in formulating and implementing their agricultural research for development programmes. This could have included the organisation of regional agricultural productivity workshops on how CGIAR capacities can be better harnessed to advance the development of CAADP country investment programmes. In 2013 a Memorandum of Understanding between the African Union Commission (AUC) and the CGIAR Consortium was signed. One of the main outcomes of the meeting was the agreement to undertake an initiative that brings together the various sectors of innovation systems across the region, around a project that is significant to all (GFAR Annual Report 2013).

In parallel to its large investments in the CGIAR, DG DEVCO also supported the *Global Programme for Agricultural Research for Development (GPARD),* directed specifically at non-CGIAR research institutions and directly aligned with EU development objectives (FSTP, MDGs). GPARD was implemented on the basis of a call for proposals launched by DG DEVCO at the central level. Grants were linked to themes that directly address smallholder farmer demands with regard to innovation and market access, diversification, ecological sustainability and resilience. As per the GPARD approach, its main programme interventions are more demand-based, with sufficient focus on capacity building of smallholder farmers and local institutions, using a bottom-up approach to develop innovative systems based on traditional knowledge and adaptation to climate change. Lead partners were mostly European Universities and/or research organisations, in addition to one Asian institute and Food and Agriculture Organisation (FAO), Rome. Together they mobilised an additional 32 partners in developing countries to take part in the research. At this moment, it is not known whether GPARD research programmes produced increased networking amongst researchers or other synergies with CGIAR programmes (GPARD Profile).

2.1.3 Indicator 213: DG DEVCO support for R&I in line with policy priorities set in regional and global consultative platforms

In consultative platforms at both regional and global level, DG DEVCO aligns its efforts with EU development objectives. Much emphasis is placed on supporting the dialogues that enable multiple stakeholders at different levels – national, regional, global – to coordinate their work better and agree on a joint ARD agenda. An important instrument in this alignment is DG DEVCO's support to the *Global Forum for Agricultural Research (GFAR)*, a global multi-stakeholder forum directed towards strengthening the governance of the international research system to improve its response to demands from poor smallholder farmers, to increase the role of multiple stakeholders in priority setting and implementation and to improve accountability to users of research products. *GFAR* also organises the biannual *GCARD conference* that represents the stakeholder and partner consultation of the CGIAR Consortium. The alignment with national agendas takes place through the focus on the delivery and uptake of regional and global public goods derived from research (CGIAR Annual Action Programme).

A lack of alignment between CGIAR and GFAR is noted. GFAR's Regional Fora provide an important focus and driver for international actions. However, a GCARD review suggests national and regional meetings need to be involved more coherently, to sharpen the GCARD organising committee and to confront the representativeness, balance and transparency of the processes and mechanisms linking regional and national issues. As it stands, the joint GFAR-CGIAR process gives inadequate attention to national priorities and constraints in AR4D. National AR4D views did not receive enough attention. In fact, the Global Conference on Agricultural Research for Development (GCARD review report 2013) finds the general perception is that the *CGIAR Research Programs (CRPs)* are not adequately engaged with the national agricultural research systems and do not appreciate the benefits of partnering with them. National and regional views are not well enough represented and CRPs should include a clearer focus on linking to regional and national research priorities. An example is the *CGIAR Forests, Trees and Agroforestry (FTA)* research: while considered as relevant to addressing current needs of a range of stakeholders by national partners and beneficiaries, a review raised concerns from some countries that FTA's in-country research is not adequately integrated with the national research strategies and development agendas.

The *GPARD* programme provides an interesting example of multi-stakeholder dialogue-driven agricultural research and innovation planning. The idea emerged from the results of a consultation exercise (workshop in 2008) with the Forum for Agricultural Research in Africa (FARA) and the European Forum on Agricultural Research for Development (EFARD), while discussing the EU's agricultural research programming for the FP7 – Food, Agriculture, Fisheries and Biotechnology Theme (FP7-FAFB). Further inputs were provided by the Southern Advisory Group (SAG). EU member states have also been consulted through the European Initiative for Agricultural Research for Development (EIARD), whereby some have expressed their interest to join the GPARD[2]. This implies that the ongoing EU supported interventions under the GPARD are in accordance with the views of the agricultural research institutes in the developing countries and likely with those of the EU member states. This is reflected in the organisational set-up of the six Grant Contracts where each lead company teamed up with between four to eight partners, most of which are national research centres or institutes and relevant faculties (agricultural science) of national universities (GPARD Profile).

At country level, in Burkina Faso evidence was found of DG DEVCO R&I support being well aligned with policy priorities set at regional level. The support to FSNA-related R&I in Burkina Faso aligns well with relevant R&I strategies and policy priorities set in regional and global consultative platforms. An example is the (implicit) focus of the PASAF project on conservation agriculture and how it tries to strengthen capacity of farmers and institutions, for example though farmer-to-farmer methods (Burkina Faso CN). And in Tanzania, the support to R&I-related activities was found to be fully aligned with the EU's poverty reduction policies related to rural livelihoods and diseases related to poverty.

2.2 JC 22: Increased focus of EU support on 'capacity building' and enhancing institutional sustainability

Summary judgement

The DEVCO strategic documents on Food Security, Nutrition and Agriculture recognise the importance of adequate *R&I capacity for development*. Insights into national and regional R&I capacity

[2] France is supporting the sustainable development of agricultural research systems with the International Centre for Development Oriented Research in Agriculture (ICRA) and the European Consortium for Agricultural Research in the Tropics (ECART) with support from the International Fund for Agricultural Development (IFAD). The United Kingdom (with Canada) and Germany are supporting programmes which deal with agriculture and climate change in Africa.

and institutional strengths and weaknesses are regularly part of country strategies and monitoring reports. The capacity development is both focused on institutional capacity building, improving the capacity of relevant research and innovation institutions and multi-stakeholder networks and on strengthening individual capacities via mobility, skill training, and MSc and PhD programmes (I-221). This focus on capacity development is also apparent from the strategies and programmes as formulated at country, regional and global level.

However, an *increased* focus on capacity building and enhancing institutional sustainability could not be determined. In fact, from the evidence gathered, it appears that capacity and institutional development are not so much seen as separate activities from research, but seen as an integrated part of R&I support. Also the relative share in financial allocations to R&I related capacity development based on the amount of funding for higher education, which is just 3% of the total contracted amount (I-222), confirms this judgement. This would be in line with the latest understanding of capacity development as an endogenous process, best supported by stronger and weaker partners collaborating on specific activities, in this case agricultural Research and Innovation.

Sustainability is certainly high on the agenda of the Commission when funding R&I in the area of food and nutrition security. Several positive assessments have been found of the sustainability of the EU projects and programmes. Institutional sustainability and capacity building proved to be key priorities in the R&I interventions in the FSNA sector, which overall have appear to have had a significant impact. However, particular evaluations and evidence include some more critical remarks as well (see I-223). These relate to difficulties in developing sustainable organisational capacity, long-term financial sustainability and an often-mentioned issue is the high staff turnover. R&I capacity building support is focused on a wide range of actors and, although it is generally noted that capacity was increased, again some critical remarks regarding the sustainability of these efforts can be found. These remarks relate to weak Technical Assistance (TA) and transfer of knowledge, effects of capacity building taking place more on individual level and the effect on institutional strengthening being limited. Also, the lack of continuity and predictability of funding for R&I either by the EU itself or by close co-ordination with other (European) R&I donors limits the effectiveness and sustainability of capacity and institutional strengthening (I-121).

At global level, projects that involved bringing researchers from different countries together were viewed as having contributed to capacity and network building in ways that national institutions would find difficult to replicate. For regional and global actors, issues raised include too little focus on smaller countries and lack of adequate integration in the national research strategies and development agendas limiting capacity development of national actors (I-224).

The relative importance of spending on capacity development could not be determined (I-225).

2.2.1 Indicator 221: Strategic and country co-operation related documents recognise importance of adequate R&I capacity for development

The DEVCO strategic documents on Food Security, Nutrition and Agriculture fully recognise the importance of adequate R&I capacity for development. The EU invests in improving the capacity of relevant research and innovation institutions and multi-stakeholder networks assuming that support for capacity development of national, regional and global agricultural research institutions and co-operation improves the delivery of global public goods in the area of agricultural Research and Innovation. The activities/inputs are focused on both strengthening individual capacities via mobility, skill training, and MSc and PhD programmes, and strengthening of national, regional and global agricultural research institutions, via policies and regulatory frameworks; organisational and knowledge management, infrastructure, connectivity, research networking, methodologies, tools, best practices, and multi-stakeholder consultations (COM(2006) 21, EC(2007) 1924, COM(2010) 127 and EC(2010) 9263).

Field visits yielded much information on capacity building as part of EU R&I supported projects, which was seen as a crucial component by all country participants. One observation that emerged from the interviews was that in countries with a weakly developed R&I institutional infrastructure, building capacity and institutional sustainability require longer-term partnerships between research institutions, longer than EU supported R&I projects can provide. Examples are the cases of the University of Copenhagen-INERA or CIRAD-CIRDES partnerships, which received funding from the EU as well as other European donors. Predictability and continuity in these funding relationships is affected adversely by lack of donor co-ordination (Burkina Faso CN).

This focus on capacity development is also apparent from the strategies and programmes as formulated at country, regional and global level. GFAR, for example, as the Global Forum, sees it as essential that it strengthens and transforms currently fragmented systems of agricultural innovation and knowledge use (GFAR Medium Term Plan 2013). GFAR aims to transform and strengthen all aspects

of agricultural innovation systems including transforming institutions and their capacities (GCARD review presentation 2013).

2.2.2 Indicator 222: Relative share in financial allocations to R&I related to capacity development

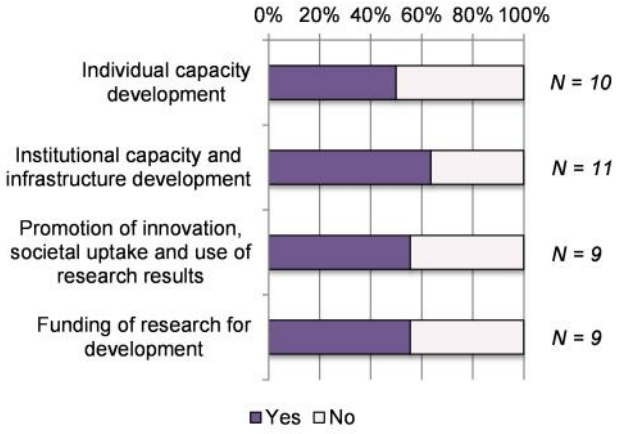
No evidence was found on the specific financial allocations for R&I related capacity development. Capacity development can however be approximated by funding for higher education (as indicated by the DAC sector code, even though it is not always consistently applied). In the FSNA sector, this entails 33 regional contracts and three country contracts or 9% of all FSNA contracts (381 FSNA contracts in total).

The total contracted amount in the FSNA sector for higher education is EUR 18.7 million, or 3.6% of the total contracted amount for FSNA (total contracted amount for FSNA: EUR 511.2 million). All other contracts are part of EDULINK and clearly, most of these higher education regional contracts were focused on the Central Africa and Sahel region, and somewhat less on East Africa and West Africa.

2.2.3 Indicator 223: Adequate consideration of sustainability aspects (e. g. provision, maintenance and replacement of equipment) in planning and implementation of EU support

For the country level, Figure 4 below shows to which extent different types of R&I support have been used to strengthen R&I capacities in the FSNA sector, based on results from the EUD survey. Individual capacity development, for example, was used in about half of the countries with R&I support in the FSNA sector.

Figure 4 Use of different types of R&I support to strengthen R&I capacities (FSNA sector)



Source: EUD survey, Particip analysis.

Note: Multiple types of R&I support possible. Each bar displays the fractions of EUDs that used the given type of support in the FSNA sector – or not. The N's represent the EUDs with R&I support in the FSNA sector that provided responses for the given type of support.

Further survey results presented in Volume 3 also indicate that institutional capacity building and infrastructure development were assessed as most suitable for strengthening Research and Innovation capacities of the country.

Document analysis and field visits suggest that, in terms of planning, EU supported projects and programmes at country level aim to invest in capacity building and emphasise institutional sustainability.

In Kenya, at project level, *the Arid and Semi-Arid Land Research Programme and Agricultural Productivity Research* focused on building and strengthening the capacity of the KARI. This emphasis on capacity building continued under the follow-on ASAL-APRP project. Various evidence points to substantial and sustainable progress into converting KARI/KALRO into an institution where R&I is attuned to development needs and reflects a results orientation. Field interviews with experts outside KALRO left the impression of some progress, but limitations nonetheless. Some experts expressed the view that KALRO is still slow to bring in the right partners and share results; others cited a persistent institutional culture of pure research; others cited institutional difficulties in delivering on-time results as part of a larger multi-partner work plan. In Kenya, R&I support is not a focus of the EU's development strategy. Still, it is the EU that promotes R&I as a means to achieve sector outputs in food security, which is the main focus of Government strategy. R&I plays a pivotal role in the EU's approach and support for ag-

riculture and rural development (which are focal sectors). The EU's been particularly active and, it would seem, successful in building capacity for Research and Innovation in arid and semi-arid lands (ASAL). As these areas are ecologically fragile and vulnerable to climate change, there is considerable overlap between the FSNA and EnvCC themes (Kenya CN).

The *Smallholder Innovation for Resilience* project in China, India, Kenya and Peru funded through GPARD aligns with countries interests to support in-situ conservation and traditional knowledge and the protection of farmers' rights to access to genetic resources (GPARD profile). In Peru no clear strategy was found to support the institutional capacities that contribute to the national innovation system (Peru CN).

Uruguay benefits from support to institutions between its Ministry of Industry/Research and the Commission. Innovation systems are being developed supporting the creation of an enabling environment for the uptake of innovations between the public and private sector (Institut PastEUR of Montevideo). The National Innovation and Research Agency (ANII) improves the co-ordination between public funding agencies. It is very centralised in Montevideo. One evaluation for Uruguay notes adequate consideration in planning and implementation of EU support to sustainability aspects, and the sustainability of the actions of the programme is deemed satisfactory with progress towards securing resources and enhancing staff capacity to deliver. Strategies include having institutional frameworks and capacity in place, ensuring ownership and involving all stakeholders, designs that can be easily spread and replicated and strategies to encourage skilled human resources to stay in the country or return to it (*D-14223*, *D-20954*, CSP Uruguay, *D-19040*, *D-21454* and *D-19404*).

Also, in Burkina Faso, several projects increased prospects of sustainability by taking to account capacity building aspects. Notably the Soil Fertility programme, the *Fertipartenaires* project implemented a successful farmer-to-farmer method of capacity building and co-managing resources. The four-year on-the-job-capacity-building partnership between CIRAD and CIRDES proved a good investment in sustainability of the project (Burkina Faso CN). Interviewees highlighted the crucial importance of EU R&I support for developing the capacities of their research institutions and staff. Among the projects sponsored by the EC, there are also good examples of involvement of researchers and technicians in applied/practical research projects in partnership with agricultural producers. Farmers' organisations confirm the practical orientation and applied nature of such partnerships. They however signal the lack of space and/or emphasis on documentation and dissemination of research results within these research projects. Long-term capacity building and sustainability of R&I actors and processes require longer-term partnerships between research institutions. Predictability and continuity in these funding relationships is affected adversely by lack of donor co-ordination (Burkina Faso CN).

In Ethiopia, one of the most crucial problems for R&I is the weak linkage between universities/research institutes and industry, which greatly hinders research outputs from making a meaningful impact on the country's development, thus Belete (2014) concludes "the inadequate supply of industrially applicable university knowledge and the weak alliance between university and industry actors were both noted as factors limiting the transfer of innovation to industrial enterprises."[3] The STI policy argues that the linkages should focus on improving the productivity of manufacturing and service providing enterprises. The other major challenge identified is brain drain due in part to the low salaries paid by the government. There are many qualified Ethiopians doing research in their field of specialisations. However, most of them live abroad, as one interviewee pointed out during the mission (Ethiopia CN).

According to both Ethiopian Government and EU officials, the CIP has significantly contributed to building capacity of researchers with programme funding. The combination of applied research on the one hand, and extension and training through the EIAR on the other, was widely viewed as positive and useful. Institutional sustainability was one of the key concerns of the EU with regard to the CIP. Ethiopian interviewees also recognised the problems. Both the re-establishment of a national authority responsible for the sector and the preparation of a sector development strategy were preconditions for the EU to restart the CIP, allowing for more focused and less fragmented sector interventions and improved support to value chain development. The EU provided support to the development of such a strategy through a framework contract. According to an Ethiopian official, the Ethiopian coffee sector will be able to be self-sustaining in the long run, though there is still a need for research on growth planting, soil test, and developing resistant coffee varieties. Another person interviewed highlighted the need to focus on technology (Ethiopia CN).

Building on existing institutional structures in the Livelihood project was successful (Profile Ethiopia CN). The Livelihoods project final report shows some good indications of sustainability of the interven-

[3] Belete, Wondewossen, 2014, Towards University–Industry Innovation Linkages in Ethiopia, Innovation & Intellectual Property Collaborative Dynamics in Africa, 327.

tion outcome due to an increase focus on capacity building. Intensive training and knowledge sharing, presence of demand for financial services, having a favourable policy environment and institutional arrangement, and ownership by the implementers were key elements of the project that are likely to contribute to a further sustainability of the results. Capacity building, training and implementation support were provided to RuSACCO management and members, including on topics like business plan preparation, loan supervision, or saving mobilisation, as well as in-kind capacity support such as office furniture. In terms of sustainability, the final report of the project notes that also at the end of the project, the demand for financial services continues to be high among beneficiaries, and MFIs have expressed interest to scale up the approach. The B2B-linkage between MFIs and RuSACCOs has proven to be an effective system that is likely to remain in place. Moreover, the government of Ethiopia has expressed its intent to scale up the approach for mobilising saving and create access to credit for rural poor through its own institutions (Ethiopia CN).

The programme in DR Congo, REAFOR, seeks to build capacity for agriculture and forestry research and works with national research institutions.

Finally, in Mauritius, there is evidence in the sugar sector for more and better-qualified staff, modern equipment and greater capacities to manage and carry out technical and scientific research projects. Key staff in the project has been MSIRI staff and only to a minor extent freelancers and external consultants. The project therefore has led to genuine organisational capacity building in MSIRI. MSIRI has organised and conducted – with support from international consultants – a number of technical workshops in Mauritius as well as in other ACP Countries. The commitment of the Government of Mauritius to investment in education and innovation has repeatedly been reaffirmed and has been further supported through existing EU research programmes. Access to research facilities, centres of excellence and innovative information systems available for, among others, sustainable water supply and sanitation, marine resources as well as co-operation on agricultural research in areas such as sugar are facilitated (Mauritius is one of the few African countries spending more than 1% of the national Agricultural GDP on agricultural research (presentation GFAR June 2014)). In terms of institutional sustainability, the challenge for the MSIRI (funded by the sugar sector) is the decreasing profitability of the sector and the soon further increased competition on the world market – matters beyond the potential influence of EU R&I support. However, the programme has not strived to expand either the north-south R&I network (opening for more internationally supported projects) or the scope of R&I in the MSIRI (opening for R&I within other sectors, inclusion of socio-economic elements etc.); such components might have been supportive of the institution's long-term sustainability (Mauritius CN).

Overall, evaluations and evidence also note that the EU has difficulties in developing sustainability through in-country organisational capacity building for FSNA; risks are not identified well enough, unforeseen activities are implemented and some assumptions underlying programmes do not take into account the sustainability aspect. The EU seems to have difficulties in identifying, supplying and appropriately aligning technical and capacity development support to the capacity development efforts of the countries themselves. The hiring of short-term experts in Ethiopia for example, did not bring about the expected lasting results in capacity development. And, in some cases, the dependence of programmes on EU funding makes their long-term financial sustainability an area of concern, including the lack of an exit strategy (Burkina Faso). Also factors outside EU control play an important role, including the high staff turnover (Peru), major problems with the partner (Burkina Faso) and other organisational dynamics, continuous changes in government and local partner organisations, social, associative and organisational contexts and local culture (see for example: *D-14223*, *D-20954*, CSP Uruguay, *D-19040*, *D-21454* and *D-19404 and CNs Burkina Faso and Ethiopia*).

In Kenya, a structural problem is that capacity at national level is severely skewed towards downstream implementation rather than upstream fundamental research. This is an unintended but unavoidable consequence of the increase emphasis on translating research results into tangible development impacts. "Hard" scientists are poorly equipped to communicate to Government why their work is important and to justify the high infrastructure requirements and long-term time frame that are required. A challenge for sustainability is that there is virtually no donor support in the form of core funds. This weakens the institutions' ability to serve as global centres of excellence, to serve the needs of graduate students and visitors, etc. In the end, it is a major barrier to sustainability, as the institutional infrastructure necessary to support and solidify project results is not in place, as a result of which they depreciate (Kenya CN).

At the regional level, the *Pro-Poor Innovation programme* (IssAndes) has a cascading system of technical assistance in different areas of innovation and increased trans-disciplinary spaces for sharing experiences and collective learning. As Food and Nutrition Security (*Seguridad Alimentaria y Nutricional*, SAN) is a political priority there is public funding through various government programmes in different countries. In addition, the programme is promoting new ways of joint funding of local initiatives SAN under schemes of public responsibility. The "pro-poor" agricultural innovation approach is adopted by CGIAR, which has its own resources. However, finding new sources of funding for NGOs

that are of crucial importance for the programme poses a challenge in the context of the withdrawal of international co-operation in the Andean region (Pro-Poor Innovation ROM 2013).

Institutional development by *ASARECA* has been substantial. Since 2004, it increased its funding levels and succeeded to move towards core-funding, harmonised management, and financial reporting systems. ASARECA's interventions and products continue to be in increasing demand, and moral support from its member countries is solid. With the extension of the ownership and governance in the past five years, national and regional African institutions' support has been strengthened further. Increasingly, close collaboration with regional bodies such as the East African Community (EAC) and Common Market for Eastern and Southern Africa (COMESA) to support implantation of the CAADP agenda can also be expected to leverage new sources of support, from both political and financial stakeholders. Besides, ASARECA has provided special assistance to weaker NARIs to strengthen their infrastructural capacity through procurement of laboratory equipment; refurbishing and equipping gene banks for in-vitro conservation; establishment of temperature-controlled screen-houses (AF for ASARECA operational plan 2008-2012).

However, according to ASARECA's own operational plan, further challenges remain. ASARECA needs to be more proactive in the wider community of science and technology institutions operating in the region; it can improve its capacity to provide relevant knowledge and information support for the implementation of regional and its member countries' agriculture sector investment plans; and to promote national capacity building for the application of the Framework for African Agricultural Productivity (FAAP) principles. Internally, the Mid-Term Review (MTR) of ASARECA concludes improvements are needed regarding performance monitoring and M&E, a neglected area, facilitating effective learning from experiences. Further integration is needed of ASARECA programmes and units, improving collaboration, information sharing and consultation and knowledge management, to exploit their crosscutting potential fully. Issues are, for example: how to deal with countries that have magnificent physical facilities including state-of-the-art equipment, but only skeleton qualified staff such that little practical use is currently being made of those facilities (AF for ASARECA operational plan 2008-2012).

Under ASARECA's *Eastern Africa Agricultural Productivity Project*, national laboratories for dairy (Kenya), cassava (Uganda), rice (Tanzania), and wheat (Ethiopia) were equipped and seminar rooms, libraries, etc. were put in place. In Kenya, seven PhD and five Master degrees were earned on various aspects of dairy. ASARECA has also adopted a form of "affirmative action" to ensure that weak countries like Benin and Burundi benefit from calls for proposals as well as the traditional strong performers such as Kenya (Kenya CN).

The AU-IBAR bee health project sought to improve bee health in Member States including Kenya and to promote disease prevention mechanisms to increase productivity with consequent impacts on food security. Capacity shortages were assessed, lab facilities were improved and a map of African bee disease was produced in order to provide a baseline. The project sought to create regional reference laboratories and put in place a regional network of experts (Kenya CN).

At the global level, sources agree that the *CGIAR* as a whole is performing weakly with regard to strengthening national agricultural research and innovation systems (NARIs). And this has as yet not improved with the reform. An illustration: the CGIAR's Global Challenge Programmes channelled on average over 30% of CGIAR funding through to national and local partners; now with the CGIAR Research Programmes (CRPs) this figure has sunk below 20% (interview). While the Commission and other European donors seem to agree that CGIAR support to NARIs should improve – one of the drivers behind the reform – they so far have not been able to make sure it actually happens (interview). The evaluation of the *CGIAR's Forests, Trees and Agroforestry research* notes that capacity development appears to be managed strictly centre by centre in FTA. There is significant unexplored potential for cross-centre fertilisation regarding capacity development approaches and support procedures, and for generating significant programmatic synergies for delivering capacity development support to projects, especially towards important boundary partners. Concerns were raised in some countries that FTA's in-country research does not pay adequate attention to building national research capacity (CGIAR synthesis evaluation).

The CGIAR Research Programme that is renowned for its high level of participation of non-CGIAR research institutes is the Climate Change, Agriculture and Food Security (CCAFS) Programme. It has more than 700 partners and channels large parts of its funding to these non-CGIAR institutes and organisations. Despite the emphasis the CCAFS programme places on partnerships, the seven sub partner agreements in Ghana the 2013 review assessed were all relatively short and with small budgets. The majority of the agreements were for periods less than 5 weeks and with a budget of USD 25.000 on average.

At global level, SIFOR, implemented under GPARD, brought farmers from all the countries involved together to share experiences and lessons learnt (Kenya CN).

ILRI sees capacity building in national research systems as an important priority and seeks to build capacity building opportunities into its research projects (PhD places, short term training, attachments, etc.) (Country note Ethiopia). A structural problem, as reported at ILRI, is that capacity building efforts tend, both at the institute and individual levels, to disproportionately benefit those whose capacity is already reasonably high (Kenya CN).

Both Kenyan CGIAR centres were acutely aware of the danger that they crowd out less prestigious national institutes. This was one reason for putting in place the new CRP system in which national partner can be lead institutions. ICRAF has a unit devoted entirely to building capacity. It tries to have input but is willing to step back and let other institutions take the lead. In Kenya, the risk of crowding out is reduced because national institutions are relatively strong (Kenya CN).

Box 2 Strategies to enhance the sustainability of capacity building in innovative ICT in Peru

- Involving civil servants and creating commitment of local authorities via opportunities for their participation in the project actions;
- Partnerships with local universities;
- Capacity building projects for local technical staff;
- Training of technical staff;
- Strategies for the communication and dissemination of the project among the population so that the public understands the usefulness and cares about the equipment;
- A participatory design and implementation for the training program.

Cost for maintenance and operational costs will be taken over by regional government. The economic viability depends on the ability of municipalities to pay for the maintenance of telecommunication systems installed. Estimated maintenance costs from the experience of over ten years per municipality is EUR 3,450, representing 3% of the typical budget of a district municipality and 1% of the budget of the provincial municipality. These data give the idea that maintenance costs are assumable by the municipalities and have a low impact on their annual budgets.

Source: Peru D-19404

Box 3 Technological and methodological innovations in a project for capacity building in innovative ICT in Peru

The innovation project in Peru has two areas: technological and methodological. The technological innovation is the use of technologies with low cost and appropriate for rural areas in developing countries. But innovation is not limited to the use of these technologies in the area of intervention. The project also seeks to support a diffusion process (i. e. use a larger scale of such technologies in large rural areas of Peru and with the participation of a large number of local actors). The methodological innovation is based on the special attention paid to factors not strictly technological to the project: including user training, system maintenance and above all, process redesign. All these factors of human intervention is what is called "management of technological change". For the redesign of processes, it is changing the way of working so as to take advantage of the technology in place, with the aim of improving internal management and with the ultimate aim of improving service delivery that local public entities provide to the people of Acomayo (province in Peru).

Source: Peru D-19404

2.2.4 Indicator 224: Increased capacity of research administration staff including senior scientists in administrative posts to identify and manage R&I opportunities

The evaluation team has not encountered information that allows specifying results in terms of *increased capacity of research administrative staff***.** The information does, however, provide some information on increased R&I capacity in the broader sense. In most cases, R&I capacity building support is focused on a wide range of actors, ranging from local, regional and national government actors and decision-makers, to producers, technicians, specialists, the wider public, public and private actors of research, (administrators in) universities and research institutions, local platforms, school boards to National Agricultural Research Systems. Capacity building is not only human-related, DG DEVCO also invests in capacity building at the level of institutions and infrastructure (interview). For example, DG DEVCO has been supporting AUC institutional capacity development, although capacity development should also focus on policy development as the EU is in a much stronger position to discuss policy than the AU where capacity is very weak. Dialogue would possibly have been easier if capacities were more balanced (interview).

In the reviews of these very diverse capacity development efforts, it is generally noted that capacity was increased, though some critical remarks regarding the sustainability of these efforts can be found. These remarks mention weak TA and transfer of knowledge and limited effect on institutional strengthening, as effects of capacity building took place more on individual level (*D-19404*, *D-21454*,

CSP Uruguay, *D-19413*). For regional and global actors issues raised include: too little focus on smaller countries because of a limited capacity in terms of work force and research experience – possibly leading to these countries being trapped in the vicious circle of exclusion from resources because they are weak – and, inadequate integration with national research strategies and national development agendas that limits capacity development of national actors (AF for ASARECA operational plan 2008-2012 and CGIAR Synthesis evaluation).

2.2.5 Indicator 225: Existence and quality of capacity building related indicators in sector support programmes, and their achievement (e. g. related to incentives to keep and attract qualified scientific, maintenance and engineering staff)

The quality of M&E indicators in sector support programmes cannot be determined from the materials that were collected by the evaluation team. The evaluation team has not been able to construct an overall picture with regard to process indicators to measure the effects that ensure the quality.

Both the SBS documentation for Peru and the PROAGRI SBS in Mozambique do not refer to research staff in specific. The Action Fiche for Mozambique SBS mentions the Ministry of Agriculture conducted a capacity assessment in 2008 and based on that the Commission provided technical assistance for a total amount of EUR 1.7 million in order to increase the capacity of the Ministry at all levels (*D-21859*). And the Ministry of Agriculture should strengthen its capacity to create an enabling environment for the development of the agricultural sector, according to the financial agreement to PROAGRI II.

The 2009 compliance report regarding the sector policy support for Peru mentions capacity and Human Resources only in relation to strengthening the budget control system, and the Action Fiche refers to capacity development only with regards to strengthening management capacity, like statistical issues, to be able to manage the budget support (*D-21564*). However, no information is available on the research component, the existence and quality of capacity building related indicators, nor their achievement of these programmes in Mozambique and Peru.

2.3 JC 23: Improved access of developing countries' research communities to EU FP7 funding through RTD

Summary judgement

Some few references were found to specific information actions that aim to target research communities in developing countries regarding FP7 in the area of FSNA, but generally, the lack thereof is noted, including for Burkina Faso, Kenya, Mauritius and Peru (I-231). Some evidence found refers to the promotion of FP7 in Uruguay by the Ministry of Education and the promotion of FP7 in Chile. In general, RTD had specific projects to help researchers to access FP7 funding, either BILAT (bilateral) projects (all countries with a Science and Technology agreement) or regional ones (INCO-NETS). Although doubling international participation is a political objective for RTD, it is not part of the co-operation strategy and has no clear targets for the moment. Still, DG RTD provides opportunities for co-operation between European and African researchers through the framework programmes and, increasingly, this co-operation is becoming more strategic and joint (EU-Africa) as a result of the High Level Policy Dialogue.

The RTD database shows that for FSNA in total 240 FP7 projects are contracted in 2007-2013. By far, most contracts are in China (57 projects), South Africa follows (35 contracts) and India (29 contracts). Apart from positive developments in Chile, from the documents available, no trends could be established for country participation in FP7 programmes compared to FP6. In FP7 Chile had 13 contracts, Peru five, Uruguay one and Mauritius none. In terms of funding volume, in total EUR 816.3 million is contracted for FSNA in the FP7 projects, which is 24% of the total funding allocated by FP7 to the four sectors covered in this evaluation. Although the number of projects also determines to a large extent the funding volume of a country, Chile received a relatively high amount compared to its number of projects. With the exception of emerging economies, access to FP7 funding from developing countries has been limited and depends on invitations from European partners and existing personal ties with European researchers. In addition, for a wide variety of reasons, participating in FP7 is considered very challenging, including the complexity of the system, lack of clarity on the objectives and criteria, and practical issues in terms of covering costs (I-232). Where EU Delegations collaborate with the national government to play an active role in promoting access to FP7/H2020, participation of national researchers in DG RTD funded projects can be expected to increase (Peru CN).

No direct references have been found to acknowledgement of R&I programmes by partner country research institutions. On the other hand, lively descriptions of research projects – see examples from Mozambique – seem to imply the existence of such acknowledgements (I-233).

2.3.1 Indicator 231: Evidence for information actions targeted to research communities in developing countries regarding FP7 proposals

The Platform for African – European Partnership in Agricultural Research for Development (PAEPARD) project supports collaboration between African and European agricultural researchers facilitating partnerships, sharing information on funding opportunities and supporting the preparation of strong research proposals. It advocates for demand-led, multi-actor research and was specifically aimed at raising awareness on FP7 funding in ACP countries and to get their ideas together on a strategic research agenda. Such agenda was then to be sent to RTD. This project started by RTD in 2009 and the first phase lasted until 2012; now it is the second phase, which DG DEVCO took over. The rationale behind this decision can be further investigated. According to interviews held, it has excellent multiplier effects; the PAEPARD is linked to FARA and its email network (Africa only) covers all the ACP countries (interviews).

In a few countries (Uruguay, Chile and Peru) some evidence was found of information actions regarding FP7. For Uruguay evidence was found of the promotion of FP7 by the Ministry of Education cooperation division, as well as a training visit to Europe (Uruguay EAMR 2013). In Chile, participation of Chilean universities and SMEs in FP7 activities is stimulated through the Innovation and Competitiveness Support Programme. This programme is co-funded by the EU and the Chilean government (Chile CN). In Peru access to FP7 funding has improved somewhat with H2020 due to the more active information dissemination strategy both from EUD and CONCYTEC (Peru CN). However, in Burkina Faso, due to the decentralised nature of their institutions, Burkinabe researchers have often only incomplete access to electronic media – mostly used by the EU to disseminate information about research programmes and calls and, to receive proposals. Also the EUD does not see an active role for itself in this respect, as was the case in Kenya. As a result, Burkinabe researchers generally do not have adequate access to information about EU-sponsored research and innovation opportunities (Burkina Faso and Kenya CN).

2.3.2 Indicator 232: Trends in number, size, geographic and thematic diversity of FP7 proposals submitted and accepted cross-sectoral evidence

In general, RTD had specific projects to help people to access FP7 funding, either BILAT (bilateral) projects (all countries with a Science and Technology agreement) or regional ones (INCO-NETS). This lasted for the last 10 years. While in the past support was only for the countries concerned with the projects that were supported, now consortia are being formed with partners of their choice. The aim of the Commission is to stimulate networks to be set up, and then to assist them as evidence shows that chances are much higher to get funding through FP7 with those network in place (interview).

Doubling international participation is a political objective for RTD, though it is not part of the cooperation strategy and has no clear targets for the moment – the whole programme is open to everyone. When international co-operation had drastically decreased, targeted actions were undertaken to encourage actors work together, SICAs (FP7 instruments for international co-operation) and intensive dialogue took place to re-target the calls for participants in third countries.

Brazil, Chile, Argentina, and Mexico have BILAT projects for supporting policy dialogue, and steering committees every year to discuss joint actions. FP7 was the first time RTD saw an increase in cooperation with third countries (interview).

Africa is the first recipient region in terms of participation of FP7, but only 20% of the funds go to Africans (80% to Europeans). These funds went through the Africa Call under the Joint Africa-EU Strategy (JAES), so in co-operation with DG DEVCO, the AU Commission, and African countries (interviews). An interviewee noted that DG RTD provides opportunities for extensive co-operation between European and African researchers through the framework programmes and increasingly this cooperation is becoming more strategic and joint (EU-Africa) as a result of the High Level Policy Dialogue.

The RTD database shows that researchers from the 17 sample countries participated in a total 206 of FP7 projects for FSNA in the period 2007-2013. This is the lowest number in comparison with the other three sectors; Environment and Climate Change, Health and SISS. By far, most contracts are in China (49 projects), South Africa follows (32 contracts) and India (20 contracts) (see Table 2 below).

Table 2 *Total number of FP7 projects in FSNA with EC contribution contracted in 2007-2013, by country of participant*

Country	Number of FP7 projects
China	49
South Africa	32
India	20
Tunisia	19
Egypt	18
Kenya	13
Ukraine	12
Chile	12
Viet Nam	10
Tanzania	7
Peru	5
Ethiopia	3
Philippines	3
Mozambique	2
Uruguay	1

Source: RTD database

Kenyan participation in FP7 has been relatively high, but there is no evidence that DG DEVCO support enhanced or facilitated this. Senior officials at the Ministry of Education, Science, and Technology expressed the view that FP7 ran essentially independent of EUD support, a view generally in line with discussions at the EUD (Kenya CN). In Farrell (2014) it is noted that Chile had increased access to FP7, compared to FP6. While, in FP6, Chile ranked number 16 in the top 20 list of International Co-operation (INCO) participation in terms of number of projects, and 14 in terms of number of participants, in FP7 it had disappeared from the top 20. However, in the FSNA sector, as is shown in the table above, Chile is still one of the more important countries in FP7, with 12 contracts. Chile saw an increased access of Chilean researchers to FP7 funding compared to FP6, both in absolute and relative terms. In FP6 69 Chilean teams participated (success rate 18%), and in June 2011 for FP7 69 successful applicants retained for funding (success rate of 23%) (S&T Chile review 2007-2011).

Peru has five FP7 contracts; and access to FP7 funding has been mostly dependent on already existing personal ties between Peruvian and European researchers. Participation in FP7 projects is considered very challenging. Significant finding is that two of the universities that invest most in research do not participate in any H2020 projects. University researchers chose not to invest in finding out how the system works, because the programmes are considered to be very competitive, and there is little perceived support to clarify doubts around the objectives and criteria proposals need to meet. Researchers are more familiar with other programmes, often from European Member States. Researchers also participate in North-American and Canadian research programmes. It is, for example, not always clear how the priorities of a call should precisely be interpreted, or if a Peruvian organisation can be a lead institute for the application. It is difficult for universities and research institutes to get clarification on these issues. There are also a number of practical issues that hinder full participation of Peruvian researchers in the European research programmes, such as the fact that some of the H2020 calls do not cover VAT. Covering these costs as a university could be a serious hurdle for participation and for a public university practically exclude them from participation. To date there has been no capacity at EUD to be aware of these issues and to raise these issues in Brussels (Peru CN).

Uruguay participated in one FP7 project. Mauritius has actively participated in international research initiatives under the 5th and 6th Research Framework Programme (2002-2006), but so far only had limited direct research funds to the latter. During the period 2007-13, the EC was to encourage research and development institutions in Mauritius to participate in the 7th Research Framework Programme, in particular in theme 2 “Food, Agriculture and Biotechnology, building the knowledge based economy” (CSP Mauritius). For Mauritius, no FSNA contracts are mentioned in FP7 overviews of RTD. The field mission found no evidence of an effort made for Mauritius to attract FP7 funding, mainly due to the complex mechanisms of the FP7 programme. EU consultants held a workshop at the University of Mauritius on the FP7 Programme and the requirements, but there is no evidence as such of any successful project which has been approved for funding (Mauritius CN).

In Burkina Faso participation in EU FP7 projects is very limited and comes about only upon invitation by a European partner. No national support structure exists in Burkina Faso as in other countries (that aim to be) more successful in receiving FP7 grants. This coincides with the lack of priority for R&I, both at the Government and the EUD level. At the Government level priority may be changing, as the

Government has recently established a National Competitive Fund for funding R&I in Burkina Faso (Burkina Faso CN).

The funding volume for FP7 projects cannot be disentangled by country of participant since the available data only includes the global budget of each project, which is usually split among researchers from several countries.

2.3.3 Indicator 233: EU R&I programmes acknowledged by partner country research institutions

Research institutes visited during field trips generally acknowledge EU R&I funding as important to their work. However, they are generally not aware of any EU R&I projects or programmes beyond the ones their institutes participate in. Lively descriptions of research projects – as in examples from Mozambique – seem to imply the existence of such acknowledgements.

2.4 JC 24: Enhanced networking of developing countries' researchers at regional and international level

Summary judgement

Ample evidence has been found for *enhanced networking* due to EU R&I funding at national, regional and global level**.** As for *participation of R&I professionals in policy dialogues*, no specific evidence on increased participation was found. The evaluation team did, however, find ample evidence of (intended) efforts in Uruguay, and by ASARECA, GFAR and GCARD to foster R&I policy dialogues in general. Also through own initiative many projects informally or formally link up with policy makers in their countries to provide advise.

For all countries visited, evidence of efforts and successful enhancement of networking and co-operation between researchers was found, both trough projects and mobility programmes. For example, in the context of the ACP Sugar Programme, that aims to enhance collaboration of partners among ACP countries for a multilateral collaboration. Also several national R&I projects have a regional coverage like in Kenya and Burkina, these projects contributed to strengthening regional networks and consequently, enhance South-South networking as well (I-243).

At the regional level, ASARECA, FARA, Pro-Poor Innovation in the Andes (IssAndes), and Technology Transfer in South East Asia (SEA) show explicit intentions and actual contributions to regional networking between researchers and other stakeholders. In the last case, the approach chosen failed to produce regional priorities; an independent assessment found that, as a consequence dialogue, networking and learning across countries and programmes were less and less effective. For ASARECA, these networks are found quite successful creating clear results, fostering sub-regional exchange and co-operation, but a wide range of recommendations for improvement exist which are taken up in the more recent planning documents. *South-South networking* is also supported by national EU R&I funding. A successful example is the IssAndes programme, which aims to link with regional and international organisations and networks and is judged as an effective programme (Peru CN). Another is Fertipartenaires in Burkina Faso (Burkina Faso CN). Also ASARECA has a useful role in fostering regional networks. However, the Technology Transfer programme did not succeed in developing a wider network, although it had a strong mandate to link research and technology transfer organisations across the region.

At the global level, GFAR in particular organised global dialogues and networking on research and innovation priorities, particularly for the CGIAR (through the GCARD process). GFAR's main contributions were found to be the building of active and mutually accountable partnerships and enabling diverse partners to work together effectively between diverse institutions and sectors. The GCARD showcases the Consortium and partners' research and serves as a marketplace of advances in science for uptake by stakeholders or for further development by the contributors to the Fund. The Conference provides a platform for interactions among the contributors to the Fund, as well as other donors of restricted funds, the Consortium, partners and other stakeholders. The large majority of participants to GCARD sessions found them useful to their work, and indicated the knowledge acquired is likely to change the design or implementation of their AR4D programmes and activities.

The *share of funding* dedicated to networking facilities in the FSNA sector has a total contracted amount of EUR 8.4 million, which is 1.6% of the total contracted amount. These are all regional contracts and based on contracts related to inter-university high-speed connection networks, research platforms and conferences. This means no data are found on the share of funding for national or global R&I networking activities.

2.4.1 Indicator 241: Share of funding for national, regional and global R&I networking activities

The share of funding for networking activities is based on contracts related to inter-university high-speed connection networks, research platforms and conferences. In the FSNA sector this includes 11 contracts, with a total contracted amount of EUR 8.4 million, which is 1.6% of the total contracted amount (total contracted amount for FSNA: EUR 511.2 million).

All contracts have a regional focus. Four of them are for East Africa and three for Central Africa and the Sahel region. This means no data are found on the share of funding for national or global R&I networking activities.

The contract for Papua New Guinea is aimed at *Capacity Building in Core Research-Related Competencies and Networking among Staff of Agricultural Research Institutions* in three Western Pacific countries (EUR 9 million). In South Asia the contract is part of the Technology Transfer programme and is for a *Network for Knowledge Transfer on Sustainable Agricultural Technologies and Improved Market Linkages in South and South East Asia* and one regional EDF programme (EDULINK) which went to the University of Alicante for a European-African network to improve higher education in agriculture and forestry based on new market needs.

Of these contracts, the Technology Transfer got 30% of all network funding, EUR 2.5 million, while all other funding amounts are around half a million, with two exceptions of relatively small amounts to support agriculture research in East Africa for the Barnesa network (Banana Research Network for Eastern and Southern Africa) and ICRISAT (International Crops Research Institute for the Semi-Arid Tropics, a CG Research Centre).

2.4.2 Indicator 242: Increased participation of partner country R&I professionals in national, regional and global R&I policy dialogues

At the national level, in Chile, enhancing networking capacity is a clear focal area in the CSP. From various sources it appears that EU support has enhanced networking and co-operation between researchers from selected European countries and Chilean institutions. The same probably holds true for the regional level, but the country is not a top performer in drawing from EU programmes because of weaknesses in its own system.

The *Sector Policy Support for PAN* (Peruvian Nutrition Programme) in Peru also includes political dialogue, on macroeconomic management, and dialogue with civil society has to be ensured by a specific co-ordination mechanism, but again, no reference is made to R&I professional participation in dialogues (*D-21564*). And the FP7 grant to set up a network of Latin American and European researchers, ERANet-LAC, has contributed to an enhanced network of researchers at international level (Peru CN).

In Uruguay INNOVA has contributed to reinforcing technical and financial linkages between national and international R&I actors through the sub-programme '*Cooperación de Ciencia, Tecnología e Innovación*'. The programme supported design, implementation and execution of new financial instruments and the development of supporting procedures and documents. Public-private linking was supported with several activities, including a call for proposals for public-private partnerships for innovation. According to the monitoring report of the SBS INNOVA Uruguay (*D-19040*), the *Programa de Apoyo a la Política Sectorial* (PAPS) indirectly contributes to an efficient dialogue on sector policy among government partners and interested donors, through the strengthening of the *Agencia Nacional de Investigación e Innovación* (ANII), and through creating spaces for debate (national reflection on systemic competitiveness and innovation activity). The management co-ordination by ANII as executor of the policy helps reducing costs (economies of scale) and facilitates synergies. The monitoring report notes that by applying national procedures, management activities by beneficiaries turn out to be smoother and more efficient. It finds there is a deepened technical and financial co-ordination between national and international actors, promoting international co-operation and transfer of knowledge and good practice in the design and implementation of public policies (*D-19040*). This implies the INNOVA programme in Uruguay increased participation of Uruguayan R&I professionals in national and regional dialogues.

The *Sector Policy Support Programme in Mozambique*, PROAGRI, refers to participation in sector policy dialogue with the Ministry of Agriculture, to revitalise agriculture in the country. However, it still struggles with significant structural problems such as lack of productive capacity and infrastructure, as well as to monitor and take up the concern regarding the too interventionist approach of the New Action Plan for Food Production. Therefore, no reference is made to R&I professionals and their involvement in dialogues (*D-21859*).

At the regional level, the *ASARECA* Secretariat serves as a co-ordination mechanism of the ECA region and as a means of aggregating NARS perspectives in regional fora. According to the Action

Fiche, ASARECA works with COMESA and FARA to strengthen its collaboration in the implementation of CAADP, and with AFAAS, the African Forum for Agricultural Advisory Services, to ensure that research findings are available to and meet the needs of service providers and farmers, and addresses uptake of research results through its programme (AF for ASARECA operational plan 2008-2012). ASARECA's operational plan notes the Secretariat greatly expanded its mandate to link agricultural research to the political dialogue through the Common Market for Eastern and Southern Africa (COMESA), the East African Community (EAC), the Forum for Agricultural Research in Africa (FARA) and AU/NEPAD (ASARECA Operational Plan 2 2014-2018). This co-ordination role, strengthening collaboration among various actors, providing representation in regional fora and linking research to dialogue facilitated partner country's participation in R&I policy dialogues.

EU support to ASARECA has often resulted in successful bids by Kenyan institutions on calls for proposals, contributing to EU goals of R&I institutional capacity building and integration into international research networks. ASARECA also promoted regional networking by establishing collaborative networks (Kenya CN). ASARECA, of which the Ethiopian Institute for Agricultural Research (EIAR) is the focal point, is seen as valuable in terms of networking and funding opportunities for agricultural research. It also fosters intra-regional co-operation between researchers in the field. The centre of excellence arrangement among different regions allows for specialisation in accordance with each country's needs, while also facilitating knowledge-sharing (Ethiopia CN).

At the global level, *GFAR* in particular organised global dialogues and networking on research and innovation priorities, particularly for the CGIAR (GCARD). GFAR aims to transform and strengthen all aspects of agricultural innovation systems to achieve better partnerships and synergies between different sectors and institutions in agricultural research-for-development (AR4D) systems, with farmers at the centre of these processes and to share and scale-out new knowledge and learning of all forms to foster change and innovation. GFAR's main contributions were found to be the building of active and mutually accountable partnerships and enabling diverse partners to work together effectively between diverse institutions and sectors. GFAR brings together participants from the different regional fora of national research systems, participants from international and national agricultural research institutions, NGOs, the private sector, farmers' organisations and CGIAR (GFAR Profile).

The *GCARD* was defined in 2008 by the CGIAR Annual General Meetings (AGM) to replace and strengthen the objectives of the earlier CGIAR AGMs and the triennial GFAR Conferences. The GCARD is organised every two years by GFAR in collaboration with the Consortium, to showcase the Consortium and partners' research and to serve as a marketplace of advances in science for uptake by stakeholders or for further development by the contributors to the Fund. The Conference provides a platform for interactions among the contributors to the Fund, other donors of restricted funds, the Consortium, partners and other stakeholders (AGM 2008 document). The *GCARD* is seen as an important part of the accountability mechanism to donors and partners and the large majority of participants to sessions found them to have been useful to their work, that the knowledge acquired is likely to change the design or implementation of their AR4D programmes and activities. To optimise networking and effective communication of GCARD, a review report (2013) recommends to work with a longer term planning and organisation in the six-month period prior to the Conference, and the design of an interactive three-day Conference which alternates half day sessions on national/regional priorities and reports with half day sessions on CGIAR SRF/CRP perspectives and reports. This would set the context for the Funders' Forum and the interaction between the CGIAR and its investors. This would necessitate less parallel sessions and less low-value plenaries, incorporating less formal presentations and set piece presentations (GCARD review report 2013). In the current, new GCARD preparatory rounds, in-country multi-stakeholder meetings are organised to strengthen the input of national stakeholders in the global dialogue process. This implies an improved participation of partner countries' R&I researchers in the GCARD global dialogue.

Under GPARD, the climate change and adaptation project SIFOR brought together teams from institutions in India, China, Peru, and Kenya. The teams meet together at least once a year and have formed close professional relationships. Through the network, they gain access to the latest international research. National-level policymakers, as well as local farmers, also participate in an annual workshop. Many CGIAR-implemented R&I activities had a regional or global component and promoted cross-border scientific communication and sharing of results and experiences (Kenya CN).

2.4.3 Indicator 243: Evidence for South-South networks at regional level due to EU support

In Mauritius the creation of a Coordinating Unit and data platforms increased networking between Research Institutes. MSIRI has been the Coordinating Unit for the ACP-Sugar Research Programme and has been responsible for the organisation of the co-operation and creation of data platforms, all leading to increased networking between regional research institutes. The programme has only to a limited degree included North-South co-operation and only limited new networks have been established (Mauritius CN). There is also evidence of South-South collaboration between MSIRI, the Coordinating

Unit for the ACP-Sugar Research Programme, and Fiji Sugar Research Institute and Jamaica Sugar Research Institute (Mauritius CN).

Kenyan researchers participating in FP7 projects have benefited from being integrated into international research networks. Also the DG DEVCO AU-IBAR projects promoted regional networking by establishing collaborative networks (Kenya CN). ILRI has encouraged networking of researchers from different countries by bringing them together in multi-country projects (Ethiopia CN). While some successes were recorded in promoting the sharing of experiences, according to researchers at ILRI, it can be very difficult to build the levels of trust necessary for data sharing. It is important that partnerships between institutions be genuine and built on experience, not cobbled together for funding reasons (Kenya CN).

In Burkina Faso, two projects implemented between 2007 and 2013 enhanced networking, the *Fertipartenaires* project focused on South-South networking which led to successful adoption of a new technique learned on a study trip to Mali and the Information and Communication Technology (ICT) Best Practices Forum succeeded in organising a regional Forum and develop and implement an information system for the four universities in Burkina Faso (Burkina Faso CN). Fertipartenaires further established relations with other national and regional projects intervening in the same thematic area (soil conservation and fertility management), that also started to use some of the work put in place by Fertipartenaires. The CORAF project has continued to promote intercropping (pulses and forage crops). Through these projects, some achievements of Fertipartenaires have been scaled up. CORAF plays a role of coordinator and facilitator of information exchange in the region. Several other projects in Burkina had a regional coverage, like the "Increasing yields of Millet and Sorghum" project that has partly supported the development of research networks in West Africa. These networks have also developed exchanges with researchers in Tanzania and India who are now testing Eclipta Alba too. Not much budget seems to be available for networking however. The FP7 project UNDESERT, a collaboration with Niger, Benin, Senegal, Burkina Faso and Denmark, Germany, Italy with the lead institution the University of Aarhus (Denmark) strengthened the networking, content and research capacities; North-South integration. A quick revision of the articles published under the project (CORDIS database) showed that at least half the articles have an African first author, and all are co-authored by a mix of team members (Africa/EU). The *Atlas de la Biodiversité de l'Afrique de l'Ouest* (Vol II) is a very rich resource for those who seek a responsible management and use of natural resources in West Africa (Burkina Faso CN).

In Burkina Faso, ICRISAT did forge close ties with FAO, seed breeders and the African Groundnut Council. But, despite these close ties and most likely because of a lack of alignment with national priorities, little integration was found to exist between the ICRISAT project in Burkina Faso and the EU-funded FAO project on seed multiplication and distribution. In the same study respondents found there was no formal platform for research exchange. An improvement was seen in the Innovation Platforms and also the Challenge Programme for Water and Food (CPWF) (EU funded, reviewed in 2012) where the International Water Management Institute (IWMI) shared a decade-worth of research results with partner organisations in Ghana and Burkina Faso. CORAF/WECARD and the International Food Policy Research Institute collaborated to contribute to the formulation of the Comprehensive Africa Agriculture Development Program (CAADP) (Burkina Faso CN).

Peru's high participation in mobility programmes like ALFA III and ALBAN for the promotion of co-operation between higher education establishments is very famous among Peruvian academic institutions. The mobility programmes are well known at Masters' levels, less so at graduate level. The Peruvian participation in ALFA (*América Latina – Formación Académica*, co-operation between Higher Education establishments) is high. Also participation in ALBAN (grants for Latin American students to study in the EU) is relatively high (5% of grants). 39 Peruvian nationals received Erasmus Mundus Action 2 scholarships (Peru CN). The field mission found that EU support to Higher Education and mobility has been very limited. Peruvian researchers are mostly aware of scholarships through their own networks. The EUD ambassador took the initiative to set a coordinative meeting between the responsible national agencies and European Member States and EC to coordinate better the European Higher Education and mobility schemes. Without explicit reference to brain drain, CONCYTEC has initiated a mobility programme to attract talent from abroad at post-doc level. For the higher education component of EU support there is very little systematic support (Peru CN).

The *Pro-Poor Innovation in the Andes programme* (IssAndes) aimed to form and support regional groups to reflect on food security (food availability and access, nutrition, and use), climate change, and others, depending on demand. These should include working groups at national and regional levels with participation of national R&D partners and resource persons to act as think-tank group to facilitate the use of food security knowledge for innovation and contribute to link better science and development and policy action. Also support was foreseen to link with regional and international organisations and networks and to feed international research agenda (CGIAR and other) with food security working hypothesis and website containing important information about results and to serve as a virtu-

al means of interaction between actors (Pro-Poor Innovation Proposal 2010). In general the effectiveness of the programme is good according to the ROM report, especially because of its regional approach (Pro-Poor Innovation Profile), and although no specific evidence of the effectiveness of the network is found, in itself the programme shows such networks are important for the EU.

The *Technology Transfer programme* had the intention to 'build south-south linkages to enable technology exchange'. But the MTR is rather critical about the effectiveness in reaching this goal, for example because of the difficulty of setting up a supply-driven network, the largely irrelevant Technology Transfer issue of cross-border trade relations and because the timeframe is not suitable for facilitation (because it started too late) or for network development (because it ends too soon – if it is supposed to set up a vibrant network of actors involved in technology transfer for the long-term, then it should have a much longer outlook). Also, the Network for Knowledge Transfer on Sustainable Agricultural Technologies and Improved Market Linkages in South and Southeast Asia (*SATNET*) has a strong mandate to link research and technology transfer organisations and is developing a database of pro-poor technologies that may be suitable for transfer more widely across the region; it is involved in pro-poor technology transfer policy development. However, SATNET has not been very successful in terms of developing a wider network. Although several hundred people have at one time or another expressed interest, active networking is not taking place. There have been several specific events, trainings etc., but most of the participants contacted reported that they have not continued to communicate with each other subsequently. Part of the problem may well stem from the fact that people do not really perceive common problems for the region or the need for an organisation such as SATNET. Its approach is not widely appreciated – it is seen as extractive and not user friendly (*D-21996* Mid-term Evaluation 2013).

To the contrary, *ASARECA* role in fostering these networks are found quite useful; they deliver clear results, foster sub-regional exchange and co-operation. The EU increased its support to ASARECA since 2008 and is part of EU's regional approach to AR4D to promote networking of AR4D stakeholders on a regional level. Enhancing the network capacities of research communities in East and Central Africa is one of the main activities of ASARECA (ASARECA Profile). The Action Fiche for ASARECA notes the organisation promoted regional agricultural research and strengthened relations between national agricultural research and extension systems (NARES) in the Economic Commission for Africa (ECA) and between NARES and the CGIAR centres. ASARECA as a regional R&D association has an R&D co-ordination and leadership role; it serves as a facilitator and promoter of regional collaborative research and technology generation. ASARECA works with other R&D institutions including IARCs, universities and private R&D institutions, and manages research projects that are led by local institutions and scientists. ASARECA has made significant contributions to agricultural research in the sub-region, in particular to fostering sub-regional exchange and co-operation, and in addressing some of the most pressing agricultural constraints through its networks and grant scheme according to evaluations (Action Fiche for ASARECA operational plan 2008-2012).

Notwithstanding its track record, review documents do provide a wide range of recommendations for improvement, most of which have been taken up in more recent planning documents. The MTR finds ASARECA has been able to facilitate and forge co-ordination between scientists in different member countries and, in some cases, significant achievements were gained from such a regional approach. However, the MTR also notes that some projects appear to be more 'multi-country' rather than regional (*D-15102*). ASARECA's priorities benefited from identifying agricultural development domains (with the support of the International Food Policy Research Institute) that generally cross national borders, but the Action Fiche mentions that ASARECA programmes so far did not manage to make proposal development easier for lead scientists to identify potential project partners beyond their current experience, and encourage closer project collaboration across countries in carrying out joint research. Relevance (as well as effectiveness) would be significantly enhanced, according to the Action Fiche, if the existing structure were to be operated and managed more interactively, seeking value addition across programmes, units and projects, as appropriate. Furthermore, for the weaker countries that need research experience to be able to adapt technologies to local conditions, the Action Fiche suggests ASARECA to implement affirmative action to make sure that all member countries get tangible benefits from regional collective action (Action Fiche for ASARECA operational plan 2008-2012).

Box 4 Added value of ASARECA in the East and Central Africa region

According to ASARECA's own operational plan, the organisation adds value to the region through, inter alia:

- Joint priority setting and research implementation across countries that identify more robust and adaptable technologies and innovations accompanied by better understanding of the limits to their usefulness;
- Greater cost efficiency in national research through eliminating unnecessary duplication of facilities and effort;
- Opportunities for "smaller, weaker, more isolated" national systems to collaborate with stronger research partners, using across-region mentoring, training and support services;
- Faster and easier access by weaker and stronger countries alike to a richer pool of information and portfolio of technologies for local adaptation;
- Faster achievement of scaling up and impact from research; sharing resources and effort to advocate for progressive policies in politically sensitive areas within the agricultural sector; and
- Mutual reinforcement and sharing of success stories that raise the profile of agricultural R&D within countries and improve the likelihood of further internal and external investment.

Source: Action Fiche for ASARECA operational plan 2008-2012, p. 60

FARA acts both as the African continental platform for agricultural R&I, stimulating networking and learning across Africa, and as research institution piloting new approaches to R&I (Innovation Platforms), mobilizing stakeholders in and from many countries in Africa. *GFAR*'s main contributions, as the Forum brings together participants from different regional fora such as FARA, were found to be the building of active and mutually accountable partnerships and enabling diverse partners to work together effectively between diverse institutions and sectors. GFAR aims to increase ARD effectiveness by fostering inter-regional partnership and learning (GFAR Governance reform presentation (2013)). GFAR-facilitated activities that were considered most important to respondents' own institutions or networks included building active and mutually accountable partnerships and enabling diverse partners to work together effectively between diverse institutions and sectors (GFAR Annual Report 2013). The EU through its support to GFAR aims to among others increase the role of multiple stakeholders in priority setting and implementation (GFAR Case Study).

In Burkina Faso, in the case *of CGIAR*, the lack of a formal platform for research exchange in the West African region was noted; respondents in West Africa found that there was no formal platform for research exchange (Burkina Faso CN). Also in the case of both the Livelihoods programme and the *Regional Information and Communication Technologies Support Programme* (RICTSP) in Ethiopia, no evidence is found of enhanced networking at regional or international level. Although the Livelihoods programme intends to develop good dissemination strategies on best practices and IST-Africa aims to support ICT and ICT R&D dialogues and increase co-operation between EU and African countries and key regional organisations, the dissemination of the learning of the Regional Information and Communication Technologies Support Programme (RICTSP) in Ethiopia was not planned or done, nor did it seek engagement with EuroICT-Africa and IST-Africa funded under FP7. This could have enhanced South-South networks at regional level (Ethiopia CN).

On the other hand, the implemented activities of the GPARD project in Kenya, Peru, China and India include workshops, farmer exchange visits and community based seed registration. The creation of platforms has proven to be important to share experiences and to enhance collaboration with other institutions and organisations that can provide technical and marketing support (GPARD Case Study). While in DR Congo, REAFOR also seeks to redynamise research networks and link up with *Conseil ouest et centre africain pour la recherche et le développement agricoles (CORAF)* and ASARECA.

2.4.4 Indicator 244: Number and size of joint R&I projects between partner country and European organisations

No consolidated information on the number and size of joint R&I projects between partner country and EU organisations has been found for the FSNA sector.

2.4.5 Indicator 245: Number of jointly authored scientific papers / presentations / research papers (North-South, South-South, North-South-South) resulting from FP7 projects

No systematic information available for the FSNA sector.

3 EQ 3: Instruments and modalities

To what extent has DG DEVCO in its support to R&I used its available instruments in a way that maximises their value?

3.1 JC 31: Appropriateness of the financing modalities and types of funding under different EU instruments and the way they have been applied for enhancing R&I

Summary judgement

The choice of financing modalities at the national level is set within the context of existing priorities in (bilateral) relations between the country and the EU and aligned with the country's ability to effectively absorb and implement the support provided. Modalities used range from General Budget Support under accompanying measures, the 10th EDF and other EU budget lines within the framework of the national economic reform programme (Mauritius) and Sector Budget Support (Peru, Uruguay). Regularly, a mix of modalities is used to accommodate to different strategic objectives (i. e. SBS, thematic programme funding and DCI, Peru). Bilateral support to R&I is mostly through EDF/DCI country or thematic instruments, global and regional support via DCI Food Security budget line.

The allocation decision-making process includes consideration of the most adequate operating channels, the national organisations and institutions best suited as implementers and the necessary role of non-state actors, private sector and NGOs in implementation. Other considerations noted are the reduction of aid transaction costs, the match with the quality of public administration in the country, the need to maintain and/or develop EU-country policy dialogue and the leverage the support can provide in terms of affecting a range of projects beyond those directly supported by the EU. Also some evidence is presented that the financing modalities' choice is influenced by lessons learnt in the past such as in the case of Uruguay, where earlier projects sometimes failed to deliver the expected results, or the necessary alignment with national priorities. A sector or general budget support approach is presented as an approach to overcome such ills.

However, serious questions have been raised whether the *architecture of R&I funding modalities* is the most adequate to support R&I, particularly in countries with weakly developed R&I policy and institutional environments. As it is, the EU architecture seems to limit access and benefit from funding EU R&I opportunities to strong national institutions, able to co-finance from their own means or find complementary resources elsewhere, or to organisations whose other donors are willing to co-finance essential expenditures, or step into a successful project when EU funding runs out. R&I for development is a long-term process involving many different stakeholders who determine to a large extent the progress that can be made. The recurrent short term R&I project finance the EU offers does not match such a long term process so project implementers need to acquire financing from other sources to be able to ensure continuity (Peru and Burkina Faso CNs). Also, the EU is perceived as too rigid which touches the very grain of what R&I projects are about: to act, to learn and to modify actions accordingly. Besides, core funding to finance recurring expenditure required by research institutions is 'almost by definition' excluded from EU funding instruments (Kenya and Burkina Faso CNs). R&I projects need follow-up, sequenced projects. EUD confirms that NGOs or other type of contractors are becoming responsible for the continuity of their interventions. This is contradictory with the time and resource intensive impact pathways from research to development impact and the complexity (and need for continuity) of managing projects with multiple stakeholders (Peru CN).

At regional level, in the case of ASARECA the multi-donor trust fund of the WB is resulting in less bureaucratic pressure and better co-ordination in reporting demands and recommendations, while the Pro-Poor Innovation Programme's (IssAndes) management through the International Fund for Agricultural Development (IFAD) is considered not adding value. In the case of both the Technology Transfer programme and the ACP Sugar Research Programme, the management seems unsuccessful.

Finally, especially at global level evidence suggests the EU seems in contradiction with its own position by using Window 3 rather than the budgets that are the main channels to implement the CG reform. For GFAR and GPARD no evidence is available on the strategic value of the chosen funding channels.

The inventory for R&I contracts in the FSNA sector lists a wide range of relevant research institutions being funded at national, regional and global level. Only one case of support to encourage capacity building of academia was found, but no evidence is available whether this indeed encouraged research capacity.

3.1.1 Indicator 311: Evidence for reasonable choice of financial modalities and types of funding to support R&I

At global level the EU chooses to support the *CGIAR* through Window 3, which is the most restrictive funding modality. This restricted funding allows to selectively supporting research projects, allocated to specific CGIAR centres and CRP components. However, Windows 1 and 2 are more unrestricted and donors were strongly encouraged by CGIAR to channel their funding through Window 1, the least restricted CGIAR fund, where the Fund Council of the CG can decide how these are allocated, or Window 2, designated by Fund donors to specific CGIAR Research Programmes. CGIAR funding amounts to EUR 97 million during the evaluation period, or 8.5% of total R&I commitments in all sectors covered in this evaluation. For CGIAR the EU is one of its largest donors, ranking number four in the period of 1991 to 2010. Funding support to CGIAR is provided through IFAD and coordinated within the European Initiative for Agricultural Research for Development (EIARD). Because of legal reasons[4] the EU chooses not to channel its funding through the Fund Council in a multi-donor fund construction. Instead, the EUs support to CGIAR is implemented in joint management with IFAD. In the Annual Action Programme for Support to International Agricultural Research for Development (2013) it is explicitly mentioned that this is a non-multi-donor action (CGIAR Case Study).

The three funding windows are a result of an extensive series of reforms implemented by the CGIAR since 2009. The reforms followed from the 2008 system-wide review that found CGIAR had a fragmented research portfolio and a complicated governance structure where Centres were sometimes overlapping in mandate, competing for the same funding sources and donors were pursuing their own research priorities (contribution agreement 2014-2018, interviews CGIAR and GFAR). By organising all CGIAR research in one research portfolio of 16 CGIAR research programmes (CRPs), the aim is to increase the CGIAR's strategic capacity to address big issues like climate change and food security. The EU has also been one of the most active donors to lobby for more demand-driven research agenda and more emphasis on results uptake. The new model created a dual structure of a CGIAR Fund to harmonise donor contributions and a Consortium uniting the Centres in a single legal entity with a Chief Executive Officer (CEO) and Board (ibid.).

The decision to fund CGIAR through Window 3 increases the control and visibility of DG DEVCO support to CGIAR, but it has possibly weakened EU strategic support for implementing the reform of the CG. The choice to use Window 3 is rather in contradiction with the earlier EIARD position advocating for the CGIAR reform, as EU funding continues to flow directly into the CG Research Centres and not into the budgets of the CG Research Programmes, the main vehicles along which the CG reform is to be implemented. Window 3 was initially created to offer donors a transition facility from the bilateral project funding to more unrestricted system funding after the 2009 reform. It appears that donors have no incentive to change their modality of funding, because voice in the Fund Council is not related to funding modality. Funding through Window 3 and influencing the Fund Council through the strong collective voice of EIARD, the EC is having best of both worlds (ibid.).

All in all, funding of CGIAR centres is found to be very complex, using different channels and modalities (global funding, EU funding through IFAD, regional and bilateral – DCI, Food facility, FP7). The different funding modalities pose serious challenges to planning and continuity of interventions (Peru CN).

GFAR is funded through the DCI-FOOD instrument 'Global Public Goods for Food and Nutrition Security: Support to International Agricultural Research for Development'. This is the same instrument through which funding of CGIAR is channelled. The funds are channelled through FAO since GFAR has a legal status of a trust fund of FAO. At the end of 2013, a new four-year agreement has been established between FAO (for GFAR) and the EU, doubling the scale of EU commitment to GFAR (Annual Report 2013). No documentation was available on the strategic value of channelling funding through FAO (GFAR Profile). The *GPARD* instruments and modalities of EU support are in accordance with general rules and regulations pertaining to Grant Contracts. However it is not clear why new partners were chosen from the reserve list of eligible applications and not those recommended for selection for Grant Contract award by the evaluation committee of the open calls for proposal. Also no

[4] The World Bank administers the Fund Council as Trustee. Fiduciary responsibility is passed on from the World Bank to the Consortium after signing the contribution agreement between funder and Fund Council. The EU cannot sign an agreement if fiduciary responsibility is not with the first Trustee.

evidence based information available on support provided by the EU Delegations in the target countries covered by the (six) Grant Contracts (GPARD Profile).

At regional level the choice for the ACP Secretariat is the contracting authority of the *ACP Sugar Research Programme* and the responsible body for the management of the research programmes seems to be less successful as problems with administrative and financial management of grants are reported (ACP Sugar Research Programme Profile).

The *Technology Transfer Programme* is commented for the choice to create an organisation for component 2 of its programme (to deliver the expected South-South dialogue and network facilitation – which was unsuccessful), while it also could have invested more time in an identification mission and work with the existing regional network of national agricultural research institutions, the Asia Pacific Association of Agricultural Research Institutions (APAARI) (see further Case Study about the Technology Transfer Programme).

Pro-Poor Innovation Programme (IssAndes): The project approach followed that of other contracts with CGIAR centres, namely through a contract via IFAD. The agreement with IFAD is considered an administrative necessity (ROM) by CIP and has led to funding delays at the beginning of the project and duplication of procedural efforts. The EUD in Lima was chosen to be the contact point for CIP as contractor. The contact with the EUD Lima was considered very positive. The EUD in Lima however, did not have the means to visit the projects in Bolivia, Ecuador and Colombia. The EUDs in those countries have had little to no interaction with the project.

is jointly managed through IFAD with CIP as implementing partner. The programme suffered a delay of seven months in the beginning of the project due to difficulties in signing the agreement with IFAD. The agreement with IFAD is considered an administrative necessity but apparently has no added value, according to CIP this has led to a duplication of procedural efforts (Pro-Poor Innovation Case Study).

Funding for *ASARECA* is organised via a Memorandum of Understanding (MOU) of development partners, the EC via the DCI Food Security budget line, Canadian International Development Agency (CIDA) and Department for International Development (DFID) are contributing to an existing Multi-Donor Trust Fund with the World Bank. Other donors include USAID, African Development Bank (AfDB), IFAD and CIAT. Channelling funds through the multi-donor trust fund of the WB is resulting in less bureaucratic pressure for ASARECA and better co-ordination in reporting demands and recommendations from funding partners. However, the allocated programme contribution to ASARECA of EUR 29.3 million for a five-year period was too ambitious. When the Regional Support Programme (RSP) started, ASARECA was an emerging organisation, whose management systems were not yet equipped for a complex sub-regional programme extending over ten countries. Similarly, the absorption capacity of the National Agricultural Research Systems (NARS) institutes was low, leading to slow expenditure rates. As a result, actual expenditure after 6.5 years of implementation stood at approx. EUR 13.5 million or 46% of total budget (Action Fiche for AAP FSTP 2009). The multi-donor trust fund has been effective at simplifying finance, but ASARECA is significantly downsizing under donor pressure. It has not been possible to effectively mobilise member country support (Kenya CN).

At the national level, the GBS programme requested by the Government of Mauritius is well elaborated. Using GBS as a prime instrument under the accompanying measures, the 10th EDF and other EU budget lines have, according to the CSP, also reinforced the already well-developed dialogue with the Government of Mauritius and other development partners (Mauritius CN, CSP Mauritius). In Peru the EU supported R&I trough budget support, funding through the thematic programme and DCI and via international and local NGOs (Peru CN). In the case of the projects (PAQOCHA, IssAndes, *Parque de la Papa*, Willay) the choice between different modalities has implications for the level of interaction that project representatives have with the EUD.

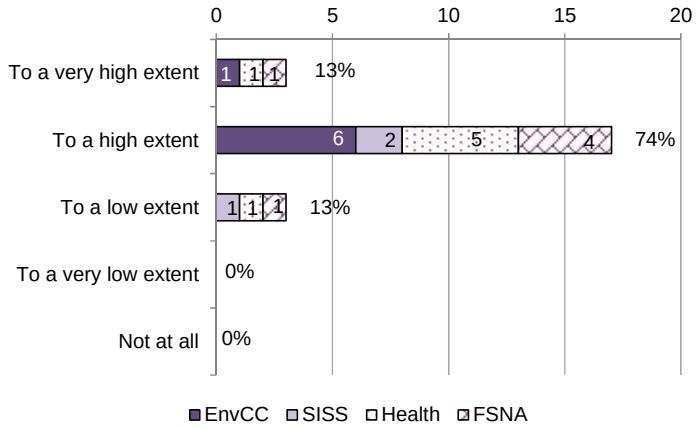
For Uruguay, the CSP 2007-2013 advised a sector or budget support approach to focus on the priorities established by the country in two key areas; social and territorial cohesion and innovation, research and development. Budget support can increase the efficiency of EU co-operation with Uruguay, provided there is a critical mass. The advantage of these approaches, when policies remain consistent and instruments are effective, is that co-operation resources can be added directly to state resources on the basis of criteria based on results (CSP Uruguay). In Burkina Faso the financing under budget support for Fertipartenaires incentivised private sector financing as the EU (through CIRAD) provided 70% of the annual financing and the cotton producers union provided 30% of it. From the situation in Burkina Faso it seems evident that using budget support when neither the Government nor the EU prioritises R&I does not help to create good conditions for implementing R&I in development programmes (Burkina Faso CN).

The main EU financing instruments used for supporting R&I in Ethiopia are EDF Funding, Erasmus Mundus, Intra-ACP Research Grants, FP7/Horizon 2020 and ILRI uses EU funding through multiple channels and from a wide variety of instruments. The variety of these channels and instruments by

which EU funds reach ILRI creates complexity in their funding system which imposes overhead costs and creates risks that then have to be mitigated (Ethiopia CN). In Kenya, bilateral support to R&I has been essentially project based through EDF or DCI thematic instruments (Kenya CN).

Also at the national level, results from the EUD survey show that DEVCO-supported R&I interventions are broadly considered as having adequately taken into account the implementing organisations' capacity to a high or very high extent (in 87% of the cases, see Figure 5 below).

Figure 5 Design of R&I support: consideration of the capacity of implementing organisations



Source: EUD survey, Particip analysis

Note: The question was asked by sector. The bars display the different ratings of the extent to which the design of R&I support took into account the capacity of implementing organisations. The total length of each bar shows how often the rating score was indicated by all EUDs across all sectors. The percentage values show the relative frequency of the given rating across all EUDs and sectors.

In sum, the decision-making about country-level allocations seem to be based on a rational choice of operating channels. National organisations and institutions seem best suited as implementers. The necessary role of non-state actors, private sector and NGOs in implementation is recognised. Other considerations noted are the reduction of aid transaction costs, the match with the quality of public administration in the country, the need to maintain and/or develop EU-country policy dialogue and the leverage the support can provide in terms of affecting a range of projects beyond those directly supported by the EU.

At regional level, some more evidence is available showing that in the case of ASARECA the multi-donor trust fund of the WB is resulting in less bureaucratic pressure and better co-ordination in reporting demands and recommendations, while the Pro-Poor Innovation Programme's management through IFAD is considered not adding value but rather a bureaucratic factor.

At global level evidence suggests the EU is (although because of a legal reason) contradicting its own position of the CG reform by using Window 3 rather than the budgets that are the main channels to implement the CG reform. For GFAR and GPARD no evidence is available on the strategic value of the chosen funding channels. Especially at regional and global level, the variety of channels and instruments is noted to be complex.

3.1.2 Indicator 312: Relevant research institutions (national, regional, international) apply for and benefit from opportunities for funding of R&I

The inventory for R&I contracts in the FSNA sector lists a wide range of relevant research institutions being funded. A large part (48%) of the contracted amount is for international organisations with a global reach. Other beneficiaries are research institutes, universities, civil society. Smaller amounts also went to the private sector, government institutions and regional organisations. At the three levels the EU deals with very different contractors to achieve its aims. They differ in terms of financial, organisational and research capacity, multi-donor funding, research approach and quality. The contracting organisations also differ widely in their focus and their (inter)national networking, Research and Innovation experience and the capacity they have installed.

At global level the EU contributes to the Consultative Group for Agricultural Research (CGIAR), by far the international organisation that receives most financial support from DG DEVCO, GFAR and GPARD.

At regional level the EU supports non-EU regional research and innovation organisations and networks, including ASARECA, FARA, WARDA/Africa Rice in Africa, SADC and the Centre for Coordination of Agricultural Research and Development for Southern Africa.

At national level the EU funds research organisations based in the EU member states (e. g. AgriNatura) or in partner countries (e. g. Tanzania Coffee Research Institute).

In Burkina Faso where R&I policy, institutions and organisations are generally weak, partners highlighted a series of mismatches between EU R&I funding modalities and the needs of their institutions, which make it difficult to access EU R&I funding: for example, not all necessary budget lines are adequately covered (i. e. social security costs of researchers); DG DEVCO procedures/RTD calls for proposals are overly complex, requiring unnecessary details further hindered by electronic hazards due to weakly developed e-infrastructure in the country; lack of flexibility when it comes to necessary modifications to the project and/or budget and too little room for creating incentives for extension agencies and farmer organisations to participate actively in a project and funding periods that are too short to achieve the desired development objectives (wide-spread change in policy and/or practice) (Burkina Faso CN).

In the case of Peru, similar complications were also mentioned, particularly with regard to covering essential budget lines of researchers' salaries and the length of period covered by EU R&I funding. Here however partners showed they were mostly able to compensate for budgetary mismatches by dedicating resources from their own budget or by attracting other donors to their activities. In the latter case, however, delays often threaten the continuity of the work with stakeholders, negatively affecting the momentum built up over the years (Peru CN).

For ILRI in Ethiopia, similarly the project modality with its three or four years is too short for some types of agricultural research that have longer cycles. For instance, with cattle six or seven years are required to produce any real results. This pushes actors working in this area to look for opportunities to fund projects with two 4+3 year phases. Medium to long-term commitment from a donor is therefore considered very helpful (Ethiopia CN). This relates to a structural problem found in various Country Notes is that R&I is a long-term process – from laboratory to farmer involving about six to eight years in the case of developing crop varieties and can take up to 20-30 years in developing livestock breeds. It is not realistic to support long-term R&I endeavours on the basis of recurrent short-term project finance. Research institutions require, in addition, core funding to finance recurrent expenditure; finance that is almost by definition excluded from EU funding instruments. A related issue is the modality of tendering which is more and more the standard for choosing actors with whom to work. A consequence is that project holders are much less likely to receive consecutive funding, while projects need several phases to go from development of technologies, to application of technologies, social innovation around the technologies and systematisation of lessons learnt.

3.1.3 Indicator 313: Programmes supported by sector and GBS encourage development of research capacity in tertiary and post-graduate education

For the FSNA sector there was only one SBS programme on nutrition in Peru. There was no evidence of encouraged development of research capacity as such, however the experiences with the EUROPAN budget support have encouraged an evidence-based policy making environment and monitoring on different levels of government. Systematic use of indicators has improved, thus contributing to better service provision to poor target families (Peru CN).

According to the Action Fiche for Uruguay (*D-19040*), the support to the *Innovation Programme of Uruguay* is supposed to encourage building linkages between academia and the productive sector. Public and private universities should facilitate partnerships and help define S&T needs.

The EAMR for Mauritius (a country with GBS) refers to academia and tertiary education only in the context of a policy dialogue, but no improved research capacity is reported on. In DR *Congo, the* REAFOR (D-17985: *Programme de Relance de la Recherche Agricole et Forestière)* notes its ambition to establish a sustainable financing system for research in RDC.

3.2 JC 32: Strategic approach adopted to choosing different possible actors/ channels with whom the EU can work to support R&I and how best to support them with the instruments and modalities available

Summary judgement

Evidence at country level for the FSNA sector suggests the approaches adopted to choose partners to support R&I are in line with national and, where applicable, regional agendas. EU actors respect the autonomy and ownership of national stakeholders and require multi-stakeholder consultations as a basis for programming EU support. In Chile, a country with which an EU Association and a S&T

Agreement have been signed, the choice to select project proposals and partners was left to the Chilean implementing agencies led by the Chilean International Cooperation Agency (AGCI) and in Peru, the PASA food security programme aims to have an integrated, multi-sector approach. In Burkina Faso, implementation of the Soil Fertility Programme is done via different non-state actors in partnership with local actors. Also in DR Congo, the programme worked with RDC universities, ministries for Research, Education and with the FAO. Field missions for this evaluation found no clear strategy in making sure projects capitalise on investments (on taking advantage of work and experiences that already exist) made by selecting possible actors and channels which are key to achieving an impact beyond the mere project results. Two reasons were cited why this may occur: the short project cycles and lack of specific budget lines for capitalising on results with the stakeholders involved and the impossibility to continue funding successful projects for a second phase (Peru and Burkina Faso CNs). For example, in Peru the EU Delegation compensated for the lack of budget by drawing on other funding, guaranteeing the systematisation and sharing of experiences obtained through the highly successful EUROPAN programme (Peru CN).

At the regional level, in particular, the existence or absence of clear regional R&I priorities, plays a significant role in determining the success of the EU approach to selecting partners and proposals. Where regional co-operation already exists and regional priorities are well elaborated, and supported by relevant regional actors, regional support programmes may be expected to be more successful (MercoSur, ASARECA, Pro-Poor Innovation). Where a regional agenda has not been defined in advance, however, the choice of leading and collaborating partners becomes a risky affair, as is shown the Mid-term Evaluation (2013) of the Technology Transfer Programme in Asia. Here a supply driven network was newly set up, to deliver the expected South-South dialogue and network facilitation – which was unsuccessful (I-321.

At the global level, the choice of R&I partners is very much limited by the dominant position of the CGIAR, the former Consultative Group of International Agricultural Research Centres, which, during the period under evaluation, was reformed to become the CGIAR Consortium, to be funded by a Fund Council in which most important donors participate. One important rationale behind the reform was to increase the CG Research Centres' responsiveness to national and regional stakeholders' demands, including those of the poor and most vulnerable small-holder farmers, women and youth (JC 21); an objective very much in line with the EU approach to R&I and fully in line with EU development objectives. This objective was achieved by aligning CG research into global CGIAR Research Programmes (CRP), focusing on a limited number of agreed upon global agricultural research priorities. Also, multi-stakeholder partnerships, policy outreach and collaborating closely with national institutions, NGOs and farmer organisations now seem to be central features of most CGIAR Research Programmes (CRPs). Further strengthening and improvement is required yet a good foundation for sustained delivery of global and regional public goods on R&I and for sustainable development impact exists (Case Study CGIAR). Given the more comprehensive and multi-stakeholder approaches now implemented for R&I by the CRPs, which require more time, and more resources for non-research staff and stakeholders, the design of EU R&I CRP funding modalities may have to be reviewed in terms of the comprehensiveness, longevity and continuity of the grants provided.

Other global DG DEVCO initiatives, such as GPARD (Call for Proposals) and GFAR (dedicated funding for regional and global dialogue jointly managed with FAO) are closely aligned with EU development objectives. GFAR is designed to and operates in a complementary way to the CGIAR as the main global agricultural multi-stakeholder platform debating agricultural research priorities. For GPARD complementarity was a design criterion but given the limited scope and lack of information on project progress, apart from attracting other non-CGIAR partners specific evidence on complementarities with CGIAR is lacking.

3.2.1 Indicator 321: Evidence for reasonable choice of actors and channels used to support R&I

The EUD survey collected data on the use of various implementing channels for DEVCO funded support to R&I and asked respondents to rate the suitability of these channels. Across all sectors, regional organisations are rated as the least suitable channel (although data for the FSNA sector alone are not meaningful due to low number of responses for this channel and sector). In contrast, the suitability of universities and research institutes as implementing channels for DEVCO funded support to R&I is rated as 'very high' or 'high' by at least 90% of respondents across all sectors and also in FSNA in particular.

In Chile, according to the CSP 2007-2013, in line with the EU-Chile Association and S&T Agreements the strategic approach adopted was to leave it largely to the Chilean implementing agencies, led by AGCI the National Agency for International Cooperation, to select project proposals and partners. This worked well to create a large diversity of government and academic institutions in EU programmes related to FSNA. The involvement of civil society and private sector is observed as lagging behind.

In Peru, the EU, according to the CSP for 2007-2013, aims to apply an integrated focus in its co-operation initiatives via rural development projects. The channels foreseen are either budgetary, sectoral or a classic project approach, which is dependent on the sectoral policies adopted by the government (CSP Peru). In many cases, projects that are successful in achieving developmental impact, scale up results and make change sustainable by influencing policies build on previous interventions (funded by EU or otherwise). Examples on a national level are the PAQOCHA project by *Soluciones Prácticas*. The field mission however found no clear strategy in making sure projects capitalise on investments (on taking advantage of work and experiences that already exist) made which are key to achieving an impact beyond the mere project results. Modalities like tendering do not permit to build on and capitalise previous investments through projects. The time to present proposals for tenders is too short for certain complex projects with many partnerships with for example local or national governments. Demands for partnerships from the EU can be high and not matched with the necessary time to prepare the project proposals. *Soluciones Prácticas* signalled the risk of design errors because of the short timeframe (Peru CN).

For Burkina Faso, the CSP noted that implementation by state institutions e. g. in the field of agricultural production and sanitation is difficult. Better results are achieved through the support to NGOs in the areas of food security, health, environment and human rights. Strategic thinking about partner and partnership choices seems well-developed. The EU seeks to find the right combination of partners and the Burkina government shows flexibility in allowing the EU and other donors to choose/select its partners. All R&I projects therefore work along the lines of a comprehensive multi-stakeholder approach, creating the necessary conditions for being demand-driven as well as scalable. However, the involvement of the private sector in general was seen as minimal. In the case of Fertipartenaires, the choice of project partners seems good, especially as CIRAD and CIRDES have been long-term partners. However, there is also certain dissatisfaction with the way in which EU-funded R&I projects balances its support between different complementary actors, national research organisations sometimes had to compete with CGIAR centres (Burkina Faso CN).

In Ethiopia research and development support for the coffee sector in Ethiopia has been critical for the sector. According to a person interviewed, applied research activities funded by the EU under the CIP provided the EIAR with an excellent alternative to government funding, which would have been difficult to get and does not meet their demands. The EIAR is therefore interested in a continuation of EU support to the CIP. EU funding modalities also proved to be flexible enough for the EIAR to use the funds efficiently. By linking it to European laboratories, it also provides access to research capacities (Ethiopia CN).

In DR Congo, REAFOR (D-17985: *Programme de Relance de la Recherche Agricole et Forestière*) worked with RDC universities, ministries for Research, Education and with the FAO due to its long experience in RDC and its support of several other donors.

For Kenya**,** the field visit did not demonstrate that a strategic approach was used, however, R&I support to Kenya has employed a reasonable range of channels – universities (FP7), para-statal institutions, regional institutions such as AU-IBAR, and global ones such as CGIAR (Kenya CN). On the contrary, in Mauritius, the Country Note finds there has been little effort to include other R&I oriented stakeholders in Mauritius in the programme, and there is no information on other EU efforts on supporting R&I in the country (Mauritius CN).

At the regional level, the Technology Transfer Programme channelled funding for six projects and a regional networking component through a Call for Proposals (CfP). The Mid-term evaluation of the programme from 2013 was critical of the design of the CfP for the six projects and questioned the choice of a CfP for the second component (to deliver the expected South-South dialogue and network facilitation – which was unsuccessful) altogether. A CfP could mean the programme would be establishing a supply driven network, with all associated risks, and, as the evaluation notes “this was exacerbated by including, almost as a non sequitur, an objective concerning trade relations and cross-border trade” (Technology Transfer Programme MTR 2013, p. 90). As a consequence it is concluded that capable potential applicants for the technology transfer network would have no interest in the topic. Rather, the Programme should have invested more time in an identification mission and work with the existing regional network of national agricultural research institutions, the Asia Pacific Association of Agricultural Research Institutions (APAARI) (Technology Transfer programme Case Study). A separate programme development component financed by the EU or other donors to elaborate a regional network of stakeholders and to set clear regional priorities for R&I could have avoided undue pressures and could have set a regional agenda agreed by all and in line with national stakeholder priorities (Institute of Plant Protection (IPP) Monitoring Report 2013).

ASARECA is funded through a multi-donor trust fund (MDTF) hosted by the World Bank. The EU, CIDA and DFID are contributing to it. Other donors include USAID, AfDB, IFAD and CIAT. “The ASARECA Development Partners Group provides a platform for co-ordination. The overall objective of

the group is to increase the effectiveness of development partners' efforts to support ASARECA in the delivery of its objectives on agricultural innovation in support of the CAADP agenda, as described in the Framework for African Agricultural Productivity (FAAP)" (Action Fiche for ASARECA 2011, p. 3). Channelling funds through the multi-donor trust fund of the WB is resulting in less bureaucratic pressure for ASARECA and better co-ordination in reporting demands and recommendations from funding partners, though an external evaluation of ASARECA also suggests reassessing the joint MoU and relevant clauses in there to improve co-ordination among ASARECA's development partners. The evaluation concludes however that the MDTF and MoU between ASARECA and its donors manage to generate confidence in the organisation (ASARECA USAID evaluation 2011). The Multi-Donor Trust Fund provided a modality of funding that allows maximising synergies at a regional scale. ASARECA provides research funds on a competitive basis in several East-African countries. The Centre of Excellence arrangement allowed for tailoring activities to other countries' needs (e. g. a centre in Kenya could work on crops in Ethiopia). Scientists also move around, creating a good opportunity for experience sharing. Overall, the funding modality therefore has proven to be useful to enhance R&I (Ethiopia CN).

At the global level the CGIAR, the group of international agricultural research institutes, absorbs close to 40% of DEVCO R&I funding to FSNA. This choice is reasonable in the light of the dominant position of the CGIAR with regard to agricultural research benefiting developing countries. It was also part of a wider European effort of several member states and the Commission to push for a reform of the CGIAR in such a way that it is better able to respond to the demand from stakeholders in developing countries, in particular the smaller producers and businesses. However, it also implied that a large part of R&I funding was channelled through international research organisations. CGIAR has involved other actors (national and local governments, NGO's, extension services, input suppliers, agribusinesses and markets) in order to achieve pro-poor innovation. One of the aims of the new CRPs is that it encourages CG Centres to form networks of partners that are most capable in achieving developmental outcomes. There is not enough evidence to assess to what extent this is materializing CGIAR Profile). However, evidence from the field missions suggests that CGIAR centres and CRPs show unequal progress on how successful they are in involving other actors.

Large amounts of EU funding go through the CGIARs, such as ILRI in Ethiopia. ILRI recognises the importance of working in partnerships but sees this as carrying a risk in terms of partners' ability to handle EU (and other donor) funding adequately according to financial rules – it therefore has to invest in mitigating measures to help partners meet requirements (Ethiopia CN).

The ICRISAT – ZimGoat project received two different monitoring missions who came up with opposite conclusions: one mission found the project to be weak and the other one of the best projects ever evaluated. The project was a good example of an innovative multi-stakeholder and value chain approach. This discrepancy possibly highlights the lack of experience with value chain approaches and the difficulties in the use of the monitoring and evaluation missions as a learning tool. (Notes CGIAR interviews in Durban).

The Action Fiche of GPARD is clear about the strategic approach adopted with the accommodation of new global partners (besides the CGIAR), to improve the outreach and impact of R&I at field level in order to contribute to enhancing food security of smallholder farmers. There is a broad range of GPARD themes, almost all covered by the new global partners in accordance with their competence. Instruments and modalities of EC support in accordance with general rules and regulations pertaining to Grant Contracts. However not clear why new partners were chosen from the reserve list of eligible applications and not those recommended for selection for Grant Contract award by the evaluation committee of the open calls for proposal. Also no evidence based information available on support provided by the EU Delegations in the target countries covered by the (six) Grant Contracts (GPARD Profile).

3.2.2 Indicator 322: Opportunities for supporting NGO-implemented R&I adequately exploited

As noted under I-321, in Burkina Faso, the implementation in the field of agricultural production and sanitation is left to NGOs in partnership with local actors, to achieve better results. Though some non-state actors involved in EU research projects noted that the government (the ministry of agriculture)/government agencies have absorbed a lot of the resources, but non-state actors have had access to much less (Burkina Faso CN). Both food security projects (*c-231116* and *c-231144*) in Peru are designed and implemented by NGOs. In Kenya no examples of R&I implemented by NGOs was found; however, CGIAR and KALRO/KEFRI project staff interviewed stresses the heavy involvement of NGOs/CSOs in project design and implementation (Kenya CN).

At the regional level, four of the six Technology Transfer projects are funded by NGOs (Mid-term Evaluation 2013). At the global level, European CGIAR donors push for multi-stakeholder partnerships with NGO's, farmers' organisations and private sector to foster agricultural research uptake and inno-

vation in developing countries. The evidence from the country visits suggests that indeed, trends are changing but that there are still obstacles to fully involve partners (funding, administrative, cultural) (Case Study CGIAR).

3.2.3 Indicator 323: Appropriateness of use of EU universities in the design and implementation of DEVCO-funded R&I projects in developing countries

The Advanced Institute for Latin American studies, part of Sorbonne University, was supposed to help formulate initiatives in the framework of the Uruguayan Innovation programme. The project partners have regular discussions as part of the steering committee, which is according to the monitoring report of 2010 emerging as an interesting tool for internal learning and allows for rapid adoptions of decisions aimed at the continuous improvement of the programme. However, difficulties in communication and lack of feedback of French local government officials weakened the implementation of the programme (*c-171995*, Monitoring Report).

A number of European Universities frequently participate in DEVCO supported R&I programmes and projects in FSNA. Some also contribute actively to strengthening newly reformed CGIAR Research Programmes. They are organised in the AGRINATURA network. It was not possible to study systematically how effective these contributions are, but during field visits research partners often did refer to these in favourable terms. In FP7 financed R&I projects the role of European universities was often perceived as dominant (Burkina Faso CN). Also several CGIAR CRPs referred to close collaboration with European universities as a positive element in their work.

3.2.4 Indicator 324: Evidence that channelling funds through global institutions development research programmes (e. g. WHO, WB, IFAD, CGIAR) adequately complements other approaches to pursue DEVCO R&I priorities

The objectives of the reform of the *CGIAR* initiated in 2008/9 were "to refocus its strategy and streamline operations, so as to avoid fragmentation of research and funding and strengthen the ability of partners to support the development of a global food system that meets the needs of all, particularly the poor." (Mid-term Review Panel Final Report 2014, p. 11) For example, CGIAR funding in 2008 consisted of some 3,500 different projects (interview), for an estimated total of roughly USD 300 million per year (estimated from Figure 1.8, The CGIAR at Forty 2012). Organising the global CGIAR efforts along the lines of a limited numbers of global research programmes was one of the means to improve the consistency of, and complementarity between the multiple projects in view of achieving global development objectives.

The EU actively and consistently supported the reform, which was fully in line with EU development objectives. The reform included setting up the Fund Council and the CGIAR Consortium, who, in consultation with other stakeholders, jointly elaborated a Strategic Results Framework for managing 15 CGIAR Research Programmes (CRPs), global multi-stakeholders partnerships for agricultural research and Pro-Poor innovation. The vehement debates going on within the CGIAR about its governance and about whether the programmes are making enough progress on achieving research and development objectives, and how to determine particularly the latter, show that while the reform is now well underway, it is work-in-progress and many further adjustments can still be expected before the reform will be able to achieve its purpose in the eyes of its principal stakeholders (most Mid-term Review Panel recommendations were recently adopted).

Today still only 37% of donor funding to these programmes is actually channelled through Windows 1 and 2 – managed by the Consortium – while 63% of CRP funding is provided as bilateral and Window 3 funding directly to individual CG Centres, the latter window being "for all means and purposes equal to bilateral funding". And the average level of funding to partners in developing countries through the CRPs dropped to less than 20%, from over 30% that was achieved in the previous period through the Global Challenge Programmes (interview). In the second round of CRPs non-CGIAR centres can be lead institutions, but it remains to be seen to what extent organisations are actually able and willing to take on the administrative burden of leading (part of) a CRP. Moreover, the channelling of funding has not yet been rationalised as intended by the initiators of the reform: still some 2,500 different projects are used to finance the entire operation. As do various other European donors, the European Commission so far also continued to finance the CG Centres through Window 3 by means of IFAD, instead of shifting its funding to windows actually managed centrally by the CGIAR Consortium. In the Annual Action Plan for CGIAR and GFAR (2013) it is explicitly mentioned that this is a non-multi-donor action.

GPARD (Action Fiche 2009-2010) was meant to develop relations with new partners, by funding R&I by other than CGIAR Centres. Six grant contracts were implemented by means of a call for proposals launched by DG DEVCO at the central level. Thematic choices were made to ensure synergies with other EU sponsored research. Only one project had a more global geographic coverage, albeit on a

very modest scale, in four countries. GPARD was formulated to contribute directly towards EU development objectives and its approach was in line with European (bottom-up) thinking on AR4D and influencing relevant policy making. The GPARD contracts incorporated new (non-CGIAR) partners, but no project or annual reports were available at the time the evaluation team accessed CRIS to assess progress towards stated objectives.

Channelling funds through IFAD for funding of the *Pro-Poor Innovation Programme* were found to be causing delay and duplication administrative efforts (Pro-Poor Innovation programme Profile). In the case of ASARECA, on the other hand, the funding via a Multi-Donor Trust Fund results in less bureaucratic pressure for ASARECA and better co-ordination in reporting demands and recommendations from funding partners (Action Fiche for AAP FSTP 2009).

Field visits (Kenya, Ethiopia, Peru, Burkina Faso CNs) and recent information obtained on further reforms within the CG Fund Council and from CRP programmes interviewed provided positive information on the effectiveness of EU directly funding CGIAR research Programmes. Multi-stakeholder partnerships, policy outreach and collaborating closely with national institutions, NGOs and farmer organisations now seem to be a central feature of most CRPs. Given that less than 20% of CRP funding reaches national collaborators, this feature does require further strengthening and improvement. However it lays an important foundation for achieving a sustained delivery of global and regional public R&I goods and sustainable development (Case study CGIAR). Also GFAR activities seem to be geared towards further intensifying and strengthening national, regional and global policy dialogues on agricultural research and innovation. In all cases however the limitations of project budgets, funding period and issues of continuity between funding periods were mentioned as handicaps.

3.3 JC 33: Level of efforts taken to choose between and to combine different modalities and channels

Summary judgement

At the level of DGs, RTD has biannual competitive calls with the ambition to be a programme of excellence while DG DEVCO prefers to choose specific actors to build capacity of certain groups and target local problems.

At global level, DG DEVCO combines funding via the largest group of international agricultural research institutes, the CGIAR, with Calls for Proposals in GPARD and, GFAR's dedicated funding for regional and global dialogue. At regional level, ASARECA works with its own networks, regional programmes and multi-stakeholder projects as well as with a Competitive Grant Scheme. At country level the documentation available includes straightforward rationales for the choices made on instruments, modalities and channels used. In the case of Uruguay, the CSP includes a quite specific list of instruments, modalities and channels to support the innovation, research and economic development focal sector in the country (I-331).

The agricultural Research and Innovation sector in Europe is densely networked and well organised in its approach to international research and innovation. The European Commission participates actively in these networks. However, little evidence is available on a systematic effort to liaise with all other relevant DGs and Member States to coordinate use of financial modalities and channels, or with external stakeholders. The exception seems to be EIARD in which DG DEVCO, RTD and several European CGIAR donors cooperate to take a common position with regard to the CGIAR, its programming and funding. Clearly, the EU agricultural R&I sector subscribes to a common vision on AR4D and seems to agree on the need to improve European leadership, co-ordination and influence on global AR4D.

As strong as inter-European co-ordination for FSNA is within Europe, it appears very weak at the level of developing countries. Generally, DG DEVCO makes an effort to choose and combine different modalities and channels strategically, however no systematic in-country links seem to exist between DEVCO funded and RTD funded R&I projects/programmes. Also, no systematic effort is apparent to coordinate and obtain complementarity between different European R&I donors. Oftentimes the EUD is not involved or sees no role for itself. In-country efforts are therefore left to European research partners, national government agencies, research institutions and other R&I stakeholders.

3.3.1 Indicator 331: Appropriate rationale used in combining the use of different instruments and financing modalities and channels

At global level, the three actors funded for R&I in the FSNA sector apply quite different and complementary modalities and channels. The *CGIAR* is a group of international agricultural research institutes, and has an important position in the agricultural research benefiting developing countries. Within the CG there is a clash between the funding modalities used; while the Consortium, as part of its re-

form, wants to manage the CRPs as the main vehicle for programming and implementing CG research and the CG Research Centres, the Centres insist to play a stronger role in Consortium governance, and still manage 63% of the funding. The *GPARD* works with Call for Proposals and *GFAR* applies dedicated funding for regional and global dialogue jointly managed with FAO. At regional level, *ASARECA* works with its own networks, regional programmes and multi-stakeholder projects as well as with a Competitive Grant Scheme (ASARECA Profile).

At country level the documentation available includes straightforward rationales for the choices made on instruments, modalities and channels used. In Mauritius, the government-requested GBS is well elaborated on (Mauritius CN). For Burkina Faso, the EU budget support to its government has a long track record, with effective co-ordination between different member states and DG ECHO (CSP Burkina Faso). In Chile, according to the CSP for 2007-2013, the main stakeholder is the Chilean government, represented by AGCI, which is the official counterpart for EC bilateral co-operation. Within the focal action Innovation and Competitiveness, activities would be financed according to a list of sectors eligible for assistance as previously defined by the two parties, and to the requirements to be met by participants. The applicable procedures will be defined at a later stage in the financing proposals (CSP Chile).

In Uruguay with regard to the innovation, research and economic development focal sector support may include: building the capacity of national institutions to produce technological development; drawing up joint projects, involving the academic and scientific worlds and the private sector; drawing up institutional and financial policies to support the national innovation system (SNI); consolidating networks to spread knowledge, attracting foreign investment, promoting private-sector involvement, opening markets and extending the benefits of innovation to SMEs. In co-ordination with the FP7 programme, one of the major areas for co-operation will be exchanges for researchers. At regional or sub-regional level identified in EC-LA bi-regional programmes and the EC-Mercosur RSP, complementary operations could include European study awards, exchange programmes, and university centres for European studies (CSP Uruguay).

In Peru the EU supported R&I through budget support, funding through the thematic programme and DCI and via international and local NGOs (Peru CN). As noted before, in the Peru CSP announces the EC aims to apply an integrated focus in its co-operation initiatives via rural development projects. The channels foreseen are either budgetary, sectoral or a classic project approach, which is dependent on the sectoral policies adopted by the government (CSP Peru).

Both in Kenya and Burkina Faso there is little co-ordination among donors or effort to obtain complementarity between bilateral, regional, and global instruments/programmes which is not conducive to the combining different financing sources/modalities, leveraging one by another, or the mobilisation of more domestic and private resources (Kenya and Burkina Faso CNs).

3.3.2 Indicator 332: Evidence for liaison with other relevant DGs and Member States to coordinate use of financial modalities and channels

The agricultural research and innovation sector in Europe is densely networked and well organised in its approach to international research and innovation. The European Initiative for Agricultural Research for Development (EIARD) promotes co-ordination among its European partners (EU Member States, Norway, Switzerland, and European Commission). And provides a platform for determining common European approaches towards the CGIAR, to CGIAR funding channels and its restructuring process, and towards other partners in the GFAR, such as the Regional Organisations (FARA, CORAF, ASARECA and Southern African Centre for Cooperation in Agricultural Research SACCAR (for Central Africa, West Africa, East Africa and Southern Africa). The EIARD initiated the European Forum for Agricultural Research for Development in order to strengthen institutional and thematic networks of European universities and research organisations (PCD 2007).

Agricultural ministries, DG Agriculture and DG Research and Innovation take part in SCAR (Standing committee on Agricultural Research). EFARD provides a European multi-stakeholder platform for GFAR, as FARA does for Africa. European agricultural research institutes and specialised universities are linked through the AgriNatura network. All subscribe to a common vision on AR4D and seem to agree on the need to improve European leadership, co-ordination and influence on global AR4D. However, in their actual funding behaviour of CGIAR Research Programmes a 'common position' is less obvious. It would take a much deeper analysis than is possible within the framework of this evaluation, to provide evidence for more than a general appreciation of European co-ordination for AR4D.

While DG RTD has biannual work programmes every two years when the competitive calls are published in one go, DG DEVCO programmes and asks for proposals of best research to solve the problems identified. The best proposals are selected as RTD aims for a programme of excellence. DG DEVCO uses few competitive calls – GPARD is an exception – it prefers to choose the actors it works

with, and also to build capacity of certain groups and target local problems (interview). are done on an annual basis. RTD's publication of calls includes a description of the problems

3.3.3 Indicator 333: Evidence of external consultation on choice of modalities and channels and of EC responsiveness to feedback received

No evidence found. Technology Transfer's Mid-term Evaluation (2013) was critical on the design and choice for a Call for Proposals. The Commission has not responded to external suggestions to bring its funding more in line with CGIAR reform objectives by channelling it through windows 1 or 2.

4 EQ 4: DEVCO-RTD complementarity and coherence

To what extent has EU support to R&I by DG DEVCO and by DG RTD been complementary and their collaboration promoted Policy Coherence for Development (PCD)?

4.1 JC 41: Extent to which DGs DEVCO and RTD have formulated clear strategies on how they should cooperate in a complementary way and how the work of other relevant EU institutions (such as the EIB) is also complementary with their own.

Summary judgement

At a strategic level there appears to be a clear division of labour between DG DEVCO and DG RTD. DEVCO funds at global level research via CGIAR, and via targeted programmes capacity development of regional and continental research organisations, with a focus on development relevance and translating result into benefits for development and impact, to improve food security in favour of the poorest and the most vulnerable and contribute to achieving the first MDG. RTD funds research and is more focused on strengthening and supporting quality research, striving for scientific excellence. It has supported actions via research projects and calls to address issues of common concern between the EU and its international partners or that have a global character, such as the attainment of the MDGs, on the basis of mutual interest and mutual benefit with high quality partners and opportunities for EU researchers. It is generally confirmed by interviews that although the division of labour is clear, and capacity building for R&I is seen as a task for DG DEVCO, there is a need for much more integration and complementarity of strategies between both DGs.

DG DEVCO and DG RTD have a good understanding of their respective roles and complementarities and both collaborate with other EU institutional actors like EIARD, CGIAR and PAEPARD. Both the ARD strategy and FSTP are written in collaboration by DG DEVCO and DG RTD and the DEVCO FSTP programme coordinates with and complements the FP7. Also the CSPs analysed refer to the complementary areas of work of both DGs. Functional complementarity is also apparent when one looks at the choices DG DEVCO and DG RTD make in their contributions to different stages of the research-to-development impact pathway.

Thematically RTD strategies refer to FSNA as a global challenge and pertinent research area. In Science, Technology and Innovation (STI) agreements food and agricultural research is one of the key thematic priorities. The consecutive work programmes of FP7 for Food, Agriculture and Fisheries, and Biotechnology do refer to contributing to MDGs, and eradicating extreme poverty and hunger in particular. In that way RTD suggests their understanding of R&I needs for the MDGs but no reference is made to DG DEVCO with regard to coordinating R&I needs (I-412**)**. Also, no reference is found to pro-poor R&I in general nor related to FSNA in particular. On the contrary, the FSTP focuses sharply on pro-poor issues and pro-poor and demand driven research and technological innovation is one of the strategic priorities (I-413). Also, it is only in the FSTP strategy that duplication is mentioned as an issue to be avoided, but the potential areas of duplication are not elaborated upon.

Operationally, there is evidence that DG DEVCO and DG RTD consciously implementing different lines of co-operation in a complementary manner. Efforts to exploit existing complementarities for strengthening development impact seem ad-hoc and, mostly carried out by national programme and project partners rather than by the EU. Assessments of opportunities and threats from overlap and/or redundancy are superficial, and not documented. Coordination at the programme and project level seems to be limited to the strategic HQ level. Personal, institutional, thematic linkages are not system-

atically put to use to share lessons learnt or to inform project design. And no mutually beneficial relations are apparent between DEVCO development programmes and RTD research projects in developing countries, unless, as is the case in emerging economies, the national R&I partners and infrastructure is strong enough to create such relationships themselves. INCO-NET and ERA-NET projects may play a useful role in supporting these countries in setting their research priorities in line with national development agendas.

4.1.1 Indicator 411: DEVCO and RTD have a good understanding of their respective roles and complementarities and in relation to other EU institutional actors in this field and this is generally understood at all levels

Concerning RTD, the 2008 Communication on FP7 refers to the great impact of coordinated European research agendas and joint funding, such as the European Initiative for Agricultural Research for Development, EIARD (COM(2008) 588). EIARD is also referred to in the COM(2001) 346 as a model of co-ordination. The 2008 Communication further aims to seek complementarity with other funding bodies, including the global research initiatives and the Consultative Group of International Agricultural Research is mentioned as an example (ibid.). Again, also the 2001 COM refers to the 'Forum Global' in relation to agricultural research for development (COM(2001) 346). The latest international co-operation strategy on Research and Innovation was adopted in 2012, but it foresees no specific division of tasks as such between DG DEVCO and DG RTD. Differentiation between countries (developing, emerging, etc.) is mentioned, and capacity building for research is not part of the immediate mandate and is tackled by DG DEVCO. This communication came from DG RTD, and was discussed with the MS in RTD forum (strategic framework for international co-operation). But it is not a joint communication (just as the 2008 one which was also an RTD one); the last joint communication was released in 1998 (interview). It is generally confirmed by interviews that although capacity building for R&I is for DG DEVCO, there is a need for much more integration of strategies.

As the EC SEC (2008) 434 Staff Working Paper states, the European Community's research policy is based on the principle of research excellence and has two objectives: to strengthen the scientific and technological bases of Community industry and encourage it to become more competitive, and second to promote all the research activities deemed necessary for other Community policies, including development policy. This second objective requires coherence of EU research policies with development objectives. The 7th Framework Programme is open to International Cooperation Partner Countries (EC SEC 2008). Although the Staff Working Paper mentions several support activities that are closely related to DG DEVCO, it does not elaborate on the complementarity of its role towards DG DEVCO (see more under I-414).

In the various FSNA strategies several references are made to RTD and/or FP7. The thematic strategy for food security (COM(2006) 21) states as a strategic priority the 'Partnerships with EU research initiatives that are relevant for food security and complementary to those funded by existing programmes (such as the 6th and 7th Research Framework Programmes)'. Especially the Food Security Thematic Programme (FSTP) 2007-2010 (EC(2007) 1924) demonstrates DG DEVCO and DG RTD seek complementary. The Annex II of the strategy, on the Agricultural Research for Development European Commission Strategy, reflects a consensus of, and was written with the support of, the EIARD Member States and Directorates-General AIDCO (EuropeAid Co-operation Office) and RTD.

The FSTP programme is intended to coordinate with FP7 in order to maximise the impact of combined Community instruments (EC(2007)1924). The FSTP mentions it will take advantage of two decades of international and scientific co-operation through successive Research and Technology Framework Programmes, in particular through their international component (INCO). One of five expected results is to generate complementarity and synergy with research programmes and activities financed through the FP7. In the consecutive FSTP for 2011-2013 the existing complementarity with other thematic programmes, including FP7 is ensured: "Coordination and coherence with programmes under the 7th Framework Programme (FP7) for Research and Technological Development will be ensured, including sharing lessons on design and implementation and on scaling up the most promising innovations and methodologies. The Platform for African-European Partnership on Agricultural Research for Development (PAEPARD) is an example of collaboration to date" (EC(2010) 9263, p. 14, 15 and 17).

The EC non-paper guidelines on Agricultural Research for Development (2008) acknowledge the need of integrating the Commission's instruments to ensure complementarity and coherence. For that purpose the geographic and thematic instruments, and also the DCI FSTP and FP7 financial instruments are usefully compared as follows.

Table 3 Complementarity of DCI and FP7 on FSNA R&I according to the EC

Issue	DCI – Thematic (FSTP)		FP7
Strategic orientation in relation to the MDGs	To improve food security in favour of the poorest and the most vulnerable and contribute to achieving the first MDG		To address specific problems that third countries face or that have a global character, such as the attainment of the MDGs, on the basis of mutual interest and mutual benefit.
Preferential level of intervention	Continental/regional	Global	All
Main type of activity	Capacity development	Research	Research, support actions
Management	Centralised/ EuropeAid / DEV (MIP)	Centralised / EuropeAid / DEV (MIP)	Centralised/RTD
Implementation	Targeted programmes	Targeted programmes / global calls	Research projects. Competitive calls and selection through independent and external review panels
Main research partners (Farmers organisations, NGOs, Private sector, Community base organisations should be included at all levels)	Continental and regional research organisations	⎫ CGIAR ⎭ Other providers of international / global public goods	*Co-operation* Research consortia *Capacities* Multi-stakeholders networks
Priorities	Networking, coordination, advocacy, dissemination, extension systems, information, institutional development, tertiary education systems	Sustaining biodiversity; genetic improvements; improving policies and institutional innovation; sustainable management of water, land and forest resources; agricultural diversification	*Co-operation* research topics established through internal process and open consultations with MSs, Expert Groups, and international community *Capacities* Bi-regional dialogue (INCO-Nets)
Geographic focus (not exclusive)	Africa, Latin America, Asia	All regions, in particular SSA and South Asia	Developing countries, emerging economies, countries in transition

Source: EC (2008) Non Paper Guidelines on Agricultural Research for Development

Also the various CSPs look at the potential complementarity of DG DEVCO and DG RTD. In the CSP for Uruguay, it is acknowledged that the instruments of DG DEVCO are more effective when coordinated with the FP7 programme, especially in the area of researchers. Also in the CSP for Peru, the focus is on the exchanges between scientists as well as the promotion of bi-regional dialogue to strengthen co-operation with the countries in Latin America. The Mauritius CSP aims to strengthen the country's research capacities, and notes that access to research grants and extended collaboration with European and international research centres crucial in promoting innovation. It also foresees searching synergies with the European Investment Bank (EIB), to finance the energy component as part of the Adaptation Strategy. In Chile's CSP, it is mentioned that all activities should be complementary to the S&T agreement, and reference is made to the @LIS programme and its link with the ICT priority in the Sixth Research Framework Programme (CSP Chile).

Using information from interviews on the way DG DEVCO and DG RTD contribute to various stages of the 'research-to-development' impact pathway – i. e. the activities that range from basic research, academic research, via applied research, uptake of research results, innovation, and up scaling and mainstreaming for development impact – there is scope for a more precise functional differentiation between both DG's in development practice. Also here DG RTD and DG DEVCO work in complementary ways: RTD's main thrust is at funding more academic research, supporting research capacity development and networking by researchers, while DG DEVCO's main thrust is deeper down the 'chain' towards applied research, transfer of research results, multi-stakeholder networking, innovation capacity building and institutional/policy development. What both have in common, naturally, is to provide (financial, capacity, networking) support for applied forms of research that link directly to market and/or business opportunities that promise to contribute to achieving development objectives. Yet also in this case, RTD support focuses mostly on the researchers, their contribution to innovation and the uptake of their research results, while DG DEVCO wants to go beyond uptake towards scaling up and mainstreaming results for development impact (In the words of one interviewee: DG DEVCO 'seems to want to go the last mile, or the last inch even').

In Peru, Ethiopia, Mauritius, Kenya and Burkina Faso, however, no evidence was found that DG DEVCO and RTD coordinate their efforts in any meaningful way. Although there are contacts, the RTD S&T Counsellor in Ethiopia in the EUD-AU does not appear to be involved with R&I elements of the programmes managed by EUD-Ethiopia (Ethiopia CN). Synergies do still take place, but thanks to actors involved in projects, a representative of a farmer organisation suggested that it would be better if the EUD played a stronger role in the preparation and management of R&I projects in Burkina Faso (Burkina Faso CN). Also in Kenya, no evidence was found at country level that there is any strategy for co-operation between DG DEVCO and RTD or for promoting complementarity of DG DEVCO projects and FP7 grants. This is true both at the level of the EUD and the Ministry of Education, Science, and Technology. Ministry officials interviewed stressed the individual nature of FP7 applications, underscoring that much scientific research is by nature person-to-person and difficult to coordinate. There is no one-stop shop for information on on-going foreign-financed R&I activities, and far less for all R&I (Kenya CN). The EUD in Peru notes: "There is complementarity in definitions but not in implementation." CGIAR scientists at both ILRI and ICRAF have been FP7 participants but this is separate from the funding they receive from Brussels through IFAD and there is not necessarily any coordination between these activities (Kenya CN).

4.1.2 Indicator 412: DEVCO and RTD aware of R&I needs identified relative to achieving MDGs

The EC Communication on FP7 (COM(2008) 588) refers to FSNA as one of the major global challenges, and it mentions sustainable supplies of food as one of several particularly pertinent research areas. For Africa, the focus is on the implementation of the Africa-EU partnership on 'Science, Information Society and Space', which is seen as essential, also to build sustainable agriculture and economic growth in Africa. The 2001 Communication (COM(2001) 346) on FP6 has many more references to agriculture and food safety as one of the world problems that should be key area of the strategy and food and economic development issues.

In EC SEC(2008) 434 several references to the MDGs are made, for example, that the Framework Programmes include Specific International Cooperation Action (SICAs) that "are intended to address the particular needs of developing countries and emerging economies by means of dedicated cooperative activities on a partnership basis so as to increase collaboration on topics directly related to the MDGs in areas such as agriculture" (EC SEC(2008), p. 5). As the Staff Working Paper notes, research policy can contribute to development both directly, by progressing towards the MDGs and by creating a strong research base in a country which can help to "create the enabling environment that will allow developing countries to achieve the MDGs, by strengthening their international competitiveness and promoting sustained growth and social development" (EC SEC(2008), p. 30). In this context, development policies and their implementation would benefit from increased research efforts in areas directly linked to the MDG (ibid.)**.**

The FP7 thematic programme Food, Agriculture and Fisheries, Biotechnology has a strong emphasis on international co-operation. Special actions to enhance international co-operation developed throughout the work programmes include SICAs, coordinated calls, twinning of projects, and topics specifically highlighted as being research areas which are particularly well suited for international co-operation, and all topics are open to international partner countries. One of the major topics of international co-operation across the whole period was the contribution to the UN Millennium Development Goals by eradicating extreme poverty and hunger, and to ensure environmental sustainability (EC (2014) International S&T in FP7).

The bilateral STI agreements of the EU in general identify several thematic priority areas in which STI co-operation under the agreement is to take place. Under FP7 these are called the 'key thematic areas' and food & agricultural research are the thematic priorities that the agreements focus on most often (Basic Principles for Effective International STI Agreements).

FP7 recognises that "grand global challenges (such as climate change, poverty, infectious diseases, threats to energy, food and water supply, citizen security, network security and the digital divide) urge for effective global S&T co-operation in the name of sustainable development" (EC RTD 2014, p. 14). One of the major topics of international co-operation across the whole period was the contribution to the MDGs "by eradicating extreme poverty and hunger, and to ensure environmental sustainability" (RTD 2014, p. 17). Among the ten thematic programmes covered in the Co-operation programme is Food, Agriculture and Fisheries, Biotechnology (ibid.).

This area of international co-operation of FP7 is noted as particularly well developed, with specific thematic work programmes (RTD 2014). The Commission ensures that topics relevant to developing countries are included in the annual work programmes of FP7. As a result, the Commission finances many projects with an MDG focus, including the 'Food, Agriculture, Fisheries and Biotechnology' thematic programme. This theme finances many projects that are of relevance for the MDGs and fighting

hunger. Research topics include malnutrition in developing countries and improved agro-forestry systems for sustainable farming (PCD 2009). In the Work Programmes for 2007, 2008 and 2012 of RTD references are made to co-operation to contribute among others to the MDG to eradicate hunger and to tackle global challenges including global food safety (Work Programme 2007 and 2008 and 2012).

At the field implementation level, a recurrent issue in (least) developing countries is the lack of priority given to R&I, both by the national government and the EU (Ethiopia, Burkina CN). This is different from emerging economies and countries like Peru, where national governments invest in building up their Research and Innovation systems. In Ethiopia some of the selected sectors do recognise the importance of research, and several projects related to agriculture and EnvCC have research- and/or innovation-related components that contribute to development and poverty reduction objectives (Ethiopia CN). In Burkina Faso, research was not seen as an important component of development programmes. Just recently, the establishment of a Ministry for Science, Technology and Innovation reflects an increased interest in R&I for national development (Burkina Faso CN).

One of the main objectives of the AU Research Grants, in the words of an EU official, is to allow African researchers to conduct research that is of direct interest for Africa and its needs, e. g. in terms of agriculture or food security. In this sense, complementarity with FP7 is an explicit objective of the AU Research Grants in that they provide opportunities for African institutions to do research for Africa, unlike FP7. The one exception to this is of course the FP7 Africa Call (Ethiopia CN).

4.1.3 Indicator 413: DEVCO and RTD strategy documents recognise and stress needs particular to pro-poor R&I

The main policy documents for RTD COM(2001) 346 and COM(2008) 588 do not refer to pro-poor R&I in general nor related to FSNA in particular. COM(2001) 346 does mention that scientific partnerships with less developed countries are aimed primarily at increasing research and technological innovation capability in the countries of Africa, Latin America, the Caribbean and Asia. And the aim it to undertake joint research projects meeting the needs of those societies for example with regard to food. The international co-operation activities under FP7 in the area of research should be defined in relation to the objectives of the policy partnership of the Community with the countries concerned, through mutual concentration and taking into account their economic and social needs. Also COM(2008) 588 stresses that MS and the EU should further develop international S&T agreements to guarantee fair and mutually beneficial conditions for all parties, whilst taking account of Least Developed Country (LDC) needs.

The main strategy documents relating to R&I for FSNA do refer to pro-poor R&I. The thematic strategy for food security (COM(2006) 21) has as one of its strategic priorities 'Pro-poor and demand driven research and technological innovation, primarily in agriculture (including livestock, forestry and fisheries/aquaculture) with an explicit focus on food security.' Especially the Food Security thematic programmes, strategy paper and multiannual indicative programmes for 2007-2010 and 2011-2013 are explicit in recognising 'the importance of investing in international public goods, in particular in pro-poor demand-driven research and technological innovation as well as capacity development and South-South and South-North scientific and technical co-operation, as a way to address food security challenges in developing countries' (EC(2010) 9263).

The strategies aim for research and technology to support pro-poor and demand-driven agricultural research and technology including by improving its outreach and dissemination and by fostering innovative practices and approaches to food security (EC(2007) 1924 and EC(2010) 9263). They expect to contribute to deliver pro-poor scientific, technological innovations and policies; indicators include the number of innovative pro-poor agricultural technologies tested and adopted by farmers; the number of recommendations for pro-poor agricultural policy developed; and the number of governmental or non-governmental organisations that have followed up these recommendations (EC(2010) 9263).

4.1.4 Indicator 414: DEVCO and RTD have a clear idea of potential areas of danger of duplication and necessary redundancy between their respective roles and of those of other relevant EU institutions

In the strategy documents for RTD/FP7 no references are found to any issues of duplication or redundancy concerning each other's FSNA work fields. Only in the Food Security Thematic Programme for 2011-2013 possible duplication is mentioned, but not further elaborated on: "The FSTP will continue to support food safety interventions that increase complementarity and avoid duplications, and focus sharply on pro-poor issues" (EC(2010) 9263, p. 22).

The EC SEC(2008) 434 Staff Working Paper does not elaborate on potential duplication areas or redundancy, while the paper mentions several roles under FP7 that are closely related to DG DEVCO, including: Specific International Cooperation Actions (SICAs) to address particular needs of developing countries; the Capacities Programme of FP7; the INCO-NETS (platforms bringing together policy

makers and stakeholders at bi-regional level, to identify S&T priorities of shared interest); and the ERA-NETS scheme (to develop and strengthen co-ordination of public research programmes conducted at national or regional level in Member States that can also coordinate with developing countries).

The PCD report notes the FSTP aims to generate complementarity and synergy with research programmes and activities financed through the FP7 (PCD 2007) and that DG Research has collaborated with DG DEV since the early phase for the formulation of the FSTP and MIP (PCD 2007). According to one interviewee, the DG DEVCO strategy and FP7 are not aligned, but they are coherent, both DGs do different things – DG DEVCO supports regional and global organisations and capacity building, which distinguishes its investments from RTD's funding of research and innovation (Interview DG DEVCO).

4.2 JC 42: Degree to which DEVCO support addresses issues that could/would not have been better, or equally well, addressed through RTD and vice versa

Summary judgement

The evidence suggests the role division between RTD and DG DEVCO is clear and no issues have been identified that point at any overlap or unnecessary redundancy. Clearly RTD and DG DEVCO focus on different parts of the impact route from (basic) science to innovation to widespread societal transformation. Simply put, DG RTD funds excellent science and applied research with national research institutions that collaborate with a limited number of national stakeholders, while DG DEVCO focuses on achieving widespread development impact through R&I and capacity building of a wide range of stakeholders in national development processes; both mobilise stakeholders but not necessarily the same ones. Internally the capacities and time allocations of the staff are managed accordingly. In practice, therefore DEVCO and RTD funded activities seldom meet, also because the presence of DG RTD funding in most developing countries is as yet relatively limited. The European and in particular the national partners probably play an important role in what synergy may be found between different EU R&I programmes and projects.

Coordination between RTD and DG DEVCO and Member States at the European level in the area of FSNA is strong through EIARD, which is also reported to be successful in promoting a more pro-poor and inclusive orientation within the CGIAR; but less so at the partner country level. Issues of duplication were not identified except a reference to 'past experiences' of a sector support programme in Uruguay, which included lack of coherence between funding instruments; a high degree of fragmentation which led to overlaps and lack of coherence. And although at country level EUDs are important for mutual co-ordination, according to various sources oftentimes the people responsible for international relations, development and research work too much in silos, also on the side of partner countries.

The various Country Notes give a range of examples where DG DEVCO and RTD each address specific issues and offer different opportunities. No overlap or duplication has been found. However, also not much synergy between the different programmes has been detected. This seems the result of the wide gap that is still detected between the way RTD and DG DEVCO play their roles. To overcome this gap and to improve complementarity, RTD might give more attention to special needs and constraints of developing country researchers operating in weak institutional environments; and DG DEVCO would have to invest more long-term funding in building the capacities of the institutions these researchers are part of, also via budget support, and acknowledge that building the institutional capacity for Research and Innovation, as a key sector of the economy, takes time and sustained effort. This could be beneficial to both the EU and developing countries. Lastly, this would require much stronger co-ordination mechanisms to be installed between EU actors at the partner country level to enable systematic alignment with local needs, documentation and exchange of experiences, and technical and administrative support to R&I stakeholders who engage in developing and implementing R&I proposals.

4.2.1 Indicator 421: DEVCO and RTD have internal capacity to identify R&I needs for development

Within DG Research and Innovation, three units deal with International Co-operation in different regions (European Neighbourhood, Africa and the Golf; North America, Latin America and the Caribbean; and a unit for strategy, European Free Trade Association (EFTA) and enlargement countries, Russia, Asia and Pacific). Whereas sectors like health and climate have specific Divisions, there is no specific Division for FSNA or a related sector, but there is a unit for 'Agri-Food chain', as part of the Bio-Economy Directorate, which is fundamentally focused on the EU. RTD has posted Science Counsellors in several EUDs, usually seconded RTD staff to EEAS/DG DEVCO (interview RTD and RTD

organogram[5]). Furthermore, the Research Executive Agency for 'Sustainable Resources for Food Security and Growth', set up in 2008, manages research proposals and funded projects of FP7 and Horizon 2020.[6] DG DEVCO has a Unit for Rural Development, Food Security and Nutrition as part of the Sustainable Growth and Development Division.[7]

Currently, despite available capacity, the gap between the targeting of RTD and DG DEVCO funding is found to be very wide, which diminishes their complementarity in support for R&I. This seemingly has to do with the predominant focus of each of the DGs. Simply put, DG RTD is seen as funding excellent science, while DG DEVCO focus on achieving development impact; and capacities and time allocations of the staff are managed accordingly. In practice, therefore, these two do not match often enough and amongst other things, lead to very different definitions of what 'innovation' actually is (innovation as in 'collaborating with, raising awareness on and communicating research results to some policymakers and practitioners' against innovation as in 'wide-spread development impact'). A link between poverty and R&I is made, but as this is not a priority for RTD funds, so calls do not necessarily match key development problems. Besides, in RTD, international co-operation is managed by a separate unit, which needs to convince their colleagues from the thematic units, who do not seem to be too interested in research with/in developing countries.

Also DG DEVCO's focus on a limited number of focal sectors per country without an in-built priority for R&I means funding R&I becomes complicated, as it requires a different offering in each country. Besides, DG DEVCO's funding of capacity building is often too short-term, while it needs long-term sustained funding. Particularly in countries with weakly developed R&I institutions, the need for capacity building of researchers, innovators and other stakeholders in R&I processes to overcome the handicaps their institutions face remains very high – i. e. limited administration capacity and experience for managing research grants, limited institutional capacities for co-financing/complementing budgets and limited technical capacity to generate fundable proposals (interviews). To overcome this gap and to improve complementarity, RTD could pay more attention to the special needs and constraints of (least) developing country researchers and innovators; and DG DEVCO could to extend long-term funding for building the capacities of the institutions these researchers are part of, also via budget support, and acknowledge that building the institutional capacity for research and innovation, as a key sector of the economy, takes time and sustained effort.

In terms of identification of R&I needs for developing countries the role of European and national researchers and innovators cannot be underestimated. Generally it is them who play a defining role in aligning R&I projects with national development agendas. The various Country Notes give a range of examples where DG DEVCO and RTD each address specific issues or offer different opportunities from each other. On the one hand, RTDs grants are welcomed by Ethiopian universities, which have limited budgets for research, and salaries for researchers tend to be low. Many researchers therefore need to do additional consultancy work. FP7 grants are therefore welcomed to as opportunities to accomplish research activities that would otherwise have been impossible because of lack of funding. It has also been successfully used in some cases for skilled manpower development (through PhD funding) (Ethiopia CN). However, the AU Research Grants are seen as offering better opportunities to do research that responds to Africa-specific challenges than FP7. Still, under FP7, there was one call that was specifically focused on Africa. It had a total budget of EUR 72 million, half of which went to African partners, allowing them to do research of direct relevance to the African continent (Ethiopia CN). Also in Burkina Faso the RTD-sponsored R&I project UNDESERT (in four West African countries including Burkina Faso) addresses issues related to global public goods, ecosystem conservation and rehabilitation in dry zones vulnerable to climate change, and carbon sequestration (Burkina Faso CN). On the other hand, in Kenya significant amounts of DG DEVCO funding, for example through KASAL and ASAL-APRP, have been devoted to capacity building both in terms of training, management systems, and infrastructure. This would have been impossible to finance through RTD. And the difference between DG DEVCO funding especially to CGIAR and AU-IBAR that have had large stakeholder involvement, sharing of local knowledge and using agricultural value chain approach resulting in maximum chances of research contributing to development processes and translating in development results while funding through FP7 allowed for participation of high-level Kenyan researchers in international collaborative research endeavours that would be impossible through DG DEVCO mobility programmes (Kenya CN).

[5] http://ec.europa.eu/research/dgs/pdf/organisation_en.pdf
[6] http://ec.europa.eu/rea/pdf/rea_organisational_chart_01_february_2015_web.pdf
[7] https://ec.europa.eu/europeaid/sites/devco/files/organigramme-devco_en_0.pdf

4.2.2 Indicator 422: Co-ordination meetings and information sharing between DEVCO and RTD

Several means for co-ordination of research policies and programmes are developed to promote synergies between DEVCO and RTD agendas. These include the European Initiative for Agricultural Research for Development (EIARD), whose role is to promote co-ordination among its 28 European partners (EU Member States, Norway, Switzerland, and European Commission). The EIARD develops common European approaches towards the CGIAR and its restructuring process, and towards other partners in the GFAR, such as the Regional Organisations (FARA, CORAF, ASARECA and SACCAR (for Central Africa, West Africa, East Africa and Southern Africa) and EIARD initiated the European Forum for Agricultural Research for Development in order to strengthen institutional and thematic networks of European universities and research organisations (PCD 2007).

In the EIARD, RTD and DEVCO have rotating chair and vice-chair positions (interview EIARD). Through the EIARD Europe has a stronger voice in the CGIAR and the pro-poor and stakeholder orientation of the CGIAR, and its change to some extent towards being more inclusive of smallholder demands is a consequence of EIARD (interview EIARD and DEVCO).

DEVCO is asked to inform the Inter-Service Consultation, and a major part of the Horizon 2020 budget is funded by DG Agri. The different DGs have different interests, which makes it more difficult but progress is made and the need and the practice to work better together is improving, although things move slowly (Interview EIARD).

At the country level, where no Science Counsellor is in place little evidence has been found of co-ordination meetings or systematic information sharing between DEVCO and RTD.

4.2.3 Indicator 423: Level of duplication identified in evaluations, etc.

Only few (and not really specified) cases of duplication between RTD and DEVCO have been revealed. The Action Fiche for Uruguay notes that "In the past, support for STI was characterised by a high degree of fragmentation which led to overlaps and lack of coherence between funding instruments". This remark is not further specified (*D-19040*). One RTD interviewee notes that of course lines between DEVCO and RTD approaches are not clearly defined and there may be overlap and double-funding between projects of DG DEVCO and DG RTD.

One interviewee mentioned that the Fonsicit fund (supported by DG-DEVCO) for international co-operation for Science and Technology, is a pilot experience between DEVCO and the Conacit (Mexican National Research Council) with a total amount of EUR 20 million to facilitate the co-operation between Mexico and the EU. The DEVCO evaluation identified problems in terms of funding, overlaps, and duplication (interview).

The evaluation team has not come across further duplication of efforts in the field between DG RTD and DG DEVCO.

4.3 JC 43: Level at which DEVCO support has benefited from complementary action financed through RTD and vice versa

Summary judgement

DEVCO support could clearly benefit from complementary action financed through RTD, mainly through the Food, Agriculture, Fisheries and Biotechnology programme, which has a 40% share of the overall FP7 INCO budget. Several linkages are found between DEVCO instruments and FP7 funding that is also focused on FSNA; for example within the framework of CAADP. Also the funding of the Platform for African-European Partnership on Agricultural Research for Development (PAEPARD) came from FP6 and this body helped to shape the FSTP and FP7 research agendas. Currently, the expanded phase of PAEPARD is funded under FSTP. The European Initiative for Agricultural Research for Development (EIARD) Executive Secretariat is hosted by DG RTD and has functioned as a platform for other relevant DGs and Member States that fund CGIAR to coordinate efforts to take a common position with regard to the CGIAR and influence the CGIAR reform.

In 2007, a PCD report was still rather critical and found that EU-funded research outcomes did not close the gap between research projects and policy-related MDGs. The report emphasised the need to increase funding for research specifically targeted on poverty issues, and to ensure the research is 'in and with' developing countries. In the 2011 PCD report, the RTD grants are considered as directly relevant for food security by PCD reports.

Various specific cases have been found where mutually beneficial relationships developed between RTD and DEVCO financed programmes and projects. However, this appears to be more a result of existing policy frameworks, networks and links between stakeholders lower down the chain of implementation, rather than of active co-ordination at the level of the EU. Overall, there is little evidence of

systematic complementarity between DEVCO support and RTD funding, and no evidence was found of active co-ordination between RTD and DEVCO support though there is equally no evidence of duplication of effort (I-431).

Little evidence was found of researchers in DEVCO projects participating in FP7 (I-432). In Chile, an increase in success rate is reported of number of funded projects under FP7 in absolute terms. However, such participation tended to be low, possibly due to the natural European focus of many of the FP topics, and the lack of R&D capacity in many developing countries, and a lack of knowledge in Europe about potential partners in developing countries. Support for cross-sectoral research projects and mobility of researchers is an effective way to change deep-rooted patterns of collaboration and perceptions in both industry and academia. One example in the FSNA sector was found of FP7 researchers collaborating with developing country R&I practitioners: the project, RurbanAfrica, consists of the collaboration of four European and four African research institutes and through collaboration between senior and junior researchers, co-supervising of PhD students the project aims to build capacity (I-433).

In sum, benefits from complementary action between RTD and DEVCO do occur, but these seem not the result of active co-ordination between the programmes at all levels but more of the implementation of existing non-EU policy frameworks and ad-hoc initiatives by EU staff and research and innovation partners involved in EU funded R&I projects and programmes. In practice, the EU does not seem to actively pursue such synergies.

4.3.1 Indicator 431: Applied research financed by DEVCO benefits from inputs from FP7 research

At a general level, DEVCO instruments for specific actions such as food security are linked with research. For example, the CAAST-Net Plus project included a work package dedicated to 'Research, technology transfer and innovation to enhance food security', one of the three strategic priorities of the EC's Food Security Thematic Programme. The activity operated within the context of the Joint Africa-EU Strategy (JAES) and of the Comprehensive Africa Agriculture Development Programme (CAADP) (Farrell 2014). Also the Platform for African-European Partnership on Agricultural Research for Development (PAEPARD) was funded under FP6 and identified research priorities that were used to shape parts of FSTP (EC(2010) 9263 and FP7 research agendas as well as developing the capacity of African researchers to bid for support from European research programmes. The second expanded phase of PAEPARD is funded under FSTP (EC(2010) 9263).

Inputs from FP7 in the area of Food, Agriculture, Fisheries and Biotechnology belong to the areas with a significantly higher budget share (42%) of the FP7 international co-operation programme budget (RTD 2014). Especially lower-middle-income countries' participants have received most funding in the Food priority area; Asian countries (21.2%) have the highest participation, followed by African (20.3%) and industrialised countries (19.3%). The financial contribution was mainly received by the ACP African countries (27.3%), the Asian countries (22%) and the Latin American countries (19.4%). The largest financial contribution in Food goes to Africa; this is followed by Asia and Latin America (RTD 2014).

Most of these grants are directly relevant to food security (PCD 2011). It provides concrete support to international co-operation by funding regional research networks in Mediterranean, sub-Saharan Africa and Asia and the programme plays a key role in promoting aquaculture activities worldwide as a mean to improve food security. The Food, Agriculture, Fisheries and Biotechnology programme has signed grant agreements for 77 projects involving 279 participations of teams from international co-operation partner countries in the years 2009 to 2011 for a total investment of EUR 270 million (PCD 2011). This is quite an improvement compared to the assessment of the 2007 PCD report that found that even with FP6 and FP7 open to research collaboration with scientific institutions in developing countries, the research outcomes are considered not yet sufficient to close the gap between research projects and policy-related MDGs. The report emphasised the need to increase funding for research specifically targeted on poverty issues, and more importantly, that research is not only 'for' but 'in and with' developing countries. According to the PCD report, this is particularly relevant also for agriculture, biotechnologies, natural resources and environmental management, energy (including renewable energy and energy efficiency) (PCD 2007).

Several activities in FP7 are being developed to steer research towards development needs, for instance the European Research Area (ERA) Net on Agricultural Research for Development and the "Africa call". In 2010 and 2011, research issues included sustainable water resource management and soil fertility conservation for food production in Africa, as well as identification of research needs on malnutrition in Africa (PCD 2011). The Joint Research Centre (JRC) also engages in various activities on improving early warning information, for example on food security information systems or on integrated food security classification system. Some examples of JRC's work on food security can be

found in a booklet published in 2011 “Science in support of food security – Some JRC examples” (PCD 2011, p. 66).

At the country level some evidence was found of links between R&I financed by DEVCO and inputs from FP7 research. The Mauritius CSP notes that the research efforts are supported by the various instruments available under the DCI but so far the country only had limited direct research funds from FP7. It also indicates that the FP7 should provide important opportunities to strengthen the scientific co-operation between Mauritius and EU, in particular in theme 2 "Food, Agriculture and Biotechnology, building the knowledge based economy" (CSP Mauritius). Some investments in R&D on biomass and energy of relevance to the sugar sector take place under the FP7 (*D-20853*).

In Chile, the co-operation through the DCI, is complemented with co-operation via FP7, including from the Capacities and People programmes. Also participants from Chile engaged in bi-regional co-operation with different regions of the world, through INCO-Nets, and bilateral co-operation partnerships with countries the EU has S&T agreements with (through BILATs). They also participated in specific actions regarding research infrastructures and research for the benefit of SMEs, and supported programmes to coordinate national activities (ERA-Nets) (S&T Chile review 2007-2011).

In Burkina Faso, there are several instances where state extension agents have been involved in EU-(DEVCO and RTD) sponsored projects and played a role in disseminating innovations. Particularly, the budget support to the ministry of agriculture in this way indirectly supported the complementary “input” of extension agents, although the role of extension services could be further strengthened (Burkina Faso CN).

In Kenya In the FP7 Joint Learning in and about Innovation Programmes in African Agriculture project, research institutions in four European and three African countries (KALRO in Kenya among them) studied innovation processes in smallholder farms. They developed an insightful conceptual framework as well as an international innovation research network that continues to function. The main insight from the project, that innovation continues long after the project has ceased and merits close follow-up and monitoring, has affected KALRO’s overall approach to R&I projects, and ICRAF, funded by DEVCO, has collaborated with KALRO on an agro-forestry strategic plan(Kenya CN).

However, oftentimes no evidence was found of any direct influence from RTD to DEVCO support. FP7 operates independently from the EUD, which has only minimal contact with or awareness of FP7. There is no effective co-ordination at national level of applications for FP7 funding (Kenya CN). The FP7 UNDESERT project in Burkina Faso has been implemented independently from DEVCO projects (Burkina Faso CN). And in Ethiopia, the many university researchers who were familiar with FP7, showed limited or no awareness on existing DEVCO-funded research grants such as the Intra-ACP grants or the African Union Research Grants (Ethiopia CN). In Peru the DEVCO supported R&I projects are more directed at developmental outcomes while the RTD funded FSNA-related projects like QBOL and QDETECT are much more technology development oriented (Peru CN).

Also at EU HQ level several interviewees from DG RTD confirm there is no active co-ordination on R&I with DG DEVCO, which means for example for the Philippines, RTD is not aware what DEVCO does (interview). A few positive examples of co-operation are shared though, including a project designed by DEVCO about joint learning in sustainable agriculture in Africa, JOLISAA, aimed to link RTD to DEVCO which was funded by RTD at it was more on the ground. However, RTD and DEVCO are definitely lacking complementary initiatives funded by DEVCO that would link in a structural way to RTD research activities (interview). At country level EUDs can, and often do play a very important role to make sure that there is no duplication, to improve communication and to avoid overlaps (interview). Though a major issue complicating co-ordination and information sharing is that within a country, DEVCO and RTD both have different contact persons: DEVCO talks mainly to international co-operation people, whereas RTD talks to the Ministry of Research as it concerns country policies. This adds to the silo problem on the part of partner countries, where either the Ministries of international development or those of research are around the table. Which is also an issue with EU MS (Interviews).

At the regional level, CIP participates in several FP7 grants. The FP7 grants are directed at ‘pure’ research, with little to no attention to impact on development processes or institutional capacity strengthening. The CIP projects funded by DEVCO clearly did, but also need the basic research work to build on. The ERANet-LAC, funded under FP7, is considered a useful regional research network (Peru CN). It must be noted that it were the researchers and national stakeholders that created the mentioned synergies between these different grants, with little help from EU institutions.

In sum, the mutually beneficial links between DEVCO and RTD R&I programmes and projects do occur, but are not achieved in a systematic or organised way and oftentimes depend on initiatives by the research and innovation partners themselves. According to an interviewee, even if there is co-ordination, it does not start early enough. For instance there is a strategy for innovation in agriculture whereby farmer groups can be funded by DG-AGRI; and RTD could fund exchanges between the

groups across Europe. But for the worldwide level, then they would need DEVCO for funding groups on the ground. RTD could then fund regional networks. Organic cotton growing is key in countries like Benin and Burkina Faso for instance, but there is not much happening in terms of supporting this and linking it up across the region. This is caused by the lack of policy concept on the part of DEVCO. They are not willing to pay attention to so-called 'internal policies' such as the Commission's Innovation Union. According to RTD, DEVCO has no real innovation policy; EUDs are not systematically asked to include these elements into their NIPs (interview).

4.3.2 Indicator 432: Researchers in DEVCO projects and programmes participate in FP7 international networks

The current R&I data on the FP7 and DEVCO funding in the field of FSNA do not specify the beneficiaries, which is why there is no overview of the numbers of researchers participating in both DEVCO projects and programmes as well as in international networks of FP7.

The Staff Working Paper of RTD notes that involving researchers in international research co-operation is one way to sustain and extend research capacities in developing countries. Researchers from developing countries can be included as partners in consortia applying for any part of the FP. However, such participation has tended to be low, and according to the Paper, that is due to the natural European focus of many of the FP topics, and the lack of R&D capacity in many developing countries, but possibly also due to a lack of knowledge in Europe about potential partners in developing countries (EC SEC 2008).

Many third country participants from universities and/or research laboratories engaged in international co-operation because of their interest in global knowledge production and because of the global challenges (food security, poverty, climate, development, etc.) that were also identified to be national or regional challenges (Farrell 2014). It takes time to build competitive infrastructure before researchers can apply for FP7 calls for proposals. DEVCO has not done this over many years. Capacity building has to go hand in hand with institutional change (interview).

In Uruguay the need to mitigate the shortage of researchers and absence of critical mass requires promoting research in groups to offset some of the disadvantages of low numbers of elite scientists working in the country. Prior STI programmes targeted the supply and/or demand side but paid less attention to multidirectional linkages in Uruguay's innovation system. Evidence from several OECD countries and more recently from Chile and Mexico suggests that support for cross-sectoral research projects and mobility of researchers is an effective way to change deep-rooted patterns of collaboration and perceptions in both industry and academia. Moreover, Uruguay, has had a few promising examples of public private collaboration, including the *Polo Tecnológico de Pando*, financed through the EU-funded ENLACES project (*D-19040*).

The co-operation with Chile in ICT is expected to continue, notably as part of the activities under the @LIS programme and the Information Society Technologies priority in the Sixth Research Framework Programme. Researchers from the *Universidad Católica del Pontificio* are now participating in an FP7 initiative called TUCAN3G. The project builds on research done within the framework of ALFA, @LIS and Willay (all DEVCO funded programmes and project) (CSP Chile) Also in Peru, the ICT for local government projects builds on previous projects funded by @LIS (CN Peru).

At a global level, the EU support to PAEPARD has increased the ability of African researchers to apply for FP6 and FP7 calls. DEVCO and RTD coordinate their actions at HQ level through the donor-platform European Initiative for Agricultural Research for Development (EIARD), with other European donors of the CGIAR; the European Commission (DG RTD) hosts its Executive Secretariat. As a group EIARD represents 45% of the total CGIAR budget. During EIARD meetings prior to Fund Council meetings, the group discusses its positions and agrees to a common position, which is presented in the Fund Council by the EIARD Executive Secretary. Interviewees (CGIAR, GFAR) confirm that the coordinated positions through EIARD combined with the weight of the European donor group within the Fund Council – five of the top ten donors of CGIAR over the period 2001-2010 are part of the group (CGIAR at 40, p. 132) – has considerably strengthened the European voice in CGIAR governance. However, they also suggest a downside of this unified European voice, as the absence of diverse views from European donors may reduce the depth of the debates in the Fund Council.

4.3.3 Indicator 433: Researchers in FP7 research programmes collaborate with developing country research and innovation practitioners to enhance the social impact of their results

DG RTD through FP7 has funded thematic research with partners in third countries, including developing countries. As a result, European researchers collaborate with researchers and innovation practitioners in a relatively small number of development countries, concentrated in emerging economies (e-CORDIS database). During the country visits, national researchers indicate, however, that there is rel-

atively little space to prioritise local research and innovation needs, and for development and user organisations to enter in these projects as partners is seen as overly complicated, thus decreasing the potential for social impact of the results. In Tanzania there were only five FP7 successful FSNA applicants for a total of less than half a million Euro. Clear links exist with the EU's Development Strategy and, in particular, poverty reduction and rural livelihoods including food security in the context of the Tanzania country strategy.

4.3.4 Indicator 434: Increase in HEIs and Research Organisations participating in FPs and other international networks

No data are found that give insights in numbers and trends of increased participation specified for HEIs and Research Organisations in FPs and other international networks. In an S&T review done for Chile, for example, the Chile S&T review 2007-2011 finds an increase in success rate of number of funded projects under FP7 in absolute terms.

4.4 JC 44: Extent to which different mechanisms to promote PCD (ex-ante impact assessments, inter-service consultation, etc.) have been deployed and acted-upon

Summary judgement

The Directorate International Cooperation of RTD is aiming at implementing PCD between R&I policies and policies of DG DEVCO. Interviewees from RTD note however there is a lack of efficiency and synergy due to a lack of knowledge sharing. Although it is acknowledged that DEVCO needs to be involved early on in designing complementary projects of RTD, the field assessment did not yield any evidence of mechanisms to promote PCD (I-441). One mechanism for quality support which could include consideration of PCD is the Office Quality Support Group, though from a review of the effectiveness of this group this is not clear (I-442). The RTD counsellor in Addis reached a joint agreement with the AU for an 'intensified dialogue' in the FSNA area which made the RTD programmes more strategic and joint between EU and Africa, and has good collaboration with the EUD in South Africa (I-444).

In two cases R&I results have been taken into account in further programming (I-443). The Pro-Poor Innovation project results are fully inserted into the new structure of the International Potato Centre, and ASARECA clearly building its operational plan on earlier lessons. In the Technology Transfer Programme, in contrast, R&I results have neither been sufficiently considered in its preparation nor during implementation. The FSNA policies and strategies are clearly based on lessons on research and development, which is not visible in the RTD strategies.

At the same time, no instances of lessons informing priority setting nor of incoherence have been identified either and evidence from the RTD supported projected examined clearly highlights their relevance vis-à-vis EU development objectives (I-445 and I-446).

4.4.1 Indicator 441: Ex-ante impact assessments for R&I look at PCD and possible synergies / trade-offs between DEVCO and RTD R&I interventions

The Directorate International Cooperation of RTD could be seen as the counter-unit for DG DEVCO as they are also aiming at implementing PCD between R&I policies and policies of DG DEVCO. Even for projects not funded by DEVCO, DEVCO still needs to be involved early on in project design as they can be complementary to the work of DEVCO (interview RTD). However, no ex-ante impact assessments for R&I are identified that look at PCD and synergies or trade-offs between DEVCO and RTD R&I interventions.

One case was identified where DEVCO and RTD did look at PCD and synergies or trade-offs between DEVCO and RTD, in the context of a specific budget for food security. The mobilisation of EUR 1 billion for the food crisis in 2008 was the result of unspent budget from AGRI and the discussions between DEVCO, AGRI and BUDG about putting food security on the agenda, and part of that money went to the research projects. That is how RTD was involved in how the money was to be used, but only at that time (interview).

The Pro-Poor Innovation Programme featured a timely and valuable identification mission, doing a rigorous diagnosis in the region and collecting the lessons learnt from major food security programs in countries (Pro-Poor Innovation ROM 2013).

4.4.2 Indicator 442: Inter-service consultations and quality support measures regularly include consideration of PCD issues

The EC SEC (2008)434 Staff Working Paper focuses among others on research policy (and climate change/energy/biofuels, migration, in particular brain drain) to identify concrete orientations and

measures to implement the 2005 PCD commitments in these areas. The Paper notes that besides of strengthening research capacities through development co-operation, RTD is committed to looking at research policy and its contribution to development (EC SEC 2008).

The Office Quality Support Group (oQSG) works as a peer review mechanism through which ad hoc groupings of Commission staff are able to enhance the quality of new projects prepared and presented by Task Managers in its two distinct phases. The first assesses the identification of a project presented in an Identification Fiche, which focuses on assessing design quality relating to a project's overall relevance and focus (including: does it fit with EC and Partner Government (PG) policy?, what is the "problem" to be addressed?, what is the project's logic and focus?, what risks and assumptions are being made?, what are other donors doing?). The second phase assesses the project's formulation presented in an Action Fiche, in relation to the project's formulation (including: how will the project be implemented and managed?). However, a study on the Office Quality Support Group of 2011 also found there is no system in place to confirm the issues raised during the process were fully dealt with. The same study also presents a list of the issues raised in both phases of the QSG which does not include PCD in specific (Study on Office Quality Support Group 2011).

An interviewee from RTD notes that one of the lessons learnt from the past is that DG DEVCO and DG RTD need to create more synergies and perhaps work towards a more upstream system of programming. The key people in delegations may help with synergies between different instruments and can act as knowledge repositories as they are the ones dealing with all different funds and projects at the same time at the level of the country. An RTD interviewee also notes that more efficiency could be reached if more knowledge was shared between DEVCO and RTD in terms of funding possibilities and project synergies, although DEVCO funding is spent according to choices made by countries. The degree of dialogue between DG RTD and DG DEVCO has intensified but could be improved (interview).

4.4.3 Indicator 443: R&I results, such as pro-poor innovations, IPRs, etc. are taken into account for programming and implementation of development, agricultural, climate and trade-related co-operation

FSNA is the main sector in six countries studied in this evaluation: Burkina Faso, DR Congo, Ethiopia, Mauritius, Peru, Tanzania. Of all these countries, only in the case of the Pro-Poor Innovation Programme evidence was found of results being fully inserted into the new structure of the CGIAR and in the actions of the International Potato Centre (CIP), which has a network of national offices in the Andean countries (Bolivia, Ecuador and Peru). In particular, "pro-poor" agricultural innovation is the new institutional mission and the project is articulated in four global research programs of the CIP: a) genetic resources; b) genetics and crop improvement; c) integrated crop management and systems; and d) social sciences and health (Pro-Poor Innovation ROM 2013).

The Technology Transfer Programme is a case in point where R&I results have neither been sufficiently considered in its preparation nor during implementation: an IPP Monitoring report concludes that implementation in the field is more complicated than in a laboratory. The subtle interplay of social, economic and legal dimensions did not receive adequate attention in the design phase. Assumptions were made about the incidence of the pest and the existence of farmers' organisations that were not found. Appropriate management responses to these findings have not been made and achievement of the Project Purpose in unlikely within the time available (*c-261127* IPP Monitoring Report 2013).

4.4.4 Indicator 444: R&I counsellors in EUDs regularly interact with development co-operation staff and proactively seek opportunities for alignment and synergy between their programmes

S&T Counsellors, who are RTD officials, are deployed in a limited number of EUDs and their numbers are apparently to be further reduced. In 2013, 16 of them were posted in partner/developing countries: African Union (EUD Addis), Brazil, Cambodia, China, Colombia, Egypt, Georgia, India, Indonesia, Laos/Thailand, Malaysia, Philippines, South Africa, Ukraine, Venezuela and Vietnam, and only Ethiopia is a country where FSNA is the main R&I sector.[8] The RTD counsellor in Addis reached a joint agreement quite easily with the AU for an 'intensified dialogue' in the FSNA area and the Framework Programmes are more strategic and joint (EU-Africa) as a result of the High Level Policy Dialogue. In South Africa, the counsellor has good collaboration with the EUD.

[8] RTD List 2013 – those underlined are covered by Country Notes in this Evaluation. At the time of the field mission to Ukraine in 2015 the S&T Counsellor post there had been abolished.

4.4.5 Indicator 445: Lessons from development co-operation inform DEVCO and RTD R&I priority-setting

In the RTD strategies for RTD (COM(2001) 346 and COM(2008) 588) no lessons from development co-operation were found informing RTD R&I priority setting in relation to FSNA. The various DEVCO strategy and policy documents for FSNA and R&I display a good general level of awareness of lessons of research and development co-operation. For example COM(2006) 21 includes past experiences/lessons learnt based on an external evaluation; including integrating a poverty focus, greater dialogue and greater policy coherence. EC(2007) 1924 includes past experiences/lessons learnt, including focused lessons on ARD and CGIAR in particular. EC(2010) 9263 includes past experiences/lessons learnt based on the first phase via an MTR and an external evaluation. Again lessons are focused on CGIAR and on innovation.

At the level of individual programmes, ASARECA's main lessons regarding programme implementation have led to:

1. A revised constitution to better reflect the CAADP Pilar IV mandate, better stakeholder inclusion and improve accountability;
2. Reorganisation into seven programmes to simplify implementation and promote a more strategic approach;
3. Development of a ten years strategic plan and five years operational plan to clarify and guide implementation, monitoring and partners co-operation;
4. A re-organised Secretariat aligned to the implementation of the Operational Plan;
5. A harmonised financial support to the implementation of the Operational Plan through the WB Managed Trust Fund enabling ASARECA to operate with one set of procedures;
6. A new portfolio of bigger, more strategic research projects fully in line with the Framework for African Agricultural Productivity (FAAP) principles (AF for ASARECA operational plan 2009-2013 to be included in AAP FSTP 2011).

ASARECA's new five-year Medium Term Operational Plan 2014-2018 (MTOP II) formulation has been guided by the lessons learnt from the five years of implementation of MTOP I (AF for ASARECA operational plan 2014-2018 to be included in AAP FSTP 2011).

4.4.6 Indicator 446: Instances of incoherence identified by external stakeholders are followed up internally

No instances of incoherence identified in the FSNA sector.

5 EQ 5: Transfer of R&I results into development processes

To what extent has DEVCO support led to the transfer of R&I results into processes likely to impact on the achievement of EU development objectives?

5.1 JC 51: Clear and logical thinking at sector level on how DEVCO support could ultimately lead through to research results being used in development processes

Summary judgement

Sector strategy papers are forward-looking and take into account new insights in the area of agricultural research for development (AR4D). DEVCO's main partner in AR4D is the CGIAR. CGIAR is going through many institutional changes to incorporate impact pathways and uptake of research outcomes in its research (I-511). DEVCO has been one of the main donors pushing for this reform. There is a tension between research guided by developmental impact and community-defined needs and the role of the CGIAR as research institute. CGIAR is critical of its donors not having a clear theory of change for their support to AR4D (I-512). According to CGIAR the scope and limitations of AR4D on impact should be better understood.

There are significant differences between the regional programmes in the way theories of change are elaborated (I-512). ASARECA and Pro-Poor Innovation have well described impact pathways, while

Technology Transfer and ACP Sugar Research Programme lack adequate research into research uptake context. Other stakeholders have not been involved (sufficiently) in identifying research needs and priorities. The issue who bears the increasing costs of monitoring and reporting to show developmental impact remains undecided. An emphasis of the monitoring and evaluation framework on quantitative impact assessment can create unwanted incentives such as rewarding low risk behaviour and discouraging risky, innovative or long-term research and the use of participatory and innovation system-based approaches.

In the CSPs analysed clear descriptions of how investing in AR4D leads to development outcomes are scarce (I-512). The high and middle-income countries do not have sector specific theories of change. Support to R&I in these countries is general and targeted at linking public and private sector to strengthen competitiveness. Low-income countries CSPs do not mention specific support to R&I. No evidence was found of that DEVCO has developed clear and logical thinking on how to contribute to strategically support the strengthening of the national innovation system. On programme level support to R&I is mostly part of an integrated food security approach that varies from programme to programme. The elaboration on how this support leads to development impacts differs. And although some examples are given for programmes in Burkina Faso, Kenya and Ethiopia the strategic thinking on how research results will be used in development processes is not consequently thought through. DG DEVCO and RTD financing modalities appear to lack systematic thought on how they can support the interlocking research, innovation and development processes that go beyond the research project itself, aiming to influence policy, institutional and practical change; and how they can be adaptive and flexible in supporting the technological, commercial, institutional and policy innovation processes that by their very nature have to adjust regularly in response to the lessons they learn. As a result, there exists a mismatch between the long impact pathway of support to R&I to development processes and the expected widespread, practical, commercial, policy and institutional impact.

The EU attempts to encourage research institutes to bring in necessary partners (for example for the innovation stage – real commercialisation) with limited success. Co-financing could work to involve other partners for example private sector to achieve real commercialisation of innovations (I-513).

In sum, the impact of an R&I partnership strategy for Research and Innovation is evidently conditioned by the existence or non-existence of national R&I policies and a well-functioning innovation system in partner countries. The type of constraints that emerge differ per country. Particularly, the low and lower middle-income countries have no specific R&I strategies on country level or, its implementation is (as yet) very weak.

5.1.1 Indicator 511: Evidence that sector strategies are forward-looking in taking current R&I developments into account in areas where knowledge is rapidly accumulating

Overall the sector strategy documents of DEVCO are forward-looking and take into account recent developments in the diverse relevant areas concerning FSNA. The working document on Research and Innovation for sustainable agriculture and food and nutrition security from 2014 and the Guidelines for agricultural research for development from 2008 are a reflection of the rapidly evolving insights into the AR4D context, elaborated by the European Initiative on Agricultural Research for Development (EIARD) in a new strategy. Issues like innovation platforms, increased attention for extension services and nutrition are marked as relevant themes. However, the focus on addressing food insecurity in fragile states that is prominent in the first Food Security Strategy Paper 2007-2010, has received much less attention in the more recent strategy documents.

GFAR and CGIAR are key instruments in the EU's sector strategy regarding AR4D. GFAR (Medium Term Plan 2013) stresses the need to be aware of major trends in thinking about 'how change happens'. It encourages strategies that take into account not only the impact of new knowledge, but also the equity around its access, availability and use.

The aim of CGIAR reform was to emphasise impact and better uptake of research results in developmental processes. This has been done through the development and implementation of the Strategy and Results Framework (SRF), System Level Outcomes (SLO) and the integration of impact pathways in the CGIAR Research Programmes (CRPs) (Strategy and Results Framework 2011). The EU has pushed for this reform actively through its seat in the Fund Council and indirectly through its support of GFAR, FARA and ASARECA.

These platform organisations are important stakeholders within the global and regional research systems and have pushed to make CGIAR more responsive and relevant to smallholder farmers' needs (GFAR Annual Report 2013, FARA Medium-Term Operational Plan 2008, ASARECA's Annual Report 2012). Interviews and the first evaluation of the Forests, Trees and Agroforestry CRP (FTA evaluation 2014) point to a bias of the system towards donor priorities. CGIAR staff stress the need for donors to be aware of their own theory of change in supporting agricultural research. They note that this awareness is lacking.

CGIAR is very active in contributing to the latest R&I developments as its centres are leading in most of the research areas relevant to FSNA. It is also leading in research on methodology, impact assessment and monitoring and evaluation. Interviews and evaluations (FTA evaluation, Practical Application of CGIAR results by smallholder farmers 2011) show that CGIAR is working actively but still struggling with the cultural change towards the research priorities as they were listed in the Food Security Strategy Paper 2011-2013; more pro-poor innovations, capacity and institution building, enhancing the active role for low-income smallholder farmers, strengthening scientific networks and stakeholder platforms and improve partnerships with main stakeholders. Some CGIAR Research Programmes are more successful in these issues than others. It will remain a challenge to build in incentives for programmes and centres to invest in these issues, while the emphasis on quantitative impact assessment could incentivise simpler, less innovative research approaches.

At the country level, evidence shows the mainstreaming of the multi-stakeholder approach to Research and Innovation is promoted, amongst others by the EU. In Peru, several projects (i. e. EUROPAN, IssAndes, PAQOCHA) engage with stakeholders at different relevant levels and sectors to engage in a multi-level, comprehensive approach to foster innovation that includes technical and organisational innovation at the field level, policy innovation at the regional and national level as well as regional networking (Peru CN). Also in Burkina Faso, clear and logical thinking leads to mainstreaming a multi-stakeholder approach to rural and agricultural development, and support to R&I is tied to this same approach (Burkina Faso CN). The *Fertipartenaires* has shown a strong participatory and flexible design, though, the ICRISAT project lacked participation of farmers and farmers' organisations; with a negative impact on uptake of research results (Burkina Faso CN). The project documentation of the Soil Fertility Projects does not explain how support to research results will ultimately also lead to those results being used in development processes. Also the design of projects is evaluated as weak, not taking into account what is needed to contribute to capacity building.

The Livelihood programme and the Coffee improvement programme in Ethiopia have clearly described impact pathways; although a lack of steering was noted in the Livelihood programme to ensure the use of research results. The *Regional Information and Communication Technologies Support Programm*e logframe was weak; the context is not enough taken into account; the causal link of how the support to regional ICT would improve regional integration and trade is not well explained and although stakeholder participation was good in design and implementation, this stopped at the end of the programme leading to a negative impact on institutional sustainability and uptake of results (Ethiopia CN).

5.1.2 Indicator 512: Existence of clear sector strategies on how national, regional and global opportunities for, and barriers to sustainable innovation (diffusion) for development will be addressed

The strategic DEVCO documents identify the barriers to research results uptake leading to developmental impact: careful identification of needs, opportunities and environmental externalities, a bottom-up approach enhancing participation of farmers and taking into account the necessary links with other components (e. g. extension, inputs supply, financing institutions, markets, institutional development, infrastructure investment, capacity building, land, sustainable natural resource). Consequently, a comprehensive, multi-stakeholder, multi-level approach is developed in the Annual Action Programmes and Action Fiches for the different global, regional and national programmes.

At the global level, even though the DEVCO strategy documents emphasise the importance of investing in AR4D, the impact pathways from investing in AR4D to developmental impacts contributing to relevant programme objectives and MDGs are still seen as complicated (DEVCO Research and Innovation for sustainable agriculture and food and nutrition security 2014). Interviewees at CGIAR note that the EU should improve its thinking on the impact pathways to follow, i. e. its theory of change. It would help CG research programmes in understanding the processes and limitations of the European approach to agricultural research and development (AR4D) better (interviews CGIAR and GFAR).

CGIAR is struggling how to manage for impact on developmental outcomes. All CGIAR centres are under donor pressure to translate their research more effectively into development results. This has resulted in a major re-organisation and is reflected in new strategic plans (Kenya CN). The integration of impact pathways in CRPs continues being a challenge (FTA evaluation 2014) as well as managing for impact, as the monitoring and assessment of impact proves to be complicated (interviews CGIAR and GFAR). There is no clarity on who would bear the increased costs of the monitoring and evaluation framework more centred on showing developmental impact of CGIAR research. The 2013 review of the Climate Change, Agriculture and Food Security Programmes stresses that an emphasis of the monitoring and evaluation framework on quantitative impact assessment can create unwanted incentives such as rewarding low risk behaviour and discouraging risky, innovative or long-term research and the use of participatory and innovation system-based approaches.

CGIAR is very forward-looking in taking into account cross-cutting themes like gender, environmental sustainability & climate change and capacity building (DFID's Support to Agricultural Research report), but addressing these issues in practice throughout the CGIAR system is proven to be hard (FTA evaluation). Centres can differ greatly in their effectiveness in addressing these crosscutting themes, but also the responsiveness and impact of the research conducted can vary significantly between centres. CGIAR has had complaints from donors that change, e. g. integrating gender in the CRPs was not going fast enough (interviews CGIAR and GFAR). At ILRI, the CCAFS programme, in addition to engaging in research and contributing to policy dialogue, is working on-site with farmers to develop climate change adaptation measures. Through community participation, the programme is able to harvest local knowledge and share it throughout the region (Kenya CN).

Also the GPARD project in Kenya, India, China and Peru set a strong approach, started off with baselines and took the obstacles for innovations among smallholder farmers into account. The project involves a broad range of stakeholders to facilitate changes in policies at different levels, which made the crop improvement through breeding effective. This is in line with research results in a study about the practical application of CGIAR research results; dissemination and adoption of genetic resources is facilitated by the participation of farmers and National Agricultural Research Systems (NARS), farmers' organisations, private seed companies and input providers. At the regional level, ASARECA's operational plan (2009) clearly points to the way agricultural research can contribute to productivity, pro-poor growth and enable evidence-based policymaking. Research is central to the CAADP agenda and ASARECA sees opportunities for coordinated regional efforts on shared themes such as technology, communications and information. The Pro-Poor Innovation programme proposal has clearly defined impact pathways addressing a wide spectrum of opportunities and barriers to sustainable innovation (e. g. nutrition at household and community level, capacity building, climate change adaption, gender perspective, policy and institutional arrangements and marketing systems).

The TOR of the *Technology Transfer for Food Security Programme* did not identify clearly how improving technology transfer will lead to developmental impact for poor smallholder farmers (Mid-term Evaluation). The monitoring report of one of the Technology Transfer projects reports, that the business models for the technology, the need of farmers for the technology, the capacities of the farmers to take up the technology and the sustainability of the project are not adequately researched.

The ACP Sugar Research Programme also had trouble in defining clear opportunities and barriers for research uptake. The Mid-term Evaluation states (p. 37): "Judging from the field visits, it seems that the research projects´ themes were solely defined by the same research centres. The sector's other beneficiaries appear not to have participated in the definition of these themes. The projects on Mauritius were developed eight years before and had been modified and submitted to different donors on various occasions before being financed by the Sugar Research Programme SRP".

At the country level, for the upper and upper-middle income countries (Mauritius, Chile, Tunisia, South Africa, Uruguay, Peru) the strategy focuses on Science and Technology in general, without specifying a strategy for FSNA. Tunisia has a clear strategy supporting business competitiveness with a possible extended focus on the agricultural sector. The EU signals the fragmentation of the institutional innovation system in Chile as compromising the focused implementation of research and innovation strategies. South Africa has an S&T strategy and support to R&I for FSNA, but because of the channelling of the support through Sector Policy Support Programme (SPSP), a clear uptake strategy, defined by the South African government or by the EU, has not been identified. The Mauritius CSP clearly identifies innovation as playing an important role in the transition to a new economic model. The development of a clear impact pathway on programme level is good, but on the specific project level it's lacking (ACP Sugar Research Programme Mid-term Evaluation). MSIRI in Mauritius appears to have been the sole national institution involved in identification and formulation of the research projects' themes. The projects on Mauritius were developed eight years before project commencement and had been submitted to different donors on various occasions before being financed by the SRP. The programme is strictly technical. There has been little or no involvement of any economic, socio-economic, development or other research institution in the country. The MSIRI has close contact with the sugar sector stakeholders and the end users in the country, and also with relevant ministries and institutions, which is why the knowledge achieved may very well be incorporated in development processes Mauritius CN).

Both the food security programmes implemented in Peru have well defined strategies to increase research uptake (*c-231141* and *c-231116*). All the projects studied in the field mission built on previous projects or will be continued by other funders (PAQOCHA, IssAndes, SIFOR-*Parque de la Papa*, CIP's Genetic resources conservation). In the proposals that *Soluciones Practicas* prepared for the EU tenders, the big lines are already set, but the details of the project e. g. the type of innovative technologies that will be tested in the project are defined together with the local people. In the recent tender for CSOs, innovation was one of the criteria to judge the proposals. EUD officials indicate that 80% of the projects they fund have aspects of Research and Innovation. *Soluciones Prácticas* however do not

feel the EUD encourages or systematises the innovative approaches used in development projects. In general it is noted, there is a lack of continuity of the projects supported. The different phases of innovation impact pathways – research, development, testing, adaptation and the social (commercial, organisational, institutional, policy and practice) innovations that need to accompany the adoption of the innovation and its scaling up generally takes many more years than one project cycle allows for. As a result projects lower their ambitions for impact due to the shorter time horizons (and shorter periods of time available to prepare the proposals). Complex interventions with many partnerships become more difficult to plan for because of these shorter periods to prepare the proposals. Medium to long-term commitment from a donor is therefore considered very helpful (Peru CN).

Particularly in lower (middle) income countries, the existence or lack of a well-developed R&I policy and an effective innovation system for scaling up R&I results in FSNA springs forward as a serious issue for determining development impact through R&I. In Burkina Faso the logical framework of The *Fertipartenaires* seems to have been well thought through. However, something that the project has insufficiently taken into account is the supply of animal manure. That is, to some extent, there was a lack of "system approach", which was an issue for at least one other project (CIRAD-Wageningen University-INERA in Burkina Faso CN). Also the intervention logic of the EU seems to underestimate the fact that national organisations often do not have the financial, material and human capacity necessary to take part in R&I projects, and for each type of organisation (research, extension, private sector, NGO, farmers organisation, etc.) other constraints may be affecting their ability to participate in an R&I project fully (Burkina Faso CN).

Applied research activities under the CIP in Ethiopia focused on the development of eleven improved coffee varieties that were more resistant to diseases to bring productivity gains in a sector that is key for Ethiopia's economic development. The focus on technology development and transfer for higher yields was also a specific objective of the CIP, and will likely continue to be an important component of the programme in the future. The widespread introduction to coffee farmers around the country is then put in the hands of the government's extension services (Ethiopia CN).

In Kenya, the EU has adopted a value-chain approach in its approach to rural development in Kenya, and in its support for R&I attempts to encourage institutes to bring in necessary partners. This needs to be done at programming stage, because it is impractical to give support to research institutes and then expect them to pass it on to other partners as work progresses. According to both EU staff and international experts, there has been some success, but limited, in encouraging national research institutions to adopt a ground-up approach to needs prioritisation and programme design. Co-financing is an important issue: the EU can properly support research as a public good, but at the innovation stage, involvement of the government or private sector is called for. Research organisations can only take products to the prototype stage; real commercialisation requires involvement of the private sector. There have been some successes in this area, e. g. with KEFRI through the SIFOR project (Kenya CN).

The Tanzanian Tea and Coffee programmes stand out for their clear strategies involving R&I. The overall objective was to contribute towards sustainable poverty reduction through trade by increasing the competiveness of Tanzania coffee in the world market and the project purposes aimed at increasing institution capacity to address Sanitary and Phytosanitary Issues (SPS) and quality issues, support the development, release and multiplication of disease resistant varieties with high quality coffee beans and support the adoption of Good Agricultural Practices (GAP) at farmer's level. The strategy addresses the multiple factors that hinder Tanzanian coffee farmers in competing in the world market, not only improving production, but also by strengthening individual and institutional capacity.

5.1.3 Indicator 513: Evidence at the sector level that the role of the private sector in the production and uptake of R&I results is adequately taken into account in R&I support

The private sector in AR4D consists mainly of family farmers, who presumably produce between 70% and 80% of the world's food[9]. Often, they lack security of tenure and power to negotiate. The importance of a multi-stakeholder approach, including smallholder farmers, farmers' organisations and NGOs that can articulate family farmers' interest, in setting research priorities and in designing and implementing of R&I support is widely acknowledged in the main strategy papers of DEVCO. However, this is not always translated systematically in the programmes on global, regional and national level. (e. g. ACP Sugar Research programme Mid-term Evaluation).

GFAR stresses the need for the CGIAR to invest more clearly in partnerships with development partners (nationally and globally) down the impact pathway (GCARD review 2013). It is also an issue DEVCO addresses (e. g. CGIAR AAP 2013) urging the CGIAR in the CRPs to "involve consultation

[9] http://www.fao.org/news/story/en/item/260535/icode/

with National Agricultural Research and Extension Services (NARES), farming communities and other civil society actors, so that results can be readily taken up by the appropriate actors along the delivery chain, with clear benefits to the primary produce". The difficulty of CGIAR involving stakeholders sufficiently in the design and implementation of the programme strategies is acknowledged throughout the CG system. There are institutional barriers (culturally, financially) to address these issues (interviews CGIAR and GFAR). The proportion of funding from CGIAR to partners (research and non-research) has remained at 17% (GFAR Draft Minutes of the 29th Steering Committee 2014) after the reform.

The necessity to reach out and involve partners more systematically is stressed in the FTA evaluation. The evidence suggests that many resources are directed towards meeting donors' priorities instead of priorities of target groups (interviews CGIAR and GFAR) and the FTA evaluation (p. 26) indicates: "Instead, the content and focus of projects appears to be driven primarily by two factors: the strategies, priorities and preferences of bilateral donors and those of FTA Participant Institutions implementing the projects, putting into question FTA's ability to align and focus research across projects, components, and over longer periods of time, on its programme objectives".

One of the Technology Transfer interventions has a clear multi-stakeholder approach and has developed many links with diverse actors in local and regional private sector, even establishing trade relations (seed) between Bangladesh and Nepal (Technology Transfer ANEP Interim report). The other project that was reviewed (IPP) lacked involvement of stakeholders in the design and implementation. The programme component intended to facilitate knowledge exchange was not able to involve stakeholders like farmer's grass-root organisations, local NGOs and public extension services (Technology Transfer SATNET Monitoring Report 2013). ASARECA focuses on the development of innovation platforms and value chains to move to a more market-oriented approach of AR4D (Annex 2 to the Annual Action Programme 2013 for Food Security, ASARECA Operational Plan 2014-2018).

Both Peruvian innovative food security interventions (*c-231144* and *c-231116*) have involved all major stakeholders in the design and implementation, not only taking into account the private sector (strengthening of farmers' organisations, regional platforms) but also the local policy makers and institutions and extension services. The innovation and competiveness programmes in Chile and Uruguay focus strongly on SMEs and their capacity to take up R&I results, by e. g. building linkages between academia and the productive sector (*D-19040*). Making policies more favourable to private sector uptake of innovations is also a focal point of the innovation and competitiveness programmes (*D-19040*, Monitoring Report 1). Crop improvement through breeding was effective in the case of the ICRAF-project in Kenya because the project worked together with farmers' organisations, fodder shrub is a short-rotation crop and the dairy markets to which the increase in production contributes, are ready and well-known (Kenya CN).

5.2 JC 52: Extent of internal lessons learning, sharing and uptake in the EU Institutions within the sectors supported in partner countries, and at international level

Summary judgement

Lessons on AR4D in FSNA are shared and taken up in strategy documents (I-521). Many lessons can be drawn from CGIAR experiences (e. g. concept of innovation platforms). Evidence suggests that there is no systematic strategy to ensure lessons learnt or best practices are shared at EUD level between sectors and between EEAS and EUD, between EUD and Brussels headquarters or beyond. In-country partners notice there is little space within R&I projects to document and capitalise on experiences gained (I-522). Probably as a result, evidence of lessons learnt at country level being fed back to DEVCO sector officials is scarce, and depends on individual initiatives. In Kenya lessons are shared between FSNA and EnvCC sectors within EUD, mostly because a small group of EUD staff are responsible for both sectors (I-522). The experience of the EUROPAN programme in Peru has been extensively documented and published by the EUD with the help of additional non-R&I funds.

5.2.1 Indicator 521: R&I lessons learnt in co-operation communicated between DEVCO and RTD

The lessons on R&I for agricultural development are ample and they are taken up in the various strategy documents of DEVCO (Guidelines on ARD 2008; DEVCO Research and Innovation for sustainable agriculture and food and nutrition security 2014).

There is very little evidence found on R&I lessons communicated between DEVCO and RTD. The *Joint Learning in Innovation Systems in African Agriculture* (JOLISAA) programme is an example where R&I lessons are learnt by DEVCO and RTD on integrating participatory farmer-led approaches in research programmes (DEVCO Research and innovation for sustainable agriculture and food and nutrition security, 2014). The programme is funded through the FP7 by RTD. The work of the

JOLISAA programme is continued in the Prolinnova (Promoting Local Innovation) platform. Prolinnova is funded by DEVCO through GFAR. The lessons learnt in the JOLISAA programme have been communicated to DEVCO during a workshop on the EU Approach to Research and Innovation for FSNA in November 2014.

In Peru, evidence suggests that DEVCO and European External Action Service (EEAS) dis-invested in internal lesson sharing at EUD level (example is the cancelling of the annual meeting of Latin American food security EUDs) (Peru CN).

5.2.2 Indicator 522: Evidence that major R&I results (from EU funded programmes) are communicated to DEVCO sectoral officials

Results from the RTD-funded JOLISAA programme and *Promoting Local Innovation in Agriculture* (PROLINNOVA) programme have been communicated to DEVCO sectoral officials and used in the most recent strategic document 'DEVCO Research and Innovation for sustainable agriculture and food and nutrition security 2014'.

It is likely that results from the Coffee and Tea Authority (CTA) research have been communicated to DEVCO and influenced the strategy on capacity building and institutional strengthening (DEVCO Research and innovation for sustainable agriculture and food and nutrition security 2014).

In Burkina Faso only for four of the six Soil Fertility Projects evaluations are found, and the project implemented by SOS Sahel and local partners had a weak monitoring. Evidence of exchange between the different projects is not found, or found to be too limited in the case of ICRISAT and FAO.

Monitoring, quality and evaluation procedures in the Regional Information and Communication Technologies Support Programme in Ethiopia were insufficient and intermittent, leading to little opportunity for learning and adaptation.

In the Peru CN the *Soluciones Prácticas* noticed EU-supported projects do not allow much space for documenting, systematising and capitalising on experiences and lessons learnt, also there are less technical monitoring missions, which are regarded as useful by the project representatives. The EUD also faces difficulties to follow up projects. There are no resources reserved to monitor the longer-term impact of projects. Still, there is a reasonably strong practice of learning, sharing and uptake of lessons from passed experiences within the FSNA sector in Peru, rooted in the organisations themselves (e. g. *Soluciones Prácticas*, CIP, IICA have systematised lessons learnt from EU funded and other projects) and share these with a wider public. There is however no apparent systematisation and capitalisation of these experiences by the EUD. The alpaca project has a long history, and, various interviewees outlined how newer programmes built further on lessons learnt from earlier programmes. A report on lessons learnt from *Soluciones Prácticas* projects has been published with indirect support from the EU and submitted to the European Commission in 2014 but was not archived in CRIS. It was not mentioned by the EUD in interviews (Peru CN).

At regional level the CIP Regional Director in Peru has invested much in personally communicating with DEVCO headquarters on what CIP is working on. Other projects like SIFOR, PAQOCHA or Willay do not reach out to the EUD or DEVCO headquarters so actively. CIP has invested much in communication on the project and the DEVCO unit managing the IssAndes project. CIP has been requested by EUD to provide technical assistance to a similar project in Costa Rica (PRICA, *Proceso Regional de Integración Cooperativa de las Américas*) that started two years later. Extra funding for visibility was provided to produce four communication products used at the European Month of Food security (story of the week, video, Case Study from Peru and completing a Brief). It was the EUD ambassador who pushed for continuation. There was very little communication between the EUD Lima and DEVCO headquarter in Brussels (Peru CN).

In Kenya the main sectors for R&I are FSNA and EnvCC and these are essentially indistinguishable because of the national context. At EUD level a small group of EUD staffers are responsible for both sectors, which means there is by definition quite a bit of knowledge sharing between R&I and the relevant sectors. A number of lessons learnt were cited in EUD interviews. It is appreciated that innovation is best served when a range of institutions are involved and that, once the pure research phase has been passed, there should rightfully be some ownership and co-financing from either the public or private sectors. The need to align regional and global-level institutions' research agenda as closely as possible with bilateral programmes and to avoid the crowding out of national institutions by prestigious international centres is acknowledged (Kenya CN).

In the online survey EUDs were asked to identify lessons from EU support to R&I. Most of them concern the implementation of specific projects, stakeholder involvement and/or co-ordination of R&I policies. Related to FSNA two specific lessons were given as examples. In agricultural innovation for food security, the choice of the specific implementer guaranteed the credibility and legitimacy because of its anchorage in the region and high level of professionalism and institutional capacity; these lessons

were communicated through the ROM exercise. As another example, in the sugar sector, research organisations should ensure that they have necessary financial capacity to meet their contribution whenever awarded a grant under any EU programme. This lesson was communicated to DEVCO to become aware of the problem in the specific country.

Strategy documents take up lessons learnt on improving uptake of research. Many of these lessons are drawn from or implemented and evaluated by CGIAR, e. g. the concept of innovation platforms (DEVCO Research and innovation for sustainable agriculture and food and nutrition security 2014). Programme design has not always benefitted from these lessons, e. g. Technology Transfer (Mid-term Evaluation), among other due to a lack of co-operation between projects in the same country (*c-231116* and *D-14223*).

5.3 JC 53: Extent of external lessons learning, sharing and uptake within the sectors supported in partner countries, and at international level

Summary judgement

Promoting the uptake of results within FSNA is receiving a lot of attention and has been incorporated in EU AR4D intervention strategies. Especially within the CGIAR, the process around the adoption of the revised Strategy and Results Framework and its integration in the second Call for Proposals for the CGIAR Research Programmes are tightly linked to the uptake and impact discussions. There is no clear strategy, however, on dissemination of research results of the CGIAR. The reluctance of funders to contribute to core-funding and a demand for low overhead costs is mentioned as pushing down the budget available for information management and communication strategies.

GFAR and the regional and sub-regional fora for agricultural research function as networks and platforms to promote knowledge sharing and promote uptake of AR4D. The regional programmes examined have defined strategies on knowledge and information sharing and the dissemination of best practices. Only for the SATNET network it is indicated that regional activities are insufficiently established (I-531). Several examples of DEVCO external networking activities at country level were found in the field studies. There seems to be a reasonably strong practice of learning, sharing and uptake of lessons from passed experiences. However, the role of the EUD seems to be limited in the systematisation and capitalisation of these experiences except for additional funding for communication products (I-531). Even though the approach is mainstreamed in DEVCO financed R&I programmes, specific evidence on DEVCO supported partner country stakeholder involvement in international research networks (I-532) is limited. This underscores the point made by many partners about the lack of financial and attention space within R&I programmes to document and capitalise upon experience with multi-stakeholder R&I processes (I-531). There was no evidence found on sector policy dialogue and inclusion of R&I practitioners (I-533).

5.3.1 Indicator 531: Evidence of DEVCO external networking activities aiming at promoting the uptake of results for development

At global level the main external activity aimed at promoting the uptake of results for development is the support to GFAR and pushing for more and better partnerships and stakeholder consultation within CGIAR research programmes and supporting stakeholder co-operation within CAADP. Improving results uptake is one of the key issues DEVCO is pushing CGIAR to invest more in. CGIAR organised an event with donors in January 2015 on the subject of results uptake and impact assessment (Strategy and Results Framework Workshop in Bern). The field study in Ethiopia found that ILRI as a CGIAR Centre sees its work in an integrated fashion seeking to achieve a good balance of research, development, innovation and extension. It also places heavy emphasis on lesson learning across its projects and system both at the national and regional levels (Ethiopia CN).

GFAR has a very direct mandate in making global and regional agricultural research systems more focused on the uptake of results for development (GFAR Medium Term Plan 2013). In a presentation regarding a review of the GFAR governance (2013) it is however noted that the governance is not sufficiently robust, the Steering Committee has weaknesses and a rapid renewal of governance is argued for, among others to improve the inclusiveness of the Steering Committee.

The GCARD process is aimed at improving the responsiveness of the CGIAR system to results uptake by bringing together CGIAR researchers and uptake pathway partners. The large majority of participants found the sessions to have been useful to their work and benefitting the design and implementation of their research activities (GCARD Review 2013). The Dublin process builds coherence between CAADP priorities and CGIAR research. DEVCO has been an active supporter of this process (DEVCO Research and Innovation for sustainable agriculture and food and nutrition security 2014).

At the level of regional programmes:

- In the ACP Sugar Research Programme a separate unit have been created to facilitate networking and results uptake. The ACP Sugar Research Programme has created an Internet platform to disseminate sugar research results (ACP SRP Financing Agreement). This is a major change compared to old sugar research practices where research results were not shared because of the potential competitive advantage they could bring. No explicit mention is made of results uptake in the financing agreement or project proposals and linkages with extension services have been weak (ACP SRP Mid-term Evaluation).
- Also in the Technology Transfer programme a separate unit has been created to facilitate networking and results uptake. The Technology Transfer programme revolves around the idea that networking can lead to better uptake of results for development. The following quote illustrates this clearly: "The general similarity of the institutional setting in many Asian developing countries suggests that there is an opportunity for multiplying these experiences for impact by joining together practitioners and researchers across the region. This would help diffuse lessons into general practice and help leverage these lessons for policy and institutional changes in the framework conditions for research and innovation". It is also mentioned that programmes in the region could benefit from the activities from the Prolinnova methodology (global learning network promoting local innovation in sustainable agriculture) (Technology Transfer Action Fiche). The approach that was adopted for the programme has yet to prove its success.
- The Network for Knowledge Transfer on Sustainable Agricultural Technologies and Improved Market Linkages in South and Southeast Asia (SATNET) was created to facilitate regional networking. SATNET's monitoring report and the Mid-term evaluation of the programme express concerns on the possible impact of the programme. SATNET is not sufficiently staffed and budgets are insufficient to implement regional activities. Stakeholders and specifically smallholder farmers (grass root farmers' organisations, local governments), have not been sufficiently involved in identifying needs. The experience and knowledge of similar networks has not been used sufficiently. Effective co-ordination with these networks is highly recommended (SATNET Monitoring Report).
- Through support to FARA and the sub regional organisations like ASARECA, DEVCO supports these organisations in setting up and strengthening regional networks. ASARECA invests strongly in research partnerships (ASARECA, Annual Performance Report 2011). Information and knowledge management is now one of the five main outputs defined in the Operational Plan 2014-2018. The Knowledge and Information Hubs are intended to increase the capabilities of ASARECA stakeholders. Lesson sharing and uptake of lessons are at the core of ASARECA's strategy (Operational Plan 2014-2018).

At country level there is a reasonably strong practice of learning, sharing and uptake of lessons from passed experiences. In Ethiopia the Coffee Improvement Programme has a long history, and, various interviewees outlined how newer programmes built further on lessons learnt from earlier programmes. A report on lessons learnt from CIP IV has recently been submitted to the European Commission. A 'Lessons Learnt' report of the Livelihoods project has been developed and presented in Addis Ababa, in the presence of government officials. The innovative approach of the Livelihoods project, viz., the synergy between financial products, the cost-effectiveness and the institutional arrangement of the model, combining capacity building and knowledge sharing, is a key lesson learned. The sharing of best practices is a central intention of the Ethiopian Livelihood programme. Six publications have been produced in 2013 and strategies for dissemination of best practices are being developed for grass root level and to high level stakeholders like government partners and donor communities. CTA (EU funded ACP-EU institution) organised a conference[10] on linking smallholder farmers to value chains. ASARECA aims to increase stakeholder participation in information and knowledge sharing through the knowledge hubs (ASARECA, Operational Plan 2014-2018).

As lead partner for the Sugar Research Programme, MSIRI in Mauritius has been able to link research institutes and results by e. g. sharing developed database and software. The MSIRI has had an important function in disseminating results and lessons learnt to the other partners, this has been obtained through seminars and project reports. As most of the activities have taken place in the Mauritius, the amount of lessons learnt brought to MSIRI from other partners has been limited. The programme has led to sparse co-operation with European institutions. However, co-operation with CIRAD on weed identification on neighbouring Reunion Island (France) has been established and may leave to new joint efforts (Mauritius CN).

[10] http://makingtheconnection.cta.int/organizers

In Peru, the lesson learning is rooted in the organisations themselves (e. g. *Soluciones Prácticas*, CIP, IICA have systematised lessons learnt from EU funded and other projects), which share these with a wider public. The alpaca project has a long history, and, various interviewees outlined how newer programmes built further on lessons learnt from earlier programmes. A report on lessons learnt from *Soluciones Prácticas* projects has been published with indirect support from the EU and submitted to the European Commission in 2014 but was not archived in CRIS. Budget for communication and systematisation of lessons on the EuroEcoTrade budget support was cut, even though experience with the communication strategy designed for EUROPAN had proved to be highly valuable. A 'Lessons Learnt' report of the IssAndes project has been developed and shared with government officials CIP works closely with. There were four communication products made with extra funding from the EU which were used at the European Month of Food security (story of the week, video, Case Study from Peru and a Brief). There is however no apparent systematisation and capitalisation of these experiences by the EUD.

In Burkina Faso the absence of financing for documenting and learning from "up taking" activities is noted. In Burkina Faso publications, reports, databases, and technical sheets are being produced and shared within research groups and with stakeholders and farmers directly involved but are not made available to larger audiences of technicians and farmers. "Capitalisation", the documentation and follow-up on research results, is mentioned repeatedly as a constraint. The lack of stocktaking and learning from R&I projects (e. g. through impact assessments), means lessons are not fed into the extension system. R&I budgets do not allow for such documentation and follow-up. Monitoring and evaluation systems in place also do not capture longer-term impact (Burkina Faso CN).[11]

5.3.2 Indicator 532: Evidence of active, DEVCO supported, partner country stakeholder involvement in international research networks

The stronger CGIAR centres are often at the centre of international research networks like the centres working on rice through the Global Rice Science Partnership (GRiSP). In the CRPs, other global and regional stakeholders participate in partnerships within these networks. Involvement of partner country stakeholders in CGIAR research networks is still weak. The partnership with NARES is and traditionally was more in service of CG centres objectives. Involvement of national stakeholders is sometimes only organised when drafting the research proposal (interviews CGIAR and GFAR; Technology Transfer Action Fiche).

In the second round of proposals for the CRPs, consultations will be organised on a national level. The aim is to strengthen collaboration between CGIAR research and partner country stakeholders (NARES, extension services, civil society organisations, farmers' organisations) (interviews CGIAR and GFAR) and to increase alignment with national governments. This round of consultations will be organised in co-operation with GFAR.

There is no specific evidence of DEVCO directly supporting partner country stakeholders. The Fertipartenaires programme in Burkina Faso arranged for a study trip to the cotton-producing zone in Mali which led to the transfer of a new technique to Burkina Faso. In the CIRAD, INERA and Wageningen University project focusing on conservation agriculture, researchers and practitioners collaborated with other countries, including Madagascar. Collaboration among researchers and doctoral students in other countries are frequent among the DEVCO projects. In relation to the CIRAD-INERA-Wageningen University project, the regional network African Conservation Tillage Network emerged, although its activity level has remained low. And the implementers spawned an association that acted like a community of practice promoting the dissemination of the Zaï cropping technique (Burkina Faso CN). GFAR, together with IFAD, is working on a multi-donor trust fund to strengthen national agricultural research systems. This could be an interesting channel for DEVCO to focus its support to partner country stakeholder involvement more.

5.3.3 Indicator 533: Sector policy dialogues include national researchers, innovation practitioners and entrepreneurs

No FSNA-specific evidence was found of sector policy dialogue including national researchers, innovation practitioners and entrepreneurs.

[11] An exception to mention is the on-going food security impact evaluation of Fertipartenaires conducted by CIRAD as part of a broader evaluation of its "research-action" approach (Burkina Faso CN).

5.4 JC 54: Development processes and outcomes have been built on or used the results of research funded by DEVCO or shared through DEVCO supported research networks

Summary judgement

Significant evidence was found that DEVCO supported knowledge management and communication has led to external knowledge sharing and networking (I-541). At country level the projects in Peru and Burkina Faso had elaborate communications strategies resulting in dissemination of educational material. The exception is the Mauritius ACP-Sugar Research Programme where the use of research results is not planned for. ASARECA aims to serve as a co-ordination mechanism, also ensuring that research findings are available to and meet the needs of service providers and farmers, and addresses uptake of research results through its programme. Evaluation of CGIAR's FTA programme raised concerns about disseminations and uptake of its research.

The public sector is often a target of DEVCO supported R&I (I-542). At global level, regional level and country level a range of examples are given of public sector uptake of results of R&I supported by DEVCO. In Peru, Uruguay, Burkina Faso, Ethiopia and Chile, local, regional and national governments were effectively engaged and strengthened to improve public sector uptake of R&I, mostly in collaboration with a range of other actors, including non-governmental organisations and the private sector. GPARD, Pro-Poor Innovation, ASARECA, IssAndes, applying similar comprehensive, multi-level and multi-stakeholder approaches on a global or regional scale, according to evaluations and field studies were effective in doing so.

Indirectly the private sector is always the target of FSNA-related R&I (I-543). ASARECA, Pro-Poor Innovation and CGIAR and the projects in Peru, Ethiopia, Kenya, Tanzania, Burkina Faso, Kenya and Jamaica have shown impact on farmer level. The Mid-term evaluation of the ACP Sugar Research Programme was more critical on the potential of impact of the research results, but this was also due to the long timespan of research.

At global level a methodology for innovation of locally-owned solutions is effectively implemented for one programme by a CG centre (I-544). Also at regional level ASARECA's contributions to locally owned solutions is not yet fully implemented, but the Pro-Poor Innovation programme succeeded in supporting locally owned solutions. The country level evidence for programmes in Peru, Kenya, Burkina Faso and Ethiopia. is indeed leading to innovation of locally-owned and sustainable solutions for the poor.

The assessment of the capacity building efforts at global level by the CG varies from adding value to only marginally influencing research results (I-545). CGIAR is still struggling with its role in capacity building. Regional capacity building support efforts of especially ASARECA stand out because the capacity building was done through long-term partnerships performing cutting edge research. Also at country level several instances of enhanced research capacity of research organisations has been found (I-546).

On a whole the FSNA related R&I often has a direct impact on especially MDG 1 and on MDG 8 (I-547). The EU supported R&I in the field of FSNA is in most cases in line with AR4D approaches of the 2008 Guidelines on Agricultural Research for Development and the relevant programme objectives. In some global and regional programmes limitations are found with implementation of for example capacity development objectives, research uptake or applying a demand-driven approach.

5.4.1 Indicator 541: Evidence that DEVCO supported knowledge management and communication facilitates the diffusion and uptake of research results for development in partner countries

The online survey to EUDs invited the respondents to provide examples of key research findings (generally understood as results of specific research projects, rather than the outcomes of R&I support more generally) and to indicate through which means these findings had been disseminated

Table 4 below lists the research findings reported by the Delegations for FSNA that are broadly in line with this definition. The target audience of the dissemination of research findings is diverse. There is also variety in the means used for the dissemination of research findings; conferences and publications are mentioned several times, but knowledge management facilities are not explicitly mentioned.

Table 4 Main research findings and their dissemination – FSNA sector

Research finding	Target audience of dissemination of research finding	Means of dissemination
Increasing sugar productivity through development of high sucrose and early-ripening genotypes	ACP States	Conference, publication, workshop
International quarantine facility for exchange of sugar cane germplasm among ACP countries	ACP States	Conference, publication, workshop
Depletion of fisheries resources	Technical Working Group on Fisheries	Note
In-depth knowledge of the agricultural situation and policy options for better nutrition and food safety	Regional research community, private sector in the country, international research organisations	Leaflet, conference, publication, note, inter-service meeting
New technical (FSNA) practices implemented	Mainly small producers	Field conferences with participation of stakeholders and beneficiaries

Source: EUD survey.

At global level the GCARD review indicates that a large majority of GCARD participants value the sessions and indicated that the knowledge acquired was likely to change the way they conduct AR4D. CGIAR Fund and Consortium expressed concerns about the effectiveness of the GCARD processes (GCARD review 2013 and CGIAR and GFAR interviews).

The evaluation of CGIAR's Forests, Trees and Agroforestry Research Programme raised concerns about the diffusion and uptake of results from the programme. The "Evaluation Team is concerned about the feedback received from international and regional institutions of strategic importance for FTA. In most cases, FTA was not known as a programme at all and, more importantly, the degree to which these institutions valued, had used or had otherwise been influenced by earlier outputs from FTA Centres, was moderate." Several interviewees point out that there is no central communication or dissemination strategy. Many Centres do not invest in strategies that increase the uptake of research results or show the wider world what CGIAR is doing (interviews CGIAR and GFAR).

At regional level the Pro-Poor Innovation has an elaborate communication and knowledge strategy that contributes to scaling up the impacts of the programme, for example by systematization of experiences and diffusion of best practices, supporting events and developing communicational material promoting the native potatoes. This is disseminated to a general public linking it to cultural heritage, e. g. to gastronomy in Peru (Pro-Poor innovation ROM).

According to the ASARECA Action Fiche (p. 4) "ASARECA is in charge of a convening role of the agricultural research stakeholders in the sub-region to agree on the research priorities of a regional significance. (…) A special emphasis is given to putting research into use". The USAID evaluation of ASARECA 2011 (p. 31) indicates that ASARECA has strengthened its information services. The dissemination of research results has improved. A growing amount of reports are available and research findings are disseminated through different channels.

At country level both food security projects in Peru have elaborate strategies on knowledge management and communication. One of the main activities of the *Soluciones Practicas* (*c-231144*) project is the training of local extension workers who disseminate information and facilitate results uptake. One of the activities of the *Vecinos Perú* project (*c-231116*) is to link local research organisations with the alpaca farmers. The *Soluciones Practicas* project plans to develop educational material adapted to local needs on development of the alpaca sector and on climate change mitigation. The material is based on a manual that was developed with support of ECHO.

In the project activities in Burkina Faso dissemination of information (reaching 10.000 persons) and the training of local service providers has been very effective and contributes to the sustainability of the project (evaluation *c-144105*, p. 14).

In some of the projects under the MSIRI programme in Mauritius, interesting research results have been achieved and promising pilot projects carried out, but a thorough dissemination of results and application of developed technologies and methodologies have not yet taken place. However, no specific plan for utilisation, application, and implementation has been identified. The EUD has followed the implementation of the individual projects under the ACP-Sugar Research Programme, but the programme as such has not benefitted from other results or research funded by DEVCO or shared through DEVCO supported research networks. Impact pathways have been weakly defined and there are no concrete and specific plans of utilising the results at enterprise or sugar farm level at a broader scale (Mauritius CN).

5.4.2 Indicator 542: Evidence of public sector uptake of results of R&I supported by DEVCO being reflected / taken up in sectors relevant to achieving EU development objectives

Although this indicator focuses on public sector uptake of R&I results, the following assessment also looks at efforts to strengthening the public sector in improving its capacity to generate good R&I policies and planning and managing agricultural development. Making policy environments more enabling is a central theme of AR4D. The evidence found at both regional and country level is rather positive in terms of reaching and strengthening the public sector to improve uptake of R&I.

In the online survey only one EU Delegation reported being aware of an FSNA research finding from DEVCO financed R&I support that was taken up also by the public sector in their country. In the example, the findings were instigated by research institutions and government agencies and used for follow-up research, product innovation and policy planning by 'all relevant stakeholders'.

At global level the GPARD project SIFOR worked together closely with the Genetic Resources Conservation project by CIP. The projects have both had impact on seed conservation of native species, on developing farmers practices to adapt to climate change, which is impacting poor people in the Andes. Communities are exploring possibilities of growing seed potatoes, because of the favorable conditions on high altitude. They function as live laboratories of climate change and link local knowledge with conventional knowledge. The SIFOR project creates the linkages between these locally developed technologies, based on indigenous or traditional knowledge, with the other projects in Kenya, China and India and creates synergies between the different communities (Peru CN).

Also at global level, CIFOR implements a project financed by the EU on *Securing tenure rights for forest-dependent communities*. The programme is in an early phase, but the process of forming the Advisory Committee in Peru is already bringing together many different actors. This is already having an impact by creating a space for dialogue on forest tenure. Regional and national governments are learning to enter in effective and inclusive dialogue with forest communities. CIFOR mentions the difficult balance between getting results out faster to reach impact like briefs and keeping up level of research with peer-reviewed journals (Peru CN).

At regional level ASARECA's policy research has had significant impact on national and regional laws and regulations. ASARECA has addressed issues like harmonizing national laws and regulations on a regional scale. This has direct impact on for example linking small-scale farmers to extensive milk markets and intra-regional seed imports (Mid-term Review October 2011 and ASARECA USAID evaluation).

The ROM of the Pro-Poor innovation programme indicates that the project has contributed positively to strengthening public policies on FSNA in all the countries (Peru, Bolivia and Ecuador). An unintended positive impact has been that through the baseline survey and interviews the implementation of governmental nutrition programmes has been improved. CIP is revising its strategy and linking with new partners to be able to better link to national policy dialogue.

IssAndes has been able to mobilise a wide array of stakeholders like farmer organisations, private and public actors. They were able to establish a strong regional network to share experiences on the nutritional, cultural and commercial value of the native potato, but also on methodologies (e. g. impact pathway methodology) and food security project management aspects. These regional networks were built on existing networks. In Peru IssAndes had a very strong impact on policies of ministries (MIDIS, MINAGRI and MINAM). In Ecuador they had an impact at provincial and community level. In Peru, CIP has contributed elements of the new law and strategy on nutrition and food security and the law on family agriculture. Working together with the ministry on the implementation of the law. These laws are prepared together with permanent multi-stakeholder and multi-sectoral commissions with different ministries and stakeholders (organisations, public and private). Nutritional education programmes have been developed and implemented in the four countries, reaching parents and staff from local institutions and health networks. A statistical model that assesses the relation among production, nutrition and socioeconomic variables has been developed that can support decision-making processes related to similar interventions. A guide with lessons and recommendations on gender issues in food security and nutrition interventions has been developed (Peru CN).

At country level the food security projects in Peru (including *c-231116* and *c-231144*) target local and regional government explicitly in their expected results. They aim to strengthen the capacity of local and regional governments in planning and managing sustainable rural development with a focus on activities that promote the alpaca sector. According to the Monitoring Reports projects are generating improved public investments and policies (*c-23111* Monitoring Report and *c-231144* Monitoring Report). The strategy of strengthening the capacity of regional and local governments to plan and implement better policies bears resemblance to the strategy the Pro-Poor innovation programme has adopted. The project for the reconversion of the production of South American camels in the poor high-Andean zones of Ayacucho and Huancavelica reports local authorities are taking into account the needs and priorities of alpaca farmers thanks to the projects' activities (Peru CN).

The *Caficultura Sostenible* project in Peru, in the province of San Martin, builds on the results of the *Bosques del Chinchipe* project. The project develops and adapts technologies (on reforestation, soil fertility, post-harvest and water management) to a sound market plan of forest harvested coffee that makes reforestation projects more profitable. This is having impact on national and global policies regarding greenhouse gas emissions. The agroforestry approach to coffee farming system is guiding climate change policies and the emission reductions that are being achieved or planned for have been taken up in the Intended Nationally Determined Contributions (INDCs) that are part of the climate change negotiations at COP21 (Peru CN).

EUROPAN is another good example of how the policy and organisation around the innovation is so important for successful implementation and scaling up. The EU has been able to give direction but also space to maintain creativity during implementation. A well thought out communication strategy and political sensitivity have been key in achieving these positive results (Peru CN).

Also the support to the Uruguayan Innovation and competitiveness programme is directed towards the public sector, improving policies and linkages with private sector and academia (*D-19040*, Action Fiche). The EU development objectives for Uruguay are to contribute to social cohesion. The programme does this by focusing Innovation policies specifically on SMEs (*D-19040*, Monitoring Report). The same rationale can be sustained for the support to Chile (Mid-term Evaluation of I&C Programme).

The Fertipartenaires project in Burkina Faso facilitated the elaboration of a land charter for the preservation of natural resources, notably the soil. However, progress in the implementation and dissemination of this charter and its good practices has been slow (Burkina Faso CN). There has been little collaboration between the Fertipartenaires project and the public extension services. Through their networks and dissemination channels, extension agents contributed to disseminate the practices promoted by Fertipartenaires but closer collaboration with the public extension services could yield greater and more sustainable results (that is, a scaling up of the impacts).

In Ethiopia, even after the discontinuation of the CIP in 2010, the Ethiopian Ministry of Agriculture continued the seedling programme initiated under the CIPs. As mentioned by the CSDS final report,[12] this can be seen as a success story as it appears to have contributed to an increase in export volume, although the following increase in export volume must also be seen within a wider context, as world market prices during the same period also increased (Ethiopia CN).

5.4.3 Indicator 543: Evidence of private sector uptake of results of R&I supported by DEVCO

In the online survey EU Delegations were asked to share research findings from DEVCO financed R&I support that was taken up in their country also by private sector. In the only example for the FSNA sector, the transfer of findings was instigated by the World Bank, the West and Central African Council for Agricultural Research and Development (CORAF), and national research institutions. Findings were used for the production and dissemination of innovations by research institutions and the private sector.

As mentioned under I-513, the private sector agents most relevant for R&I in the FSNA sector are smallholder farmers. Promoting results uptake by this group is central to most AR4D programmes. Evidence of results uptake by this group is addressed in more detail under I-544 and I-547.

The Mid-term Evaluation of the ACP SRP is critical of the overall impact of the programme. The breeding programmes supported by the ACP SRP have a long lifespan. This makes it difficult to assess if there will be good private sector uptake of results. The projects were granted an extension to increase the impact of the projects in the commodity chains.

In Chile the support to improving Innovation and Competitiveness policies has allowed for greater SME participation. The Mid-term Evaluation of the I&C programme indicates that the projects have had an impact on the competitiveness of the horticulture sector, regional development and strengthened the competitiveness of SMEs.

Peru *c-231144* and *c-231116* Monitoring Reports indicate that the projects are contributing to small-scale alpaca breeders. The project for the reconversion of the production of South American camels in the poor high-Andean zones of Ayacucho and Huancavelica reports better management of pastures and better animal health through improved breeding, feeding and other new techniques. The PAQOCHA project also impacted directly on development processes, e. g. through the development of the value chain of alpaca meat and fibre which was part of the joint development, implementation and evaluation of a 'Local Economic Development Plan'. The kamayoc played in an important part in

[12] Herhaus, G., Tigneh, A. and Teketay, D., December 2014, Coffee Sector Development Strategy for Ethiopia. Final Report. Contract N° 2013/304567. AGRER Consortium & Delegation of the European Union to Ethiopia.

improving the knowledge of farmers on the health of the animals. Better local polices on e. g. pasture management has also contributed to better health of the animals (Peru CN).

The project to organise a local innovation and agricultural extension system for sustainable development of alpaca activities increased production and better quality meat and fibre from the alpacas thanks to improved pasture, health and breeding techniques. Both the projects facilitate the formation of farmers' organisations that can participate in regional platforms, where (policy) dialogue with local government, governmental institutions and private sector is facilitated. The CIP project activities contributed to restoring potato diversity and virus free local varieties in poor farmers' communities, increasing food security and income generation and empowering local communities (see more details in the Country Note for Peru).

In Ethiopia the Coffee Improvement programme has led to better landraces; better trained and better equipped extension and research staff; collecting coffee genetic resources and more distribution of seedlings, improving the availability of new planting material, which helps to maintain and increase coffee yields and strengthens the coffee quality capacities of the coffee system (Ethiopia CN). Under the CIP, 11 new coffee varieties were developed. The combination of applied research and extension has maximised the impact of the programme on development processes. Interviewees mentioned that, farmers today use no other coffee varieties than the CIP varieties, indicating a strong uptake of research and innovation results by end users. Yet, applied research will need to continue to take place and be linked to extension services to maximise developmental potential (Ethiopia CN).

In Kenya the *Arid and Semi-Arid Land Research Programme* and related Agricultural Productivity Research Project aim to generate practical knowledge and technologies for sustainable agricultural development in ASAL (Arid and Semi-Arid Lands) regions, and also include stakeholders in the design and implementation of research. Similarly, the project aimed at the restoration of the Mau ecosystem aimed at providing alternative forms of income to relieve forest degradation. In semi-arid regions under the KASAL project, a partnership was established with East Africa Malting Limited, a subsidiary of East Africa Breweries Limited, to produce sorghum beer. This resulted in KeSh 105 million of sorghum being delivered to the brewers – a substantial income gain for the farmer producers. KASAL popularised new varieties of cassava developed by KARI, benefiting an estimated 9,000 farmers. Amarenth cultivation was promoted in semi-arid regions, substituting for imports from India and Uganda and improving the nutrition of vulnerable groups and promoting food security. KASAL also contributed to improvements related to cowpeas. In the area of livestock, KASAL contributed to improved range reseeding and pasture management and chicken vaccination. All activities saw research results disseminated, supported, and commercialised (Kenya CN).

The surveys of the GPARD project created interlinkages between the farmers participating, increased awareness and appreciation of traditional knowledge and stimulated the discussions around actions to be developed. ICRAF's research into genetic resources to integrate in farming systems led to an increase in production of dairy farmers. Between 1990 and 2005 the additional net income of 205,000 dairy farmers in Kenya that adopted the results was EUR 225/per year per household. Also a market in seeds of these trees, providing income for households, respect in the community and improve the ability to buy farm implements (see more in the Kenya CN). The Pro-Poor Rewards for Environmental Services in Africa (PRESA), also an ICRAF intervention, focused on processes for improving land and water use. The essence was encouraging downstream ecosystem services users (farmers and private companies) to invest in upstream agroforestry in order to improve access to water. It is closely aligned with government processes and there was substantial stakeholder involvement. In the Sasumua watershed in Kenya, the project produced evaluation studies and business analyses to assess benefits and is now looking into funding arrangements to underpin financial sustainability. The DEVCO-financed AU-IBAR project has promoted small-scale apiculture, with the potential to generate large financial returns for farmers (Kenya CN).

The *Trade and Agricultural Support Programme Phase I* (TASP) in Tanzania aimed to contribute to sustainable poverty reduction through trade in agriculture and further develop Tanzania's institutional capacity in the trade area, and to support the propagation of improved tea and coffee varieties. The implementing partners were the Tanzania Tea Research Institute (TRIT) and the Tanzania Coffee Research Institute (TACRI). Purpose was to ensure an increase in tea and coffee productivity, volume, quality and competitiveness through appropriate cost effective, high quality, research and technology transfer.

In Jamaica introduction and use of new techniques and technologies to control pests' attacks were found to be very beneficial to the banana sector. According to the Mid-Term review of the Sugar Research Programme, the probability of research results being taken up by producers is bigger than for other projects funded under the Sugar Research Programme.

EU support in Burkina Faso is considered to contribute to developing practical solutions to the problems farmers face on a daily basis and to adapt these solutions to their conditions. A range of examples is given in the Country Note (see Volume 4).

- The ICRISAT-3 project developed improved millet and sorghum seeds worked with a farmers organisation, which was involved in selecting attributes for the improved varieties (grain quality, hay quality, resistance to diseases, etc.) and in all other phases of the research. Another major component of the project was seed production. Producers were trained in seed production. However, there was little involvement of agro-dealers.
- In relation to the project to *Increase yields of millet and sorghum* led by the University of Copenhagen, the Danish development agency Danida has financed another project to develop the use of plant extracts to protect seeds against pests (viruses and fungi). This project was led by INERA, the *Institut de l'Environnement et Recherches Agricoles*.[13] The EU-sponsored project allowed INERA to further develop the plant-based seed protection technologies and conduct tests and capacity building activities with agricultural producers (including for the production of the treatment products). The seed treatment technologies have yielded sizeable positive results in terms of yield (+17 to +25%). At the time of writing, however, there was not yet an industrial application of this technology.
- In the INSTAPA project, co-operation with food processing SMEs aimed at developing technologies and processes to enhance the nutritional content of food products. Students and SMEs were trained, but the impacts on the food value chains concerned seem limited so far (Burkina Faso CN).

However, the field mission to Burkina Faso also found that the basic institutions that are necessary for the *'mise en oeuvre'* and up-scaling of the results of research are very weak and not endowed with enough means to pro-actively cooperate with and take in findings of the research teams. This applies to farmer organisations, extension services (vulgarisation/animation), service providers, training/education services, private sector organisations, etc. As extension services lack capacity more promising models give a greater role to the private sector (producers organisations or NGOs providing advisory services, or "innovation platforms"). Most research projects lacked participation of farmers and their organisations. Linkages with other key actors and processes are often weak and the key actors and institutions often lack capacity (extension services, certification processes, NARS). Research is not responsive to farmers' needs and priorities (not aligned with national priorities, too linear in approach).

5.4.4 Indicator 544: Evidence that EU supported R&I led to innovation of locally-owned and sustainable solutions for the poorest and most vulnerable in the society

Only four of the 22 EU Delegations reported in the online survey to be aware of a specific innovation that potentially resulted from R&I efforts in their country. One illustrating example from the FSNA sector mentioned new sugar can varieties as innovation under the ACP Sugar Research Programme. The innovation was made by a research organisation and taken up by the sugar can industry, as well as large and small farmers. As a result, it is expected that the latter will generate more revenues through the cultivation of highly productive varieties.

At global level within CGIAR there are centres and programmes that are developing methods to increase local ownership pf agricultural research. The Systems programmes (Aquatic agricultural systems, Humid tropics and Dryland Systems) are the most advanced in integrating this in their programmes' design and implementation, whilst other CRPs can include components of pro-poor methodology (interviews CGIAR and GFAR, CGIAR meeting November 2014). Scaling up can be a bottleneck. The Forests, Trees and Agroforestry evaluation indicates that "efforts in scaling up projects are only incipient. (…) FTA Centres appeared to be struggling with outreach, with applying research on the ground at scale, and were having a hard time with designing and implementing ways to contributing to effectively scaling up."

At regional level the Pro-Poor Innovation ROM indicates that the project has contributed positively to Pro-Poor innovation. Innovations in three countries were realised and several guides on agricultural innovation developed and disseminated. Research capacities in the three countries were strengthened and spaces for policy dialogue on rural development and FSNA policies created. A communication strategy was also developed and implemented broadly.

[13] INERA is one of the four research institutes of the national research organisation CNRST. It specialises in agricultural and environmental research.

The Technology Transfer Action Fiche indicates that the target group of the programme should be the poorest farmers who are normally excluded from the development process. This criterion was not included in the CfP (Mid-term Evaluation). The projects have not linked with Prolinnova, as was suggested in the Action Fiche. Their experience developing many local farmer-led research and innovation systems could have increased the sustainable and Pro-Poor focus of the projects. It appears that ANEP in Bangladesh has involved farmers in all the activities.

Agricultural innovation systems and innovation platforms contribute to locally-owned solutions. The USAID evaluation of ASARECA indicates that although these approaches within ASARECA are being enhanced by broader partnerships and earlier participatory research, application is still uneven.

At country level. the Peru *c-231144* Monitoring Report indicates that the project (*Local innovation and extension system for alpaca sector*) is contributing to the livelihoods of families dependent on the breeding and keeping of alpacas. The training of local extension workers, investing in producers' organisations and improving the policy environment is leading to locally-owned and sustainable development. Pasturing and breeding practices and health and nutrition of the alpacas have improved. Farmers can ask better prices for the wool of the animals. The Peru *c-231116* Monitoring Report also indicates that the alpaca farmers are taking up technologies and breeding programmes are having effect on better and healthier animals. The PAQOCHA project had impact on local and regional policies, e. g. to set up regional alpaca producers' platforms to work together with the *Ministerio de Viviendas* to share agricultural best practices learned in the various projects building on the existing network of tambos (rural health hubs) and to train 'market innovation facilitators', together with the IICA. *Soluciones Práctica*s collaborated with different government institutions like SINEASE, MINAGRI and INIA to invest in national accreditation and recognition of the community extension workers, the *kamayoc*, trained in the PAQOCHA project. The EU provided extra funding to provide for the certification of the *kamayoc* (Peru CN).

The *Bosques del Chinchipe* project in Peru was a reforestation project with a strong natural resources management component. Through an innovative agroforestry approach it has achieved making plots more profitable in a sustainable way. The project started with 500 hectare and grew to 3,000 hectare because local stakeholders saw the benefits of the approach and were very enthusiastic about it (Peru CN).

EUROPAN is another good example in Peru of how collaboration with national and regional governments, non-governmental organisations and private sector can lead to locally owned, sustainable solutions at multiple levels (policy, regulatory and practical solutions) and scaling up. The EU has been able to provide guidance but also space for local solutions to emerge. A strong communication strategy and political sensitivity have been key to achieving these results (Peru CN).

In Burkina Faso, activities to develop the capacity of *Organisations de Paysans Formateurs* (OPF) and *Organisations Paysannes* (OP) have been successful in PASAF, one of the projects funded under the Soil Fertility Programme. Activities to promote innovation like providing knowledge and tools on certain water and soil conservation techniques have led to improved food security and livelihoods (evaluation *c-144084*). The EcoSan-UE2 project has reached good results in using treated human waste as compost, using a multi-actor and multi-disciplinary approach facilitating the adaption of new technology to local needs (evaluation *c-144105*). Impact however is limited because of delays in construction of the latrines in 16 of the villages. The research results on policy (for example seed policies) had little immediate benefits for end-users of the project. The main reason for this, the evaluation found, is that ICRISAT 1 policies were not requested by those REC's and regional farmers' organisations like ROPPA responsible for seed harmonisation, bio safety and seed system protocols (Practical application of CGIAR research results by smallholder farmers).

In Ethiopia, the livelihood programme is in an early stage, but there is evidence of positive impact on household asset building (i. e. increasing access to financial services, more households were doing business). Ethiopian government representatives were present during the closing event of the Livelihoods project. They have expressed their interest in adopting the innovative approach of the project in its own Household Assets Building Programme, although at this stage, it remains to be seen how this will materialise. At the local level, the RuSACCOs and MFIs have expressed their willingness to continue the co-operation, according to a representative of the project's implementing consortium. This is a strong indication that the innovations introduced by the project are being built upon for further development processes (Ethiopia CN).

In arid regions in Kenya, KASAL developed policy recommendations and land management guidelines and contributed to improve productivity and commercialisation related to camels, goats, and sheep. Roughly 5,000 camel keepers and 5,000 goat- and sheepherders benefited from the innovations disseminated. While the follow-on ASAL-APRP project was only begun in May 2012, it aims to capitalise on the research carried out and innovation achieved in KASAL, thereby benefitting 500,000 farmers in arid-and semi-arid regions of Kenya. Despite these successes, a structural weakness identified by

multiple persons interviewed is that, while KALRO has research capacity, it is not responsible for extension activities, which are the responsibility of the Ministry of Agriculture. As a result, outside of pointed efforts like KASAL, research results are not effectively communicated to those who could innovate. The situation is much the same at KEFRI, where it is the Kenya Forestry Service that has the extension capability (Kenya CN).

In short, at global level a methodology for innovation of locally-owned solutions is effectively implemented for one programme by a CG centre. Also at regional level ASARECA's contributions to locally owned solutions are enhanced though not yet fully implemented, the Technology Transfer programme did not make a link to the poorest, but the Pro-Poor Innovation programme succeeded in supporting locally owned solutions. The country level evidence for programmes in Peru, Ethiopia and Burkina Faso indeed indicates that innovation of locally-owned and sustainable solutions for the poor has taken place.

5.4.5 Indicator 545: Evidence that EU supported R&I has contributed to enhancing the research capacity of HEIs and research organisations at regional and national level

At global level the CGIAR has been urged to invest more in partnerships with and capacity building of HEIs and NARES (see DEVCO Research and Innovation for sustainable agriculture and food and nutrition security 2014, Guidelines on AR4D 2008, interviews CGIAR). Individual or institutional capacity building benefits most from long-term partnerships (interviews CGIAR and GFAR). The evaluation of CGIAR's Forests, Trees and Agroforestry CPR (position 1099) indicates that: "Existing project-level partnerships and partnership networks, established by some country and regional offices of FTA Participant Institutions, seemed well-justified and generally value-adding." The evaluation also found that other institutions however, indicated that their own work had only been marginally influenced by the FTA Centres research results.

Current collaboration with NARS varies in its degree of involvement of NARS (see I-513). Financial incentives for CG centres to channel part of the funding to NARS are low. Only some, e. g. the Climate Change CPR (CGIAR Research Programme), have integrated this in their budgets. The proportion of funding from CGIAR to partners (research and non-research) has remained at 17% (GFAR Draft Minutes of the 29th Steering Committee 2014) after the reform. There is no specific component within the CGIAR system that monitors the quality of partnerships with NARS. Interviewees within CGIAR assume that holding the CRPs accountable for impact will be an incentive to form qualitative partnerships 'down the impact pathway'. Independent Science and Partnership Council (ISPC) and Consortium indicate that there could be a role for them (interviews CGIAR and GFAR).

At regional level the Mid-term Evaluation indicates that the ACP Sugar Research Programme contributed to the research capacity of sugar research organisations and their output not only through the funding of research but also providing (overseas) training and organizing workshops. The sugar research institutes are based in Mauritius, Fiji, Swaziland and Jamaica.

The MDTF Fifth review mission June 2012 indicates that ASARECA provided support to five institutions strengthening their research infrastructure and providing training for 2,889 persons. Through joint programming ASARECA is capable of strengthening research capacity of agricultural research organisations directly, because regional scientists participate in cutting-edge science (ASARECA USAID evaluation and interviews CGIAR and GFAR). It is recommended that this approach should be replicated more broadly.

At country level:

- For Peru, the *c-231116* description indicates that the project aims to strengthen local universities and agricultural research organisations to become centres of modern and innovative technology and strengthen the research capacity of staff to produce certified germ plasm. In the Monitoring Report there is no mention if the research capacity is indeed enhanced.
- In Uruguay the Innovation and Competitiveness programme is contributing to improving research infrastructure and services and developing technology platforms at three first class research institutes (Insitute Pasteur, *Parque Industrial Technológico de Pando PTP* and *Centro de Ensayos de Software CES*). Also, it is contributing to capacity strengthening of highly qualified human resources and the organisation of networks of technology transfer and support (D-19040 Monitoring Report).
- The KASAL (Kenyan Arid and Semi-Arid Land Research Programme) programme aims to contribute to strengthening the institutional capacity of one of Kenya's main research institutes, KARI (D-17913).

In summary, the assessment of the capacity building efforts at global level by the CG varies from adding value to only marginally influencing research results. Regional capacity building support of espe-

cially ASARECA stands out as being effective and also at country level several instances of enhanced research capacity of research organisations have been found.

5.4.6 Indicator 546: Contribution of EU supported R&I on research output of HEIs and research organisations

At regional level, the support to ASARECA, with its model of channelling funds to regional and national research organisations through the Competitive Grant System, has contributed to research output of the organisations that get the grants. Encouraging results are being reported, and the implementation of these projects is to be participatory in nature and should allow farmers and end-users to have choices regarding the innovations and technologies they want to test. Together with the regional aspects of this collaboration, this could make the research output of these research organisations higher and possibly of better quality (MDTF Fifth review mission June 2012).

The Mid-term Evaluation of ACP Sugar Research Programme indicates that it contributed to the research capacity of sugar research organisations and their output not only through the funding of research but also providing (overseas) training and organising workshops. There is no detailed information on these workshops in the Mid-term Evaluation and there are no ROM reports available for the separate projects that could provide this information.

According to the Pro-Poor Innovation ROM the programme has catalysed institutional processes within CIP (CG Centre) and the other partners. The programme has helped consolidate the transition within CIP to a model of research and development. The CIP has adopted the Pro-Poor innovation and health and nutrition as strategic objectives. New methodology and partnerships have also contributed to the consolidation of this transition.

5.4.7 Indicator 547: Evidence that EU supported R&I has contributed to relevant programme objectives and MDGs

At global level CGIAR is one of the world's main players in the field of agricultural research for development. CGIAR invests a lot in being able to show their donor's support has contributed to programme objectives and MDGs (DFID's support to agricultural research, interviews CGIAR). Limitations and difficulties of the CG system in addressing central issues like capacity strengthening, research uptake and impact assessment are discussed in the Case Study.

At regional level ASARECA's second Operational Plan 2014-2018 reports the impact of the implementation of the first Operational Plan (2008-2013) on rural households, smallholder farmers and other stakeholders, which all contributes to MDG 1 in particular. "364 Technologies, innovations and management practices (TIMPs) were generated or improved to suit farmers' demands. (…) ASARECA contributed to enabling policy environments through review of existing policies, laws, regulations and management practices. (…) As part of enhancing capacity strengthening of national agricultural research systems (NARS), over 400 assorted infrastructures were provided to targeted partner institutions. At the same time, over 280 different partnerships were formed. Over 60,000 persons (34,009 male and 30,887 female) were trained." The MDTF Fifth review mission aide memoire June 2012 (p. 4) indicates that "quality of science of ASARECA's projects and activities is high and with potential for achieving impact, if technologies are sufficiently validated, up-scaled and adopted."

The Pro-Poor Innovation programme (IssAndes) is in many ways in line with the new approaches for AR4D identified in the 2008 Guidelines on Agricultural Research for Development and the 2014 DEVCO Research and innovation for sustainable agriculture and food and nutrition security. The programme stands out because of its integrated approach, combining agricultural and commercial innovations with positive impact on availability, stability and access to healthy food, contributing to MDG 1. The effective partnerships with NGOs, private sector, local government and farmer organisations strengthen the uptake of research results. Its elaborate communication and knowledge strategy contributes to scaling up the impacts, for example by systematization of experiences and diffusion of best practices. It is one of the few programmes incorporating the intended increased efforts on nutrition.

The Mid-term Evaluation of the Technology Transfer programme gives several reasons why the six projects funded through the programme are not contributing to the programme's higher objectives. The main reason for this is that a programmatic approach was not adopted. Three of the six projects have good prospects for effectiveness and impact and are reaching large numbers of beneficiaries, but there is no synergy between the projects. Other guiding principles highlighted in the 2008 Guidelines could have been implemented better; for example a demand-driven approach, strengthening public institutions and ensuring participation of multiple stakeholders (in the design of the programme).

ASARECA has made significant contributions generating, adapting and dissemination technologies and innovations (ASARECA MTR Oct 2011). Because of their regional focus they have an added value for example spill-overs across countries, between commodities and across-trade technology (seed policy harmonization and germ plasm exchange). They play an important part in capacity strengthen-

ing of NARS. They have applied the multi-stakeholder innovation platform approach, which increases the potential for results uptake significantly; although it is recommended they apply the approach more evenly (ASARECA USAID evaluation).

At country level the monitoring reports from the two food security projects in Peru (*c-231116* and *c-231144*) rate the relevance, impact and sustainability of the projects as good or very good. Also, when comparing the approaches of the project with the 2008 Guidelines on Agricultural Research for Development the projects used inter-disciplinary, systemic and integrated approaches. Both of them facilitated learning between farmers and researchers. The innovation system approach linked the communities with researchers, local governments and markets.

In Uruguay, according to the monitoring report, relevance, impact and sustainability of the programme are good. The National Innovation System is strengthened with the programme half underway and the three research organisations are contributing to the overall goals of the programme. The KASAL and ASAL-APRP (Agricultural Productivity Research Project) programmes in Kenya have contributed to generating practical knowledge and technologies for sustainable agricultural development in arid and semi-arid lands. Stakeholders participated in the design and implementation of the research (Kenya CN and websites).

On a whole the FSNA related R&I has often a direct impact on especially MDG 1, but also on MDG 8 and in most cases the support is well-aligned with the relevant FSNA programme objectives and the AR4D approaches of the 2008 Guidelines on Agricultural Research for Development. In the case of both CGIAR and the Technology Transfer programme, difficulties and limitations are found with implementation of for example capacity development objectives, research uptake and applying a demand-driven approach.

6 EQ 6: EU capacities

To what extent have the EU external relations services ensured adequate capacities to conduct policy dialogue related to R&I and to support research and innovation in partner countries?

6.1 JC 61: Extent to which EU internal capacity to manage R&I support and conduct policy dialogue is in place at the levels required

Summary judgement

Evidence collected and analysed shows that at DEVCO, RTD and EEAS (European External Action Service) the internal staff capacity to support R&I is limited. There is no dedicated R&I desk at HQ in DEVCO so R&I work is handled in thematic units. Currently there is only one counsellor for Africa. This could be particularly problematic for Agricultural Research for Development (AR4D), as the European research and agricultural areas are well organised and promote well-defined approaches to research and agricultural research for development, respectively. Also in RTD, a capacity shortage is noted with for example only one S&T Counsellor available in Ethiopia for the whole of Africa, and one for South Africa.

In the relationship with the CGIAR, however, evidence of well-defined and consistent support to push for reform and align CGIAR programmes with EU development policy and AR4D good practice as recognised in Europe, suggests adequate capacity and strong linkages with international and European agricultural institutions at the DEVCO HQ level. At the regional level, some evidence of disparities in the quality of programme design and implementation of regional programmes points at a possible hiatus in internal capacity to manage R&I support.

At the country level, there is very limited evidence on the capacity of the available staff to organise the policy dialogue around R&I related to FSNA. Some countries are included in RTD political dialogue (e. g. Burkina Faso, Ethiopia and Algeria). Mauritius has been active in policy dialogues, though not specifically on R&I and in Peru such dialogue is just starting.

6.1.1 Indicator 611: Evidence of suitably qualified staff formally designated and actually deployed as R&I support at country, regional and HQ level

FSNA falls under the Directorate of Sustainable Growth and Development of DEVCO. C1 is the Unit that deals with Rural Development, Food Security and Nutrition. The level of FSNA R&I expertise at

HQ is adequate, judging from the content and evolution of the strategy documents regarding AR4D like the Guidelines on Agricultural Research for Development (2008) and the most recent guidance paper on AR4D 'Research and Innovation for sustainable agriculture and food and nutrition security' (2014). Thinking on R&I is quite elaborate and keeps up with fast-changing insights in the field of AR4D, e. g. on innovation systems, the importance of extension services and agro-ecology. Input from staff at high level policy meeting such as the CGIAR Fund Council are appreciated and, according to one interviewee, indicate a solid backing of delegates at HQ level.

However, the capacity of *DEVCO* staff to support R&I is limited, as there is no dedicated R&I desk or staff (R&I work is handled in thematic units). Besides of the lack of staff, their rotation (they take different positions every five years) and the individual viewpoints, being pro-research or not, influence DEVCO's capacity. A former staff member in DEVCO had a clear concept of the role of R&I in FSNA and persuaded DEVCO and RTD colleagues to give it a higher priority. Although, for the moment, FSNA is clearly a higher priority, the sustainability is questioned. No evidence was found on the designation and deployment of R&I support at regional or country level.

An interviewee from *RTD* notes there is a capacity shortage, all the more since a lot is being outsourced to the agencies, particularly as RTD is now becoming a policy DG. However, according to an interviewee from DEVCO, it is more an issue of knowledge, rather than capacity. In EEAS there are two persons working on R&I but not exclusively. Their focus is on Americas, Neighbourhood and the global level, but not much on Africa (interviews).

The global level represents 32% of the total contracted amount for R&I in the FSNA sector. By far the largest amount goes to the Consultative Group for Agricultural Research, CGIAR, and also to the Global Programme for Agricultural Research for Development (GPARD), directed specifically at non-CGIAR research institutions. This means especially the CG, but also GPARD manage large parts of R&I support in the area of FSNA for the EU.

At regional level, the EU contributes money and technical assistance to trust funds or budgets run by regional organisations and platforms (like SADC, ASARECA, FARA) to conduct own R&I themselves or finance other organisations or platform to implement Research and Innovation programmes and/or projects. This regional support accounts for 39% of the total contracted amount by DEVCO for FSNA R&I.

At national level the EU funds international, regional, EU and non-EU (public, private, non-governmental) organisations to contribute (with technical assistance, partnership, capacity development) to strengthening the delivery of national public goods in developing countries. This national level accounts for 29% of the total contracted amount by DEVCO under FSNA. National EU or non-EU contractors absorb most of it (23% of the total amount contracted).

Outsourcing planning and management of programmes is a way of economising staff hours. Ways of outsourcing programmes differ and require different capacities at their respective levels. High level expertise as in the case of the CGIAR reform appears to be adequate. DEVCO is able to follow up on these programmes.

At country level R&I issues relating to FSNA are dealt with by EUD staff next to their regular development co-operation work. At national level S&T Counsellors are deployed in a limited number of EUDs: 16 of them in partner/developing countries: African Union (EUD Addis), Brazil, Cambodia, China, Colombia, Egypt, Georgia, India, Indonesia, Laos/Thailand, Malaysia, Philippines, South Africa, Ukraine, Venezuela and Vietnam (RTD List 2013 – those underlined are covered by Country Notes in this evaluation, see Volume 4). Otherwise, S&T issues are generally dealt with by the EUD Operations staff alongside their regular development co-operation work.

- At the EU Delegation to Ethiopia, there is no real capacity to deal with R&I issues except to the extent that they arise with other co-operation activities as part of support to a specific sector. There is no single staff member responsible for R&I specifically, although many staff members are dealing with R&I activities through other sectoral work (e. g. on food security). The limited staffing designated to R&I limits the extent to which a policy dialogue on research and innovation can take place at a more structured and strategic level. The EUD to the AU appears to have adequate capacity to engage with the AUC at the Addis level on the main R&I/S&T issues supported but capacity to cover the whole of Africa is severely limited. DG RTD has only one R&I S&T Counsellor responsible for co-operation with the whole of Africa. He is based at the EU Delegation to the AU. The EUD-AU also had one staff member each dealing with the AU Research Grants and MESA, though both also had other responsibilities (Ethiopia CN). South Africa is the most important, to which 20 per cent of the Counsellor's time is dedicated. 80 per cent is for all-Africa, and the North African countries are less under his ambit and dealt with more by Brussels as well as the EUD in Cairo. The counsellor covers all potential areas of R&I, the priority of his work has been to focus on FSNA since 2011 (interview).

- For Kenya, which benefits from many FP7 projects, RTD has a small network of national contact points, and it is also part of RTD INCONET project (interviews). There is one programme officer for rural development and another who handles the Environment and Climate Change portfolio. In these areas, the capacity of the EUD was judged to be adequate. However, there is no one tasked with following R&I or S&T as a whole. Ministry officials interviewed perceive that the EUD is more interested in development than R&I, while EUD staff perceive that while government prioritises food security results, it is the EUD that encourages more attention to related R&I. At regional and global level the EUD in Kenya is unable to exercise any co-ordination over global activities such as CGIAR because funding comes directly to these programmes from Brussels (via IFAD in the case of CGIAR). As a result the EUD is not aware of related activities, it is reported, neither is the Government. By contrast, most AU-IBAR regional projects are managed by the EUD and staffers interviewed were very knowledgeable on, e. g. the AU-IBAR bee health project. At both CGIAR institutions visited, staff were of the view that the EUD has reasonably good capacity to deal with the subject areas in which they are active. However, they also felt that better communication and co-ordination, such as annual meetings to compare notes and share experiences, would be desirable (Kenya CN).
- In Jamaica, EUD capacity to conduct dialogue at a technical level was constrained by the lack of specific technical expertise.
- In Burkina Faso, the capacity of the EU to manage R&I support and conduct policy dialogue does not appear to be a problem, as the EUD is generally not involved in EU R&I support programming and R&I is not an EU priority in co-operation with developing countries or an item for policy dialogue at the country level. As a consequence, R&I partners experience no support from the EUD; some have sought to inform the EUD about their (FP7) project, but were told that was not necessary. National partners are surprised that the EUD does not even have the needed papers and forms available, nor is it able to provide advice on how to fulfil EU funding requirements. If support is given it is on an individual basis (Burkina Faso CN).
- In Mauritius, the EUD has not engaged fully with the FP7 programme and interaction with the RTD has been sparse. The EUD assesses its own capacity and staffing to be highly inadequate to cope with all the tasks of the Delegation and hence also the R&I related tasks. For the NIP 2014-2020, the focal area will be mainly tertiary education, research and innovation. This is because R&I has a potential for job creation and features prominently in the new Government programme. A national Ministry dedicated to Research and Innovation has been set up (Mauritius CN).
- In Peru there is no specific capacity at the EUD to manage R&I but 80% of the development projects they manage contain R&I components. There is evidence that the EUD lacks capacity to monitor the projects, especially the projects with a regional approach. According to some sources, the EUD has little/no presence in technical meetings, for example the MINAM that calls regular expert meetings with development partners on environmental issues. There is not sufficient capacity dedicated to support R&I on a regional level.

An extensive network of Science Counsellors around the world is lacking, particularly in Africa, where the Counsellor's post lacks a Science Counsellor for South(ern) Africa. Also, the current post in (and for) Egypt lacks the strength and does not include all of North Africa. The Counsellor at the EUD to AU in Addis lacks a focus on West, Central & East Africa, and lacks the capacity to ensure overall co-ordination of activities across the continent (interview).

The evaluation could not establish if knowledge sharing on R&I for FSNA between the DEVCO Rural Development, Food Security and Nutrition Unit and the Geographical Units (Unit D, E, G and H[14]) is adequate and if apparent flaws in and communication and co-ordination between Delegations might be attributable to understaffing at Delegation level. An example of flawed knowledge sharing and lacking communication and co-ordination at EUD level is the Technology Transfer for Food Security in Asia Programme. The Call for Proposals for the Technology Transfer programme was done centrally and project management of the six actions following from this programme is done by the local EU Delegations. Evidence suggests many lessons learnt regarding pro-poor, demand led research and innovation and the strengthening of agricultural research and innovation networks were not taken on board in the design of the Call for Proposals and subsequent implementation. There is no significant level of communication and co-ordination between these delegations, despite the multi-country nature of the actions in this programme (Mid-term Evaluation). Communication with the stakeholders seems also problematic. It is unclear if stakeholders have had the opportunity to see the draft Mid-term Evaluation

[14] https://ec.europa.eu/europeaid/sites/devco/files/organisational-chart-01-01-2015_en.pdf

of the Programme. Only two of the contractors reported they were informed. In general, the design and implementation of the Technology Transfer Programme are below standard.

6.1.2 Indicator 612: Staffing (both designated and deployed) adequate for effective policy dialogue

Input from DEVCO staff at high level policy meeting such as the CGIAR Fund Council is appreciated and, according to one interviewee, indicate a solid backing of delegates at HQ level. Both the Head of the Directorate General and the Head and Deputy Head of the Rural Development unit participate actively in various policy dialogues such as the *Conférence Mondiale pour le Cacao*, the AU Ministerial Meeting on behalf of the CAADP development partners and the CGIAR Funders Forum.

At the country level staffing follows country priorities. In Burkina Faso, R&I does not form part of the policy dialogue between the EUD and the Government. Research is not seen as a priority for development (Burkina Faso CN). Some countries are included in RTD political dialogue (Burkina Faso, Ethiopia, Algeria), but there is no pursuit of bilateral co-operation with those countries (interview). The counsellor in Addis is involved in a High Level Policy Dialogue on FSNA with the AU and this made the RTD co-operation opportunities between European and African researchers more strategic and joint (EU-Africa).

In Mauritius, the EUD has participated in policy dialogue on several subjects targeted by EU development assistance, including climate change, green economy and renewable energy. Following the dialogues, the Government of Mauritius prepared very relevant strategies and plans, including 'Sustainable Mauritius', 'Green Economy in Mauritius', 'Renewable Energy in Mauritius' and a component under the Switch Africa Programme. Whereas the policy dialogues have not necessarily been specifically R&I oriented, R&I constitute an important element in any plan for sustainable development and green growth. Researchers are reported to the conscious of the strategies and are gearing their research to this end (Mauritius CN).

In Peru policy dialogue on how to support the incipient Peruvian national innovation system is only just taking off. DEVCO staff is not taking the lead in these issues. The ambassador of the EUD has offered to facilitate dialogue between research programmes managed by European Member States and CONCYTEC (Peru CN).

6.2 JC 62: Extent to which R&I policy dialogue is operational at all levels

Summary judgement

There is frequent reference to policy dialogues in general in the strategic documents analysed (see I-621). Many documents mention the importance of involving stakeholders in consultations and dialogues. Global and regional programmes such as GFAR, ASARECA and Pro-Poor Innovation actively aim to strengthen spaces for dialogue and actively participate in these. The ACP Sugar Research Programme is an exception to this, since no reference is made to R&I featuring in the otherwise active EU-ACP dialogue on the Accompanying Measures for Sugar Protocol Countries.

At country level, no R&I stakeholders seem to be actively involved in sector policy dialogues (I-622). Evidence that stakeholder dialogues help matching country and regional needs with appropriate EU programmes for R&I support was found in Burkina Faso where this dialogue was initiated by the project implementers themselves (I-623).

The extent to which R&I policy dialogue is operational must be seen in the light of priorities set at different levels. Global and regional policy dialogues of relevance to the CG system (GFAR) directly influence how DG DEVCO R&I funding is spent by the CG Research Programmes. At national level, the dialogues follow priorities set by the country and/or development partners. Where R&I is not seen as a priority for national development, as in Burkina Faso, it is not part of the policy dialogue. Where countries attach more priority to R&I, it is part of policy dialogue and for that the EUD lacks the R&I capacity. These latter countries may be those where DEVCO programmes may be phasing out (such as Peru).

6.2.1 Indicator 621: Sector policy dialogues feature R&I at country and regional level

Most evidence found refers to policy dialogues in general, not so much in relation to R&I. Two sector budget support programmes are relevant to the FSNA sector: PROAGRI in Mozambique and *Programa Articulado Nutricional* (PAN) in Peru (see I-121). The Mozambique food facility sector policy support programme to PROAGRI II (*D-21859*) is based on policy dialogue within the agriculture, but just as for Peru's PAN strategy (*D-21564*) no evidence is found of R&I results used in this dialogue.

At the country level, the CSP Chile mentions that the policy dialogue on higher and vocational education had very positive results. In Uruguay, there is evidence that policy dialogue at inter-government

level between private sector stakeholders, government and research institutes is strengthened through the Uruguay INNOVA programme (*D-19040* Monitoring Report 1).

The MIP Mauritius (2011-2013) mentions that the EU has held regular dialogues with a wide array of stakeholders, and that this dialogue in the context of programming for the accompanying measures has been extended to include for example the private sector and small planters' associations. No mention of R&I is made however and the stakeholders mentioned do not include R&I related stakeholders such as the Mauritius Sugar Industry Research Institute (MSIRI). Also in Peru, Kenya and Burkina Faso, there is no evidence that there is an active policy dialogue regarding R&I policy or priorities in which the EUD is involved (Peru, Kenya and Burkina Faso CNs). Informal R&I dialogues, where they take place, are driven by research teams involved in projects (Burkina Faso CN).

Regarding sector policy dialogues at the regional level, the ACP Sugar Research Programme does not mention sector policy dialogue influencing the design of the Programme or maintained during implementation of the projects, as is the case with the ACP S&T Connect programme (Financing Agreement, Mid-term Review). According to a ROM report, Pro-Poor Innovation has influenced national sector policy dialogues on Health and Nutrition in Ecuador and Peru and albeit less successfully in Bolivia (Monitoring Report 2013). ASARECA's Annual Performance Report 2011 indicates that the findings of policy research on the diary sector will be fed into policy dialogue.

6.2.2 Indicator 622: Sector policy dialogues include R&I stakeholders at country and regional level

At the country level, the EUD survey shows that academic and research organisations participated in four of the nine policy dialogues reported by the respondents. No further specific evidence of R&I stakeholder participation in sector policy dialogues was found at country level.

For the regional level the Andes Pro-Poor Innovation Programme has been able to create and strengthen local and national policy dialogues (ROM 2013). Furthermore, ASARECA aims to be part of the group of R&I stakeholders involved in sector policy dialogue, as indicated in its operational plan: "ASARECA representation at high-level, regional, agriculture-related fora at COMESA ministerial meetings and AU/NEPAD will be treated as a high priority to increase its ability to engage and influence high-level policy processes in the sub-region" (Operational Plan 2 2014-2018, p. 21).

For the global level, FSNA sector policy dialogue is organised by GFAR who aims to identify key current and future priorities in agricultural research through dialogue between sectors and stakeholders and advocate for key needs. One example of this is that GFAR managed the explicit inclusion of farmers' rights in the Intellectual Assets Principles of the CGIAR (GFAR Annual Report 2013). ASARECA participated in a GFAR-sponsored side event about the practical application of farmers' rights policies.

The second Call for Proposals for the CGIAR Research Programs, in line with EU AR4D policy, will put much more emphasis on multi-stakeholder consultations at the national and regional levels by organising national consultations in twenty countries where CGIAR expects to achieve significant impact (CGIAR Draft CRP Second Call for Proposals 2014).

GPARD is to support policy-making on the basis of its research results relevant to smallholder farmers' food security through dynamic innovative systems. It is assumed that largely through GPARDs partners, national policy makers will be informed and guided by the GPARD (workshops, conferences, etc.) in the development of policies and budgetary allocations to promote agricultural innovation for smallholder farmers in order to improve food security, to enhance the adaptation/mitigation to climate change and to strengthen economic development. Evidence based information is however lacking regarding the type and level of policy support to be provided by the GPARD due to the early stage of the projects.

6.2.3 Indicator 623: Evidence that sector policy dialogues help matching country and regional needs with appropriate EU programmes for R&I support

No evidence was found that policy dialogues help to match country and regional needs with appropriate EU programmes for R&I support in the FSNA sector.

6.3 JC 63: Extent to which the EU facilitates R&I activities at all levels

Summary judgement

Networking, visibility and dissemination of research results is mentioned in the strategies of national and regional programmes (CSP Chile, CSP Mauritius, Technology Transfer Action Fiche, Pro-Poor Innovation programme proposal). The success of these networks, visibility and dissemination strategies vary according to design and implementation of the different programmes. Practical support is given in some of the countries by the EUD though quite some limitations in terms of reach and efforts

to coordinate and communicate are noted. In most middle-income countries, such support can be organised as part of a conscious policy effort and implementation of the national innovation system by the national government. In low-income countries this is less likely and there is a lack of an active role of the EUDs. GFAR and ASARECA serve as facilitators of global and regional research co-operation and creating partnerships between institutions and sectors.

6.3.1 Indicator 631: Informing about available opportunities at country and regional level

All project grants contain clauses relating to visibility and communication and some projects have clear information and dissemination objectives (e. g. Pro-Poor Innovation and Technology Transfer). There is no clear evidence on DEVCO effort informing explicitly about available R&I opportunities at country or regional level.

The ambition to stimulate Chilean participation in the FP7 is however mentioned in the Mid-term evaluation of the Innovation and Competitiveness Programme. One of the objectives of the Chilean Innovation and Competitiveness Programme is to increase the number of Chilean universities and SMEs participating in action under the EU Research Framework programme.

Many Burkinabe partners (researchers, policymakers, farmer organisation, training institute) indicated the need for more and better communication and support for national partners to attract EU R&I funding. The limited role of the EUD herein was frowned upon (Burkina Faso CN).

For FP7 Peru was not chosen as an 'eligible country', so there was no co-ordination or communication from the EUD on it. Recently, the EUD has started to invest more in facilitating and communicating about R&I opportunities and activities for the Horizon 2020 programme. Also on the part of the Government, for Horizon2020, there is much more co-ordination since 2014. With support of the EUD, CONCYTEC organised the official launch of the Horizon2020 programme and other information sessions for research institutes and universities. CONCYTEC mentions that they are receiving the work plans of H2020 too late to be able to generate proposals in time. For example, they receive the information in Oct 2015 for the work plan of 2016/2017 (Peru CN).

6.3.2 Indicator 632: Network activities of R&I stakeholders are operational at country and regional level

Network activities feature frequently in project documents. Evidence points at some programmes like the Pro-Poor Innovation Programme (ROM) actively organising network activities and others creating a Coordinating Unit like the ACP Sugar Research Programme in Mauritius. The Mid-term Evaluation of the Technology Transfer Programme notes that networking between the projects has not happened sufficiently, partly because co-ordination between the projects did not seem to have an added value. "They are not aware of each-other's programmes and therefore have not been sharing experiences or learning lessons. The level of networking required for this is very basic and does not require a formal set-up such as component 2" (p. 100).

GFAR and ASARECA aim to serve as a facilitator of global and regional research co-operation and to create partnerships between institutions and sectors (GFAR Annual Report 2013 and ASARECA Working Plan 2014-2018). The Mid-term Review of the Operational Plan of ASARECA (August 2011) indicates that ASARECA should invest more in its network and platform function. The network function is suffering from increased efforts on the competitive grant scheme ASARECA has run in the first Operation Plan. An example of GFAR's platform function is the leading role it took in the Gender in Agriculture Partnership. It links all the major global and agricultural research organisations like FAO, World Food Programme WFP, the CRPs, IFAD, World Bank and the international agricultural fora (FARA, APAARI, etc.) that have committed to catalyse change within their own institutions and organisations. GFAR will be a strategic partner for the CGIAR in the consultations accompanying the second call for proposals for the CGIAR Research Programmes (interviews CGIAR and GFAR).

In Burkina Faso, the partners involved in R&I projects are varied, representing most categories of relevant actors. However, there is little involvement of value chain operators (seed companies, food processors, etc.) (Burkina Faso CN).

6.3.3 Indicator 633: Practical support (including advice) for R&I stakeholders during the application process for and with the administration of EU R&I programmes

Evidence suggests that some contractors have encountered problems handling the administrative burden of the European grant system. This is pointed in the ACP Sugar Research Programme Mid-term Evaluation: "All projects report delays in the starting phase due to a lack of understanding of EU and PRAG procedures. The understanding of those rules had generally been underestimated at the moment of the projects' design. (…) Nevertheless, unfamiliarity with EC procedures has affected the overall programme implementation at a country level". There is no mention of practical support given.

The Mid-term Evaluation of the Technology Transfer Programme notes an overrepresentation in the selection of projects funded of countries in the region with food security as a bilateral focal sector (Bangladesh, Laos and Cambodia representing 74% of the commitments). The study team of that evaluation indicates that this could mean that other country Delegations have less capacity to inform possible contractors on the Call for Proposals.

In Burkina Faso, for the *Fertipartenaires* project the EUD quality control of project logframes is found to be insufficient and capacity at EUD to improve this is questioned, however, communication with and support of the EUD was flexible; adjusting EU procedures to the distinct features of the Action Research Partnership (Burkina Faso CN). Regarding GPARD projects, the EUDs in the respective countries are not informed about the existing activities, despite the fact that the project coordinator sends quarterly e-mail updates to several stakeholders (Kenya CN).

In Ethiopia the EU facilitates R&I activities within the confines of the sectors which it supports (agriculture: example of coffee sector), but it does not engage more widely with the Government on R&I issues and its efforts to publicise the availability of EU research funds are limited. There is neither an apparent EU engagement with the Ministry of Science and Technology nor explicit support to the Ethiopian Government's 2012 S&T Policy. On the other hand, on a sectoral basis, the EU engages directly with the Ministry of Agriculture and is very supportive to agricultural (particularly coffee) research in the country over many years. Limited efforts are made to publicise EU research fund on a generic level. Thus the EU has organised a training workshop on FP7, which was welcomed by Ethiopian researchers and the wider research community in Addis (Ethiopia CN).

In Kenya as there is no one at the EUD specifically tasked with the R&I portfolio. Ministry officials interviewed perceive that the EUD is more interested in development than in R&I, while EUD officials perceive that while government prioritises food security results, it is the EUD that encourages more attention to related R&I. It is reported that, while there are occasional contacts between the EUD and CGIAR (e. g. board meetings) EUD involvement is minimal (Kenya CN).

6.3.4 Indicator 634: Practical support for R&I stakeholders in the dissemination of research results

Limited information was found about the extent of dissemination of R&I results by the stakeholders. Mostly, references are made to the ambition to disseminate results, or to the recommendation to improve this. For example, dissemination of results and lessons learnt is recommended in the Mid-term evaluation of the Chilean Innovation and Competitiveness programme. Dissemination of research results is one the objectives of the ACP Sugar Research Programme. However, most projects are only in the early phase of research. So, no evidence is available on the extent to which this indeed happened, or whether the EUD supported R&I stakeholders in this dissemination.

The Mid-term evaluation of Technology Transfer indicates that this programme has actively disseminated research results and research experiences. Technology Transfer has created a separate organisation to take care of dissemination (SATNET). SATNET has set up a website (satnetasia.org) and has moderated discussions on private sector and civil society in linking research and extension. Both the Monitoring Report on SATNET and the Mid-term Evaluation indicate a lack of vibrant discussion and active participation, especially of grass root farmers and local governments.

The ROM for the Pro-Poor Innovation Programme indicates that a wide array of communication tools are used such as disseminating information on the nutritional value of the indigenous potato at gastronomy events in Peru and publishing different publications. A lack of a clear communication strategy is however noted. There is no evidence of practical support from DEVCO HQ or EUDs supporting the development of such a strategy.

The information flow from CGIAR researchers to end-users is poor; research results are not easily available and often only in English (Burkina Faso CN).

Part B

Health

Part B – Health

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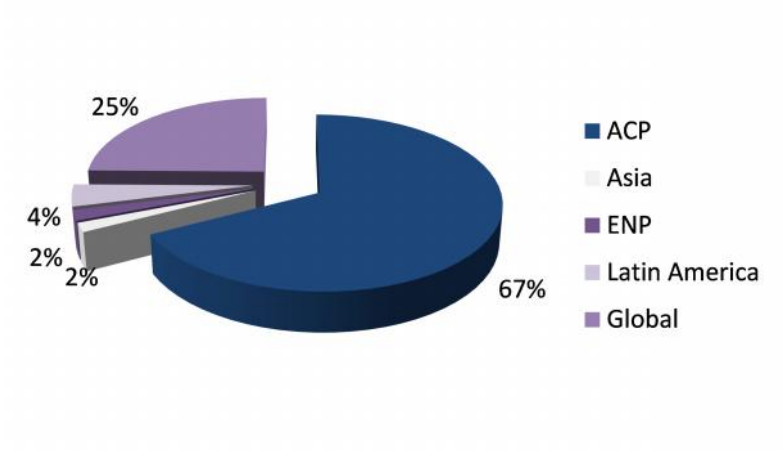
Sector introduction Health

Overall introduction

While health has been a qualitatively significant area of co-operation in Research and Innovation (R&I) of the European Union (EU), it has been less so quantitatively. With EUR 59 million and 5% of all R&I contracted sampled in the Common RELEX Information System (CRIS), Health is the smallest of the four sectors examined here, accounting for only 44 contracts. Ten of these were in Higher Education and six in African, Caribbean and Pacific Group of States (ACP) Science and Technology (S&T). Of particular importance were PP-AP (pilot project-*action préparatoire*) contracts where the European Parliament identified an area of interest, made a special budget allocation, and DEVCO in response financed a project. This approach financed a series of global research projects implemented at the headquarters (HQ) of the World Health Organization (WHO) in Geneva which were, in turn, at the heart of DEVCO's health R&I support.

Figure 6 Health commitments by region



Source: CRIS, Particip analysis

As illustrated in Figure 6, two thirds of R&I support went to ACP countries, mostly in Africa, and a quarter was devoted to global activities, mostly the PP-AP projects described above. 47% of aid was channelled through universities and more than one-quarter apiece through international organisations (essentially WHO). The average contract was EUR 1.3 million; the average international organisation contract was EUR 2.8 million, as compared to an inventory-wide average of EUR 1.1 million for all contracts.

Policy documents

The key official policy documents used to reconstruct the intervention Logic for EU interventions in support of Research and Innovation in health include:

- Development Co-operation Instrument (DCI) Regulation (2006) 1905 that sets the EU's global objective for health as achieving the MDGs. Specific goals are MDG 1 (protecting the most vulnerable, covering also now well-established health-poverty causal links), MDGs 4 and 5 (maternal and child health including sexual and reproductive health), MDG 8 (international partnerships to make available new drugs, vaccines, and treatments), and MDG 6 (HIV/AIDS, tuberculosis, and malaria);
- COM(2002)129, a thematic strategy for health focusing on poverty links;
- COM(2010) 128 Communication on the EU Role in Global health. The Communication highlights the main challenges that the EU needs to address: leadership, universal coverage, coherence of EU policies and knowledge. This Communication was accompanied by SWD SEC 380, 381 and 382;
- COM(2005) 179 on support in the area of HIV/AIDS 2007-2011;
- COM(2006) 18 on Investing in People, and the accompanying Strategy Paper 2007-2013;
- COM(2006) 870 on measures to tackle the shortage of health professionals in developing countries 2007-2013.

To the extent possible, these documents have been synthesised into one continuing narrative to cover the period.

The EC's strategy over the period was an evolving one, with the tight focus on poverty in the 2002 health thematic Communication being supplemented (not replaced) with a view that also stressed regional and, especially, global public good aspects in 2010.

Intervention Logic Health

The two main aspects of EU support to R&I in the health sector, that is (i) policy dialogue to achieve consensus, and (ii) financing of health research and field trials are reflected in the two largely separate strands of the IL diagram (see Figure 7 below).

For the policy dialogue strand the intermediate impact sought is international consensus on the value of R&I in health for poverty eradication and on global health interdependence. Contributing to this are a number of specific impacts tightening the links of R&I policy with the MDGs, coherence with development assistance, involvement of national stakeholders and better identification of threats and opportunities. Regarding inputs, outputs and results the diagram emphasises the need for agenda setting and participation in global fora, leading through to the adoption of common approaches which in turn lead to results in the form of alignment of the research agenda with public health needs and the global burden of disease and the taking into account in national research of global public goods in health.

In the technical and financial co-operation support to the actual health R&I strand of the IL diagram, the intermediate impacts sought revolve around progress towards the health MDGs, reduced health inequalities both nationally and globally. Specific impacts include improved health outcomes, better access, better reporting and co-ordination and development of new tests and procedures. From the left hand side of the diagram the inputs involve subsidies and technical assistance, targeted research and support for local participation feeding into EU supported capacity development, partnerships with the private sector and establishment of networks of excellence. These in turn are expected to produce results in the form of strengthened R&I capacity, expanded opportunities for researchers, deeper-capacity health systems and research that is relevant to emerging diseases as well as diseases related closely to poverty.

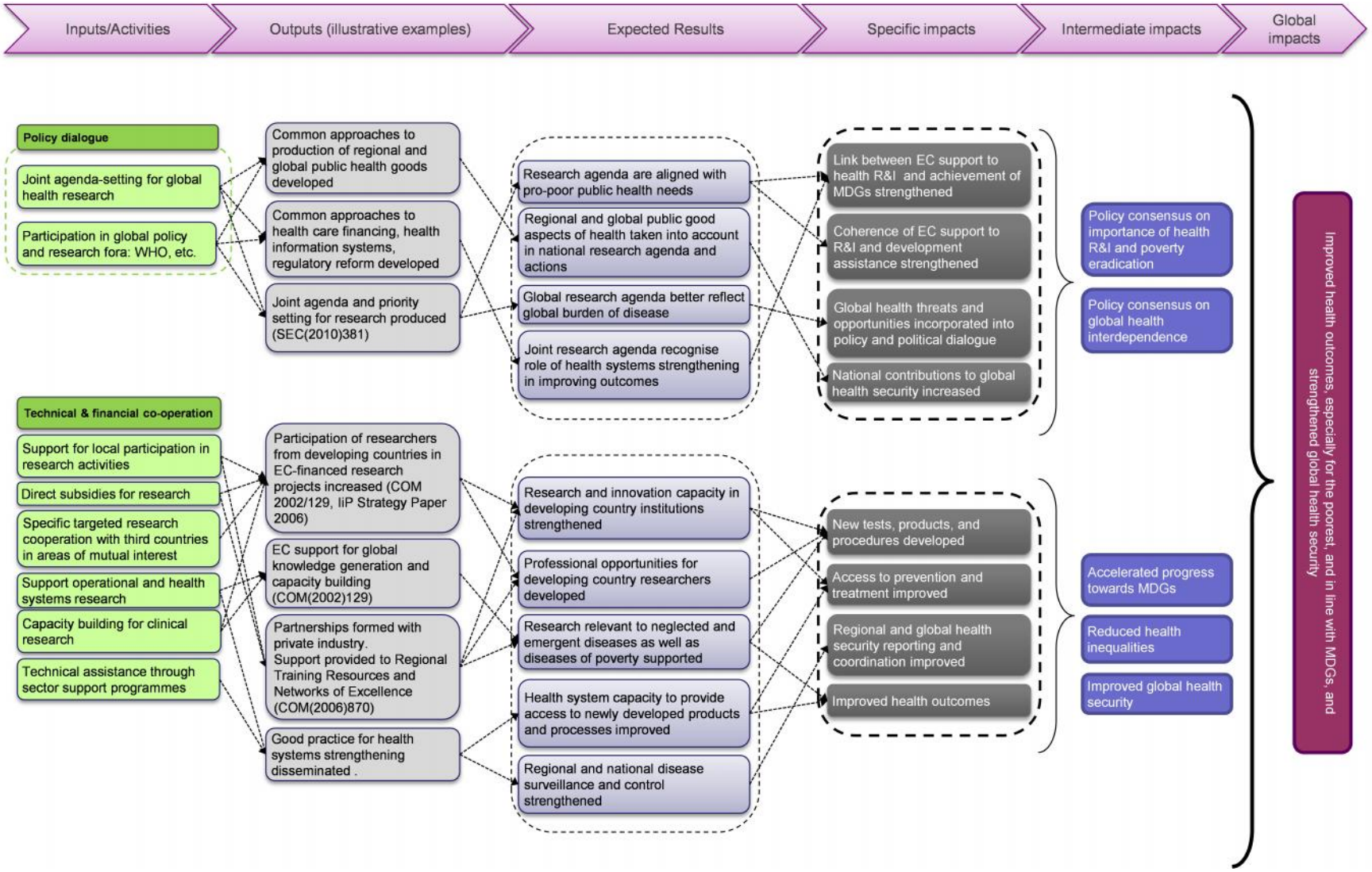
Alignment of EU support with the Intervention Logic

The evidence collected for this study has confirmed the hypothesised emphasis on research simultaneously strengthening the pro-poor orientation of EU health co-operation as well as its orientation towards global public goods. The EU supported agenda-setting projects on poverty-related diseases at WHO provided seed money to a major pharmaceutical development network in Africa, and directly supported research into poverty-related diseases in southern Africa, both through regional programmes such as ACP S&T and bilateral programmes. FP7 support, as well, had significant pro-poor aspects. While the EU has supported research on health systems strengthening, more of its support has been directly focused on drugs and treatments. This was in reaction not only to recognition of the poverty impact of HIV/AIDS, malaria, and tuberculosis but also the emergence of drug resistant malaria and Tuberculosis (TB), a clear global public good problem. The two main strands of EU interventions, policy dialogue to generate shared priorities and harmonised approaches and practical direct health research, are confirmed. Policy dialogue on health R&I is not always strong at the bilateral level and is largely ad hoc at the regional and global levels. South Africa, as described in the Country Note (Vol. 4), and confirmed strongly by the country field mission, is an exception The EU is perhaps less a major independent voice in the global agenda-setting dialogue, but rather a supporter of other actors, such as WHO, who are taking the lead in managing the dialogue. The central role of the MDGs and the WHO Global Strategy and Plan of Action has been confirmed at every point.

One point in the IL diagram has not been confirmed – the attempt, whether through policy dialogue or technical and financial assistance, to align the global health system more closely with the shifting burden of disease. While the importance of non-communicable diseases (NCDs) is acknowledged in EU health R&I policy, they remain a concern secondary to infectious disease. Several reasons can be suggested for this, among them the focus on poverty and the arguably more global reach of infectious disease. While DEVCO has been slow to respond to the shifting burden of disease, evidence was found of a number of FP7 projects, for example, on disability (hence ageing and trauma injuries) and mental health that were in line with emerging trends.

The assumptions underlying the IL remain valid. As evidenced by the fundamental alignment with the MDGs, the causal link between poor health and poverty is well reflected in the EU's strategy. A number of EU-financed initiatives, such as strengthening community case-management in Africa and promoting local production, recognise that simply developing new treatments is insufficient to guarantee improved access to needed care.EU-financed interventions have consistently been based on the assumption that local researcher involvement is necessary and have sought to promote networks accordingly.

Figure 7 Intervention Logic Health



At the same time, two additional assumptions have emerged. First is that EU support can build sufficient capacity to lead to take off in health R&I in partner countries. A clear indication of this would be increased participation in FP7 and Horizon 2020. Increasing participation there assuredly has been, but it is not clear so far that health-sector capacity building contributed much to this. There is a slight counterexample in Ukraine, as revealed by the field mission. Overall, however, FP7 participation was driven mostly by past participation in international scientific networks. Interviews have consistently raised the possibility of DEVCO-RTD complementarity if DEVCO would finance long-term capacity building and institution strengthening, but its instruments are not well suited to the long-time horizons required. A second assumption is that R&I results, particularly but not only those from DG RTD-financed projects, can be taken up in DEVCO-financed activities; i. e. that the two strands of support for R&I in the health sector can complement and leverage each other. While this was found to be the case in South Africa, that country was unique in terms of EUD capacity, availability of an S&T Counsellor and, most important, a strong Government policy on R&I and commitment to "funnelling" promising R&I results to the relevant government agencies (in this case, in the health sector).

Sampling approach used: global, regional, national impact

The table below shows that about half the funding goes to support regional-level activities, with the other half being split more or less equally between global and country-level work. The significant amount of expenditure on global programmes is consistent with the IL's emphasis on global public good aspects of health. A strong role for regional projects is consistent with the desire to stimulate networks of researchers with shared concerns and characteristics. It is also consistent with the pronounced cross-border aspects of many diseases and regional opportunities for sharing approaches and lessons learnt. National-level projects typically have strong capacity building aspects.

It is evident that there are no regional contractors among those supported by the EU even for regional level work. At the regional level, 15 out of the 21 contractors are EU national institutions taking up 29% of the total funding for health. At the global level there are only a few international and EU national contractors funded for activities but the international contractors get 23% of the total funding. At the country level of impact most of the funding goes to seven EU national contractors (23% of total) and non-EU national receive only a small share.

Table 5 Health contracts in R&I by contractor channel and benefitting zone

Contract benefitting zone	Contractor type	No. of contracts	No. of contractors	Average per contract (EUR)	Average per contractor (EUR)	Total contracted (EUR)	% of subtotal	% of total
Global	International	5	1	2,710,719	13,553,597	13,553,597	93%	23%
	Regional	0	0	0	0	0	0%	0%
	National EU	1	1	1,042,754	1,042,754	1,042,754	7%	2%
	National Non-EU	0	0	0	0	0	0%	0%
	Subtotal	**6**	**2**	**2,432,725**	**7,298,175**	**14,596,351**	**100%**	**25%**
Regional	International	1	1	3,000,000	3,000,000	3,000,000	12%	5%
	Regional	0	0	0	0	0	0%	0%
	National EU	16	15	1,071,404	1,142,831	17,142,464	67%	29%
	National Non-EU	5	5	1,055,300	1,055,300	5,276,501	21%	9%
	Subtotal	**22**	**21**	**1,155,408**	**1,210,427**	**25,418,966**	**100%**	**43%**
Country	International	0	0	0	0	0	0%	0%
	Regional	0	0	0	0	0	0%	0%
	National EU	7	7	1,964,857	1,964,857	13,753,996	73%	23%
	National Non-EU	9	9	572,856	572,856	5,155,700	27%	9%
	Subtotal	**16**	**16**	**1,181,856**	**1,181,856**	**18,909,697**	**100%**	**32%**
Total		**44**	**38**	**1,339,205**	**1,550,658**	**58,925,013**		**100%**

Source: CRIS, Particip analysis

To give an idea of coverage, and confining to country-level, the sample of contracts covered 43% of contracts awarded to national EU contractors (for 55% of the total value) and 33% of contracts awarded to national EU non-EU institutions (for 74% of the total value) in the small country sample of this evaluation.

1 EQ 1: Development policy objectives

To what extent has EU support to R&I through DG DEVCO been successful in promoting the overall development policy objectives of the EU?

1.1 JC 11: Link between R&I activities and EU development objectives (as per European Consensus and Agenda for Change – MDGs, etc.)

Summary judgement

DEVCO-supported health activities have almost invariably been linked to the relevant health MDGs in strategic documents (I-111). In the case of health Sector Budget Support, policy matrices have often incorporated indicators drawn from the MDG targets, particularly maternal and child health and the three major diseases of poverty. The difficulty encountered is that, where the action is not explicitly oriented towards R&I – as is, for example, in EU support for WHO-implemented projects or SANTE budget line poverty-related diseases actions analysed here – then DEVCO's contribution to health R&I is difficult to identify. For example, the EUROPAN budget support project in Peru incorporated R&I related to health and nutrition. There were surely many projects that contained small R&I components, but these do not appear in the evaluation's screening. In South Africa, health Sector Budget Support financed NGO projects containing applied R&I on a call-for-proposals basis. Budget support to the Department of Science and Technology supported a wide range of activities related to R&I that were aligned to the MDGs. All of the FP7 projects visited in that country had some relationship to MDGs, for example, adolescent sexual health, the rights of the disabled, and mental health.

High-level strategic documents related to health have all taken the MDG framework as providing a roadmap (I-112). However, when R&I needs are identified in these documents, the reference, either implicit or explicit, is almost always to R&I activities financed by DG RTD, especially Framework Programmes, not to DEVCO actions. It is revealing that the health R&I staff study that accompanied the major 2010 health Communication only mentioned DEVCO-managed EU development co-operation once, in calling for better co-ordination between Framework Programmes and the European Development Fund (EDF). The Communication itself is explicitly aligned with the 2008 WHO Global Strategy and Plan of Action (GSPoA) on Public health, Innovation, and Intellectual Property. DEVCO supported, through "Support for research and development in poverty-related, tropical, and neglected diseases," the WHO-led global network of researchers that prioritised research needs arising from the Global Strategy and Plan of Action.

DG DEVCO, along with other relevant DGs, is a member of the Global health Policy Forum and hosted the meeting which discussed recommendations of the Consultative Expert Working Group in the area of R&D finance (I-113). It is also a member of the "Research Family" of DGs. In fact, relatively few of the recommendations of this important Working Group have been taken up, in some degree an indication of the lack of Member State and private sector buy-in.

1.1.1 Indicator 111: DEVCO-supported R&I activities explicitly linked to relevant MDGs

At the level of CSPs for the period 2007 – 2013, in virtually every case where health was a focal sector, or for that matter a non-focal one, an appropriate link with relevant MDGs was made. These would be MDG 4 on child mortality, MDG 5 on maternal mortality, MDG 6 on the diseases of poverty, and MDG 8 on global partnership for development, which contains a substantial component related to the development and availability of pharmaceuticals. Among countries profiled here, this would be particularly the case for South Africa, Mozambique, and Tanzania, where R&I financed through the regional (ACP) Poverty-Related Disease programme and the SANTE budget line directly addressed MDG 6. In Peru, there was a significant link between the DEVCO-financed EUROPAN budget support programme and health via the nutrition target of MDG 1 on extreme poverty. As the programme evolved, it broadened from nutrition to encompass health as well, always with an emphasis on reaching the very poorest. All DEVCO projects implemented at WHO headquarters were also linked to the MDGs,

perhaps most closely to MDGs 5 and 8 because of the emphasis on technology transfer and local production as well as access and intellectual property rights issues (see Case Study on EU support for health Research and Innovation at WHO in Volume 3 for project descriptions and analysis). The WHO project *Promoting research on community case management* specifically addressed childhood malaria. While the Go4health network (Goals for Global health and for Governance for Global health) was an RTD project, DEVCO was keenly interested and contributed significantly to this project devoted to mobilising developing-country expertise for the design of the new SDGs.

In many cases, links with the MDGs were not explicit in documents, but obvious. One example supported under Asia Link was the *Asia-Europe Clinical Epidemiology & Evidence Based Medicine Programme*, which sought to build capacity in epidemiology and improve evidence-based health care and health policy in Malaysia and Indonesia. The Asia Regional Strategy Evaluation completed in 2014 described the major contribution of the EU, through DEVCO, to pandemic influenza research via the Avian and Human Influenza Facility (AHIF) trust fund. Again, while these were not specifically tied to MDGs, the link via health to poverty is obvious. The "One health" programme in the Caribbean region supported by ACP Science and Technology is another example. Through the DCI and the intra-ACP envelope of the EDF, the EU has supported the Global Alliance for Vaccines and Immunisation (GAVI); most of this finances operations but a significant fraction supports innovation in the form of new vaccine introduction. In other cases, links with MDGs appear rather tenuous. This was, for example, the case of the INNOVA-Uruguay national policy support programme for S&T as well as the Chile health component of the Regional S&T Promotion Platform. Interesting, under Asia Link, R&I related to psychotherapy and psychosomatic illness in China, Vietnam and Laos was supported. These are far from the health MDGs, but resonate well with the recommendation of the health thematic evaluation that EU actions needed to take better account of the shifting burden of disease – something that would be difficult if support was rigidly aligned to the MDGs.

The R&I component of health Sector Budget Support programmes, one of the main modalities for DEVCO support of health, has been found to be limited by the fact that few countries receiving budget support place emphasis on health R&I or have the capacity necessary to contribute much to it. A point that has emerged repeatedly in interviews with officials from RTD and EEAS is the desire to see DEVCO contribute more effectively to long-term capacity building, an area in which it is seen as having an overwhelming comparative advantage. National R&I on health systems strengthening was to some extent supported in sector programmes. In the case of South Africa, R&I related to improving pro-poor health care policies was an explicit part of the primary health care budget support programmes. The main thrust of budget support to R&I in South Africa was, however, through direct budget support to the Department of Science and Technology. This, officials stressed during the country field mission, was never designed to build capacity in the classic sense; rather, it was to enable DST to identify and test technological innovations for poverty reduction and employment creation. This budget support included funds to support policy dialogue, and DST was able to communicate regularly with Department-level policy makers on R&I related to their mandates. RTD officials interviewed in Brussels felt that DEVCO could have provided more complementary finance at country level, e. g. workshops promoting access to FP7 or infrastructure and equipment to FP7 participant institutions. The Kenya field mission suggested that the EUD could do a better job of promoting FP7, but lacks the capacity and awareness to do so. This was in complete contrast to South Africa, where the national R&I community (at least in the university and public sectors) is completely integrated into FP7. In Ukraine, while there was enthusiasm for participating in FP7 as a collaborating institute, there was little appetite to take the lead. The final evaluation of the South Africa S&T budget support programme felt that sub-projects, including those related to health, would have been broader and of higher quality if calls for proposals had been better managed and the private sector had been better integrated. However, officials interviewed in Pretoria described the difficulty of encouraging private sector firms to join in collaborative R&I efforts.

To conclude, when the EU has supported health, the link to MDGs has almost always been explicitly or implicitly made. However, it does not appear that there was much R&I within sector support programmes that were the main vehicle for DEVCO health support over the evaluation period.

1.1.2 Indicator 112: R&I needs feature in EU high-level development policy documents and sector policy Communications

There is strong evidence that this is so. Examples are:

- COM(2002) 129 final "health and Poverty Reduction in Developing Countries." This document, which set the basic framework for EU development work in health until it was replaced in 2010 by the Communication below, called for financing both research in drugs and vaccines (much of it related to diseases of poverty) but also operational research related to health systems strengthening.

- COM(2010) 128 final "The EU Role in Global health." Noting the urgent need for research results that benefit all (and implicitly the so-called "90-10" problem that 90% of health research is directed at results benefitting only 10% of the population), the EU called for better co-ordination of global health research, effective and fair financing, joint priority setting, equitable partnerships, and access to knowledge; strengthening the complete health research process of innovation, implementation, access, monitoring and evaluation; research leading to improvements in health policies, health service provision, and stronger national research capacity; improved health information systems and the collection of comparable data and statistics, and greater use of ICT including e-health. This communication was explicitly aligned with the WHO Global Strategy and Plan of Action for Public health, Innovation, and Intellectual Property Rights. DEVCO supported, through "Support for research and development in poverty-related, tropical, and neglected diseases," the WHO-led global network of researchers that prioritised research needs arising from the GSPoA.
- The accompanying staff document SEC(2010) 381 "European research and knowledge for global health" focuses almost entirely on Framework Programmes, and mostly on their capacity to contribute to better access to needed drugs and technologies (MDG 8). The only reference to the EU's development work is a call for better co-ordination of EDF and FP7-financed actions (p. 20).

A range of other Communications and strategic documents has also been examined. Selected examples are:

- COM(2005) 179 final "A European Programme for Action to Confront HIV/AIDS, Malaria and Tuberculosis through External Action (2007-2011)." This called for support to basic, pre-clinical, and clinical research, focusing in particular on the support to be given through FP7 to clinical trial partnership. It also called for an initiative in partnership with NEPAD and the African Union to strengthen research capacity in Africa as a means of resulting brain drain.
- The 2007 Strategy Paper for the DCI-funded Investing in People thematic programme stressed the need to better coordinate development actions in the area of health with FP7 research.
- The 2007 EU-Africa Joint Strategy called (p. 15) for collaboration in the development of new vaccines and treatments of neglected diseases.

To conclude, EU strategic documents related to health have typically drawn attention to the need for research to provide health benefits to all, often in the area of pharmaceuticals but not neglecting the need for operational health systems research. The strong tendency, however, has been to emphasise the role of Framework Programmes, not DEVCO, as a source of financing.

In 2012, DG RTD adopted an international co-operation strategy. While this went through normal Inter-Service Group discussions, this is an RTD strategy, not a joint DEVCO-RTD one. While communication between the two DGs has been found to be generally good, a wide range of officials at EU HQ has identified a lack of strategic co-ordination between the two DGs.

1.1.3 Indicator 113: EU participates effectively in global fora identifying R&I needs for MDGs and post-MDG era

This indicator basically deals with the EU's relationship with WHO, the lead international agency in health. Relations between the EU and WHO are governed by an exchange of letters in December 2000 that specifies, among other things, health research and technology development as a priority area. The EU Delegation in Geneva interacts with WHO Geneva headquarters on global health issues including R&I and participates as an observer in the annual World health Assembly. EU-WHO relations occur in a framework consisting of seven roadmaps, one of which corresponds to R&I. Senior Officials Meetings take place annually and involve all relevant EC services including DG DEVCO and DG RTD. The purpose of SOMs is to discuss how the EU and WHO can best cooperate at global and regional levels. DG DEVCO has supported major global research projects at WHO headquarters (see the Case Study on DEVCO support to WHO in Volume 3). Under the action "Support for research and development into poverty-related, tropical and neglected diseases," DEVCO supported WHO's Special Programme for Research and Training in Tropical Diseases (TDR) to produce the *Global report on research priorities for infectious diseases of poverty*. It has also supported policy studies on technology transfer and local production. While not all of these and other activities include global discussions strictly speaking, they indicate that DEVCO was part of the global discussion on responses to health development challenges. DEVCO support for these WHO activities has given the EU a seat at the table of the major global discussions relating to health R&I needs for development. There appear to be good informal links and co-ordination between DEVCO and the relevant portions of WHO Geneva.

One important global forum in which DEVCO and other concerned DGs are involved is the Global health Policy Forum. In 2012, DG DEVCO assumed the annually rotating chair of this group, whose June meeting "R&D and Global health" debated recommendations of the Consultative Expert Group on R&D financing set up to formulate recommendations relevant to the 2008 Global Strategy and Plan of Action on Public health, Innovation, and Intellectual Property. While it is in sympathy with the overall goal of equitable access to needed medicines, the EU has not yet taken an official stand on the Consultative Expert Working Group on Research and Development CEWG's recommendations for de-linking the costs of R&D from the costs of medicine to the final consumer. The lack of action may represent, in some degree, the lack of buy in by Member States and the private sector.

1.2 JC 12: Extent to which R&I has informed sector policy dialogue and sector support at national and regional levels

Summary judgement

In most of the health Sector Policy Support Programmes examined the theme of research is absent (I-121). A structural reason for the gap between sector support and R&I is that DEVCO's interlocutors are from the development side (Ministry of health), not the research side (Ministry of Research). However, most of the reason for the absence of R&I from bilateral health Sector Support Programmes is probably just that few countries, and especially not the very poor ones in which the EU is concentrating its resources post-Agenda for Change, have a health R&I policy with which to align. This conclusion emerges strongly from both country Case Studies and country missions. In Vietnam and Philippines, for example, the main concerns were health finance, decentralised governance, and ensuring universal access. In DRC (where sector support was supplanted by a project approach) the concern was reconstruction. Another reason why R&I is absent may be the difficulty of devising SMART indicators for monitoring performance in R&I, although this represents speculation.

Even though R&I is not explicitly present, attention was paid to incorporating international good practice, for example in health care finance or systems strengthening.

A significant exception to this picture is South Africa, where the field mission confirmed the Desk Phase conclusion that R&I has been mainstreamed in all sector dialogues. Conditions are highly favourable. There is a clearly defined set of government priorities relating to R&I and the ambition to service as a regional Science and Technology hub. The government priorities align well with EU goals. There was adequate sector capacity at the EUD and the Science Counsellor in Addis Ababa spends a significant amount of time following co-operation with South Africa. DEVCO HQ has also occasionally supported policy dialogue. The Dialogue Facility has played an important role in supporting policy dialogue between South Africa and EU allowing to share experiences from the national R&I activities. While not yet in effect, the DST is considering ways of bringing budget support and Horizon 2020 closer together in order to promote integration between research results and Ministry and government agency policies and programmes. The large DEVCO-financed ARV drug resistance project has developed close links with the Ministry of health.

Less is known regarding the role of R&I in regional and national health dialogues. In Asia, R&I needs related to emergent infectious diseases certainly informed EU-ASEAN and EU-China dialogues related to health. Nothing is known about the role of R&I in formal Africa policy dialogue related to health, but there is reported to be a fair bit of informal policy dialogue at regional meetings of senior officials; for example, the launch of ANDI (African Network for Drugs and Diagnostics Intervention).

1.2.1 Indicator 121: Design of support to the sector incorporates results and lessons learnt from R&I (same sector)

Research revealed no evidence that this was the case in health. A simple keyword search on "research" makes no significant hits in the Identification and Action Fiches for Vietnam's first and second health Sector Budget Support programmes, and in the same documents related to Mozambique's health Sector Budget Support programme. In Philippines, there is no occurrence of "research" in either the health SPSP Action Fiche nor the health sector needs assessment that informed it. While the Action Fiche for the South Africa S&T sector support programme includes references to health, there is no evidence that lessons learnt from past R&I were taken into account in designing the intervention as it applied to health.

At the same time, sector support programmes appear to have always paid attention to international good practice in, for example, health system governance and finance. In South Africa, EUD policy dialogue on health at both national and regional levels was strongly informed by R&I results from FP7 projects across a wide range of subjects – from disabled persons' access to health care to adolescent sexual health to HIV-AIDS – as well as by the results of the large DEVCO-financed drug resistance project implemented by the Medical Research Council. The Department of Science and Technology

(itself the beneficiary of DEVCO budget support) played an important role in ensuring that R&I, including the results of DEVCO-financed research on ARV drug resistance, was factored into health sector policies. The EMERALD mental health FP7 project forged strong ties with policy makers not only in South Africa, but also in the other five African countries where it was active; as did the EquitABLE disability project. Further examples of links between FP7 projects and policy makers are to be found in the country mission report. The country mission to Peru concluded that the EUROPAN budget support programme to the Ministry of Economics and Finance has led to improved nutrition sector policy, including the development of indices to better monitor health and nutrition among the very poor.

In Ukraine, it was generally (not specifically for health) felt that incorporating R&I into policy dialogue was made difficult by the fact that the relevant sector ministry was not responsible for most R&I and research institutes associated with ministries tended to be weak. On the other hand, many R&I institutions financed by FP7 are active in the normal course of affairs with relevant government Ministries and agencies.

The absence of R&I from sector support design in most countries can be understood easily in light of the fact that DEVCO's interlocutors are Ministries of health, not Research.

1.2.2 Indicator 122: R&I results used in dialogue at national and regional levels

No information has been gathered on regional dialogues. There was certainly Asia-level dialogue on communicable diseases. R&I needs were discussed and responses were incorporated into the regional strategy. In Africa, there is an EU-Africa Senior Officials Group on science, technology, and innovation. It is, however, reported that the AU has limited interest in health R&I policy dialogue. In looking at other EQs, it was found that a certain amount of regional policy dialogue takes place informally at meetings such as, for example, the launch of the ANDI network. As mentioned above, FP7 projects, such as the EMERALD project on mental health and EquitABLE on disability in South Africa made a point of disseminating results and emerging best practice to policy makers in other countries in the region, including involving them in conferences and meetings.

At national level, documents related to sector policy dialogue, including EAMRs, that have been examined have not referred to health R&I. An exceptional country is South Africa, where the rich dialogue structure discussed in the South Africa Country Note, supported by a dialogue support facility and in the context of shared Government and EU priorities, has ensured that R&I is mainstreamed in all sector dialogues, including health. This has been strengthened by the support of the RTD Science Counsellor in Addis Ababa, who spends an estimated 20% of his time coordinating R&I co-operation in South Africa. It was reported in the Desk Phase that EUD sector-specific capacity is stretched, but the recent situation appears to be satisfactory. There is a programme officer for health who collaborates closely with the officer responsible for S&T and national beneficiaries of DEVCO (and RTD) funding in health spoke very highly of collaboration with the EUD. In Kenya, by contrast, Ministry of Education and Research officials felt that there was a lack of specialised expertise at the EUD for sector dialogue outside FSNA to incorporate R&I. This appears to be a common situation; for example, only about half of the EUDs where health is a focal sector have a dedicated health officer.

1.2.3 Indicator 123: Results identified by R&I in a given sector used in other sectors and in support to other sectors

No information has emerged. However, it is suggestive that in the EUROPAN budget support project in Peru, R&I progress in nutrition was able to contribute to the broadening of the programme to cover health and education, as well.

2 EQ 2: Impact on partner country research communities

To what extent has DEVCO funding of R&I enabled research communities in partner countries to build up and develop their own R&I capacity, including the ability to actively engage in research networks (regional and international)?

2.1 JC 21: Degree of alignment and coherence of DG DEVCO support to R&I with relevant policies and strategies

Summary judgement

There is no evidence in most of the countries considered that DEVCO country-level support in the health sector was aligned with national health R&I priorities (I-211). As described above, in most countries, there were no explicit national R&I priorities in health to align to, which explains the absence of R&I from budget support programmes. However, there was obvious *de facto* alignment in most cases examined – for example, innovative local production of HIV drugs in Tanzania, innovative malaria control in Mozambique, drug resistance work in South Africa and the surrounding countries, TB vaccine development. Institutional and structural factors need to be considered. R&I is not regarded, across DEVCO, as a key sector for economic development and, in health (as in other sectors), DEVCO's interlocutors; those who communicate priorities, are line ministries, not the Ministry of Research. DEVCO's concentration on a handful of broad sectors via the Agenda for Change makes it difficult to integrate R&I or, if integrated, it may simply get lost in the broader programme. A theme repeatedly raised in RTD interviews, as well as in EEAS, was the desire that DEVCO could support more long-term institutional capacity building, an area in which it is perceived to have overwhelming comparative advantage, yet one to which its instruments are not well adapted.

Among countries profiled, South Africa stands out for the alignment between health support and national R&I priorities. DEVCO provided budget support to both primary health care and R&I, as well as a policy dialogue facility. Based on the SBS final evaluation, the final evaluation of the dialogue facility, and interviews in the field (particularly at the Department for Science and Technology), R&I was successfully mainstreamed into sector policy dialogues including health. Support from the Science Counsellor in Addis Ababa and from EU HQ was a significant plus. There was R&I relating to innovative means of improving access to social services (in S&T budget support) and a general orientation in health sector policy on improved access to primary health care in deprived areas. Thanks to EU support to policy dialogue there was communication between those responsible for the two programmes. Health FP7 projects visited (addressing disability, mental health, and adolescent sexual health) all developed strong links with relevant government agencies. The inventory did not reveal significant DEVCO health R&I projects in other countries that had explicit national S&T policies, such as China, India, and Chile.

Moving beyond country-level projects, all of the DEVCO support to WHO in the context of implementing the Global Strategy and Plan of Action for Public health, Innovation, and Intellectual Poverty was relevant to partner countries' needs and the relevant high level strategies (I-212 and I-213). These include, on the EU side, the 2010 health communication; communications on HIV/AIDS and the MDGs, Policy Coherence for Development, and the Agenda for Change. Recalling that the 2010 Communication explicitly incorporated the GSPoA, specific examples are:

- Element 1 (Setting priorities): "Support to research for poverty-related, tropical, and neglected diseases";
- Element 2 (Promoting research and development): ANDI ("Support to regional networks for health product R&D in Africa");
- Element 3 (Building and improving innovative capacity): "Working with African countries …" (specifically, strengthening pharmaceutical regulatory frameworks);
- Element 4 (Transfer of technology): "Improving access to medicines through technology transfer and local production"; the Tanzania local production project;
- Element 5 (Intellectual property): elements of the WHO technology transfer project;
- Element 6 (Improving delivery and access): WHO community case management project.

Good evidence of alignment of DEVCO support to with R&I regional strategies was found in the case of Asia, where highly pathogenic emerging infectious diseases and cross-border health problems fig-

ured prominently. In Africa, the health components of the Joint Africa-EU Strategy (JAES) were almost entirely operational, with no explicit R&I component.

2.1.1 Indicator 211: DG DEVCO support aligned with national research priorities in partner countries

Among countries where DEVCO R&I support has been profiled, health was a focal or non-focal sector in Philippines (focal), Peru (as part of focal sector "Support for integrated social development"), Vietnam (focal sector), Chile (as part of the focal sector "Social cohesion"), India (as part of "Support for the social sector"), DRC (focal sector), Burkina Faso (focal sector) and Mozambique (non-focal sector).

- In Philippines, two sector budget support programmes, one national and one dedicated to Mindanao region, supported general health sector reform – governance, financing, etc. – in order to promote universal access. There was no R&I component in the sector strategy, and hence no alignment of DEVCO support with national research priorities. A keyword search reveals no relevant occurrence of the word "research" in the Mid-term Review of that programme. "Research" is similarly absent from the Philippines health sector assessment that informed the sector budget support programme design.
- In Peru, the focus of the health component of the *Support for integrated social development programme* was access for the very poorest. The strategy did not set R&I priorities and no DEVCO-supported R&I actions were identified. .
- In Chile, where promoting social cohesion is the national policy priority, no clear link between R&I and social cohesion is made; rather the latter is promoted through improved social dialogue. A regional S&T Promotion Platform on health was launched in Chile but no further information was available.
- In India, no DEVCO-financed R&I projects in health have been identified by the inventory. In DRC, there is no mention of R&I in the health sector strategy, which was overwhelmingly focused on reconstruction of facilities to improve service delivery.
- In Vietnam, the policy priority in health, reflected in the DEVCO-supported health sector strategy, was on increasing access through improved health finance and governance reforms. The only DEVCO R&I intervention was the Asia-LINK regional project on psychosocial medicine.
- In Mozambique, health and HIV/AIDS were non-focal sectors. Health sector human resource and infrastructure development was supported under the budget support programme but no information is available on the research component. The Identification Fiche for the health sector support programme does not contain the word "research," although the evaluation of all budget support operations in Mozambique identified the need for policy-oriented research as a need. The DEVCO malaria control project promoted innovation.

In Tanzania health was not a focal sector and there was no R&I policy, but DEVCO support to local manufacture of ART drugs was in line with the importance of HIV-AIDS in the country and may be considered implicitly aligned to national R&I priorities in the sector.

In South Africa, the main priorities are reducing poverty and creating sustainable employment and economic opportunities. Access to services, or rather reducing yawning gaps in access to services, is regarded as central to the first of these. Innovative means of improving access to basic health care in hard-to-reach areas was a theme of both the health and S&T budget support programmes. However, the Identification Fiche for the health sector support programme in South Africa, which focused on primary care, does not contain the word "research". The Mid-term Review of this programme states that in the area of HIV/AIDS, research into continuum of care was financed. Under Sector Budget Support, DEVCO supported NGO projects (on a call for proposals basis) that carried the operational "What works?") research and developed innovative approaches. The Science and Technology sector support programme specifies health as an area covered but provides few details. In the Final Report of the Evaluation of Budget Support in South Africa, there are hundreds of references to research and health – both sectors that benefited from sector budget support programmes – but no example of an R&I initiative within the health SBS (although innovative means of delivering Primary health Care (PHC) were a part of the health programme, mostly through the NGO projects mentioned above). As discussed in the South Africa CN and field mission report, R&I was successfully mainstreamed in sector policy dialogues including health and the alignment of Government and EU priorities in R&I was cited as a factor in the success of S&T co-operation. This has been discussed under EQ 1. Through its role in providing complementary funding, the DST was able to play a strong coordinating role in determining how FP7 support rolled out. This was in contrast to Kenya, where a national R&I plan is only now being elaborated, as a result of which officials at the Ministry of Education and Research complained of a lack of co-ordination of national researchers' activities. In Peru, as well, a national R&I

strategy and strengthening of the national innovation system is just now being accomplished, so opportunities to align EU support with national priorities was weak over the evaluation period.

Among other countries, there were S&T policies in place in India, China, and Egypt. Under MEDA, DEVCO supported a series of hard-science medical projects in Egypt that may have been coherent with the national S&T policy. In China, the Asia-LINK psycho-social medicine project was far removed from the country S&T policy. In India, the inventory identified no health R&I projects.

To conclude, apart from South Africa there is no evidence in the countries considered that DEVCO country-level support in the health sector was aligned with national R&I priorities where they existed. In most countries, there were no explicit national R&I priorities in health to align to. Sometimes, there was obvious *de facto* alignment – innovative local production of HIV drugs in Tanzania, innovative malaria control in Mozambique, drug resistance work and TB vaccine development research in South Africa.

Moving beyond country- and regional-level projects, all of the DEVCO support to WHO in the context of implementing the Global Strategy and Plan of Action for Public health, Innovation, and Intellectual Poverty was relevant to priorities in partner countries (see next indicator).

At a very general level, interview with Brussels HQ officials suggested that the fact that DEVCO concentrates its bilateral resources on a handful of very broad sectors makes it difficult for them to finance R&I or that, if they do, R&I becomes lost in the sector. Thematic budget line calls for proposals are often short-term in nature, responding to the interests of the day, and may not align with longer-term priorities. For example (this was not part of the conversation being referred to), DEVCO and RTD very quickly put together a dedicated Ebola call for proposals, a great success in some senses, but perhaps a diversion when long-term priorities in R&I for health systems strengthening are considered.

2.1.2 Indicator 212: Regional and global DG DEVCO support for R&I reflects and builds on the relevant R&I strategies

At global level, the main global EU strategies here would be those in the 2010 Communication on the EU and global health and the staff working paper on the EU and global health R&D, the latter pertaining mostly to DG RTD. There are also communications specific to HIV/AIDS, the MDGs, human resources for health, etc., but the 2010 Communication is effectively an omnibus instrument that consolidates these.

DG DEVCO does not have an R&I strategy, much less a health R&I strategy. However, the relevant global strategy is the WHO Global Strategy and Plan of Action for Public health, Innovation, and Intellectual Property, with which all DEVCO co-operation reviewed here has been coherent. DEVCO support was also broadly coherent with the DG RTD strategic goal of strengthening co-operation with partner countries where this contributes to improving European science and benefiting European citizens.

A major global DEVCO health R&I action identified here has been “Support for research and development into poverty-related, tropical and neglected diseases” at WHO Geneva, which drew on the research networks and partnerships of the Special Programme for Research and Training in Tropical Diseases (TDR) across Latin America, North Africa/Mediterranean, Sub-Saharan Africa, Asia/Pacific. With the overall objective of increasing access, the action had the specific purpose of identifying R&I priorities in poverty-related, tropical, and neglected diseases; corresponding to Element 1 of the GSPoA. EDF-financed contributions to the Global Fund Against Aids, Tuberculosis, and Malaria mostly financed operational rather than R&I activities, but these were coherent with EU R&I policies, as were EDF contributions to GAVI. DEVCO supported European NGOs associated with the International AIDS Vaccine Initiative (IAVI) and the International Partnership for Microbicides (IPM).

Moving to regional level, Africa EU Regional Strategy Papers (Central, Eastern, Southern) make no reference to R&I interventions. Start-up support for the Africa Network for Drugs and Diagnostics Innovation (ANDI) was coherent with Africa Union strategic documents on African pharmaceuticals manufacturing. While health is one of the themes under Partnership 4, “MDGs” of the Joint Africa-EU Strategy Action Plans 2008-10 and 2011-13, health R&I does not feature – the specific actions called for are essentially operational. The Consolidated Science and Technology Plan for Africa, combining African Union and New Partnership for Africa’s Development (NEPAD) science plans, features biotechnology, including health related biotechnology as one of the flagship areas. No DEVCO support specific to this has been found. Under EDF 9, the EU contributed EUR 25 million to the EC/ACP/WHO Strategic Partnership concerning pharmaceutical policies, which provided technical and financial support in areas such as intellectual property rights and regulation. In Asia, the recent Regional Strategy Evaluation described major EU contributions to communicable disease surveillance and control R&I that were in line with global policies on emerging infectious diseases, particularly on avian and pandemic influenza, as well as the importance accorded the subject in the Asia RSP (see, for example, the

Global Thematic Evaluation on EC support to health and the Asia Regional Strategy Evaluation). See also the next indicator.

DEVCO reviewed the 2012 RTD Communication on co-operation policy but was not party to it.

An RTD official interviewed pointed to a structural barrier to aligning DEVCO support with EU R&I priorities. First, R&I is not broadly regarded as a key sector for development within DEVCO. If DEVCO would invest in capacities, institutions, and organisation, then RTD could step in to finance the R&I activities that could result. The desire to see DEVCO more effectively contribute to long-term R&I capacity building was repeatedly expressed in Brussels interviews, but so too were the barriers. In field missions to Ukraine, South Africa, and Kenya, the difficulties of financing long-term institutional development with short-term project finance were repeatedly cited. At the EU level, R&I is an internal policy, so it is MS Ministries of Research, not Ministries of International Co-operation, whose voice is heard in Brussels.

2.1.3 Indicator 213: DG DEVCO support for R&I in line with policy priorities set in regional and global consultative platforms

See I-212 above on coherence with the main global policy platform for health R&I, the WHO GSPoA. As stated above, DEVCO support was not only coherent with research priorities set, but actually financed the setting of those priorities under Element 1 of the GSPoA via the project "Support for research and development into poverty-related, tropical, and neglected disease." Participating in the Global health Policy Forum, DG DEVCO hosted the 2012 meeting of the Consultative Expert Working Group that made recommendations on global financing of health R&I. Examples of specific projects supporting other elements of GSPoA are:

- Element 2 (Promoting research and development): ANDI ("Support to regional networks for health product R&D in Africa");
- Element 3 (Building and improving innovative capacity): "Working with African countries …" (specifically, strengthening pharmaceutical regulatory frameworks);
- Element 4 (Transfer of technology): "Improving access to medicines through technology transfer and local production"; the Tanzania local production project;
- Element 5 (Intellectual property): elements of the WHO technology transfer project;
- Element 6 (Improving delivery and access): WHO community case management project.

The avian influenza crisis provides an illustration of the EU's participation in and follow-up on regional fora. Cross-border animal and human health figured prominently in the Asia Regional Strategy Paper 2007-13. Five International Ministerial Conferences on Avian and Pandemic Influenza were held in Beijing in 2006, Bamako in 2006, New Delhi in 2007, Sharm-El-Sheikh in 2008 and Hanoi in 2010. The EU committed more than EUR 400 million to the A(H5N1) response. Additional contributions were made by EU member states for the A(H1N1) response in 2009. At the Beijing conference in 2006, the EC pledged EUR 100 million to combat the avian influenza and to prepare for a possible outbreak. EUR 20 million was spent on scientific research projects via the FP6, and the remaining EUR 80 million to assist projects outside the EU. In total, in the period 2006 to 2009, USD 2.7 billion was disbursed. The largest contributor was the United States, which committed USD 1.6 billion and disbursed USD 1.4 billion. The European Union (Community and Member States) was the second largest global donor with a contribution of EUR 413 million. The EC alone pledged and committed EUR 245 million, accounting also for 76% of the Avian and Human Influenza Facility (AHIF), a WB-administered multi-donor trust fund pulling together resources from ten donors.

DEVCO, along with RTD and SANTE, launched a major joint effort against the Ebola crisis; leading to a call for proposals within a matter of months – a sign that the DGs can work fast together. DEVCO also advised RTD, in co-operation with the African Union and African countries, in design of the Africa Call under the JAES.

2.2 JC 22: Increased focus of EU support on 'capacity building' and enhancing institutional sustainability

Summary judgement

Most information available (I-221) has to do with whether capacity needs in R&I were recognised in EC-level documents such as strategic documents related to health. Based on the documents examined – mostly RSPs (including the JAES) and CSPs, but also one thematic programme strategy (Investing in People), the answer is that they were not. At higher EU-strategic level, not surprising, R&I capacity needs are more fully recognised, although even here they get rather thin mention. In general capacity needs were interpreted in terms of service delivery; e. g. in the EU's Communication on Hu-

man Resources for health and, at regional level, the JAES. Where sector support programmes included information systems for tracking and managing human resources for health (e. g. Philippines), there may have been some room for R&I-related staff. However, keyword searches of sector budget support Identification Fiches as well as budget support evaluations turn up little or nothing on "research." Outside a hard core of actions very specifically devoted to R&I, EU support to health, whether via projects or budget support, focused on concrete issues of improving access. Even in South Africa, where budget support programmes to primary health care and S&T ran side by side, there is no evidence of a close relationship between the two. South Africa was an outlier because, as confirmed by field mission interviews at the Department of Science and Technology, classic capacity building for R&I was not a major government priority. The priority was building capacity for DST to better identify and integrate R&I results into anti-poverty policy according to government priorities. In the projects where it was needed, such as Antiretroviral (ARV) drug production in Tanzania, malaria control in Mozambique, TB vaccine development in South Africa and Senegal, and ARV drug resistance monitoring in South Africa, significant amounts of infrastructure and equipment was provided (I-223). Project documentation generally paid attention to issues of sustainability (for example, in Mozambique). DEVCO-financed projects (and FP7 ones as well, a number of which explicitly mention capacity building in their project title and whose contribution to capacity building was clear in country field missions) did pay attention to capacity and sustainability concerns. One DEVCO action in Ukraine sought to create administrative and management capacity (I-224) and specifically to improve the ability to apply for FP7 funding. As it financed the putting in place of National Contact Points for FP7 who have continued to function during the transition to H2020, the project is generally regarded as a success. An FP7 financed regional network project in Eastern Europe and Central Asia did the same. DEVCO projects on psycho-social medicine and epidemiology built capacity in Asia; One World projects built capacity in the Caribbean and Southern Africa. Projects such as research in community case management and ARV drug resistance monitoring built capacity in the form of trained community health workers and monitoring station staff; perhaps not R&I capacity strictly speaking, but a health system benefit of R&I support nonetheless.

Field missions indicated that integrating researchers from poor countries into international research networks, whether through DEVCO finance or FP7, made a significant contribution to institution building and sustainability. In sub-Saharan Africa, EU support for researchers in the less-developed countries of the region was characterised by researchers interviewed as a lifeline.

As mentioned at several points, a theme that repeatedly emerged was the desirability of DEVCO-financed institutional capacity building to strengthen research institutions' ability to participate in programmes such as FP7 and co-operation more generally. DEVCO instruments are not well suited to such long-term institution building and, with its focus on excellence and research results, RTD is unable to fill the gap. Some concerns were also expressed that the emphasis in capacity building has gone so far towards improving the understanding of grass-roots mechanisms and impacts that national R&I capacities are being diverted away from the basic research that stands at the beginning of the R&I pipeline.

2.2.1 Indicator 221: Strategic and country co-operation related documents recognise importance of adequate R&I capacity for development

The 2007-13 "Investing in People" Strategy Paper identified health as a priority area and, within it, cites the sub-theme of the human resources crisis in health, but does not refer to R&I capacity or measures to create professional opportunities for health workers in the R&I sector. While referring to the need for co-ordination between research and development, calling for co-ordination with FP7, claiming to base itself on past research, and identifying the need for special measures to address knowledge gaps in communicable diseases, there is no real attempt to come to grips with R&I capacity issues.

R&I capacity specific to health is similarly absent in regional strategy papers. Even in Asia 2007-2013, where human and animal health and support for higher education and research institutions were priority areas – and where the team has concrete evidence that health-related R&I really was financed – the health sections of the RSP make little reference to research and the research sections make no specific reference to health.

The JAES has been discussed under the previous indicator. Human resources for health was featured in both Action Plans, but not in the sense of R&I. The closest thing to it was support to improve capacity for evidence-based policymaking and programming.

The same absence of R&I capacity in health exists in the CSPs examined. This is surprising in South Africa, where knowledge- and innovation based growth and enhanced access to health care, as well as the HIV-AIDS dimension, were key themes, where a number of activities in health R&I were financed by the EU through regional programmes, where R&I was effectively mainstreamed into sector

dialogues, and where one of the key priorities of Government was developing South Africa as a regional hub for R&I. However, based on meetings at the DST and EUD, it is more the distribution of health R&I capacity (e. g. between elite universities and historically disadvantaged ones) that is a source of policy concern, not the lack of state-of-the-art researchers and facilities. Partly in response to this, EU financed mobility programme such as ERASMUS are making special provision to include researchers at historically disadvantaged universities. South Africa is one of the few countries with a bilateral allocation used to support S&T collaboration with European institutions, and a special effort has been made to include the historically disadvantaged institutions. In health, PrimCare SPSP grants to civil society organisations contributed to developing sector capacity.

In the Philippines, the 2007-13 CSP adopted access to improved health care as its focal sector and named R&I as one of the eleven areas in which policy coherence for development was required, but the document failed to make any link between the two. In Vietnam, health R&I was not present outside of the ACP psycho-social care project, which was far removed from the sector strategy. To conclude, health is a frequent component of DEVCO strategies, and frequently regional strategies, as well, but not health R&I. At the same time, documentation for DEVCO-supported WHO projects such as ANDI and technology transfer recognise issues of capacity and capacity development.

2.2.2 Indicator 222: Relative share in financial allocations to R&I related to capacity development

No information has been gathered. Some information on share of sector budget support programmes devoted to capacity development can be found, but none of these identifies the R&I component. All evidence, as discussed at many points, is that R&I did not feature in SBS. Of the total of EUR 59 million in health R&I contracts identified in the inventory, about 7% were flagged as “Higher education,” suggesting that they built capacity in partner country universities. The Investing in People project “Support to Public health Institutes” is explicitly aimed at increasing the ability of these institutions to contribute to better health policy. DEVCO has also supported capacity building for better policy making at the African Union Commission.

A significant share of the Senegal-South Africa TB vaccine development project consisted of the provision of infrastructure and equipment, as did projects in Tanzania and Mozambique on ART drug local production and malaria control, respectively. The South Africa ART drug resistance project provided laboratory equipment necessary for testing and helped to finance a centre of excellence for the treatment of complex cases.

International researchers interviewed in Kenya pointed to a structural imbalance in donor support to capacity building (they were referring mostly to FSNA, but the point is equally valid for health). In its eagerness to build capacity for development programme design and implementation, capacity building for R&I has been heavily skewed towards applications and away from basic research. They expressed concern that little capacity is being built to produce the fundamental research required at the upstream end of the R&I pipeline.

2.2.3 Indicator 223: Adequate consideration of sustainability aspects (e. g. provision, maintenance and replacement of equipment) in planning and implementation of EU support

In countries such as Mozambique and Tanzania where health laboratories and infrastructure was provided, there was attention drawn in project documents to the issue of maintaining equipment after the close of the project. The same holds true for the large HIV/AIDS medication resistance project in South Africa and the Poverty Related Diseases (PRD) regional TB-vaccine development project in Senegal and South Africa. In the EU thematic evaluation of health, the lack of adequate attention to maintenance and replacement of equipment after project support ceases was cited as a significant problem.

In the case of South Africa an RTD official interviewed expressed the view that DEVCO could have improved sustainability of FP7 impacts if it had provided complementary financing for infrastructure and equipment. Scientists involved in the large DEVCO-financed drug resistance project expressed no dissatisfaction with the extent of support for equipment. In Ukraine, provision of laboratory equipment to the Institute of Physics under FP7 was warmly appreciated. In Kenya, by contrast, international scientists stressed that institutional sustainability is a long-term issue and one that is poorly addressed by short-term project funds. Not strictly related to the indicator as phrased, but of undoubted importance, is the sustainability-enhancing aspects of including African researchers in international networks.

2.2.4 Indicator 224: Increased capacity of research administration staff including senior scientists in administrative posts to identify and manage R&I opportunities

The "ACP S&T Capacity Building Programme" (see Case Study) was established to bolster capacity in Africa to support Research and Innovation activities in the areas most crucial to development: healthcare, transport, energy, climate change, agriculture and sustainable trade. It is doing this at the levels of institutional, administrative, and policy making; academic research and technology, and business and civil society. Health projects supported were a Caribbean "One health" network implemented by University of the West Indies and an Africa traditional medicines project implemented by the Free University of Brussels in Benin, Burkina Faso and Mali. Project-related documents consulted do not make it clear whether the project succeeded in building capacity is not known. For DG RTD activities that built the capacity of scientists to identify FP7 funding opportunities and negotiate the process of application, see I-231 below. As mentioned above, DEVCO financed Africa Union Commission capacity building, but AU capacity for engaging in policy dialogue is still judged to be low.

During the Ukraine field mission, a number of scientists interviewed identified the lack of dedicated institute capacity for research management as a significant constraint to FP7 participation. The one scientist who had successfully applied for and managed an FP7 project had, by fortune, a background in both physics and business. Key to the promotion of FP7 in the country have been the National Focal Points who were put in place under DEVCO finance and now continue to function under H2020.

2.2.5 Indicator 225: Existence and quality of capacity building related indicators in sector support programmes, and their achievement (e. g. related to incentives to keep and attract qualified scientific, maintenance and engineering staff)

While the human resources for health theme is broadly considered in sector support health documents, the specific theme of research staff is not mentioned. While the EU participated in implementation of the Human Resources for health Global Strategy and plan of action agreed at the First Global Forum in Kampala (2008) through the WHO/Global health Workforce Alliance-managed programme 'Strengthening health Work Force Development and Tackling the Critical Shortage of health Workers', the emphasis here was on workers directly delivering health services, not R&I. The same is true for the Action Plans of the JAES.

However, The Commission Staff Working Paper SEC(2008) 434 on Policy Coherence for Development is replete with references to the need to address scientific brain drain. The Commission Staff Working Document SEC(2010) 381 on European research and knowledge for global health draws attention to the challenge of the gap between DEVCO support, which typically stops short of supporting tertiary education; and DG RTD competitive calls, which reward high levels of scientific excellence. The special case of the anti-brain motivation for R&I support in Ukraine has been mentioned above under I-221.

The South African National Research Foundation is attempting to develop indicators of value for money in South African R&I support but recognises that other countries' experience has shown how difficult it is to do devise credible measures. In Ukraine, as well, scientists expressed interest in developing indicators of research productivity.

2.3 JC 23: Improved access of developing countries' research communities to EU FP7 funding through RTD Summary assessments by sector

Summary judgement

The EC supported several information actions designed to raise awareness of FP7 opportunities and encourage developing country researchers to participate (I-231).

There is no information on time trends at sector level, but the 2014 evaluation of FP7 contains 2007-13 data on number of health projects with international co-operation, number of partners, regional breakdown, financial totals, etc. These data, presented under I-232, indicate that health was a significant thematic area. On request from the evaluation team, DG RTD provided FP7 2007-13 data on a selection of countries which, while not suitable for establishing time trends or precise details such as number of collaborating institutions and number of publications, suggest a rich portfolio of FP7 support. Countries with the most grants were India, South Africa, China, and Tanzania. Apart from hard science, subjects covered ranged widely, including social determinants, health finance, pandemic preparedness, migration and health, epidemiology, and others. A theme that emerged strongly in field visits was that the very nature of international science stresses personal relationships between researchers. While programs in Ukraine were largely judged successful in promoting FP7 participation (not specifically in health), in South Africa and Kenya, FP7 participation was considered to result largely from long-established scientific ties. Researchers interviewed stressed the importance of building on existing ties rather than manufacturing artificial ones through the consortium-building process. In Peru

and Ukraine, field missions revealed that national researchers considered EU funding process as time consuming and demanding.

2.3.1 Indicator 231: Evidence for information actions targeted to research communities in developing countries regarding FP7 proposals

The Ukraine CN has found evidence that DEVCO financed an outreach programme aimed at increasing participation in FP7. Health was one of the sectors covered during meetings, study tours, etc. The country field mission confirmed that this project had been largely successful, particularly in supporting National Contact Points for FP7 information. These are still active and working to ease the transition to Horizon 2020 and integration into the European Research Area. Under the FP7 programme EECALINK (Promotion and facilitation of international co-operation with Eastern European and Central Asian countries), which ran June 2009-November 2011, 12 countries including Ukraine took part in activities to identify priorities and potential FP7 participants in the area of health. Less EU support for promoting FP7 was found in Kenya, which nonetheless was a strong FP7 performer, largely because of the relatively high standard of Kenyan science. As a result, there are long-standing personal ties between Kenyan and European scientists.

In Egypt, according to the EC-Egypt Science and Technology Co-operation Agreement Roadmap 2007-08, the regional Workshop on health Research Co-operation between EU and Mediterranean Partners in October 2007 in Cairo publicised priorities and opportunities for FP7 health co-operation. Under FP7 Tunisia was involved in the INCO-NET platform Mediterranean Innovation and Research Action (MIRA) project to improve dissemination and raise awareness. According to the EU-Tunisia Scientific and Technological Co-operation Agreement Draft Roadmap 2010-11, a MIRA health Workshop organised in Malta in July 2009 discussed and developed areas for health research co-operation.

The PAPERT/PAERD project organised seminars and workshops to raise awareness of FP7 opportunities in ACP countries as well as solicit ideas for calls. The first phase (2009-12) was run by RTD; now (2012-present) DEVCO has taken over. While not specifically devoted to health, the DEVCO-financed Fonsicit international co-operation fund for Science and technology, an initiative in partnership with the Mexican National Research Council, essentially resulted in a mini-FP7 programme for Mexico. In South Africa, European-South African Science and Technology Advancement Project (ESASTAP+), an RTD initiative to strengthen technology, Research and Innovation co-operation between Europe and South Africa, aims to raise awareness of FP7 and promote co-ordination between R&I and bilateral co-operation, covering both MSs and the EU. Promotion of EU-South Africa scientific co-operation is enhanced by the work of the Science Counsellor based in Addis.

2.3.2 Indicator 232: Trends in number, size, geographic and thematic diversity of FP7 proposals submitted and accepted

Under the “Co-operation” specific sub-programme of FP7, one of the ten thematic areas is health. Specific International Co-operation Actions (SICAs) geographically focused mainly on developing countries have concentrated on neglected infectious diseases and public health systems. In health, international co-operation accounted for 31.9% of total co-operation. According to data provided by DG RTD, 262 projects in health received FP7 funding in 2007-09. The country with the largest number was India, with 60, followed by South Africa (39), China (34), and Tanzania (26). There was wide thematic diversity and geographic diversity, as a random selection of non-hard science projects will illustrate -- social determinants of health, health care finance, capacity development for pandemic influenza, population and health in Commonwealth of Independent States (CIS) countries, migration and health in North Africa, epidemiology training, etc.

The 2014 report *International science and technology co-operation in the EU’s Seventh Framework Programme: the specific programme “Co-operation” and its thematic areas* contains detailed statistics on health and other thematic areas, but no time trends as called for by the indicator. Extracting a few major points, there were 286 FP7 health projects with international participation; 21.7% of all projects with international participation. Health projects had an average of 2.6 international participants, each of whom received on average EUR 250,953. Among participating institutions 27% were African ACP, 17% were Asian, and 10% were Latin American. African ACP accounted for just under 35% of the EC’s total financial contribution to FP7 international co-operation in health. Countries with the highest participation were Russia (11%), India (28.6%) Brazil (13.4%), South Africa (22.8%), Ukraine (6.3% and Mexico (6.6%).

In general, achievements in terms of involving partner country institutions and researchers, as well as outputs in the form of scientific publications, are covered in DG RTD *Science and Technology Reviews*. Here follow some summary points:

- In South Africa, the review found that the Council for Scientific and Industrial Research (CSIR), an institution with a long history of international research collaboration and excellent

capacity, accounted for 36 (19%) of all contracts signed. It is adept at contract, financial, project and IP management, and is thus well-positioned to engage with the modalities of FP participation. The Medical Research Council held four contracts, Of 23 researchers checked, five were leading international researchers, eight were internationally acclaimed researchers, seven were established researchers, and three were young researchers. All five leading international researchers were at a single university, suggesting a relatively low uptake into FP of this category. South African participation has steadily increased between FP4 and FP7, to a reported 162 participants, 30 of them in health, under FP7.

- During Frame Work Programme (FWP) 7, eight research project consortia funded under the FP7-health theme featured Vietnamese universities, research organisations and ministries as partners. No information has been yet obtained on Philippines participation n FP7. The Ukraine CN contains details on significant actions designed to increase FP7 participation, with health identified as a focal sector. Closely related to this indicator, according to the 2014 DG RTD *Evaluation of International Science and Technology Co-operation in the EU's Seventh Framework Programme: the specific programme 'Co-operation' and its thematic areas*, health was the second largest area financially (after ICT) and had the highest number and proportion of international collaborations, particularly with the Africa region.
- In India, the *Review* found that owing to the complexity of FP procedures, both Indian and European institutions tend to turn to alternative sources of funding (bilateral co-operation and/or state/federal funding). This results in adverse selection since FP applicants tend to be those who cannot obtain funds elsewhere. There was very limited Indian participation in open calls. The vast majority of the projects involve only one Indian institution, and only in 20 projects Indian participation weights more than 1/3 of the total number of partners. These projects deal with topics highly related to India's development needs – such as health and Environment – and with the ones in which India has a well-known comparative advantage, such as ICTs.
- In China, while collaborations have grown, there is still a lack of information about opportunities. Mobility of Chinese researchers to Europe is excellent while mobility of European researchers to China is unsatisfactorily low.

Field missions to both Ukraine and Peru found that many national researchers consider FP7 funding to be very challenging to obtain. Some cited the lack of internal capacity to manage projects, making them eager to participate as associates but unwilling to take the lead. One scientist, who successfully led one FP7 project, expressed reluctance to apply to H2020 because she had been unsuccessful once after what she considered an immoderate amount of effort required to apply. A further challenge is that institute management systems are almost completely Ukraine-oriented, making it difficult to achieve compatibility with European requirements.

2.3.3 Indicator 233: EU R&I programmes acknowledged by partner country research institutions

In the two countries visited where there were major EU-financed health R&I projects (South Africa and Peru), partner country scientists were fully cognisant of the role of the EU. . In country field missions, as mentioned at a number of points, there was great interest in participating in FP7 consortia as a partner, but broad reluctance to take the leading role. Advantages were perceived to be access to networks, integration into the international scientific community, prestige, and the like (see also JC 24 below). The administrative and management responsibilities of being the lead institution, however, were a major concern.

2.4 JC 24: Enhanced networking of developing countries' researchers at regional and inter-national level

Summary judgement

The evaluation team has found strong evidence that regional and international networking of researchers was promoted by projects financed (I-241 and I-243). There is one standout example at global level – "Support for research into poverty-related, tropical, and neglected diseases," the WHO PP-AP project implementing Element 1 of the GSPoA (priority setting). 125 researchers from partner countries were organised into ten working groups, six of them disease specific, and worked by regional workshops and an online networking and information sharing tool, TropIKA, At regional level, the standout example is ANDI (African Network for Drugs and Diagnostics Innovation), started with EUR 5 million in seed money from DG DEVCO and now counting over 30 affiliated Centres of Excellence. Network projects apart from WHO-implemented ones included the South Africa AVRV drug resistance project, the South Africa-Senegal-Oxford University collaboration on TB vaccine develop-

ment, and two One Networks. DEVCO also financed emergence of the SatURN network on drug resistance in South Africa, Zimbabwe, and Botswana.

As discussed under JC 22, EU support (mostly through FP7) for regional networks that included scientists from poorer countries of the region was effectively a life line that enable beneficiary scientists to lead a reasonable professional life. In addition to bursaries and salary top-ups, it provided professional travel to international conferences, equipment, access to the latest journal-published research, etc.

These and other projects encouraged partner country researchers to participate in policy dialogues (I-242). The Go4health project assembled a web-based network of developing-country experts to provide input into the development of the health SDGs; this was RTD-financed but DEVCO took a keen interest and followed the project closely. Specific information on number of joint R&I projects (I-244) was not found nor was information on scientific publications, although all FP7 project reports reviewed contained extensive lists of peer-reviewed papers, conference presentations, etc. (I-245).

2.4.1 Indicator 241: Share of funding for national, regional and global R&I networking activities

In the inventory, ten DEVCO health projects totalling EUR 15.9 million (27% of the total contracted in health R&I) were identified as "Network" projects. Of greatest size among these was the Infectious Diseases Network for Treatment and Research in Africa (INTERACT) network implemented by the medical school of the University of Amsterdam (EUR 4.8 million). EUR 3.4 million financed the South Africa Medical Research Council project monitoring ART drug resistance in five South African regions, which later gave rise to the South African Treatment and Resistance Network (SATuRN) in several southern African countries (Botswana and Namibia). Small projects supported networks organised by Sokoine University and University of the West Indies under One health and the University of Botswana. All of these projects were regional in nature.

A number of WHO-implemented heath R&I projects supported networks. The priority-setting project "Support to research into poverty-related, tropical, and neglected diseases" brought together 125 researchers in 10 working groups supported by regional meetings and the online networking / information sharing tool TropiKA. The ANDI project has identified over 30 African Centres of Excellence to participate in a regional Research and Innovation network.

RTD financed, but DEVCO followed keenly, the Go4health project which brought developing-country researchers together to consult and advise regarding health SDGs.

See also I-243.

2.4.2 Indicator 242: Increased participation of partner country R&I professionals in national, regional and global R&I policy dialogues

The WHO-implemented network projects identified in I-241 all involved partner country researchers in global and regional dialogues. This was especially important in the priority-setting "Support to research …" project, where the six disease-specific working groups were all chaired by a researcher from a disease-endemic country and where Working Group meetings took place in disease-endemic countries.

See also I-243.

As stated elsewhere, the Global Strategy and Plan of Action for Public health, Innovation, and Intellectual Property is the main international policy platform for health R&I. Progress is monitored by the World health Assembly, the annual WHO meeting of Member States in Geneva.

Country field missions found concrete examples of EU-supported R&I professionals involved in policy dialogue. In Peru, the EUROPAN budget support programme resulted in indicators that were used to support policy dialogue on vulnerability and deprivation in nutrition, an area closely related to health. As described at many points, in South Africa, the EUD and DST supported many contributions of R&I professionals to national policy dialogue.

2.4.3 Indicator 243: Evidence for South-South networks at regional level due to EU support

The clearest example of a regional network project was the ANDI project in which the EU provided EUR 5 million to finance the start-up of the Africa Network for Drugs and Diagnostics Innovation. Not specifically devoted to health but of related significance was the ASARECA network headquartered in Kampala.

In South Africa, the SANTE ARV drug resistance project established strong collaborative links including monthly conference calls between the laboratories in Pretoria, Bloemfontein, the Africa Centre and the Seattle Children's Hospital/University of Washington with respect to resistance testing, technology exchange, data interpretation and analysis. Investigators from Seattle will attend/present at future drug resistance workshops in South Africa. Collaborations have also been established with the National institute for Communicable Diseases (NICD) and the National health Laboratory Service (NHLS) in

South Africa. While this project was primarily oriented towards in-country networks, an objective under the Action was the development of the Southern African Treatment and Resistance Network (SATuRN), a collaborative network in South Africa, Botswana, and Zimbabwe. SATuRN provided the core infrastructure and coordinating mechanism for a number of activities under this grant. A significant number of personnel were trained through SATuRN and, in addition, the SATuRN network was strengthened and extended into several neighbouring countries in Southern Africa.

Under the SANTE TB vaccine development project, collaboration was fostered between South African and Senegalese research institutions.

Under the ACP Science and Technology action "One health," a Caribbean network of animal health, public health and environmental health professionals, working together to develop innovative One health strategies to solve problems at national and regional levels. The Caribbean One health network developed linkages with the One health groups in the World Organisation for Animal health (OIE), the FAO and the WHO, as well as a similar One health network in Africa (implemented by University of Botswana).

The Go4health network was described above.

Turning to FP7, all health (and other sector) projects visited in South Africa build networks of researchers with a strong Africa regional component. As mentioned above, Principal Investigators at South African institutions considered network-based activities to be an essential lifeline to support African science.

2.4.4 Indicator 244: Number and size of joint R&I projects between partner country and European organisations

See discussion under I-232. Information available on FP7 concerns the institution receiving funding, but it does not give information on participation in research consortia headed by European universities.

A general point worth making is that, while FP7 projects may be large in aggregate terms, funding is split among participating institutions, sometimes over ten in number. A specific advantage of DEVCO finance cited in the case of the South African drug resistance project was its ability to support a sizable activity (about EUR 3.4 million).

2.4.5 Indicator 245: Number of jointly authored scientific papers / presentations / research papers (North-South, South-South, North-South-South) resulting from FP7 projects

FP7, as well as DEVCO financed health research projects whose final reports have been examined have all provided extensive and comprehensive lists of scientific publications and conference presentations – this is in the nature of the scientific incentive structure.

3 EQ 3: Instruments and modalities

To what extent has DG DEVCO in its support to R&I used its available instruments in a way that maximises their value?

3.1 JC 31: Appropriateness of the financing modalities and types of funding under different EU instruments and the way they have been applied for enhancing R&I

Summary judgement

With the exception of South Africa, none of the health Sector Budget Support programmes reviewed supported health R&I, at least in a major way. This represented an opportunity missed – even where there was no country health sector R&I policy, SBS could have been used to support strategic priority-setting. .

Thematic budget lines and the call-for-proposals modality were used to support health R&I and, despite concerns that these were not always aligned to long-term needs, generally were defined in a way that made them relevant to needs. Of greatest importance, and the major source of funding (in contract terms) over the evaluation period, was the DCI SANTE budget line. This notably financed the

"Aid for poverty-related diseases" project which financed actions in South Africa, Mozambique, and Tanzania implemented by the national and international research institutions and NGOs, as well as a South African-Senegalese research collaboration in which a European university took the lead. Under the DCI Investing in People budget line, a restricted call for proposals "Supporting Public health Institutes" was launched in 2013 and is financing health sector policy research in Haiti, Kenya, Laos, RDC, Bangladesh, Myanmar Uganda, and Rwanda.

An important modality for financing health R&I was direct project financing under the European Parliament PP/AP approach, in which the Parliament identifies a priority area and DEVCO identifies funding opportunities. This approach allowed DEVCO to finance WHO-implemented research projects that addressed European concerns at global level. There was a regional dimension, as well, as the EU provided a number of grants, in the area of EUR 1.5-5 million, to WHO in order to carry out projects supporting African Research and Innovation networks, transfer of technology and local production, development of community-based care in Africa, and a priority setting exercise involving a global network of researchers.

Also playing a prominent role, and managed by RTD, not DEVCO, was the European and Developing Country Clinical Trials Programme, a public-public partnership bringing together the EU, 13 MSs, and African governments in a programme to accelerate trials of new drugs for HIV/AIDS and neglected tropical diseases.

Despite a generally positive assessment of how instruments and modalities were used, it is not clear that there was any strategic consideration of the mix of instruments and modalities. There was ample evidence of reasonableness, but not much of actual reasoning.

A wide and appropriate range of institutions were involved in DEVCO-supported actions (I-312). The Investing in People thematic budget line call examined here was a restricted call, limited to public health institutes. However, co-applicants included regional research institutions and European and developing country universities and NGOs. The SANTE budget line was open to applications from the entire range of possible applicants – national administrative authorities and agencies at all levels, local communities and NGOs, regional and international organisations, and research institutions and universities. Major recipients included one developing country research institution (the South African Medical Research Council), one large European NGO (*Deutsches Medikamentenhilfswerk Action Medeo*r EV), and both European and developing-country universities (the latter in consortia with European leadership). In South Africa, the health sector budget support programme was used to finance a call-for-proposals NGO initiative a number of whose projects involved applied R&I.

I-313 asks whether budget support financed R&I capacity building. As stated, budget support was not used to support health R&I directly with the apparent exception of South Africa. The distinguishing factor was evidently the existence of a strong national R&I policy, coherent with EU goals, which combined with national ambitions to be an R&I hub, led to strong integration of R&I into sector policy dialogue. More generally, while the desire from all sides for DEVCO to engage in more R&I capacity building has been expressed, the long-term nature of what is needed is not suited to DEVCO's instruments. There is clearly a gap, as RTD's emphasis on scientific excellence and results leaves many developing countries behind. At the same time, as revealed by the South Africa field mission, FP7 projects deliver a great deal of capacity building and institution strengthening simply by involving developing-country scientists in international research networks. Thus, there appears to be gap in the range of instruments and modalities that can be used to support health R&I capacity building.

Judged by amounts contracted, and compared to other areas, there was strong concentration in the channels, modalities, and instruments used: mostly the DCI-financed SANTE budget line, mostly European universities. The WHO PP-AP approach stands out as particularly important for global health R&I, although only accounting for about one-quarter of the sums contracted.

3.1.1 Indicator 311: Evidence for reasonable choice of financial modalities and types of funding to support R&I

In general, the main modality used by the EU for health co-operation over the evaluation period was budget support. Among the countries profiled, Mozambique, Philippines, South Africa, and Vietnam all had health sector support programmes in place. However, with the exception of South Africa, where R&I results were integrated into health sector dialogue, none of these programmes included significant R&I components. While there may have been some innovation as a result of learning by doing, as in the case of EUROPAN in Peru, this was not a focus of the support. The reason for the scarcity of R&I linkages is clear: budget support is designed to align with government policies and priorities, and few recipients have a strategy for R&I either globally or at the sector level. However, SBS was not used to finance R&I priority setting. The exception of South Africa stems from the fact that part of that country's S&T policy is the goal of improving health care delivery services, which in turn was consistent with the PHC delivery emphasis of the two primary health care sector support programmes. Under

this, innovative means of reaching underserved populations (including e-medicine) were explored. More broadly, as discussed in the CN, South Africa has a well-developed R&I policy coherent with EU goals.

Thematic budget lines and the call-for-proposals modality were used to support health R&I. Under the Investing in People budget line, a restricted call for proposals "Supporting Public health Institutes" was launched in 2013. Aimed mainly at promoting health sector policy research, institutes were financed in Haiti, Kenya, Laos, RDC, Bangladesh, Myanmar, Uganda, and Rwanda. The programme "Aid for poverty-related diseases" was financed under the DCI SANTE budget line. This financed actions in South Africa, Mozambique, and Tanzania implemented by the national and international NGOs, as well as a South African-Senegalese-Belgian research collaboration. No information has been found on whether the NSA/LA budget line financed health R&I. However, one official interviewed mentioned that thematic budget line Calls for Proposals are sometimes affected by a short-termism that stands in the way of aligning with long-term R&I priorities (this comments was made about all sectors, not just health). In South Africa, the PrimCare programme under health sector support issued a call for proposals open to NGOs working in the primary health care area. R&I projects supported in included behavioural change research and operational research on clinic performance. The private sector was, however, somewhat lacking in all DEVCO and RTD-supported RTD officials, something that persons interviewed attributed to the reluctance of firms to participate in collaborative ventures.

An important modality for financing health R&I was direct project financing under the European Parliament PP/AP approach, in which the Parliament identifies a priority area and instructs DEVCO to identify funding opportunities. As described under the Case Study "EU support for health Research and Innovation at WHO," the EU has provided a number of grants, in the area of EUR 1.5-5 million, to WHO in order to carry out projects supporting African Research and Innovation networks, transfer of technology and local production, development of community-based care in Africa, and a priority setting exercise involving a global network of researchers. All of these were implemented by WHO Geneva.

An especially important approach to health R&I, albeit one emanating from RTD and not DEVCO, is the European and Developing Countries Clinical Trials Partnership (EDCTP). This is a public-public partnership with participation by European and African governments to accelerate clinical trials, mostly of drugs related to HIV/AIDS but also neglected tropical diseases. DEVCO tends to be concerned that the impetus emanates from EU MSs rather than the EU, but this must be balanced against the fact that there is, unusual for RTD, strong participation by African governments. Partners are the EU, 13 MSs and African countries including South Africa, Burkina Faso, and Tanzania. An evaluation calls for closer co-operation between RTD and DEVCO, particularly to encourage take up of results.

The indicator specifies a reasonable choice of financial modalities and types of funding. If this means simply range, then the range of approaches employed to finance health R&I was acceptably wide. If it is taken to mean that there was strategic consideration of the mix of modalities and how they might best complement each other, then the answer is that no evidence of this was found outside South Africa.

3.1.2 Indicator 312: Relevant research institutions (national, regional, international) apply for and benefit from opportunities for funding of R&I

Strictly speaking, only call-for-proposals modalities allow for applications. The Investing in People thematic budget line call examined here was a restricted call, limited to public health institutes. However, co-applicants included European, regional, and developing country universities and NGOs. Participants in grants included University College London, Makerere University, *Université Libre de Bruxelles*, Institute of Tropical Medicine (Antwerp) *Université de Lubumbashi*. Regional research institutes include *Institute Africain de Santé Publique* (Burkina Faso) and the International Centre for Diarrhoeal Disease Research (Bangladesh). International NGO participants included HelpAge International (London).

In Tanzania, the SANTE budget-line project on technology transfer and local production (not to be confused with the WHO project on the same subject) was implemented by Deutsches Medikamenenhilfswek Action Medeor EV; the SANTE malaria control programme in Chokwé was implemented by the Portuguese *Instituto de Higiene e Medicina Tropical*; in South Africa the SANTE project on HIV drug resistance was implemented by the national Medical Research Council. The SANTE budget line was open to applications from the entire range of possible applicants – national administrative authorities and agencies at all levels, local communities and NGOs, regional and international organisations, and research institutions and universities. The mix of applicants is not known, but the partners in the Senegal-South Africa TB vaccine development project reviewed in the relevant project profile were the University of Cape Town, Oxford University, and *Centre Hospitalier Universitaire Le Dantec*, Senegal.

EU support for research implemented by WHO (the PP-AP modality) develops as a result of European Parliament initiatives and specific projects may involve DEVCO-WHO consultations. It is possible that

informal proposals originate in WHO and are then aligned with support made possible through actions of the European Parliament.

During all field missions, the challenges of involving the private sector were cited. It was often raised in interviews that many developing-country institutions do not have the capacity, depth, and experience to be competitive in the FP7 research process. The focus of RTD is on scientific excellence, making it difficult for it to meet R&I needs in developing countries. The issue of whether and how DEVCO might contribute to capacity building for R&I is discussed here at many points.

See also I-311.

3.1.3 Indicator 313: Programmes supported by sector and GBS encourage development of research capacity in tertiary and post-graduate education

None of the budget support programmes examined directly supported tertiary- and postgraduate education in medicine and related health fields. In South Africa, researchers interviewed did not perceive that, apart from rectifying historical inequalities between universities, there was need for better research capacity in higher education. Frequently mentioned, however, was the poor state of science education in the secondary and lower levels, with the result that there is a pressing shortage of talented black applicants for science programmes at the best institutions and, *pari passu*, a shortage of MA and PhD students. The National Research Foundation has set an ambitious goal of increasing the number of South African PhDs produced, but it is not clear that there will be enough candidates. Complicating matters is that, in its efforts to reduce graduate unemployment, government has made it relatively easy for students completing a Master's degree to obtain relatively well-paid employment in the public sector.

3.2 JC 32: Strategic approach adopted to choosing different possible actors / channels with whom the EU can work to support R&I and how best to support them with the instruments and modalities available

Summary judgement

Some aspects of this JC were already touched upon in assessing JC 31. The choice of actors / channels and instruments / modalities appears to have been objectively reasonable. Whether it was subjectively reasoned by decision makers is much less evident. The relative concentration described above makes it more likely that DEVCO simply pursued its priorities – overwhelmingly in the area of poverty-related diseases, and especially access to medicines, to judge according to sums contracted – using the instruments, modalities, channels, and agents that were available. The lack of R&I in health Sector Budget Support can be explained by the lack of relevant policies in the countries supported, but raises the question of why it was not used to support priority-setting. As to DG RTD, the emphasis on scientific excellence and the need to ultimately align co-operation to the needs of European science constrain the ability of that DG to cooperate in ways that meet the R&I needs of developing countries. While participation in FP7 projects addressed the needs of individual partner, in countries without a coordinated R&I policy, there was no guarantee that national development needs were addressed.

The choice of WHO as the global partner of choice in DEVCO-financed health R&I was reasoned (project documents demonstrate this); it was also both pragmatic and strategically sound. WHO is responsible for coordinating implementation of the Global Strategy and Programme of Action on Public health, Innovation, and Intellectual Property Rights which effectively covers all health R&I (although the operational research component perhaps less well than the hard science

The largest implementers identified in the inventory, according to amounts contracted, were European universities, and the choice generally seemed appropriate. The absence from the list of implementing partners of NGOs with expertise of the "what works" variety is somewhat surprising, but these organisations are often so concentrated on delivering services that they have little time to spend on doing research, or even documenting successful innovations. In South Africa, health sector budget support was used to support NGOs on a call-for-proposals basis, a number of which featured health systems R&I. The difficulty of involving the private sector was everywhere noted, the suggested reason being the reluctance of firms to participate in collaborative ventures.

The main difference in instruments / modalities cited in the field visits was the possibility for DEVCO R&I to finance capacity building and institution strengthening while RTD financed scientific projects. However, scientists interviewed were quick to point out that capacity building and institution building require long-term support, including core funding.

3.2.1 Indicator 321: Evidence for reasonable choice of actors and channels used to support R&I

The main channels available for implementing R&I co-operation in health are Ministries of health (through budget support), universities and research institutes, NGOs, local authorities and semi-autonomous government agencies (such as public health institutes), regional organisations and networks, and international organisations and networks. There is no evidence that the choice was a conscious one. Support to R&I in Ministries of health, with the very modest exception of South Africa where there was a small operational research component, was absent from the countries and sector budget support programmes reviewed. In view of the paucity of national health R&I policies, especially in the poorest countries, this is not necessarily surprising. It may also reflect a preference, on the part of both the EU and partner governments, to concentrate on immediate service delivery, not longer-term issues. As pointed out by an RTD official interviewed, the main interlocutors of DEVCO are sector ministries, not Ministries of Research. South Africa, where the DST ensured a constant dialogue between researchers, the EUD, and sector ministries, stands out as an exception and possibly as a model.

As to the other channels, in many cases, the choice of actors was pragmatic. Investing in People, for example, sought to provide national health authorities and stakeholders with evidence-based research in public health. This, combined with the traditionally close relationship between governments and national public health institutes – only one was to be selected per country – made public health institutes the channel of choice. In the case of HIV/AIDS drug resistance in South Africa, the Action Fiche for the SANTE-financed poverty-related disease 2006 work plan noted that the Medical Research Council was the main financer of health research in the country, including in the area of HIV/AIDS. In the case of the also SANTE-financed South Africa-Senegal-UK project on developing a TB vaccine, it is likely that only universities (University of Cape Town in the case of South Africa) would be able to effectively undertake the envisaged cross-border research. In Tanzania, where SANTE financed a technology transfer and local-production project, the excellent track record of the German NGO responsible was cited, as was its good relationship with the European pharmaceutical industry. The private firm Tanzania Pharmaceutical Industries Ltd. (TPI) was identified as the likely partner for carrying on the project's work.

The only project documentation consulted where the appropriateness of the channel was explicitly considered was for projects implemented by WHO Geneva. In all cases, the project is situated in the context of the WHO Global Strategy and Plan of Action. WHO is cited as the natural agency to implement such projects. It is referred to as "the leading international authority on public health matters" and attention is drawn to its capacity to draw on a deep well of expertise not only internally, but externally as well in academia, NGOs, and the private sector. WHO is also identified as having the ability to form partnerships with other international organisations, such as United Nations Conference on Trade and Development (UNCTAD) and the World Intellectual Property Organization (WIPO), in matters affecting trade and intellectual property rights. In programmes such as the PRD research prioritisation project, ANDI, and promoting research for improved community-based health case in Africa, it is clear that DEVCO relied on WHO to mobilise its international network to implement broadly and effectively. A sentence from the community-based care Action Fiche is indicative: "WHO/TDR will set up partnerships with national and local implementing partners such as ministries of health, UN agencies, national and international NGOs and other groups implementing primary healthcare packages, to discuss and agree on Community-directed Intervention approaches in specific regions." Not as fully developed as in the case of WHO, it is also explicitly mentioned that the Medical Research Council, which implemented the EUR 3.5 million South Africa HIV-drug resistance project (and served as the node for the regional SATuRN resistance monitoring network) had unique capacity.

With the exception of research into community-based disease management, WHO projects were largely focused on drugs and treatments, and particularly ways of improving access and addressing market failure in the global knowledge market. Health sector support programmes examined were largely focused on improving access through reforms in governance, finance, and service delivery. In a sense, the two foci complement each other because the first is on developing relevant scientific knowledge and the second is focused on ensuring that poor people are able to benefit from it.

In Kenya, an issue arose which, while it emerged from discussions on FSNA, is equally relevant to health. This is the potential that support to large international institutions (CGIAR in that case) may offer the highest likelihood of effective implantation, but comes at the possible cost of crowding out national research institutions.

See also I-311.

3.2.2 Indicator 322: Opportunities for supporting NGO-implemented R&I adequately exploited

The most direct strategy for supporting NGO implementation of health R&I is through thematic programmes. In the Investing in People strategy paper 2007-13, good health for all is identified as one of the four focal sectors. Among activities identified as appropriate for financing were Identification, development, collection and transfer of know-how and best practice across regions and improvement of technical and scientific co-operation between countries and regional organisations. In line with the DCI instrument that funded Investing in People, areas identified as of special concern, especially in the poorest countries, were health workforce, poverty-related diseases, neglected diseases and emerging health threats, and sexual and reproductive health. The 2010 Mid-term Review leaves the impression that the instrument was not used to promote or finance R&I (although the Public health Institute strengthening project mentioned above was proposed in the course of the MTR). One reason may be that the clear emphasis was on countries having the hardest time reaching the MDGs, with a focus on improving policy. This leaves little room for NGOs conducting research.

According to the inventory, of the total of EUR 58.9 million contracted for health R&I, about 11% was channelled through European NGOs, but this was highly concentrated on EUR 4.3 million for the Deutsches Medikamentshilfswerk HIV/AIDS local production project in Tanzania,

Part of the concentration is no doubt due to the fact that relatively few NGOs engage in pure research, particularly in the area of hard science. Two small contracts, both for less than EUR 500,000, were channelled through non-EU NGOs, the first a small education project through the South African Centre for Education Policy Development and the second the provision of equipment to a Venezuelan hospital through the Non-state Actors budget line (the only appearance for that instrument in the inventory). Presumably the absence of non-EU NGOs reflects a number of factors – in particular, concentration on the poorest countries where NGO capacity is weak. As a general point, the rhetoric in strategic documents on the importance of civil society as a partner is disproportionate to the actual number of contracts signed.

See also I-311.

3.2.3 Indicator 323: Appropriateness of use of EU universities in the design and implementation of DEVCO-funded R&I projects in developing countries

The largest share (37.7%) of the EUR 58.9 million contracted went to EU universities. The largest of these were the Oxford University TB vaccine development project linking with universities in South Africa and Senegal (EUR 5 million), the INTERACT African infectious disease network project implemented by the medical school of the University of Amsterdam (EUR 4.8 million), and a TB prevention and treatment project implemented by the University of Sussex (EUR 4.5 million). These were all financed by the SANTE budget line. The Oxford project scored high marks in monitoring reports, including praise for the quality of communication and co-ordination between the partners. This suggests that Oxford was appropriately involved in the design and implementation. Nothing is known of the other two projects. Eight of the remaining 13 projects, mostly financed by EDF, involved in higher education, training, etc., show a presumably appropriate use of European universities. Language was an obvious factor in the selection of implementing universities; for example, in the vase of the Mozambique malaria control project discussed elsewhere, the institute receiving the contract was affiliated with the University of Lisbon.

Since projects implemented by EU universities were on a call-for-proposals basis, it can be taken as reasonably assured that the universities were appropriately involved in project design. As to appropriate use of their expertise, the 16 EU university-implemented projects here cover a wide range, from psychosocial medicine to maternal health care to community micro-insurance to general public health to vaccine development. In general the appropriateness of contracting to European universities has to be understood in a context where the capacity, both scientific and administrative, to design large international research collaborations is stronger in Europe than in developing partner countries. To this should be added the reluctance, discussed elsewhere, of non-European partners to lead consortia in view of heavy administrative and management requirements. Finally, an FP7 application is highly time consuming, and an institution with limited capacity and lacking a long track record of success will be naturally reluctant to take the risk.FP7 health project Principal Investigators interviewed in South Africa all had long and fruitful research collaborations with European institutions prior to the project being studied.

3.2.4 Indicator 324: Evidence that channelling funds through global institutions development research programmes (e. g. WHO, WB, IFAD, CGIAR) adequately complements other approaches to pursue DEVCO R&I priorities

The potential problem that funding large global institutions might crowd out the development of smaller national ones has been mentioned above, but no concrete instances of this in health were identified. A

Case Study has described EU channelling of health R&I funds through WHO. The point is there made that strategic documents explicitly reference the role of WHO in global health R&I, especially as it affects the poorest countries and the achievement of development goals. WHO also speaks with unique authority in the area of drugs and diagnostics because of its role as the repository of the Global Strategy and Plan of Action negotiated by all of its member states. As the WHO operates in large part through global networks, actions implemented may complement and give rise to synergies with other EU actions in higher education and infectious diseases of poverty, but this is de facto and not an explicit strategic consideration in the choice of WHO. Except for the EUR 3 million community care project, all of the EU-financed WHO projects involved medicines one way or another. It is striking that, when small projects with a higher education focus are excluded, almost all non-WHO EU-financed actions are also related to medicines – IAVI, IPM, TB vaccine development (Africa-Senegal), local production of ART drugs (Tanzania), etc. To the extent that a broad approach to R&I is needed, one that encompasses health systems research and operational research, it is not clear that complementarities between R&I approaches are being fully achieved.

3.3 JC 33: Level of efforts taken to choose between and to combine different modalities and channels

Summary judgement

This judgement is overlapping with JCs 31 and 32, and the relevant portions of those assessments will not be repeated. There is no evidence that DG DEVCO rationally planned which modalities and channels to use; the decisions were objectively reasonable but there is no evidence that they were subjectively reasoned (I-331). Communications between DEVCO and DG RTD were good, but the distinctly different missions, styles, and interlocutors of the two institutions made it difficult to achieve synergies. The often-expressed desire that DEVCO should finance capacity building which could then be leveraged by RTD was difficult to achieve because capacity building and institution strengthening in science are inherently long-term endeavours requiring stable and predictable financing (I-332). There is no evidence that DEVCO engaged in external consultations regarding the choice of modalities and channels (I-333). On I-332 and I-332, concerning DG DEVCO consultations with other DGs and external actors, DG DEVCO participates in and is rotating chair of the Global health Policy Forum, an important network bringing together DGs (essentially DEVCO, RTD, and Santé), the private sector (essentially European pharmaceutical firms), NGOs, academics, and other stakeholders. A number of Global health Policy Forum (GHPF) events concerned health R&I and related topics such as access to medicines and the role of the private sector. From the evidence examined, DGs RTD and Santé appear to be more implicated in the Forum than DEVCO. DEVCO officials have expressed discontent at the extent and depth of consultations between DG RTD and DG DEVCO, the implication being that DG RTD essentially goes its own way in framework programmes. Some EU officials interviewed referred to the two DGs as simply living in different universes; one stressing hard science and, increasingly, the role of the private sector; the other more concerned with operational issues and, on the hard science front, with how to respect the political agenda implicit in the MDGs and the GSPoA. This is, however, to some extent belied by the large number of operational research programmes financed by FP7.

3.3.1 Indicator 331: Appropriate rationale used in combining the use of different instruments and financing modalities and channels

Strategic documents do not discuss the rationale for the use of different instruments and modalities – apart from a passing reference in the 2010 health Communication referring to the inefficiency of providing only project funding to WHO (a practice that still continues). As stated, budget support was not really used to finance R&I, mostly because few countries will have had a health R&I policy to align with, nor was it used to develop priorities. The Mid-term Review of Investing in People does not suggest that one of the main purposes of that instrument, involving civil society, was effectively met. Contracts reviewed suggest tight concentration of instruments and modalities. 44.4% of the amount contracted went through the SANTE budget line, which is to say the DCI instrument and a call for proposals modality. All of these projects were implemented by large partners with deep capacity – either major universities, or the Medical Research Council of South Africa, or European NGOs connected with the IAVI and IPM initiatives. Another 16.3% went through other EDF modalities, essentially EDULINK and inter-ACP allocations. 28.2% was allocated directly to WHO under the PP-AP approach. To conclude, DEVCO financing of health R&I appears mostly to have consisted of projects of opportunity; there was interest in an action and there happened to be an instrument / modality / channel for implementing it. This was, for example, the case with the South African drug-resistance project, which had its origin in an informal concept note sent by the South African Principal Investigator to the health programme officer at the EUD. The use of budget support to finance the co-ordination and poli-

cy dialogue roles of the DST, by contrast, appears to have been a strategic choice and one that has had the salutary effect of leveraging FP7 results into development applications and outcomes.

3.3.2 Indicator 332: Evidence for liaison with other relevant DGs and Member States to coordinate use of financial modalities and channels

Interviews suggest good lines of communication between the two DGs, but a lack of strategic co-ordination, for a number of reasons. DG RTD's focus on scientific excellence leads it to an approach based on competitive calls for proposals, which does not serve DG DEVCO's priorities well. RTD's goal is to support scientific achievement; DEVCO's is more to build the capacity of key institutions to support development. One official pointed out that programme cycles are not aligned, as well. In Horizon 2020, RTD has biannual work programmes kicked off by calls for proposals every two years. DEVCO has no such programme cycle. In the health field, specific reference was made to the failure of DEVCO health projects and the European Developing Countries Clinical Trials (EDCTP) Programme to complement each other, even where, as in South Africa, they were working on very similar topics (ARV drug resistance). An impact assessment of EDCTP's first phase recommended closer co-operation with DEVCO. As pointed out at several points, opportunities for combining DEVCO capacity building (including equipment and infrastructure) with RDT Framework Programme support are difficult to exploit. The two DGs have different sets of interlocutors, RTD with the Ministry of Research and DEVCO with the Ministry of health. The type of capacity building and institution building needed to make a developing country capable of engaging effectively in international scientific co-operation is long-term in nature – a number of officials cited the estimate of ten years of support. No DEVCO instrument can achieve this. While RTD expresses the desire that DEVCO can finance projects leading to the take up of RTD-financed discoveries, DEVCO counters that RTD's focus on science does not endow its officials with an understanding of the complexities and challenges of health-sector innovation, all the way from institutional and human resource factors to the medical supply chain.

An example of a programme where there has been close co-operation between DEVCO and RTD is the 2011-15 Go4health initiative, a consultative mechanism to promote developing-country input to defining the health-related SDGs. In this case, DEVCO suggested the idea and RTD provided the finance. In this case, there is close contact between the responsible officials in RTD and DEVCO. However, another RTD official (not concerned with health) interviewed cited near-total absence of communication between DEVCO and RTD under FP7.

At field level, the best example of coordinated support for R&I was in South Africa, where DEVCO budget support to the DST was used to leverage FP7 research programmes, as was the Policy Dialogue Facility. This represented the combination of adequate EU capacity (in the EUD and in Addis Ababa) and a strong national scientific establishment with developed R&I policy views and influence. Also in South Africa, the EUD hosts a co-ordination meeting three or four times a year at which MS science counsellors and government are represented.

3.3.3 Indicator 333: Evidence of external consultation on choice of modalities and channels and of EC responsiveness to feedback received

While evidence has been found of DEVCO participation in international co-ordination structure (e. g. the Global health Policy Forum), there is no evidence that these have been a source of external consultation on choice of modalities and channels.

4 EQ 4: DEVCO-RTD complementarity and coherence

To what extent has EU support to R&I by DG DEVCO and by DG RTD been complementary and their collaboration promoted Policy Coherence for Development (PCD)?

4.1 JC 41: Extent to which DGs DEVCO and RTD have formulated clear strategies on how they should cooperate in a complementary way and how the work of other relevant EU institutions (such as the EIB) is also complementary with their own

Summary judgement

It is clear on the face of matter that both DG DEVCO and DG RTD strategies take the MDGs and subsidiary EU development goals and strategies into account (I-412). While EU research strategy (e. g. DG RTD) is required to take into account Policy Coherence for Development, this is not reported to be a major concern in health. DG RTD is not a development agency nor is its flagship co-operation FP7 programme a development programme. Its goals are to benefit Europe, in particular by engaging in co-operation with Third Countries when it is advantageous to do so. Its deep (and costly) involvement in R&I related to HIV/AIDS, tropical, and neglected infectious diseases is grounded in the fact that these are global problems, (implicitly) that they pose a threat to European citizens, and that participating in international cooperative research in these areas is beneficial for European S&T generally, as well as of commercial interest. DG DEVCO, by contrast, is exclusively a development agency. Since both DGs align to the MDGs, indeed to the GSPoA, it may be argued that there is coherence, but still, the difference in fundamental orientation is stark. Not to oversimplify, but DEVCO is a development funding agency with an institutional culture of development practice; RTD is a science funding agency with an institutional culture of science administration.

This raises a wide range of issues – complementarities, synergies, overlap, duplication, consultation, co-ordination, etc. Evidence is that, as health goes, the two DGs run largely on parallel tracks or, as one official put it, live in two different universes. They do not do so as equals. Strategic documents, including the crucial SEC(2010) 381 on European research and knowledge for global health, after emphasising the important role that health Research and Innovation can play in achieving development goals and the central position of the GSPoA, invariably recognise FP7 as the main instrument. Indeed, DEVCO is little alluded to in research strategic documents at all levels, including those specifically devoted to health and even health R&D. The 2012 international co-operation strategy adopted by RTD in 2012 foresees no specific division of tasks between DEVCO and RTD. While this was discussed in the Inter-service Steering Group (ISG), it was in no sense a joint communication.

The most-often mentioned opportunity for complementarity was for DEVCO to finance long-term capacity building that would pay off in enhanced developing-country scientific co-operation and, specifically, participation in framework research programmes. Such long-term institution building is difficult for DEVCO to engage in. This led one official to comment that, to fill existing gaps, DEVCO would need to investigate means of financing long-term capacity building while RTD would need to take more into account the constraints and challenges faced by developing-country researchers.

There is no evidence in strategic documents including CSPs and project documents of any effort to coordinate between the two DGs or of recognised respective roles and complementarities or division of labour (e. g. RTD funds universities, DEVCO funds government agencies and NGOs; or RTD funds hard science and DEVCO finances operational research) – I-411. FP7 is never referred to in any DEVCO documents examined, nor is DEVCO referred to in FP 7 documents. While both DGs are aware of the links between R&I and the MDGs (I-413), strategic documents do not call for co-ordination or acknowledge possibilities for overlap and duplication (I-414).

At the same time, interviews have shown that there is frequent communication and consultation between the two DGs – officials know who their counterpart is, documents are shared and commented on, etc. Thus, while the communicative space exists, there is no evidence that it results in actual co-ordination or collaboration.

At field level, the two major factors determining the scope for co-operation between the two DGs are the presence of a government R&I policy and an agency with reasonable capacity to pursue it and EUD capacity.

4.1.1 Indicator 411: DEVCO and RTD have a good understanding of their respective roles and complementarities and in relation to other EU institutional actors in this field and this is generally understood at all levels

In general, DEVCO and RTD have a shared understanding of their respective roles and, as pointed out above, communications are good. At the same time, there is no real mechanism for co-ordination and the achievement of complementarity.

As evidence of RTD's understanding of R&I's contribution to development, a range of R&I strategic documents, including COM(2008) 588 on a strategic framework of international S&T co-operation and the staff working paper SEC(2010) 381 on European research and knowledge for global health emphasise the important role that health Research and Innovation can play in achieving development goals. In the latter, the public good aspect of research is noted and the key position of the Global Strategy and Plan of Action on Public health, Innovation, and Intellectual Property is recognised. EU Framework Programmes are described as "the main instrument" for implementing EU research policy and it is pointed out that, with EUR 6.1 billion allocated for 2007-13, health is a significant part of the FP7 co-operation budget. A mandate for international co-operation is set by the MDGs and priority areas include health policy research, health systems and healthcare service research, maternal and child health, reproductive health, control and surveillance of neglected communicable diseases and emerging unforeseen needs. The health theme provides a vehicle to finance research on antimicrobial resistance, HIV/AIDS, malaria, and TB, end emerging infectious diseases, including the European and Developing Countries Clinical Trials Partnership (EDCTP). Specific FP7 areas of health co-operation are:

- Specific international co-operation actions (SICAs). These address (or did up until the last two years of FP7) particular MDG-related problems in Third Countries through dedicated cooperative activities and were related to bilateral co-operation agreements.
- The Neglected Infectious Diseases project, which develops innovative simple diagnostic tools and training health personnel.
- EDCTP (European-Developing Country Clinical Trials Partnership). This initiative, which pools EU funds with funds from Members States, the Gates Foundation, and other stakeholders, is a public-public partnership between the EC, 13 European MSs and African governments. A 2013 impact assessment was positive, especially on the strong involvement of African countries, but called for closer co-ordination and co-operation with DEVCO. In South Africa, for example, it was found that EDCTP and DEVCO were financing very similar research related to ARV drug resistance. Closer communication, co-ordination, and collaboration might have enhanced effectiveness.
- International public health and health systems. FP7 activities in this area are aligned with collaboration with the WHO, the GSPoA, and the Policy Coherence for Development (PCD) agenda.
- Go4health, in which a network of African lawyers and academics coordinated by the tropical medicine institute in Antwerp in 2011-15 developed input to the definition of the health SDGs.

The FP7 health theme is clearly consistent with the MDGs and the GSPoA. By transitivity, there is a considerable degree of coherence between FP7 co-operation activities and DG DEVCO co-operation – both are orienting themselves to the same set of global objectives. At the same time, there is no strong evidence in strategic documents such as CSPs and project documents of any effort to coordinate between the two DGs or of recognised respective roles and complementarities or division of labour (e. g. RTD funds universities, DEVCO funds government agencies and NGOs; or RTD funds hard science and DEVCO finances operational research; or RTD funds science while DEVCO funds scientific capacity building and institution strengthening). The "Investing in People" strategy paper 2007-13 notes the importance of coordinating the health theme with FP7 but there is no actual sign of this in the call "Supporting public health institutes." In countries, such as Mozambique, Tanzania, and South Africa where both DEVCO projects and FP7 cooperative activities were carried out, there is no evidence of EU-led complementarity or co-ordination (there is some evidence of Government-led co-ordination in the latter case) – the two seem to run on different tracks. The 2012 international co-operation strategy adopted by RTD in 2012 foresees no specific division of tasks between DEVCO and RTD. While this was discussed in the ISG, it was in no sense a joint communication.

A possible explanation is that, despite the effort to promote coherence between European Research and Innovation policy, as embodied in FP7, and development policy, the emphasis is tangibly different in the work of the two DGs. To quote from SEC(2010) 381 final on European research and knowledge for global health, "The objective of FP7 is to strengthen industrial competitiveness and meet the research needs of other Community policies …" International co-operation is described as meeting two functions: supporting and promoting European competitiveness through strategic research partnership

with non-EU countries and addressing specific problems that non-EU countries face or of a global nature, on the basis of mutual interest and mutual benefit. In the latter, the global public good theme, and the need to protect European citizens against health threats emergent in the developing world are implicit.

Interviews in Brussels tended to strengthen the view that the two DGs have not fully arrived at a shared view of their roles and complementarities. Co-ordination at Brussels tends to be ad hoc, there is no set of guidelines establishing roles and responsibilities and setting protocols for communication and consultation. This is despite the fact that communications between the two DGs appear relatively good. There is some co-ordination, of course. Ad hoc consultations occur at varying points in the RTD programming cycle. Examples are when the FP is being designed, when the AWP is being designed, when there is a CfP, either regular or ad hoc. Project reports are shared and in the case of large programmes like EDCTP, DEVCO sits on the Board. RTD, like DEVCO, and SANCO, sits on the board of TDR at WHO, but its participation has been variable. It was offered a place on the ANDI board but failed to fake it up. An example of successful working together was the Ebola Task Force, where DEVCO, RTD, SANTE, and others swiftly designed and issued a Call for Proposals. RTD officials in the health field have identifiable counterparts on the DEVCO side and vice versa and strategies, funding, etc. are discussed regularly. RTD and DEVCO both take part in the Global health Policy Forum and sit together in Senior Official Meetings.

What would then explain the reported gap between the two DGs? Interviews suggested that the two DGs have fundamentally different orientations, the one promoting scientific excellence (which requires co-operation) and the other promoting development (which requires R&I). The co-operation interlocutors of one are Ministries of Research and those of the other are line sector ministries. With its emphasis on scientific results and excellence, RTD is not well suited to capacity building and institution building, whereas DEVCO places these at the core of its mission. Such differences coalesce in the fact that co-operation in one DG is entirely on a Call for Proposals basis whereas the other works with partner governments to establish priorities and carefully select institutions to be supported on the basis, not of their current depth, but of their potential.

In multiple interviews, it was stated that the ideal complementary roles would be for RTD to finance research and DEVCO to build capacity, but many interviewees also acknowledged that capacity building to this level would be a long-term matter, one that DEVCO's instruments are not well suited for. One official also suggested another form of complementarity, summed up as "RTD finances development of a pill; DEVCO finances getting it into peoples' mouths" -- while acknowledging that this is an oversimplified view of the complex set of institutional and socio-economic factors that underlie innovation and take up.

DEVCO's mission, particularly following the Agenda for Change, calls on it to focus on a few broad sectors in each country, making it difficult to finance R&I through its geographic programmes. When R&I is part of a broader focus, following the leaky-bucket analogy, a great deal of support can leak out before it reaches the researchers it is intended to benefit. While thematic programmes offer a sound means of financing R&I, Calls for Proposals are sometimes responding to short-term fashions, not long-term R&I priorities.

At field level, not only co-ordination but also awareness is sometimes a problem – this was the case in Kenya, where the EUD lacks capacity to track what RTD is doing or capable of doing. South Africa was, as discussed at many points, the opposite of this situation, with excellent co-ordination between the two DGs at the overall programmatic level. This was in part due to good capacity, but also in large part due to the fact that the DST and National Research Foundation, which are responsible for co-funding, are able to exercise some control over the nature of the FP7 research portfolio. In Ukraine, which has reasonable EUD capacity in R&I, the DEVCO JSO-ERA project successfully promoted FP7 participation and was complemented by a smaller FP7 project with the same goal.

In concluding, RTD and DEVCO each appears to have a good understanding of their roles in promoting health R&I but this does not encompass a strong view on how or whether these roles complement each other. Communication between the two DGs is nonetheless well developed. There are also some examples of joint work. Co-ordination and complementarity at the field level run the gamut from nil to exemplary.

4.1.2 Indicator 412: DEVCO and RTD aware of R&I needs identified relative to achieving MDGs

This is clear on its face. The two major health strategic documents – COM(2010) 128 on the EU role in global health, and SEC(2010) 381 final on European research and development for global health -- are meticulous in laying out the relevance of the proposed strategy and specific programmes to achieving the MDGs. COM(2008) 588 on a strategic framework for international Science and Technology co-operation specifies the research co-operation with developing countries should be aligned with

development co-operation policies and the MDGs. The MDG relevance of FP7 is obvious from the list of programmes given under I-411. Looking forward, however, the Horizon 2020 programme replacing FP7 appears to accord less importance to the health needs of poor countries, a source of some concern in DEVCO. It fails to mention child health, maternal health, and neglected diseases, makes no reference to the GSPoA and does not specify platforms for joint decision making on research priorities.

4.1.3 Indicator 413: DEVCO and RTD strategy documents recognise and stress needs particular to pro-poor R&I

While calling on FP7 co-operation in developing countries to be aligned to the MDGs, COM(2008) 588 does not specifically identify pro-poor R&I needs. The specific health example given, however, combating infectious diseases, clearly satisfied this criterion. Similarly, COM(2010) 128 does not explicitly bring in poverty, but the themes that run throughout, such as access for all and health systems strengthening, are clearly pro-poor in nature. Poverty-related diseases are singled out as an important area for action.

4.1.4 Indicator 414: DEVCO and RTD have a clear idea of potential areas of danger of duplication and necessary redundancy between their respective roles and of those of other relevant EU institutions

Apart from the well-developed lines of communication described under I-411, there is no evidence that this is the case. One official (not from either one of the DGs) summed the situation up simply – there is a gap, and if it is to be filled, each DG would have to move towards the middle; DEVCO to financing longer-term capacity building and RTD into taking more into account the special needs and constraints of developing-country researchers.

When high-level strategic documents such as those discussed above treat Research and Innovation, they almost never refer to DEVCO. DEVCO's support to research appears to be practically invisible. DEVCO project-level documents – largely Action Fiches, Mid-term Reviews, evaluations, and research report – make no reference to FP7 projects. To give an example, in South Africa, where primary health care budget support and S&T budget support both sought to develop and apply innovative means of service delivery, largely community based, to improve access to care in peripheral regions, FP7 supported among others the following projects:

- Enabling universal and equitable access to healthcare for vulnerable persons in poor resource settings;
- Universal coverage in Tanzania and South Africa: monitoring and evaluating progress;
- Consortium for health Policy and Systems Analysis in Africa;
- Human Resources for Primary health Care in Africa;
- African Regional Capacity Development for health Systems and Services Research;
- Building Sustainable Research Capacity for health and its Social Determinants in Low and Middle-Income Countries.

Based on project titles alone, it would seem clear that there would be synergies, complementarities, dangers of overlap, etc. between these FP7 research projects and the DEVCO sector support to primary health and S&T. This impression was bolstered during the field mission, where FP7 projects visited covered health-related themes such as disability and adolescent sexual health. In South Africa, national institutions are in place to exercise influence, if not complete control, over FP7 projects to ensure their consistency with development priorities. In Kenya, by contrast, responsible officials interviewed stated that FP7 was essentially a free-for all to which they are attempting, with difficulty, to bring some consistency with national needs.

4.2 JC 42: Degree to which DEVCO support addresses issues that could/would not have been better, or equally well, addressed through RTD and vice versa

Summary judgement

In the area of hard science related to health, DEVCO appears to have insufficient capacity to play a major role (I-421), however, this has improved to one dedicated staff position following the lean years that saw Unit B.4 staffing fall from 12 to five (it has now recovered to ten). While less is known about health programme officers in EUDs where health is a focal sector, the impression left by past health sector evaluations is that hard science capacity is low. The current estimate is that half of the 19 countries where health is a focal sector have a dedicated health programme officer. In the case of South

Africa, DEVCO HQ has occasionally provided support to the EUD in the area of health R&I. By contrast, DEVCO capacity to identify operational research needs in health is relatively high, and the same may well be true in delegations.

Capacity at RTD is a multi-dimensional issue, involving in-house expertise, both at HQ and in the form of S&T Counsellors in EUDs, and consultations with researchers in Third Countries in order to identify priorities.

Health is generously staffed at RTD headquarters. There are not very many S&T Counsellors in the EUDs and, when there is none, RT draws on international NGO staff, experts associated with EDCTP, etc. For example, a singly Science Counsellor in Addis is responsible for all of Africa, with some support from EUDs in Egypt, Tunisia, and South Africa. Regarding the second, RTD sponsors a number of activities, such as the Capacities Programme of FP7, which sponsors dialogue on scientific issue and priorities. At regional level, INCO-NETs serve a similar function. Also of relevance here is the nature of the independent external review process, which has not been investigated.

As stated in assessing JC 41, while there is a great deal of consultation (see especially I-411; see also I-422 below) there is much less evidence of formal co-ordination or division of labour. If there is one ad hoc division of labour, and one that some RTD officials thought could be more explicitly utilised, it is that DEVCO can much more easily finance capacity building and infrastructure / equipment than FP7. However, the capacity building process necessarily to raise an institution to the level of being competitive in the FP7 process is long-term in nature – ten years was one estimate given – and the DEVCO's instruments are not well suited to this sort of long-tern institution building.

DEVCO is never referred to in RTD documents and RTD is not referred to in DEVCO documents. There is, however, one example where a significant complementarity may have been established. For reasons not entirely understood, WHO HQ, i. e. units such as TDR and Public health, Innovation and Intellectual Property Team (PHI), cannot participate in FP7 calls. At the same time, EU funding rules stipulate that DEVCO can finance WHO only through project finance. The important DEVCO financing of health R&I at WHO HQ may, therefore, be an example of DEVCO filling a unique role. As pointed out at a number of places, DEVCO's comparative advantage is in capacity building via budget support (not necessarily in the narrow area of capacity building for FP7 participation whereas RTD's comparative advantage is in fostering scientific excellence via project finance. A possible exception is where DEVCO's relatively deep pockets can finance a single large R&D project, as was the case in South Africa. Whether these comparative advantages are effectively pursued depends on whether there is enough capacity on both sides at country level, as well as capacity in government to set priorities and orchestrate policy dialogue.

4.2.1 Indicator 421: DEVCO and RTD have internal capacity to identify R&I needs for development

In the area of R&I related to health, DEVCO has limited capacity. But this has expanded from 0.15 person prior to the DEV-AIDCO merger (2007-09) to one person post-merger (2010-13) and moving forward. However, the Head of Unit B.4 has been there for years and other staffers have substantial tenure, as well. Unit B.4 was challenged when the staffing level dropped from 12 to five, but now it is back up to ten.

While less is known about health programme officers in EUDs where health is a focal sector, the impression left by past health sector evaluations is that hard science capacity is low. The current estimate is that about half the EUDs in the 19 countries where health is a focal sector have a dedicated health programme officer. DEVCO HQ capacity to identify operational research needs in health is relatively high, and the same may well be true in delegations.

Health is generously staffed at RTD HQ – 27 or 28 people in Infectious Disease, nine in public health, and one apiece on neglected infectious diseases and Ebola, anti-microbial resistance, malaria, TB, and HIV. In the field, RTD is completely dependent on S&T Counsellors; where there is none, they rely on an ad hoc network of experts that might include international NGO field staff, ECHO and DEVCO officials in the field, experts associated with EDCTP, etc. However, only one Science Counsellor covers Africa from Addis Ababa, albeit with some support from EUD programme officers in Cairo, Tunis, and South Africa.

With limited field capacity, RTD has sponsored a number of activities, such as the Capacities Programme of FP7, which promote dialogue on scientific issue and priorities. At regional level, INCO-NETs serve a similar function. Also of relevance here is the nature of the independent external review process, which has not been investigated. Ultimate responsibility for the capacity of FP7 partners in the field rests with the European institution that serves as coordinator for the project.

4.2.2 Indicator 422: Co-ordination meetings and information sharing between DEVCO and RTD

At HQ there are regular meetings between DG DEVCO and DG RTD officials involved in health. Information is shared and communications are good.

In South Africa, the EUD convenes roughly quarterly meetings of EUD staff, MS science counsellors, S&T Counsellors from important Third Countries such as the U.S. and Japan, government representatives, and representatives from quasi-governmental institutions such as the National Research Foundation and the agency responsible for encouraging innovation via public venture capital. These meetings are attended by the Science Counsellor from Addis Ababa.

While no evidence of actual division of labour between RTD and DEVCO in South Africa, experts interviewed repeatedly stressed that, which FP7 could finance research, especially upstream research, DEVCO could provide finance for capacity building through budget support. In Ukraine, co-ordination between DEVCO- an FP7-financed projects to promote FP7 participation has been discussed above.

See also under I-411.

4.2.3 Indicator 423: Level of duplication identified in evaluations, etc.

A number of evaluations and related documents have been examined:

- International Co-operation Activities of the Seventh Framework Programme's Capacities Programme – interim evaluation (October 2010),
- International Science and Technology Co-operation in the EU's Seventh Framework Programme: the specific programme "Co-operation" and its thematic areas (2014),
- European Added Value of EU Science, Technology and Innovation actions and EU-Member State Partnership in international co-operation (2014),
- Basic Principles for effective International Science, Technology and Innovation Agreements (2014),
- Review of the S&T Co-operation between the European Community and the Government of the People's Republic of China (October 2008),
- Review of S&T Co-operation Agreement between the European Union and the Republic of India (2012),
- Review of the S&T Co-operation Agreement between the European Union and South Africa (2014).

In none of these documents does "DEVCO" appear. Occurrences of "duplication" exclusively refer to overlap between different RTD programmes of with the activities of Member States.

4.3 JC 43: Level at which DEVCO support has benefited from complementary action financed through RTD and vice versa

Summary judgement

Our assessment of this JC is an equivocal one. Given that some of the scientists involved are world class, and given the amount of FP7-financed research, it would seem inevitable that DEVCO-financed R&I projects benefited from the achievements of FP7 projects (I-431). Yet, this conclusion is more faith-based than evidence-based. The chain of causation runs from FP7 results being disseminated – most dissemination takes place along the lines of scientific publication, conferences, etc. – and then taken up by persons designing and implementing DEVCO R&I projects. A certain degree of wastage is to be expected because many scientific results from FP7 will be at too early a state of the innovation cycle to directly benefit, or even be of interest, to DEVCO. Incentive structures must also be taken into account; the research cycle is from proposal through to scientific publication and an addition to the CV, on to the next proposal; there is little incentive for FP7 participants to take action to ensure that their results are incorporated into DEVCO work or communicated to development practitioners (I-433). Moreover, given that the interlocutors of RTD are scientists and Ministries of Research whereas those of DEVCO are principally development practitioners and line ministries, specific approaches to and modalities for communication would be needed to promote uptake. Concrete examples that were cited in RTD interviews were from programmes in Neglected Infectious Diseases, EDCTP, the Go4health programme to involve African experts in SDG development, and an FP7 malaria project in Tanzania. It is indicative of the uncertainty that a number of RTD officials felt that one useful output of this evaluation might be information on the extent to which researchers under FP7, and the results their work generated, subsequently contributed to DEVCO-financed activities. At DEVCO, concern was expressed that, while RTD has an excellent grasp of the research process, it does not fully understand

the complex set of institutional, human resource, socio-economic, and financial obstacles that must be overcome in developing countries to achieve take up. The slowness with which Oral Rehydration Therapy (ORT) was adopted even in the face of solid scientific knowledge is an often-cited example.

Given the importance of personal networks in science, there were instances of researchers participating both in DEVCO projects and FP7 projects (I-432)

One issue, closely related to policy dialogue and EQ 5, is whether FP7 results have been properly communicated to government agencies and other relevant stakeholders to testing, scaling up, etc. This was a major thrust of DST work in South Africa but, as has been pointed out many times, conditions in that country were ideal for synergy between RTD support and DEVCO development support. FP7 Principal Investigators in South Africa were, however, very aware of the need to communicate results to policy makers both nationally and in partner institutions in the region and took concrete steps in this direction (I-433).

Looking to the other direction of transmission, there is no evidence that FP7 programmes, which after all run on a call-for-proposals basis, have benefitted from DEVCO projects apart from some success, as in Ukraine, for promoting FP7 participation by national institutions. It is possible that DEVCO work on implementing the GSPoA has influenced the design of FP7 calls, which are, as discussed above, aligned along the same axes albeit with different underlying goals. The evaluation team has discussed elsewhere the frequent call for DEVCO to finance long-term R&I capacity building which could then find outlet in RTD framework research programmes, and the practical difficulties of pursuing so long-term an objective.

Information on I-432 to I-434, dealing with what institutions or researchers participated in FP7 projects, has been analysed for South Africa, Tanzania, and Mozambique. All countries benefitted from a significant number of health FP7 projects and participated in EduLink I and II networks in the area of health. Time trends are not available, but at least in the case of South Africa, there has been a strong upward trend in Framework Programme participation.

4.3.1 Indicator 431: Applied research financed by DEVCO benefits from inputs from FP7 research

Applied health research financed by DEVCO consisted in large part of WHO-implemented projects in the context of support for GSPoA – priority setting, technology transfer and local production, community-based case management in peripheral areas (particularly malaria), and ANDI. Stand-alone projects included TB vaccine development, malaria control, and ARV drug resistance monitoring and management. In order for these to have benefitted from FP7 research (i) FP7 results must have been disseminated and (ii) those implementing DEVCO projects must have been aware of it. There is no reason to believe that either of these propositions is untrue, but at the same time, there is no evidence to prove that they are true.

An optimistic view is that, despite the lack of concrete examples, it is very likely that FP7 research contributed to DEVCO-financed applied research. In addition to technical research in HIV/AIDS, malaria, TB, and tropical and neglected diseases, FP7 financed projects in health systems strengthening, guaranteeing universal access, etc. To the extent that these were themes covered by DEVCO WHO-implemented projects, there was arguably a contribution. At the level of WHO-implemented, DEVCO-financed R&I, scientists implicated were regional and world leaders in their field – one would assume that they were well aware of developments in their field. To take the example of South Africa, the Review of S&T co-operation under FP7 states that the Medical Research Council held four FP7 contracts. It was also the awardee of the DEVCO ARV drug resistance project.

A less optimistic view would draw on the fact that it was found that, while communications appear to be good, there is almost no concrete co-ordination or co-operation between RTD and DEVCO; that their interlocutors, priorities, and approaches differ (see discussion of JC 42 above). One RTD official interviewed cited a “[lack of] complementary activities that would link in a structural way to RTD research activities.” Beneficiaries (participants / Ministries of Research on the one hand; line ministries on the other) belong to two different communities, one concerned with scientific research and one with development. This requires approaches to and modalities for communication that have not been identified so far. To cite a simple example, publication of results is a scientific journal is, generally speaking, the end goal of scientific researchers, but is only the beginning of the process from a development practitioner point of view. There is no joined-up approach; for example, RTD funding being channelled through DEVCO to finance application of a result.

At the same time, there was evidence found at field level that RTD is increasingly orienting projects towards end-use. In Kenya (admittedly in the area of FSNA, not health), all CGIAR projects visited incorporated a strong element of community participation in the identification of needs, challenges, constraints, etc. – to the extent that some scientists interviewed warned that the emphasis was turning too

strongly towards applied rather than basic science. In South Africa, the two RTD-financed health projects examined were both heavily slanted towards policy applications and implicated policy makers.

The evaluation team notes that while the indicator specifically refers to DEVCO research, it also takes into account take up in broader development projects and programmes.

4.3.2 Indicator 432: Researchers in DEVCO projects and programmes participate in FP7 international networks

While data have been obtained on countries benefiting from FP7 projects, the names of individual institutions are not available, nor are the names of all individuals participating in networks. There is generalised disappointment in the limited number of developing-country partners participating in FP7 projects, due to the combination of lack of awareness of opportunities, low capacity, and the fact that these are likely only to involve the strongest researchers. In South Africa, with ambitions to serve as a regional and continental hub for S&T, participation has been high and a number of researchers whose work has been financed by DEVCO were also involved in FP7. The same is true of Kenya. In the review of the India S&T co-operation agreement, concerns were raised that there was adverse selection in the sense that top universities and researchers that could obtain funds more easily, tended to stay away from FP7.

Both RTD and DEVCO officials interviewed commented that many years of capacity building are necessary to raise an institution to the level of being able to participate in FP7. It is difficult for DEVCO to sustain the long-term engagement necessary.

4.3.3 Indicator 433: Researchers in FP7 research programmes collaborate with developing country Research and Innovation practitioners to enhance the social impact of their results

This was clearly the case in in South Africa, where innovation for poverty reduction was a theme of the EU's S&T sector support programme, and in Mozambique, where (i) DEVCO supported malaria control, (ii) there were also FP7 projects in the area of malaria control, and (iii) it was expected (from DEVCO project documentation that the innovative approaches developed would be integrated into Government's national malaria control programme.

Also in South Africa, the Policy Dialogue Facility sponsored a wide range of dialogues and discussions that included both researchers and development practitioners / policy makers in the area of health. All FP7 Principal Investigators interviewed were fully committed to seeing their results translated into concrete development impacts and were able to document steps that had been taken in order to ensure that this was the case.

The Capacities and ERA-NETs components of FP7 stimulated dialogue and consultations between researchers and other stakeholders. These should offer good opportunities for policy makers, NGO representatives, etc. to try to steer scientific research priorities towards the areas where R&I would contribute most to development.

However, at the level of individual researchers, the evaluation report "International Science and Technology Co-operation in the EU's Seventh Framework Programme: the specific programme "Co-operation" and its thematic areas" leaves the impression that FP7 co-operation projects are something of a closed system. By far the most positive responses to the survey administered were along the lines that the co-operation had provided fruitful results to be pursued through further research co-operation and that further proposals could be expected. While many respondents felt that useful discoveries had been made and processes had been developed, there was no way of knowing whether these were of social relevance as implied by the indicator. Survey results were reported across all themes; they are not specific to health.

4.3.4 Indicator 434: Increase in HEIs and Research Organisations participating in FPs and other international networks

It is not possible, based on RTD data obtained, to measure increase in number of institutions globally. However, in South Africa, there were 41 successful FP7 applications, a success rate of just over 25%. From FP4 to FP7 the number of South African applications in all areas has steadily increased. While South African institutions participated in 12 EduLink I and II networks, none of these was in health. In Tanzania, there were 23 successful FP7 applications in health, a success rate of 28.4%. Tanzanian HEIs participated in three EduLink I and II heath networks, all involving Tanzania, Uganda, and Kenya. There were seven successful FP7 applications in health from Mozambique, a success rate of 24.4%, and Mozambique participated in one EduLink I health network.

4.4 JC 44: Extent to which different mechanisms to promote PCD (ex-ante impact assessments, inter-service consultation, etc.) have been deployed and acted-upon

Summary judgement

There was effort made to promote PCD in R&I policy, for example in SEC(2008) 434 on PCD in research (I-441). Health is not specifically covered –PCD was not a concern in health – but many of the issues, such as brain-drain and migration policy or intellectual property rights are relevant. As stated above, the only RTD-DEVCO formal consultations on which the team has information are Senior Officials Meetings with WHO and the Global health Policy Forum. The latter regularly treated issues of intellectual property rights, the role of the private sector, trade issues as they affect pharmaceuticals, etc. However, lower-level and more informal communications were good (I-442).

PCD is enhanced when R&I results are taken into account when designing development interventions I-443). Impact of FP7 results, as explained above, would require first that they be disseminated and second that development practitioners (including those at DEVCO) be aware of them. History (for example, the slow diffusion of oral rehydration therapy or ORT) shows that this can be a slow process. However, one concrete example here is community case management in Africa, where the current DEVCO-financed WHO project is simultaneously (i) building on a rich base of operational experience previously accumulated at WHO TDR and (ii) strengthening the research base for future development actions. A question of particular interest, which has not yet been addressed, is the extent to which DEVCO's contribution to the Intellectual Property Rights (IPRs) debate, as well as on regulatory subjects, transfer of technology, etc. through "Promoting research and development on poverty-related, tropical, and neglected diseases" and Transfer of technology and local production" has had a concrete impact on trade policy dialogue and assistance. In general, actions such as malaria control in Mozambique, ARV drug resistance monitoring in South Africa, and local production in Tanzania were designed and implemented using up to date technical knowledge.

The interaction between development and S&T staff at field level appears to be quite variable, ranging from strong to practically non-existent (I-444) depending on capacity and interest. That DEVCO priorities in development co-operation would have been influenced by development experience is a question that has been asked in many different forms in many different evaluations, and the general answer is "Yes" – subject to normal constraints of staff turnover, scarcity of capacity, etc. RTD priority setting would be informed by development experience only at first remove (I-445). RTD's mandate is to promote European S&T, wellbeing, and competitiveness by cooperating with Third Countries when it would be beneficial and particularly on problems of global scope. It is likely that many such endeavours would promote development and benefit from paying attention to lessons learnt in development, but it is possible to hypothesise cases in which Europe would benefit from scientific co-operation with no contribution to development whatever. FP7, to repeat, is not a development programme.

4.4.1 Indicator 441: Ex-ante impact assessments for R&I look at PCD and possible synergies / trade-offs between DEVCO and RTD R&I interventions

The Commission Staff Document SEC(2008) 434 examined issues of PCD in research. This accompanied COM(2008) 177 on speeding up progress towards the MDGs. The areas covered are climate change / energy / biofuels, migration, and research. The document puts forth specific suggestions to improve the consultation and joint priority setting mechanism within research, including health. It draws attention to the role of research in Third Countries not only in directly contributing to progress towards the MDGs, but to an overall enabling environment, as well. It calls for greater focus on MDG-related research, capacity building in partner countries, and fighting researcher brain drain. The document focuses entirely on RTD and does not mention DEVCO-financed research. None of the documentation consulted has raised the issue of synergies / trade-offs between RTD and DEVCO R&I interventions.

An RTD official interviewed stated that in the specific area of health, PCD is not a major concern.

4.4.2 Indicator 442: Inter-service consultations and quality support measures regularly include consideration of PCD issues

As stated under I-411, interviews at HQ suggest there are extensive consultations between RTD and DEVCO. There is no specific evidence on whether these include PCD issues, although subjects covered regularly included intellectual property rights, the role of the private sector, trade issues as they affect pharmaceuticals, etc. which suggest that PCD issues are brought up. The SEC (2008) 434 staff working paper deals with PCD issues, particularly in the area of migration.

4.4.3 Indicator 443: R&I results, such as pro-poor innovations, IPRs, etc. are taken into account for programming and implementation of development, agricultural, climate and trade-related co-operation

One of the best examples of this in the area of health concerns the WHO "Promoting research on community-based care" project on African community case management, where the current DEVCO-financed project is simultaneously (i) building on a rich base of operational research results previously developed at WHO TDR and (ii) providing a strengthened research base on which operational strategies can be based. Impact of FP7 results, as explained above, would require first that they be disseminated and second that development practitioners (including those at DEVCO) be aware of them. History (for example, the slow diffusion of oral rehydration therapy or ORT) shows that this can be a slow process.

In general, actions such as malaria control in Mozambique, ARV drug resistance monitoring in South Africa, and local production in Tanzania were designed and implemented using up to date technical knowledge. The same is true of the WHO community-based case management project, where a research component financed by DEVCO has directly fed into pilot activities being implemented. It is an open question whether work on IPRs, technology transfer, standards and regulatory matters, etc. done in the context of DEVCO-financed projects has had an impact on EU trade dialogue and trade-related assistance.

A number of RTD officials interviewed expressed interest in learning more about how many FP7 participants had also contributed to DEVCO-financed projects. Examples of concrete uptake of health FP7 results given were EDCTP, Go4health, Neglected Infectious Diseases, and malaria control in Tanzania.

4.4.4 Indicator 444: R&I counsellors in EUDs regularly interact with development co-operation staff and proactively seek opportunities for alignment and synergy between their programmes

As described at a number of points in explaining the strong performance of R&I for development in South Africa, this was strongly the case in that country.

4.4.5 Indicator 445: Lessons from development co-operation inform DEVCO and RTD R&I priority-setting

It is again to be emphasised that FP7 is not a development programme – it is a scientific co-operation programme aimed at increasing European research quality, benefitting the European citizen, etc. in areas where scientific co-operation with Third Countries would have a positive impact. As these programmes evolve, it will be experience in scientific co-operation, not experience regarding the development impacts of the programme, which are important. None of this is to say, however, that FP7 does not pass muster on (R&I) policy coherence for development – the large sums allocated to research contributing to progress towards the MDGs are evidence of this.

4.4.6 Indicator 446: Instances of incoherence identified by external stakeholders are followed up internally

No instances of incoherence identified by stakeholders have been found, e. g. in evaluations.

5 EQ 5: Transfer of R&I results into development processes

To what extent has DEVCO support led to the transfer of R&I results into processes likely to impact on the achievement of EU development objectives?

5.1 JC 51: Clear and logical thinking at sector level on how DEVCO support could ultimately lead through to research results being used in development processes

Summary judgement

DEVCO health sector policy, and the country sector policies that it supports, are both still very much aligned with the MDGs, which is to say with meeting goals having to do with access to care and the

diseases of poverty. The result is that sector strategy both at the level of health sector policy generally and at national level, as embodied in health sector support programmes, only implicitly, not explicitly, takes R&I potential into account (I-511). While there are many results of R&I that could contribute, from mobile telephony to e-medicine, these do not figure prominently in DEVCO policy. At HQ, there is not universal acceptance among DEVCO staff that R&I is a key sector for economic development. In some cases, the same is true at EUD level among sector experts. At the same time, there is no shortage of DEVCO support to solid science, mostly in the field of medicines and treatments (and mostly concerned with HIV, TB, and malaria). The underlying assumption is that these will be applicable to achieving broader development goals. Support to technology transfer and local production, to better regulation, to priority setting in lines with the needs of the poor, etc. has been an appropriate way of addressing the risk posed by accessibility. In effect, by aligning much of its R&I support with the GSPoA, DEVCO has ensured that research results will be as coherent as possible with the global agenda as well as the EU's own commitments in the form of the 2010 health Communication. Some of the EU supported interventions analysed here seem to represent a big chunk for DEVCO to have bitten off – for example, a university consortium to develop a TB vaccine that may be years in the making, if ever, and a stand-alone local ARV drug production project in Tanzania. There is, as stated elsewhere, no formal division of labour and search for complementarity between DEVCO and RTD, although there is quite a bit of communication. Other actions seem to represent noble ideas with little logically argued coherence – psycho-social medicine in Asia, for example. That is not to say that these, or others, were bad projects; simply that the kind of logical thinking called for by the indicator may not have always been present.

DEVCO health sector strategy, and the sector programmes that DEVCO supported, were all oriented towards improving access for the poor. At country level, the recurrent themes were community-based approaches, better health sector governance, and improved health finance. Country-level health sector support programmes examined here do not appear to be closely in tune with the cutting edge of R&I, although they all appear to pay attention to the latest international good practice. In South Africa, there was explicit interest in innovative means of delivering care to hard-to-reach communities. While it has not yet begun to do so, the South African DST is considering using DEVCO budget support to build capacity to identify and test promising R&I results, and integrate them into sector policy dialogues. This is occurring in the context of a strong S&T national policy (as well as a S&T Agreement with the EU) and a firm commitment to mobilising science for poverty reduction and making South Africa a regional R&I hubs. Barriers to innovation were tackled at the global and regional levels; apart from the example of South Africa, less so at the national public sector (I-512).

While engaging the private sector is often mentioned, it is not a major theme at the strategic level (I-513). Some of this is because many of the problems being addressed either are of little interest to the private sector – community-based care management is an example – or are explicitly designed precisely to address problems which require public action. All things considered, the role of the private sector in health development is not very well problematized in the strategic thinking examined here. The CEWG (in which the EU played no role) on financing health R&D presented a good opportunity for this, but the resulting proposals for new taxes, voluntary consumer and business donations, or donor have excited little interest, suggesting little MS and private sector buy-in.

5.1.1 Indicator 511: Evidence that sector strategies are forward-looking in taking current R&I developments into account in areas where knowledge is rapidly accumulating

This indicator can be addressed at the global level and country levels.

Global level: The key EU strategy document, discussed elsewhere, was the 2010 Communication "The EU role in global health," supported by a staff working paper specifically devoted to the EU's role in global health research. The former explicitly aligns the EU with the WHO Global Strategy and Plan of Action for Public health, Innovation, and Intellectual Property. The October 2013 presentation of the DEVCO health team to the Global health Policy Forum stressed the need to integrate good practice into aid programmes in order to address universal access including access to medicine, health finance, human resources for health, and other issues. Implicit, but not explicit, in this is that the best scientific research and most effective innovative practices be incorporated – for example, emerging science on drug-resistant malaria or the use of mobile telephony in medicine. At the same time, the DEVCO health sector strategy is rooted in the MDGs and the fight against poverty-related diseases. As the 2010 Communication states, knowledge on concrete effective strategies is rapidly accumulating, yet good practices are not being disseminated and diffused, which is the essence of innovation.

Country level: Among the countries examined here, there were health sector strategies in South Africa, Mozambique, Philippines, and Vietnam. In South Africa, the goal of the Partnerships for the Delivery of Primary health Care including HIV&AIDS Programme was to strengthen district health service delivery through primary health care partnerships between the government and NGOs in five target provinces, especially with regard to HIV/AIDS. The basic approach was to link local NGOs to primary

health care centres to deliver community-based services. This was financed under the health sector support programme. The concurrent S&T sector support programme – with the overarching goal of mobilising S&T to fight poverty – included as one of its priority areas health, research programmes for tuberculosis, HIV/AIDS, South Africa-specific malaria and microbicides, as well as telemedicine. Among results expected, progress towards an HIV/AIDS vaccine and a new anti-malaria drug were long-term in nature and had no immediate link to the health sector programme; improved social services delivery and infrastructure (particularly in underserved areas) had a potentially strong link. So, too did the use of ICT at community level. In all fields including health, budget support to the DST was used to identify R&I results, many of them from FP7, which could be integrated into development policies via sector support programmes. EU-supported policy dialogue with sector ministries strongly stressed R&I results, in line with the government's policy of mobilising R&I for poverty reduction. DEVCO-supported health R&I projects in South Africa developed strong links to policy makers not only in South Africa but throughout the Southern Africa region.

The health sector policy in Vietnam consisted of five priority areas for reform: governance, health financing, service delivery; biological products, pharmaceuticals, vaccines, medical equipment and technologies; health workforce, and health information systems. The fourth has clear links to R&I; however, the policy focus was on access to pharmaceuticals and diagnostics. In general, the Vietnam sector support programme was aimed at improving governance, finance, and thus access to quality health care, particularly for poor and underserved populations; while it presumably aligned with state-of-the-art operational research on best approaches, it did not have an explicit link to scientific R&I. In the Philippines, the orientation of sector reform was strictly towards improved governance, health care finance reform, and achieving universal access. While the context is radically different in Mozambique, the general direction is similar: the main axes of the government's health sector policy were human resources, health care infrastructure, increasing community-based approaches, and improving the logistics of drug distribution (particularly for HIV).

To conclude by addressing the indicator directly, DEVCO health sector strategy, and the sector programmes that DEVCO supported, were all oriented towards improving access for the poor. At country level, the recurrent themes were community-based approaches, better health sector governance, and improved health finance. At HQ level, other concerns added were access to pharmaceuticals, human resources for health, and general issues of aid co-ordination and global partnerships. In general, though, scientific research on health and emerging innovative practices are implicit, not explicit, in health strategy.

As pointed out in answering EQ 4, FP7 financed a considerable number of projects in the area of public health, health care finance, and health systems strengthening. In the case of South Africa, FP7 health projects such as EMERALD and EquitABLE health-related FP7 projects such as EMERALD and EquitABLE developed and disseminated best-practice guides for health sector policymakers.

5.1.2 Indicator 512: Existence of clear sector strategies on how national, regional and global opportunities for, and barriers to sustainable innovation (diffusion) for development will be addressed

The 2010 health Communication identifies a range of challenges for innovation. One is to make new products acceptable, affordable, and accessible to the entire population. ICT is cited as one possible way of addressing this. The Communication cites a knowledge gap between what is known to improve health and what is actually delivered. It recognises the incentive problem in health R&D when patients are too few or too poor to make it profitable for the private sector. Citing the Global Strategy and Plan of Action, it calls for access and innovation to be addressed simultaneously. Policy-makers and researchers must translate research findings into evidence-based decisions. Central to this is multi-disciplinary research capacity at national level.

To conclude, EU health sector strategy recognises barriers to innovation but, rather than setting out its own approach to overcoming these, aligns itself with the GSPoA, whose eight elements are specifically geared towards dealing with innovation and intellectual property issues, including a specific element (Element 3) on improving innovative capacity. Examples of EU-financed WHO projects directly contributing at the regional level are the ANDI network on African innovation in drugs and diagnostics and promoting research on community-based approaches in Africa. At both national and regional levels, the ARV drug resistance monitoring project in South Africa promoted the sharing of experiences between areas of the country and then gave rise to the regional SATuRN network in neighbouring countries. FP7 addressed barriers to innovation through EDCTP and the Neglected Infectious Diseases Initiative.

In Kenya, S&T policy makers are only now developing a set of policies and priorities. While there is no innovation policy *per se*, the view was expressed that, while donors such as the EU can well finance upstream research (including building in community-level knowledge, at the innovation and scaling-up

stage, the participation of the private sector is crucial. This appeared to be less the case in South Africa, where although the private sector is involved, the main focus of the DST is ensuring that innovation occurs in a sector policy setting. South Africa has inherited strong infrastructure for social service provision, making the public sector a reliable partner for rolling out advances. In Ukraine, experts interviewed pointed out that many of the barriers to innovation lie outside the R&I sector strictly speaking, e. g. restricted markets, high taxes and energy costs, lack of venture capital, weaknesses in intellectual property rights, etc. EU–financed activities have attempted to improve the ability of Ukrainian scientists to commercialise their research results by working with the private sector, but this has proven challenging.

5.1.3 Indicator 513: Evidence at the sector level that the role of the private sector in the production and uptake of R&I results is adequately taken into account in R&I support

The private sector is a massive force in health R&I, it cuts across all "pure science" aspects and some of the more operational ones. At the detailed level, as indicated by many of the research reports produced in the context of EU-supported WHO projects, its role is taken into account (e. g. in technology transfer and in issues of intellectual property rights). The independent Consultative Expert Working Group on implementing the GSPoA (whose presentation of recommendations was hosted by DEVCO as rotating chair of the Global health Policy Forum) proposed ways of addressing what it took to be the main challenge, namely de-linking the cost of R&D from the price to consumers of the new product.

At the 25 October 2012 meeting of the Global health Policy Forum in Brussels, DEVCO made a presentation on engaging the private sector grounded in MDG 8, the Agenda for Change, and the Busan declaration on aid effectiveness. This called for involvement of the private sector in policy making, in financing development, and at the level of core business processes in the form of public-private partnerships. A range of concrete future actions were proposed. This presentation was on health in general, not just on health R&I. At project level, the WHO transfer of technology and local production and ANDI network both implicated the private sector, the latter by aligning itself with the AU's African Pharmaceutical Manufacturing Plan and involving the Association of African Pharmaceutical Manufacturers.

At country level, in many places and sectors (not necessarily health) it was noted that, while private sector participation is important, it is difficult to involve private firms in collaborative ventures. The final evaluation of the S&T SBS in South Africa called for, among other things, increased involvement of the private sector, as did the evaluation of the policy dialogue support facility.

At the higher strategic level, the private sector is not a major theme. It appears only once in the 2010 health Communication, in a passing reference to the European Investment Bank promoting interaction between institutional actors and private organisations. In the Global Strategy and Plan of Action, the role of the private sector is recognised under Elements 1 (prioritisation of needs), 2 (promoting R&D capacity) and 7 (sustainable financing) but appears far more often in the form of public-private partnerships than on its own. The recommendations of the Consultative Expert Working Group on implementation of the GSPoA were largely silent on the role of the private sector. In outlining DEVCO steps to follow up on the GSPoA, the slide relevant to the private sector limits itself to encouraging participation of the private sector in policy and strategy development and engaging it at country level so that private sector involvement and development gets sufficient attention in sector policy dialogues with potential support and that the private sector participates in relevant fora. At RTD, the private sector is fully present in EDCTP and in the Horizon 2020 successor to FP7.

5.2 JC 52: Extent of internal lessons learning, sharing and uptake in the EU Institutions within the sectors supported in partner countries, and at international level

Summary judgement

Evidence is that, while there is quite a bit of communication and consultation between DEVCO and DG RTD at HQ level, it is ad hoc and there is no formal mechanism for sharing lessons learnt in co-operation. In South Africa, the combination of strong EUD capacity in R&I, a strong government Department with a clear policy vision, and support from DG RTD in Addis has made for an unusually successful sharing of information.

5.2.1 Indicator 521: R&I lessons learnt in co-operation communicated between DEVCO and RTD

Evidence that exists suggests that there is good communication between the two DGs, in Brussels, but little sharing of co-operation lessons learnt. DG DEVCO expresses a need for more operational research, yet a review of FP7 support in selected countries reveals a wide range of projects supported

that could reasonably be called operational, or at least policy-oriented. DG RTD is, however, oriented towards hard science, especially pharmaceuticals. DG RTD emphasises co-operation with the private sector, and increasingly so in Horizon 2020, whereas DEVCO's emphasis is on co-operation with public authorities. At country-level, there was excellent communication of lessons learnt in South Africa, somewhat less in Ukraine, and virtually none in Kenya.

5.2.2 Indicator 522: Evidence that major R&I results (from EU funded programmes) are communicated to DEVCO sectoral officials

There are consultations between RTD and DEVCO when projects start reporting and, in the case of large programmes like EDCTP, DEVCO officials sit in on board meetings. RTD participation in governance structures, e. g. the TDR board in Geneva, is reportedly sketchy. In South Africa, this happens in the context of policy dialogue under the S&T budget support programme and the Policy Dialogue Facility.

5.3 JC 53: Extent of external lessons learning, sharing and uptake within the sectors supported in partner countries, and at international level

Summary judgement

A number of DEVCO-financed projects put international networks in place (I-531). Of particular importance were ANDI (African Network on Drugs and Diagnostics Innovation) and the network of 125 researchers involved in "Research and development for poverty-related, tropical, and neglected diseases." For these two, there is solid evidence of active participation of partner country stakeholders (I-532). While a number of other networks were put in place, there is less evidence on the actual participation achieved. Evidence of uptake of lessons emerging from DEVCO-financed R&I at international level are slim, to some extent because "lessons learnt" are almost by definition operational in nature and even when supporting networks, the exchange of lessons learnt was not a major theme over the evaluation period. That may change as further activities take place in community health care, support for public health institutes, the piloting of technology transfer and local production, etc.

The main network in which DEVCO is active appears to be the Global health Policy Forum, of which it holds the rotating chair. Based on the agenda of meetings examined, DGs SANCO and, especially, RTD, give the appearance of being more active members. A second network, financed by RTD but at DEVCO request and with significant DEVCO involvement, was the Go4health network of developing-country experts contributing to design of the health SDGs.

Outside South Africa, where R&I was mainstreamed in all sector dialogues, there is no evidence, based on sector support programmes examined, that R&I professionals play a role in EU sector dialogue on health or in the design of sector support programmes (I-533). This is not to say that such programmes do not build in international good practice, but just that there is no explicit link with R&I. This might take the form, for instance, of including researchers who had benefited from policy-relevant FP7 programmes.

To conclude, while networks are in place and a solid set of R&I results has been achieved, there does not appear to be an explicit mechanism in place to ensure that these are taken up in sector policy or programmatic design.

On the RTD side, a number of concrete examples of uptake have been found: EDCTP, the Go4health network, and the Mosquito Contamination Device project in Tanzania.

5.3.1 Indicator 531: Evidence of DEVCO external networking activities aiming at promoting the uptake of results for development

DEVCO financed a number of networks, such as ANDI (African Network for Drugs and Diagnostics Innovation, for which it provided seed money and management), the network of "think tanks" that set priorities for research into poverty-related, tropical, and neglected diseases in the context of GSPoA Element 1, and the network of institutions involved in research on community-based disease management. It was part of the consultative group that met to elaborate the business plan for ANDI. DEVCO's role in the second two appears to have been limited to financing.

A major network in which DG DEVCO is active is the Global health Policy Forum, which meets quarterly and brings together civil society organisations, the pharmaceutical industry, academia, WHO, and different Commissions DGs – notably SANTE, RTD, and DEVCO. DEVCO hosted the GHPF meeting at which the Report of the CEWG on implementation of the GSPoA was presented. Examination of a sample of meeting agenda suggests that DEVCO is not among the stronger participants, at least regarding R&I. For example, at a forum event on health research (12 June 2014), all major presentations were by DG RTD.

While financing was provided by RTD, DEVCO was involved from the very inception in the Go4health network of developing-country professionals contributing to the development of the health SDGs.

5.3.2 Indicator 532: Evidence of active, DEVCO supported, partner country stakeholder involvement in international research networks

The main DEVCO-supported network projects implemented by WHO have been mentioned: ANDI, research and development into poverty-related, tropical, and neglected diseases, and research into community-based disease. All of these projects involved partner country researchers in international networks, regional in the first and last cases; global in the second. The inventory identified, in addition, ten other projects flagged as financing networks, for a total of EUR 15.9 million. Under the SANTE budget line, the PRD 2005 annual work plan allocated EUR 4.8 million to the *Infectious diseases Network for Treatment and Research in Africa* (INTERACT), in which the lead organiser was the medical school of the University of Amsterdam. The South African ART resistance project implemented by the Medical Research Council of South Africa (EUR 3.5 million) was also flagged as an international network because under it, a Southern Africa resistance monitoring network (SATuRN; Southern Africa Treatment and Resistance Network) was formed. However, the extent to which partner country stakeholders actively participated is generally not known. One exception is ANDI, on whose websites details of meetings are given. Another exception is the international network formed under "Support to research and development into poverty-related, tropical, and neglected diseases," where full details of working group meetings are given. In both these projects, there was clearly a great deal of active participation of partner country stakeholders.

Not flagged, but arguably a network project as well was "Capacity building and clinical trials of new TB vaccines in Africa" (EUR 5 million) which brought together University of Capetown, Oxford University, and *Centre Hospitalier Universitaire Le Dantec* in Senegal. Monitoring reports characterise the interaction and communication among the three institutions as vigorous. There were a number of small European university-led networks; in addition to which, University of Sokoine in Tanzania and University of West Indies coordinated regional research networks in the context of the ACP S&T "One health" project. Nothing is yet known about the actual degree of participation elicited.

Under EduLink I Tanzanian HEIs participated in three health networks with institutions in Uganda and Kenya, and researchers participated.

The idea for Go4health originated at DG DEVCO and, while finance was provided by RTD, DEVCO has continued to be heavily involved.

5.3.3 Indicator 533: Sector policy dialogues include national researchers, innovation practitioners and entrepreneurs

As discussed under I-511, health sector strategies did not include health R&I except in the case of South Africa, where the component was fairly minor. More generally, however, there was highly significant participation of the South African R&I community in sector policy dialogue under DST sector budget support, the Policy Dialogue Facility, and as a result of individual researcher initiatives. Based on examination of health sector strategy dialogues in Philippines and Vietnam, it is unlikely that there was major input from researchers or R&I practitioners.

5.4 JC 54: Development processes and outcomes have been built on or used the results of research funded by DEVCO or shared through DEVCO supported research networks

Summary judgement

DEVCO support has encouraged the dissemination of R&I results, through websites, publications, workshops, networks, etc. (I-546). In part because of WHO's long-standing role as a clearinghouse, the dissemination function of many major DEVCO-supported projects has been quite good. Within reason, there is some evidence of public-sector uptake of results, but many projects examined are not yet in a position to deliver high-level "results" – they are medium-term or long-term in nature (I-541 and 542). Private sector uptake is hard to find (I-543). But ANDI is closely linked to the African pharmaceutical industry and the "Working with African countries …" project has achieved much with regard to regulation and Good Manufacturing Practice. The key to securing private-sector uptake is doing market potential and feasibility analysis early in the R&I cycle. DEVCO support, both directly to non-EU universities and through involving researchers in projects, has enhanced research capacity at non-EU higher education institutions (I-545 and 546). There is no question that all projects examined here have contributed (I-547) to:

- Progress towards health MDGs including MDG 8 on global partnerships and guaranteeing access to drugs,
- Progress towards EU goals in health as defined in the 2010 health communication, including addressing market failure and addressing gaps in the production of global public goods as well as access for the poor, and
- Implementation of the WHO Global Strategy and Plan of Action.

All of these play a role in development processes, with outcomes along the way. Much DEVCO R&I support has produced results that lie much at the bottom of any logframe diagram – prioritisation reports; policy reports, etc. – but are important from a process point of view nonetheless.

Concrete examples of the uptake of DEVCO-financed research in South Africa have been found, e. g. the application of low-cost drug resistance tests developed with DEVCO support. All FP7 projects examined contained a strong component of reaching out to policymakers to promote the application of results in sector policies.

5.4.1 Indicator 541: Evidence that DEVCO supported knowledge management and communication facilitates the diffusion and uptake of research results for development in partner countries

WHO-implemented projects achieved excellent dissemination of research results in the context of DEVCO-supported activities. This was made possible in part because WHO has long been a leading global clearinghouse for health R&I research across the entire spectrum. Examples:

- *Support for research and development into poverty-related, tropical, and neglected diseases*: Under this project, the Global Report for Research in Infectious Diseases of Poverty based on the work of ten working groups became a standard reference in international discussions of health R&I for development. All of the working groups convened stakeholder workshops, in disease-endemic countries if the working group was disease-specific. The knowledge platform TopIKA.net was further developed and became a major internet resource for sharing and accessing information on diseases of poverty. In 2009, it served as the knowledge hub to facilitate the Pan-African Malaria Conference (2000 participants), the annual meeting of the Global Forum for health Research (900 participants), and the second meeting of ANDI (300 participants). It served as a means of disseminating a framework for action developed in the Berlin meeting “Maximizing Opportunities for Cohesion in North-South and South-South Partnerships for Tropical Disease Research” (150 participants) and hosted an interactive website to foster discussion among stakeholders worldwide.
- *Promoting research for improved community access to health interventions in Africa*: As of December 2013, a common database was developed so that researchers from the four focal countries (Burkina Faso, Malawi, Nigeria, and Uganda) can pool their field research data for analysis and dissemination. A report was co-organised by WHO TDR and the Global Malaria Programme, prepared and disseminated. A number of peer-reviewed research papers have been published, one integrating results from Burkina Faso, Nigeria, and Uganda in the *American Journal of Tropical Medicine and Hygiene*. Many research papers emerging from the community care initiative at WHO are available on the website, but these are emerging from the broader TDR initiative on community-based care, not from the specific DEVCO-financed *Promoting research for* component of TDR’s work.
- *Improving access to medicines in developing countries through pharmaceutical-related technology transfer and local production:* Phase 1 of this project was largely concerned with the preparation of eight policy reports, all of them posted online at the WHO PHI website.
- *Working with African countries to ensure pharmaceutical quality response to malaria:* The most recent implementation report of this, ending June 2011, lists over 20 examples of results disseminated in the form of technical reports, good practice guidelines, and handbooks.
- *ANDI:* At the third ANDI meeting in October 2012, it was reported that a call had been issued to develop ANDIKnowledgeBase and two proposals had been shortlisted. It is not known how much progress has been made.

Other projects examined here did not appear to concentrate on dissemination of results – in the case of malaria control in Mozambique and local production of ARV drugs in Tanzania, this may have represented a missed opportunity. Somewhat surprising for a hard science project, the collaboration between Oxford, Cape Town, and Dakar did not report any dissemination activities in its interim reports. By contrast, the DEVCO-supported South Africa drug resistance monitoring project listed over twenty scientific publications as well as a series of regional workshops organised by the SATuRN network.

A 2013 impact assessment of the first phase of EDCTP was positive and recommended closer co-operation between RTD and DEVCO in the second phase to improve uptake, a recommendation that has been followed up on. The Go4health initiative to involve African experts in setting up the health SDGs has been clearly geared towards uptake of recommendations by the UN. Under the FP7-financed Mosquito Contamination Device project, by January 2015 1,300 households in Tanzania were living in houses equipped with the device developed by the project consortium.

In South Africa, the DEVCO drug resistance project generated data that have been integrated into international drug resistance database. It developed, as well, low cost tests for drug resistance that have been adopted in South Africa and other countries. All of this dissemination of results was, in some way, tied to DEVCO support. Almost all of the FP7 projects examined had developed concrete results relevant to development that had been disseminated to policy makers in countries participating in regional networks and could, in many cases, cite applications.

5.4.2 Indicator 542: Evidence of public sector uptake of results of R&I supported by DEVCO being reflected / taken up in sectors relevant to achieving EU development objectives

In Mozambique, EU-supported malaria control was fully in line with the National Malaria Control Programme and contributed to it; however, it was, of all the projects examined here, perhaps the furthest from R&I strictly considered. Project documentation makes clear that uptake was a major concern. Strong public sector uptake was also evidenced in the South African drug-resistance monitoring project, where Monitoring Reports found clear evidence of project uptake in the target areas, in the form of improved capacity to monitor and contain the spread of drug resistant HIV. The project increased expertise in ART work, implementation of information systems and databases to generate and interpret patient data generated from the provincial hospitals, clinics, pharmacies, and national health laboratory services. The project's bio-psychosocial model combined patient awareness, laboratory work and genotyping, and clinical expertise through telemedicine. Many examples of uptake of project results are reported, as well, in the project Final Report.

The EU-supported TB vaccine project in South Africa and Senegal was still at laboratory stage during the evaluation period.

No evidence has been found relating to whether there has been uptake of psycho-social medicine (i. e. the capacity building under the ACP S&T project in China, Vietnam, and Laos) in public health policy and provision.

The DEVCO-supported transfer of technology and local production project produced policy papers in its Phase 1. No documentation is yet available for Phase 2, which is to see the diffusion and implementation of approaches developed in pilot countries.

The EU-supported "Global report for research on infectious diseases of poverty" identified priorities. That have been broadly adopted The complementary Consultative Expert Working Group on health R&D proposed three major policy approaches to generating funding for relevant R&D that would succeed in de-linking R&D costs from prices to the end consumers – increased dedicated taxes, voluntary business and consumer contributions, and increased donor funding. None has come to pass.

See I-541 for the case of South Africa.

5.4.3 Indicator 543: Evidence of private sector uptake of results of R&I supported by DEVCO

Not surprising, the potential for private-sector uptake among the projects reviewed here is limited. Some are strictly public-sector in nature (e. g. malaria control in Mozambique). Some are purely laboratory-based so far (e. g. TB vaccine development). Some are aimed precisely at producing public goods that the private sector has no incentive to produce (e. g. priority setting in research on poverty-related diseases or community-based care).

The most recent (June 2011) monitoring report of the Tanzania local AIDS-drug production project, which involved a public-private partnership with Tanzania Pharmaceuticals Industry, was optimistic as to sustainability, which would effectively require private sector uptake. The ANDI project involves the Africa Pharmaceutical Manufacturers Association, but it might be pointed out that the ANDI pharmaceuticals session at the 2014 Africa 2nd Forum on Science, Technology and Innovation organised by the AfDB in Rabat had only minimal private sector involvement. The project "Working with African countries to ensure a pharmaceutical quality response to malaria" worked, according to its June 2011 progress report, with pharmaceutical companies in Ghana, Nigeria, and Kenya on Good Manufacturing Practice and certification issues for artemisinin-based anti-malarials.

In country field missions two factors related to private sector uptake were identified. One, mentioned elsewhere, is the general difficulty of involving private-sector firms in collaborative ventures. Another, a lesson learned in Kenya (more with respect to FSNA than health) is the importance of ascertaining

local needs and demand and doing commercial feasibility studies early in the R&I cycle, not at the end.

5.4.4 Indicator 544: Evidence that EU supported R&I led to innovation of locally-owned and sustainable solutions for the poorest and most vulnerable in the society

See I-541 and I-543 above. There is some evidence that selected WHO projects on pharmaceuticals in Africa made progress towards locally-owned sustainable solutions to ensure access to drugs. Field-based projects such as malaria control in Mozambique, HIV drug resistance in South Africa, and local production of ARV drugs in Tanzania have good potential to contribute to sustainable solutions. Even more, the research into community case management in peripheral areas – essentially fever management – in Burkina Faso, Nigeria, Uganda, and Malawi has excellent potential to result in lessons learnt and, to quote the indicator, locally-owned and sustainable solutions. Results from randomised control trials are finding their way into print and there is full ownership among partner country stakeholders. Little is known about Support to Public health Institutes, but this appears *prima facie* to be another project that has good potential. Subject to the caution that technology transfer and local production do not always translate into access, so do the PHI local production project and the "Working with African countries …" pharmaceuticals project. ANDI is now a viable, functioning institution, so the potential for innovation of locally-owned sustainable solutions is there. FP7 health projects reviewed at country level included many that had developed and disseminated locally-owned and sustainable solutions for, e. g. adolescents, disabled persons and the mentally ill.

5.4.5 Indicator 545: Evidence that EU supported R&I has contributed to enhancing the research capacity of HEIs and research organisations at regional and national level

Asia LINK projects on psycho-social medicine in China, Vietnam, and Laos created university-based capacity where there was essentially none before. Training in clinical epidemiology and evidence-based medicine built capacity at universities in Malaysia and Indonesia. ANDI is not a research institution *per se*, but EU support provided seed money for its start up as a regional coordinating and grant-making body. Many of the Centres of Excellence affiliated with ANDI are university based, and all are practically by definition research institutes. A number of universities, including Cape Town and KwaZuluNatal, were partners in the South Africa ARV drug resistance project, which also had regional reach through the SATuRN network. All participating institutions benefited in capacity building in the form of equipment, training, and research collaborations. Under the "Working with African countries …" pharmaceutical project, capacity was built in national regulatory agencies. Laboratories were upgraded and equipment was delivered in South Africa and Senegal under the regional TB vaccine development project.

In the inventory, ten projects, all under EUR 1 million, are flagged as Higher Education. Examples that appear to have built research capacity in non-EU HEIs are creating a primary health care education network in Africa (Ghent University), creating a curriculum on quality of care in West Africa (Free University of Brussels), improving the quality of research in ACP HEIs by providing information technology (Cineca Consorzio Interuniversitario), and others. The University of Botswana, Sokoine University of Agriculture, and University of the West Indies all implemented relatively small projects and can be assumed to have accumulated research administration and management capacity as a result. While nothing is known of the projects, Nile University and University of Cairo received small MEDA grants for medical research. Presumably, some of the significant EU support to the European NGOs managing the IAVI and IPM found their way into partnerships with non-EU universities and research institutions.

While health was not identified as a separate sector, EUD officials and national researchers strongly praised the role of EU-support in enhancing the R&I capacity of HEIs in South Africa. South Africa is one of the few countries with a significant bilateral component to Erasmus Mundus, which has been used in particular to promote the mobility of researchers from historically disadvantaged institutions. PhD studentships under FP7 projects have been a major source of training. Participation of scientists from poorer African countries has helped to fight brain drain.

5.4.6 Indicator 546: Contribution of EU supported R&I on research output of HEIs and research organisations

To the extent that this deals with DEVCO, this has to some extent been dealt with above in indicators dealing with the dissemination of findings and results. In projects such as the South Africa ART resistance monitoring project, substantial amounts of research were generated and published; the same is now happening in the community case management project. Information has not yet been generated on the research output of RTD supported FP7 projects. All FP7 project reports examined included meticulous lists of paper published and conference presentations delivered.

5.4.7 Indicator 547: Evidence that EU supported R&I has contributed to relevant programme objectives and MDGs

The analysis of indicators in this and other EQs has left no doubt that all projects examined here have contributed to:

- Progress towards health MDGs including MDG 8 on global partnerships and guaranteeing access to drugs,
- Progress towards EU goals in health as defined in the 2010 health communication, including addressing market failure and addressing gaps in the production of global public goods as well a access of the poor, and
- Implementation of the WHO Global Strategy and Plan of Action.

The principal difference between the projects is the time frame. The Mozambique malaria control project contributed immediately; the Tanzania local production project and South Africa resistance monitoring project, and the community-vase management research project, while they will have some immediate impacts, are essentially medium-term in nature; while most others – TB vaccine development, ANDI, technology transfer and local production, priority setting in pursuit of the GSPoA, are long-term in nature.

6 EQ 6: EU capacities

To what extent have the EU external relations services ensured adequate capacities to conduct policy dialogue related to R&I and to support research and innovation in partner countries?

6.1 JC 61: Extent to which EU internal capacity to manage R&I support and conduct policy dialogue is in place at the levels required

Summary judgement

Based on past evaluations and current concerns expressed by DEVCO, it is unlikely that health capacity in most EUDs – and certainly not in those where health is not a focal sector – is sufficient to support meaningful dialogue on health R&I (I-612). It is currently reported that dedicated health programme officers are present in only half the 19 countries where health is a focal sector. In the case of South Africa, it is reported that DEVCO Brussels lends a hand when the occasion for health R&I policy dialogue arises. However, there was always a health programme officer in place and the fact that there was an EUD DEVCO programme officer whose portfolio included R&I, as well as support from the Science Counsellor in Addis, contributed to success (I-611). For current purposes, e. g. participating in the Global health Policy Forum, DEVCO health capacity in Unit b.4 is sufficient – there is one dedicated staffer for R&I – but this might no longer be the case if the R&I programme expanded (I-611). The same goes for the *ad hoc* policy dialogue that occurs on the sidelines of meetings at WHO, at major events such as the launch of EDCTP, etc. (see JC 62 for extent of policy dialogue). If DEVCO were to increase its commitment to the R&I aspect of its work, it seems likely that more capacity would be needed. RTD capacity to engage in health R&I policy dialogue is limited by the short supply of S&T Counsellors in EUDs. In Africa, the Science Counsellor in Africa is responsible for the entire continent, albeit with some support from a handful of EUDs.

6.1.1 Indicator 611: Evidence of suitably qualified staff formally designated and actually deployed as R&I support at country, regional and HQ level

The *Thematic Evaluation of EC Support to the health Sector* found that capacity constraints at EUD level had been a limiting factor and recommended that, in countries where the EU chose to work in the health sector, this needed to be bolstered. According to DEVCO, there are dedicated programme officers in only about half of the 19 countries where health is a focal sector. The DEVCO presentation to the Global health Policy Form of 28 October 2014, identified the need to take action to increase the capacity of the EC and EUDs for participation in global health policy and programme implementation. One way to do this was seen to be increasing the complementarity between EUD sector experts and health experts in Member State Missions. None of this information is specific to health R&I. Monitoring Reports and reviews of SANTE-financed activities refer to the competence of external staff, not EU staff.

In South Africa, the presence of qualified heath sector staff as well as a programme officer whose portfolio included overall support to R&I was a major factor in the successes described under previous EQs.

When DEV and AIDCO were merged, there was a major cutback in Unit B.4 staffing at HQ, from 12 to five, but that has subsequently recovered to ten. There is now one full-time staff member devoted to health R&I. There has been a fair bit of continuity over time, and one staffer has experience in both RTD and DEVCO.

In the case of DEVCO-financed projects implemented by WHO, available Monitoring Reports describe generally satisfactory implementation, suggesting that support from Brussels is adequate. EUD staff in Geneva is essentially uninvolved in project implementation.

In RTD interviews, it was stated that capacity is short in the Africa region. There is a Science Counsellor in Addis which covers all of Africa (with some support from EUD staff in Tunisia, Egypt, and South Africa) and two staffers in Addis spend about 20-30% of their time on the JAES. Bilateral S&T agreements exist only in South Africa, Algeria, Egypt, Morocco, and Tunisia. Capacity in the ASEAN region is also stretched. There is no network of country-level health R&I experts *per se*, but RTD can call on persons from international NGOs, ECHO and DEVCO. At HQ, RTD capacity in health appears good. There are 27-28 people in infectious disease, nine in public health, and one apiece in NIDs including Ebola, anti-microbial resistance, malaria, TB, and HIV.

6.1.2 Indicator 612: Staffing (both designated and deployed) adequate for effective policy dialogue

See I-621 on support for policy dialogue. Regarding capacity, at DEVCO HQ, there appears to be adequate capacity to carry out policy dialogue on health R&I at current levels, e. g. in the Global health Policy Forum and in support of projects implemented at WHO. It would perhaps not be sufficient, however, if DEVCO were to significantly increase its commitment to health R&I. Policy dialogue with MSs in the context of the GSPoA was carried out by the EUD in Geneva, which was responsible for coordinating Member State positions, the EC position, and communicating a unified and consistent view. As discussed under I-621, evaluations have generally found that capacity for health policy dialogue at EUD level is insufficient. DEVCO continues to express concern about the need to strengthen EUD capacity for policy dialogue.

6.2 JC 62: Extent to which R&I policy dialogue is operational at all levels

Summary judgement

There is a great deal to suggest considerable indirect involvement – in ad hoc dialogue on the sidelines of meetings at WHO or in the context of major events such as the launch of EDCTP. Projects such as LAC-health and Go4health stimulated policy dialogue at the regional and global levels, respectively. So, too, did network-based projects implemented by WHO HQ and described in detail elsewhere. At country level, South Africa provides an example of a country where there is a DEVCO-financed Dialogue Facility, which financed many conferences and workshops, but this covers all areas, not just R&I and not just R&I related to health. However, the field mission confirmed that R&I had been successfully integrated into all policy dialogues. This reflects, among other things, a strong government commitment to R&I, an established policy with which EU support is coherent, a strong responsible government agency, and good EUD capacity. Also contributing is the fact that the EU Science Counsellor in Addis sends about 25% of his time coordinating co-operation with South Africa.

In Southeast Asia, the Regional Asia Dialogue Instrument funded by DEVCO under the Asia Regional Strategy is managed by the ASEAN Secretariat in Jakarta and financed, among other things, discussions on human and animal health and infectious disease surveillance and control. Avian influenza was the subject of extensive consultations managed by the ASEAN Secretariat and supported by DEVCO.

It is known that FP7 played some role in financing policy dialogue through the Capacities Programme (INCO-NET at regional level, BILAT at bilateral level; Acces4EU, ERA-NET, and INCO-NCP), which engaged in policy dialogue through events such as priority-setting workshops with the aim of identifying common research topics. Projects prepared reports designed to support policy dialogue. No specific information on health is available, nor is it known to what extent Capacities Programme outputs are shared with DG DEVCO or taken up.

Much health priority setting has taken place, in addition, at major international meetings such as those of the Global health Research Forum, Ministerial Summits such as that in Bamako in 2008, and specialist international scientific conferences and congresses.

6.2.1 Indicator 621: Sector policy dialogues feature R&I at country and regional level

In South Africa, the review of the EU-South Africa S&T co-operation agreement in 2014 noted that the venue for discussion of S&T and innovation policies and priorities is the Joint Science and Technology Co-ordination Committee. Sector policy dialogue takes place in 20 common priority areas identified in the 2007 EU-South Africa strategic partnership, including health. The report notes some overlap between policy dialogue and areas of FP7 co-operation but states that there were links with Joint Science and Technology Co-operation Committee (JSTCC) dialogue only in ICT and space. It hints that JSTCC dialogue was generally felt to be of higher quality than sector dialogues. The DEVCO-financed EUD Dialogue Facility finances many seminars and workshops, in all areas, not just health or R&I within health. The review of that facility found that, thanks to strong government commitment, R&I had been successfully integrated into all policy dialogues. This was emphatically confirmed by the field mission.

In Latin America, a major vehicle for policy dialogue and co-ordination is the RTD-financed LAC-health Project. This aims to produce a detailed priority list and plan to guide policy makers and other stakeholders on future EU-LAC co-operation in health R&I, including the exploration of funding modalities. Objectives are to discuss health research priorities and funding, establish a Roadmap for cooperative health research and set the framework for future co-operation, disseminate results, and promote creation of a co-ordination body to implement the Roadmap. Work is carried out by scientific working groups covering health and social care services research, infectious disease, neurological diseases and stroke, chronic diseases, prevention of diseases and promotion of well-being, and cancer.

In Asia, venues such as the Asia-Europe Meeting have been the site of policy dialogue relating to health, e. g. animal health and highly pathogenic emerging infectious disease.

A major contribution of DG RTD at the global level is the Go4health project -- the name is derived from its full title, Goals for Global health and for Governance for Global health – which provides a platform for information sharing, dialogue, priority setting in the context of planning the post-2015 health agenda. It aims to contribute to the implementation Horizon 2020 and the formulation of EU innovation, research and technological development policy. This requires ensuring that the new heath development goals are based on the best scientific evidence, that an appropriate mix of horizontal and vertical approaches is used, and that the system for health innovation be improved. The idea emerged from DEVCO, RTD provided the financing, and DEVCO was involved in management and monitoring, providing a god example of Inter-DG co-operation.

6.2.2 Indicator 622: Sector policy dialogues include R&I stakeholders at country and regional level

See I-621. In the health sector, the South Africa field mission confirmed that there was extremely strong participation by R&I stakeholders in heath policy dialogue. No such evidence was found in other countries benefitting from health sector support.

6.2.3 Indicator 623: Evidence that sector policy dialogues help matching country and regional needs with appropriate EU programmes for R&I support

The best evidence for this comes from the LAC-health project described above (I-621), where the exploration of funding opportunities is a key component of Roadmap formulation.

6.3 JC 63: Extent to which the EU facilitates R&I activities at all levels

Summary judgement

Solid evidence has been found of both DEVCO and FP7 initiatives serving as the basis for network formation (I-632; see also I-621) and, informing national researchers of opportunities (I-631). In Eastern Europe and Central Asia (EECA) and South Africa, FP7-financed projects increased awareness of FP7 funding opportunities and offered concrete assistance in working through the process. An evaluation in South Africa found that these efforts paid off in terms of rising participation. RTD also helped to publicise the 2010 Africa call using INCO CAAST-Net. In Ukraine, DEVCO financed a project to build capacity to participate in FP7. FP7 participation may be a by-product of participation in DEVCO-financed regional and global networks, of which a number have been found – ANDI (DEVCO provided start-up funds), the WHO co-ordinated network under Global R&D into PRDs, and additional WHO-implemented, network-base projects in community health public health interventions and promoting R&I and technology transfer. Less information is available on concrete assistance to researchers in working through the FP7 process, but there is evidence of this in Ukraine. In Africa, the S&T Counsellor in Addis attempts to identify local researchers, especially in the context of EDCTP. It is likely that, in many cases, responsibility for assisting third country partner institutions in the application and administration processes falls upon European consortium leaders, often universities. Dissemination of FP7

research results occurs via the usual scientific channels, a fact that has given rise to some concern at DEVCO, which would prefer to see broader dissemination outside the scientific community, as well. However, the South African FP7 projects visited had all disseminated their results among policy makers.

6.3.1 Indicator 631: Informing about available opportunities at country and regional level

All open funding opportunities; for example, thematic budget lines calls or FP7, are publicised through normal Internet sources, including EUD websites. Some evidence – e. g. complaints about the high hurdles to successful application – would suggest that effective openness is limited. No information has been consulted on proposals received in response to FP7 calls. In response to a SANTE call, 45 eligible proposals were received, of which 21 were accepted. Virtually all of these were from international organisations / NGOs or local affiliates of international organisations/NGOs. Given the limited number of NGOs with research capacity or research interest, the limited pool is not surprising.

An example of a project building capacity to apply for FP7 projects was EECA–LINK, financed by FP7 in the Eastern European and Central Asian Countries. 17 partners from 12 countries were involved. The project focused on three stakeholder groups, policy makers, university and academic partners, and the wider research public. The overall goal was to strengthen scientific collaboration in health between the EU and the EECA region. National capacity building events and workshops, a day trip to Brussels, project events and collaboration with other European projects to spur network formation, and informal networking activities were the main activities sponsored. Both researchers and research administrators were trained. In Ukraine, DEVCO financed a project that put National Contact Points in place to advise national researchers on FP7 possibilities and procedures. FP7 itself also funded a smaller project.

The Review of the EU-South Africa S&T co-operation agreement carried out in 2014 concluded that the BILAT instrument under the FP7 Capacities Programme was crucial to South Africa's successful participation in the FPs. Three European-South African Science and Technology Advancement Projects (ESASTAPs) aimed to improve and increase South Africa's participation in FP7, to develop EU-South African networks and partnerships, and to better identify areas of mutual interest. These raised South African awareness of FP7 opportunities through, for example, over 100 events and activities in Europe and South Africa.

At regional level, the 2007-12 INCO programme CAAST-Net (Network for the co-ordination and advancement of the sub-Saharan Africa –EU S&T Co-operation) linked seven EU countries and 12 African countries. It showcased research opportunities, especially those arising from the 2010 Africa call.

6.3.2 Indicator 632: Network activities of R&I stakeholders are operational at country and regional level

Document review has confirmed a number of significant health-related networks in operation.

At regional level, the African Network for Drugs and Diagnostics Innovation (ANDI) is now operational with a secretariat, board, and Science and Technical Advisory Committee. By the end of 2011, over 200 research proposals had been received and a small number approved for funding with the very limited finance available. 32 Centres of Excellence had been selected. Processes were underway to put in place similar networks in China, Southeast Asia, and Latin America.

A global network, with implications for regional and country networks was assembled for the GSPoA priority-setting project *Support for research and development into poverty-related, tropical, and neglected diseases.* It encompassed: governments (including regional economic integration organisations), international inter-governmental organisations, international and national research institutions, academia, national and regional regulatory agencies, health-related industries both public and private, NGOs, charitable foundations, etc. In all, 125 researchers worldwide were affiliated and tied together using the TropIKA web-based communications and information-sharing platform. The experts were grouped into six disease-specific reference groups, each with a team leader from a disease endemic country and each meeting at least once in a disease-endemic country. Four thematic working groups were also formed. A wide range of workshops and consultative meetings were held and the result, published in 2012, was a standard reference on research priorities for the GSPoA.

Involving the School of Public health, University of Ghana; Institute of Development Studies, University of Dar-es-Salaam, Makerere University School of Public health, and the Biomedical Research and Training Institute, Harare, the project "Promoting Research for Improved Community Access to health Interventions in Africa " formed a regional network of collaborative institutions.

In addition to stakeholder identification and Case Studies, the project "Improving access to medicines through transfer of technologies and local production held regional workshops in Cape Town South

Africa, Argentina, and Malaysia. At the first, 38 participants from 19 countries (14 of them African) were represented.

In the project "Working with African companies to ensure a pharmaceutical quality response to malaria," over 200 national drug regulatory agency inspectors received trainings held in ten countries.

At both country and sub-regional level one of the strongest projects for building networks was "Drug resistance surveillance and treatment monitoring network for the public sector HIV antiretroviral treatment programme in the Free State province of South Africa." Formal partners were the Medical Research Council (the grantee) University of the Free State, University of Pretoria, the Africa Centre of health and Population Studies at the University of KwaZulu, and the University of Cape Town (UCT) Lung Institute. International collaborators included the Catholic University of Louvain, Stanford University, the WHO, the School of Medicine at the University of Bologna, the Ministry of health in Botswana, and other. The primary aim was to establish a drug resistance network in South Africa. The scope of the action was expanded to cover Botswana and Zimbabwe in addition to Free State. Over 20 scientific publications are repowered in the Final Report.

The FP7 Capacities Programme organised "brokerage events" in Third Countries and provided some funds for Third Country researchers to attend such meetings in Europe. No information specific to health is available. INCO-NETs mapped scientific excellence in Third Countries, organised scientific conferences, and generally encouraged face-to-face contacts that lead to partnerships.

The 2014 review on the EU-South Africa S&T co-operation agreement stated that the main result of the agreement had been South African researchers' and students' increased access to and participation in EU-sponsored networks and projects. This has had positive effects on visibility, capacity, and knowledge exchange.

For information on the regional health network created by LAC-health, see I-621.

6.3.3 Indicator 633: Practical support (including advice) for R&I stakeholders during the application process for and with the administration of EU R&I programmes

Responsibility for publicising and promoting participation in EU-financed R&I is shared between RTD in Brussels, EUD Science Counsellors, of whom there are relatively few, and EUD staff. In the context of EDCTP, the S&T Counsellor in Addis makes efforts to mobilise national researchers in those countries lacking an S&T Counsellor. In Ukraine, concrete assistance was available under DEVCO funding for researcher interested in participating in FP7. In many instances, the responsibility of supporting network partners in third countries falls upon the European institution, most often a university, heading the consortium. As discussed at many places, capacity constraints in developing countries are cited as a barrier to expanding R&I co-operation.

6.3.4 Indicator 634: Practical support for R&I stakeholders in the dissemination of research results

The main example of a (partially) DEVCO-financed dissemination tool was TropIKA, whose further development as a co-ordination, information sharing and dissemination tool was supported by "Supporting research into poverty-related, tropical, and neglected diseases." From the DEVCO point of view, dissemination of FP7 research results is too limited to scientific publication rather than broader dissemination.

In terms of traditional scientific dissemination, through academic journal papers and conference presentations, DEVCO and FP7 R&I projects were effective in promoting dissemination; however, this was more due to the traditional scientific incentive system than concrete practical support provided.

Part C

Environment and Climate Change

Part C – Environment and Climate Change

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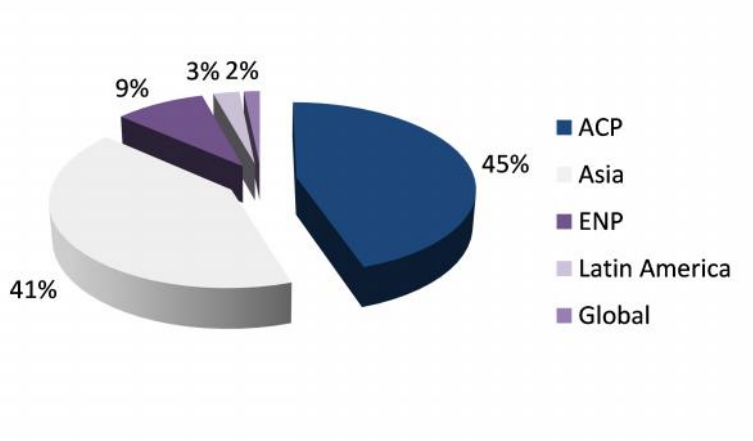
Sector introduction Environment and Climate Change

Overall introduction

The contracts of Environment and Climate Change (EnvCC) do not feature as prominently in the inventory for the evaluation as the commitments for other sectors. The 110 EnvCC contracts contribute about EUR 155 million of the total expenditure for contracts in the inventory, or around 14% of the total commitments for all sectors. On average, expenditure on contracts is about EUR 1.4 million per contract. African, Caribbean and Pacific Group of States (ACP) and Asian countries have been the main recipients of support to Research and Innovation (R&I) in the sector each accounting for more than 40% of the total contracted amount (see Figure 8 below).

Figure 8 EnvCC commitments per region



Source: CRIS, Particip analysis

The contractor channel for commitments in EnvCC has been dominated by universities (25%), research institutes (22%) and private sectors organisations (22%). In comparison to other sectors, government organisations and civil society organisations (CSOs) have played a relatively small role.

Different programmes place different emphasis on whether R&I is a means or an end in itself. For designated environmental programmes, most prominently the Global Climate Change Alliance (GCCA) and SWITCH Asia programmes, R&I capacity and network building are means for bringing about environmentally sustainable development in partner countries. In turn, programmes such as EU-Asia Link at regional or the EU-China Institute for Clean and Renewable Energy (ICARE) at national level, use environmental, sustainable development and climate change issues as vehicles for building applied and relevant R&I capacity. Examples of key programmes (also explored in separate Case Studies in Volume 3) in this context are:

- The GCCA Programme at global level;
- The SWITCH-Asia programme at regional level.

Policy documents

The main basis for the Intervention Logic of R&I support in the area of EnvCC is the *Thematic Programme for Environment and Sustainable Management of Resources including Energy* (ENRTP). The ENRTP is a horizontal thematic programme focused on a wide range of environmental policy issues. Its rationale was to create and fund a thematic programme to counter the tendency for environmental issues to be side-lined in regional and country-level development programmes. For this reason, activities under ENRTP, in principle, need to take into account and coordinate with a wide range of complementary programmes and activities.

The ENTRP and other official key policy documents that outline the Intervention Logic are:

- COM(2005) 311 European Consensus on Development;
- Development Co-operation Instrument (DCI) regulation (2006) 1905;
- COM(2006) 20 final. External action: Thematic programme for Environment and Sustainable Management of Natural Resources including Energy (ENRTP);
- EC (2007) thematic strategy for the Environment and Sustainable Management of Natural Resources including Energy (ENRTP).

The broad argument that emerges from these documents involves a number of propositions on the nature of global environmental policy challenges to be addressed and on the approach the EU could take to tackling the questions raised.

Intervention Logic EnvCC

The *global, long-term impact* of European Union support to environmental and climate change policy outside the EU is to enable national governments to meet their development needs without degrading the environment. This implies that third country governments acquire governance capacities to eradicate poverty (by promoting health and social inclusion) by "making globalization work for sustainable development" through effective natural resource management regimes, the promotion of sustainable patterns of production and consumption and adoption of green economy approaches to development.

Research and Innovation contributes to achieving these policy objectives in different ways. Implicit in the documents are three *classes of activities* related to science, research and innovation.

- First, the ENTRP aims to provide *support for generating a scientific and expert knowledge base* in the relevant environmental policy areas (climate change and energy, sustainable resource management and environmental governance). Here, collaborative research projects between European scientists and research organisations and their counterparts from developing partner countries are to provide the required knowledge and institutional capacity. While the main instruments here are the Framework Programmes 6 and 7 – oriented thematically towards environmental issues – the strategy also aims to initiate and implement collaborative research through other institutions, such as ASEM or European Neighbourhood and Partnership Instrument (ENPI).
- Second, the strategy foresees considerable activities in the area of *capacity building*. This ranges from building capacity at research organisations (with considerable synergies with knowledge generation) to the creation of capabilities for monitoring and science-for-policy. These activities also aim to enhance institutional capabilities for knowledge and technological transfer.
- Third, the strategy aimed to engage in activities that build new and extended *networks for dissemination and application of relevant scientific and expert knowledge*. This includes creating and leveraging the 'critical mass' of research projects and research networks for better policy. The EU also adopts a flexible approach to partners for policy implementation, including research organisations.

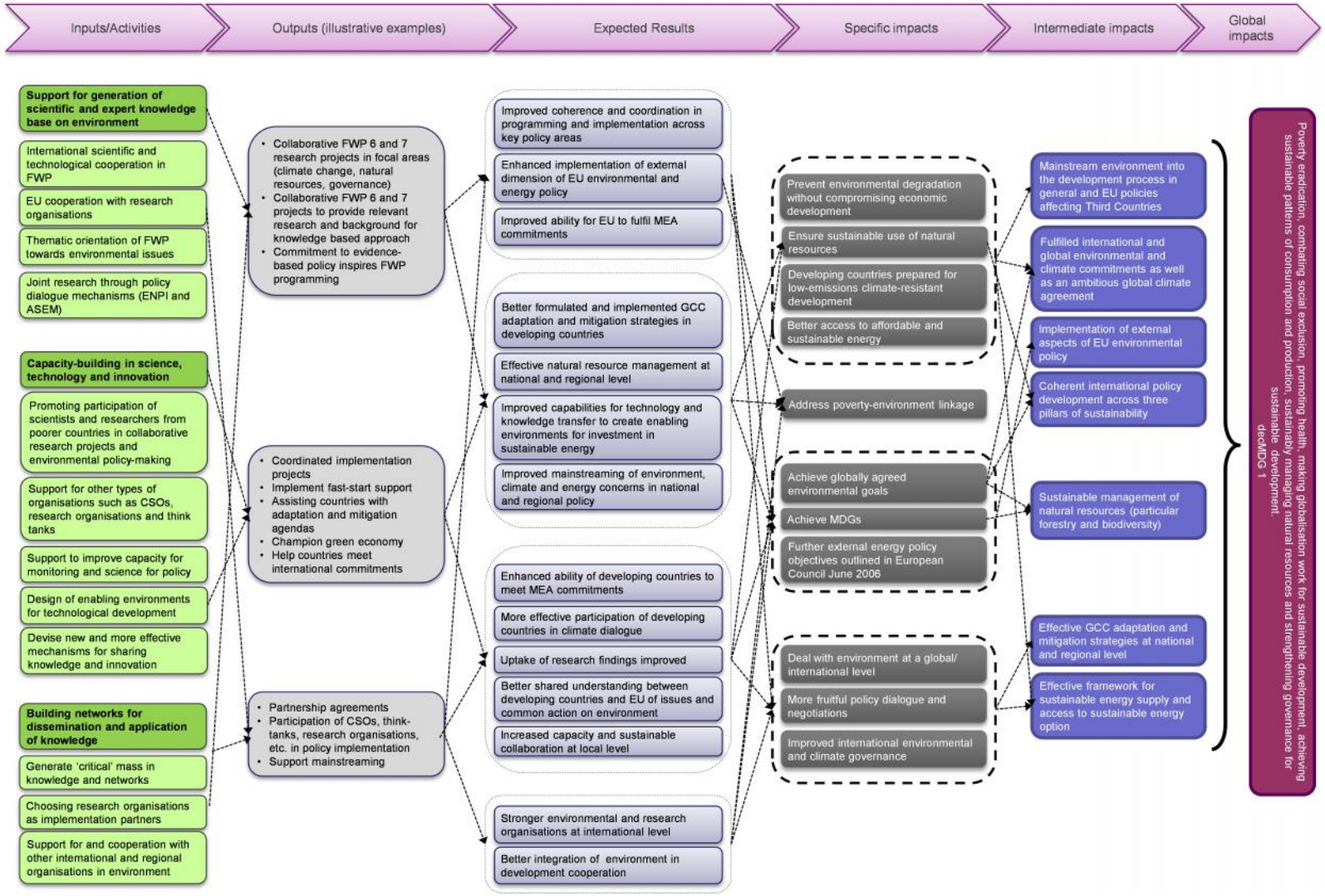
The *specific outputs* predominantly take the form of collaborative research projects between researchers from the EU and developing countries. In terms of institutional and conceptual capacity-building at national and regional level, the strategy aims to provide assistance to developing countries in policy areas ranging from the green economy to GCC adaptation and mitigation strategies to assistance in meeting international commitments. In addition, the EU aims to establish partnership agreements to engage other types of organisations – CSOs, research organisations, or advocacy organisations -- at national and international level.

The *expected results* from the activities in science, innovation and research fall in four general areas. First, the EU expects that improvements in policy co-ordination and coherence will enable the EU itself to better implement European environmental policy and meet its international commitments. Second, support to Research and Innovation is expected to lead to better environmental policies at national and regional level. Third, the Research and Innovation component should also support developing countries in participating in international environmental governance processes. Last, the support for knowledge-based networks is expected to create a stronger presence of research organisations at global level.

In terms of *specific impacts*, the strategy foresees that improved knowledge and networks will assist developing countries in adopting and implementing climate and natural resource policy that enable environmentally sustainable economic development. Moreover, the strategy aims to enable policy actors – both the EU and developing partner countries – to fulfil their international commitments such as the MDGs as well as MEAs. Finally, the strategy envisages that Research and Innovation better support international environmental governance by enabling developing countries to contribute to and profit from negotiation and policy-making processes.

The *intermediate impacts* again relate to EU policy (better integration of environment into policies affecting third countries), environmental policy capacities of developing countries and improved structures and practices of international environmental governance.

Figure 9 *Intervention Logic Environment and Climate Change*



Alignment of EU support with the Intervention Logic

Interventions at the global, regional and country level have enabled the types of activities specified in the Intervention Logic. In particular, interventions at all levels addressed R&I directly or indirectly via capacity-building and the generation of effective networks for the dissemination of knowledge and transfer of technology.

In terms of the way outputs relate to expected results and impacts, the underlying logic remains sound. Yet, while inputs have led to the outputs outlined, it is somewhat less clear whether these outputs have generated or will generate expected results as well as the specific impacts stipulated by the intervention logic. While there is strong evidence of successful projects involving transfer of sustainable technologies and practices to individual organisations and companies, there has been less concrete evidence of successful scaling up and spreading of these practices despite reasonably strong networking and dissemination efforts. Moreover, some examples were found of R&I having led directly into policy development in third countries in the area of EnvCC but perhaps not as widely as had been predicted in the Intervention Logic. In sum, while the overall Intervention Logic remains valid, it may need to be extended by activities that explicitly link intervention outputs to specific, intermediation and global impacts both at the level of policy-making as well as the level of social and business practices.

Sample approach used: global, regional, national impact

The inventory shows that most R&I interventions in EnvCC were regional or country-level contracts that were largely implemented through national contractors.

Table 6 EnvCC contracts in R&I by contractor channel and benefitting zone

Contract benefitting zone	Contractor channel type	# of contracts	# of contractors	Average per contract (EUR)	Average per contractor (EUR)	Total contracted amount (EUR)	% of subtotal	% of total
Global	International	0	0	0	0	0	0%	0%
	Regional	0	0	0	0	0	0%	0%
	National EU	3	3	625,788	625,788	1,877,364	79%	1%
	National Non-EU	1	1	500,000	500,000	500,000	21%	0%
	Subtotal	**4**	**4**	**594,341**	**594,341**	**2,377,364**	**100%**	**2%**
Regional	International	1	0	5,000,000	0	5,000,000	7%	3%
	Regional	5	2	2,385,287	5,963,219	11,926,437	16%	8%
	National EU	32	29	960,030	1,059,343	30,720,949	41%	20%
	National Non-EU	16	12	1,669,590	2,226,120	26,713,434	36%	17%
	Subtotal	**54**	**43**	**1,377,052**	**1,729,321**	**74,360,821**	**100%**	**48%**
Country	International	4	4	3,251,266	3,251,266	13,005,063	17%	8%
	Regional	1	3	2,383,359	794,453	2,383,359	3%	2%
	National EU	27	24	1,795,157	2,019,552	48,469,241	62%	31%
	National Non-EU	20	21	709,695	675,900	14,193,906	18%	9%
	Subtotal	**52**	**52**	**1,500,992**	**1,500,992**	**78,051,569**	**100%**	**50%**
Total		**110**	**95**	**1,407,180**	**1,629,366**	**154,789,754**		**100%**

Source: CRIS, Particip analysis

Global level:

Globally implemented programmes account for only 2% of the total expenditure on R&I in the EnvCC sector.

Regional level:

The regional route of spending makes up the second largest category with a share of 48% and a total contracted amount of EUR 74.4 million. The aim here is to provide programmes and instruments to develop regional and transboundary responses to EnvCC challenges. The largest proportion of funds has gone to national EU and non-EU national organisations.

National level:

50% of the funds have been spent at the national level, with national EU and non-EU organisations as the main contractors of the EUR 78.1 million spent in total.

At the country level (lower panel of Table 6), 52 EnvCC contracts have been accessed in CRIS and studied, which represents 37% of the total number of national EnvCC contracts in the sample countries and 43% of their value.

1 EQ 1: Development policy objectives

To what extent has EU support to R&I through DG DEVCO been successful in promoting the overall development policy objectives of the EU?

1.1 JC 11: Link between R&I activities and EU development objectives (as per European Consensus and Agenda for Change – MDGs, etc.)

Summary judgement

There seems to be a strong link between R&I activities and development objectives in the EnvCC sector although links to MDGs for example are often contextual rather than being included in logic frameworks.

All relevant programmes explicitly embed their activities in the context of relevant MGDs, including global programmes such as the GCCA and the programme for Carbon Capture and Storage (CCS)/Clean Coal Technologies (CCT), the regional endeavours (most prominently EU Asia Link, SWITCH Asia and EduLink) and the national programmes like SBS Ukraine, the ICARE institute in China, as well as the ASAL APRP in Kenya. However, even though the MDGs provide the thematic backdrop for the activities, they are not specifically operationalised in any of the programmes and it remains unclear whether and to what extent the projects are contributing to the pursuit of MDGs in any given context (I-111).

Of 33 strategic documents (see Table 7) dealing with the Environment and Climate Change and development issues, 22 documents refer explicitly to R&I and only five do not feature either research or innovation. Although the documents span a time period of about 15 years, the perception of the nature and role of R&I has remained stable. In essence, the documents depict R&I as a vehicle for development and prosperity that, at the same time, will allow developing and developed societies to avoid environmental degradation. R&I needs in partner countries are related to developing capacities for effective and appropriate R&I in each development context (I-112).

1.1.1 Indicator 111: DEVCO-supported R&I activities explicitly linked to relevant MDGs

In terms of global programmes, the Global Climate Change Alliance (GCCA) is explicitly designed to help partner countries "increase their capacity to adapt to the effects of climate change and take specific action to adapt in order to support achievement of the Millennium Development Goals (MDGs)" (Action Fiche/Consolidated Action Programme, p. 4). This is reflected in the fact that four pilot projects refer back to MDGs as a rationale for the specific GCCA project. The general tenor for all projects is that GCCA projects enable policy-makers in partner countries to formulate effective adaptation and mitigation strategies to prevent climate change from undermining progress made towards fulfilling MDGs[15]. Where relevant, project documentation refers to specific MDGs. For example, the GCCA Belize project (*D-22636*), focused as it is on water resource management, explicitly aims to contribute to fulfilling MDG 7C that deals with access to potable water (Contribution agreement, GCCA Belize). Similarly, the Climate Change Initiative (CCAI) of the Mekong River Commission (MRC) (*D-23089*) aims at contributing to MDG relating to poverty eradication and food security (Description, Annex). However, the project is also sensitive to horizontal impacts that affect other MDGs; for this reason, the CCAI developed indicators linked to MDGs including gender equality, poverty reduction and environmental sustainability (Action Fiche CCAI). Similarly, one of the "strategic objectives" of the CCT/CCS

[15] Project Identification Fiche, TAP, GCCA-E; Action Fiche, Contribution Agreement GCCA Belize; Action Fiche GCCA Eastern Caribbean.

programme – apart from "building political will and trust" and "building capacity" – is to pursue "aid effectiveness and achievement of the Millennium Development Goals (MDGs)" (Identification Fiche, p. II). EU support to global programmes and research centres under the Consultative Group for International Agricultural Research (CGIAR) has increasingly been aligned towards poverty reduction at household and community levels, environmental sustainability and climate change adaptation, thus being brought closer to MDGs (Kenya Country Note (CN)).

Several of the relevant regional programmes – SWITCH Asia, EU-Asia Link as well as EduLink – also explicitly align their activities with MDGs. The Action Fiche for SWITCH Asia programme argues that promoting sustainable consumption and production (SCP) helps "decouple economic growth from environmental degradation and to contribute to poverty reduction and better quality of life; thereby contributing to Millennium Development Goals 3 and 7" (Action Fiche, p. 1). Similarly, the EduLink programme sees itself as contributing to the policy goals and strategies outlined in, among other papers, the Brussels Resolution on the Role of Education in the Achievement of the Millennium Development Goals. Documentation for the EU-Asia Link Programme as a whole was not available.

Although the documentation explicitly refers to MDGs, the links between planned and actual intervention and the MDGs are not developed in detail in detail either at programme or at project level. Only a single Logical Framework of the sample of relevant projects makes reference to MDGs. The JENGA project aims to change knowledge and practices in the building sector to "mitigate the environmental impacts of energy and resource consumption, [thus] JENGA will reach out to achieve sustainable development (MDG 7)" (JENGA factsheet, p. 1).

At the national level, the SBS interventions as well as bilateral projects in the field of EnvCC also explicitly refer to relevant MDGs in the programming documentation. While national programmes and project link to MDGs a little more firmly than the regional programmes, the MDGs still seem to be part of the larger normative and policy-making background of the particular intervention and do not feature in the available logic frameworks.

While not primarily aimed at Environment, the Sector Policy Support Programme to the South African Department of Science and Technology (*D-18932*) addresses environmental questions, specifically energy and agriculture, as horizontal issues. The project documentation embeds the intervention within an institutional and policy context that is oriented towards pursuing MDGs. The Annex to the Action Fiche, in outlining the consistency of the intervention with existing policy and programmes, argues that the SPSP is in line with the Development Co-operation Instrument, which, in turn, "has as primary and overarching objective the eradication of poverty in the context of sustainable development and at the achievement of the Millennium Development Goals (which include making available the benefits of new technologies in co-operation with the private sector)" (Action Fiche annexes, p. 4). Further, the authors of the Identification Fiche argue that by supporting the South African Department of Science and Technology, the EU strengthens a corporate strategy designed to encourage applied research in sectors relevant to MDGs, e. g. health or agriculture (Identification Fiche, p. vii).

While the SBS targeted at the National Environmental Plan of the Ukraine (*D-24642*) focusses on environmental issues, the documentation also mentions MDGs. By enabling the Ukrainian policy-makers to implement the national environmental plan, the authors of the Action Fiche argue that the SPSP would help address MDG 7 (Ensure Environmental Sustainability).

By enabling high quality research, education and training on clean and renewable energy, the ICARE project (*c-240213*) contributes to MDG since "energy is a key to achieve the Millennium Development Goals in health, education, and poverty reduction in general" (Financial Agreement including Technical and Administrative Provisions TAP, p. 9). Similarly, the project "Innovative Approaches Towards Rehabilitating the Mau Ecosystem" in Kenya relates its activities to MDG 7 (environmental sustainability). Unlike the other programmes, the documentation is rather more detailed about how the project contributes to MDGs: the project will target "capacity building for environmental integration in developing countries, support to a consultative platform, the development of an monitoring system, the development of an innovative approach to forest conservation, including Payment for Environmental Services (PES), including public-private partnerships" (Project Identification Fiche, p. 4). Finally, the ASAL APRP will ensure the introduction of appropriate technology to ASAL farmers in Kenya: In this way, livelihoods "are brought to the front and link up with MDG targets of poverty reductions" (Action Fiche, p. 8).

In terms of more general R&I policy, DEVCO interventions refer to MDGs both in a general and specific sense. At a general level, the EU argues that effective R&I is the necessary condition for addressing MDGs. Effective R&I, so the argument goes, depends on "local technological and innovation capacity". Often this capacity is poorly developed. This is why stakeholders are increasingly convinced that "building this capacity should be an essential component of their strategies for achieving the MDGs" (Action Fiche 2009, *D-22053*).

1.1.2 Indicator 112: R&I needs feature in EU high-level development policy documents and sector policy Communications

A majority of the relevant high-level documents in the field of EnvCC refer to Research and Innovation often spelling out needs and requirements. Table 7 provides an overview of all relevant strategic documents. Of the 33 relevant strategic documents identified and analysed by of the "Thematic Evaluation of the EU Support to the Environment and Climate Change in Third Countries (2007-2013)", only five feature neither Research nor Innovation.

Table 7 Strategic documents in EnvCC sector

Year	Title	Document reference	Features R&I
1998	European Community biodiversity strategy	COM(1998) 42	yes
1999	European Council, 11 November, Brussels	Development Council Conclusions	yes
2001	A Sustainable Europe for a Better World: A European Union Strategy for Sustainable Development	COM(2001) 264	yes
2001	Presidency Conclusions. Goteborg European Council, June 2001	SN 200/1/01 REV 1	yes
2001	Overseas Association Decision	Council Decision 2001/822/EC of 27 November 2001	yes
2002	Sixth Community Environment Action Programme	Decision No 1600/2002/EC	yes
2002	Towards a global partnership for sustainable development	COM(2002) 82	yes
2003	Climate change in the context of development cooperation (and its EU Action Plan on Climate Change)	COM(2003) 85	yes
2003	EU Action Plan: Forest Law Enforcement, Governance and Trade	COM(2003) 251	yes
2005	The European Consensus on Development (ECD)	Council of the European Union Brussels, 22 November 2005 DEVGEN 229 RELEX 678 ACP 155	yes
2005	Winning the Battle Against Global Climate Change	COM(2005) 35	yes
2005	Council regulation on the establishment of a FLEGT licensing scheme for imports of timber into the European Community	Council Regulation (EC) No 2173/2005	no
2005	On the review of the Sustainable Development Strategy. A platform for action	COM(2005) 658	yes
2005	European Union's contribution to speeding up progress towards the Millennium Development Goals	COM(2005) 132 final/2	yes
2005	Accelerating progress towards attaining the Millennium Development Goals – Financing for Development and Aid Effectiveness	COM(2005) 133 final	no
2005	Policy Coherence for Development – Accelerating progress towards attaining the Millennium Development Goals	COM(2005) 134	yes
2006	Communication from the Commission to the Council and the European Parliament – External Action – Thematic programme for environment and sustainable management of natural re- sources including energy	COM(2006)20final	no
2006	Halting the loss of biodiversity by 2010 – and beyond – Sustaining ecosystem services for human well-being	COM(2006) 216	yes
2007	Limiting Global Climate Change to 2 degrees Celsius. The way ahead for 2020 and beyond	COM(2007) 2	yes
2007	Building a global climate change alliance between the European Union and poor developing countries most vulnerable to climate change	COM(2007) 540	yes
2008	Proposal for a Regulation of the European parliament and the Council laying down the obligations of operators who place timber and timber products on the market.		no
2008	The EU – a global partner for development, Speeding up progress towards the Millennium Development	COM(2008) 177	yes

Year	Title	Document reference	Features R&I
	Goals		
2009	Towards a comprehensive climate change agreement in Copenhagen	COM(2009) 39	yes
2009	Elements for a new partnership between the EU and the overseas countries and territories	COM(2009) 623	yes
2009	Policy coherence for Development – Establishing the policy framework for a whole–of–the-Union approach	COM(2009) 458	yes
2009	Millennium Development Goals – Impact of the Financial Crisis on Developing countries	SEC(2009) 0445	yes
2010	A twelve-point EU action plan in support of the Millennium Development Goals	COM(2010) 159	yes
2010	Green paper: EU development policy in support of inclusive growth and sustainable development. Increasing the impact of EU development policy	COM(2010) 629 final	yes
2011	Joint EEAS-EC Reflection Paper: Towards a renewed and strengthened EU climate diplomacy		no
2011	Council Conclusions on EU Climate diplomacy	3106th FOREIGN AFFAIRS Council meeting, Brussels, 18 July 2011	yes
2011	Increasing the impact of EU Development Policy: an Agenda for Change	COM(2011) 637	yes
2011	Our life insurance, our natural capital: an EU biodiversity strategy to 2020	COM(2011) 244 final	yes
2013	A decent life for all: Ending poverty and giving the world a sustainable future	COM(2013) 92	yes

Source: Particip analysis

Although the 33 strategic documents span a period of about 15 years, the approach to, and understanding of, R&I needs is remarkably consistent. The common themes are as follows

- Strategic documents repeatedly point to the need for more research and improved knowledge management systems to better inform environmental and climate change policy-making.
- These strategic documents consistently understand R&I as a means to maintain prosperity and economic growth without compromising and degrading the environment.
- For developing countries, this means that R&I can "fast-track" development processes. In this view, eco-innovations that emerge from effective and targeted research can enable partner countries to pursue development objectives as articulated by the MDGs.
- A wide range of strategic documents argue that development-oriented innovation will require research targeted at specific pivotal sectors (such as agriculture, water, health) as well as the development of R&I capacities in partner countries.
- The development of sustainable technology and eco-innovations requires co-operation and collaboration between researchers across institutional and national boundaries. This is also true for the development of sustainable technology and innovation for the development context; collaboration and co-operation is required to promote technology transfer and R&I capacity-building.
- The public sector plays a pivotal role in promoting and driving the development of sustainable R&I, either by creating incentives in terms of funding, regulation or a fertile institutional framework, such as market-based approaches to eco-innovation.
- Environmental and development challenges are also opportunities for European stakeholders and actors to innovate and assume leadership for sustainable R&I.

1.1.3 Indicator 113: EU participates effectively in global fora identifying R&I needs for MDGs and post-MDG era

No information available for the EnvCC sector.

1.2 JC 12: Extent to which R&I has informed sector policy dialogue and sector support at national and regional levels

Summary judgement

For the EnvCC sector, some evidence suggests that R&I results inform policy dialogue and sector strategies.

Global programmes in the field of the EnvCC place the interventions within a factual context derived from research (i. e. in the form of studies and reports). The interventions at national level analysed – the SBS to the Ukrainian National Environmental Plan and the SBS to the South African Department of Science and Technology – do not refer to R&I outputs; instead the burden of justification for the programmes rest on analyses of institutional orientation and coherence (I-121).

The evidence does, however, indicate that the programmes at the global and regional level create institutional contexts that act as conduits for R&I outputs into the policy–making process at the level of implementation. However, cases were not found of where *technical* outputs of R&I had fed back into the design of new sector support. This does not mean that this has not happened but rather that project documents have not mentioned such inputs (I-122).

At national level, EUDs sometimes fund dissemination activities for results from DEVCO-funded projects, targeting policy makers among others. However, this funding is not automatic and not even the norm. Where it does take place, EUDs consider that funding of workshops, to which policy makers are invited, and the funding of publications are the most effective means of supporting dissemination. The latter ideally includes targeted policy briefs (I-122).

Networking facilities such as the SEA-EU-NET and the SWITCH Asia Network Facility also provide forums for dissemination including, for example, Science and Technology days in South East Asia.

Eight out of 12 EUDs managing EnvCC related projects stated that they engage in policy dialogue; however, 58% of these dialogues were considered by the relevant EUD as having a low or very low impact on eventual R&I policy or strategy. Policy influence is considered most likely where EU support has led to strengthened capacities of institutions that have a direct advisory role to government (I-122).

Finally, there are few traces in the documentation analysed to suggest that sector-specific R&I outputs find their ways into projects and programmes in other sectors. However, relevant programmes in the field of EnvCC at regional and national level, most prominently the EU Asia Link programme and ASAL APRP (*c-291241*) project, were designed to transfer R&I across sectors (I-123). Moreover, a number of projects were identified particularly in the area of FSNA which directly integrate elements of EnvCC and included innovations related to both sectors. This is particularly true in countries where agricultural activities are carried out close to ecological rich areas or in ecologically fragile zones (I-123).

1.2.1 Indicator 121: Design of support to the sector incorporates results and lessons learnt from R&I (same sector)

The GCCA, although a global programme, provided sector support at the national level in Cambodia (the Cambodian Climate Change Alliance CCCA), in Ethiopia (the GCCA-Ethiopia) and in Belize (GCCA-Belize) during the evaluation period. The documentation analysed show that the programme built on findings from research studies. Predominantly, these studies were placed to shore up or legitimate the project rationale. For example, the Annual Action Programme for the GCCA-E project uses the World Bank's estimates of the economic impact of climate change on Ethiopia as well as the International Food Policy Research Institute's (IFPRI) assessment of potential threats from climate change to Ethiopia's economy (Project Identification Fiche, p. 3). Similarly, the Action Fiche of the GCCA-Belize project uses a study of the Community Caribbean Climate Change Centre (CCCCC) that itemises the specific vulnerabilities of the Caribbean in general to outline the issues for Belize (Action Fiche, p. 2).

Like the GCCA, the CCS/CCT is a global programme that focuses on developing national strategies for clean coal technologies (CCT) and carbon capture and storage (CCS). Here, the Identification Fiche for the programme that funds CCT/CCS demonstration projects in India, China and South Africa points to the argument of the Independent Evaluation Arrangement (IEA) World Energy Outlook 2007 that "instead of decreasing by 2030, global CO2 emissions from energy use are currently set to increase by 55%. China and India alone account for 45% of this increase. 84% of the additional energy demand will be met from fossil fuels, leading to a 73% increase in global coal use" (Identification Fiche, p. IV).

The examples above relate to how the *need* for support was informed by the results of R&I. However, no cases were not found of where more technical outputs of R&I had fed back into the specific *design*

of new sector support. This does not mean that this has not happened but rather that project documents have failed to mention such inputs.

Neither do national sector support interventions for the Ukraine and South Africa refer to R&I results in the need for or the design of support actions. While the documentation analysed for the SPSP for the Ukrainian water sector features descriptions and problem analyses that can only have originated from research or research practices (e. g. water quality analysis), the documentation seems to rely on policy and regulatory reports (which, in turn, are presumably based on research results) (Identification Fiche, Action Fiche, draft TAP). Similarly, the programme documentation for the sector budget support of the South African Department of Science and Technology does not justify the intervention using R&I results. Rather, and not entirely unreasonably, the documentation focuses on the coherence and substance of the DST's organisational structure, corporate framework and policy goals.

1.2.2 Indicator 122: R&I results used in dialogue at national and regional levels

Programmes at the global and regional level create organisational and thematic contexts that may act as conduits for knowledge into the policy–making process. In particular, these conduits flow into the process at the level of regulatory and implementation practice. At national level eight out of 13 EUDs managing EnvCC related projects stated that they engage in policy dialogue at national level with national stakeholders (EUD survey) with the EUDs themselves acting as organisers in the majority of policy dialogues. However, 58% of these dialogues were considered by the relevant EUD as having a low or very low impact on eventual policy (EUD survey Fig. 8).

The programmes operating at global level, particularly the GCCA, set out to create – in some cases successfully – institutional contexts in which the results from R&I become available for policy practitioners at regulatory level. For example, the GCCA-Belize, the available monitoring report suggests, has created a context for the co-operation and thematic focus of organisations such as National Climate Change Committee, NIWRA, the National Climate Change Office, Southern Environmental Alliance and Village Councils as well as the involvement of so-called extension officers (*MR-145707.01*). However, the monitoring report for the Cambodia Climate Change Alliance (CCCA) (*c-229141*) – a project aimed to support the mainstreaming of climate change issues in Cambodian policy-making – suggests that the implementation mode envisaged, – the Multi-Donor Trust Fund – did not operate as planned delaying the project and, consequently, hindering the flow of R&I knowledge about climate change into the policy process (*MR-136161.01*, p. 3). The only GCCA project for which data was gathered in the field under this evaluation showed limited impact on policy dialogue despite a number of achieved innovations during the project period. The lack of impact was a result of the short lifetime of the pilot project and limited resources available for follow-up (Ethiopia CN).

At the regional level, the SWITCH Asia programme created institutional spaces and conduits for the results of R&I to enter policy-making and regulatory practice. For example, in China the Train-the-Trainer project (*c-152438*), Sustainable Public Procurement in Urban Administrations in China (SuPP Urb) project (*c-153224*) and the Low Energy Housing in Sichuan and Shenzhen, China (*c-262965*) created an institutional context for policy-makers to get involved in the promotion of SCP. According to the available monitoring report, the Train-the-Trainer project reached out to the Chinese government "committed to effectively pursuing energy efficiency measures since it is one of the core priorities of the current five-year National Development Plan (2011-2015) "through "a broad array of channels (workshops, conferences, media events, exhibitions, educational activities, etc.)" (*MR-133641.03*, p. 3-4). Similarly, the SuPP Urb project ensured participation of participants of the Ministry of Finance, the National Procurement Centre as well as the Ministry of the Environment (1st Interim Report). The SWITCH-Asia project Low Energy Housing in Sichuan and Shenzhen, fed the results of experience with SCP in practice into the ongoing policy dialogue with the Chinese Ministry of Housing and Urban Development (MoHURD) (*MR-145818.01*).

In Vietnam, the MEET-BIS (*c-171201*) project did not so much initiate or contribute to any particular dialogue as it enabled and facilitated co-operation and conversations between intermediary organisations (such as industry associations like the Vietnamese Textile and Apparel Association VITAS) on concrete policy issues concerning SCP (*MR-140925.01*).

Similarly, the available monitoring report for the REWIN project argues that the "project has strong institutional support and is well integrated into government structures. Sustainability for the electronic Waste Tracking System (eWTS), as part of the Chinese National Center of Solid Waste Management (NSWMC), is guaranteed, as it is an integral part of government policy and directly linked to the national permit system" (*MR-146810.01*, p. 3).

Events organised by the SWITCH Network facility provide a potential conduit for exchanges of information and results between SWITCH grant projects and policy makers though no direct evidence was found of this having influenced national EnvCC policy. Similarly, the Southeast Asia and EU Network Facilitator provides useful dissemination opportunities via Science, Technology and Innovation days.

These are principally aimed at brokerage between private companies and research institutions but government officials also attend these events and there is a chance that presentation of project outcomes can have an impact on policy (Vietnam CN).

SWITCH Asia projects tend to interact with local/regional government rather than national government; lead organisations in some projects felt that most influence could be gained at the local level. Examples were also found of projects where one or more Policy Briefs had been developed as key outputs. These were considered to enhance the impact of projects and spread results more widely than dissemination efforts focussing solely on workshops (Vietnam DN).

Country visits found that policy impact resulting from DEVCO support was considered most likely where EU-support has increased the capacity of institutions who have a direct advisory role to government. Examples are the Kenyan Agriculture and Livestock Research Institution and the Kenyan Forestry Research Institution and the Institute for Tourism Development Research in Vietnam (Kenya CN, Vietnam CN). The former two advised the Kenyan government in its development of the National Climate Action Plan, while the capacity of the latter to assist the Vietnamese government in developing sustainable tourism strategies and plans was supported by the ERST programme.

1.2.3 Indicator 123: Results identified by R&I in a given sector used in other sectors and in support to other sectors

The available documentation provides no indication of R&I results being directly transferred from one sector to another. However, the design of several programmes in the field of EnvCC at the regional and national level was supposed to bring about and promote research and innovation across sectoral boundaries. This is inevitable in countries such as Kenya, where there is considerable overlap between agriculture and environmental/climate change since much of agricultural activity takes place in ecological fragile zones (Kenya CN). Thus, programmes within the FSNA sector directly integrate R&I related to EnvCC. Similar complementarity between the FSNA and EnvCC sector was also evident in DEVCO R&I relevant support in Ethiopia, Peru and Mauritius (Ethiopia CN, Peru CN, Mauritius CN).

Further crossover links are exemplified by the EU Asia Link project Managing Health and Reproduction of Elephant Populations in Asia (*c-141055*) which set out to span the boundaries between veterinary sciences and the biodiversity as well as animal conservation issues (description).

2 EQ 2: Impact on partner country research communities

To what extent has DEVCO funding of R&I enabled research communities in partner countries to build up and develop their own R&I capacity, including the ability to actively engage in research networks (regional and international)?

2.1 JC 21: Degree of alignment and coherence of DG DEVCO support to R&I with relevant policies and strategies

Summary judgement

DG DEVCO support to R&I makes some effort to align with relevant priorities and strategies in partner countries and at regional and global level where these exist. However, understandably alignment with more general EnvCC policies is prioritised more than EnvCC-related R&I priorities. This reflects the fact that within the EnvCC sector, R&I, if addressed, is viewed as one of the means towards achieving an EnvCC goal rather than a priority area in itself.

At country level programme documents suggest that some efforts were made to align R&I interventions in the field of EnvCC with national research priorities and other relevant strategies in partner countries. The analysis of country strategy documents reveals an effort on part of the EU to align programmes and projects at all levels with research priorities, research needs and other relevant strategies. EUD staff in all countries ranked relevance to country priorities as the key driver of the choice and design of DEVCO R&I related initiatives. In South Africa, for example, the high level of EU bilateral support for R&I is coherent with a relatively strong government structure for managing R&I. With respect to EnvCC this mostly relates to South Africa's goal of becoming a world leader in climate science and responding to challenges associated with global climate change (I-211).

The analysis also found examples of where the EU, as input to CSPs, had actively attempted to ascertain research needs and priorities in countries without explicit R&I priorities in the EnvCC field. In Chi-

na for example there has been an ongoing strategic S&T policy dialogue, initiated in the early 1990s, aimed at identifying areas of collaboration and complementarities which has fed into consecutive CSPs (I-211)

At the programme and project level, the programme documentation, monitoring reports and recent evaluations also suggest that EU interventions were in line with policies and strategies in partner countries. This mostly concerned alignment with EnvCC priorities but also where specific R&I priorities could be found, alignment was also found with them (I-211).

At the global and regional level, programmes in the field of EnvCC do not explicitly embed their activities in relevant R&I strategies. Rather, these programmes seek to explicitly align their activities with strategies and policies in the field of EnvCC; capacity building within R&I is one of the means to this end.

At global level, available programme documents only refer to relevant R&I needs and strategies in passing. For example the purpose of the GCCA is to align interventions with existing climate change strategies at national, regional and global level. In particular, the GCCA aims to produce robust knowledge and awareness of the way climate change puts achieving development and poverty-reduction objectives at risk. Research is one of the elements needed to produce this robust knowledge (I-212).

With the exception of the EduLink, which is not particularly EnvCC relevant, the regional programmes analysed in the field of EnvCC make few explicit references to relevant R&I strategies. The references that exist are made in passing. Instead, the available evidence suggests, the programmes tend to align their activities with the strategies and policies of the Environment and Climate Change sector (I-212). At project level, however, individual grant projects in the SWITCH-Asia programme, aim at promoting sustainable production and consumption patterns (SCP) in Asia, in line with national EnvCC policies which at times include R&I needs (I-212).

The available documentary evidence indicates that the programmes make an effort to align activities and interventions with policy priorities set in regional and global consultative platforms, though again these often do not explicitly refer to R&I. For example the Climate Change, Agriculture and Food Security Research Programme (CCAFS) assists African experts in providing climate negotiators with a solid scientific basis – others operate in a more indirect way. The GCCA provides support to partner countries in their efforts to fulfil commitments and policy objectives set in arenas such as the UNFCCC, while SWITCH Asia contributes to spreading and establishing the Marrakech Process by promoting SCP in Asia (I-213).

Similarly, at national level, the SBS to the Ukrainian National Action Plan very specifically aims to support the implementation of the Bucharest Convention and the Marine Strategy Framework Directive (MSFD). In all these cases alignment with R&I only exists if the regional and global consultative platforms include R&I elements and priorities (I-213).

2.1.1 Indicator 211: DG DEVCO support aligned with national research priorities in partner countries

EnvCC programme documents point to efforts to align DG DEVCO support for R&I with national research priorities and other relevant strategies in partner countries. These efforts are apparent both at the strategic level and at programmes and project level.

At strategic level, country documents show that the EU identified research priorities at sectoral level and sought to align EU interventions to these priorities. EUD staff in all countries ranked relevance to country priorities as the key driver of the choice and design of DEVCO R&I related initiatives (EUD Survey). In countries in which R&I priorities are not explicitly formulated programme documentation suggests that the EU has actively sought areas of potential collaboration in which it can add value and exploit synergies; for example, via looking at country EnvCC related priorities and identifying how these can be assisted via R&I developments – for example through capacity building.

In China for example there has been an ongoing strategic S&T policy dialogue, initiated in the early 1990s, aimed at identifying areas of collaboration and complementarities. Concretely, in 2006 at the 9th EU-China Summit and continuing to the 11th China-EU Summit in 2009, these dialogues discussed medium- and long-term strategic co-operation in S&T which could emerge from synergies in the EU's FP7 programme and China's Long-Term Plan for the development of Science and Technology (2006-2020) (Identification Fiche *c-256524*). In 2007, a high-level meeting between DG RTD Mr Jacob and Vice-minister Shang set out priority areas for S&T co-operation. Among others, these included energy, environment and climate change themes (S&T Review China).

The CSP 2007-2013 for South Africa points to "gaps in scientific understanding of the functioning of South African coastal and marine systems"; systems, no less, that "are under considerable threat and are already severely degraded in many areas due to over-harvesting and urban/industrial develop-

ment" (CSP South Africa 2007-2013). Similarly, the country strategy for Tanzania picks up on a government request to "to investigate energy research and supply, taking account of regional supply issues, varying local conditions and needs" (CSP Tanzania 2008-2013). Filling this knowledge gap, the strategy goes on to argue, would align with other policies and agreements, in particular be "the important role of the EC in cluster I of the MKUKUTA, and with the importance of energy in the economic growth agenda" (CSP Tanzania 2008-2013).

At the programme and project level, the programme documentation, monitoring reports and recent evaluations also suggest that EU interventions were in line with policies and strategies in partner countries.

In China, the China-EU Institute for Clean and Renewable Energy (ICARE) was designed, among other things, to overcome perceived short-comings in both post-graduate and vocational training of engineers in the field of clean and renewable energies (Description *c-240213*). In South Africa, the high level of EU bilateral support for R&I is coherent with a strong national commitment and with a relatively strong government structure for managing R&I. With respect to EnvCC this mostly relates to South Africa's goal of becoming a world leader in climate science and responding to challenges associated with global climate change (South Africa CN).

In Kenya, monitoring reports for the project Innovative Approaches towards Rehabilitating the Mau Ecosystem (*D-21846*) addresses a range of policies, strategies and laws formulated by the Government of Kenya: these include "Kenya's Vision 2030", the "Environmental Management and Co-ordination Act", the "Forest Act (2005)" as well as the "Water Act (2005)" (*MR-145438.01*).

Monitoring reports of the project ASAL APRP (*D-22067*), which aimed to build and develop R&I capacity in Kenya, find that it is also highly relevant to the Government of Kenya and EU agricultural policy. (*MR-146799.01*, p. 3). Having said that, interviews in Kenya stressed that there was no real R&I strategy for EnvCC during the evaluation period and government capacity and funding remains low. With R&I continuing to be dominated by donor support in the foreseeable future, development of a strong internally coherent national R&I strategy seems unlikely (Kenya CN).

The SBS in the Ukraine aimed at developing and supporting the Ukrainian "National Environmental Strategy" as well as the "National Action Plan of Environmental Protection of Ukraine for the period 2011-2015" (Action Fiche). The SBS supported these national environmental strategies in terms of a two-pronged approach: first, the SBS would support the development of legislative and regulative frameworks in line with EU environmental frameworks and, second, the SBS would support the more effective implementation of water protection strategies in the Ukraine. The recent thematic 'Evaluation of EU support to Environment and Climate change in Third Countries' found this approach to have been partially successful, but has been inhibited by shifting political will towards and against EU legal alignment at presidential level, and wavering commitment and lack of continuity within the Ministry of Ecology and Natural Resources. In other words, the Ukrainian government's own priorities have been under continual change which has affected the degree to which EU strategies can be aligned with these.

2.1.2 Indicator 212: Regional and global DG DEVCO support for R&I reflects and builds on the relevant R&I strategies

In general, the global and regional programmes in the field of EnvCC do not explicitly embed their activities in relevant R&I strategies. Rather, these programmes seek to explicitly align their activities with strategies and policies in the field of EnvCC, and capacity building within R&I is one of the means to this end.

As such at global level, available programme documents refer to relevant R&I needs and strategies in passing. For example the GCCA programme aims to provide a platform for all European interventions in climate change policy. In this sense, the very purpose of the GCCA is to align interventions with existing climate change strategies at national, regional and global level. In particular, the GCCA aims to produce robust knowledge and awareness of the way climate change puts achieving development and poverty-reduction objectives at risk (Annual Action Plan *D-19960*). The GCCA Action Fiche for the programme as a whole states that "[s]ynergies and complementarity will be sought with other ongoing or planned action (sic)" (p. 3). Significantly, this includes the 7th Framework Programme. While the other projects refer to and place themselves in a wide range of strategic and policy contexts (see I-211 and I-213), none of the available project documentation explicitly refers to relevant R&I strategies. While the Carbon Capture and Storage (CCS) programme documentation analysed also does not directly refer to relevant R&I strategies, it does seem to align with the understanding and perception of R&I as outlined in strategic documents (I-112). In particular, the Information Fiche for the CCS in India, China and South Africa bases the programme logic on MDG 7 and MDG 8 which implies "a global partnership for development, notably the target on co-operation with the private sector to make available the benefits of new technologies" (Identification Fiche, p. III).

The regional programmes provide a somewhat different picture. The documents analysed for the EU-Asia Link programme do not mention relevant R&I strategies at all, and the Action Fiche for SWITCH Asia places the programme within a strategic context which does not refer explicitly to R&I although spreading innovation to SMEs and other organisations is a central element of SWITCH.

Individual grant projects in the SWITCH-Asia programme, however, aim at promoting sustainable production and consumption patterns (SCP) in Asia, in line with national EnvCC policies and also on occasion with R&I needs. For example, the Zero Carbon Resorts project aims to bring about sustainable energy use patterns among SMEs operating in the tourism sector in Palawan (Philippines) and as such addresses explicit research and policy priorities at the local level (Strategic Environmental Plan of the Palawan Council for Sustainable Development) and national level (Philippine Development Plan (2006-2011) that underlines the need to balance tourism and the environment (*MR-139121.02*). Similarly, the DEVCO funded Environmentally & Socially Responsible Tourism Capacity Development Programme (ESRT) in Vietnam, is closely aligned with goals for more sustainable tourism included in Vietnam's Socio-Economic Development Plan. The Chinese Motor Challenge, aimed at inducing major Chinese industrial users to deploy and further develop high-efficiency electric motor systems resonates well with energy efficiency targets of the Chinese governments 11th Five year Plan 9 (Description *c-152738*).

To what extent have these efforts resulted in actual contributions towards achieving national research priorities? The MR for the SWITCH-Asia programme notes that since "projects are in line with government priorities it is broadly anticipated that results/benefits will be welcomed by national authorities". The MR goes on to state that grant-funded projects of the SWITCH-Asia programme (see SWITCH-Asia regional overview) are sustainably expanding the knowledge base of SMEs in Asia by not only providing access to SCP (in the sense both of technological and social innovation) but also by building the institutional infrastructure to retain and grow this knowledge (*MR-138302.03*). Indeed, a recent evaluation of the EU's regional strategy for Asia concludes that the grant-funded projects are likely to achieve their goals and, by extension, contribute to fulfilling explicit and systemic research priorities (RSA 2013, p. 37).

2.1.3 Indicator 213: DG DEVCO support for R&I in line with policy priorities set in regional and global consultative platforms

There is no doubt that regional and global consultative platforms provide the context and foundation for a number of EnvCC-related global and regional programmes. Whether this causes alignment with R&I needs depend largely on whether such needs have been addressed by the relevant consultative platform.

The GCCA aims to enable partner countries to formulate and implement effective policy responses to the challenges of climate change. In a very real sense, then, the GCCA is fundamentally oriented towards supporting partner countries in their efforts to meet their international contractual obligations set in the climate change policy fora, specifically the UNFCCC process. All the GCCA projects analysed make explicit reference to the UNFCCC process and the different commitments of each of the relevant countries (GCCA-E Project Identification Fiche, GCCA-Belize Financial Agreement incl. TAP, GCCA-Lower Mekong, Action Fiche revised). In addition, some of the projects also refer to policy priorities set in other regional and global consultative platforms. For example, for the GCCA-Ethiopia (*D-22456*, the authors of the Project Identification Fiche tells us, is "in line with the Paris Declaration on aid effectiveness" (p. 1). The GCCA Eastern Caribbean (*D-24114*) is based on and aims to support the climate change strategy of the CARICOM, the so-called Regional Framework for Achieving Development Resilient to Climate Change (TAP, p. 2). Staying with the UNFCCC process, the Climate Change, Agriculture and Food Security Research Programme (CCAFS), one of the 16 research programmes under the global CGIAR programme, assists African experts in providing African climate negotiators with a solid scientific basis (Kenya CN).

At the regional level, the SWITCH Asia programme dovetails with and aims to further the objectives of the Marrakech process that "aims to develop regional and national action plans on SCP" (Action Fiche, p. 3). What is more, the SWITCH Asia programme set out to establish and promote the Marrakech process, well ensconced in Europe, in Asia. By promoting SCP in Asia, SWITCH Asia programme seeks to contribute to mainstreaming climate change issues into other policy arenas and thereby "promote active participation in UN Multilateral Environmental Agreements, including the UNFCCC and the Montreal and Kyoto protocols" (Action Fiche revised, p. 2).

The projects funded by the EU-Asia Link programme also refer to policy priorities set in global and regional environmental policy arenas**.** The ELMCA (*c-141236*), that aimed at developing curricula for efficient lighting in South East Asia, understands itself as contributing to achieving the aims of the UNFCCC's Kyoto Protocol by promoting the development of Clean Development Mechanisms (CDM) (Description). By setting out "empower Cambodian and Lao PDR environmental professionals to pro-

tect the environment and minimise environmental risks to human health" (*MR-127060.01*, p. 2), the CALIBRE project addresses policy priorities set in regional and global consultative fora more obliquely. If effective, the project would enable environmental experts in Cambodia and Laos to meet the international commitments and policy priorities formulated at regional and global level (Description, p. 12). Despite some initial delays, the available monitoring report suggests that the prospects for achieving the desired impact as well as future sustainability (both in terms of policy impact as well as R&I capacity building through PhD programmes) are favourable (*MR-127060.01*, p. 3).

Further, the Regional Environmental Centre for Central Asia (CAREC) – "a recognised actor in the CA region for the development of public awareness and enhanced participation of civil society in public decision making on environmental issues" (TAP *D-17611*) – emerged from the 4th Pan-European Conference in Aarhus (1998). The CAREC was designed to enable and foster co-operation and dialogue between contending Central Asian stakeholders in the field of environmental protection thereby supporting the development of democratic societies in the region.

At national level, the SBS for the Ukrainian National Action Plan – in particular the activities concerning water policy – aims to support the development of a plan that implements the priorities formulated in the Bucharest Convention and the Marine Strategy Framework Directive (MSFD) (draft TAP, p. 2).

While the available project documentation does not explicitly refer to policy priorities, objectives and commitments set in the global climate change governance process, the research and training into renewable and efficient energy technology created by the ICARE project contributes to the aim of reducing CO2 emissions in China (Description).

2.2 JC 22: Increased focus of EU support on 'capacity building' and enhancing institutional sustainability

Summary judgement

Capacity-building and institutional sustainability is a key theme and design feature of programmes and interventions in EnvCC. The analysis of 33 key strategic documents in the field of the environment and climate change as well as development strategy (see Table 8) suggests that the EU recognises the significance of R&I capacity-building (I-221).

The data indicating the financial share of capacity-building activities as a key though variable element of total budgets. The share of capacity building varies considerably from programme to programme. It always exceeds 20% but lies at more than 90% for SWITCH Asia and ICARE (I-222).

Programme design and implementation have been attentive to sustainability issues concerning R&I capacity-building. However, different types of programmes needed to secure different types of sustainability. Notably the differences here cut across the global, regional and national level. Programmes that involved institutional and individual capacity building and hinge on the local co-operation, such as the GCCA at global level or the *Innovative approaches towards rehabilitating the Mau ecosystem* and the ASAL APRP concentrated sustainability efforts on securing local ownership of the programmes (I-223).

Projects in other programmes were designed to generate (more or less) tangible products. These programmes include the SWITCH-Asia, EduLink or EU-Asia Link programmes at regional level as well as the ICARE at national level. Here, sustainability is an issue of whether these products can find or, better still, create markets. The available assessments suggest that despite more or less effective and competent implementation of the projects, the market uptake of the outputs could not be evaluated. While monitoring reports note the successful implementation of the interventions, the rate of adoption of SCP remains unclear (I-223).

However, evidence was found of researchers being actively encouraged to engage in spin-off business start-ups to make use of concepts and innovations they have developed under SWITCH Asia projects. This has led to further spreading of SCP innovations into business and practical application. It can also provide a positive feedback loop back to the research institution (I-224).

Although not being a central aim of support in the field of EnvCC, programmes and projects have had a capacity building effect in research centres and institutions for recognising, acting on and managing R&I opportunities. Programmes relevant to EnvCC have created new opportunity spaces for the application of research results, be it in the form of concrete technologies or new knowledge. They do so by creating networks of diverse stakeholders and by providing means of constructively engaging them.

Most of the evaluated EnvCC related supported programmes and projects included local researchers or research institutions as part of the implementing team. In some cases, the capacity of researchers in these institutions was strengthened directly via short or longer-term training and education programme exchanges with European research institutions. Where expertise was outsourced to Europe-

an experts, long-term engagement of these to the project also led to knowledge transfer and training of local staff, although this had not necessarily been an intended aim of the project.

Capacity building has to a certain extent been skewed towards those institutions and individual researchers/experts whose capacity is already reasonably high. Examples were also found where capacity had subsequently been lost again by institutions as strengthened experts were headhunted by industry or competing institutions (I-224).

In general, DEVCO support has been project-based and skewed towards downstream application rather than upstream fundamental research. As such programmes and projects relevant to EnvCC predominantly aim at transforming research into (eco-)innovations, including new and effective forms of environmental governance. This can, however, potentially limit the value of the resulting capacity building in, for example, applications for RTD research programmes (I-224).

The SBS interventions relevant to EnvCC (in the Ukraine and in South Africa) both feature performance indicators that could gauge the quality of capacity-building for R&I (I-225).

2.2.1 Indicator 221: Strategic and country co-operation related documents recognise importance of adequate R&I capacity for development

The analysis of 33 strategic EU documents on EnvCC as well as development suggests that the EU clearly and explicitly recognises the significance as well as the need for R&I capacity building. Table 8 below lists the documents that explicitly refer to R&I capacity building. As can be seen from the table, the EU understands R&I capacity-building in two related senses. First, the documents articulate the view that R&I capacity is a highly effective vehicle for development in general since “[s]cientific and technological co-operation and capacity-building, as well as investment in knowledge, innovation and new technologies can play a key role in fast- tracking inclusive growth and lifting people out poverty” (COM(2010) 629 final). Second, the documents also understand R&I capacity as a means for enabling partner countries to formulate adequate and effective responses to environmental degradation and climate change (e. g. COM(2003) 85).

Table 8 List of strategic documents referring to capacity building for R&I

Year	Document	Number	R&I Capacity
2003	Climate change in the context of development co-operation (and its EU Action Plan on Climate Change)	COM(2003) 85	Capacity development to enable partner countries to respond adequately to climate change
2005	Policy Coherence for Development – Accelerating progress towards attaining the Millennium Development Goals	COM(2005) 134	Support for local and regional R&I capacity building as a means of "improving economic, social and environmental conditions of developing countries"
2008	The EU – a global partner for development, Speeding up progress towards the Millennium Development Goals	COM(2008) 177	Targeted measures to increase R&I capacity in order to enable researchers in partner countries to participation in FWP 7 "in fields that can make a particularly useful contribution to the MDGs (in particular agronomic research, health, including research into neglected poverty-related diseases, public health systems and reproductive health, migration, renewable energy, water and sustainable development)"
2009	Towards a comprehensive climate change agreement in Copenhagen	COM(2009) 39	Capacity building to promote "research, development and demonstration of low-carbon and adaptation technologies in all economic sectors and activities"
2010	Green paper: EU development policy in support of inclusive growth and sustainable development. Increasing the impact of EU development policy	COM(2010) 629 final	"Scientific and technological co-operation and capacity-building, as well as investment in knowledge, innovation and new technologies can play a key role in fast- tracking inclusive growth and lifting people out poverty."
2011	Increasing the impact of EU Development Policy: an Agenda for Change	COM(2011) 637	"Through capacity-building and exchange of knowledge, the EU should support vocational training for employability and capacity to carry out and use the results of research".

2.2.2 Indicator 222: Relative share in financial allocations to R&I related to capacity development

The available data for this indicator are rather sparse. Table 9 below shows the available data for the financial allocations related to capacity building as outlined in the Action Fiches of the respective projects. The share of capacity building varies considerably from programme to programme but always exceeds 20% but lies at more than 90% for SWITCH Asia and ICARE.

Table 9 Funding for capacity building by EnvCC programme/project

Programme	Project	Capacity	Amount for capacity building (in million EUR)	Total EU Contribution (in million EUR)	% share capacity building/total contribution
GCCA	Eastern Caribbean	"Enhanced sustainable land management human and technical capacity at regional and national level"	2.0	10.0	20.0
	GCCA-Ethiopia	"Capacity Building and Knowledge Base Management"	4.0	13.7	29.2
	GCCA-Belize	"Enhance the institutional capacity of the GoB to deal with matters related to climate change"	0.6	2.9	20.7
	Lower Mekong	-	-	-	-
	PDRSO	-	-	-	-
	CCCA	-	-	-	-
SWITCH	Overall	SCP-projects	22.9	25.0	91.4
ASAL APRP		Result 2. Strengthened institutional capacity to manage droughts and improve food security and livelihoods in the ASALs	0.04	0.07	54.2
ICARE		Grant	9.8	10.0	97.5
Mau		Result 2 Mau Forest Ecosystem rehabilitation	0.5	2.3	22.2
CCT/CCS		Capacity building and feasibility studies on CCS in developing and emerging economies.		5.0	

Source: Action Fiches

2.2.3 Indicator 223: Adequate consideration of sustainability aspects (e. g. provision, maintenance and replacement of equipment) in planning and implementation of EU support

EU R&I interventions relevant to EnvCC policy attempted to secure their sustainability beyond the project funding period. However, the meaning and ways of securing sustainability vary across different programmes at different levels.

At global level, sustainability of the projects in the GCCA programme hinges on securing ownership of relevant stakeholders. For the *Cambodian Climate Change Alliance* (*D-21476*), the MTR found that all the processes and mechanisms to ensure ownership and, therefore, potential sustainability are in place. The major barrier the authors of the MTR identify here is that many key positions had not been appointed and, consequently, the Climate Compatible Development (CCD) lacked key competences for successfully operating the CCCA (MTR, p. 31). They attribute the perceived lack of ownership – and hence the threat to sustainability – to lacklustre support of the intervention by the Cambodian government.

In order to secure ownership of the project, the *GCCA-Ethiopia* (*D-22456*) was designed in cooperation with the Government of Ethiopia (GoE). What is more, the intervention planned the participation and involvement of local communities and stakeholders) (Action Fiche). The available monitor-

ing report for the GCCA-Ethiopia suggest that this strategy was successful: both at the level of the Ministry as well as the level of stakeholders – meaning local farmers – involvement, identification and ownership with the project was found to be high. This was probably due to an effective and efficient implementation by the GIZ (*MR-146758.01*, p. 3). Similarly, the GCCA in the Lower Mekong Basin (*D-23089*) emerged from "a series of consultative meetings involving Member Countries representatives, local/international NGOs, regional and national research institutes and National Expert Teams (NETs) charged with the tasks of identifying needs and gaps and specific countries/regional priorities" (Identification Fiche, p. XII).

The project *GCCA – Enhancing Belize's resilience to adapt to the effects of climate change* (*D-22636*) aimed to secure ownership by signing a Financing Agreement with the Government of Belize (GoB) before securing the contribution agreement with the implementing agency, the United Nations Development Programme UNDP (Action Fiche, p. 14). The contribution agreement of this project lays out in some detail the conditions for the material and immaterial sustainability of the project. In terms of the former, the agreement stipulates that all equipment and results funded by the EU will upon completion of the project change ownership to local stakeholders (contribution agreement, p. 6). In terms of the latter, the agreement outlines a set of principles that ensure local involvement, management flexibility, interdisciplinarity, feasibility and complementarity of the intervention (Contribution Agreement, p. 7-8). Again, the monitoring report for this project finds that the strategy seems to have worked in that government and stakeholder ownership of key components of the project are high (*MR-145707.01*, p. 3).

At regional level, both the EU-Asia-Link and the SWITCH Asia programmes have looked to creating structures and practices that can support the project after the end of the funding period.

The *AsiaLink* project on organic farming in China (*c-108962*) installed measures to broaden and deepen co-operation between stakeholders in China and Europe. In terms of deepening ties, the projects not only established good relations between different institutions at different levels (teaching and research) that ensured the continuing interest in the project of European HEIs, but the design of common curricula will further facilitate future exchanges and co-operation. The stays of students and researchers organised within the project have generated deep and durable ties. Moreover, the summer school programme created a pool of young experts with an interest in maintaining and expanding collaboration on organic farming (Final Report *c-108962*).

Similarly, the final report of the AsiaLink project on elephant's reproductive health (*c-141055*) suggests that post-graduate and professional training courses are likely to be self-sustaining. Moreover, the networks and capabilities the project generated place Asian and European HEIs in a strong position to secure more research funding in the future. The ELMCA project (*c-141236*) on efficient lighting solutions planned to ensure sustainability financially (via tuition fees for the masters curriculum) and in terms of policy (by exposing stakeholders and policy actors to concepts of efficient lighting) (Description, p. 35).

The *SWITCH-Asia* programme aims to promote and institutionalise sustainable production and consumption practices. In a very real sense, then, the sustainability of project results is inextricably woven into the programme design itself. For example, a key element of the project "Implementing Sustainable Consumption in Civil Society of Urban China "was to generate institutional sustainability. The MR notes how European institutes and Chinese HEIs use applied research as well as the development and teaching of relevant methods to build and strengthen capacity among the stakeholders. This has generated interest in SCP on part of the government and the project has enabled local stakeholders to "show how this can be done" (*MR-145805.01*). Assessments of the sustainability of the MEET-BIS project were similarly favourable. For one, the relevance of the project – that aims to promote energy efficient production practices of SME's via so-called business innovation packages – seems to ensure its long-term sustainability: the MR points out that rising energy prices drive the demand for efficient energy solutions. What is more, the MR notes that SMEs are realising that SCPs are a means of attracting and retaining international clients. That said, the MR also notes that the project needs to do more to ensure the replication, dissemination and, ultimately, the sustainability of project outputs by engaging local stakeholders and associations more systematically.

At national level, the programme documentation analysed points to efforts – some successful, others less so – to ensure the sustainability beyond of the projects beyond the end of the EU involvement.

The *ICARE* project in China was a little less explicit concerning the sustainability of the institute. ICARE ensures its sustainability by providing the type of post-graduate education and vocational training in renewable energy sources in demand by Chinese stakeholders. Since the vocational training offerings are tailored to the needs of professionals at different levels, the ICARE project secure sustainability by offering services in demand. Whether the ICARE will prove as sustainable as expected (or at least implied) will remain to be seen: the project funding period ends in 2015.

The project *Innovative approaches towards rehabilitating the Mau ecosystem* (*D-21846*) in Kenya also set out to ensure sustainability through involvement and participation of both government and local

stakeholders. The former was formally engaged with the project by a financing agreement, the latter by encouraging a 10% contribution (or investment) to interventions designed to increase their livelihoods (Action Fiche, p. 4). However, the available monitoring report finds that "UNEP's protracted bureaucratic procurement processes do not serve the project well and have a negative impact on development of local ownership" (*MR-145438.01*, p. 2). The ASAL APRP (*D-22067*) project set out to secure sustainability by ensuring local ownership and community participation (Financial Agreement incl. TAP). Here, the available monitoring report points to success in ensuring a strong stakeholder ownership and firm support by policy-makers: hence the monitor judges the prospects for sustainability to be good (*MR-146799.01*, p. 3).

2.2.4 Indicator 224: Increased capacity of research administration staff including senior scientists in administrative posts to identify and manage R&I opportunities

The global environmental programmes relevant to R&I do not primarily target capacity of research administration staff. It is conceivable, probable even, that projects such as the GCCA-Belize or GCCA-Ethiopia contribute to building capacity for spotting and exploiting in relevant HEIs, RO and CSOs. For example, two of the four main activities of the GCCA-Ethiopia would ostensibly extend the capacity for identifying and managing R&I opportunities: climate model downscaling and the establishment in the Environmental Protection Authority (EPA) of a "an easily accessible database and knowledge management system for CC experience sharing and scaling up good practices" (progress report 1, p. 1). However, since capacity-building in the GCCA explicitly targets the ability to design and manage Global Climate Change (GCC) adaptation and mitigation strategies, neither the monitoring reports nor the Mid-Term-Review nor the available evaluations document the capabilities in question.

Most, if not all, of the evaluated EnvCC related supported programmes and projects included local research institutions as part of the implementing team. In some cases, the capacity of researchers in these institutions was strengthened directly via short or longer-term training and education programme exchanges with European research institutions (Vietnam CN, Kenya CN). Where expertise was outsourced to European experts, long term engagement of these to the project also led to knowledge transfer and de facto training of local staff, although this had not necessarily been an intended aim of the project (Vietnam CN).

However, capacity building can often be skewed towards those institutions and individual researchers/experts whose capacity is already reasonably high (e. g. Kenya CN, Vietnam CN). This has particularly been the case where local researchers/academics have for ease-of-contract reasons been employed as freelancers rather than as part of their institutions. This separation also prevents capacity building of administration within the research institutions. Capacity building of individuals is not as widespread as institutional capacity building in the EnvCC sector; 80% of EUDs engage in capacity building of institutions while 44% engage in capacity building of individuals (EUD survey). The latter is significantly lower than for other sectors.

At the regional level, evidence does seem to indicate that programmes such as SWITCH Asia, EU Asia Link and EduLink may have contributed to the capacity to recognise and seize R&I opportunities.

SWITCH Asia is primarily targeted at SMEs (for sustainable production practices) and the general public (for sustainable consumption practices). HEIs, ROs and other actors relevant to R&I are contributors or disseminators of SCP knowledge and clean technology. For this reason, monitoring reports for SWITCH Asia projects tend to focus on the market opportunities for SMEs rather than research opportunities for HEIs and ROs. For example, monitoring reports implies that the SPIN-VCL project has created an outlet for the research of the Asian Institute of Technology Centre in Vietnam (AITVN): the fact that the institute "will continue activities once the project finishes ensures that technical knowledge will remain available locally" (*MR-143221.02*). The Vietnam country study found that the director of AITVN actively encourages researchers to engage in spin-off business start-ups to make use of concepts and innovations they have developed under AITVN projects such as SPIN-VCL. While this has the potential to weaken the capacity of the AITVN itself, it has led to practical use and spreading of SCP innovations into business and practical application. AITVN has also experienced a positive feedback loop as these new businesses then return to AITVN with new research project ideas (Vietnam CN).

The monitoring reports for the project *China Electric Motor Challenge* describe how the project creates new opportunities for R&I actors in the field of business facilitation (*MR-137367*, p. 3). However, there is also some indication in the monitoring reports that these spaces and opportunities may go to waste precisely because of a lack of technical capacity to seize them. The monitoring report for the project SuPP-Urb China, monitors point out that "technical expertise may be needed during tender evaluation, when checking the environmentally-friendly quality of products not included in the 'green purchasing list'…Support is being provided by partners and capacity-building activities have taken place, but have not yet equally strengthened the capacity of PPC staff to adopt SPP" (*MR-137369.01*). Likewise, the

monitoring report for the Train-the-Trainers project points out that the demand for training in the Chinese building sector by far outstrips supply. Yet, this "mismatch in terms of skills, requires a more comprehensive strategy" that was, however, not forthcoming (*MR-133641.01*).

Both the EU-Asia Link and EduLink programmes aim to build R&I capacity in HEIs. However, both programmes aim to support the training of quality human resources for developing labour markets and, therefore, concentrate on teaching and curriculum development (see the Profiles for EU Asia Link and Higher Education). That said there is some indication that project consortia in the EU Asia Link programme have identified and acted on research opportunities. The final reports of the project *Managing the Health and Reproduction of Elephant Populations in Asia* and the CALIBRE projects lists a wide range of contacts to other projects as well as funding opportunities that have emerged in the course of the project. Since both cases, however, it remains unclear how this affected the capacity to identify and manage R&I opportunities in HEIs and individuals of partner countries. Monitoring reports seem to focus, not entirely unreasonably, on the development of academic capacities to seize R&I opportunities. In terms of the EduLink programme, specifically the projects relevant to EnvCC, the available project documentation does not allow judgement on whether or how the projects have affected the capacities in question.

At the national level, the ASAL APRP project seems to have equipped researchers at the Kenya Agricultural Research Institute with the processes and methods for identifying, testing and exploiting sustainable R&I opportunities in the field of ASAL agriculture. By improving "the Kenya Agricultural Research Institute's (KARI) ability to reach further and faster, the aim [of the project] is to get the technical innovations of research for fortified indigenous breeds and varieties to more farmers" (*MR-146799.01*, p. 2). In essence, the project provides a framework and the methods for choosing, packaging, testing, scaling and rolling out agricultural technologies. Significantly, this takes place in a dense and well-structured network of stakeholders, including the farmers themselves (Description). Available monitoring reports suggest that these new capacities for spotting and managing R&I opportunities have had considerable impact: the project "is strongly effective in engaging the farmers with highly relevant technologies and it is being taken up by the majority with good production results and increased acreage" (*MR-146799.01*, p. 3).

There is always a danger when building capacities that this new capacity will 'leak' out of the institution as an indirect result of the capacity building efforts. Examples, were found in country visits where capacity in institutions that had been built up as part of EU-supported projects were subsequently partially lost again as strengthened experts were headhunted due to their new found value especially where state and university salaries are low (Ethiopia CN, Vietnam CN, Kenya CN). Where they move to local industry or competing national institutions this can have a limited net negative effect and even a positive effect on local R&I capacity. However, where experts migrate to more lucrative or challenging R&I opportunities in Europe or elsewhere this can weaken country capacity. This 'brain drain' has been successfully countered in South Africa via involving researchers in regional and global networks through involvement in FP7 projects (South Africa CN).

2.2.5 Indicator 225: Existence and quality of capacity building related indicators in sector support programmes, and their achievement (e. g. related to incentives to keep and attract qualified scientific, maintenance and engineering staff)

During the evaluation period, the EU engaged in two relevant Sector Budget Support activities. First, in the Ukraine, the EU funded a SBS in support of the Ukrainian national environmental plan. The SBS planned to provide support for developing the legal and administrative framework for environmental policy in line with EU approaches as well as capacity-building and assistance for water resource protection. The draft tap outlines a set of six indicators for the two objectives of the R&I-relevant (i. e. the water policy) aspects of the SBS. Of these indicators, only one seems to address capacity-R&I building: "Establishment and operation of monitoring system enabling assessment of ecological and chemical status of surface and groundwater bodies following the requirements of EU Water Framework Directive" (draft TAP, p. 15)

Second, and somewhat more tangentially, the EU provided budget support for the South African Department of Science and Technology (DST). Here, the environment was thought of as a horizontal activity. However, the Financial Agreement and TAP stipulate a key performance indicator related to climate change: namely, the evidence of "active research groups on 'renewable energy alternatives'". The measure of this indicator is the degree of dissemination via seminars and publications (Financial Agreement incl. TAP, p. 31).

2.3 JC 23: Improved access of developing countries' research communities to EU FP7 funding through RTD

Summary judgement

There is no evidence that the R&I interventions in the EnvCC sector directly or indirectly affected the participation of beneficiaries in FP7 projects despite the fact that EnvCC programmes and projects included channels of communication through which such information could have been disseminated to research communities in partner countries (I-231).

Just over half of EUDs taking part in the EUD survey declared that they had implemented information actions to inform relevant actors about opportunities for FP7 funding. However, this answer was provided for all sectors as a whole and may not apply to the EnvCC sector. Certainly no evidence was found during country visits of EnvCC project research partners in DEVCO projects having been fed information on FP7 opportunities via EUD or other DEVCO channels. In most countries visited communication and brokerage on FP7 was not conducted via EUD but used other channels (I-231).

Evidence was found, though, of how involvement in DEVCO programmes and projects has indirectly, via contacts with European partners, increased access to further international research funding opportunities. However, these additional projects were mostly not RTD-funded. Surprisingly little overlap between research institutions involved in both DEVCO and FP7 project was identified in the countries visited (I-231).

2.3.1 Indicator 231: Evidence for information actions targeted to research communities in developing countries regarding FP7 proposals

The documentation provides no indication that stakeholders in the programmes and projects received information about FP7 funding despite the fact that channels of potential communication on FP7 funding did exist. The MR of the "Zero Carbon Resorts" of the SWITCH-Asia programme, for instance, reports of good communications between the project and the Delegation (*MR-139121.01*). Similarly, the final report of the Caribbean WELCOME project not only points to research training and informative workshops, it also mentions participation in a "national Innovation and Entrepreneurship" conference in which it disseminated its results (Final Narrative Report *c-217060*).

Just over half of EUDs taking part in the EUD survey declared that they had implemented information actions to inform relevant actors about opportunities for FP7 funding (EUD survey). The most frequent types of practical support to access DEVCO finance were group briefings and help with establishing contacts with EU researchers. However, this answer was provided for all sectors as a whole and may not apply to the EnvCC sector.

Certainly, no evidence was found during country visits of EnvCC project research partners in DEVCO projects having been fed information on FP7 opportunities in EnvCC via DEVCO channels. Moreover, it seems that in most countries visited communication and brokerage on FP7 was not conducted via EUD but used other channels (Kenya CN, Vietnam CN, South Africa CN). For example, the South East Asia and European Union Network Facilitator (SEA-EU-NET) is very active as an access point for research institutions in South East Asia to engage in FP7 projects and connect with EU partners. However, there seems to be limited communication between SEA-EU-NET and DEVCO including EUD (Vietnam CN).

Evidence was found of how involvement in DEVCO programmes and projects has *indirectly* increased access to further research funding opportunities. Long-term working contact with European partners established during DEVCO projects were reported by several researchers as having led to further projects with these partners (Vietnam CN, Ethiopia CN).

However, these additional projects were mostly not FP7-funded but rather funded by DEVCO or research and development funds from international institutions or individual European countries. In Vietnam, for example, where the networking opportunities indirectly provided by DEVCO were mentioned by several institutions, only one had been involved in both FP7 and DEVCO projects. This was the Research Centre for Energy and Environment and seemed to be largely driven by an ambitious leadership with highly competent networking skills (Vietnam CN). This lack of overlap is surprising especially in countries like India, Vietnam and South Africa which have had relatively high involvement in FP7 projects.

Researchers interviewed during country visits expressed difficulties in engaging in FP7 projects compared to other funding opportunities in part due to complicated application procedures, strict requirements for academic excellence and strong competition (Ethiopia CN, Vietnam CN). Competition is expected to be much more fierce for Horizon calls which are open to all and not allocated to particular regions (Vietnam CN).

2.3.2 Indicator 232: Trends in number, size, geographic and thematic diversity of FP7 proposals submitted and accepted

No evidence for the EnvCC sector.

2.3.3 Indicator 233: EU R&I programmes acknowledged by partner country research institutions

No evidence for the EnvCC sector.

2.4 JC 24: Enhanced networking of developing countries' researchers at regional and international level

Summary judgement

The EU's support for R&I in the EnvCC sector has expanded the regional and international networking activities researchers in partner countries. It has done by both creating institutional spaces as well as building pathways to existing networks at regional and international level. Despite the absence of data on the EU's financial commitments for enabling networking in partner countries (I-241), the analysis suggests that the EU has engaged in effective networking activities.

While the relevant programmes in the field of EnvCC have aimed to widen access of R&I professionals to policy dialogue, efforts have focused on building capacities to enable more effective participation in policy dialogues concerning EnvCC issues. For this reason, the programme documentation, particularly performance assessments such as evaluations and monitoring reports, concentrates on project impacts on access to environmental policy dialogue and deliberation. While there seems to be anecdotal evidence that the quality of submissions to the climate change policy process from actors in partner countries has improved, it is difficult to attribute these outcomes to global programmes such as the GCCA or CCT/CCS. It would seem as if programmes at the regional level, particularly the SWITCH Asia programme including the SWITCH Asia Network Facility, have created pathways into environmental policy networks and regulatory communities though language has on occasion been an obstacle to well functioning networks. Other examples of programmes that have established south-south networks are the SIFOR climate change and adaptation project under GPARD, CGIAR regional activities, EBTC activities in India and the EARANet-LAC in Latin America. Network building has also been indirectly assisted where local researchers have been funded by DEVCO projects to attend European training or education courses. This has led to the formation of international alumni have led to R&I south-south co-operation (I-242).

The available evidence also suggests that EU in R&I in partner countries have encouraged South-South networks. At global level, both the GCCA programme funded projects in Asia (Lower Mekong Basin) and in the Caribbean (GCCA Eastern Caribbean) that were based on regional networks of institutions from partner countries. The regional programmes – EU Asia Link, SWITCH Asia and EduLink – funded 22 projects featuring South-South partnerships. The available documentation provides little indication of the sustainability and impact of these South-South linkages (I-243).

While the data for collaborative projects between European and partner country institutions to emerge from global programmes is sparse, the regional programmes analysed point to about 55 collaborative projects (I-244).

The relevant programmes in EnvCC do not primarily aim to produce academic and scientific outputs. Programmes such as SWITCH Asia or the GCCA aim to bring about changes at the level of policy or practices. That said, the more academic and HE-oriented programmes, most notably, the EU Asia Link and EduLink programmes at the regional level as well as the ICARE at national level, claim to have produced joint academic publications and scientific articles (I-245).

2.4.1 Indicator 241: Share of funding for national, regional and global R&I networking activities

The documentation is somewhat ungenerous concerning funding data for networking activities of researchers in developing countries. The Country Strategy 2007-2013 for China mentions the EU-China Managers Exchange and Training Programme that ran from 2006 to 2010 at a cost to the EU of EUR 17.2 million. Unlike the capacity-building data (I-222), the budget data available here did not break down networking costs separately.

It was only possible to isolate networking elements from other budgetary elements for the SWITCH Asia programme. Here the budget for the SWITCH Asia Networking Facility was EUR 1.80 million, about 7% of the total programme budget.

That is not to say that networking requires a particular budget share in order to be successful; one should perhaps not expect networking to have a dominant share in a programme budget since it is

important that the programme also produces results which are worth sharing via these networks. Unfortunately SWITCH Asia monitoring reports have not analysed the effectiveness of the Network Facility in spreading successfully piloted activities and innovations to new SMEs and new countries.

2.4.2 Indicator 242: Increased participation of partner country R&I professionals in national, regional and global R&I policy dialogues

While there is some evidence to suggest a widening of access to policy dialogue, it remains unclear whether the relevant global programmes have provided R&I professionals in partner countries with access to policy dialogues, environmental or otherwise. The *Environment and Sustainable Management of Natural Resources including Energy* (ENRTP) set out to strengthen R&I and scientific capacities in developing countries in order to widen access and improve the impact of R&I professionals in environmental policy dialogues, particularly deliberation at global level such as processes related to UNFCCC or Biodiversity Convention. A current evaluation of the EU's support to partner countries in the field of Environment and Climate Change found that while "no data on the participation of scientists from developing countries in the Intergovernmental Panel on Climate Change (IPCC) is available" there had been positive trend towards greater participation as well as increased scientific capacity and availability of climate information and data in developing countries. Moreover support channelled through the ENRTP had enhanced the participation of developing country experts in other UNFCCC related technical activities (Evaluation Report, Vol.2 p. 163), Here, the evaluation refers to the support for the UNFCCC Secretariat in funding and training experts from partner countries to participate in the review of Greenhouse gas (GHG) inventories. That said, officials at the UNFCCC Secretariat point out that the quality of reports and submissions to the Secretariat have perceivably improved (interviews conducted at UNFCCC Secretariat, January 23rd, 2015).

Moreover, the GCCA programme creates new institutional spaces at regional level which it then ties into global research and policy networks. For example, the Mekong Panel for Climate Change, funded by the EU, brings together about 30-40 experts from the riparian countries of the Mekong river. The panel is to produce regular reports about the climate change implication of developments along the Mekong which are to feed into the global climate change research and policy network. In this way, the panel "will link to and exchange information with other fora and mechanisms in the region with a similar agenda" (Description *c-293779*). In Belize, the GCCA project aimed to build policy-making set up a "dedicated climate change desk" staffed with environmental and climate change experts (Action Fiche, p. 11) thereby creating a conduit for R&I professionals into policy deliberation. It is, however, unclear to what extent these institutional capacity-building measures have widened access to policy dialogue and policy-making: the available monitoring report points out that assessment of capacity building is difficult because "no capacity-needs assessment was done to inform the intervention" (*MR-145707.01*, p. 3).

Over and above the GCCA, evidence indicates that other programmes also generated pathways into national and international policy dialogues. The interim report for the project LCOIR in the Ukraine lists a series of five international scientific conferences organised in the context of the project and attended by national energy and environmental policy makers (Interim Report, p. 286). Moreover, the project itself was launched at the Ministry of Fuel and Energy of the Ukraine at which a wide range of governmental as well as industry representatives participated. Likewise, the Caribbean WELCOME project enabled 300 participants to attend three international conferences. What is more, a range of training events provided the opportunity for forging links between industry and academia (Narrative Final Report *c-217060*).

Evidence suggests that the regional programmes have also contributed to widening access to policy dialogues. The SWITCH Asia programme pursued a two-pronged strategy for promoting SCP (see Case Study SWITCH Asia). In addition to funding specific projects on promoting and establishing SCP in Asia (the so-called grant element), the programme also aimed to inform policy-making at national and regional level (the so-called PSD element). A recent evaluation of the Asia Regional Strategy (RSA) found that while the grant-funded projects are likely to fulfil their aims, the contribution of the PSD element to policy dialogue has been "modest". Notably, the project documentation analysed suggests that some grant-funded projects seem to have created spaces for stakeholder dialogue on SCP issues. For example, the *Low Energy Housing in Sichuan and Shenzhen, China* provided a forum for a wide range of different organisations including a national ministry (MoHURD), two universities, two construction-industry ROs, two local construction industry design bureaus, a bank and a local consumer association. Likewise, the evaluation of the country strategy for the Philippines points to continuous deliberation between ROs and organisations in the environmental and energy sectors in the context of the design and implementation of EU interventions. This, the evaluation goes on to remark, is particularly noticeable for the NGO involvement in a dialogue about community-based forest management (CSEs Philippines).

Further, EU interventions – both in the environmental policy arena as well as in general R&I support –

also created both the space for and access to regional policy dialogues. The TAP Turkmenistan foresees that the follow-up to CA Ministerial Conference on Environment (Almaty 2006) and of the CA Initiative on Sustainable Development will comprise, among other things, the organisations of "workshops and roundtables with participation of the CA governmental agencies, private sector and NGOs, donors and international organizations" as well as the „ preparation and participation in international meetings and conferences on environment and sustainable development with the aim to enhance co-operation among CA countries" (TAP Turkmenistan *D-17611*).

2.4.3 Indicator 243: Evidence for South-South networks at regional level due to EU support

The programmes at the global level – the GCCA and the CCT – encouraged, promoted and financed South-South networks. While most of the GCCA projects implemented during the reporting period focussed on a single country (i. e. the CCCA, GCCA-Ethiopia or GCCA-Belize) the GCCA in the Lower Mekong Valley *(D-23089)* and the GCCA project on Climate Change Adaptation and Sustainable Land Management in the Eastern Caribbean *(D-24114)* explicitly support regional, south-south institutional networks. In the case of the GCCA in the Lower Mekong Valley**,** the intervention aims at providing support to the Climate Change Initiative Mekong River Commission – a network with institutional and individual participants from Cambodia, Laos, Thailand, and Vietnam. The planned support was to comprise:

a) The piloting of adaptation planning and implementation;
b) The Development of capacity to adapt to and mitigate the effects of climate change in the Lower Mekong Basin;
c) The development of strategies and plans;
d) Development of partnerships aimed at "[r]egional co-operation, exchange and learning" (Identification Fiche, p. ix).

Likewise, the GCCA project on Climate Change Adaptation and Sustainable Land Management in the Eastern Caribbean was devised to support the Member States of the Caribbean Community (CARICOM) in implementing their strategies and frameworks to respond to climate change (Action Fiche). This support was to create an enabling institutional and legal environment, build technical and human capacity for date collection, processing and communication, as well as a adopt a participatory approach, thereby "building a durable and constructive partnership between the Governments, local administrations, land management offices, civil society and private sector" (Action Fiche, p. 9). Independent assessment of these projects, either in the form of monitoring reports or evaluations were not available.[16]

The regional programmes have, in part by design, encouraged and promoted South-South networks and partnerships. Table 10 below shows the projects in the SWITCH-Asia, EU-Asia Link and EduLink programmes that feature partners from different countries and regions from the so-called "global south."

Table 10 SWITCH-Asia, EU-Asia Link and EduLink projects with South-South co-operation

Programme	Project	Country
SWITCH-Asia	Lead Elimination Project	Bangladesh, China, India, Indonesia, Nepal, Philippines, Sri Lanka, Thailand
	Eco-Jute	Bangladesh, India
	ASEAN Energy Manager Accreditation Scheme AEMAS	Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Thailand
	Efficient Air Conditioners	Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Vietnam, Thailand
	Sustainable Rattan	Cambodia, Laos, Vietnam
	Wood Processing and Trade	China, India, Vietnam
	Hand-Woven Eco-Textiles	Indonesia, Philippines
	Zero Carbon Resorts ZCR for Sustainable Tourism	Philippines, Thailand
	SPIN-VCL	Vietnam, Laos, Cambodia

[16] The "Evaluation of the Intra ACP Global Climate Change Alliance (GCCA)" (2014) does not cover these two projects.

Programme	Project	Country
EU-Asia Link	Tackling Biosecurity between Europe and Asia: innovative detection, containment and control tools of Invasive Alien Species potentially affecting food production and trade	China, Thailand
	Managing the Health and Reproduction of Elephant Populations in Asia	Thailand, Sri Lanka
	Efficient Lighting Management Curricula for Asia (ELMCA)	Southeast Asia
	CALIBRE: Cambodia and Laos Initiative for Building Human Resources for the Environment	Laos, Cambodia
EduLink	JENGA – Joint development of courses for energy efficient – and sustainable housing in Africa – DCI-AFS/2013/320-299	Kenya, Rwanda, Uganda, South Africa
	Participatory Integrated Assessment of Energy Systems to Promote Energy Access and Efficiency (PARTICIPIA) – DCI-AFS/2013/320-333	Botswana Namibia South Africa
	The Learning Network for Sustainable energy systems (LeNSes) – DCI-AFS/2013/320-298	South Africa, Uganda, Botswana, Kenya
	L_EAP – Lifelong Learning for Energy security, access and efficiency in African and Pacific SIDS – FED/2013/320-080	Mauritius, Fiji and other Pacific SIDS (e. g. Tonga, Vanuatu)
	African Network for Education in Energy Resources (ANEER) – FED/2013/320-205	Angola, Mozambique
	ENERGISE-Enlarged Network in Education and Research for a Growing Impact of Sustainable Energy engineering on local development – FED/2013/320-173	Ethiopia, Kenya, Tanzania,
	HEEMS: Reinforcement of higher education as a tool to foster efficient use of energy applied to the poverty reduction within the marine sector through capacity building and regional integration – FED/2013/320-201	Cabo Verde Sao Tomé e Príncipe Mozambique
	Programme on Energy Efficiency in Southern Africa (PEESA) – DCI-AFS/2013/320-301	South Africa; Namibia
	East African Higher Education Network on Sustainable and Energy Efficiency Campus Development – SUCCEED Network – FED/2013/320-274	Burundi, Kenia, Rwanda, Tanzania, Uganda

Source: Case Studies of the individual programmes (see Volume 3)

As the table indicates, eight of these projects feature partnerships in two countries, nine projects feature three to five countries and six projects encompass more seven or more countries.

Available monitoring reports for the SWITCH Asia programme provide little insight on the durability and sustainability of these networks. The monitors define sustainability in terms of the willingness of SMEs and consumers to adopt sustainable consumption and production practices (SCP) which, parenthetically, the reports judge to be rather high. That said, there is indication of as well as questions about these networks being operational, at least as a conduit for knowledge since "the SWITCH projects contribute to expanding the knowledge base and experience of structures/expert platforms/providers that are working directly with SMEs ... Concerns are expressed about the potential for dissemination/know-how transfer that would be needed to achieve enough critical mass to spark a broader replication process after project completion" (*MR-138302.02*, p. 5).

The SWITCH Asia Network Facility provides an additional, more informal channel for building south-south networks. Researchers in Vietnam for example had mixed reactions to the usefulness of the online forums and regular regional workshops organised by the Network Facility. Some are very active in the forums and see the physical meetings as good networking and knowledge sharing opportunities with other researchers in the region, especially where participation was funded by a SWITCH project. Others were less engaged citing language issues as a hindrance (Vietnam CN).

Other programmes have also established active south-south networks. For example, the SIFOR climate change and adaptation project under GPARD (Kenya CN), CGIAR regional activities (Kenya CN) and EBTC activities in India (India CN) and the EARANet-LAC in Latin America (Peru CN).

Network building has also been indirectly assisted where local researchers have been funded by DEVCO projects to attend European training or education courses. This has led to the formation of international alumni which have kept in contact following training courses and in some cases have led to R&I south-south co-operation (Vietnam CN).

2.4.4 Indicator 244: Number and size of joint R&I projects between partner country and European organisations

In the field of the Environment and Climate Change, the regional programmes feature collaboration between European and partner country HEIs. In the country sample and the evaluation period, there were 42 collaborative projects under SWITCH-Asia, five under EU-Asia Link, and nine under EduLink and one under ICARE.

2.4.5 Indicator 245: Number of jointly authored scientific papers / presentations / research papers (North-South, South-South, North-South-South) resulting from FP7 projects

No data for publications for FP7 projects has been accessed. However, the relevant programmes in the field of the Environment and Climate Change (supported by DEVCO) are not primarily aimed at producing academic publications. While projects in the SWITCH Asia programme (e. g. SuPP-Urb, MEET-BIS, or Green Philippines Islands of Sustainability GPIoS) report the production of publications, this refers to non-academic publications (reports, newsletters, flyers, etc.). In turn, although the more HE-oriented programmes – EU Asia Link and EduLink – tend to focus more on curriculum development than on research output, graduate and PhD work implies academic publications with supervisors or fellow researchers. Thus, reports of the projects Organic Farming and Managing Elephant Reproductive Health point to the production of academic publications: in the latter case, the authors of final report predict that the "results of their [the PhD students] studies have been, or will be, published in international scientific journals in the form of approximately 17 articles" (Final Report, p. 1). Similarly, the nine EduLink projects that deal with environmental concerns are also likely to yield joint academic publications.

3 EQ 3: Instrument and modalities

To what extent has DG DEVCO in its support to R&I used its available instruments in a way that maximises their value?

3.1 JC 31: Appropriateness of the financing modalities and types of funding under different EU instruments and the way they have been applied for enhancing R&I

Summary judgement

It seems that the EU has attempted to appropriately design financing modalities and funding types to support R&I in the variety of contexts in which EnvCC policy takes place although this has not always been as successful as hoped. Evidence points to a reasonably balanced mix of financing instruments for R&I support relevant to EnvCC. At global level, the EU endeavours to assemble appropriate and context-specific financing regimes for the global programmes, i. e. the GCCA and the CCS/CCT. At regional level, in turn, much of the funding of R&I for EnvCC took place through regional programmes – EU Asia Link, SWITCH Asia and Edu Link – supplemented where necessary by national level funds (I-311). Institutions and HEIs that benefit from R&I funding certainly seem like the relevant types of organisations. However, in the absence of data about the calls and application processes, particularly information on contending institution and, even more tricky, relevant institutions that for some reason chose not to apply for EU support, it is difficult to assess the targeting of R&I support (I-312).

Several R&I experts identified the relatively short time period of funding as inappropriate for projects aimed at establishing innovative business models and application of sustainable technologies in industry. Current application procedures also make consecutive funding unlikely. A lack of core funding from national sources or development funds further inhibits continuity of R&I activities. This combination carries a strong risk that R&I applications in businesses and industries falter once short-term project funding has ended (I-311).

Of the two relevant SBS interventions during the reporting period, only one potentially built post-graduate teaching capacity in HEIs and institutions of tertiary education: the SBS in support of the South African Department of Science and Technology (I-313).

3.1.1 Indicator 311: Evidence for reasonable choice of financial modalities and types of funding to support R&I

Designers of global programmes relevant to EnvCC have attempted to assemble appropriate and context-specific financial regimes, this has not always been as successful as hoped.

At global level, the GCCA-Lower Mekong (*D-23089*) is funded in terms of "a multi-donor initiative for which the funds are not earmarked for specific items or categories of expenditures" (Identification Fiche, p. XII). The Cambodian Climate Change Alliance (CCCA) (*D-21476*), in turn, was to be financed by a Multi-Donor Trust Fund (MDTF) consisting of the EU, UNDP, SIDA and DANIDA (Action Fiche, p. 4). Similarly, the CCT/CCS programme in turn were "designed as a prelude to a public-private partnership that is designed to make public aid money stretch further, in line with the co-financing arrangements set out in the DCI regulation" (Identification Fiche, p. 1).

While the available monitoring reports suggest that funding regimes for GCCA projects in Ethiopia and Belize do not seem to be problematic (*MR-146758*, *MR-145707*), the available monitoring report for the CCCA specifically singled out the multi-donor initiative as a design weakness: the project set up gave the "UNDP an undesirable and unacceptable predominance in the CCCA" (*MR-136161.01*, p. 2). It also led to the delay of setting up the institutional preconditions for operationalising the MDTF (*MR-136161.01*, p. 3). No monitoring report for the GCCA Lower Mekong project was available.

At regional level, the EU aimed to finance R&I endeavours related to EnvCC predominantly through regional funds supplemented by funds from national programmes. The Regional Strategy Paper for Asia foresees that DCI's thematic programme ("Environment and Sustainable Management of Natural Resources") will, along with a range of other issues, finance EU interventions in the region. For example, the Action Fiche argues that the DCI "sets the overall legal and policy framework for the regional environmental programme SWITCH-Asia" (Action Fiche *D-19803*). Similarly, monitoring reports for a SWITCH-Asia project, *Get Green Vietnam*, suggest that the financing regime and modalities seem to enable project partners to effectively pursue project goals (*MR-146587.01*).

Similarly, support for environmental R&I in Tanzania takes place under the auspices of several general and thematic instruments targeted at the regional level. As a "Member of the East African Community" as well as being a part of the global COOOPENER programme, Tanzania can take advantage of support offered by several general environmental programmes (COOOPENER encourages the "promotion of policies, technologies and best practices in the fields of renewable energy and energy efficiency" and problem-oriented funding instruments (such as the *Lake Victoria Environmental Management Programme*). These diverse funding sources account for the EUR 8 million budget for EnvCC (out of a total envelope of the European Development Fund (EDF) for Tanzania of EUR 555 million).

A similar financing pattern was found for general R&I support in Asia. For example, the EU seeks to fund the main R&I to China through global programmes such as Erasmus Mundus as well as the international dimensions of the Marie Curie and Framework Programmes. At the same time, the EU funds programmes at the national level, such as the S&T Fellowship programme, in an effort to complement global by building enabling R&I capacities at national level (Action Fiche *c-234273*). Similarly, in Vietnam, the EU supports applied R&I efforts through regional instruments such as Asia Link or Asia Pro Eco (and later SWITCH Asia). These are complemented by bi-lateral R&I support at national level (CSP Vietnam 2007-2013).

One main issue with types of funding identified by researchers was the relatively short time period of funding. This was particularly mismatched to needs for projects which aimed to establish sustainable innovation in businesses and to move from technology development to technology application. Three to four years is generally considered too short a period to be effective in establishing changes which could be sustained in the future (Peru CN, Kenya CN, Vietnam CN). Moreover, a shift towards open tender and Call for Proposals procedures and large gaps between funding opportunities has made the opportunities for consecutive funding less likely (India CN, Peru CN) and core funding from national or other sources which otherwise would give continuity for R&I teams is often lacking (Kenya CN).

In some cases the need for supplementary funding to be found within the country has proved to have been an obstacle to application for DEVCO project and programme funds (Kenya CN).

3.1.2 Indicator 312: Relevant research institutions (national, regional, international) apply for and benefit from opportunities for funding of R&I

The available programme documentation provides few insights into whether relevant research institutions apply to and benefit from R&I funding opportunities. For one, no data was available for assessing

either relevance or the scope of institutions applying for R&I funding. In terms of beneficiaries, however, the analysis of the sample in the project inventory suggests that recipients of project funding appear relevant. According to the inventory, almost 70% of project funds in the field of the EnvCC accrued to private sector organisations, universities, and research organisations. More specifically, while the private sector received 22.05% and ROs received 22.27% of the funds, universities were granted 25.07% of resources for R&I projects.

This mostly affects the regional level programmes with significant grant-funded element i. e. EU Asia Link, SWITCH Asia and EduLink. Here the programme documentation certainly seems to indicate that the participating HEIs, ROs, CSOs and SMEs are relevant and competent.

That said, there is little data on the application processes as well as the contending (losing) organisations. What is more, while participation in EU-funded programmes is increasing, the group of institutions benefiting from EU funding in partner countries remains rather limited as a share of overall numbers of ROs and HEIs (RSA, ASEAN regional strategy evaluation). This is particularly true for FP7 but also to a lesser extent, for the Erasmus Mundus programme as well as the regional programmes analysed here. These programmes are rather successful in building and strengthening existing academic excellence but are less successful in extending capacity-building to a broader selection of ROs and HEIs (RSA evaluation). This means that the most established rather than the most relevant HEI and ROs apply for and participate in opportunities for R&I funding opportunities. The orientation of the SWITCH-Asia programme towards applied knowledge targeted at SMEs and intermediary organisations, in turn, has managed to engage a wider range of relevant organisations in the R&I process. Although monitoring reports and evaluations are generally optimistic about the sustainability of the SWITCH Asia projects, it is very difficult to judge whether the targeted organisations are indeed the most relevant.

3.1.3 Indicator 313: Programmes supported by Sector and GBS encourage development of research capacity in tertiary and post-graduate education

During the evaluation period and for the sample of countries of this evaluation, two SBS addressed EnvCC issues: the SBS for the Ukrainian National Environmental Plan and the SBS for the South African Department of Science and Technology. The documentation analysed for the former project provides no indication of any building of post-graduate teaching capacity at HEIs or other tertiary institutions (Action Fiche, draft TAP, Identification Fiche). While the latter does not explicitly stipulate measures for the development of post-graduate teaching capacity, universities and HEIs are core stakeholders in the DST's corporate strategy (Identification Fiche).

3.2 JC 32: Strategic approach adopted to choosing different possible actors / channels with whom the EU can work to support R&I and how best to support them with the instruments and modalities available

Summary judgement

The available documents and projects analysed provides some evidence to tentatively indicate that the EU attempted to adopt a strategic approach to the choice of actors and channels when designing support for R&I in the field of EnvCC. In programmes at all levels, the analysis of the relevant documentation suggests that the EU has undertaken efforts to identify and engage the appropriate actors and channels. What is more, evidence suggests that the EU made efforts to make inclusive choices of actors and, where possible, channels. However, assessments of the projects also indicate instances in which these choices proved problematic at global and national level (I-321). The programme documentation analysed provides some indication that projects made efforts to include CSOs. At global level, the GCCA included NGOs in all projects analysed, at regional level the SWITCH Asia programme and other regional programmes such as FLEGT engaged NGOs in promoting SCP and at national level, projects to improve the livelihoods of ASAL farmers in Kenya also relied on NGOs to deliver R&I outputs, while the REDD+ project engaged local community NGOs in building capacity amongst local populations to manage forest biodiversity.

Yet, these efforts must be seen against the backdrop of a mere 5.7% project funding share for CSOs in the evaluation's project inventory for EnvCC (I-322). The relevant programmes and projects, mostly at the regional and occasionally at the national level, deployed European universities and HEIs in three ways: European HEIs have hosted post-graduate students and faculty, they have helped develop new curricula and they have been responsible for the co-ordination of collaborative projects. Given the relative disparity in resources between HEI from Europe and from partner countries, these functions are broadly appropriate. That said, the projects analysed also reveal an imbalance in the sense that post-graduate and faculty movement is in one direction only: from partner countries to Europe (I-

323). Finally, the available evidence provides no indication that funds for R&I in EnvCC have been channelled through research programmes of other international organisations (I-324).

3.2.1 Indicator 321: Evidence for reasonable choice of actors and channels used to support R&I

The analysis of the distribution of funds for the sample of EnvCC projects selected for this evaluation reveals the following broad breakdown of channels.

Table 11 Contractor channels (EnvCC sector)

Contractor channel	% of total contracted amount in EnvCC [a]	Of which through EU-based contractors
International Organisation	11.63%	Not applicable
Private Sector	22.05%	17.44%
University	25.07%	13.60%
Research Institute	22.27%	14.46%
Civil Society	5.68%	3.55%
Government Institution (non-EU)	0.59%	Not applicable
Regional Organisation	9.24%	Not applicable
Other	3.46%	3.32%

[a] Total amount with GCCA contracts.

Source: Inventory analysis

Table 11 above suggests that nearly 70% of funds accrue to the private sector, universities, and research institutes. While both the EU private sector (17.4%) as well as EU research institutions (14.5%) benefit disproportionately from R&I project funding compared to their non-EU counterparts, the funding for EU and non-EU universities is far more comparable. In terms of the programme documents analysed, the evidence suggests that choices of actors and stakeholders seem both reasonable and as inclusive as possible.

At global level, the GCCA projects attempted to include all relevant stakeholders at all levels of governance. For example, the GCCA-Lower Mekong Basin (*D-23089*) encompassed central ministries, local government and authorities, national climate change focal points, NGOs, research institutes and, of course, the National Mekong Committees that coordinate the Mekong River Council (MRC). Similarly, the GCCA- Eastern Caribbean (*D-24114*), a programme with an explicit focus on wide and inclusive participation, foresee the "participation of a wide cross section of the region's people in the refinement of the instrument" (Action Fiche, p. 11).

At regional level, documentary evidence points to an effective choice of actors and channels for R&I support related to EnvCC. For example, the programme documents for two Asia Link projects provide evidence of a thoughtful and effective designation of actors. The project "Elephant Health" seems to have chosen actors and distributed workloads and project tasks according to existing institutional strengths and capacities. Similarly, interim reports for the project "Public Procurement" point out that, despite communication issues between European and Chinese participants, the project partners have built and developed a good working relationship. More importantly, the reports argue that all project partners have established and expanded relations with government officials in both China and Europe: this has enabled the project to involve experts from government and public sector organisations in delivering the joint curricula on public procurement law (Interim Report *c-128899*).

At national level, the description of the China-EU Institute for Clean and Renewable Energy (ICARE) planned to charge "selected Chinese and European Universities with a strong record of teaching and research in the clean and renewable energies" with developing and implementing the institute. This comprised a joint curriculum for an MSc-course in renewable energies, courses for vocational training of energy sector professionals as well as a research support platform "open to all energy experts from Chinese and European universities". While leading universities are probably best placed to design and run post-graduate curricula, it is entirely unclear whether the universities in question are in the position to devise and deliver effective vocational training. Indeed, the available monitoring report points out that while a high quality master's curriculum had been implemented, no vocational training had taken place by the end of 2012 (*MR-1343742.02*). The same seems true for network services such as a research platform. Again, the monitoring report points out that "the progress of work on promotion, communication and visibility is slow" (*MR-1343742.02*, p. 2).

One concern expressed by some R&I experts interviewed in third countries was that contractual arrangements sometimes favour freelancers rather than institutions, which reduces the capacity building benefits of the respective projects (Vietnam CN).

3.2.2 Indicator 322: Opportunities for supporting NGO-implemented R&I adequately exploited

In terms of the project inventory, civil society organisations only account for 5.7% of the total contracted amount in EnvCC. Against this background, the programme documentation analysed provides some indication of the intent to involve CSOs in R&I projects.

While the global programmes aimed to involve NGOs and other civil society organisations (CSOs) (c.f. the GCCA-Lower Mekong, GCCA-Belize and GCCA-Easter Caribbean), it is unclear to what extent these organisations are involved in R&I. For example, the GCCA-Belize featured substantial involvement of an NGO that took ownership for significant components of the project (*MR-145707.01*). Similarly, the GCCA-Lower Mekong Basin also listed NGOs, along with "research institutes and universities and technical organisations working on climate change issues" (Action Fiche revised, p. 11).

At regional level, it is the SWITCH-Asia programme that provides an effective framework for supporting NGO-implemented R&I. The SWITCH-Asia aims to build capacity among stakeholders – including NGOs and other CSOs –- for recognising and seizing R&I opportunities in the field of SCP. The "SPIN VCL" project, aimed at introducing Sustainable Product Innovation (SPI) practices to 500 SMEs in three Asian countries, involves 20 intermediate organisations in Cambodia, Laos and Vietnam. Presumably by making SPIN approaches accessible to CSOs, including NGOs, this will benefit "NGOs in the region that focus on sustainable development and sustainable products" (Description *c-202550*). By the same token, the project "Get Green VN", which set out to promote sustainable consumption practices in Vietnam, will explicitly "rely on, build capacity within and engage existing institutions and experts, in particular CSOs and NGOs" (Description of Action *c-263120*). Here, CSOs, including NGOs are understood to be "change agents" that will transport the sustainable consumption practices into society. In this way, CSOs and NGOs contribute to and implement innovation – in the form of SCP – in Vietnam. Similarly, both international and local NGOs have been of key importance in implementing the REDD+ programme in South East Asia. Local NGOs have provided key assistance in providing a gathering point for local communities, in common management and benefit-sharing from forestry conservation (Vietnam CN).

In contrast, the focus on curriculum development that characterises two other regional level programmes – the EU Asia Link and the EduLink programmes – means that NGO implemented R&I play a secondary role. In these programmes HEI's and ROs dominate (see HE Profile and EU Asia Link Profile).

At national level, the ASAL APRP (*c-291241*) project in Kenya featured intensive engagement of NGOs as the "main stakeholders" in the development of "agricultural options in the ASAL area" (fa incl. tap, p. 7). The available monitoring reports for this project suggest that the strategy of NGO inclusion in the implementation process may have contributed to the remarkable impact of this project on individual farmers' livelihoods (*MR-146799.01*).

3.2.3 Indicator 323: Appropriateness of use of EU universities in the design and implementation of DEVCO-funded R&I projects in developing countries

Broadly, the role and function of EU HEIs in R&I support in EnvCC has been appropriate. Significantly, it has been rather similar across different programmes, at least at the regional level. Typically European HEIs have played three key roles.

Firstly, European universities have hosted and trained post-graduates. The Asia Link projects on organic farming in China and Elephant reproductive health both featured study visits of Asian master, PhD students and researchers to European HEIs. In both programmes, the European host HEI provided both standardised (i. e. post-graduate courses) and tailored training (e. g. in laboratory or data analysis methods) as well as individual supervision and mentoring. In the case of the SWITCH-Asia project – SPIN VCL – the European HEI (Delft University) organised and implemented a two-way exchange programme. Here, post-graduate and PhD students from Europe as well as Asia would become part of the project teams and would take part in training and support activities in Asia and Europe (Description *c-202550*). Similarly staff from the Vietnamese Institute for Tourism Development Research TDR were funded under the ESRT (Environmentally and socially responsible tourism capacity development) Programme to take diploma courses in sustainable tourism planning in leading universities within this area in the Netherlands and the UK (Vietnam CN).

Second, European HEIs have contributed to curriculum development and implementation. This is true for all the regional programmes analysed (i. e. the EU-Asia Link programme, the EduLink programme as well as for the SWITCH-Asia programme). In all projects, teachers and researchers at European universities were involved in developing courses and materials as well as delivering content at workshops, training events or within post-graduate curriculum structures (Switch Asia/ *D-19803*/ *c-202550*/ description).

Third, European HEIs were involved in coordinating projects. The analysis of the sample of projects and programmes in the inventory suggests that EU universities accounted for 13.60% of the total contracted amount in EnvCC. This compares to 11.47% of funds that accrued to non-EU universities, 14.46% of the total that flowed to EU research organisations and the 17.44% of the total funds that accrued to the EU private sector. Typically, European HEIs were designated as lead partners. This was the case for the Asia Link project on organic farming (University of Turin) and a number of SWITCH Asia projects e. g. SPIN-VCL and Get Green (Delft University). The latter leadership has been extremely useful both for the Asian partners in the programme, but also for experts at Delft who have increased their knowledge on local R&I needs and opportunities. This is evidenced by subsequent partnerships between Delft and one of the Vietnamese ROs in further R&I projects under FP7 and national funding programmes (Vietnam CN).

Even when Asian HEIs were coordinators, European HEIs assisted this process: this was the case with the Asia Link project on Elephant reproductive health in which Utrecht University assisted Kasetsart University in project co-ordination (Description *c-141055*). Here, the documentation provides some indication that some co-ordination activities may not have been an effective use of the resources and capacities available to European HEIs. For example, the University of Turin report having to spend considerable time and effort in explaining the EUs financial and accounting regulations. Similarly, the coordinator of this project points to problems of partners with visas at European Embassies (Final Report *c-108962*).

3.2.4 Indicator 324: Evidence that channelling funds through global institutions development research programmes (e. g. WHO, WB, IFAD, CGIAR) adequately complements other approaches to pursue DEVCO R&I priorities

There is nothing in the available evidence to suggest that funds for R&I in EnvCC have been channelled through research programmes of other international organisations.

While the GCCA documentation lists a wide range of actions and interventions that complement the individual programmes and projects, none of these seem to be R&I programmes. Similarly, at the regional level, the SWITCH Asia programme identifies complementary programmes in the promotion of SCP and other energy-related interventions rather than research (Action Fiche). At national level, then, the Action Fiche for ASAL APRP points to other complementary programmes in food security and agriculture, while the project *Innovative approaches towards rehabilitating the Mau ecosystem* points to studies of alternative livelihoods for the forest population.

3.3 JC 33: Level of efforts taken to choose between and to combine different modalities and channels

Summary judgement

Apart from rather patchy indications, there is little explicit evidence in the field of EnvCC to help reconstruct systematic assessments on part of the EU concerning choices and combinations of modalities and channels. While the evidence does point to a realisation on the part of the EU that a range of contending modes and channels of finance need to be systematically harnessed for R&I support to be effective, this rationale is not spelt out in the programme documentation (I-331). Similarly, the available evidence, patchy as it is, suggests that policy-makers understand the need for co-ordination across different DGs. However, the available data are silent on whether and to what extent financial co-ordination of this kind has taken place (I-332).

3.3.1 Indicator 331: Appropriate rationale used in combining the use of different instruments and financing modalities and channels

The documentation on R&I support in EnvCC does not seem to record the EU's rationale for combining different instruments, modalities and channels. That said, EU policy actors are acutely aware of the multitude of different funding modalities operational at global level for climate change policy: the Identification Fiche for the GCCA-Ethiopia project refers to the Global Environment Facility (GEF), the Special Climate Change Fund (SCCF), as well as the Climate Investment Funds (CIF) of the World Bank. This is why, in the case of funding for the GCCA-Ethiopia project, the authors of the project Identification Fiche argue, the "Division of Labour principles have been applied and led to the definition of different implementation modalities for the proposed intervention" (Identification Fiche, p. 1).

Similarly, the programme documents for general R&I support provide both some rationale for combining or omitting instruments, modalities and channels. At the level of general R&I support for example, during the reporting period the EU along with other donors in Tanzania agreed on a "rational Division of Labour (sic)". Concretely, this meant the EU withdrawing from some fields in which other donors and Member States were planning to increase policy commitments. Instead, the EU decided to "focus

its core support on the growth area where it already has a policy mandate on behalf of the Member States" (CSP & NIP Tanzania 2008-2013). Moreover, with reference to its commitments under the Paris Declaration, the EU lists existing policies (trade, gender equality, governance, children rights and scaling-up of development assistance) that R&I support needs to take into account.

3.3.2 Indicator 332: Evidence for liaison with other relevant DGs and Member States to coordinate use of financial modalities and channels

The available evidence documents the realisation of the importance to consult and liaise with other relevant DGs and Member States about questions concerning the support of R&I in partner countries. This realisation is articulated both at a general, i. e. sectoral level as well as a particular, i. e. institutional level. At the general level, the country strategy for the Philippines identifies 11 areas where "the challenge of attaining synergies with development policy objectives is considered particularly relevant" including, significantly, R&I (CSP Philippines 2007-2013). At institutional level, the S&T Agreements with China point out that progress on issues such as climate change will require the close co-operation between DG's TREN, RTD and Environment (S&T China review). Similarly, the Kenyan Joint Assistance Strategy emerged from the consultation between eight Member States, government representatives from other donor countries and international organisations (CSP & NIP Kenya 2008-2013).

Despite the institutionalised nature of this consultation and liaison across Member States and sectors, as in the case of the Environment Councillors Group in Beijing or Kenyan Joint Assistance Strategy, the documentation suggests that EU policy-actors are aware of barriers to consultation and co-operation. For example, the EU points out that both the lack of Chinese government position on S&T co-operation as well as conflicting interests (which originate from diverging levels of S&T capacity) between Member States on S&T co-operation in China undermines the adoption of a coordinated approach (S&T China review).

What is less clear from the documents, however, is the extent to which this realisation has been translated into action and, if so, whether these consultations address the deployment of financial modalities and channels.

3.3.3 Indicator 333: Evidence of external consultation on choice of modalities and channels and of EC responsiveness to feedback received

The available information sources offer no insights into whether and to what extent the EU obtained and acted upon external consultation on the choice of modalities and channels for funding R&I projects in the field of EnvCC.

4 EQ4: DEVCO-RTD complementarity and coherence

To what extent has EU support to R&I by DG DEVCO and by DG RTD been complementary and their collaboration promoted Policy Coherence for Development (PCD)?

4.1 JC 41: Extent to which DGs DEVCO and RTD have formulated clear strategies on how they should cooperate in a complementary way and how the work of other relevant EU institutions (such as the EIB) is also complementary with their own

Summary judgement

Both DEVCO and RTD staff at HQ appear to have a reasonable understanding of the overall division of roles and operations between them. This is spelled out in communication *Speeding up progress towards the Millennium Development Goals* (SEC(2008) 434) though oddly not repeated in more recent RTD Communications (2008 and 2012).

DEVCO is a development-funding agency with an institutional culture of development practice; RTD is a science-funding agency with an institutional culture of science administration. RTD's focus is on research that can benefit Europe, cooperating with third countries when it is advantageous for European interests. Within the area of EnvCC this is particularly relevant with respect to climate change.

DEVCO, meanwhile, focuses on training, brokerage and providing support that can translate RTD-funded research into benefits for development. By strengthening research capacity in developing

countries DEVCO also enables HEIs and ROs there to take part in RTD research programmes e. g. via the International Science and Technology Cooperation Programme (INCO). This has the potential to further strengthen flows of R&I knowledge and results between EU and third countries and enable their application in developing countries. SEC(2008) 434 proposes four distinct actions for DEVCO which furthers these roles:

- Strengthen research policy capacity in developing country ministries;
- Strengthen research policy capacity in developing countries with development funding;
- Identify R&I opportunities in the PCD section of CSPs;
- Encourage partner countries to establish science and technology plans as part of the broader dialogue on governance.

However, here are indications that at the operational level the optimal division of tasks between DEVCO and RTD is not always followed. This in part because of a lack of operational guidelines on how these functional differences operate at each level in the development and implementation process of programmes. Country visits found little evidence of co-operation between RTD and DEVCO at operational level within countries. RTD had in general not been directly involved in the R&I elements of DEVCO projects coordinated by EUD. Similarly in all countries visited, RTD communication channels with ministries responsible for R&I largely bypassed the respective EUD. Nor do EUD's have any clearly formulated strategy with respect to co-operation with RTD.

Cooperation processes between DEVCO and RTD often occur rather ad hoc if at all. Only in South Africa was there any evidence of strong co-operation and here because the Science Counsellor in Addis Ababa took a personal interest in ensuring co-operation. There are some signs of increasing occurrence of DGs other than DEVCO engaging the EUD in implementation. However, cases were also found where the EUD had not been informed which had caused unnecessary inefficiency in project implementation. These findings are perhaps surprising considering that more than 50% of surveyed EUDs considered that potential alignment with the tasks of RTD had been a very or rather important element in their assessment of the level of strategic priority given to R&I in DEVCO funding (I-411).

The need for R&I finding to directly and indirectly serve overall development objectives such as meeting the MDGs is certainly clear in DEVCO documentation. Staff working paper SEC(2008) 434 specifies that R&I contributes to the achievement of MDGs directly by providing applicable research in specific fields relevant to MDGs and indirectly, by strengthening R&I capacity in a country and thus strengthening its international competitiveness and promoting sustainable development. However, while a new international co-operation strategy on Research and Innovation was established by the 2012 RTD Communication it does not outline a specific division of tasks between DEVCO and RTD – only differentiation between countries (developing, emerging, etc.) is mentioned (I-412).

Both DEVCO and RTD staff seem very aware of the MDGs and the need for R&I to address these within the priorities assigned to the relevant DG priority varies in line with the mission of their respective DGs: for DEVCO R&I is considered a tool for achieving the MDGs directly; for RTD the link is typically more indirect.

While clear on MDGs strategy documents do not spell out how R&I should contribute to pro-poor strategies, DEVCO strategy documents are generally clear on this link though it is often not very specific. RTD strategy documents are by and large even less so.

However, applied R&I within the environment sector will often be pro-poor by nature. Livelihoods of the poor will in general be enhanced, and vulnerability reduced by mitigating environmental hazards, adapting to climate change, securing sustainable energy supply and conserving the biodiversity on which the poor depend (I-413).

Overlap in the roles of RTD and DEVCO is often avoided by simple demarcation of roles. RTD strategies propose that EU development co-operation should focus primarily on 'investing in capacity building to unlock the development potential of research policy' not least because FP7 itself cannot use money on capacity development. Country visits confirmed that where DEVCO does engage in R&I it is indeed in the area of capacity building, and no evidence of overlap between RTD and DEVCO implementation was identified (I-414).

4.1.1 Indicator 411: DEVCO and RTD have a good understanding of their respective roles and complementarities and in relation to other EU institutional actors in this field and this is generally understood at all levels

Both DEVCO and RTD staff at HQ appear to have a reasonable understanding of the overall division of roles and operations between them. This is spelled out in staff working paper (SEC(2008) 434) but oddly RTD's international co-operation strategy adopted by RTD in 2012 foresees no specific division

of tasks between DEVCO and RTD. This suggests that RTD may downplay the role of DEVCO. The 2012 strategy paper was discussed in the ISG, but is no sense a joint communication.

According to the staff working paper RTD funds research with the overarching objective of funding high quality research that can benefit Europe. RTD cooperates with Third Countries when it is advantageous to do so for European interests. In the case of EnvCC this is particularly relevant for international research co-operation in the field of climate change.

International co-operation was significantly strengthened by allowing access to FP7 funding for neighbourhood and developing countries. Researchers from Africa, Asia, and Latin America can participate in calls for proposals either as members of consortia with European researcher institutes or on their own.

DEVCO's 2012 document *Main missions of DEVCO Directorates & Units* identifies that Unit B4 is in charge of research along with education and health. The Unit is also responsible for ensuring good co-ordination with inline DGs including DG RTD. Unit C5 meanwhile is responsible for rural development, food and nutrition including R&I within this area. In general, DEVCO can potentially fund research but only where this has direct application to development activities. DEVCO can also provide R&I capacity building (personnel, regulatory framework and infrastructure) to assist partner country researchers in building up capacity to participate in, or lead FP7 funded research projects. RTD meanwhile, does not have a principle objective of funding capacity building per se but rather engages in core research with a focus on excellence (SEC(2008) 434). A number of interviewees see this as the ideal division of co-operation.

However, interviews with RTD stakeholders note that co-operation between DEVCO and RTD with respect to this division of roles is not being implemented to its full potential. They stressed that more emphasis on this type of co-operation and role division between RTD and DEVCO should occur where R&I is identified as a key element of a country's economy. In such cases DEVCO could invest in capacities, institutions and organisation, which RTD could build further on and which would allow the country to engage in RTD funded projects (i. e. via Horizon).

Interviews in Brussels in general tended to give the impression that while the demarcation of RTD and DEVCOs roles and complementarities with respect to capacity building and core research is set out in strategic documents, the two DGs have not implemented this as well as they could at the operational level. For example, there are no formal guidelines establishing roles and responsibilities and establishing protocols for communication and consultation. This means that co-ordination at Brussels tends to be ad hoc. Ad hoc consultations occur at varying points in the RTD programming cycle. For programming DEVCO is typically consulted during design of framework programme, annual work programmes and programmed round of calls for proposals. There are regular meetings at different levels; from high level between directors to desk level. The frequency varies depending on the necessity.

The level of co-operation, however, seems to vary by sector. For the EnvCC sector co-operation seems to be somewhat limited. The Belmont Forum and the International Group of Funding Agencies for Global Change Research (IGFA)[17] potentially provide global forums for high-level co-ordination between R&I relevant agencies with respect to EnvCC. However, only RTD appears to be represented on this; DEVCO is not a member. DEVCO was not closely involved in EnvCC programming under FP7 according to one interviewee. On the other hand RTD and DEVCO work closely together in the EU Water initiative and in the research component of the Mediterranean Platform aiming to reduce pollution.

Interviewees suggested that there is a lot of willingness, but it is very difficult to fix complementarity in their actions. A fundamental obstacle to co-operation may be that they function at very different levels and with very different objectives. For RTD excellent science is paramount, whereas for DEVCO good science must be traded with other important development issues. Conversely, RTD is not particularly well suited to capacity building and institution building, whereas DEVCO places these at the core of its mission. There is also a more basic obstacle at country level in that the two DGs do not typically have the same country contact: DEVCO talks mainly to international co-operation staff whereas RTD talks to the Ministry of Research This points to a silo issue within partner countries as well as within the EU.

Country visits found little evidence of co-operation between RTD and DEVCO at operational level within countries. For example, in India, RTD has not been directly involved in the R&I elements of DEVCO projects coordinated by EUD. The same was found in Vietnam, Ethiopia, Peru and Kenya (Country

[17] The Belmont Forum is a group of high-level representatives from agencies and organizations that have, as a major portion of their responsibilities, funding global environmental change research. The Belmont Forum administers the IGFA who meet every two years to discuss coordination and collaboration in global environmental change research, track progress, and discuss funding.

Notes). Similarly in all countries visited, RTD communication channels with ministries responsible for R&I largely bypassed the respective EUD.

Nor do EUD's have any clearly formulated strategy with respect to co-operation with RTD. As one EUD member put it 'there is complementarity in definitions but not in implementation' (Peru CN). Any contact appears to be informal. Only in South Africa was there any evidence of strong co-operation and only because the Science Counsellor in Addis Ababa visits the EUD three to four times a year to ensure this (South Africa CN).

According to the EUD in Peru there has been improvement in other DGs than DEVCO engaging the EUD in implementation as observers or otherwise. However, cases were also found where the EUD had not been informed which had caused unnecessary inefficiency in project implementation (Peru CN).

These findings are perhaps surprising considering that more than 50% of EUDs taking part in the questionnaire survey considered that potential alignment with the tasks of RTD had been a very or rather important element in their assessment of the level of strategic priority given to R&I in DEVCO funding (EUD Survey).

4.1.2 Indicator 412: DEVCO and RTD aware of R&I needs identified relative to achieving MDGs

High-level policy documents and reports including communications on *EU international co-operation in research and innovation* (COM(2012) 497), *Policy Coherence for Development* (COM(2009) 461) and the *Horizon 2020 regulation* show a general awareness of the contribution of R&I to the MDGs in developing countries.

COM(2012) 497, for example, foresees the elaboration of multiannual roadmaps for co-operation, among other, with developing countries. In this framework support to the achievements of the MDGs is expected to be achieved by strengthening demand-led research and innovation for development. The Horizon 2020 Regulation[18] meanwhile, states that "International co-operation in science, technology and innovation should be targeted to … support Union external and development policies, including by developing synergies with external programmes and contributing to the Union's international commitments, such as the achievement of the United Nations' Millennium Development Goals."

However, these documents do not go into much more detail beyond specifying a number of sectors where this is important including health and food security and, in relation to EnvCC, green economy and climate action.

The Commission staff working paper accompanying *Speeding up progress towards the Millennium Development Goals* SEC(2008) 434 goes into more detail by specifying that R&I contributes to the MDG achievement both directly and indirectly. R&I results in specific fields may directly make progress on the MDGs easier to achieve. More indirectly, a strong R&I base in a country can help it strengthen its competitiveness and promote sustained development. The document further proposes that the EU take three actions: (i) promote research on MDG related issues, (ii) strengthen partner country research capacity and (iii) attract researchers to and retain them in developing countries.

However, while a new international co-operation strategy on Research and Innovation was established by the 2012 Communication it does not foresee a specific division of tasks between DEVCO and RTD – only differentiation between countries (developing, emerging, etc.) is mentioned. Nor does it mention DEVCO in relation to capacity-building of research institutions. The 2012 Communication appears to be missing an opportunity by not specifically earmarking the capacity-building role for DEVCO which would then support third countries in participating in RTD-funded Horizon projects.

Interviews with DEVCO and RTD staff indicate that both are very aware of the MDGs and the need for R&I to address these needs though the way they each view this priority varies in line with the mission of their respective DGs. For DEVCO R&I is considered a tool for achieving the MDGs and therefore a direct objective, whereas for RTD the link is typically more indirect; the chief priority is to fund good research and if this benefits the MDGs this is considered as an additional benefit.

4.1.3 Indicator 413: DEVCO and RTD strategy documents recognise and stress needs particular to pro-poor R&I

The strategy documents cited for the previous indicator do not go beyond general statements on the importance of supporting development objectives and/or the MDGs. Although at one level this is fine, they certainly do not go down to the detail of spelling these statements out in terms of how R&I should contribute to pro-poor strategies.

[18] Regulation (EU) No 1291/2013

DEVCO strategy documents are generally clear on this link though it is often not very specific. RTD strategy documents are by and large even less specific, although, as indicated above (I-412), SEC(2008) 434 does make clear the link between R&I and the achievement of the MDGs.

Although the absence of a clear pro-poor strategy in high-level policy documents may seem disconcerting, applied R&I within the environment sector will often be pro-poor by nature. As recognised by the communication on the Thematic Programme For Environment and Sustainable Management of Natural Resources including Energy (ENRTP) the poor depend directly on a wide range of natural resources and ecosystem services for their livelihoods, and hence on the sustainable management of resources, and are particularly vulnerable to environmental hazards. Livelihoods of the poor can be enhanced and vulnerability reduced by mitigating environmental hazards, adapting to climate change, securing sustainable energy supply, and conserving the biodiversity on which the poor depend. The ENRTP programme has relied heavily on a good scientific knowledge base, building of capacity to apply new knowledge and promote innovation, and the involvement of scientists and institutions from partner countries, in particular developing countries. The INCO Programme has been particularly useful in providing R&I input to the programme.

Also at the project level, pro-poor objectives are clear. For example within the FP7 Coordinated Call for Africa which earmarked EUR 17.5 million of the Environment budget included establishment of sanitation and water supply systems for small communities, water harvesting technologies and early warning systems to predict drought vulnerability and risk, all of which will benefit poor agrarian communities[19].

4.1.4 Indicator 414: DEVCO and RTD have a clear idea of potential areas of danger of duplication and necessary redundancy between their respective roles and of those of other relevant EU institutions

Overlap is often avoided by simple demarcation of roles. RTD sets out a clear policy on what areas FP7 should be funding in international work in the Communication *Speeding up progress towards the Millennium Development Goals* (SEC(2008) 434) and proposes that EU development co-operation should focus primarily on 'investing in capacity building to unlock the development potential of research policy' not least because FP7 itself cannot use money on capacity development. In particular, it proposes four actions for DEVCO:

- Strengthen research policy capacity in developing country ministries;
- Strengthen research policy capacity in developing countries with development funding;
- Identify R&I opportunities in the PCD section of CSPs;
- Encourage partner countries to establish science and technology plans as part of the broader dialogue on governance.

This amounts to a fairly distinct division of labour at least in theory. As evidenced under I-411, while this division of roles is set out in strategy papers, there are no guidelines ensuring that this division is carried out at the operational level.

At country level, there was evidence found in country visits that EUD had been engaging directly or indirectly in the first two areas, but scant evidence of engagement in the second two. On the other hand, no evidence was found of duplication of roles.

4.2 JC 42: Degree to which DEVCO support addresses issues that could/would not have been better, or equally well, addressed through RTD and vice versa

Summary judgement

Interview evidence yields a variable picture on whether both DGs have adequate capacity to identify R&I needs properly. Staffing levels show stable numbers in staff within EnvCC, with a slightly increasing support from external resources but it is hard to judge simply based on these numbers whether the capacity is sufficient to ensure good co-operation between the DGs and good understanding of their respective roles in R&I. Clear evidence of cases of duplication were not identified.

However, there is some evidence that understanding and interest in the potential of R&I is patchy at DEVCO, exacerbated by frequent rotation and lack of cross-DG experience and a general lack of scientific capacity at DEVCO. Interviewees in general noted that both the capacity in Brussels and the network of R&I counsellors to EUDs in countries/regions could be strengthened. The R&I counsellors

[19] http://wbc-inco.net/object/call/6801

have a potentially useful role since they often interact both with DEVCO and RTD. However, there is evidence that they do not often fully appreciate the development potential of R&I.

Coordination between the two DGs does occur but it is largely ad-hoc and appears to vary considerably in depth from sector to sector and region to region. While the willingness is there, in practice it is very difficult to fix complementarity in action. A lack of procedures for co-ordination is problematic though for some officials an informal approach worked well and structuring it more could end in increased unnecessary bureaucracy.

At the global level there seems to be some level of division of tasks between DEVCO and DG RTD within the EnvCC sector. DG DEVCO supports the Global Climate Change Alliance while DG RTD focuses support on research needed by the IPCC. In Asia, the only good case of collaboration between the two DGs seems to have been at the regional level with READI (Regional Asia Dialogue instrument).

At national level, country visits found little evidence of co-operation between RTD and DEVCO at operational level. RTD communication channels with ministries responsible for R&I largely bypassed the respective EUD who has responsibility for coordinating most DEVCO programmes and projects. The EUD are invited to events and meetings between the RTD channels and ministries, but bilateral meetings between EUD and RTD representatives are infrequent (I-422)

Though direct co-ordination is lacking, there is certainly a differentiation in roles which should reduce risks of overlap and duplication. Country visits found several activities funded by DEVCO which would/could not have been funded by RTD. This particularly relates to capacity building and technology transfer. Moreover, DEVCO has given opportunities for support of R&I organisations which would find it difficult to secure funding via RTD instruments due to academic demands and need for matched funding.

Conversely, examples were also found of where RTD support was applied which could not have been replicated by DEVCO. RTD support is particularly suited to financing projects which lie relatively far upstream (i. e. concept development and core research) rather than downstream (practical application of research and innovation) which is more common for DEVCO projects (I-423)).

It is difficult to determine whether duplication of activities has occurred between the two DGs. Key differences in the types of activities and organisations that can be supported reduce, though do not remove, risks of duplication. Overall there is no strong evidence of complementarity between RTD and DEVCO activities but neither is their any evidence of duplication.

4.2.1 Indicator 421: DEVCO and RTD have internal capacity to identify R&I needs for development

Capacity at RTD is a multi-dimensional issue, involving in-house expertise, both at HQ and in the form of Research and Innovation Counsellors in EUDs, and consultations with researchers in countries benefitting from SICAs.

According to the RTD Annual Activity Report for 2012, the Environment sector of co-operation (including climate change) benefitted from the action of 124 persons (38 being external personnel). That of International co-operation employed 114 persons (42 being external)[20]. In 2013 the total numbers had fallen slightly to 118 (39 being external) for Environment and 112 (44 external) for International co-operation with a little more reliance on external assistance. This may reflect the RTD management decision to move implementation to executive agencies and for the DG itself to become more of a policy DG than an operational DG. However, for the time being internal capacity still dominates in the EnvCC sector.

One RTD official commented in interviews that interest in R&I is patchy at DEVCO and also identified frequent rotation and lack of cross-DG experience as constraints. Other identified a general lack of scientific capacity at DEVCO. Interviewees in general noted that both the capacity in Brussels and the network of R&I counsellors to EUDs in countries/regions could be strengthened. The R&I counsellors have a potentially useful role since they often interact both with DEVCO and RTD. However, one DEVCO official noted that R&I Counsellors do not often fully appreciate the development potential of R&I and even if they do are not good at communicating these to development officers.

Strengthening of capacity within DEVCO should focus on application of research results and assessment of what type of new research is needed which could have development relevance. This would allow DEVCO to communicate more effectively with RTD on the content of draft and future DG Research Programmes.

[20] AAR 2012, p. Annex 2

4.2.2 Indicator 422: Co-ordination meetings and information sharing between DEVCO and RTD

As described under I-411 co-ordination and consultation between RTD and DEVCO appears to be carried out on a regular but largely ad hoc basis. There is no guiding document that formalises this practice. Meetings occur at different levels right up to DG[21]. The intensity of this co-ordination also apparently varies from sector to sector and indeed on the basis of need, both in terms of the life cycle of activities.

One RTD interviewee felt there had been regular attempts to encourage better collaboration between the two DGs over the past 20 years but there was little progress. While the willingness is there, in practice it is very difficult to fix complementarity in action. Another felt the dialogue with DEVCO was difficult because it was not structured, though clearly for some officials an informal approach worked well and structuring it more could produce a rather mechanistic and time consuming approach.

At the global level an occasional division of tasks between DEVCO and DG RTD on whom to support seems to exist. In the field of environment for example, DG DEVCO supported the Global Climate Change Alliance while DG RTD focused support towards the research needed by the IPCC. In countries where there is an R&I counsellor (RTD) in the EUD, the co-operation and co-ordination seems to work better.

In Asia, the only good case of collaboration of collaboration between the two DGs seems to have been at the regional level with READI (Regional Asia Dialogue instrument). This is a EUR 15 million fund for the FP7 period for a regional tool, managed by the ASEAN secretariat in Djakarta, and funded by DEVCO which included studies on green economy activities for use in capacity building in to advise ASEAN countries.

As stated under JC 41, country visits found scant evidence of co-operation between RTD and DEVCO at operational level within countries. For example, in India, Vietnam, Ethiopia, Peru and Kenya, RTD has not been directly involved in the R&I elements of DEVCO projects coordinated by EUD (Country Notes for these countries). Similarly in all EnvCC relevant countries visited, RTD communication channels with ministries responsible for R&I largely bypassed the respective EUD who has responsibility for coordinating most DEVCO programmes and projects. The EUD are invited to events and meetings between the RTD channels and ministries, but bilateral meetings between EUD and RTD representatives are infrequent. The survey of EUDs identified only a few examples of co-ordination activities between DEVCO and RTD (EUD Survey section 2.6.1).

Only in South Africa was there any evidence of strong co-operation (South Africa CN). According to the EUD in Peru there has been improvement in other DGs than DEVCO engaging the EUD in implementation as observers or otherwise. However, cases were also found where the EUD had not been informed which had caused unnecessary inefficiency in project implementation (Peru CN).

4.2.3 Indicator 423: Level of duplication identified in evaluations, etc.

A number of evaluations and related documents were examined including the following:

- International Cooperation Activities of the Seventh Framework Programme's Capacities Programme – interim evaluation (October 2010);
- International Science and Technology Cooperation in the EU's Seventh Framework Programme: the specific programme "Cooperation" and its thematic areas (2014);
- European Added Value of EU Science, Technology and Innovation actions and EU-Member State Partnership in international co-operation (2014);
- Basic Principles for effective International Science, Technology and Innovation Agreements (2014);
- Review of the S&T Cooperation between the European Community and the Government of the People's Republic of China (October 2008);
- Review of S&T Cooperation Agreement between the European Union and the Republic of India (2012);
- Review of the S&T Cooperation Agreement between the European Union and South Africa (2014).

[21] DG RTD interview: There are regular meetings at different levels; from high level between directors to desk level. The frequency varies depending on the necessity. Just before finishing the annual work programme DEVCO consultations can be as frequent as every two weeks. The director-general or deputy DGs have a yearly meeting. There is no system of regular meetings between the Heads of Unit, only as required.

DEVCO is not mentioned in any of these documents. This would suggest that either no duplication had occurred or that the evaluators did not consider the potential of duplication and were not aware of overlapping roles.

Country visits found several examples of R&I funded by DEVCO which would/could not have been funded by RTD. This particularly relates to capacity building and technology transfer. In Kenya for example significant amounts of DEVCO funding via KASAL and ASAL-APRP have been devoted to capacity building, with the CGIAR-supported research centres representing an even stronger example. Many SWITCH Asia projects have technology transfer at their core, an activity not directly addressed by FP7, Inco-Nets or coordinated calls (India CN, Vietnam CN). Capacity building is also not normally an aim of RTD project funding although examples were found in Kenya of such projects (Kenya CN).

Also at organisational level, DEVCO has given opportunities for support of R&I organisations which would find it difficult to secure funding via RTD instruments. For example, DEVCO projects in Vietnam and India (mostly under SWITCH Asia) included SMEs and small research bodies that would have found it hard to compete academically in FP7 applications, and for which RTD funding mechanism requirements for matched funding would have been difficult to comply with (Vietnam CN).

Conversely, examples were also found of where RTD support was applied which could not have been replicated by DEVCO. RTD support is particularly suited to financing projects which lie relatively far upstream (i. e. concept development) rather than downstream (R&I practical application) which is more common for DEVCO projects. An example, of the former is the PREFACE climate modelling programme in South Africa which would less likely to be financed under DEVCO due to lack of concrete application (South Africa CN).

Moreover, FP7 allowed universities to participate in prestigious international research collaborations that would have been impossible under DEVCO support (Kenya CN, Ethiopia CN).

4.3 JC 43: Level at which DEVCO support has benefited from complementary action financed through RTD and vice versa

Summary judgement

It seems likely that projects within a number of DEVCOs EnvCC programmes make use of R&I developed under FP7 projects, due to a strong thematic overlap. For example carbon capture and storage and clean carbon technologies which are the focus of DEVCO's CCT-CCS programme has also been a significant area of research under FP7. Moreover, FP7 CCT projects have been carried out in the same countries where the DEVCO programme is offering (e. g. India). However, direct use of FP7 results is not mentioned in the DEVCO programme documentation. The same is true for other EnvCC programmes.

The likelihood of DEVCO support benefitting from FP7 projects is made more likely by increased awareness amongst the involved project partners of FP7 projects. The chances for this have certainly been increased by FP7 allowing foreign researchers to be included or lead FP7 projects. However, few of the research institutions involved in DEVCO projects interviewed during country visits specifically named research developed during FP7 that had provided important inputs to the project design or implementation (I-431).

Lack of direct citation of project inputs may, however, be a result of two factors. Firstly, in many cases the country-based partners have often not designed the projects. Secondly, the R&I knowledge pathways from upstream research projects typically funded by RTD, to downstream technology and innovation transfer projects typical under DEVCO may have passed through several intermediate links. For example, application may first have taken place within European industry and businesses, before being applied in the rest of the world. Perhaps more effort is needed during project design to trawl through related FP7 projects to identify knowledge that can usefully be applied via DEVCO projects and programmes. This would provide more direct links between RTD and DEVCO funded projects and increase efficiency (I-431).

At the organisational level there is a high degree of inclusion of third country HEIs and ROs in FP7 EnvCC projects particularly in Asia and Africa. This ought to increase the chance of the same organisations' researchers being involved in both FP7 and DEVCO projects and increase complementarity.

However, again few examples were found of individual researchers or departments working on both FP7 and DEVCO projects in country visits. Moreover, some evaluations have expressed disappointment in the number of developing-country partners participating in FP7 projects, due to the combination of lack of awareness of opportunities, low capacity, and the fact that these are likely only to involve the strongest researchers (I-432).

Cooperation between European and third country partners on the other hand has had a high positive impact. The FP7 Co-operation study found that for more than 50% of the third country partners the

participation of EU partners had had a significant impact on processes and had helped open up new markets, develop new knowledge and make contacts. There is a risk though that some RTD FPs are euro-centric which reduces the value of involvement for third country researchers (I-433).

4.3.1 Indicator 431: Applied research financed by DEVCO benefits from inputs from FP7 research

All of the main EnvCC programmes considered in this evaluation make strong use of applied research:

- Switch-Asia
- GCCA
- Intra-ACP Energy Facility
- CCT-CCS programme

The various country level and regional GCCA programmes and projects build capacities of local experts, governments and organisations in developing implementation measures to adapt to climate change, reduce emissions from deforestation, participation in CDM and disaster risk reduction. This includes knowledge transfer both in policy and governance but also in scientific and technical methods and techniques. For example, the project in the Lower Mekong Basin aims to establish an Integrated Knowledge Management Programme (IKMP) which will provide access to data, information and decision support tools necessary to co-ordinate sustainable development of water and related resources including the collection and managing of climate change related data. The Ethiopian project includes creation of a climate predictions model for Ethiopia and implementing studies and research to provide valuable knowledge for climate change activities in the country. Setting up Monitoring, reporting and verification (MRV) is also an important part of GCCA assistance.

The results of FP7 research projects relevant to climate change adaptation and mitigation could have been exchanged as part of this knowledge transfer and capacity building under GCCA. A search of Cordis, for example finds 98 FP7 projects that concern climate change impacts of deforestation and 26 projects that concern MRV systems. It seems likely that those implementing DEVCO projects would be aware of at least some of these FP7 projects and their results but no direct evidence has been found to support or refute this.

The use of FP7 research seems most likely under the CCT-CCS programme since carbon capture and storage and clean carbon technologies have had significant focus under the FP7 programme and technology and strategy development for CCT and CCS are typically government-led. More than 600 FP7 projects in the CORDIS database concern CCS and over 200 concern clean coal technologies. Moreover, some of the latter are R&I projects which are being implemented in India – e. g. OPTIMASH (Optimising gasification of high-ash content coals for electricity generation), POEM (Policy options to engage emerging Asian economies in a post-Kyoto regime) etc. – which is one of the key focus countries for DEVCO's CCT-CCS programme. It seems likely that the programme has made use of the various FP7 projects though no direct evidence was found of this in project documents nor during country visits. In fact it seems odd that the CCT-CCS project documents do not discuss POEM and OPTIMASH.

Application of FP7 projects might also be expected to a certain extent under the SWITCH Asia programme. The programme documents make little mention of research but practical application of (SCP relevant) innovations in both technology and practices is a central element of SWITCH Asia. A number of grant projects include transfer of technology; energy efficient electric motors, energy efficient technology for buildings and so on. FP7 projects exist in these areas – for example HERB (Holistic energy retrofitting of residential buildings), EE-WISE (Energy efficient project knowledge transfer framework for building retrofitting), HI-WI (Materials and drives for High & Wide efficiency electric powertrains) and many more – and since all Switch Asia grant projects have at least one EU partner there is a possibility that these partners have been aware of the relevant FP7 results.

However, only one of the research institutions involved in SWITCH Asia projects, interviewed during country visits specifically named research developed during FP7 that had provided important inputs to the design or implementation of the SWITCH project. The only example identified was the REDD+ project which applies academic research carried out on evaluation of ecosystem services including the FP7 project, REDD ALERT (Vietnam CN).

Similarly, for other DEVCO programmes and projects little evidence was found of RTD projects having directly influenced the design or implementation of DEVCO EnvCC activities (Vietnam CN, Ethiopia CN, Kenya CN, Mauritius CN).

Lack of direct citation of project inputs may, however, be a result of two factors. Firstly, that in many cases the country-based partners have often not designed the projects; rather projects have been designed by European partners (Vietnam CN). Secondly, and perhaps more importantly, the R&I

knowledge pathways from upstream research projects typically funded by RTD, to downstream technology and innovation transfer projects typical under DEVCO, may have passed through several intermediate links. For example, application may first have taken place within European industry and businesses, before being applied in the rest of the world, or knowledge developed by FP7 may have passed into a wider knowledge pool before being taken up by DEVCO.

Perhaps more effort is needed during project design to trawl through related FP7 projects to identify knowledge that can usefully be applied via DEVCO projects and programmes. This would provide more direct links between RTD and DEVCO funded projects and increase efficiency.

Such a process is currently being carried out in South Africa via DEVCO support to the Department of Science and Technology, though it is not clear whether EnvCC related projects are included in this search (South Africa CN).

4.3.2 Indicator 432: Researchers in DEVCO projects and programmes participate in FP7 international networks

It has not been possible to any extent to identify the degree to which the same researchers have been involved in DEVCO and FP7 projects which could otherwise ensure transfer of information and knowledge and potentially also co-ordination between projects. The names of institutions involved in FP7 projects can be obtained but not individual names and it has not been possible to cross-check the involved institutions with DEVCO project partners. Country visits found a surprising lack of overlap between institutions and departments that were included in both FP7 and DEVCO EnvCC projects. In Vietnam for example only one organisation was identified that has been engaged in both (Vietnam CN). Again this may be a result of the difference in the type of activities funded by DEVCO and RTD (see JC 42) but may also be a result of lack of communication provided by DEVCO on RTD R&I opportunities (see JC 23).

International co-operation with participants from international partner countries has been strongly supported and encouraged under FP7-INCO (international co-operation) particularly within the EnvCC theme[22]. The strategic approach for international co-operation of EU environmental research includes an annual identification of major co-operation countries and/or regions. SICAs and Coordination and Support Actions (CSAs) in topics highlighted as being particularly suited for international co-operation have been developed since the beginning of the programming period. Cooperation with Africa, Latin America (on various topics) and India (on water technologies and management) has been particularly emphasised.

However, some evaluations have expressed disappointment in the number of developing-country partners participating in FP7 projects, due to the combination of lack of awareness of opportunities, low capacity, and the fact that these are likely only to involve the strongest researchers. In South Africa, with ambitions to serve as a regional and continental hub for S&T, participation has been high (see CN). In the review of the India S&T co-operation agreement, concerns were raised that there was adverse selection in the sense that top universities and researchers that could obtain funds more easily, tended to stay away from FP7.

4.3.3 Indicator 433: Researchers in FP7 research programmes collaborate with developing country research and innovation practitioners to enhance the social impact of their results

FP7 projects within EnvCC had just over 450 participants from developing countries. The level of developing country participation in EnvCC FP7 bids varies widely between regions: Asia and Africa dominated with 170 and 162 participants respectively, while the Mediterranean, Central Asia/Europe and Latin America had only 52, 40 and 26 participants respectively. Chinese and Indian participants are particularly well represented with over 140 participants between them.

However, while third country researchers regularly participate in FP7 funded projects, they are very rarely the leaders: "…third countries have been project coordinators in nine cases while they have been participants in 3,437 cases" (DG RTD's 2014 Report on its FP7 Co-operation Programme p. 45). Their data also shows that for FP7 "…the geographic scope of international co-operation is based on existing relations, knowledge and perceived potentials." Furthermore, facilitation of third country participation; reduction of barriers to enter FP7 consortia; and good integration between national management procedures and EU FP7 management procedures had not been achieved.

The FP7 Co-operation study, however, found that:

- FP7 projects had had a positive impact on innovation in third country partners;

[22] Evaluation of Inco.

- For more than 50% of the third country partners the participation of EU partners had also had a significant impact on new or improved processes;
- The co-operation had helped open up new markets, develop new knowledge and make contacts;
- It had supported the development of various new skills (tools and methods R&I management) and the adaptation of product development and had had positive impacts on organisations and their strategies.

Finally, about 70% of third country partners asserted that the co-operation "facilitated the scientific exploitation of research results' and 'raised the ability to disseminate and exploit technological knowledge". The EUD in South Africa described the ERA-Africa programme as being a good meeting point for European and African researchers with the ESASTAP-PLUS project to promote FP7 participation by South African researchers as having great success (South Africa CN).

These perceptions of impact from the Cooperation survey are by and large very positive, and suggest a good level of different types of impact of the FP7 Co-operation projects. On the other hand one RTD interviewee suggested that RTD FPs are very euro-centric, and people from developing countries have limited incentives to invest time in projects that will not advance their careers.

However, the RTD (2014) EAV (European Added Value) study report states that "…there is still only a small body of evidence of expected and achieved impacts through individual FP activities" and then discusses how this might be improved using different indicators in relation to EAV criteria of networking, excellence, capacity building, critical mass, mutual learning and harmonisation and efficiency.

4.3.4 Indicator 434: Increase in HEIs and Research Organisations participating in FPs and other international networks

It has not been possible, based on RTD data obtained to date, to measure the increase in number of HEIs and research organisations taking part in FP7. Numbers can only be seen in Country Notes of the total number of organisations involved in FP7 projects over the full period of FP7. HEIs and ROs have in general had a high a participation rate in FP7 applications and awarded projects. In China for example, out of 2,480 organisations applying for FP7 grants 1,946 were HEIs and ROs, and these organisations were awarded 82% of FP7 grant money. The top nine participants in FP7 projects by number were all HEIs with participation in up to 22 projects. However, application success rates among HEIs were lower than for ROs.

The pattern is similar in other countries though with slightly lower dominance of HEIs and ROs – for instance 61% of FP7 grant money was given to HEIs and ROs in Egypt, with around 75% being typical (e. g. Mexico, India, Kenya).

4.4 JC 44: Extent to which different mechanisms to promote PCD (ex-ante impact assessments, inter-service consultation, etc.) have been deployed and acted-upon

Summary judgement

Some strategic thinking has gone into PCD of DG RTD work with DEVCO development co-operation work. A Commission Staff Working Paper on the topic was issued early in the evaluation period in April 2008. Progress is monitored with R&I covered regularly by the EU PCD Report issued by DEVCO since then (2009, 2011 and 2013). FP7 policy does also seem to have been adjusted to development co-operation needs and priorities with a number of features being put in place to make FP7 more accessible to developing country research communities.

Inter-service consultations take place with all FP7 Calls for Proposals before publication, so as to encourage coherence between policies of the different DGs. The presence of an INCO Unit in DG RTD also seems to have encouraged greater debate over priorities within the DG as the unit apparently tends to take a different perspective than the thematic desks. Yet no evidence on the use of ex-ante impact assessments has yet been identified.

This provides the basis for an initial positive assessment but further evidence from the field will be useful to see how these policies and mechanisms 'have been deployed and acted-upon'. It is still too early to make a judgement on this.

4.4.1 Indicator 441: Ex-ante impact assessments for R&I look at PCD and possible synergies / trade-offs between DEVCO and RTD R&I interventions

Attention to the external impact of EU policies (other than development policies) has increased within EU institutions. Policy Coherence for Development (PCD) aims at building synergies between non-development focused EU policies and EU development objectives.

The Commission staff working paper accompanying *Speeding up progress towards the Millennium Development Goals* SEC(2008) 434 examined issues of PCD with respect to research. The areas covered include EnvCC issues of climate change, energy and biofuels and research. The document focuses on what FP7 could do to promote the achievement of the MDGs (I-412). It proposes specific measures that, although they do not specifically include ex-ante impact assessments, do include policies that should be supportive of development objectives and thus provides potential PCD with DEVCO.

This includes supporting research that targets international partner country problems, and supporting dialogue between EU and developing country researchers in part via the FP7 INCO-NET programme and through the FP7 Capacities Programme. Developing country research capacity should also be strengthened in part to inhibit migration of researchers from those countries to the west.

These measures are aimed at ensuring that FP7 policy is coherent with the development co-operation work of DEVCO. However, oddly, the document does not mention DEVCO-financed research although DEVCO's activities must have been in the forefront when designing these measures. In fact none of the documentation consulted have directly raised the issue of synergies / trade-offs between RTD and DEVCO R&I interventions.

With respect to ex-ante assessments, the 2013 EU PCD Report (Section 46.2) indicates that these "remain the main tool for promoting PCD in new policy initiatives of proposals for policy revisions" and explains that the Commission is working to improve these assessments and revise the guidelines for them.

4.4.2 Indicator 442: Inter-service consultations and quality support measures regularly include consideration of PCD issues

As stated under I-411, interviews suggest there are extensive consultations between RTD and DEVCO though ad-hoc rather than following specific guidelines and occurring at various points in programme and project cycles depending on the desk officers involved. There is no specific information to date on whether these consultations typically include PCD issues.

RTD interviewees indicate that all FP7 calls for proposals would normally go through discussions with various appropriate officials in RTD and in DEVCO and finally through a formal Inter-service consultation process before they are finally approved (documentary evidence of this was not made available). In RTD this would include a discussion between thematic desks and the international co-operation unit. This is important because the former are not usually that concerned about partner country views and 'prefer flagship projects with the US' and need to be convinced by their INCO unit colleagues. This confrontation between the international co-operation directorate (a fairly new directorate created around 2010) and the thematic desks has lasted for some time and may impact negatively on PCD.

4.4.3 Indicator 443: R&I results, such as pro-poor innovations, IPRs, etc. are taken into account for programming and implementation of development, agricultural, climate and trade-related co-operation

No evidence on this indicator in the field of EnvCC.

4.4.4 Indicator 444: R&I counsellors in EUDs regularly interact with development co-operation staff and proactively seek opportunities for alignment and synergy between their programmes

No evidence on this indicator in the field of EnvCC.

4.4.5 Indicator 445: Lessons from development co-operation inform DEVCO and RTD R&I priority-setting

DEVCO strategy and policy documents for R&I display a good general level of awareness of taking on board lessons of development co-operation. For instance, the EU PCD Reports indicates that efforts are made to think through how FP7 could be more supportive of development processes and issues about capacity development, knowledge sharing, access, ownership, governance and dialogue are all regularly picked up in the reports (see also under I-441).

However, RTD interviews indicate that issues to be addressed in RTD Calls for Proposals are not specifically designed to match development problems in developing countries nor do they take normally

take account of any dialogue with the partner country authorities. The reason may be that FP7 is not a development programme – it is a scientific co-operation programme aimed at increasing European research quality, protecting the European citizen, etc. in areas where scientific co-operation with Third Countries would have a beneficial impact. However, RTD staff recognise that ideally RTD CfPs should include PCD considerations, and that this would be most effective it included at the inception stage rather than an add-on later.

From a developing country point of view, the fact that FP7 has been opened up to partner country researchers is a major step forward in tackling lack of access to the knowledge sharing and networking. In that respect, FP7 is already more coherent with development that its predecessors and demonstrates that lessons have been learnt. The next step, as recognised in the Commission's strategy paper for international R&I (COM(2008) 588), is not just to allow access, but enable it by improving capacities, infrastructure and the regulatory framework all of which are taken on board at the strategy level.

4.4.6 Indicator 446: Instances of incoherence identified by external stakeholders are followed up internally

No instances of incoherence identified. Commission officials in both RTD and DEVCO have been asked for examples in interviews but they could not come up with examples on the spot.

5 EQ 5: Transfer of R&I results into development processes[23]

To what extent has DEVCO support led to the transfer of R&I results into processes likely to impact on the achievement of EU development objectives?

5.1 JC 51: Clear and logical thinking at sector level on how DEVCO support could ultimately lead through to research results being used in development processes

Summary judgement

The analysis of strategic and programmatic documents shows that programme and project designers have given considerable thought to the way relevant knowledge is generated, is further developed and is deployed in development processes. The documentation of the sampled projects suggests that the EU support for R&I in the field of EnvCC takes into account R&I developments and trends. Strategies do so in four interrelated ways:

- First, strategies in the EnvCC sector aim to support R&I interventions that can measure and assess the impact of interventions on the environment. At the level of assessment, this includes research on impacts, vulnerabilities and risks of mitigation and adaptation strategies. At the level of concrete technological solutions, it also comprises interventions that aim to test, prototype and demonstrate possible environmental and green business technologies and practices.
- Second, EU R&I interventions look to tap into as well as support areas of environmental policy where knowledge is concentrating and accumulating. The strategy documents analysed for the fields of biodiversity, climate change and sustainable development, all stress the need to build on and extend current trajectories of knowledge generation.
- Third, and closely related to the previous point, strategy documents point to the gaps in policy-relevant knowledge. What is more, the strategy documents articulate the intention to address these gaps in terms of R&I programming, in particular FP7.
- Last, the strategy documents point to potential linkages and synergies between different sectors. They recognise these potential linkages both in terms of exploring new research field as

[23] This EQ builds, among other, on the Thematic Evaluation of the EU Support to Environment and Climate Change in Third Countries (2007-2013).

well as in terms of deploying knowledge these synergies for environmental policy-making (I-511).

The sector strategies analysed provide little indication of how actors are to overcome the barriers and seize the opportunities for deploying innovation for development (I-512).

The available evidence suggests a wide spectrum of ways in which R&I interventions in the EnvCC field address the role of the private sector on the production and uptake of R&I results.

The spectrum ranges from foreseeing and ensuring a direct and active role of the private sector, to more indirect and remote ways in which the private sector contributes to R&I in EnvCC. At the direct/ active end of the spectrum the evaluation team found programmes, notably SWITCH Asia, that address and directly involve the private sector – both at SME and at corporate level – in the research, development, testing and diffusion of sustainable innovations. Of most interest are several 'multiplier' type projects under SWITCH Asia which support teams including SMEs in assisting other private businesses (again with focus on SMEs) in adoption of energy and resource efficient technologies and practices or transformations towards greener business models.

Such hands-on pilot and multiplier projects have significant potential for producing widespread and long-term adoption of innovations, they were also found to be hindered from a number of obstacles. Firstly, the typical time length of SWITCH Asia project funding, and DEVCO project funding in general, is considered by implementers to be too short to ensure sustainable transformations in business. Secondly, even where the adoption of innovations would lead to cost reductions for SMEs, access to affordable finance for making the necessary investments is lacking, in part due to lack of knowledge of opportunities. The SWITCH Asia Network Facility is taking steps to tackle the latter issue (I-513).

At the more indirect/remote end of the spectrum, the evaluation team find both strategic as well as programmatic documents that envisage a role for the private sector that, however, involves little more than financing sustainable R&I. Indeed, in some of the programmatic and strategic document analysed – most notably the GCCA at global level or the ICARE project at national level – the involvement of the private sector is noted as a broad desire but with few concrete proposals for bringing about or managing this in practice (I-513)

5.1.1 Indicator 511: Evidence that sector strategies are forward-looking in taking current R&I developments into account in areas where knowledge is rapidly accumulating

There are a number of EU strategies within EnvCC that are forward looking with respect to R&I:

The 2003 Communication *Climate Change in the Context of Development Co-operation* (COM(2003) 85) can be considered as a progress report on climate change integration into EC development co-operation policies. Among the strategic priority of climate change adaptation, the EC recognises the need to further research and methodological work on climate change impact and vulnerability assessments. The strategic priority of support to mitigation also considers the need for support research into alternative fuels (bio-fuels, natural gas). Science and technology capacity building in developing countries is also recognised as a strategic priority. The Action Plan annexed to the Communication further develops the research needs (see Box 5).

Box 5 Research consideration in the climate change in the context of development co-operation's Communication Action Plan

Support for adaptation – Research on impacts, vulnerability and adaptation. Actions:

- Research on impact, vulnerability and risk assessment, including sector specific and integrated assessments, with particular emphasis on changes in the range of climatic variation and the frequency and severity of extreme climate events is supported (MS-COM);
- The improvement of tools for integrated assessment, including risk assessment, to investigate interactions between components of natural and human systems and the consequences of different policy decisions is supported (MS-COM);
- Research for the development and assessment of adaptation strategies and measures, estimation of the effectiveness and costs of adaptation options, and identification of differences in opportunities for and obstacles to adaptation in different regions, countries and populations, including methodologies to these ends, is supported (MS-COM);
- The assessment of opportunities to include scientific information on impacts, vulnerability and adaptation in decision-making processes, risk management and sustainable development initiatives is supported (MS-COM);
- Universities and research institutions of partner countries are encouraged to join European research consortia to contribute to monitoring activities, to the understanding of scientific processes and to the development of adaptation strategies (MS-COM).

Support for mitigation – Technology transfer and research. Actions:

- Research for the demonstration of innovative and clean technologies responding to partner countries needs and contributing to mitigation efforts is promoted (MS-COM);

- Research related to the development and an enhanced use of alternative fuels is supported (MS-COM);
- The development of national-regional energy capacity building initiatives is supported (MS-COM);
- Capacity building on environmentally friendly technologies and goods is supported (MS-COM);
- The flow of information on technical parameters, economic and environmental aspects of environmentally sound technologies between the different stakeholders to enhance the development and transfer of environmentally sound technologies is facilitated (MS-COM NGOs);
- The identification of barriers to technology transfer and measures to address these barriers through sectoral analyses is supported (MS-COM Partner countries);
- Negotiate with partner countries in the context of the Doha Development Agenda and regional trade agreements the reduction/elimination of tariff and non-tariff barriers to environmental goods and services (MS-COM Partner countries);
- A systematic screening of results of EU research and technology development, with particular emphasis on EU-developing countries joint research activities, with a view to, where feasible, disseminating them and testing pilot technologies, methodologies and concepts in non-Annex I countries is supported (MS-COM-Partner countries);
- Universities and research institutions of partner countries are encouraged to join European research consortia to contribute to monitoring activities, to the understanding of scientific processes and to the development of mitigation strategies (MS-COM-partner countries).

The Communication, *Halting the loss of biodiversity by 2010 and beyond: Sustaining ecosystem services for human well-being* (COM(2006) 216) has the objective of anticipating and prevent significant reduction in or loss of global biodiversity and to tackle its root causes. It is clustered into four policy areas, one of which – the knowledge base – is directly concerned with R&I. This recognises key knowledge gaps identified by the European Platform for Biodiversity Research Strategy, and proposes that FP7 addresses these gaps via co-operation, new research infrastructures, strengthening of science–policy interface and capacity building.

More specifically, at international level the Communication calls for the EU to identify and support ways and means to strengthen independent scientific advice to global policy making, inter alia by actively contributing to CBD consideration of the 2007 evaluation of the MA, and ongoing consultations on the need for improved International Mechanisms on Scientific Expertise on Biodiversity.

The Communication, *Winning the Battle against Global Climate Change, the Innovation challenge* (COM(2005) 35) foresaw a need to introduce technological change in all economic sectors and to develop research to predict climate change impacts at regional level. The Communication called for international negotiations to link climate change issues with development policy, research, development, deployment and diffusion of new technologies, and recommended increased co-operation with third countries on scientific R&D on low greenhouse gas technologies in the field of energy, transport, industry and agriculture.

The 2005 Communication *on the review of the Sustainable Development Strategy* – A platform for action, structured along six core areas, among which i) climate change and clean energy and ii) management of natural resources, mention the need to invest in research and technology to find new cost effective and resource efficient ways of production and consumption. By harnessing new technologies – IT and communication tools, alternative energy generation, low environmental impact products and processes, new fuels and transport technologies – Europe can make a breakthrough in resource efficiency which has the potential to drive growth along a sustainable path (COM(2005) 658).

Within this context the 2006 Communication on the *Thematic Programme for Environment and sustainable management of Natural Resources, including Energy* (ENRTP)[24] proposed a new approach to the environmental dimension of development and other external policies and proposed promoting the EU's environmental, climate and energy policies abroad. The Communication stresses the importance of seeing environmental issues in a global context requiring concern for, and active engagement, in the sustainable development of the rest of the planet. The Communication recognises that in order for the ENRTP to be successful, it will need to rely on a good scientific knowledge base, building of capacity to apply new knowledge and promote innovation, and the involvement of scientists and institutions from partner countries, in particular developing countries.

Two ENRTP Strategic papers (2007-2010 and 2011-2013) operationalised the Communication. The first ENRTP Strategic paper recognised the value of the EC Research Framework Programmes in promoting international scientific co-operation on environmental dimensions, terrestrial and aquatic ecosystems and related policy challenges. ENRTP's intention is to achieve consistency at project im-

[24] COM(2006) 20 final: Communication from the Commission to the Council and the European Parliament – External Action – Thematic programme for environment and sustainable management of natural resources including energy.

plementation level taking into account, whenever possible, results from international research collaboration.

The first paper also referred to the importance of research co-operation with third countries, in the framework of the EU framework Programmes for Research, for capacity building and awareness-raising (ENRTP Strategic papers 2007-2010). Areas to be covered by the research co-operation include: environmental monitoring and technologies, renewable energies and their resource mapping and sustainable transport. In the area of forests, "Research results utilised for policy dialogues and practical implementation" is included as a performance indicator.

The Communication *Limiting Global Climate Change to 2 degrees Celsius: the way ahead for 2020 and beyond* includes an international action chapter (COM(2007) 2). The chapter on developing countries does not refer to R&I but the last part of the chapter does recognise the need for further international research and technology co-operation. It envisages for instance setting up large-scale technology demonstration projects in key developing countries, in particular on carbon capture and storage. International research co-operation should also assist the quantification of regional and local impacts of climate change as well as the development of appropriate adaptation and mitigation strategies.

In 2009 the Communication *Towards a comprehensive climate change agreement in Copenhagen* reaffirms the EU willingness to support developing countries to reduce greenhouse emissions by 15-30% by 2020 and to adapt to climate change while stimulating innovation, economic growth and lead to long-term sustainable development (COM(2009) 39). It foresees financing global research, technology development and demonstration in low-carbon development and adaptation technologies in all economic sectors and activities.

5.1.2 Indicator 512: Existence of clear sector strategies on how national, regional and global opportunities for, and barriers to sustainable innovation (diffusion) for development will be addressed

The sector strategies considered under the previous indicator do not consider explicitly how national, regional and global opportunities for, and barriers to, sustainable innovation (diffusion) for development will be addressed.

However, the Regional Indicative Programme for Asia (2007 – 2010), section 4.2.1 on 'Environment, Energy and Climate Change' explicitly underpins the importance to "…. promote 'green growth' in the region by financing projects that encourage SCP in Asian industries (including the service sector)". The Regional Environmental Profile for Asia recommends promotion of SCP as one of the key pathways towards reducing environmental impacts.

The SWITCH programme with its focus on SMEs contributes to poverty alleviation by improving living conditions of poor households, reducing pollution from industry and by increasing employment in sustainable production. Adoption and diffusion of innovation is key to this. The SWITCH Asia programme builds on the Asia Pro Eco Programme which showed that "A type of project which is repeatedly successful is one where experienced European engineers work directly with industry to achieve a win-win situation in terms of the environment / resource usage and corporate profitability." (*D-19803* Action Fiche p. 3). Thus innovation is perceived within SWITCH Asia as a means to achieve development goals including policy alleviation.

Diffusion of innovation is achieved via a number of means within SWITCH Asia.

Grant projects which form the main part of the SWITCH Asia budget aim to support SMEs in adopting clean and sustainable production technologies, where possible utilising indigenous or locally produced technology (*D-19803* Action Fiche revised, p. 6). In addition to technologies this includes adoption of management practices, certification processes and audit methodologies that support them. SWITCH-Asia projects also aim at developing the tools and processes for creating functioning markets for these technologies and their applications.

In addition, SWITCH-Asia grant projects endeavour to create the organisational ecologies that can nurture and foster sustainable technological innovation: the project consortia themselves are networks between HEIs, ROs, enterprises, intermediaries (i. e. associations) and policy-makers in both Asia and Europe; and institution-building and networking is a direct part of project activities.

Moreover, a SWITCH Asia Network Facility was created with the task of further spreading and scaling up successful pilots tested under grant projects, to new companies, regions and countries within the region.

5.1.3 Indicator 513: Evidence at the sector level that the role of the private sector in the production and uptake of R&I results is adequately taken into account in R&I support

Strategy level:

Within the Adaptation Challenge of the Communication *Winning the Battle against Global Climate Change*, the need to further research on the impacts' prediction is considered key for local and regional public and private sector actors to develop cost-effective adaptation options.

The private sector is mentioned in the ENRTP 2006 Communication in the framework of the need to look for innovative and flexible funding mechanisms to promote the transfer of environmentally sound technologies. Here, the use of Official Development Assistance (ODA) as levers to attract private investments, via public-private partnerships, is considered of interest. The consideration of the private sector as implementing partner, and the principle of consultation with the private sector on new developments and trends and during multi-annual programming, is also to be added. As mentioned under I-511, the fifth ENRTP priority on promoting options for renewable energy considers the creation of a legislative and administrative framework propitious for investment and business and encouragement for regional co-operation between Governments, NGOs and the private sector, and preparing the way for regional interconnection infrastructure that can produce economies of scale. This same rationale applies to the ENRTP Strategic Papers. These normative documents do not have any specific reference of the private sector's involvement in the production and uptake of R&I results.

The same applies to the Communication *International climate policy post-Copenhagen: Acting now to reinvigorate global action on climate change* and the Communication *Towards a comprehensive climate change agreement in Copenhagen* that only consider the private sector's involvement in relation to financing.

Programme level:

The Global Climate Change Alliance – Ethiopia (GCCA-E) has as one of its expected results the development of the requisite knowledge base so that stakeholders at all levels can build resilience to climate change (TAP). Activities here are targeted at providing the (…) necessary skills and knowledge, systems and resources (material, financial and human) to enable EPA and other stakeholders (regional institutions, NSA and private companies) to effectively and efficiently fulfil their roles and mandates within a climate change resilience development approach. The Cambodia Global Climate Change Alliance is also expected to build and enhance the capacities of Cambodian policy actors, including actors from the citizen and private sectors, to themselves build GCC policy capacities (*PS-136161)*.

The Switch Asia Grant component, which forms the largest part of the programme, is even more relevant to this indicator. The grant component supports partnerships in concrete local SCP projects often with a focus on SMEs. The broad aim of the grant projects component is to introduce SCP practices and technologies via pilot projects, and subsequently scale these up from demonstration to replication. This latter is also the aim of the SWITCH Asia Network Facility. The requirement for inclusion of a European partner in each demonstration project secures flows of for example energy and resource efficient technology and practices from Europe. However, projects should also take account of local needs, policy frameworks and production and consumption conditions and other evaluations have shown that some projects have risked not taking these conditions fully into account.

The private sector, and in particular SMEs, are key partners in the majority of SWITCH Asia grant projects. Of key interest with relation to this indicator are a number of 'multiplier effect' projects where grants are provided to teams to assist SMEs in developing and adopting greener business models, cleaner technology, resource and energy efficient technology and practice and so on. These projects have the potential to assist a large number of companies in making significant and long-term changes in their activities.

Examples of such multiplier projects are MEET-BIS Vietnam, SPIN-VCL and the Sustainable Rattan project. MEET-BIS Vietnam (Mainstreaming Energy Efficiency through Business Innovation Support) (*c-171201*) aimed to build capacity in Vietnamese businesses and small industry networks, to develop sustainable supply chains that reach SME's with innovative technologies and environmental knowledge." (Description) Similarly, SPIN-VCL (Sustainable Product Innovation in Vietnam, Cambodia and Laos) (*c-202550*) aims to introduce Sustainable Product Innovation (SPI) approaches to 500 SMEs in the targeted countries by creating a network of experts and organisations. Significantly, this project envisages the implementation of a SPI training and research programme between HEIs in Europe and Asia (Description). Sustainable Rattan (Establishing a Sustainable Production System for Rattan Products in Cambodia, Laos, Vietnam) sought to enrol 40% of SMEs in the rattan supply chain into SPPs. A key element of the project's strategy was to create business linkages along the (cleaner) supply chain.

Country visits identified some success in these types of projects. However, they also identified issues with long-term continuation of the transformations. Adoption of new practices and technologies were most likely to occur where this led to significant cost reductions for the adopting business. The Rattan project provided a key example of this, where reducing chemical consumption in bleaching processes also reduced costs for the rattan production businesses (Vietnam CN). This was undermined in some cases by low energy and material prices.

Even where significant cost reductions go hand on hand with cleaner production and resource efficiency, businesses need access to affordable financing to make the appropriate investments. A SWITCH-Asia report from 2013[25] identified different needs for financing at different stages of development: working capital in the short term for example, to purchase environmentally friendly raw material, financing for investing in eco-efficient equipment and clean technologies in the medium term, and financing for scaling-up the green business model to other regions and sectors in the longer term.

The report found that, at least in Asia, the necessary financing solutions are available for SMEs no matter what stage of maturity. However, they found a large number of barriers to SME's finding and accessing these well-matched funding opportunities. The SWITCH Asia network facility aims to break down these barriers.

Teams implementing multiplier type projects also identified their three to four year timescale as too short to ensure long-term transformation. While technology adoption is fairly straightforward, business model transformations aimed at by the SPIN-VCL and MEET-BIS projects require longer-term support than they were able to provide (Vietnam CN). This issue was not limited to SWITCH Asia projects but was also identified as a problem under other DEVCO R&I related programmes (Peru CN and Kenya CN).

Many other DEVCO R&I programmes also consider the role of the private sector in adoption of new technologies. However, the connection is often less hands-on than under SWITCH Asia and the engagement of the private sector is less direct, focussing on the private sector as a source of investment or loosely aiming to raise awareness within business of opportunities for resource efficiency.

For example, the *Promotion of a sustained clean coal technologies (CCT) capacity in India* includes as one of its expected results the improved private and foreign participation and investment in CCT development. Industrial associations are identified as key stakeholders and it was expected to establish collaborations between them. However, it appears that no activities have taken place in this area (*MR-146255.01*). The establishment of a forestry research network under the ACP identifies the private sector as a source of money for establishing these networks but no more than that. Another example is the South Africa-Europe Co-operation on Carbon Capture and Storage (SAfECCS) which aims at enhancing knowledge and understanding of CCS in the South African scientific and industrial sector,[26]

The programme *Demonstration, dissemination and deployment of CCT and CCS in Ukraine* mainly aims at analysing, reviewing and preparing scientific and technical recommendations and conduct workshops on CCT and CCS. The private sector is only mentioned under the Risk management strategy of the programme, in relation to the risk of not having the private sector (and the Government of Ukraine GoUA) funding the CCS and CCT research and development.

The *Developing a Cluster for Clean Coal Technologies and Carbon Capture and Storage Technologies for the Indian Thermal Power Sector* programme is more ambitious with respect to engagement of the private sector. It implements a cluster approach to increase private sector capacity and promote innovative clean tech dedicated start-ups engaged in CCS and CCT (*c-243963*). However, it was not possible to assess the success of this project during the Indian country visit (India CN).

The *Low-Carbon Opportunities for Industrial Regions of Ukraine* aims to promote and help the actual implementation of Climate Change Initiative (CCI) and Carbon Capture and Storage (CCS) activities and to initiate co-operation between Ukraine and the European community. It includes a component of knowledge sharing that covers training sessions to decision makers and industrialists on CCT and CCS technologies. The private sector is also considered in the design of the Regional Triple Helix of the SCIENCE PARK "High Technologies of Donbass"[27], where SMEs, start-up or spin-off companies are identified as target organisations for inclusion in the park (Description of the Action). Finally, the *EU-China Institute for Clean and Renewable Energy (ICARE)* programme focuses on capacity building in industry. It aims at producing qualified candidates to fill the gap between the growing industry demand for specialised clean and/or renewable energy experts, and the skills currently available on the job market and to promote knowledge on clean and renewable energy. Among the activities, a voca-

[25] http://archive.switch-asia.eu/switch-asia-learn/scaling-up-scp-via-enabling-access-to-finance.html
[26] Logical framework
[27] The scientific park created in region on the basis of several national universities and research institutes of an academy of sciences.

tional training centre for energy professionals is considered. The programme expects the energy professionals to diffuse their updated knowledge and promote EE (Energy Efficiency) and RE (Resource efficiency) in their working environments (*MR-143743.02)*. However, it has not been possible to verify whether this has been a success.

5.2 JC 52: Extent of internal lessons learning, sharing and uptake in the EU Institutions within the sectors supported in partner countries, and at international level

Summary judgement

It has been difficult to find specific examples of where lessons learnt from R&I have been communicated between DEVCO and RTD. In general, communication between RTD and DEVCO within the EnvCC sector seems to be somewhat limited both at HQ level and also at operational level within third countries, although some examples are found of closer co-operation These good examples seem to be a result of ad hoc approaches by and between single officers, in the absence of any guidelines or formal structure for these communications. At the same time, for some officials an informal approach works well and structuring it can risk produce a rather mechanistic and time-consuming approach to communication between the DGs (I-521).

One good case of collaboration between the two DGs is at the regional level with READI (Regional Asia Dialogue instrument) with the development of a regional tool, managed by the ASEAN secretariat in Djakarta, and funded by DEVCO which included studies on green economy activities for use in capacity building in to advise ASEAN countries.

Country visits found scant evidence of co-operation between RTD and DEVCO at operational level within countries. RTD for the most part has not been directly involved in the R&I elements of DEVCO projects coordinated by EUDs. Similarly RTD communication channels with ministries responsible for R&I often bypassed the EUD who has responsibility for coordinating most DEVCO programmes and projects. In countries where there is an R&I counsellor (RTD) in the EUD, the co-operation and co-ordination seems to work better (I-521).

Little concrete evidence was found of R&I results having been communicated directly to DEVCO sectoral officials, though this is not to say that this does not happen. This is most likely to occur for DEVCO funded projects and less likely for RTD-funded projects (I-522).

5.2.1 Indicator 521: R&I lessons learnt in co-operation communicated between DEVCO and RTD

It has been difficult to find specific examples of where lessons learnt from R&I have been communicated between DEVCO and RTD. The best indicator of whether this is happening is perhaps evidence of more general communication between DEVCO and RTD, both at HQ level and also at the level of implementation (see also I-411 and I-422). In general, communication between RTD and DEVCO within the EnvCC sector seems to be somewhat limited. The Belmont Forum and the IGFA[28] potentially provide global forums for high-level co-ordination between R&I relevant agencies with respect to EnvCC. However, only RTD appears to be represented on this; DEVCO is not a member. Nor was DEVCO closely involved in EnvCC programming under FP7 according to one interviewee. In individual cases there has been evidence of close co-operation however: for example in the EU Water Initiative and in the research component of the Mediterranean Platform aiming to reduce pollution.

One RTD interviewee felt there had been regular attempts to encourage better collaboration between the two DGs over the past 20 years but there was little progress. While the willingness is there, in practice it is very difficult to fix complementarity in action. Another felt the dialogue with DEVCO was difficult because it was not structured, though clearly for some officials an informal approach worked well and structuring it more could produce a rather mechanistic and time consuming approach.

In Asia, the only good case of collaboration between the two DGs seems to have been at the regional level with READI (Regional Asia Dialogue instrument). This is a EUR 15 million fund for the FP7 period for a regional tool, managed by the ASEAN secretariat in Djakarta, and funded by DEVCO which included studies on green economy activities for use in capacity building in to advise ASEAN countries.

[28] The Belmont Forum is a group of high-level representatives from agencies and organisations that have, as a major portion of their responsibilities, funding global environmental change research. The Belmont Forum administers the IGFA who meet every two years to discuss coordination and collaboration in global environmental change research, track progress, and discuss funding.

Country visits found scant evidence of co-operation between RTD and DEVCO at operational level within countries. For example, in India, Vietnam, Ethiopia, Peru and Kenya, RTD has not been directly involved in the R&I elements of DEVCO projects coordinated by EUD (Country Notes). Similarly in all EnvCC relevant countries visited, RTD communication channels with ministries responsible for R&I largely bypassed the respective EUD who has responsibility for coordinating most DEVCO programmes and projects. The EUD are invited to events and meetings between the RTD channels and ministries, but bilateral meetings between EUD and RTD representatives are infrequent. The survey of EUDs identified only a few examples of co-ordination activities between DEVCO and RTD.

In countries where there is an R&I counsellor (RTD) in the EUD, the co-operation and co-ordination seems to work better. In South Africa there was evidence of strong co-operation due to the regional coordinator in (South Africa CN). Moreover, according to the EUD in Peru there has been improvement in other DGs than DEVCO engaging the EUD in implementation as observers or otherwise (Peru CN).

5.2.2 Indicator 522: Evidence that major R&I results (from EU funded programmes) are communicated to DEVCO sectoral officials

Little concrete evidence was found of R&I results having been communicated directly to DEVCO sectoral officials, though this is not to say that this does not happen. This is most likely to occur for DEVCO funded projects and less likely for RTD-funded projects. Certainly the only concrete example found is of the former type: DEVCO staff have participated at regional meetings organised by the SWITCH Asia Network Facility (e. g. with six representatives in the 2009 meeting[29]).

5.3 JC 53: Extent of external lessons learning, sharing and uptake within the sectors supported in partner countries, and at international level

Summary judgement

While there is little direct evidence that points to external lesson learning, programmes and projects have included significant networking activities and increased opportunities for researchers in partner countries to participate in international networks. There is less evidence on the extent to which the lessons learnt from R&I interventions are transported back into the policy process in the form of policy dialogue.

Two different types of external networking activities have been initiated by DEVCO R&I interventions in EnvCC. The first of these are external networking activities ranging from institutionalised networking approaches (for example the Network Facility of the SWITCH Asia programme and the CGIAR centres) to ad hoc but nonetheless frequent networking events. Secondly, programme documentation suggests that DEVCO staff participated in environmental international fora relevant to R&I.

While networking *within* programmes is fairly widespread, no direct evidence was found of networking events or activities which led to exchanges between DEVCO programmes or even more broadly, which allowed exchanges between RTD and DEVCO. Neither was any concrete evidence found of lessons having been taken up as a result of networking activities, though this does not mean that this has not occurred (I-531).

Researchers and other relevant stakeholders from partner countries have been involved in international research networks in the field of EnvCC. In Latin America, in Asia, as well as in the ACP countries, projects and programmes enabled post-graduate students, post-doctoral researchers as well as members of faculty the participation in relevant international research networks. Despite organisational and financial barriers – for example faculty exchanges in the framework of the ICARE project were perceived as being too short to be effective – the R&I projects and programmes have proved to be effective gateways into international research networks and communities (I-532).

There are few explicit indications that sector policy dialogues in the EnvCC sector include participation of researchers, innovation practitioners and entrepreneurs. That said, policy dialogue is an explicit element of the SWITCH Asia programme both in terms of the so-called Policy Support Component (PSC) as well as at grant-maintained project level (I-533).

[29] http://archive.switch-asia.eu/de/switch-asia-info/news-and-events/switch-asia-networking-events/first-switch-asia-networking-event.html

5.3.1 Indicator 531: Evidence of DEVCO external networking activities aiming at promoting the uptake of results for development

DEVCO supported a number of networking activities. I-531 deals with those that aim to promote the use and uptake of existing R&I results (rather than generating new research results, which fall under I-532 below). DEVCO supported these events in two different forms: (i) network activities with external stakeholders within DEVCO-funded projects, and (ii) participation of DEVCO staff in international fora.

An example of network activities in category (i) can be found in the project "Developing a Cluster for Clean Coal Technologies and Carbon Capture and Storage Technologies for the Indian Thermal Power Sector" (*c-243963*). The cluster is composed of 14 different members from different sectors (academic, power plant industry, research institutes). A monitoring report notes that cluster "has developed an [external] network with 44 international organisations/experts for sharing interests and information" and that the main cluster forces, the Tiruchirappalli Regional Engineering College Science & Technology Entrepreneurs Park (TREC-STEP) and Bharat Heavy Electricals Limited (BHEL), "have initiated collaboration with other institutions (National Institute of Technology, North Carolina University, etc.)" (*MR-146241.01*, p. 4). In addition, thematic events such as the 'Clean Coal and Carbon Capture and Storage Technologies' conference on 2-3 December 2013 – organised by TREC-STEP with more than 300 participants including senior professionals from the power sector industry[30] – disseminate innovation for the development objective of "reducing the environmental impact of coal based energy generation in coal fired power plant" (*PS-146241.01*, p. 1) more specifically.

Regular network activities – in form of Annual Networks Meetings – also constitute a major component of the SWITCH Asia Network Facility (*c-165314*) for sustainable consumption and production (SCP). The facility involves mainly project stakeholders (private sector, research institutes, development partners), but also manages the communication with external stakeholders. The Network Facility aims to "help effectively share knowledge, disseminate and promote replication of successful project practices, facilitate networking between Asian and European stakeholders"[31]. In addition, it also has a "research function bringing information from projects to different levels – conferences, policy makers or the European Commission"[32]. DEVCO staff has also directly participated in these meetings (e. g. with six representatives in the 2009 meeting[33]). Some of those engaged in SWITCH Asia projects indicated that they made active use of the Network Facility's online forums and regular workshop events to disseminate results from their own projects – both to other R&I specialists but also government officials -, and to learn of interesting results from other SWITCH projects carried out across the region. The workshops were found to be a particularly useful forum for these activities. Considerable effort is put into publications and communications materials. Individual projects also make an effort to share their results among their implementing partners and other wider potentially interested audiences (India and Vietnam CNs). Others noted that they did not tend to invest time in using the Network Facility's networking opportunities and found language and distance to events as barriers (Vietnam CN).

The CGIAR network of centres also places emphasis on lesson learning between the various projects supported by these centres (Kenya CN). No direct evidence could be found, however, of lessons having been taken up as a result of intra-programme networking activities.

DEVCO staff have also participated and exchanged information in international fora. During the 'Rio 20+' United Nations Conference on Sustainable Development held in Rio de Janeiro, Brazil, on 20-22 June, 2012, for example, experts of DEVCO co-chaired a presentation of the ENRTP Strategic Cooperation (incl. showcases financed) and Eco innovation, discussing the "contribution to Green Economy, sustainable development and poverty eradication", thus directly promoting the uptake of ecological innovation for development results.

5.3.2 Indicator 532: Evidence of active, DEVCO supported, partner country stakeholder involvement in international research networks

There is clear evidence that partner country researchers and other stakeholders were actively involved in newly created or existing international research networks in the EnvCC sector.

In Latin America, for example, researchers from the University of Antioquia in Colombia participated in international academic networks under *c-111796* '*Tecnologías sostenibles para la potabilización y el tratamiento de aguas residuales* (TECSPAR)'. Little documentation is available on this project in

[30] http://www.carboncap-cleantech.com/documentation.html
[31] http://www.switch-asia.eu/network-facility
[32] http://archive.switch-asia.eu/de/switch-asia-info/news-and-events/switch-asia-networking-events/4th-networking-event-bangkok/welcome-to-new-switch-asia-projects.html
[33] http://archive.switch-asia.eu/de/switch-asia-info/news-and-events/switch-asia-networking-events/first-switch-asia-networking-event.html

CRIS, but a self-evaluation of the project by the University of Antioquia refers to various co-ordination meetings and workshops between Latin American and European researchers in the period 2006-08[34].

In Asia, the China-EU Institute for Clean and Renewable Energy (ICARE) created under *D-20141* has initiated research collaboration between seven HEIs and research organisations from Europe and three HEIs from China (the host institution Huazhong University of Science and Technology in Wuhan; the Wuhan University of Technology and the South-East University in Nankin). The grant runs from 07/2010 to 06/2015. One expected result is "Long term collaboration […] created between EU and Chinese universities, training organisations, research centres and industries in the field of energy efficiency and renewable energy" (*PS-143743.01*, p. 1). The collaboration has not been limited to networking activities, but actually established joint research groups. Under the Research Collaborative Platform[35], it is envisaged to publish sixteen books and fourteen publications from EU-Chinese research teams including joint publications in international scientific journals. The available project documentation reveals that progress has been slower than planned, with most research and network activities gradually starting in 2012. Nevertheless, the Interim Report from September 2013 already shows that faculty members of the Chinese partner HEIs have participated in research networks in a number of different ways:

- Creation of four joint research groups between Chinese professors and EU experts related to wind energy, biomass thermal utilization, solar photovoltaics and solar thermal technology;
- Two publications, one article and one conference paper based on joint research work;
- Application for funding of seven international collaboration projects;
- Three PhD students' supervisors travelled to Europe (to ParisTech).

However, the report also points at some obstacles of actively involving Chinese researchers into the network, namely the rather short duration of visits from European professors to make adequate ties with their Chinese counterparts, as well as financial difficulties in paying the Chinese professors at ICARE. In addition to researchers, there is also evidence for active involvement of other stakeholders in the ICARE projects, such as "continuous policy support from the Chinese government" (*MR 143742.02*, p. 3).

In other interventions, involvement of broader groups of stakeholders is also evident in wider research networks that extend to the dissemination and innovation stages, such as in SWITCH Asia. The intervention has a double function in international networking. Besides promoting the uptake of research results through its Network Facility (I-531), grant projects which form the main part of the SWITCH Asia budget are implemented by project consortia which necessarily comprise both Asian and European members, typically bringing together HEIs or research organisations on one hand and private firms, associations and policy-makers on the other. These networks cover a wide spectrum of R&I activities from academic research and its promotion to business innovation. One example is the "Sustainable Product Innovation [SPI] in Vietnam, Cambodia and Laos (SPIN-VCL)" (*c-202550*). While the main contractor, the Technical University of Delft (TUD) in the Netherlands, served as the project centre for research in SCP, networks were created through academic exchanges of PhD researchers between TUD and a HEIs in Vietnam for joint projects (see various Interim Reports) who "gained concrete experience in SPI research and implementation" (action description, p. 20). Within the project consortium, further partner country stakeholders – e. g. national innovation centres – were linked with TUD researchers at a more indirect level, e. g. by adopting research results for business innovation.

Under the Environmentally and Socially Responsible Tourism Capacity Development Programme (ESRT) in Vietnam, funding was found to educate staff at the Vietnamese Institute for Tourism Development Research in European HEIs in international MSc courses (Vietnam CN). The alumni of these courses proved to be highly useful for subsequent exchanges of information. A Vietnamese alumni of post doc/PhD with education in European HEI, which is linked to European alumni provides a further forum for exchange (Vietnam CN). Similar alumni networks may exist in other beneficiary countries.

In the ACP region, one objective of *D-18495* "Establishment of a Forestry Research Network (FORENET) for ACP Countries" and the grant contract *c-196559* was to "facilitate links between ACP forest research organisations" (financing agreement, p. 6). Activities also aimed to "facilitate north-south collaboration between research institutions enabling regional researchers to benefit from scientific mentoring" (progress reports, Activity 3.3). Various progress reports show that researchers from beneficiary countries participated in ACP inter-regional and North-South research visits, workshops, etc., even though they are silent on whether these contacts actually led to joint research projects. The

[34] http://avido.udea.edu.co/autoevaluacion/documentos/internacional/13_QUE_ES_LA_RED_TECSPAR.pdf
[35] http://www.ce-icare.eu/en/article/33/33-en-objectives

final evaluation concludes that participation of academic stakeholders was not always as active as initially envisaged.

For Indonesia, the evaluators note "that the exchange visit to Central Africa to learn about their above-ground carbon biomass assessment technique […] clearly contributed not only to capacity building but also to fostering inter-regional communication." On the other hand, it was noted that this was "the only activity that really brought the three regions together […] the other project activities could just as easily been conducted in absence of networking with other regions" (FORENET final evaluation, mission brief Nov 2013, p. 4) It also points out that the key people of the inter-regional research networks often had other professional commitment that interfered with actively animating the networks.

5.3.3 Indicator 533: Sector policy dialogues include national researchers, innovation practitioners and entrepreneurs

Little information was found concerning whether researchers and innovation practitioners have been participated in EnvCC policy dialogues between EU and partner countries/regions. Policy dialogues in EnvCC potentially take place: (i) within broader (e. g. S&T) bilateral or regional agreements, (ii) in the context of Sector Policy Support and Sector Budget Support Programmes or (iii) as thematic dialogues within specific EnvCC programmes supported by DEVCO.

The minutes of dialogues under are (i) usually not centrally available in CRIS, and there are virtually no EnvCC-specific SPS/SBS programmes in the sample countries. Evidence presented here hence focuses on dialogues of type (iii), especially from Asia.

Policy dialogue is explicitly mentioned as one programme component of SWITCH-Asia. This includes regional and sub-regional high-level meetings on SCP and Resource Efficiency, as well as government-industry dialogues[36]. For instance, participants of the Policy-Industry Dialogue held on 6 November 2013 in Bangkok included keynote presentations from the University of Western Sydney, the University of Malaya in Malaysia, the Deputy Minister of Environment of Indonesia, the Chinese Climate Finance Innovation Facility and other R&I and government stakeholders. Policy dialogue with active researcher participation also forms part of individual SWITCH-Asia grant projects, for instance in India with the project *c-263160* 'Sustainable production through market penetration of closed loop technologies in the metal finishing industry (ACIDLOOP)' under the programme window *D-22008*. Three local dialogue events were held in the first year, which were later replaced with one national policy dialogue. This decision was also motivated by the perception that national research institutions (e. g. the Central Electrochemical Research Institute) and "relevant universities and their incubation centres" (2nd interim report, p. 28) would be better involved in policy dialogue through a national event. The three local policy dialogues conducted in the first year involved stakeholders from the metal finishing centres, including HEIs and research organisations, as well as companies and public bodies (e. g. Punjab State Council for Science and Technology), albeit not at ministerial level.

The Europe-China Clean Energy Centre (EC2) (*D-19208*) is a five-year co-operation project that aims to provide expert advice to Chinese policy-makers and key energy industry stakeholders about clean energy options[37]. The EC2 has initiated a series of networking and dialogue events, including high-level policy dialogues such as the recent Stakeholders Consultation Event for the EU-China Energy Co-operation Roadmap 2020[38]. In addition to high-level policy representatives from China, EU and bilateral donors, the dialogue involved researchers from various Chinese and European universities and research centres.

5.4 JC 54: Development processes and outcomes have been built on or used the results of research funded by DEVCO or shared through DEVCO supported research networks

Summary judgement

R&I programmes and projects in the field of EnvCC contributed to development processes via a number of different means. A number of programmes/projects have developed web-based knowledge platforms in regional and global co-ordination of EnvCC challenges for purposes ranging from data storage over knowledge management to technology transfer. However, information on their utilisation by end users and eventual impact is limited and was not added to by country visits (I-541).

[36] http://www.switch-asia.eu/policy-support-components/rpsc/policy-dialogue/
[37] http://www.ec2.org.cn/en/about-us
[38] http://www.ec2.org.cn/sites/default/files/news/Stakeholders%20Event%2031%20Oct%20Programme%20rev.pdf

Evidence of public sector uptake of DEVCO-supported R&I results at sector level is rather thin. That said, the documentation for three SWITCH Asia projects suggests that regional and local governments have adopted environmental standards and testing methods developed as part of the grant-financed projects. In general, the SWITCH Asia programme grant projects do not aim at policy development except at local level. However, examples were found of influence of DEVCO R&I projects on policy and strategy development under other programmes. Such impact requires either involvement of government agencies directly within the project at policymaker level, or a well-designed and well-invested dissemination and follow-up stage towards the end of the project. This is, perhaps surprisingly, not always included in project design (I-542).

There is more evidence of uptake of R&I results by the private sector – in part due to the strong emphasis within the SWITCH Asia programme on applied innovation, in particular among SMEs. Multiplier type projects and the Network Facility have had particular potential in spreading innovations to a wide number of companies. However, the impact of projects has perhaps not been as strong as expected for a number of reasons including lack of knowledge amongst SMEs of financing opportunities and too short time length of projects for encouraging permanent transformations in SMEs. It is not clear how successful the Network Facility has been in scaling up uptake of environmental innovations (I-543).

There is some evidence that efforts were made to ensure the local ownership of innovations that emerged from EU R&I support in EnvCC. The intention to target the poorest and most vulnerable in the respective societies is evident for programme at all levels. Despite some issues and problems, projects and programmes have achieved a reasonable level of local ownership where this has been an explicit feature of their design (I-544).

The evaluated EnvCC programmes and projects have made some contribution to the research capacity of HEI and ROs in partner countries. This contribution has taken place at a number of interrelated levels. Programmes and projects have contributed to capacity development of institutions through supporting collaborative research projects (i. e. FP7). Secondly, the EU has supported capacity building of individuals through funding joint research degrees (e. g. the ICARE project or Asia Link programme), Masters degree curricula in partner countries (e. g. the CCT-CCS programme) and training initiatives (e. g. the establishment of a forestry research network in the ACP). Finally, EU support for R&I has contributed to the development of new research and innovation infrastructures (e. g. the development of a science park in the Donetsk Region) (I-545).

The degree to which R&I is central to achieving the objectives of programmes in the EnvCC differs widely. Three examples of programmes for which research and/or innovation have been central elements are GCCA, SWITCH Asia, *Promotion of a sustained clean coal technologies (CCT) capacity in India* and *Establishment of a forestry research network in the ACP***.** Evaluations of these programmes have found that they have been reasonably successful in achieving their objectives. However, there is less evidence of contributions to achieving MDGs, in part because this has not been the subject of evaluations (I-547).

5.4.1 Indicator 541: Evidence that DEVCO supported knowledge management and communication facilitates the diffusion and uptake of research results for development in partner countries

DEVCO-supported knowledge sharing and communication facilities in EnvCC are often linked to – or embedded into – broader capacity building strategies. The available evidence suggests that web-based knowledge platforms have potentially played an important role in regional and global co-ordination of climate change and environmental challenges, even though information on their actual use is more limited.

The ALFA III project CELA (Climate Change Technology Transfer Centers in Europe and Latin America, *c-254782*) contains a virtual climate technology hub[39], which serves as a knowledge repository and links worldwide know-how in the area of climate change technology. Specific interest is given to theoretical and applied issues of technology transfer. By supporting and providing information about networking events, it actively contributes to the diffusion and uptake of research results in climate change.

The GCCA programme for Ethiopia, 'Building the national capacity and knowledge on climate change resilient actions in Ethiopia' (*D-22456*) aims to set up "an easily accessible database and knowledge management system for CC experience sharing and scaling up good practices" (implementation report June 2012, p. 1). The uptake of good practices potentially contributes to the development objective of resilience to climate change. Programme implementation started in 2012, but neither the October 2013

[39] http://www.climatetechcenter.net

monitoring report (*MR-146758.01*) nor the current website[40] provide any evidence about the implementation status of this database.

The Asia Link project 'Managing the Health and Reproduction of Elephant Populations in Asia' (*c-141055*) implemented a knowledge sharing platform and database of sound breeding practices and genetic management of elephants in Asia[41] managed by the Elephant Research and Education Centre at the Faculty of Veterinary Medicine, Chiang Mai University (CMU). The website was transferred from the initial domain of the CMU, which turned out relatively slow and difficult to access from abroad (final report p. 9). Besides revealing delays in implementation, the monitoring report *MR.110680-01* also questions the value added of the knowledge platform, concluding that it "suffers from a lack of vision and it is possible that the rate of development of general internet applications [Google Apps, Yahoo Groups, blogs, etc.] has outpaced the requirements" (p. 3). To which extent the platform has helped foster the uptake of research results is thus questionable.

The SWITCH-Asia programme as a whole supports knowledge management and communication of results from all the projects funded under the programme. It incorporates a Network Facility that is specifically intended to support this dissemination work (India and Vietnam CNs).

The programme for Biodiversity and Protected Areas Management in the ACP regions (BIOPAMA[42], *D-22121*) forms part of the wider Digital Observatory for Protected Areas (DOPA) and, among other outputs, has created regional web-based platforms to share information and knowledge on protected areas. For example, the Regional BIOPAMA Observatory for the Caribbean is hosted by the Centre for Resource Management & Environmental Studies, a department within the Faculty of Science and Technology of the University of West Indies, Barbados. The platform seeks to "facilitate access to, and exchange of, data and information that is useful to improve decision-making for protected area management" based on "collaboration between ACP stakeholders at the scientific level (universities, regional research centres), and political level (National services, Regional Economic Communities"[43]. This suggests potential integration of relevant research results into development planning. However, since the platform is currently still being developed, little can be said about its actual success yet.

5.4.2 Indicator 542: Evidence of public sector uptake of results of R&I supported by DEVCO being reflected / taken up in sectors relevant to achieving EU development objectives

While uptake of R&I supported by DEVCO through the *private* sector is illustrated by a number of cases (see I-543 below), examples of uptake by the *public* sector were found but seem more rare. In part because the main focus of SWITCH Asia grant projects, one of the largest R&I relevant EnvCC programmes has been on the private sector, and SMEs in particular.

However SWITCH-Asia projects have also led to national and local governments integrating R&I results into policy guidelines or legal frameworks. Three examples are given below:

A key activity of *c-291458* 'Promotion and deployment of energy efficient air conditioners [AC] in ASEAN' is to harmonise test standards for energy efficiency across ASEAN countries. The underlying R&I results essentially consist of testing methods developed by laboratories and backed by research of academic institutions. Both stakeholder groups were members of the Policy Working Group, which drafted the proposal for the harmonised standards. The actual approval of the standards by the Energy Efficiency and Conservation Subsector Network (EE&C SSN, representatives of the ASEAN Ministries of Energy) provides a clear example of R&I results 'uptaken' by the public sector, which is supposed to improve energy efficiency of ACs and ultimately reduce CO2 emissions. Note that in this case, DEVCO support not only contributed to innovation (harmonise test standards based on existing research), but also to the process of public sector uptake itself.

Public sector uptake of R&I also occurs if public partners are included in innovation projects through private sector entrepreneurs, thereby contributing to EnvCC development objectives such as environmental sustainability. The project 'Creating Green Philippines Islands of Sustainability' (*c-223441*) seeks to minimise the environmental impact of SMEs in Metro Manila and the CALABARZON region, e. g. by reducing pollution. In first place it pursues the key strategy of transferring know-how from R&I activities to firms (e. g. through training workshops) and supports them in eventually adopting sustainable production technologies. Second, however, the project has sought partnerships with the public sector, such as the City of Pasig and mayors of other municipalities, to foster (voluntary) participation

[40] http://www.gcca.eu/national-programmes/africa/gcca-ethiopia
[41] http://www.asianelephantresearch.com
[42] http://www.biopama.org
[43] http://www.biopama.org/learn_more/?18589/CERMES-to-host-the-Regional-Observatory-for-Protected-Areas-and-Biodiversity-for-the-Caribbean

of SMEs and institutionalise the innovation as part of their environmental initiatives[44]. *MR-139602.02* considers this an effective strategy for increasing the potential for project replication among SMEs.

In the project *c-203331* 'Zero Carbon Resorts – Building Energy Autonomous Resorts Creating Appropriate Technology Solutions' – which aims to improve energy services in tourism establishments in the Philippines – the project leader organised meetings with the Department of Tourism (resulting in a Memorandum of Understanding), as well as with the Department of Energy and Department of Environment and Natural Resources to identify synergies with their policies and ongoing future actions. Furthermore, district Managers of the Palawan Council for Sustainable Development attended the briefing sessions of the project with the purpose of actively encouraging SMEs in their areas to participate (see 1st progress report), thus integrating innovative energy solutions into their policy initiatives.

Examples were also found of uptake in the public sector for projects/programmes other than SWITCH Asia:

The ESRT sustainable tourism project in Vietnam has led to the Vietnamese government and individual regional governments to place sustainability at the core of tourism strategy instead of acting as an add-on. Sustainable destination development is also beginning to be implemented in Vietnam, a previously unknown concept in Vietnam (Vietnam CN).

Moreover, the agroforestry approach to coffee production developed under the Caficulture Sostenible project in Peru has that makes reforestation projects profitable as well as increasing GHG uptake that national climate change policy has been adjusted to encourage a broader uptake of these principles, and are included in Peru's Nationally Determined Contributions (Peru CN).

Such uptake by policymakers and public sector is made less likely where R&I relevant projects have not included a strong follow-up and dissemination stage, or this task has been given to others. For example, under the KASAL project in Kenya, policy recommendations and land management guidelines were developed for sensitive and productive agriculture in ecologically fragile regions. However, the Ministry of Agriculture who has responsibility for follow-up activities have failed to take these further through the system or communicate them to relevant stakeholders (Kenya CN).

5.4.3 Indicator 543: Evidence of private sector uptake of results of R&I supported by DEVCO

The SWITCH Asia grant project component comprises the central pillar of the SWITCH programme: it represents EUR 130 million of the total EUR 148.5 million of the SWITCH Asia budget (ROM Report 2014 – SWITCH-Asia projects). The central principle of the component is to encourage uptake of SCP practices and technologies amongst the local partners who have been directly involved in the projects with focus on SMEs and other private businesses. So far SWITCH Asia has funded or is in the process of funding over 80 grant projects in 15 Asian countries in areas such as greening supply chains, marketing for eco-products, green public procurement, cleaner production, eco-labelling and products for the poor. A total of EUR 130 million had been spent and 86 projects contracted by the end of 2013.

Multiplier-type grant projects whose aim is to assist large numbers of SMEs and other businesses in adopting resource efficient and energy efficient and other SCP technologies and practices, have particular potential for encouraging widespread take-up of applied innovations. The Network Facility (commencing in 2009 with a first phase budget of EUR 3.5 million) has a further key role in taking these innovations applied at grant project level out to an even wider group of SMEs (and other stakeholders) that were not involved directly or assisted by any grant project.

Unfortunately, the ROM report for the SWITCH Asia programme does not include a detailed assessment of the effects of either component on the level of awareness on opportunities or challenges within SCP. The report does note that one of the outcomes of many of the grant projects is a raised awareness mainly at the local level, amongst beneficiaries (SMEs, consumers) and local government, business associations and consumer organisations etc. It also noted a wider raised awareness among relevant stakeholders who were not included in projects, via the SCP networks and platforms that were established by most grant projects as a supporting role towards replication (ROM Report 2014 – SWITCH-Asia projects). The ROM report finds that "two-thirds of the grant projects are expected to achieve their target in terms of small and medium enterprises (SMEs) applying SCP practices" (RSA 2013, Vol.1, p. 39). The generally positive results of SWITCH Asia project in encouraging uptake of SCP by business was backed up by country visits (Vietnam CN, India CN).

However, the ROM also noted that even in projects evaluated as effective, the number of SMEs engaged and fully applying SCP practices has typically been lower than targeted. In these cases the potential has clearly been demonstrated, but there are challenges to overcome. According to the ROM these include:

[44] http://www.switchasia.eu/fileadmin/user_upload/Switch_Asia_Impact_Sheet _-_GPIoS_-_Screen.pdf

- Energy and water are subsidised in many countries, making resource efficiency less economically attractive;
- Other factors, mostly market conditions (prices, demand and competitiveness) can dominate the companies' choice of production technologies;
- Lack of national standards and other regulations which support SCP practices. An advocacy component can be key to a project achieving success when there is a policy component that will contribute to the sustainability of the project results;
- Passing the message to the decision-makers in a company can be problematic particularly where the project is of a highly technical nature.

Also even where significant cost reductions go hand-in-hand with cleaner production and resource efficiency, businesses need access to affordable financing to make the appropriate investments. As already identified under I-513 the necessary financing solutions are available for SMEs but they have problems with finding and accessing well-matched funding opportunities. The SWITCH Asia network facility aims to break down these barriers.

As also noted under I-513, teams implementing multiplier type projects identified the three to four year timescale as too short to ensure long-term transformation. While technology adoption is fairly straightforward, business model transformations aimed at by the SPIN-VCL and MEET-BIS projects require longer-term support than they were able to provide (Vietnam CN). This issue was not limited to SWITCH Asia projects but was also identified as a problem under other DEVCO R&I related programmes (Peru CN and Kenya CN).

With respect to potential for scaling up, the SWITCH-Asia Network Facility[45] has recently completed guidelines on scaling-up which includes a review study on the strategies and approaches that projects already have utilised. According to the guidelines in the SWITCH-Asia programme, horizontal scaling-up (i. e. spreading to more producers and more consumers in widening geographical areas) takes place at the micro level by, for example, targeting SME practices in a specific region or sector. Vertical scaling-up (moving up the ladder from small local organisations to regional and national organisations) links to the macro level addressing, for example, national level policy-making or targeting of finance institutions' procedures.

Horizontal scaling-up is assisted where business membership or consumer organisations are included as partners in a grant project, as is the case in a large number of projects. However, many other conditions are needed which are outlined in the guidelines. Vertical scaling-up efforts requiring direct coordination with national policymakers or financial institutions have been rare in SWITCH-Asia grant projects but are being conducted by projects in the Policy Support Component and by the Network Facility respectively[46]. Other Network Facility studies found that grant projects do not yet seize all opportunities and more efforts are needed to explore them fully.

On the smaller scale, examples were found in country visits of companies which have spun off from R&I institutions involved in SWITCH grant projects to engage in applied SCP approaches that had been developed under the project. This was particularly the case for a Vietnamese organisation whose leader actively encouraged his team to engage in such spin-off private businesses. This was, however, viewed as an untypical attitude amongst academic leaders at least in Vietnam (Vietnam CN). Perhaps such approaches could be encouraged in DEVCO projects. The SWITCH-Asia funded ACIDLOOP project in India works directly with SMEs on the uptake of new cleaner technology to improve the resource efficiency of the metal finishing sector in various cities in India. It is expected this may also lead to some new spin-offs (India CN).

A further SWITCH project was found – capacity building in corporate social responsibility (CSR) – where innovative approaches to coaching companies in developing CSR-policy and action developed during the project are now being disseminated to trainers and businesses in Europe (Vietnam CN). This feedback of innovation from the beneficiary region back to Europe is considered quite unique and was not found in other projects.

Looking beyond SWITCH Asia, there is also evidence of uptake of R&I results in the private sector from other DEVCO programmes/projects.

For example, the programme developing a Cluster for Clean Coal Technologies and Carbon Capture and Storage Technologies for the Indian Thermal Power Sector engaged in incubating new start-up ventures in these areas[47]. The MR found two clean technologies incubators funded and commercial-

[45] http://www.switch-asia.eu/publications/framing-of-scaling-up-scp-practices-in-the-switch-asia-programme/
[46] http://www.switch-asia.eu/publications/framing-of-scaling-up-scp-practices-in-the-switch-asia-programme/
[47] Grant contract DCI-ENV/2010/243-963, p. 18

ised under the project[48]. As noted under I-513, the Low-Carbon Opportunities for Industrial Regions of Ukraine includes a component of knowledge sharing that covers training sessions and round tables to decision makers and industrialists on CCT and CCS technologies. This element, together with the composition of some of the participants**,** such as the Regional Triple Helix of the SCIENCE PARK "High Technologies of Donbass" that includes regional businesses (SMEs, start-up or spin-off companies) should have contributed to the private sector's uptake of R&I results although the evaluation team has not found direct evidence to confirm this hypothesis.

In Peru the *Bosques del Chincipe* project, agroforestry approaches developed during the project proved successful enough in terms of increasing productivity while at the same time conserving forestry that it spread form the original 500 hectares to 3000 hectares of forestry use (Peru CN).

In contrast, little evidence was found in Mauritius of uptake of methodologies and approaches developed under the ACP-Sugar Research Programme for regulation of phosphorous and sustainable management of water. Impact pathways have been weakly defined under this programme and there are no specific plans for spreading the results to other enterprises. This kind of result can be viewed as a failure of the project and suggests that extra emphasis is placed on designing and monitoring impact pathways (Mauritius CN).

5.4.4 Indicator 544: Evidence that EU supported R&I led to innovation of locally-owned and sustainable solutions for the poorest and most vulnerable in the society

R&I projects in the EnvCC inventory of this evaluation have been clearly designed to provide local solutions with pro-poor focus, albeit with mixed conclusions regarding local ownership.

A particularly strong link between research and poverty alleviation can be observed in the project '*Recherche appliquée pour la valorisation et la transformation des ressources naturelles dans un processus de lutte contre la pauvreté au Chad et Cameroun'* (*c-217079*) of the S&T ACP programme (*D-18593*). Partners include the *Université de N'Djamena* (Chad) and *Università di Milano* (Italy). The intervention supports a range of applied and experimental micro research projects, often designed for income generation among the poor. The list of research projects contains an oil extraction factory with supercritical CO_2 technology, set up as a social business that invests its profits in the community to support local socioeconomic development. Other examples of innovations include a machine for producing mud brick adapted to the local environment, which uses replaceable materials (rather than wood), thus reducing forest degradation. The description of a project for bio pesticides based on nimtree extracts emphasises local ownership through the involvement of producers in the evaluation of research results, as well as income generation (2nd interim report).

The programme 'Innovative Approaches Towards Rehabilitating the Mau Ecosystem' (*D-21846*) in Kenya is clearly focused on vulnerable local communities that live adjacent to the forest and/or are dependent on the forest resources (e. g. the Ogiek). The intervention pursues a double strategy of (i) rehabilitating forest areas and (ii) avoiding forest degradation in the future by creating sustainable livelihoods for those communities, thereby reducing their economic need for destructive resource extraction. However, the monitoring report highlights several weaknesses in the project management and institutional setup that negatively impact on local ownership (*MR-145438.01*). The intended pro-poor focus of the intervention is nevertheless evident, but less so is its R&I component, which is basically limited to potential technical support of the EU Joint Research Centre and somewhat vaguely defined 'innovative solutions'. The description of *c-267334* calls for "development and demonstrations of innovative technologies such as for energy-saving and rain water harvesting" by business and industry stakeholders (p. 17).

The SWITCH-Asia project 'Eco-friendly bamboo production for reconstruction' in China[49] has been designed with a strong pro-poor focus. The use of bamboo offers vulnerable populations in post-earthquake areas an affordable, disaster-resilient solution for reconstructing their houses. The innovation component aims to improve the resource efficiency of SMEs operating in the bamboo industry, fostering the development of bamboo markets in the earthquake-affected region Sichuan region – and thus access of the rural population to these materials. Local ownership has been addressed via capacity development of bamboo farmers and strengthening of local cooperatives.[50]

[48] Bharat Agro Products is an innovative venture for supplying a mechanical system for generation of new biomass fuel from agro cut wastes, and Aeyyes Tungsten for production of recycled Tungsten Carbide powder, *MR-146241.01*, July 2013

[49] http://www.switch-asia.eu/projects/eco-friendly-bamboo-for-reconstruction

[50] http://www.switch-asia.eu/fileadmin/user_upload/Publications/2014/Impact_sheets/Switch_Asia_Impact_Sheet_-_2014_-_Eco-Friendly_Bamboo.pdf

Another SWITCH-Asia funded project, ACIDLOOP in India, works directly with SMEs helping to introduce more sustainable technology solutions in their production processes. The project went to considerable effort to ensure it reached the smallest-scale producers in the metal finishing sector, adapting the technology to their needs, helping them to develop viable business models for using the technology and using communication tools that were closely adapted to their ways of working (India CN).

In the GCCA, the experience with local ownership of solutions varies by country. In the programme 'Building the national capacity and knowledge on climate change resilient actions in Ethiopia' (*D-22456*), a monitoring report points to the "strong foundation for farming communities to 'learn by doing' where they themselves select, implement and evaluate the climate change activities" (*MR-146758.01*, p. 3). Farmers are actively involved in the innovation process and encouraged to try new technologies by promising compensation if they obtain lower agricultural yields than conventional approaches. In Cambodia, in contrast, "the grants reflect too much academic research and not enough community experimentation, and some communities evidently were not too involved in designing the grant projects" (Mid-term Review, executive summary, p. 4).

5.4.5 Indicator 545: Evidence that EU supported R&I has contributed to enhancing the research capacity of HEIs and research organisations at regional and national level

Several EU-supported programmes have aimed to support research capacity of either HEIs and research organisations both directly and indirectly. Where support has focussed on HEIs this can also strengthen applied research organisations that subsequently employ graduates and post-graduates from the HEIs. Under all circumstances, capacity building at HEIs will lead to a general increased capacity in the region except where the strengthened individuals emigrate to research communities in the EU or elsewhere.

The specific objective of the *Establishment of a forestry research network in the ACP* is that of facilitating links between ACP forest research organisations by strengthening capacities of selected local research structures and enabling them to collaborate effectively on common forestry-related research themes including applied research. The main beneficiaries are national forest research organisations whose research and managerial staff can benefit from appropriate training programmes. The training activities are developed individually by each region/participating organisation at the beginning of the project. These vary, but include access to formal postgraduate academic programmes, as well as specifically tailored training modules to develop skills such as conception of research programmes, elaboration of research proposals, scientific analysis, technical report and publication writing, presentation and public speaking, responding to tenders, management of research centres, etc. (Financing Agreement).

According to the evaluation of the programme regional capacities have been strengthened to a limited extent and three MSc degrees were completed. It is difficult to assess, however, to what extent these formal trainings have contributed to the capacities of the target institution (Forest Research Institute FRI). However, even if these MSc graduates are not subsequently employed directly by the FRI, the benefits to the region in terms of capacity building remain relevant and valuable.

The provision of infrastructures and equipment, meanwhile, has undoubtedly had a positive impact on the capacities of the FRI and the institutions involved in the carbon assessment project. However, the absence of a budget for maintenance means that the impact will have been of limited duration[51].

The programme *Developing a Cluster for Clean Coal Technologies and Carbon Capture and Storage Technologies for the Indian Thermal Power Sector* foresees developing a consortium of important cluster players from the Indian power industries, research centres, academia, incubators and incubates with focused search and integration of CCT-CCS expertise. According to the programme's contract, part of its rationale for including academia and research institutions is that it is expected that suitable carbon curricula shall be designed and implanted in higher education institutions, which again will replicate and spread from institution to institution and also from individual to individual. Furthermore, their inclusion responds to the need to use available knowledge and carry out knowledge transfer to other types of participants. In this regard, they are defined as 'change champions' as they are considered as being the better positioned to propagate CCS and CCT awareness further into the community in general (*c-243963*). Around 134 of the participants trained were academic members (mainly engineering students), which contributed towards promoting these technologies among future power plant employees. Professors participating in capacity development are applying part of the knowledge acquired in CCT/CCS, which is having a multiplication effect (*MR-146241.01*).

The *Low-Carbon Opportunities for Industrial Regions of Ukraine* programme is managed by the Donetsk National University (DonNU) and by the *Bureau de Recherches Géologiques et Minières*

[51] Final evaluation of the Establishment of a forestry research network in the ACP, Agreco, November 2013.

(BRGM). As informal partners, as the Description Fiche reports, DonNU scientists and engineers from academic and industry research institutes, as well as professors from other universities, will also be involved. There is no monitoring or evaluation report that relates to this programme but according to the 2012 progress report, it could be assumed that the programme might have contributed to HEIs' research and scientific capacities. Some of the results obtained in the course of the project have been published in scientific articles and presented at conferences and seminars[52].

The *South Africa-Europe Co-operation on Carbon Capture and Storage* (SAfECCS) has as expected results 'enhanced knowledge and understanding of CCS in the South African scientific and industrial sector' and 'enhanced awareness for relevant stakeholders (e. g. power and chemical companies) and students'[53]. The programme thus seems to consider an increase of the knowledge of the scientific community but the lack of documentation avoids detailing the typology of the scientific actors and any further assessment on the results and impacts of the programme in the scientific community.

The *EU-China Institute for Clean and Renewable Energy* (ICARE) programme aims at producing qualified candidates to fill the gap between the growing industry demand for specialised clean and/or renewable energy experts, and the skills currently available on the job market and to promote knowledge on clean and renewable energy (Financial agreement) The activities are: the creation of a Master degree for post-graduate students, of a vocational training centre for energy professionals and a research platform for post-graduate students and researchers. The programme does not aim therefore at strengthening the ICARE itself but at enhancing the research and scientific community (other than energy professionals). Indicator Contribution of EU supported R&I to research output of HEI's, the private sector and research organisations.

5.4.6 Indicator 546: Contribution of EU supported R&I on research output of HEIs and research organisations

Little concrete evidence was found of increased or better quality research outputs from HEIs and research institutes as a result of EU supported R&I. However, this would be expected as a result of the improved capacity of these institutions as documented under I-545.

Under the Research Collaborative Platform[54], of the ICARE programme in China, one of the objectives is the publication of sixteen books and fourteen publications from EU-Chinese research teams including joint publications in international scientific journals. By September 2013 only two publications – one article and one conference paper based on joint research work – had been produced due in part to delays in the initiation of the programme (Interim Report).

5.4.7 Indicator 547: Evidence that EU supported R&I has contributed to relevant programme objectives and MDGs

The degree to which R&I is central to achieving the objectives of programmes in EnvCC differs widely. Three examples of programmes for which research and/or innovation have been central elements are GCCA, SWITCH Asia, *Promotion of a sustained clean coal technologies (CCT) capacity in India* and *Establishment of a forestry research network in the ACP***.** Evaluations of these programmes have found that they have been reasonably successful in achieving their objectives. However, there is less evidence of contributions to achieving MDGs, in part because this has not been the subject of evaluations.

The transfer of knowledge and technology as well as the development of innovative solutions to climate change issues are at the heart of the *GCCA*. Policy to tackle climate change is a central issue within MDG 7A, under ensuring environmental sustainability (MDG 7). By combining policy dialogue with technical and financial support the GCCA promotes "the transfer of knowledge from the field to inform the wider international debate on climate change, and decision making, at the highest level"[55]. It is less clear what this means in terms of support for R&I in partner countries. It would seem as if the GCCA programme primarily support the development of R&I capacity by generating demand for expertise as well as suitably qualified human resources to implement mitigation or adaptation solutions. However, it is not clear from the programme documentation to what extent the GCCA projects at national, regional or global level actively support the development of R&I capacity.

SWITCH-Asia explicitly contributes to environmental sustainability (MDG 7) and to poverty alleviation (MDG 1) by improving living conditions of poor households, reducing pollution from industry and by increasing employment in sustainable production. Moreover, innovation transfer and development, in

[52] A list of scientific articles is presented in p. 215 of the progress report.
[53] Logical framework.
[54] http://www.ce-icare.eu/en/article/33/33-en-objectives
[55] http://www.gcca.eu/about-the-gcca/innovative-and-effective-approaches

order to achieve these broader objectives, is at the heart of the grant component of the SWITCH Asia programme (*SWITCH-Asia Action Fiche*). The independent evaluation of the SWITCH-Asia programme found that two thirds (14 out of 20) of evaluated grant projects had been effective in achieving their expected outcomes and with good prospects that the long-term project objectives will be achieved. In general, there was a good correlation between quality of a project design and efficiency of implementation (i. e. good co-operation between partners etc.) and its eventual effectiveness (*ROM Report 2014 – SWITCH-Asia projects*).

The *Promotion of a sustained clean coal technologies (CCT) capacity in India* has as its main objective to contribute to the achievement of greater environmental sustainability (MDG 7) in the power sector (Project synopsis). Nevertheless, the MR states: "The impact of this action is limited to increasing CCT awareness and some information exchanges with European and Chinese counterparts on a small scale. It remains unclear to what extent this will lead to an effective implementation of CCT in India. The project's contribution to the Overall Objective (OO) will depend on the CCT implementation" (*MR-146255.01*).

According to the Concept Note of the programme *Establishment of a forestry research network in the ACP,* climate change is one of the factors preventing ACP countries from realising major global targets like the Millennium Development Goals. Numerous factors underscore the vulnerability of local people to climate change impacts. One notable aspect is that their livelihoods (especially of women) are highly dependent on climate-sensitive sectors (agriculture, fisheries) and on forest goods and services for energy, food security, water supply and health. The impacts of climate change on forest ecosystem and the implications for indigenous and traditional communities that live in the forests need to be researched more fully and results taken up in climate adaptation planning. The programme aims to achieve that through establishing and building the capacity of forest research networks.

The final evaluation of the programme (*c-320559*) considers that even though efficiency and effectiveness concerns have hindered to some extent its overall impact, the region has benefited from an increased forestry research capacity both in terms of leadership of research projects and in terms of support (mobilisation of expertise) to research projects. While formal training seems to have had limited impact, the support provided to the elaboration of research concept notes and their transformation into full project proposals was deemed to be effective and useful. In spite of these positive achievements, a functional inter-regional network is still to be established [56] The final evaluation did not attempt to identify whether new knowledge generated by the programme has fed into revised climate adaptation policy, and thus had a positive impact with respect to MDGs.

6 EQ 6: EU capacities

To what extent have the EU external relations services ensured adequate capacities to conduct policy dialogue related to R&I and to support research and innovation in partner countries?

6.1 JC 61: Extent to which EU internal capacity to manage R&I support and conduct policy dialogue is in place at the levels required

Summary judgement

It was difficult to find evidence of capacity within EUDs directly related to EnvCC relevant R&I. Most evidence applies to all sectors. There is a wide range in the sufficiency of staff capacity and allocation for R&I activities at EUDs. 40% of EUDs have no staff dedicated to R&I, and where EUDs do have dedicated staff, approximately 80-90% of these spend less than 50% of their work time on R&I issues. More than 60% of EUDs evaluated their capacity for dealing with R&I related tasks as insufficient to achieve R&I tasks (I-611).

Lack of capacity affected different areas of work. Some EUDs were found to lack capacity across the board to manage R&I. Elsewhere, it was felt that staff could reasonably well handle R&I aspects concerned with development projects, but had significant lack of capacity for engaging with RTD in relation to FP7 and other RTD funding mechanisms. RTD activities largely bypass EUDs, reducing oppor-

[56] Even if focused during the programme life on only one research programme (on carbon biomass assessment).

tunities for complementarity, knowledge exchanges and learning processes and this is reflected in staff assigned to engagement with RTD (I-611).

Capacity for conducting policy dialogue for R&I seems to have been more developed than for dealing with R&I issues in general (I-612).

Capacity to manage R&I aspects of programmes, and to engage in cross-cutting themes appears be more in place at regional level than at country level in Africa though not in Latin America (I-611).

6.1.1 Indicator 611: Evidence of suitably qualified staff formally designated and actually deployed as R&I support at country, regional and HQ level

Most of the information on capacity for R&I in EnvCC at regional and country level has come from the EUD survey and from country visits. Programme documentation does comment on the suitability and quality of implementation, but this usually refers to non-EU staff and to the competence in the field of the project implementation in general. For example, this is the case for monitoring reports for GCCA projects in Cambodia (*MR 13616101.01*) and in Ethiopia (*MR 146758.01*).

Approximately two thirds of EUDs were staffed with more than ten employees engaged in managing co-operation programmes. There is a large range, however. In 2013, 20% of EUDs had less than five, while a third had more than 16 (EUD survey).

The number of staff specifically engaged in R&I support is more limited. Approximately 40% of EUDs, presumably the smaller offices, have no staff dedicated to R&I, with a similar share having one full time staff, and 20% having two or more (EUD survey). Approximately 80-90% of these staff spent less than 50% of their work time on R&I issues; and roughly 60% spent less than 25% of their time with R&I. This would suggest that R&I is not highly prioritised, but does not necessarily mean that the resources put to R&I are not adequate to cover needs. That said, more than 60% of EUDs evaluated their capacity for dealing with R&I related tasks as insufficient (EUD survey).

Country visits backed up this finding. Some EUDs were found to lack capacity to manage R&I and monitor the R&I aspects of projects (Peru CN, Mauritius CN). Elsewhere, it was felt that staff could reasonably well handle R&I aspects concerned with development projects, but had significant lack of capacity for engaging with RTD in relation to FP7 and other RTD funding mechanisms (Ethiopia CN, Vietnam CN, Mauritius CN). In India, however, the opposite was found – that there was capacity for dealing with general R&I issues but not in relation to DEVCO project (India CN). Elsewhere RTD activities largely bypass EUDs, reducing opportunities for complementarity, knowledge exchanges and learning processes. EUD staff are often invited to participate in RTD meetings with R&I responsible ministries but may consider these not to be relevant to their central activities within development and perhaps also do not have technical capacity to engage in technically orientated meetings (Kenya CN, Vietnam CN, Peru CN). Moreover, due to institutional set-ups EUD staff often find it difficult to deal with cross-cutting issues, one of which is R&I (Vietnam CN).

Capacity to manage R&I aspects of programmes, and to engage in cross-cutting themes appears be more in place at regional level in Africa (Kenya CN, Ethiopia CN) though not in Latin America (Peru CN). However, regional EUD have sometimes difficulty with engaging in global projects such as CGIAR (Kenya CN) and with RTD (Ethiopia CN).

6.1.2 Indicator 612: Staffing (both designated and deployed) adequate for effective policy dialogue

Available documentary evidence does not provide much insight into the nature and impact of policy dialogue on R&I in EnvCC. In what ways the extent and quality of the EU's capacity for R&I at all levels has impinged on policy dialogue is unclear. When surveyed EUDs largely felt that capacity for conducting policy dialogue for R&I seems to have been more developed than for dealing with R&I issues in general. For the roughly half of delegations for which R&I is a priority area within the area of development policy, a clear majority assessed their capacity for engaging in policy dialogues as sufficient (EUD Survey).

6.2 JC 62: Extent to which R&I policy dialogue is operational at all levels

Summary judgement

There is some indication that the outputs of R&I related projects have flowed into policy dialogue on EnvCC at global, regional and country level. Programme and project designs have explicitly aimed to inform environmental policy dialogues with R&I outputs. This seems to be the case for global programmes such as the GCCA, regional programmes such as SWITCH Asia, as well as national level programmes/projects such as the SBS in the Ukraine and South Africa, the ESRT project in Vietnam and the *Cafecultura Sostenible* project in Peru.

In the case of SWITCH Asia policy dialogue has not been a central component of grant projects since these are mostly operating with local stakeholders, but a few grant projects have also engaged in national policy dialogue. Moreover, available monitoring reports seem to imply that, in part, knowledge generated by R&I was made available for policy dialogue in the EnvCC sector (I-621).

At national level, over half of EUDs state that they engage in policy dialogue at national level, although more than half of these EUD dialogues were considered as having a low impact on eventual policy (I-621).

With respect to different stakeholders, the design of programmes and projects analysed aimed to explicitly organise R&I stakeholders into the environmental policy dialogue process. Programmes and projects at global level (e. g. the GCCA), regional level (EU-Asia Link and SWITCH Asia) as well as country level (e. g. the SBS South Africa) created institutional entry points into environmental policy dialogue for R&I stakeholders (I-622). Few direct indications were found that sector policy dialogue had led to either a formulation of country and regional needs or that these needs were matched to appropriate EU R&I programmes. That said, the documentation suggests that the design for the GCCA projects and for programmes at country level emerged from policy dialogue (I-623).

6.2.1 Indicator 621: Sector policy dialogues feature R&I at country and regional level

Project documentation suggests that the EU intended to address R&I as a sector in its own right and not as a cross-cutting issue. There is only patchy evidence to suggest that R&I may have featured in policy dialogue about EnvCC. Documentation for Asia indicates that R&I – in the form of demonstration projects in the energy sector – was to flow into the environmental policy dialogue (CSP China 2007-2013). At the regional level, R&I was to feature as one of the policy dialogues with SAARC alongside other issue areas, including energy, environment and climate change (RSP Asia 2007-2013). At the global programmatic level, the GCCA overall and projects such as the GCCA-Belize, GCCA Lower Mekong and GCCA Eastern Caribbean explicitly aimed to contribute knowledge from R&I to regional policy dialogue on EnvCC. No evidence has been found on whether these intentions were realised.

At country level the SWITCH-Asia programme has initiated and enabled policy dialogue on sustainable production and consumption in a number of different countries via grant projects as well as through the policy component of SWITCH Asia. Policy dialogue has not been a central component of grant projects since these are mostly operating at local level and engaging mostly with businesses and branch organisations but also with government, but again mostly at local level. However, some SWITCH-Asia projects that have contributed and even initiated policy dialogue also at national level which can assist the more practical aims of the projects. These include the ASEAN Air Con, ACIDLOOP and the Sustainable building practices project.

Looking beyond SWITCH Asia, the LCOIR UA project (*c-243865*) has included participation of project members in a wide range of policy-relevant events, while the ESRT sustainable tourism project in Vietnam has engaged with the Vietnamese government and individual regional governments to place sustainability at the core of tourism strategy (Vietnam CN). In Peru, the project team leading the *Cafecultura Sostenible* project has successfully engaged with policy makers defining national climate change policy (Peru CN). Under the KASAL project in Kenya, however, although policy recommendations and land management guidelines were developed for sensitive agriculture in ecologically fragile regions, responsibility for follow-up was actually allocated to the Ministry of Agriculture who failed to take these further (Kenya CN). This is an example of how lack of priority for active policy dialogue at project level has inhibited the impact of the project.

Eight out of 13 EUDs managing EnvCC related projects stated that they engage in policy dialogue at national level with national stakeholders (EUD survey) with the EUDs themselves acting as organisers in the majority of policy dialogues. 58% of these dialogues were considered by the relevant EUD as having a low or very low impact on eventual policy (EUD survey).

Evidence from country visits was also mixed. Little evidence was found of policy dialogue in EnvCC by the Kenyan EUD (Kenya CN) while in Peru policy dialogue on how to support R&I in the country is only just taking off and DEVCO staff are not leading these issues though they have offered to facilitate (Peru CN). In India, on the other hand, the EUD has been very active in policy dialogue at ministerial level though this has fallen off somewhat more recently, and it is not clear to what extent this includes the EnvCC sector (India CN).

6.2.2 Indicator 622: Sector policy dialogues include R&I stakeholders at country and regional level

Some GCCA projects explicitly aimed to generate and support a policy dialogue platform at regional level that featured researchers and scientists. For example, the GCCA Lower Mekong project (*c-293779*) aims to support the operation of the Mekong River Commission (MRC), amongst other things

a dialogue forum consisting of scientific experts. Similarly, the GCCA project on Climate Change Adaptation and Sustainable Land Management in the Eastern Caribbean (*c-335097*) supports the Organisation of Eastern Caribbean States regional dialogue on climate change. No independent assessment, either in the form monitoring reports or evaluations, was available to examine to what extent the project design had been implemented as intended.

Some SWITCH-Asia projects have aimed to include R&I stakeholders in policy dialogue about the adoption of SCP at country level. In particular, the projects Greening Food Production (*c-291595*), Low Energy Housing (*c-262965*) and Train-the-Trainers (*c-152438*) intended to implement a project design in which R&I stakeholders (in particular university researchers) participated in regular policy dialogue about the adoption of SCP. However, the available monitoring report for the SWITCH-Asia project as a whole (*MR-138202.01*) suggests that while "projects do engage policy-makers through the preparation of policy documents and guidelines or by exchanges of experience", this has had little real impact on policy change and the adoption of SCP (p. 2).

At national level, the SBS in both South Africa and the Ukraine analysed provide an ambivalent picture. The documentation analysed for the SBS in the Ukraine implies that knowledge generated by R&I, specifically water quality data, is to be the basis for policy dialogue on water protection policy. However, the documentation does not provide any clues concerning the relevant R&I personnel and stakeholders involved in the process. In contrast, the SBS in support of the South African Department of Science and Technology foresees a strengthening of the department's corporate strategy that includes the generation of knowledge relevant to climate change mitigation and adaptation policy (Action Fiche, Identification Fiche, *MR-135682.01*). The available monitoring reports suggest that the SBS as a whole successfully supported the DST's corporate strategy. That said, the documentation analysed does not explicitly refer to the deployment of R&I personnel or the involvement of R&I stakeholders (*MR-135682.01*, *MR-135682.02*).

6.2.3 Indicator 623: Evidence that sector policy dialogues help matching country and regional needs with appropriate EU programmes for R&I support

Evidence gathered offers little direct indication of whether policy dialogues have matched country and regional needs with appropriate EU support for R&I. However, the documents considered provide some indirect indication that country-level dialogue has led to the development of projects within EU programmes for R&I support.

At global level, projects in the GCCA programme were designed in co-operation with country and regional stakeholders. For the GCCA Ethiopia (*D-22456*) and GCCA Belize (*c-295661*), project design emerged from a cooperative dialogue between EU and national stakeholders (ROM reports, Action Fiche, Identification Fiche). For the GCCA Lower Mekong (*c-293779*) and the GCCA Eastern Caribbean (*D-24114*) projects, the projects emerged from a dialogue process with the relevant regional stakeholders (the MRC and Organisation of the Easter Caribbean States respectively).

At regional level, the design of several grant-funded projects in the SWITCH Asia programme featured country-level policy dialogues on SCP adoption (*c-152438, c-262965, c-291595*). However, it is unclear from the documentation analysed to what extent these dialogues have helped stakeholders at country of regional level to formulate R&I needs and to match these to EU R&I support programmes. What is more, the available monitoring report for project Low Energy Housing (*c-262965*) suggests that, for one, the design and implementation of policy dialogue in the project featured several weaknesses including, most prominently, poor definition of what constitutes a policy dialogue (*MR-145818.01*).

The documentation analysed for programmes and projects at national level, particularly the KASAL (*c-195439*) project as well as the ASAL APRP (*c-291241*) suggests that, similar to the GCCA, projects emerged from a policy dialogue between the EU and stakeholders in Kenya (*MR-109283.01; MR-146799.01*).

6.3 JC 63: Extent to which the EU facilitates R&I activities at all levels

Summary judgement

Cases were found of where the EU had dedicated communication channels for informing stakeholders in countries of international opportunities for research under FP7 and other RTD programmes. For example, the South East Asia and European Union Network Facilitator (SEA-EU-NET) is very active as an access point for research institutions in South East Asia to engage in FP7 projects. However, information exchanges on R&I opportunities within sectoral development areas are less obvious though channels were identified in India and South Africa and at regional level in Africa (I-631).

Networking of R&I stakeholders takes place both in an institutionalised form (e. g. in the SWITCH Asia Network Facility) as well as project driven. EUDs sometimes fund additional dissemination activities for results from DEVCO-funded projects. However, surprisingly such funding is not an automatic part of DEVCO projects and not even the norm (I-632). EUDs that do provide this type of funding also assist with practical advice on format of dissemination activities. EUDs consider that funding of workshops, to which policy makers at national and/or local level are invited, and publications are most effective means of dissemination support (I-634).

6.3.1 Indicator 631: Informing about available opportunities at country and regional level

Cases were found of where the EU had dedicated communication channels for informing stakeholders in countries of international opportunities for research under FP7 and other RTD programmes. For example, the South East Asia and European Union Network Facilitator (SEA-EU-NET) is very active as an access point for research institutions in South East Asia to engage in FP7 projects and connect with EU partners in part via Science, Technology and Innovation days. Also in South Africa Science Days are regularly held to inform on R&I opportunities via RTD programmes.

However, information exchanges on R&I opportunities within sectoral development areas are less obvious. It seems that in most countries visited, communication and brokerage on FP7 was not conducted via EUD but used other channels (Kenya CN, Vietnam CN, South Africa CN). In India, however, the EUD does engage very actively in channelling information on FP7 project opportunities via an S&T Counsellor (India CN). The South African EUD also holds regular meetings with government R&I officers (South Africa CN). However, this is not thought to relate closely to EnvCC themes.

At regional level the EU engages actively with the African Union Commission on R&I opportunities and activities and procedures for research fund management which enables the AU to run a research grant facility (Ethiopia CN). It is not known to what extent this concerns EnvCC themes.

6.3.2 Indicator 632: Network activities of R&I stakeholders are operational at country and regional level

The SWITCH Asia Network Facility, provides two types of networking activities. Firstly the Network Facility organises regional level dissemination events, and has provided both a platform for disseminating project outputs and outcomes as well as forum for stakeholder debate. Secondly, individual projects under the grant component, carrying out networking and dissemination activities with R&I stakeholders at the country-level (for example via Research Excellence Frameworks REFs). Such dissemination activities are a typical element of project budgets.

6.3.3 Indicator 633: Practical support (including advice) for R&I stakeholders during the application process for and with the administration of EU R&I programmes

The documentation analysed for projects at global, regional and country level does not provide any evidence to suggest the provision of practical support on part of the EU for R&I stakeholders during the application process. On the basis of the sample of documents analysed, the same seems true for support for the administration during projects. Indeed, interim and narrative reports of projects in the EU-Asia Link programme seem to suggest that it was the European project partners that provided practical assistance in the administration of the projects. No evidence on this indicator was found during country visits.

6.3.4 Indicator 634: Practical support for R&I stakeholders in the dissemination of research results

EUDs sometimes provide additional funding for dissemination activities over and above the budget for dissemination included in DEVCO programme and project funds. This tends to target policy makers among others. EUDs also provide practical advice and assistance in how to disseminate results. However, surprisingly such activity is not typical for EUDs: only five out of 22 EUDs surveyed could positively answer that they fund such activities (EUD survey).

EUDs that do carry out such funding consider that funding of workshops, to which policy makers at national and/or local level are invited, and publications are most effective means of dissemination support (EUD survey).

Part D

Science, Information Society and Space

Part D – Science, Information Society and Space

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Sector introduction Science, Information Society and Space

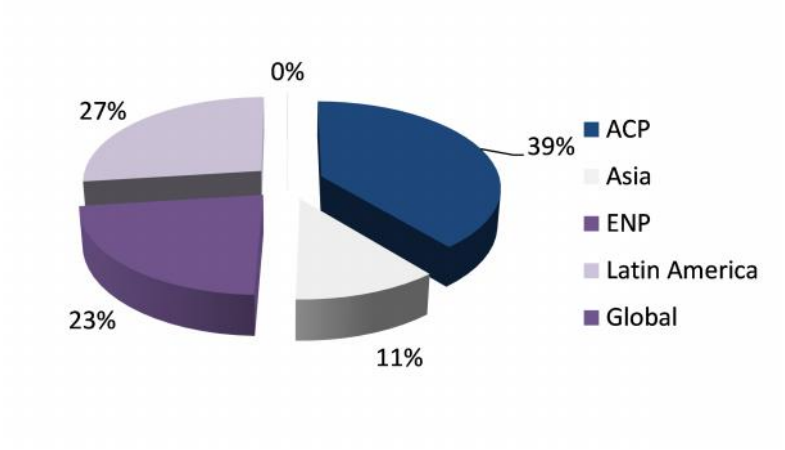
Overall introduction

While Science, Information Society and Space (SISS) is not a traditional name for a sector and other terms such as 'Science and Technology' are more commonly used, yet SISS is the name of the Joint Africa-EU Strategy (JAES) 8th Partnership which has been a key component of the DEVCO support to Research and Innovation (R&I) in the evaluation period and is included in this sector.

SISS contracts constitute an important part of the inventory for this Evaluation. The SISS sector accounts for around of the just over 1,000 contracts in the inventory and in value terms EUR 301 million out of the total EUR 1,138 million. SISS also features the lowest average size of contract (~EUR 700,000), well below the overall average of EUR 1.1 million.

The regional distribution of SISS contracts shows a heavy emphasis on African, Caribbean and Pacific Group of States (ACP), with, on the other extreme, Asia receiving very little attention as can be seen in Figure 10 below. There are no contracts at the global level. In terms of financial instruments 37% of the value of commitments were financed from the European Development Fund (EDF), 19% from Development Co-operation Instrument (DCI) geographic funds for Latin America and 12% from European Neighbourhood and Partnership Instrument (ENPI).

Figure 10 Science, Information Society and Space commitments per region



Source: CRIS, Particip analysis

In terms of types of contractors, about 30% of SISS contracts went to private sector actors and another 30% to universities. Other types of contractors account for 5-10% each.

Three programmes within SISS stand out as particularly prominent and have therefore been studied in greater depth in this evaluation and included as Case Studies in Volume 3 of this report.

- The ACP S&T Programme with total commitments of EUR 53.8 million (S&T-I: EUR 33 million & S&T-II: EUR 20.8 million);
- The MESA (Monitoring for Environment and Security in Africa) with EUR 37 million in commitments;
- The JAES 8th Partnership which accounts for EUR 36.7 million in commitments.

Information Society is also a major feature of the SISS portfolio. In total, EUR 58 million are allocated to the OECD Development Assistance Committee's (OECD-DAC) sector codes for ICT (22040) and Communications policy (22010)[57]. Among the most significant projects it was noted:

- The support given to establishing regional high-speed internet links for R&I has attracted some EUR 35 million in funding with one project per region. In fact, the two biggest commitments in SISS of just over EUR 10 million each are in this area for Latin America and the ACP. Asia ICT networks, with the CAREN2 (Central Asia) and the TEIN, has also had EUR 10 million.

[57] The DAC sectors code categorisation should however be read with cautions as they are not always consistently applied. They do however give only a rough indication of the distribution of sectoral distribution.

- A further EUR 17 million were committed for Information Society projects from EDF-9 to the RICTSP (Regional Information Communications Technology & Science Programme) for Eastern and Southern Africa and the Indian Ocean.

Further analysis by DAC Sector Code shows that EUR 97 million of the SISS commitments were allocated to Higher Education (11420), whereas the Research/Scientific Organisations (43082) accounted for EUR 50 million.

In terms of the five main activities of DEVCO in support of R&I as identified in the ToR, the first four seem to have attracted considerable support in the SISS portfolio:

- *Supporting the application of S&T*: There are various allocations for S&T research grants and for projects to promote innovation in the use of S&T.
- *Promoting awareness and capacity building*: Several projects focused on promoting awareness of opportunities for research and/or innovation funding including encouraging access to RTD FP7 funding (e. g. JSO-Ukraine, PASRI-Tunisia).
- *Participating in regional initiatives:* There are specific grants to regional organisations (AU, ACP, etc.) to promote R&I and S&T, quite a number of regional initiatives (e. g. MESA) and projects to build up R&I infrastructure on a regional level (e. g. RedCLARA, Africa Connect).
- *Sustaining and enhancing dialogue and promoting partner country participation*: There is clear involvement in dialogue with regional organisations (e. g. the AU) and individual projects examined include dialogue components with national authorities and research communities.
- *Participating in multilateral fora*: There are no global programmes in the SISS portfolio, which means there are no instances of participation in multilateral fora at the global level.

Policy documents

There is no overarching strategy document for development support in the areas of Science, Information Society and Space, which the European Commission applies to all geographical regions. Yet, the role of science, information society, ICTs and space technology for the achievement of sustainable growth and innovation, the MDGs as well sustainable development is reflected in the regional programming and strategy documents of the EDF and the DCI as well in the EU's joint strategies with partners. The Intervention Logic for SISS is thus based on the following policy documents:

- Regional programming strategy documents and the Multiannual Indicative Programmes for Africa (10th EDF, Intra-ACP facility), Latin America, Asia and the European Neighbourhood (all DCI);
- The 8th Partnership under the Joint Africa-EU strategy 'Science, Information Society and Space' and the two Action Plans covering 2008-2013;
- EU-LAC Summit Declaration of 2010 (Madrid Declaration) and Action Plan;
- Another useful document for the Intervention Logic is the EU Commission Staff Working Paper – Report on Policy Coherence for Development 2013.

The main elements of the logic of the contribution of support to R&I in the area of Science and Information Society and Space can be found in the Joint Africa EU Partnership on Science, Information Society and Space as well as in the Intra-ACP Cooperation Strategy Paper of the 10th EDF (MIP).

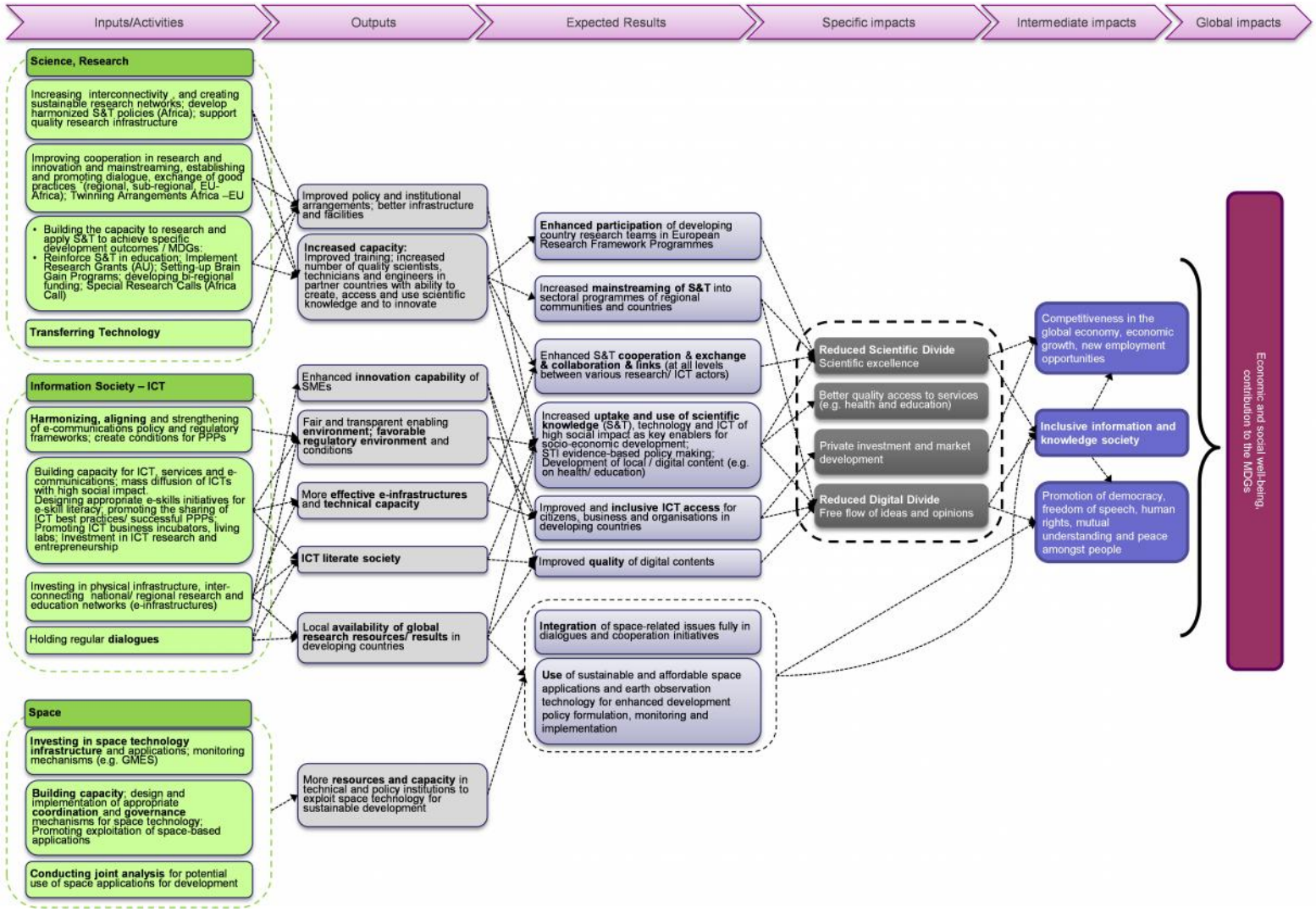
The Intervention Logic for SISS

Interventions in SISS aim at bridging the scientific and digital divide of countries so to promote inclusive information and knowledge societies that fully benefit from opportunities offered by ICTs. This is seen as a prerequisite for competitiveness in the global economy, economic growth and increased quality of live. The IL diagram below is constructed in three strands reflecting the elements of the thematic sector (Science, Information Society and Space).

To support developing countries to use *scientific research* and technology as a transformational force for development, the EU makes the following inputs:

- Support to the creation of sustainable research, networks and interconnectivity;
- Promotion of dialogue, exchange and better co-operation in the area of Research and Innovation;
- Support to the building of capacity to research and apply knowledge for improved development outcomes;
- Encouragement of the transfer of technology.

Figure 11 *Intervention Logic Science, Information Society and Space*



To make *use of ICT* for development, EU external development assistance focuses on four activities or inputs:

- Harmonisation and alignment of policy and regulatory frameworks with the aim to promote fair and transparent enabling environments, which can improve access to ICT in these societies;
- The interconnection of networks and e-infrastructures to strengthen co-operation between research communities; the rationale is that such interconnections, increased capacity and enhanced infrastructure and facilities makes accessible global research resources;
- Capacity building for better understanding and uptake of ICTs, applications and services;
- The creation of an enabling environment and digitally literate society with inclusive access to ICT that is used in the service of citizens, business and public authorities.

Finally for the third strand on *space***,** activities stem from the realisation that space applications can help in addressing challenges that developing countries face, such as environmental degradation, food security, health, education and climate change. The aim is thus to establish a better infrastructure, and better capacity to use such applications for enhanced development policy formulation and monitoring. The activities/inputs therefore include:

- Investments in the area of space technology and applications;
- Capacity building to manage space technology;
- Conducting joint analysis of the potential use of space applications for development.

These activities together should lead to outputs and expected results in terms of better access to knowledge, enhanced capacities and increased uptake and use of scientific knowledge and ICT of high social impact for development purposes.

In terms of specific and intermediate impacts, the expectation is that these inputs, outputs and results will primarily lead to the bridging of both the scientific and the digital divide, ultimately leading to inclusive information and knowledge societies, greater competitiveness in the global economy. This in turn is expected to lead to the global impact of economic and social well-being in these countries and regions through contributions to the achievement of the MDGs.

Alignment of EU support with the Intervention Logic

Based on the evidence gathered the range of inputs[58] identified in the SISS IL diagram are confirmed. The activities reviewed show in particular that considerable effort has been put into the physical infrastructure of building high-speed ICT interconnectivity networks which is one of the more tangible inputs suggested in the IL diagram. Equally, there is support to networks and there has been considerable effort in supporting capacity building, at least in terms of scholarships, though less in terms of institutional capacity development. Cooperation in science and research has been encouraged by some research grants programmes. There is also one major project (MESA) in the area of applications of space technology which also involves joint analysis work. Finally there are examples (PASRI, Tunisia; JSO-ERA Ukraine) of efforts put into creating enabling environments, harmonisation and alignment of policy and dialogue on research. The inputs listed in the IL diagram are thus all in use and are present in practice.

The logic of the outputs (grouped under the same categories as the inputs), expected results and impacts was also validated by the evidence gathered, with the caveat that in many contexts it appeared over-optimistic. In particular there was a recurrent question of whether the EU could mobilise sufficient critical mass of support, either by itself or in conjunction with other actors, to get the desired effects working in a sustainable manner.

Sampling approach used: global, regional, national impact

There are no global programmes in the SISS sector in terms of global actors or in terms of a global 'benefitting zone'. However, both regional and national actions do exist and the sampling approach worked well to identify a suitable sample of interventions at both these levels. The following table shows the distribution of SISS grants by zone and type of actor.

[58] The Inputs in the SISS IL Diagram were grouped under the three headings of Science & Research, Information Society/ICT and Space as follows: *S&R* – Interconnectivity, Cooperation in research and Capacity; *IS/ICT* – Harmonisation of communications policy and regulatory frameworks, Capacity, Physical infrastructure for interconnectivity and Dialogue and for *Space* – Space technology infrastructure, Capacity and Joint analysis.

Table 12 SISS contracts in R&I by contractor channel and benefitting zone

Contract benefitting zone	Contractor type	No. of contracts	No. of contractors	Average per contract (EUR)	Average per contractor (EUR)	Total contracted (EUR)	% of subtotal	% of total
Global	International	0	0	0	0	0	0%	0%
	Regional	0	0	0	0	0	0%	0%
	National EU	1	1	35,325	35,325	35,325	100%	0%
	National Non-EU	0	0	0	0	0	0%	0%
	Subtotal	**1**	**1**	**35,325**	**35,325**	**35,325**	**100%**	**0%**
Regional	International	4	3	3,007,789	4,010,386	12,031,157	6%	4%
	Regional	12	6	1,518,525	3,037,050	18,222,301	9%	6%
	National EU	155	114	742,005	1,008,866	115,010,702	59%	38%
	National Non-EU	50	44	979,868	1,113,487	48,993,414	25%	16%
	Subtotal	**221**	**167**	**878,994**	**1,163,219**	**194,257,573**	**100%**	**65%**
Country	International	0	0	0	0	0	0%	0%
	Regional	0	0	0	0	0	0%	0%
	National EU	90	62	745,161	1,081,686	67,064,522	63%	22%
	National Non-EU	109	101	359,112	387,556	39,143,165	37%	13%
	Subtotal	**199**	**163**	**533,707**	**651,581**	**106,207,687**	**100%**	**35%**
Total		**421**	**312**	**713,778**	**963,143**	**300,500,585**		**100%**

Source: CRIS, Particip analysis

Global impact: From the table it is apparent that the global route to impact is barely used in the SISS sector. This is consistent with the Intervention Logic, which does not aim at creating global public goods but rather public goods at the regional and national level.

Regional impact: The regional route to impact is the dominant one and accounts for 60.29% of the total contracted amount by DEVCO for the SISS category. This is aimed at activities that create enabling environments and build capacity regionally in order to help bridging the scientific and digital divide and to better use scientific research for innovation and sustainable development. Money is allocated mainly to EU and non-EU national organisations (about 84%). The bulk (~EUR 100 million) of this is spent on high-speed internet networks and on scholarships (c.f. table of main SISS decisions further below), both of which are contracted through EU based organisations.

National impact: Support at this level aims to strengthen national actors and institutions in the delivery of the defined public good. The national route to impact accounts for 39.7% of the total contracted amount by DEVCO under SISS. Most of this is absorbed and implemented by national EU or non-EU actors (97%).

Thus, at these three levels, the EU deals with very different organisations to achieve its aims. They differ in terms of financial, organisational and research capacity, research approach and quality. Moreover, the contracting organisations differ widely in their focus in how they contribute to the overall objective of creating inclusive knowledge-based and information societies.

1 EQ 1: Development policy objectives

To what extent has EU support to R&I through DG DEVCO been successful in promoting the overall development policy objectives of the EU?

1.1 JC 11: Link between R&I activities and EU development objectives (as per European Consensus and Agenda for Change – MDGs, etc.)

Summary judgement

The EU policy documents available at different levels and co-operation agreements with key groups of developing countries such as the ACP and the AU clearly make the link between R&I, including SISS elements specifically, and the EU's development objectives and the MDGs (I-111). The link is also explicitly reflected in the European Consensus and the Agenda for Change (I-112). Access to science and technology is also specifically mentioned as an important input for development in many policy documents. At country level project implementation also shows good levels of alignment with EU development objectives (I-111) and where appropriate with specific MDGs.

One very clear and direct example of links with the MDGs is the MDG 8 target to reduce the digital divide by improving internet access and high-speed connectivity (I-111) that falls under the 'Information Society' aspect of SISS. Equally the MDG 8 target F on working with the private sector to make new technologies available is a feature of a number of supported projects. The 'Space' aspect of SISS is more rarely represented but can be found in projects such as MESA where satellite technology is being used to improve environmental knowledge and policy making for food security, agriculture, disaster preparedness and resilience (I-111). At the level of international fora, EU position papers such as those for the UN debate on the post-2015 agenda also echo these view (I-113). What is not clear from the evidence it has been possible to gather however is the strength of the position the EU takes in practice in international fora in emphasising the link between R&I and international development although it is reasonable to assume that it will be in line with its written policy positions.

1.1.1 Indicator 111: DEVCO-supported R&I activities explicitly linked to relevant MDGs

This explicit link is made in various S&T activity planning documents and reports, with all three elements of SISS, including space technologies, featuring at different places. Contract Action Fiches, regional programme documents (Intra-ACP; MESA; ACP S&T; @lis2; JAES) all stress the importance of R&I and S&T for development and achieving the MDGs. Studies such as the HTSPE Mapping study for good practice in JAES 8th partnership also conclude this. Equally, the MTR for the ACP S&T Programme also judges this link to be relevant and followed up by the programme. This also comes out in project level documents, country strategies and evaluations in the majority of country cases (e. g. India, RDC, Egypt, Kenya, Tunisia, Mozambique, and Mauritius). However, in others (e. g. Chile) the link is not clearly made.

The EBTC project in India focuses on technology transfer and the private sector that corresponds well to MDG 8's target F on working with the private sector to make new technologies available (India Country Note (CN)). The DEVCO supported PASRI project in Tunisia and INNO projects in Ukraine also encourage private sector innovation and the adoption of new technology. Equally in Tunisia the EU support for R&I is part of a broader support to the education sector (MDG 2) (Tunisia CN). The EU supported AU Research Grants show a strong link with the EU's development objectives (Ethiopia CN). In Ukraine the 2014 evaluation of Innovation found that EU support was fully aligned with EU priorities (Ukraine CN).

As indicated in their programming documents the MDG 8 target on the 'digital divide' is specifically addressed by ACP Connect and other regional connectivity projects supported by the EU to establish high-speed internet networks between research organisations. Not only do they link up researchers but the networks can be used for information dissemination and increasing access to knowledge and services at higher speeds and lower costs.

The 'Space' aspect of SISS is represented by projects such as MESA where another aspect of modern ICT, satellite technology (MDG 8:F access to new technology) is being used to enable African access to remote sensing data to improve environmental knowledge and policy making for food security, agriculture, disaster preparedness and resilience.

1.1.2 Indicator 112: R&I needs feature in EU high-level development policy documents and sector policy Communications

The European Consensus for Development refers to R&I as one area important for development. The importance of Innovation and technology are emphasised in the Agenda for Change (COM(2011) 637). The Joint Africa-EU Strategy (JAES) 8th Partnership is specifically on SISS. Interviews with DEVCO and RTD officials also stress the importance of R&I and S&T to support development processes. The Cotonou Agreement (Art.25) refers to the importance of technology, innovation and research for development and the ACP countries have held meetings of Ministers of Science & Technology.

The key policy Communication for the period of the Evaluation, 'A Strategic European Framework for International Science and Technology Co-operation' (COM(2008) 588), has a whole section on what is required to build up R&I co-operation with groups of developing countries such as ASEAN or the AU: policy coherence, developing the attractiveness of the EU as a research partner; results oriented partnerships; information society regulation, etc. Among its core principles it includes two that relate specifically to international co-operation in the SISS sector: 'Fostering S&T co-operation with key third countries' and 'Launching results-oriented partnerships on information society regulation'. These principles are also reflected in its objectives for instance under the heading '2.2 Improving the framework conditions for S&T co-operation' which covers items such as global research infrastructure, mobility of researchers, open research programmes, intellectual property and pre-standardisation.

Regional support strategies (for Asia, Africa and Latin America) also identify R&I needs including more specifically in the SISS area. One prevalent example is the efforts made to support the establishment of ICT connectivity for research communities. The CSE Ukraine 2010 concluded that EU support to Ukraine (including on S&T) is consistent with the ENP.

1.1.3 Indicator 113: EU participates effectively in global fora identifying R&I needs for MDGs and post-MDG era

As an example of EU positions in global fora, the EU's preparatory documents (A Decent Life for All COM(2014) 335) for the UN post-2015 agenda debate (following on from the MDGs) stress the importance of strengthening the links between education and R&I for development and the fact that the EU's FP7 promotes co-operation on R&I and S&T between the EU and its international partners.

However, so far no information is yet available on how effective this participation is.

1.2 JC 12: Extent to which R&I has informed sector policy dialogue and sector support at national and regional levels

Summary judgement

SISS is not a standard sector so does not appear as such in national and regional support strategies. In addition, the EU has not financed any SPSP or SBS specifically focusing on SISS. However, Science and Technology is often recognised as a sector in its own right or under education or industrialisation policy particularly in countries with somewhat higher national income levels.

It is thus clear that the EU is involved in dialogues at both national and regional levels where the importance of science and technology for the development of different sectors (e. g. education, industrial development, ICT infrastructure) is discussed and the expectation that the latest technology will be used in any support provided. However, this is at a different level than dialogue around projects using R&I directly from other EU supported projects in these countries or regions.

In four middle-income countries visited (India, Tunisia, South Africa and Ukraine) the EU has been directly involved in dialogue with the government on S&T policy and has clearly been instrumental in moving S&T policy development forward to varying degrees dependent on occasionally difficult local circumstances (I-121 and I-122).

1.2.1 Indicator 121: Design of support to the sector incorporates results and lessons learnt from R&I (same sector)

National support strategies in several countries reflect a concern with developing R&I but it is harder to ascertain whether real lessons have been learnt from past R&I.

Equally several projects at both national and regional levels are follow-on projects from an earlier one (e. g. MESA follows AMESD in Africa) and the evaluation team might assume that any R&I involved in developing the earlier project would have influenced the design of its successor.

The EU-India S&T Agreement has led to strong sector policy dialogue based with the government (primarily the DST) on lessons learnt from past support to R&I, but has largely involved RTD not

DEVCO officials. The DEVCO supported EBTC project has not had any noticeable impact on sector policy dialogue (India CN). In Tunisia the DEVCO supported PASRI is designed specifically to, among other things, promote dialogue on national R&I policy and has been very successful in doing and in widely recognised as having helped to encourage a national debate on R&I policy (Tunisia CN). In Ukraine research policy dialogue was more difficult and complicated by low capacity in sectoral ministries (Ukraine CN).

Only five respondents to the EUD Survey indicated that their EUD administered R&I support in the SISS sector and of these only two were involved in sector policy dialogue.

1.2.2 Indicator 122: R&I results used in dialogue at national and regional levels

There is considerable evidence to show that R&I needs are part of EU sector related dialogue with the authorities at both national and regional levels. However, it is not evident from the material available in either the Desk Phase or the Field Phase how much such dialogues focus on specific R&I results.

At the national level, the EU clearly does dialogue with governments on how to promote S&T, information society or even space technologies; however, these are usually conducted as part of overall support to the development of sectors such as education (e. g. Egypt, India) or industrial development (e. g. Tunisia, India) rather than on the specifics of the R&I results or developments. In Ukraine, however, there has been a dialogue on promoting R&I in general with various government departments and particularly with the State Agency for Innovation and Informatisation. In Africa, the Science Counsellor in Addis reported fruitful dialogue on S&T with governments in all North African states, and half a dozen sub-Saharan Africa states including in particular South Africa, but also others such as Kenya, Uganda, Rwanda, Ghana, Senegal and Burkina Faso. The general pattern that emerges is that, while all African governments are interested in S&T, it is only as national incomes rise that they tend to become more willing to take active measures to promote S&T in its own right.

At the regional level, the ACP S&T programme and the JAES 8th Partnership on SISS involve EU dialogues with the ACP and the AU respectively. In both, the projects submitted by researchers for support clearly do build on prior R&I results but there is no evidence to suggest that the overall dialogues themselves directly involve discussions on R&I results. On the other hand, there is clear evidence of dialogue on regional priorities for R&I. The EU Delegation Science Counsellor in Addis Ababa is in regular dialogue with the AU Commission's Department for Human Resources, Science and Technology. The EU has for instance been involved in dialogue with the AUC as it has prepared the STISA-2024 (Science, Technology and Innovation Strategy for Africa-2024) approved in 2014.

Specific regional programmes such as MESA, @lis2 or ACP Connect also involve dialogues and the projects themselves are built on the latest technology for satellite imagery in the former and high-speed internet connectivity infrastructure for the latter, but this is technology and R&I results developed internationally.

The experience of the AMESD and MESA programmes has prompted considerable policy dialogue both within the AU and African governance circles (regional and national) and indeed beyond with different EU institutions and UN organisations. Building on this experience the AU has also adopted its own African Space Technology strategy linked to the STISA 2024. This is a clear case of EU supported R&I activities having a direct impact on African policies (Ethiopia CN).

An example of impact on policy dialogue at a national level is provided by an AU Research Grant supported project (using EU funds) in Senegal that developed local technologies for improving the production Jatropha. The success of this project led to discussion with the government on setting country level strategies on biofuels (Ethiopia CN).

In South Africa the EU Delegation was involved in the government (Dept. of Science & Technology) policy dialogue on 'Science, Technology and Innovation' that informed the DST's 2015-20 Strategic Plan (South Africa CN).

1.2.3 Indicator 123: Results identified by R&I in a given sector used in other sectors and in support to other sector

No evidence of this has emerged from the research conducted.

2 EQ 2: Impact on partner country research communities

To what extent has DEVCO funding of R&I enabled research communities in partner countries to build up and develop their own R&I capacity, including the ability to actively engage in research networks (regional and international)?

2.1 JC 21: Degree of alignment and coherence of DG DEVCO support to R&I with relevant policies and strategies

Summary judgement

Generally R&I programme documents are aligned and coherent with relevant policy documents from the EU at the global/thematic, regional and national levels. Various examples of this exist at all three levels from the MDGs, via the European Consensus and Council conclusions on PCD, down to regional policies such as the ENP or joint regional strategies such as the JAES.

The EU policies are also generally aligned with and support indigenous regional S&T strategies such as the African STISA-2024 (I-212 and I-213). At the national level CSPs and CSEs also make the link to these regional level framework policies. Evidence from available evaluations also suggests this alignment generally exists with national government policy documents where these exist and where the EU sees this as a priority area for itself. While the EU is not interested in engaging on this in some countries such as Ethiopia, it has also proved itself willing to support the development of national R&I or S&T strategies in others such as in Tunisia. The EU has also made an effort to develop an effective policy dialogue on S&T in more developed countries such as India and South Africa and this generally ensures a high degree of coherence and alignment (I-211).

On a general level, high-level EU policy (e. g. Consensus on Development) is aligned to the outcome of global consultations such as on the MDGs including on R&I. More specific evidence would, however, be useful on the outcomes of regional consultations and the impact these have on EU policy on support to R&I.

2.1.1 Indicator 211: DG DEVCO support aligned with national research priorities in partner countries

EU policy and programming documents indicate a strong general intention to align EU support to partners' policies and to promote coherence. This is achieved through a variety of methods as indicated below.

Policy dialogue processes (such as the Barcelona process for the Mediterranean region or the EU-India joint commission) are established to encourage exchange of thinking and encourage alignment of policies and programme at a general level. Specific examples include:

- ACP S&T Programme project reports (*c-217065*) indicate grants applicants have made efforts to align projects to national policies.
- The CSP 2007-2013 for China shows awareness of the priorities (including R&I) of China's 11th Five Year Plan and a willingness to take on board the outcome of the dialogue with China on S&T and on the Information Society dating back to the 1990s and re-launched in 2004. However, although the CSE for China (2007) does not refer to SISS areas it does stress the value of knowledge exchange with China.

RSPs and CSPs reviewed for this evaluation also show a similar proactive approach to identifying and aligning to the priorities of the relevant authorities:

- The RSP for Southern Africa and on support to NEPAD explains that S&T is seen as a key cross-cutting issue for SADC that the EU will support.
- The CSPs for various countries in the sample for this evaluation such as Chile, Mexico and Tunisia also show awareness of national priorities and a willingness to align to them. The CSP for South Africa emphasises the importance of supporting the government prioritisation for innovation.
- In Latin America, the @lis2 is aligned with existing policy and infrastructure for ICT and the regional eLAC 2010 process.

Various Country Strategy Evaluations also provide evidence that this effort of alignment has been made: The 2007 CSE for India concluded that EU priorities (including on S&T) for co-operation with India have been consistent with the objectives of the Government of India (GoI) Five Year Plans. The CSE 2011 for Tunisia concluded that the strategies of the EU reflected the priorities of the government over time including R&I and education. Equally, the CSE 2010 for Ukraine felt the EU support followed the EU-Ukraine Action Plan that includes S&T and Information Society among its priorities.

S&T Agreements are also a good vehicle for encouraging EU alignment with local S&T priorities. Thus the EU-India S&T Agreement seems to have ensured this alignment with Indian priorities has worked reasonably well over the years. However, while RTD FP7 calls coordinated under the Agreement are seen as well adjusted to Indian priorities, open FP7 calls are seen as following EU priorities. On the other hand the EBTC project (Preparatory Action funded and administered by DEVCO) was not well aligned with government S&T policies in as much as its efforts were essentially catered more for European private sector interests. Yet the GoI is interested in technology transfer and in as much as the project is able to promote this it could be seen as a useful contributor (India CN).

National R&I or S&T strategies, where these exist, can provide a specific focus of EU support in some countries, thereby helping to ensure good alignment:

- In Tunisia much of the work of the DEVCO supported PASRI has been about encouraging to the GoT to develop a national R&I strategy. In the meantime the lack of relevant policies at the national level make alignment difficult, but progress is being made to encourage the government to outline its R&I priorities. Other specific elements of the PASRI (e. g. the MOBIDOC PhD scholarships) were well aligned with related government schemes (Tunisia CN).
- In South Africa, with a relatively strong national strategy and commitment on R&I, EU support was well aligned and consistent with national priority setting (South Africa CN).
- On the other hand in Peru the implementation of a national R&I strategy is in a formative stage so EU policy alignment is also incipient (Peru CN).
- Again in Kenya there was no real government R&I strategy though the ST&I Act is expected to generate a stronger institutional setting and better national prioritisation though capacity remains low. In the meantime prioritisation tends to be driven by donor support (Kenya CN).
- Equally in Ethiopia the latest national S&T strategy is relatively new (2012) though there was an earlier S&T Policy from 2007. So far the EU has shown little interest in relating to these preferring to focus on R&I in sectoral strategies (e. g. agriculture) where alignment is generally good (Ethiopia, CN).
- One respondent to the EUD Survey expressed the view that the EU should focus on national support programmes to R&I as the governance and strategic aspects of R&I are more important than those related to specific sectors.

In sum there are various indications from different contexts that the EU makes a serious effort to align its programmes and policies to national priorities including regional policies adopted by states in a particular region. National examples show however that this is also dependent on the extent to which the government has formulated a national R&I or S&T strategy and created the institutional arrangements required to implement it. The EU is however not always interested to engage with this national policy even if it does exist (Ethiopia), on the other hand the Tunisian case shows that EU support can be very instrumental and well appreciated in encouraging a national debate on R&I where this is needed. How well this approach is maintained across all interventions cannot really be judged from just a few examples but assuming some consistency of action on behalf of the EU the evaluation team may assume this is also likely to be the case elsewhere.

2.1.2 Indicator 212: Regional and global DG DEVCO support for R&I reflects and builds on the relevant R&I strategies

The documentation suggests that at the level of planning and programming DEVCO is keen to make links between the different programmes and projects it supports and show how they can be mutually supportive and build on each other.

Thus both the CSE 2010 Ukraine and the 2014 Innovation Evaluation in Ukraine judge that the EU support on R&I at national and regional levels (ENP) are consistent with each other. The CSP for Mexico stresses the importance of linking Mexico up to EU regional and global support programmes such as @lis, ALBAN, ALFA and Erasmus Mundus. The @lis2 evaluation confirms this link between the regional and national EU support has been effective: that is improving the international and regional ICT connectivity has fuelled demand and network growth at the national level. The Latin America RSP AAP confirms the value and complementarity of the different DEVCO SISS programmes in the region such as @lis and ALBAN.

In Africa the JAES 8th Partnership on SISS provides the forum for AU-EU dialogue on R&I support and joint strategy. The EU supports the AU's main R&I policy, the STISA-2024 (Ethiopia CN). The DEVCO supported MESA project contributes to the implementation of the Integrated African Strategy on Meteorology (Ethiopia CN).

2.1.3 Indicator 213: DG DEVCO support for R&I in line with policy priorities set in regional and global consultative platforms

High-level EU policy documents such as the European Consensus for Development or the 2005 Council Conclusions on PCD already incorporate the outcome of international consultation on development goals (e. g. the MDGs[59]) and identify the importance of R&I and S&T for development.

The 2011 CSE for Tunisia refers to the importance of the regional policy dialogue Barcelona process in terms of setting national priorities, including on R&I, in a wider regional context of co-operation with the EU. In the Mexico CSP the importance of the creation of regional S&T dialogue platforms for the widening of partnerships is underlined. The @lis2 evaluation confirms DEVCO support is in line with Latin American regional policy priorities on ICTs and the information society. The CSE 2010 for Ukraine concludes the EU-Ukraine co-operation strategy is in line with the ENP on developing S&T collaboration with the EU.

The ACP S&T Programme has its origins in an ACP ministerial level meeting in Cape Town (2002) on S&T followed by joint ACP-EU high-level officials meetings. The programme was then designed on the basis of the priorities identified there and developed further in this joint dialogue. Subsequently, the programme has been managed by the ACP Secretariat with oversight by the ACP Committee of Ambassadors.

The JAES 8th Partnership on SISS is specifically based on a consultative structure, the AU-EU dialogue around the Joint Africa-EU Strategy. Both governments and researchers are involved in this. The EU has also been in dialogue with the AU Commission over the STISA2024 (Science, Technology and Innovation Strategy for Africa 2024) and is looking at ways to support this regional process (RTD interview). The DEVCO supported MESA project contributes to the advancement of the work of the AU's Agriculture, Rural Development, Water and Environment Specialised Technical Committee and of the African Ministerial Conference on Environment (Ethiopia CN).

In Latin America, with the political crisis in the *Communidad Andina* there, is a gap in ensuring coherence and alignment of policies. This will make the implementation of an effective regional approach even more difficult (Peru CN).

2.2 JC 22: Increased focus of EU support on 'capacity building' and enhancing institutional sustainability

Summary judgement

A fairly strong emphasis on capacity building generally is evident in EU planning documents (I-221). For instance CSPs refer to skills upgrading, many projects refer to training opportunities and regular references are made to the EU mobility programmes and the scope they offer developing country researchers to be trained in Europe. Systematic attention to building up institutional capacity and sustainability is less regularly apparent in the project or programme documentation, though there are certain programmes (e. g. ACP S&T Prog., PASRI Tunisia) where this is a clear focus. Capacity building has also been understood in terms of supporting research infrastructure particularly with regional high-speed ICT connectivity projects connecting national networks, and various EU funded projects address this area.

This concern with capacity building and institutional development is generally born out in the design of projects at country level though views differ as to the effectiveness in achieving capacity development.

The relative importance of spending on capacity development is hard to ascertain precisely, but one indication is that about 15% of the Inventory from CRIS, that is EUR 150 million, is coded to the DAC Higher Education code. The SISS sector is a prominent part of the Higher Education funds (EUR 97 million) (I-222) indicating the importance capacity building assumes in this sector.

In the case of one major regional project in Africa (MESA) the capacity development component of the project budget amounted to 10%. In others such as in the PASRI project in Tunisia it would be a considerably higher proportion (~65%) (I-222).

[59] The MDG target 8F refers to: "make available the benefits of new technologies, especially ICTs" and has a specific indicator (8.16) on increasing the number of internet users per population.

Capacity for research management is also recognised as a problem in various programmes (e. g. ACP S&TP, Ukraine, ALICE2, PASRI Tunisia) but there is only limited evidence that this is being systematically tackled in some cases (I-224). Interviewees working on Africa indicated this was a serious constraint and major disincentive for researchers in Africa and obstacle for them in applying for international research funds such as FP7.

Sustainability is an issue that is covered from time to time in various ways in the programme documentation though not usually in any analytical depth (I-223). Various examples emerged from field visits of steps being taken to build not just research capacity but also capacity in research project design and research management.

The biggest concern is however probably on the sustainability of funding for research (e. g. with the AU Research Grants administered by the AUC), which is raised by one independent study and is clearly a major issue or in the long term costs of the provision of research data from sources such as European satellites (e. g. MESA project).

The point about continued funding after DEVCO projects end is also acknowledged in programming documents as it is understood that DEVCO will not be able to provide long term funding for R&I. One solution that is regularly offered is that, providing capacities are raised, is that researchers will in due course be able to compete in FP7 calls for which eligibility has now been extended to developing countries. But other evidence (e. g. ACP S&TP) suggests that the process of upgrading capacities to the level required for success with FP7 takes time and continued support.

In the documentation available there is virtually no data on the use of capacity building indicators (I-225) other than simple output data relating to the numbers of participants on courses, grants made, etc. Interviews tended to produce similar output data.

2.2.1 Indicator 221: Strategic and country co-operation related documents recognise importance of adequate R&I capacity for development

DEVCO high level strategic documents such as the Consensus for Development or the Agenda for Change recognise the importance of capacity development at a general level and, for R&I specifically, this is also reflected in key EC Communications on S&T such as COM(2008)588. At lower levels of strategy for regions and countries the importance of building up adequate capacity for R&I is also recognised and carried through.

The programming of the Intra-ACP 10th EDF (and 9th EDF) envelope is very explicit about the need to build capacity for research with a specific programme for Capacity Building for Research. Equally the regional @lis2 AAP *D-19842* refers to DEVCO strategic emphasis on capacity building and highlights the value of the EU's scholarship programmes (Erasmus Mundus, etc.).

Even at the national level, a number of documents analysed clearly recognise how important adequate investment in R&I capacity is for development. For example:

The CSP for Tunisia argues that while investment in R&I has increased there is still a need to strengthen the relevance of training and skills to private sector and international R&D and says EU support should provide the basis for enhanced S&T collaboration. The CSE 2011 for Tunisia concludes the EU has emphasised capacity development in its support to the education sector and some of this for S&T and for postgraduate training.

The CSP for Mexico proposes the EU support should be oriented to improving the quality of higher education and encourage postgraduate exchange with Europe in order to increase skills and employability.

The CSP for Ukraine prioritises support for ICT including research and training and mobility, the 2014 Ukraine Support Package includes support for doctoral and post-doc position at EU universities and various projects emphasise capacity building.

The focus on capacity building is strong in the ACP S&T programming documents and recognised as such by the MTR. While in most countries (those above but also: Peru, Uruguay, RDC, Mauritius, China, Philippines) there does seem to be a recognition of the importance of capacity building for R&I, in others (e. g. Chile), aside from integration into the EU mobility programmes, there is little evidence to suggest a strong emphasis on capacity building.

One argument that is regularly offered (e. g. in the ACP S&T Programme) is that once capacities are sufficiently strong partner country researchers will be in a position to compete for FP7 or Horizon 2020 calls. These offer the prospect of much more extensive funding.

2.2.2 Indicator 222: Relative share in financial allocations to R&I related to capacity development

Overall about 15% (~EUR 150 million) of the value of the total grants listed in the Inventory of DEVCO funding are in the Higher Education sector (according to the DAC sector code although this is not always consistently applied). This is distributed across all four thematic sectors for this evaluation, though the SISS sector has by far the most important share (EUR 97 million). Two thirds of this amount is spent on Inter-University Linkage programmes (e. g. ALFA, Asia Link, EDULINK) that focus more on institutional capacity building. The other third is spent on building the capacity of research infrastructure and particularly high-speed internet networks between research organisations with such projects such as @lis (Latin America), CAREN (Central Asia), ACP Connect and TEIN (Asia) have also been an important funding priority. Some EUR 55.5 million was spent on this aspect as there some funds in this area are also coded to Information and Communication in the Inventory.

Both the MESA project and its predecessor the AMESD include important capacity development components that constitute about 10% (EUR 3 million) of the overall budget of the projects. Out of the total PASRI budget of EUR 12 million it is estimated that about 65% was dedicated to different types of capacity development work (Tunisia CN).

Some DEVCO programmes put a specific emphasis on capacity building. Thus, the Intra-ACP S&T programme (EDF) is expected to focus on building capacity for research rather than funding actual research, though the 2012 MTR of the programme felt that in practice the latter needed to be strengthened.

Another important element of support to capacity development is mobility of student and faculty through Erasmus Mundus and Intra-ACP Mobility Scheme that falls outside CRIS but comes under the EACEA. For example, EM Action 2 scholarships awarded to (post-)doctoral researchers and academic staff in 2007-2013 amounted to EUR 237 million whereas the Intra-ACP scheme that supports AU's Nyerere Scholarships accounted for a modest EUR 4 million.

In the DCI the EM Action 2 programme has windows for other regions. The @lis2 Interim Report confirms capacity building is a strong element of the project and stresses the complementarity with the DCI EM2 for Latin America. Equally it highlights the importance of capacity building on the infrastructural side with ICT projects. The CSE 2007 for India recommends the EU should emphasise capacity development more and enhance access to Erasmus Mundus whereas the CSE 2011 for Tunisia feels the EU is already making an important effort in this direction with 20% of the EU allocation to the country being spent on education and professional training.

In practice research organisations in different countries (e. g. India, Tunisia) argue that while Erasmus Mundus does build the capacity of individuals it has little impact on institutional development and capacity (India and Tunisia CNs).

2.2.3 Indicator 223: Adequate consideration of sustainability aspects (e. g. provision, maintenance and replacement of equipment) in planning and implementation of EU support

There are various examples of consideration being given to sustainability but equally some more negative examples. At the level of regional programmes this is evident in the following examples:

- The @lis Evaluation feels sustainability is strong because project works with existing Latin American institutions. The @lis2 Interim Report refers to efforts to build up a sustainability model involving a particular organisational scheme with the right technical and managerial capabilities.
- The MTR of the ACP S&T report felt the programme was effective in helping to create and enhance networks and that this would be a factor for sustainability.
- The HTSPE Mapping Study of Best Practices (JAES Case Study) identified the lack of an adequate co-financing mechanism as a concern for sustainability of the AU Research Grant Programme which the EU had been funding. This remained a concern at the time of the field visit for this evaluation as, although another cycle of funding for the AU Research Grants had been agreed, the EU was clear that it was highly unlikely there would be a third. The hope was expressed that the AU would be able to find its own funding to continue (Ethiopia CN).
- The same hope was expressed for the MESA project which has been funded by the EU as a follow-up to the AMESD programme. For the time being the AU has not found a longer term funding solution (Ethiopia CN).
- On the other hand CGIAR's outreach in Burkina was evaluated as poor, with the results of research not shared widely among potential end-users thereby limiting potential capacity development (Burkina CN).

EU support at the national level, also brings up both positive and negative examples:

- At the time of the CSE (2009), EU support to research infrastructure in Vietnam apparently featured a high degree of stakeholder involvement which should be a useful ingredient for sustainability.
- A more negative examples is provided by the Ukraine 2014 Support Package which lists support to upgrade facilities for universities but makes no reference to how maintenance will be financed.
- In Peru it was felt there was no clear strategy to strengthen institutional capacities that contribute to the national innovation system.
- The PASRI project in Tunisia explicitly sought to address weaknesses and sustainability issues in the national R&I system looking not just at research capacity but also at R&I institutional, policy and management capacity. On the other hand the sustainability of the PASRI's work was itself in question at the time of the visit with the project having come to an end and no clear plan in place to ensure the work continued (Tunisia CN).

2.2.4 Indicator 224: Increased capacity of research administration staff including senior scientists in administrative posts to identify and manage R&I opportunities

An intention to upgrade research management and administration emerges from the documentation and there are many indications that this is seen as a serious problem in a wide variety of locations, but progress achieved in this area is very difficult to assess and there is no data on whether senior scientists are involved or not.

The Ukraine 2014 Support Package lists support for capacity building to modernise curricula, training and upgrade facilities for universities. The CSP for Tunisia stresses the importance of support to the governance of universities and to research and innovation management. The ALICE2 Interim Report refers to the need to build up the right technical and managerial capabilities for research networks as an element for sustainability and includes this in its work plan. The ACP S&T MTR concludes that in the Caribbean "after 2 years of implementation, the emergence of a professional cadre of R&I management practitioners and departments is evident and this could, by the end of the project, contribute to increasing the practical outputs from research results in qualitative and quantitative terms." Interviews for the ACP S&T programme confirmed that while there was some progress in the Caribbean, the lack of research management capacity was still a serious problem in Africa. This was also confirmed by RTD staff working on Africa (and equally echoed in an EEAS interview) saying this was one of the major constraints faced by African researchers applying for international R&I funds such as FP7.

At the AU Commission the EU has supported building up the institutional capacity to manage the AU Research Grants so that the second cycle of allocation of research grants would be administered very largely by the AUC on its own (Ethiopia CN).

In Burkina interviewees felt EU had supported institutional development not least in building capacity for research design and management (Burkina CN). This was equally the case with the PASRI in Tunisia with explicit efforts to train persons in research design and management (Tunisia CN)

2.2.5 Indicator 225: Existence and quality of capacity building related indicators in sector support programmes, and their achievement (e. g. related to incentives to keep and attract qualified scientific, maintenance and engineering staff)

SISS is not a traditional sector covered by SBS or SWAps but this umbrella name covers support to the S&T and ICT sectors and there are some cases of support to these (e. g. PASRI, Tunisia). In addition it is worth mentioning some of the other projects in the SISS portfolio which have an effect across the higher education sector.

Various programming and evaluation documents talk about the numbers of researchers involved in the different programmes or having received support but such output figures are just about the only indicator offered in most available documents. In particular, there are little or no qualitative indications offered even in evaluation studies consulted. For instance the CAREN2 description comments that as a result of CAREN1 "Over 500 000 Central Asian researchers, academics and students are benefitting from the high quality, high capacity international Internet connectivity the CAREN network provides."

Equally, the CSP Tunisia suggests using the number of twinning between Tunisian and European institutions as an indicator for capacity building. Documentation on the PASRI project in Tunisia lists numbers of grantees, attendees at seminars and conferences but also has some data on innovation uptake by firms though the project ended fairly recently and an in depth analysis is not yet available. The Ukraine Joint Support Office (JSO) project aimed at building capacity among prospective appli-

cant to FP7 also relies on output data in terms of number of participants at courses and seminars and the number of their 'graduates' who then move on to join in applications to FP7.

There is no evidence of the use of such CB indicators in most of the programmes reviewed under SISS such as the ACP S&T Programme, the JAES 8th Partnership or MESA. Issues of poor quality research proposals and research management do arise in these programmes but so far it is not clear that these are being systematically tackled in a results oriented manner.

Interviewees (ACP, DEVCO, RTD, EEAS) frequently cited the lack of availability of research funds in Africa, along with inadequate facilities and research management capacity, were a major disincentive for keeping qualified researchers on the continent and hence had a negative impact on the higher education sector as a whole as well as on R&I capacity. Providing funds for carrying out research in Africa was therefore important in terms of creating incentives as well as in terms of capacity.

2.3 JC 23: Improved access of developing countries' research communities to EU FP7 funding through RTD

Summary judgement

DG RTD data for FP7 shows over 1,700 cases of projects in the SISS sector (which combines several RTD sectors) with participants from all developing country regions. Regional distribution varies but it would seem that regions closer to the EU generally have higher participation rates as do countries with higher levels of income and more research and institutional capacity. The latter point is also born out by information gathered during the field work (I-232). At a regional level, interestingly, African participation seems to do as well as Asian or Latin Americans.

DG RTD statistics show an upward participation trend from one Framework Programme to another but within each FP the data is only broken down by Call for Proposals and not by year. DG RTD do undertake specific actions to spread awareness of FP opportunities. For instance BILAT programmes and Counsellors in EUDs are intended to raise awareness of FP7 among research communities, but these only exist in some countries.

Evidence from the ten country visits made it apparent that there are very few cases in these countries of local researchers and ROs taking the lead in FP7 projects. Even in a country with considerable research capacity like India this was not common. The reasons for this seemed to be of four different types:

a) The limited number of FP7 calls that are on topics relevant to developing country priorities (there are some clear exceptions to this such as the FP7 Africa Call);
b) Limited institutional capacity and experience of managing world class research projects at the standard expected by FP7;
c) The (both perceived and real) complexity and rigour of EU procedures both for the application stages and for the actual management and accounting;
d) Incompatibility with national legal and accounting procedures.

Researchers met during field visits were generally aware of FP7, but not necessarily of the details or specificities of particular FP7 Calls. A number of DEVCO projects reviewed (e. g. in Tunisia-PASRI, Ukraine-JSO) provide support specifically for raising awareness of FP7 calls and assistance to potential candidate applicants. In the case of PASRI assistance was also provided to ROs for the management of FP7 funds once received.

There is also the suggestion from interviews that ACP researchers use the ACP S&T programme as a learning ground to build up their knowledge and experience of participating in international research projects to subsequently apply to FP7 however, this hypothesis could not be substantiated as there were too few cases and no data on researchers participating in one and then the other scheme.

2.3.1 Indicator 231: Evidence for information actions targeted to research communities in developing countries regarding FP7 proposals

About half the 22 respondents to the EUD Survey declared that their Delegation had implemented some information actions about EU funding for R&I in the period of the evaluation. A majority of these actions covered information for FP7 and a little more than a third on information on DEVCO support to R&I. Examples of the type of action undertaken included specific information campaigns, events at science fairs organised by the Ministry of S&T, side events at EU bilateral meetings and workshops on specific programmes. For FP7 specifically awareness raising actions included information events, workshops on FP7 projects, presentations at universities and conferences and information through national focal points. Most of these were rated highly successful. Some EUDs also organised training

workshops and provided written advice. EUDs also provided practical support to access DEVCO financing.

Otherwise information demonstrating the variety of methods used is available for specific cases from documents and field missions. For example:

- On the RTD side BILAT programmes provide for this type of awareness raising work but these only exist in certain countries. Equally, RTD funded S&T Counsellors in EUDs do this work but there are only a limited number of them.
- ESASTAP: For the past decade at least RTD has had specific projects that helped people to access FP7 funding, either BILAT (bilateral) projects (all countries with a Science and Technology agreement) or regional ones (INCO-NETS). For instance in South Africa, the ESASTAP+ project has been running for four years, and before that, 12 years already (version 1 and then version 2)[60].
- In terms of DEVCO funded projects, the Ukraine JSO (Joint Support Office) funded from the ENP established an office which ran a series of awareness raising and training seminars over several years to encourage Ukrainian researchers to apply for FP7.
- Equally the DEVCO funded PASRI project in Tunisia aims to raise awareness of FP7 opportunities in the research community.
- In India the S&T Counsellor and EURAXESS provide information and run Higher Education fairs (India CN). In Ethiopia the EUD and S&T Counsellor had also advertised FP7 calls and run workshops. In Vietnam this has been done by SEA-EU-NET. There was no evidence of this happening in some other countries visited (Mauritius, Kenya, Burkina Faso).

Despite these examples, in most countries visited the EEAS/DEVCO staff in the EUDs appeared to have little information on FP7 and did not factor this systematically into their planning and work. The exceptions to this were where RTD S&T Counsellors were in place (New Delhi and Addis Abeba, but the latter also covering African and particularly South Africa). In these cases the Counsellors interacted with other EUD staff and there was generally greater awareness and knowledge of the scope for co-ordination with DG RTD.

2.3.2 Indicator 232: Trends in number, size, geographic and thematic diversity of FP7 proposals submitted and accepted

FP7 EU-Africa related projects have involved about 800 African participants. This included the FP7 Africa Call 2010. This is confirmed by DG RTD statistics which list 638 participants from sub-Saharan African countries and a further 202 participants from North African countries

DG RTD data list 1,700 funded projects in the SISS category under FP7 with participants across all developing countries out of which 230 are in the selected developing countries for this evaluation. However, there are major variations per region. For instance across all developing country regions in the ICT sector there are 888 participants in total (in 792 projects), 465 of which come from Mediterranean partner countries, 100 or so each from the other regions (SSA, Central Asia & Eastern Europe, Asia, Latin America), only five from the Caribbean and none from the Pacific. Levels of participants in other sectors show a similar distribution suggesting that participation is generally higher in the regions closest to the EU and surprisingly, given lower levels of development, African participation seems as present and in some sectors even higher than Asian or Latin American participation.

RTD staff indicate their statistics shows that developing country participation has increased over time since FP4. But it is difficult to see clear trends within any one Framework Programme because the data is only broken down by Call for Proposals and not by year. Clear trends are also difficult to discern because of the pattern or responses associated with publishing each Calls. The Calls are regular but erratic in frequency and for each there is a distinct pattern linked to the date of decisions and completion calendars. For South Africa for instance, participation has increased all the time, but there is also an inverted curve for many countries because participation starts quite low with each new FP, then increases, and then goes down again. So the trends relate to the number of calls published and there

[60] Specificities of the ESASTAP project are coordination and support actions. In the past, only the countries concerned with the projects were supported, but now consortiums are being formed with partners of their choice (in the case of South Africa, there are European partners) to promote H2020 (they organise information session, workshops, etc.). In South Africa, the government funded its own network of contact points. It has now between ten and 12 contact points. The aim of RTD support is to stimulate these networks to be set up, and then assist them (evidence from RTD shows that chances are much higher to get funding through FP7 with those networks in place). The FP7 funding pays for almost everything for the project and the staff (80%), but does not fund the network: so it is really an operational budget.

is a strong correlation in participation rates. An evaluation of this was done in South Africa (RTD interview).

There are no quotas, but the whole programme is open to everyone. Targeted actions are encouraged where researchers are asked to work together. In the past, SICAs (Specific Instrument Cooperation Actions) were used, beginning under FP7 and stopped for the last two years of FP7. Despite the no quota policy, doubling international participation is a political objective, though it is not part of the co-operation strategy and has no clear targets for the moment (RTD interview).

In the first FP7 calls, international co-operation drastically decreased because it was much less targeted, so RTD realised that other things needed to be done. RTD thus engaged in intensive dialogue with those who spent the money to re-target the calls for participants in certain parts of the world. Half of the funding of the recent projects went to African researchers (EUR 5 million out of EUR 70 million); Africa is the first recipient region in terms of participation of FP7, but only 20% of the funds go to Africans (80% to Europeans) (RTD interview). A specific example of targeting was the FP7 Africa Call, done by RTD in collaboration with DEVCO.

For Asia, under FP7, EUR 40 million went to ASEAN countries, all through calls that were non-specific to ASEAN. But the topics of many FP7 calls resonate in the ASEAN context. In effect, RTD estimates that this the European money leveraged around EUR 500 million in research funding in Asia so about a 1:12 ratio (RTD interview).

For Latin America, since 1995-6 there have been co-operation agreements with Brazil, Chile, Argentina, and Mexico. Those countries have BILAT projects for supporting policy dialogue, and steering committees meet every year to discuss things to be done together. FP7 was the first time RTD saw an increase in co-operation; it is more of a bottom-up approach than a targeted one. Together these four countries cover 80% of the total FP7 participation (RTD interview).

At the country level field visits resulted in the following evidence (cf. Country Notes)

- In India there were over 150 successful Indian applicants to FP7 in the four sectors for this evaluation. Indian researchers apparently do not experience particular difficulties in participating but were reluctant to lead or get involved in the complexity of the management of FP7 projects preferring to leave this to European colleagues. They tend to get access through European research contacts. There is a general view that the topics of open FP7 call serve a European research agenda generally of little interest to India but the coordinated calls are more appropriate for them. Indian researchers also have other sources of funding.
- Vietnamese participation in FP7 has been strong with 48 different ROs in 41 different FP7 projects. The lead partner is typically European and writes the proposal. One RO was identified who had had both DEVCO funding for R&I and had participated in an FP7 project.
- For Ukraine, the DEVCO funded JSO has had the objective of promoting Ukrainian participation in FP7 and seems to have been largely successful with some 97 participants in projects. Some Ukrainian ROs acted as consortium leaders for some FP7 projects but only in a few ERA-wide call were they eligible.
- Tunisian access to FP7 is felt to be good, but again European contacts are the main route to entry. Only a couple of Tunisian researcher institutions feel capable of leading and managing FP7 projects. Difficulties with compatibility of national accounting rules for ROs have been resolved by the government agency that ran the PASRI providing this as a service for researchers in universities and institutes. There has also been some Tunisian private sector participation in FP7.
- In South Africa there were 133 successful applicants in FP7 projects.
- Kenyan participation in FP7 stood at 55 successful applicants.
- There have only been 30 successful Ethiopian applicants to FP7 and all through EU led consortia. Researchers feel the FP7 conditions and procedures are challenging, but some who have benefited have been positive about the experience. The FP7 Africa Call was clearly very important for one researcher who felt other FP7 calls were not relevant for Ethiopian needs.
- In Burkina participation is very low and only via European partners. Researchers face various practical and institutional difficulties. No national support system exists.
- In Peru access to FP7 is considered challenging and is mostly dependent on existing personal contacts with European researchers. Information is not readily available.
- Mauritian researchers have not participated in FP7 apparently due to the complex conditions and procedures.
- For Horizon 2020: In various countries visited it is generally expected that potential national RO participation in Horizon 2020 will be much lower than for FP7 given the changes in the

rules. Only in Tunisia, with a new association agreement for Horizon 2020, were ROs and the government officials more optimistic.

Thematic diversity is driven by the subject matter of the Calls RTD chooses to publish. These are determined by RTD officials' (e. g. by Science Counsellors and by HQ staff) identification of research needs based on dialogue with the research communities and government officials (RTD interviews).

Finally there is little evidence of the effect of DEVCO funding in helping researchers on their way to access FP7. There is circumstantial evidence from interviews that the ACP S&T Programme serves as a 'nursery' to build up ACP researchers capabilities and contact in a way that should, in due course, help them to apply for FP7 funding, but more specific evidence will be required on this to demonstrate a real effect as interviews suggest the real numbers making this transition are small.

In sum, the picture that emerges is of a steady increase of developing country involvement RTD Framework Programmes but particularly as countries become richer. Countries closer to the EU also appear to do better. Within each FP data is only broken down by Call and not by year, so it is not possible to show clear trends within the period 2007-2013. It is also not possible to demonstrate a link between DEVCO funded projects and FP7 applications. Themes for FP7 calls are based on dialogue between RTD staff and different stakeholders.

2.3.3 Indicator 233: EU R&I programmes acknowledged by partner country research institutions

Many researchers interviewed during the field visits were well aware of the EU's FP7 programmes and indeed knew about the successor Horizon 2020. However, they were not necessarily very aware of how/where to access specific or detailed information on FP7. The quality of the work done in FP7 projects was also respected and seen as an important resource. Indian researchers for instance acknowledged the value and the richness of the results to be found on the EU FP7 websites (India CN).

One or two researchers met in Ethiopia but none in Tunisia were aware of the AU Research Grant programme administered by the AUC and funded by DEVCO (Ethiopia and Tunisia CNs).

2.4 JC 24: Enhanced networking of developing countries' researchers at regional and international level

Summary judgement

There are many references to support to enhanced networking of developing country researchers at regional and international levels. EU programming documents are generally keen on this aspect and there is considerable evidence from the field visits (I-241). This is clearly an important element of EU support that researchers also value and find extremely important for their research work. It is also apparent that the constitution of consortia for FP7 and other research grant applications is fed by this networking. Erasmus Mundus scholarships at masters level already helps scholars starts this process of building up networks that they can use if they go to becoming researchers. Indeed this is probably one of the most important roles the EM programme at that level plays in supporting research. Examples also came to light of collaborations that started in DEVCO funded projects that then went on foster successful FP7 consortia. Precise data on shares of funding for networking in overall budgets provided by the EU is harder to come by (I-241).

Most of the cases of policy dialogue seem to largely involve EU and government officials but there are also a few examples of R&I professionals being involved but it is difficult to judge if this practice is really that widespread (I-242).

One Mapping Study of best practice (JAES Case Study) also stresses the importance of this as one factor that tends to encourage quality research so it is a key issue (I-243). There are many examples in the Inventory of projects with both partner country and European ROs involved but the latter are most prominent in the contracting and extensive in depth analysis would be required to get an accurate picture of the quality of the partnership. The one prominent and laudable exception to this is the AU-Africa Research Grants initiative funded by DEVCO under the JAES. Of the 20 grants allocated in to consortia of African and European research organisations the first round, 16 are led by African ROs.

Researchers interviewed in the field were clear that the FP7 projects they were involved regularly led to joint publications and saw this as a benefit of participating in FP7 consortia as their names then became known. Indeed this often led to further requests in other international research consortia.

It proved impractical to get quantitative data for two indicators for this JC: the share of funding to networking activities (I-241) and the number of jointly authored scientific papers (I-245).

2.4.1 Indicator 241: Share of funding for national, regional and global R&I networking activities

A good deal of evidence points to the importance attached to supporting networking in European R&I funding though it is not straightforward to identify specific amounts. However, the following points to the scale and diversity of this type of support:

- The JSO-ERA project in Ukraine has supported networking activities. It also laid the groundwork for Ukrainian participation in the Enterprise Europe Network under the new COSME programme (Ukraine CN).
- SWITCH-Asia has a Network Facility which supports networking of project holders notably through organising regional conferences (India CN) though the bulk of the EUR 1.4 million budget goes on project grants.
- Enhanced networking was one of the three main axes of the PASRI project in Tunisia. Training course encouraged networking among participants and also coached them in developing networks both nationally and internationally on which they could build partnerships for FP7 project applications (Tunisia CN).
- FP7 funds a collaboration between Delft TU and RCEE in Vietnam that has been going on for many years and originally started with a DEVCO funded project (Vietnam CN)
- Erasmus Mundus inherently also helps researchers create the networks they then use in their future research work. However, these networks are by large personal rather than institutional (India CN) though once researchers become more settled in a particular RO that institution can also benefit.
- DG RTD FP7 research grants involving consortia of researchers inherently support a certain level of networking among researchers (India, Vietnam, Ethiopia, Tunisia CNs). In addition however FP7 initiatives have specifically supported networking activities for instance in the case of India with the New Indigo and Inno Indigo coordinated calls (India CN).
- An FP7 grant was made to set up ERANet-LAC, a network of Latin American and European researchers that has contributed to enhanced networking of researchers on the two continents (Peru CN).

2.4.2 Indicator 242: Increased participation of partner country R&I professionals in national, regional and global R&I policy dialogues

There is limited evidence available on this indicator. Policy dialogues certainly occur in different programmes at different levels (national and regional). In the SISS sector, there is no evidence of global dialogue. However, this dialogue appears to be largely between EU and partner officials although some dialogues also involve R&I professionals.

Specific examples include:

- The Ukraine 2013 Association Agenda talks of the need to improve the performance of the S&T agreement so as to enhance the participation of Ukrainian research entities in the projects of European programmes via the route of greater involvement in policy dialogue. Moreover, the Ukraine JSO project (c-170251) organised a series of networking activities in Ukraine and with various EU countries.
- The 2008 EU-India Joint Action Plan notes that S&T collaboration has increased across the board with shared partnerships, co-investment in research and technology development and dialogue has moved up to the ministerial level. The dialogue on setting priorities for this joint work is largely conducted by senior officials from DG RTD and the GoI DST and does not seem to systematically involve researchers though both parties do consult their respective research communities.
- CAREN2 description refers to increased participation of R&I professionals from Central Asian and Europe in policy dialogue and in each other's projects.
- The ACP S&T is originally based on a ACP Ministerial level dialogue on S&T but it is now largely administered by the ACP Secretariat and a Programme Management Unit (PMU) under the supervision of the ACP Committee of Ambassadors – there does not appear to be much systematic national or regional level dialogue around the project or with ACP R&I professionals.
- The AU-Africa Research Grants programme is administered by the AU Commission in consultation with the EUD and priorities are set in dialogue between the two sets of officials though there is also some consultation with researchers.

2.4.3 Indicator 243: Evidence for South-South networks at regional level due to EU support

There are only a few cases where South-South regional dialogues seem to have benefited from EU support:

- The CAREN2 description (*c-328578*) reports that CAREN1 has led regional collaboration between HEI's and quotes the example, the interconnection of the campuses of the University of Central Asia and the Aga Khan Development Network. Several Central Asian HEIs are also setting up a regional geo-hazard information system.
- The @lis2 Interim Report refers to efforts made by CLARA to link with C@ribNET so as to share information and resources between the two networks.
- The Caribbean One Health project is an example of a regional network that the EU supports.
- The EU funded PASRI project in Tunisia (*c-291276*) includes an element of support to networking among researchers in the Maghreb and with the EU. PASRI also prompted the voluntary creation of a network of trainers in Tunisia to help share expertise on research project design, funding applications and project management (Tunisia CN).
- The REAFOR project in RDC (*c-195095*) seeks to dynamise research regional networks and is intended to involve linkups with CIFOR and ASARECA.
- Ethiopian researchers commented positively on the value of ASARECA as a regional network for researchers in the agriculture and food security sector (Ethiopia, CN).

The HTSPE Mapping Study of Best Practices (JAES Case Study) concluded that collaborative models that support the consolidation of long-lasting partnerships are most fruitful for good quality R&I work. They tend to be built on personal links and past joint-experiences.

2.4.4 Indicator 244: Number and size of joint R&I projects between partner country and European organisations

Joint projects involving European and partner country ROs appear to be generally common in the Inventory. However, European ROs are most prominent in the contracting and only an extensive detailed analysis would give an adequate picture of how many are genuinely joint projects with both European and partner country ROs playing important roles though it is clear that some effort is made to give African ROs more prominence. Some snapshot examples of different types of projects give a good indication of the range and scope.

Thus, the ACP S&TP and JAES 8th Partnership Africa Research Grants (ARG) Programme consist of collections of such joint projects. The ACP S&TP has funded 56 joint projects. Most of these are inside or close to the top of the range EUR 0.5-1 million, but a couple are around EUR 2 million. The ceiling for the AU-ARG component of the ACP S&TP administered by the AUC is EUR 750,000. Under the AU-ARG 20 grants were allocated out of which only four are led by European ROs and the rest are all led by African ROs. The HTSPE Mapping Study of the JAES covered 150+ projects in its inventory for the period 2008-2012 all of which involved joint partnerships between European and African partners.

Otherwise, the Ukraine 2013 Association Agenda talks of the need to improve the performance of the S&T agreement so as to enhance the participation of Ukrainian research entities in the projects of European programmes. The CAREN2 description reports that: "The NRENs are expanding their national networks and the CAREN network is starting to be used for collaborative programmes with Europe in fields such as solar and environmental research, e-health and distance learning".

The Mobility grants involve numerous small grants to individuals. For instance, there were 3,292 EM Action 2 scholarships to (post-)doc researchers and academic staff in the period 2007-2013 of which 1,565 in China and India. PhD scholarships (1,568) cost on average EUR 40,000 each while post-docs (660) and staff mobility (1,064) involved much lower sums. The Intra-ACP Mobility Scheme for the two years 2011-2012 provided 205 scholarships for PhDs and staff for a total value of just over EUR 4 million. Again, the average value of these scholarships was much higher for PhD students (EUR 28,795) than for staff (EUR 3,107).

2.4.5 Indicator 245: Number of jointly authored scientific papers / presentations / research papers (North-South, South-South, North-South-South) resulting from FP7 projects

Interviews with researchers in several countries indicated that they were regularly involved in joint publications based on FP7 funded research projects. They saw this as one of the benefits of involvement in FP7 projects and this also led to further development of their networks (Ethiopia, India, Tunisia CNs). However, no quantitative data could be gathered on this indicator in the SISS sector.

3 EQ 3: Instruments and modalities

To what extent has DG DEVCO in its support to R&I used its available instruments in a way that maximises their value?

3.1 JC 31: Appropriateness of the financing modalities and types of funding under different EU instruments and the way they have been applied for enhancing R&I

Summary judgement

There is plentiful evidence to suggest that a wide range of different financing modalities and types of funding under different EU instruments has indeed been used in a varied and flexible way depending on circumstances. However, this is really at a general level within the common sectors such as health or education that the Commission works and does not apply specifically to R&I. Some use of budget support in certain circumstances is also evident and in some cases R&I activities would have been included in wider sector support. On the other hand SISS is not a regular 'sector' and does not appear as such.

Justifications for the choices made are commonly found in programme documents and generally reviewed positively by available evaluations; however, these are usually at the level of general justifications for different modalities and instruments and not particularly related to R&I considerations. A wide range of different research institutions is benefiting from the grants and there is as yet no evidence to suggest the choice of those supported is not appropriate at a general level or that there might be systemic difficulties for other relevant institutions, that may currently be excluded, to gain access to funding.

Evidence from cases of R&I SISS funding across the different regional instruments used by the EU show fairly similar patterns of funding consistent with the objectives of each of these instruments and the general use made of them.

Certain types of funding modalities carry difficulties in certain circumstances. Calls for proposals and project funding create problems of continuity and matching long term research cycles with short term funding cycles. Managing funds for international consortia is difficult for ROs situated in non-hard currency countries creating an incentive to let European ROs with Euro bank accounts lead consortia or at least manage the administration. In poorer countries with limited institutional capacity for R&I funds for recurrent financial expenditure are inadequate and EU project funding becomes with its limited expense eligibility criteria is inadequate to really cover expenditure. EU procedures are widely seen as excessive and too rigid.

In sum, while the choices of modalities may be appropriate in terms of the choice available to the EU they are often inadequate, unduly cumbersome or even inaccessible for some of the ROs the EU might wish to fund. One solution is to find intermediaries (e. g. get European ROs in research consortia) to manage the funding and another is for the EU to work more collaboratively with complementary partners (e. g. in India the FP7 coordinated calls were co-funded by the Indian government enabling Indian ROs to use national procedures – India CN). A third would be for the EU to consider defining certain conditions under which it could use simplified procedures.

3.1.1 Indicator 311: Evidence for reasonable choice of financial modalities and types of funding to support R&I

By and large the inventory shows that DEVCO funding to R&I and particularly to SISS has been done by using programme and project modalities. Some R&I work may have been funded as a minor part of sector budget support with wider purposes than R&I. But SISS as a category is not really a widely recognised 'sector' as such nor used for SBS.

However a few examples of the use of budget support did come up though with varying degrees of success. Some positive examples included:

- Judicious use of GBS in Mauritius from 10th EDF and EU budget lines has reinforced EU dialogue with the Government of Mauritius (GoM) and other development partners and promoted ownership and alignment (Mauritius CN).

- In South Africa the government had used SBS to strengthen capacity at the DST while leaving RTD funds to cater for actual research funding (South Africa CN); and
- The Egypt Evaluation felt the EU had been imaginative in using SBS to support reform in the Education sector by linking it to the implementation of policy measures some of which included given more prominence to R&I. They had also actively involved the Government and other donors in the design of the SBS support. The MR 2012 also talks positively about the way decisions are taken locally in the use of small grants from the EU-Egypt Innovation Fund.

On the other hand in Burkina the use of budget support when neither the government nor the EU prioritised research did not help create good conditions for R&I (Burkina CN).

Aside from budget support a wide variety of other different choices are made for a variety of reasons that are perhaps best illustrated with a series of examples at regional and national levels.

At the regional level examples include:

- ACP S&T administrators suggested (in interviews) that the ACP S&T programme acts as a good training ground to encourage ACP researchers to subsequently apply for FP7 funding and that 'the same names of institutions do crop up' in both the ACP S&T calls and those for FP7 though no specific evidence of this assertion was available.
- The ACP S&TP II (*D-22053*) contract annexes argue that the Programme is complementary, to a whole series of other EU initiatives (FP7 Africa Call – EUR 63 million, and INCONETS, to FSTP, to EIARD (European Initiative for Agricultural Research for Development), EU mobility schemes, ACP research grants for sustainable development, ACP ICT and ACP Connect and to bilateral programmes of MS as well as those of multilateral actors such as the World Bank); though as the contract does not providing any clear reasoning for this rather long list the reader is left with the impression the complementarity has not been thought through. The ACP S&T Programme (see Case Study) is financed from the 10th and 11th EDF Intra-ACP envelope which is appropriate as it covers the whole ACP area. The ACP S&T Programme MTR expresses concern about the sustainability of the EU funding and argues other sources need to be developed.
- There was little awareness among researchers of DEVCO research funds channelled through the AU (e. g. ARG) (Tunisia and Ethiopia CNs). These funds are limited and the ARG is still new (Ethiopia CN).
- Unusually, direct centralised management was used to handle the grant to DANTE under @lis2 (HE Action Fiche D-21576) regional high-speed internet infrastructure project because DANTE has specialised expertise and was argued to be in a monopoly position.
- ILRI (Ethiopia), part of the CGIAR network, provides a good example of a regional RO that makes use of EU funds through multiple channels (CGIAR, IFAD, SADC, multi-donor consortia) and from various instruments (DCI, EDF-RIPs, Food Facility, FP7, etc.). Project funding on three- or four-year contracts caused difficulty with research projects that usually have much longer cycles. In livestock research it is difficult to see results in anything less than six or seven years. This meant ILRI was regularly trying to go for four year projects with three year extensions. Medium to long term commitment from a donor is therefore important for research (Ethiopia CN).
- ASARECA is funded through a multi-donor World Bank trust fund to which the EU contributes. This was felt to simplify funding, but latterly donors have become unwilling to fund the network at the level it would hope to get.

While at the national level Country Strategy Papers and Evaluations suggest the following:

- The CSP for Tunisia proposes to strengthen the national contact points, public awareness raising activities and advice available so as to encourage Tunisian applications to the EU FPs. Support would also be provided to research administration, identification of opportunities and advice on twinning with European researchers. The CSP also proposes measures to encourage Tunisian researchers to integrate into European research networks. The BS Evaluation (2011) considers the EU has used the BS modality in an appropriate manner in Tunisia and has achieved a good level of complementarity between the different instruments it has used. In particular the use of SBS in the education sector has contributed positively to the reform in this sector though no direct link is made to support to R&I.
- The CSP Mexico highlights the need for flexibility in the choice of modalities. Given the country's state of development scholarships and exchange programmes are appropriate for co-operation on education and scientific research and have to be used in innovative ways. It also noted that the EIB provided loans for support to S&T co-operation. It proposes to establish a sectoral agreement on education and talks about possible Mexican co-financing.

- The CSP Ukraine outlines the variety of instruments used to provide support for different purposes: TACIS, EIDHR, ECHO and the Stability Instrument (in the future) but does not indicate what modalities are to be used. The CSE Ukraine concluded TACIS was 'used flexibly' thereby helping projects to deliver expected outcomes, but does not detail or explain the choices of modalities used. The 2014 Ukraine Innovation Evaluation does not identify financing modalities as a problem but they focus more on the efficiency of the projects than of the support provided.
- The CSP Tanzania says that as a sugar protocol country it benefits from 'accompanying measures' for 2007-2013 that can be used to support capacity building and 'restructuring of research and training'.

Equally at the national level field missions produced the following evidence:

- In India funding modalities and the use of different instruments were appropriate, but it was apparent that the PP-AP action used for the EBTC was not well integrated into the regular programming and this seems to have contributed to poor alignment. Issues (e. g. continuity) also arose with the use of Call for Proposals though under certain conditions it was also evident that it worked well (India CN).
- The project funding modality used for PASRI in Tunisia did not raise any particular comments and seemed to work well (Tunisia CN).
- In several countries (Burkina, Ethiopia, Tunisia, India CNs) there was a general view that EU procedures (be it DEVCO or RTD) were overly complex and unnecessarily detailed creating a strong disincentive to apply for EU funding particularly if there were ready alternatives (e. g. in India). This also affects the way projects are implemented limiting the scope and incentives for encouraging creativity and innovation. Equally the EU is perceived as too rigid when modifications become necessary (Burkina CN).
- In circumstances where institutional capacity is limited (e. g. in poorer settings) some of the spending eligibility conditions on EU funding also proved to be quite severe handicaps in developing or implementing research projects (Burkina CN), though this is not so serious where there are more local resources (e. g. India).
- The EU's growing use of tendering in Peru meant that projects were much less likely to receive consecutive grants leading to continuity and sustainability issues. This also identified in other countries and is for instance a problem with SWITCH-Asia (Peru, India, Burkina, Ethiopia, Tunisia CNs). Even if ROs did obtain second grants there was often a gap in funding that created bridging finance difficulties (Peru CN).

Finally *RTD funding through FP7* came up regularly during the field missions with the following comments made as to its suitability as a modality:

- Participation in FP6 and FP7 research projects are mentioned regularly (e. g. Vietnam CSP, CSE South Africa, etc.) as providing a longer term prospect for funding and larger volumes of research funds.
- The FP7 Call for Africa was specifically intended to attract African researchers and was positively reviewed by some African researchers interviewed who stressed the value to them of a call directly oriented towards their needs.
- However, the procedures for administering EU research grants (FP7) are largely unworkable for Tunisian universities because of contradiction between EU procedures and university/ government accounting rules (Tunisia CN). A similar problem arose for Indian universities (India CN).
- ROs in various countries (Ukraine, Tunisia, Ethiopia, India CNs) had difficulties with currency exchange in FP7 projects. Once funds were paid to them and converted into local currency they had difficulties paying costs incurred outside the country. Ideally they would prefer to keep some of the funds in Euros to resolve this problem, but they could not get help with this. This was one reason why it is often easier for a European RO to lead an FP7 consortium.
- SMEs have difficulties with the FP7 funding model as they cannot find the cofinancing required (Vietnam, Tunisia CNs) and can therefore only really get involved in FP7 consortia as sub-contractors providing a service.

Overall then it would seem from this variety of examples that reasonable choices of modalities suited to the specific contexts are generally made. The use of budget support is attractive providing the conditions are right, otherwise programme and project funding has to be used though care does need to be taken with how this is done as it does also carry disadvantages. In particular in countries with limited institutional capacity EU grants procedures can make EU funds inaccessible for many ROs.

One final structural problem that came up in several cases (Ethiopia, Burkina and South Africa CNs) is that R&I is a long term process that may involve work over periods of up to 10-20 years or even longer in certain types of work (e. g. livestock breeding research). ROs therefore need core funding to finance recurrent expenditure which is almost automatically excluded from the project type funding the EU provides. The assumption therefore is that some other entity is providing that on-going funding but particularly in poorer countries this is unlikely to be happening at an adequate scale making it therefore almost impossible for ROs in such circumstances to apply for EU funding.

3.1.2 Indicator 312: Relevant research institutions (national, regional, international) apply for and benefit from opportunities for funding of R&I

The inventory lists a wide range of relevant research institutions being funded in the SISS category. These are at various levels (regional and national as well as EU and non-EU). However, no global organisations were identified in the SISS sector.

Examples of regional organisations include the ACP and the AU which act as intermediary organisations passing on funds to ROs in their respective regions, as well as more specifically R&I or S&T organisations. Examples of such intermediation approaches include for the ACP, the University of West Indies for the Caribbean with research centres in several Caribbean states, or for the AU, the MESA project which passes on funds to a series of regional S&T specialist centres in different parts of Africa: the CICOS (Fluvial water resources), Kinshasa; AGRHYMET (Cropland water resources) Niamey; IGAD Climate Prediction and Applications Centre (ICPAC) (Land degradation and mitigation) Nairobi; Mauritius Oceanography Institute MOI (Coastal & Marine resources), Quatre-Bornes, Mauritius; and BDMS (Agricultural and environmental resources), Gabarone.

The ACP S&T Programme MTR judged that relevant research institutions were involved and the programme provided real value added for them.

The AU-ARG had large numbers of applications (over 450) for its two first calls in 2011 and 2012, from relevant consortia of ROs in Africa and Europe and was only able to fund 20 of them. Another 11 were retained as a reserve but could not be financed for lack of funds. The demand is therefore high and expectations are not being met (Ethiopia CN)

At the national level**,** there are also many examples of appropriate R&I and S&T organisations being funded in the Inventory for this evaluation. In addition CSPs regularly mentions such support. For instance the CSP Egypt indicates the network of universities will benefit from management upgrading as part of the support to the education sector. The CSP Ukraine talks of an EU contribution to the National S&T Centre (STCU) established and supported by a number of donors for work on the non-proliferation of technologies related to Weapons of Mass Destruction (WMD). Since 1994, STCU has supported about 845 projects and 12,500 scientists.

3.1.3 Indicator 313: Programmes supported by sector and GBS encourage development of research capacity in tertiary and post-graduate education

While SBS is used in two of the sectors for this evaluation, Health and FSNA, it does not seem to have been used at all for any straight R&I projects. The SISS sector as such has also not benefited from budget support at all, though again budget support is used for wider sector support that can include minor elements of encouraging capacity for R&I in SISS.

For example, the Egypt CSE felt the EU had been imaginative in using SBS to support reform in the Education sector by linking it to the implementation of policy measures including policies to promote more research.

Another example is the CSE South Africa which indicated an SBS supported programme allowed recruitment of some 20 staff in universities to prepare new curricula and establish a research network. The government has used SBS to fund the strengthening of its Department of S&T (see above I-312).

3.2 JC 32: Strategic approach adopted to choosing different possible actors/ channels with whom the EU can work to support R&I and how best to support them with the instruments and modalities available

Summary judgement

Considerable variety in the choice of actors and channels can be observed from country to country and programme to programme, and most programme documents do provide a justification for the choices made. The EU also appears to have no difficulty in finding appropriate instruments and modalities through which to disburse funds to different types of actors. While the choices made are apparent what is less obvious is whether a conscious strategic approach has been taken in each case and as a

general practice. However, closer examination at the field level does suggest an appropriate choice of actor and channel is made in most cases though occasionally the choice could be questioned.

The choices made are generally also supported by the few available evaluation reports that comment on R&I. Private sector organisations and academic research institutions tend to be the largest two categories of beneficiaries. CSOs come third while government departments and regional organisations get comparatively little. There is evaluation evidence to suggest that in some programmes it would have been appropriate to increase the proportion of R&I funding going to NGOs and private sector actors. However, there are also cases that appropriate NGO consortia have been supported to carry out major tasks in specialised areas such as in establishing high-speed ICT data networks.

EU universities generally play a prominent role in the funding but one that seems justified and supportive of other actors, notably developing country universities. Thus, where they work in consortia involving both EU and partner country universities, the EU members of the consortia often hold the lead contract and have responsibility for reporting and the respect of EU procedures. A typical example of this happening is among the grantees of the ACP S&T Programme, where evidence so far suggests this is seen as a useful role for them to play.

3.2.1 Indicator 321: Evidence for reasonable choice of actors and channels used to support R&I

The analysis of the Inventory in Annex 2 of Volume 3 shows that a wide range of different types of organisation at national and regional both EU and non-EU and of different characters have been involved in the funding of SISS projects. About 40% of the SISS portfolio in the Inventory goes to ACP countries, 28% and 23% to Latin America and ENP respectively and the final 9% to Asia. In terms of countries, the biggest recipients are essentially MICs. Ukraine, Algeria, Tunisia, Egypt and India are the five biggest beneficiary countries showing that the EDF funding is more dispersed around the ACP while the ALA and ENP funding is more concentrated in a few countries. The two biggest types of actors to receive funding for SISS were private sector organisations and universities. Together, they got 60% with civil society organisations coming in third with around 10% of the funding. Government institutions and regional organisations had about 5% each. The ACP Secretariat and the AU Commission were the two most important regional organisations to get funding.

High level S&T Agreements as in India and, albeit with a somewhat different nature, with the AU through the JAES 8th Partnership provide a basis for strategic planning.

At a more specific level the following examples give some insights into choices made first in regional level programmes:

- @lis2 Evaluation concluded the choice of different contractors was well done with a clearly justified choice of three different actors for the three different elements of the project and adapted contracting procedures. The @lis2 Action Fiche also outlines a solid rationale for the choice. Use of a direct grant to DANTE was explained in terms of its position in the market ('DANTE has exclusive competence in planning, building and operating dedicated pan-European Internet research networks for the R&E community, constituting a "de facto" monopoly in this specialised field of activity') and its expertise. The criteria were financial and operational, including 'the capacity to plan, build and cost-effectively operate dedicated high capacity, high quality Internet networks for the R&E community'.
- The ACP S&TP is administered by the ACP Secretariat with support of a PMU. The choice is thus appropriate from an ownership and political point of view, but also recognises the volume of work involved in relation to the capacities of the Secretariat. There has also been coordination with the AU Commission over the research grants element for Africa so as to avoid duplication. The latter, under the JAES 8th Partnership (Case Study) is being administered, again appropriately in ownership terms, by the AU Commission. It was also financed by the 10th EDF Intra-ACP envelope but the next round is being financed by the DCI PanAf programme. This switch from EDF Intra-ACP to the DCI PanAf allows for more direct AU-EU dialogue without the involvement of the ACP Ambassadors which is more appropriate for a purely Africa programme. Both the ACP Secretariat and the AU Commission have clear regional mandates that specifically include S&T and staff dealing with the topic, although this capacity may is limited. In both cases, these mandates are underwritten by existing strategy documents agreed by member states. The two are also standing partners of the EU and therefore appropriate organisations to be working with on R&I and more specifically S&T.
- The ACP S&TP (Case Study) MTR judged that a good range of academic research institutions were involved but it also argued that the range of grantees was perhaps too academic and it would be useful to involve other types of actors (govt., private sector, CSOs) as well if impact was to be increased.

- In terms of choice about private sector involvement, the CAREN2 description (c-328578) outlines how the EU included non-EU companies in tendering in order to get reasonably priced bids for the region. Highly regulated telecom markets in Central Asia meant prices were high. This points to good tendering practice being followed in the choices being made.
- The SWITCH-Asia programme provides a good channel for the EU to identify a series of ROs and NGOs which it is interested in funding for one-off projects according to their own priorities. A consultative mechanism is also provided to involve Asian governments to some extent but the choice of grantees remains in EU hands (India CN).

At the national level the following examples are relevant:

- The CSE Ukraine approved of the EU collaboration with the State Committee of Ukraine for Regulatory Policy and Entrepreneurship SCURPE (para-statal) as an appropriate national organisation to work with but was concerned about the effect the GoUA decision to close it down might have. The 2014 Ukraine Innovation Evaluation found that there is a lack of ownership in the government for the projects. The JSO project aimed to reach a wide variety of both State and non-State R&I organisations.
- In Egypt a ROM report from 2010 argues that the Research, Development and Innovation (RDI) Programme is fully relevant to the work of the Ministry of Higher Education and Scientific Research (MHESR) to which it is attached.
- The EU-India S&T Agreement proved a good basis for joint strategic planning on support to R&I with the main dialogue occurring at the level of Senior Officials from DG RTD and the GoI DST. Clear principles were agreed and then applied. Indian government departments could voice their priorities through the DST. This then led to a series of coordinated calls under FP7 which proved very popular with the Indian research community alike. However, this approach essentially covered DG RTD support and does not seem to have visibly impacted on DEVCO funding (India CN).
- In India one project examined, the EBTC, the nature of the project might well have been more appropriately served by a joint consortium of both European and India private sector actors and not just European ones. However, it was the initial call for proposals that stipulated that only European actors could apply and it is not clear why this eligibility criterion was imposed.
- In Tunisia good strategic choices were made in the PASRI project for the choice of channels for implementation. Different elements were executed by the appropriate government agency (ANPR), by GIZ who had prior experience in the chosen element and by a consultancy company for the hiring of short term expertise (Tunisia CN).

3.2.2 Indicator 322: Opportunities for supporting NGO-implemented R&I adequately exploited

As indicated above, only about 11% of the funds SISS in the inventory are directly contracted to CSOs. However, given that some of the works funded under SISS are programmes which then split the grants up into smaller amounts, there are likely to be more NGOs involved than apparent at first sight. At the same time, two of the largest such programmes, the funds in the ACP S&TP and the AU's African Grants Programme under the JAES are largely to universities and other ROs with only limited NGO involvement. In sum, the element of NGO managed R&I projects funded in the SISS portfolio is a small share of the total. However, this information is only part of the picture.

Some specific examples of funding via NGOs include the following:

- The @lis2 description outlines how the choice was made to work with NREN (National Research Networks associations) which are CSOs, to establish @lis on similar model to DANTE in the EU is well explained. The new Internet network is operated by RedCLARA, an NGO based in Uruguay (@lis2 Audit). ACP Connect will also operate with the NREN's in the Caribbean.
- The ACP S&TP (Case Study) MTR felt it would be useful to involve more NGOs (as well as other non-academic types of actors (govt., private sector) if the impact of the programme was to be improved. However, the distribution of grants for ACP S&TP II suggests this has not happened.
- At the country level, in Peru (Country Note) thematic programme funding line for NSAs enabled involvement of NGOs in an ICT project (c-157415).
- In Ethiopia, Tunisia and in India NGOs actors were involved in relevant elements of the DEVCO funded programmes in each country (Ethiopia, India, Tunisia CNs)
- In Ukraine using INNO-Enterprise it was possible for the first time to include NGOs and not just universities and ROs as contractors for projects. MAMA-88, an environmental NGO, was

able to be contracted by the Wuppertal Institute for a project promoting greener lifestyles so as to encourage innovation.

3.2.3 Indicator 323: Appropriateness of use of EU universities in the design and implementation of DEVCO-funded R&I projects in developing countries

One specific example of programmes where EU universities are involved is in the ACP S&TP (Case study). These applications have to involve ACP universities but typically in collaboration with EU universities. This builds up the research links and means they are then better placed to apply for FP7 etc. funds later. EU universities are generally more experienced at dealing with the high demands of FP7 in terms of research standards, strategy and management. EU universities also usually have better research facilities which help for the ACP S&TP applications, but some of the work must be carried out in the ACP universities. They also tend to have more research management capacity and are better equipped to handle EU procedures. Some EU universities apparently secure numerous DEVCO funded contracts for research programmes which points to them building up extensive experience of managing EU procedures.

The AUC administered Africa Research Grants under the JAES 8th Partnership (Case Study Vol. 3) is another example where the bulk of the value of the contracts goes to European actors (72%) though not actually to EU universities. The largest share is directed towards EU based research institutes (44%), then EU based private sector firms (25%) and then only EU universities (4%). At the same time 16 out of the 20 consortia funded were led by African ROs. This mismatch may be a result of consortia decisions to allow the financial management of the projects to be carried out by European ROs with Euro denominated bank accounts to make international transfers easier.

Finally, it is also a question of the wider and much greater pool of resources available to EU universities which means they are more substantially and sustainably financed so that placing EU funds contracts with them is generally less risky.

3.2.4 Indicator 324: Evidence that channelling funds through global institutions development research programmes (e. g. WHO, WB, IFAD, CGIAR) adequately complements other approaches to pursue DEVCO R&I priorities

In the SISS sector no cases of this occurring were identified.

3.3 JC 33: Level of efforts taken to choose between and to combine different modalities and channels

Summary judgement

There is clearly quite a high occurrence of combinations of different modalities and channels available to DEVCO being used and, as already indicated, programming documents show that some thought has gone into making these choices and providing a justification. A generous interpretation of this information would suggest that a lot of thought is put into these questions, but it is also possible that the drafters of planning documents seek to keep the options open and evoke a wide range of possibilities some of which will then not be used in the actual implementation. Moreover, if some options are eliminated at a later stage this may be for very good reasons.

Interviews in the field support the view that generally considerable thought is put into selecting appropriate channels. There was less evidence of deliberate choices being made between modalities from among the tools at the EU's disposal (see also JC 31 above).

Efforts are clearly also made by the DEVCO to collaborate with a variety of other DGs and not just DG RTD on specific projects, but the general pattern seems to be one where these other DGs provide additional inputs or opportunities for stakeholders but do not directly collaborate in the funding of the DEVCO managed project. Equally, there are indications of collaboration with EU Member States on a number of the projects reviewed, but no major evidence has yet come to light of R&I projects where Member States have a major financial stake alongside DEVCO.

However, EUDs are often also not in a strong position to coordinate or even have an overview of support to R&I from other DGs in that they do not automatically get sent full information on these activities.

3.3.1 Indicator 331: Appropriate rationale used in combining the use of different instruments and financing modalities and channels

The documentation available, which is largely descriptive and reporting on outputs rather than evaluative, provides a generally solid though often basic rationale for the choices made on instruments, mo-

dalities and channels used. However, this does not permit a real critical and independent assessment of why particular choices were made in each set of circumstances.

As an indication of the information available the following examples are useful:

- @lis2 Evaluation concluded the combination of different modalities was well justified and appropriate. This also contributed to the implementation of the political dialogue aspects of the project. The EC procurement procedures also helped the project to get good value for money for fibre optic services.
- The ACP S&TP (Case Study) MTR argues that financing has been too focussed on universities only and grantee consortia need to be more diversified (govt. depts. private sector, CSOs) if impact of funded R&I is to be increased.
- The CSP Vietnam proposes to use a wide range of geographic, thematic and Asia-wide programmes and instruments EU to provide appropriate support to different types of actors, but as with other CSPs this seems to be seen as useful largely for the additional choice that it provides.

In addition, various Country Notes detail collaboration with appropriate government ministries for S&T (Tunisia, South Africa, Ukraine, etc.) as the main actors in the field who are also able to provide a regulatory and support framework for other actors to operate in.

3.3.2 Indicator 332: Evidence for liaison with other relevant DGs and Member States to coordinate use of financial modalities and channels

Only limited material has emerged on examples of the EU collaborating specifically with EU member states. Examples of potential areas for complementarity with other DGs are frequently listed but it is not always very clear if these actually materialised, what their scale might be and how much effort was actually put into making these collaborations happen. Overall, this suggests such collaboration is limited in scale and fairly incidental rather than systematic.

The following examples are illustrative of the evidence:

- The CSE Egypt (2010) commended the EU on its involvement in an active in-country Development Partners Groups involving bilateral and multilateral donors in the Education/Human Resource development sector. The design of the SBS support in the Education sector had involved good co-ordination with the GoE and other donors. However, they also felt a lot of projects were designed in the absence of a full knowledge of other donors' activities in the sector. The CSP Egypt 2007-2013 indicates MS (France, Germany, Spain, Netherlands) have complementary exchange and training programmes to the EU in education and S&T sectors.
- The CSP Tanzania (2007-2013) outlines EU MS co-ordination and decisions on DoL which led to EU pulling out of education sector for the 10th EDF allowing Sweden and UK to take the lead.
- Some DEVCO funded projects notably in Neighbourhood States (e. g. Ukraine-JSO, Tunisia-PASRI) are specifically intended to help researchers link up with RTD funded activities such as FP7 and the European Research Area and evaluative material for these countries (see Country Notes in Vol. 3) show reasonable levels of success. Other projects such as the European Business & Technology Centre (EBTC) in India, again funded by DEVCO, connect up with DG ENTR's Enterprise Europe Network or the high-speed internet connection projects such as @lis involve DG CONNECT. Equally, the MESA (Case Study) project in Africa involves some inputs by the JRC under DG RTD. However, the actual funding modalities used in most of these cases are purely DEVCO based or have distinct elements funded by another DG, but no direct collaboration on funding or sharing of costs by other DGs is evident.

One point that did emerge from the field visits (India, Ethiopia, Burkina CN) was that EU Delegations are not fully involved nor indeed often briefed on the support to R&I related activities from other DGs in the country where they are located. They are thus generally not familiar with FP7 funded projects in country, nor with grants allocated under Erasmus Mundus, Tempus or other programmes being administered from headquarters in Brussels. The same can even be said about grants from DEVCO provided to global or regional programmes (e. g. grants to CGIAR) that are then implemented at national level. This is obviously an administrative choice that has been made and one that no doubt reduces the burden on EUDs, but it does mean they are not in a strong position to have a real overview of the funding provided to R&I in their country. In turn it makes it difficult to see how a comprehensive strategic approach to EU funding R&I can really be pursued.

The one exception to this is where DG RTD funds an S&T Counsellor position such as in Addis and in New Delhi. These officials provide a natural focal point for bringing together information on EU support to R&I and for identifying potential synergies and in practice this does seem to happen quite a lot.

However, formally they only have a very limited role in this respect and no real say over how DEVCO funds are committed (Ethiopia, India CNs).

3.3.3 Indicator 333: Evidence of external consultation on choice of modalities and channels and of EC responsiveness to feedback received

In the case of the PASRI project in Tunisia a serious effort was made to consult with the Government to determine which channels would be used for the execution of the programme and ensure that all the relevant government bodies were linked in to the project appropriately. As described above several different channels were used for different elements of the programme. Some adaptations were also made along the way when problems were encountered with certain aspects of the implementation (Tunisia CN).

There was less evidence of choices being made between modalities (Tunisia, CN). See also evidence on the limited use made of budget support presented above (JC 31).

4 EQ 4: DEVCO-RTD complementarity and coherence

To what extent has EU support to R&I by DG DEVCO and by DG RTD been complementary and their collaboration promoted Policy Coherence for Development (PCD)?

4.1 JC 41: Extent to which DGs DEVCO and RTD have formulated clear strategies on how they should cooperate in a complementary way and how the work of other relevant EU institutions (such as the EIB) is also complementary with their own

Summary judgement

Desk study evidence suggests that, at an overall level, there is a general consensus on the principles of a division of labour, with RTD essentially funding actual research and DEVCO funding capacity development and the conditions for research so as to enable developing country researchers to participate or benefit from this RTD funded research. This is spelt out relatively clearly in a staff working paper from early in the evaluation period (SEC(2008) 434) but it is not repeated in the two Communications since then (2008 and 2012) both of which are RTD communications rather than joint RTD-DEVCO ones. In practice, however, there are quite a number of good examples of such a division of labour in the SISS sector.

Yet there are also indications, that the dividing lines can be blurred in places partly because it is impossible to operate strict distinctions, but possibly also because interpretations vary among the various people and stakeholders involved. Equally, interviews suggest that this division of labour is not necessarily managed in a consistent fashion with some interviewees referring to relatively frequent though irregular formal and informal consultation while others are very vague about contacts and coordination between the two DGs. The work patterns and cycles of the two DGs are also different leading to synchronisation issues and they are subject to different political pressures not least because they relate to different ministries both in the EU (Member State ministries of development and of research) and in partner countries (I-412). Opinions on these issues, however, also vary within each DG suggesting that it is not just an issue of different practices in each DG, but also something that varies from sector to sector.

The need for funding R&I to ultimately serve overall development objectives such as meeting the MDGs (I-412) is certainly clear in DEVCO documentation at all levels right down to the project level; it is also spelt out in the same Commission staff working paper (SEC(2008) 434). DG RTD staff are also clear on this with respect to DEVCO funding. On the other hand, they are also adamant that the overarching objective of their own DG's mission statement is funding the best research possible for a given question.

The two DGs relate to different sets of actors and ministries in both the EU (ministers of development and ministers of research) and in developing countries which means they are subject to different political pressures that do not necessarily mesh well. On the other hand this means their respective overarching priorities tend to be quite distinct.

Evidence collected on the R&I related work of a wider range of EU institutions suggests a reasonable level of complementarity is in operation though this appears to operate largely on a largely an ad-hoc rather than as a result of careful co-ordination.

In sum while the principal role of each DG in support of R&I seems relatively clear (RTD funding pure research, while DEVCO supports capacity strengthening) there is a grey area in between with RTD showing itself willing to fund certain aspects of capacity strengthening (e. g. networking) and DEVCO does fund more applied research that supports development processes. Coordination between the two DGs in this grey area is variable however. Where S&T Counsellor posts exist in EUDs the co-ordination tends to be stronger, but only if the DEVCO staff in the EUD have a clear interest in support to R&I.

4.1.1 Indicator 411: DEVCO and RTD have a good understanding of their respective roles and complementarities and in relation to other EU institutional actors in this field and this is generally understood at all levels

Both DEVCO and RTD staff at HQ are consistent in the overall division of labour that they see. RTD funds research and the overarching objective is to fund the best possible research. With FP7 access to this funding has been opened up to neighbourhood and developing countries so researchers from Africa, Asia, and Latin America can participate in their calls for proposals either as members of consortia with European researcher institutes or on their own. DEVCO can also fund research but this tended to be more applied research directly related to development purposes and there is also an emphasis on R&I capacity building (personnel, regulatory framework and infrastructure) so as to help partner country researchers build their capacity to improve their access to FP7. As discussed above (JC 24), certain FP7 projects also funded networking projects which are arguably also a form of capacity strengthening as it helps researchers build the consortia required for successful research projects.

From a number of interviews with RTD stakeholders the following role perceptions and possible obstacles to overcome, appear:

- While work cycles are different between DEVCO and RTD because programmes are different[61], there is scope for alignment, despite their different working methods.
- For RTD staff, the dividing-line where DEVCO can usefully pick up is capacity building. Yet DEVCO staff feel this is not adequate and their DG also has a role to play in funding more applied research or R&I for development purposes which they understand better than their RTD colleagues. One proposal to ensure better co-ordination would be that DEVCO participates more in the governance of RTD's CfPs. In sum it would seem that full integration between the two DGs in order to find common strategies has not really taken place.
- A hypothesis put forward suggests a better division of labour works in situations where DEVCO acknowledges that Research and Innovation is a key sector for the economy for a country. The argument continues that if DEVCO invested more in capacities, institutions and organisation, then RTD could build on existing facilities. The example of such a division of labour working well is with EU structural funds, where RTD and REGIO work along these lines for the EU regions.

This basic understanding and the hypotheses is confirmed by the following examples, particularly at the regional level:

<u>Regional level:</u>

- The @lis2 Evaluation notes how the project is intended to bring Latin America into the European R&D&I framework by providing research infrastructure (high-speed ICT network) and

[61] Horizon 2020 RTD has biannual work programmes, but the competitive calls are published in one go. On the other hand, DEVCO programmes are done on an annual basis. DEVCO's rationale for that is the assumption that with competitive calls it is not possible to predict who is going to get the money, while they prefer to choose who is going to work for them. For RTD calls there are no quotas: everything is open to everyone, though despite this there is a political objective to double international cooperation. In RTD (under H2020), the publication of calls include a description of the problems and asks for proposals for the best research to solve the problems identified. In the end, all the best proposals should be funded at the same time as it is a programme of excellence. They do specify a problem, which means that certain people are excluded from replying. DEVCO is sceptical about this approach because for them it is more about building the capacity of certain groups and targeting local problems. But in the end, they should work more together because capacity building from DEVCO could enable more people to access H2020 funding (RTD Interview).

feels it is making significant progress against results after two years. However, they also argue that a Steering Group involving DEVCO and RTD, among others, should be created, suggesting they feel co-ordination between them could be improved at least at project level. They had also suggested the creation of a single portal on the internet, which was done, so as to create a more unified image for the project. The @lis2 Action Fiche insists on the importance of ensuring co-ordination and synergy between the DEVCO's different programmes (e. g. HE and mobility programmes) and states that it complements the participation of Latin America researchers in DG RTD's FPs. It also stresses the importance of complementarity and co-ordination with other donors. The same source suggests the project is to be seen as complementary with EU (DG INFSO) work on the Information Society including networks such as Pan-European Research and Education Network (GEANT), TEIN, CKLN and Euromedconnect.

- The TEIN (high speed ICT network) programme (HE Case Study) explicitly sought to identify and exploit synergies with Erasmus Mundus and the Framework Programme. The argument put forward was that by bridging the digital divide TEIN3 would complement the EM programmes and make it easier for Asian HEIs to take part in consortia applying for FP7 funds. TEIN3 has also facilitated increased Asian researchers participation in FP7 projects (*c-147018*, interim report).
- Similarly, the ACP-Connect programme intended to complement ACP-EU R&I strategies such as "the ACP ICT programme, the ACP Science and Technology Programme and mobility exchange programmes such as EDULINK" (*D-21576* Action Fiche) and build up HEI capacity to apply to FP7.
- ACP S&TP documents indicate a range of potential complementarities with other DEVCO initiatives and with RTD's FP7, but the MTR argues that despite the good intentions "in practice, meaningful accord between ACP S&T and other DEVCO initiatives and those of DG RTD (INCO-NET) and those of Member States were missing".
- One of the main objectives of the Africa Research Grants administered by the AU and funded by DEVCO is to allow African researchers to do work that is of direct relevance to African needs. In this sense complementarity with FP7 is an explicit objective of the ARG initiative as FP7, with the exception of the Africa Call, is essentially oriented to European needs (Ethiopia CN).
- DG RTD is also involved in part the funding of the JAES 8th Partnership with its FP7 EUR 67 million Africa Call in 2010. The MESA Action Fiche makes a clear link with various FP7 funded projects but the strategy involved is not clarified further.
- For Asia, the only good case of collaboration between the two DGs seems to have been on the regional level with READI (Regional Asia Dialogue instrument). This is a EUR 15 million fund for the FP7 period for a regional tool, managed by the ASEAN secretariat in Djakarta. DEVCO funds paid for it, and the project conducted useful studies on green sustainable activities and one on innovation. It is hoped the outcomes of these can be used to advise ASEAN countries on these issues and their policy implications (recognition of diplomas, etc.).

DG RTD is not so active at the <u>country level</u> (except through researcher participation in FP7) but some examples of this division of labour can also be found at this level:

- Not too surprisingly the complementarity seems to be more clearly established in countries with S&T Agreements such as Egypt, Tunisia or Ukraine. For instance the ENP- funded Tunisian Support Programme to R&I (PASRI) (NIP 2007-10) focussed on encouraging Tunisian access to FP7. This is also a strong emphasis of the Ukraine Country Programme where one objective is to encourage Ukrainian integration in the ERA. The ENP funded Joint Support Office is specifically aimed at encouraging Ukrainian researchers' access to FP7.
- At the same time in Ukraine, despite the FP7 interest of the JSO-ERA project, there is no particular evidence at country level that RTD and DEVCO coordinate in any way (Ukraine, CN)
- In India with both an S&T Agreement and an RTD Counsellor in the EUD co-ordination with the DEVCO/EEAS staff certainly took place but seemed relatively limited. It also did not appear to involve a clear strategy though this was also due to the fact that DEVCO funding to India is being reduced due to the graduation policy. One on-going source of funding for applied research and innovation was in fact from regional thematic funding (SWITCH-Asia) rather than national geographic funds (India CN).
- In Tunisia there was a certain degree of complementarity between the R&I work of DEVCO and that of RTD there only appears to be limited strategic thinking behind it and little active co-ordination (Tunisia CN).

- Equally in Ethiopia there was no evidence of any common DEVCO and RTD strategy on R&I. The presence of the S&T Counsellor for Africa in the EUD did mean there was a certain level of co-ordination in terms of basic information exchange but the Counsellor was not involved in any R&I elements of DEVCO's work. However, the latter was organised on a sectoral basis that did not highlight R&I as a sector in its own right. Moreover it was only the Counsellor and not the DEVCO EUD who took an interest in the government's efforts to develop their national S&T policy (Ethiopia, CN)
- The S&T Counsellor for Africa also spends 20% of his time working on South Africa ensuring a de facto co-ordination between RTD and DEVCO there (South Africa, CN).
- Overall, therefore, the conclusion is that there is a definitely lack complementary initiatives involving the two DGs, apart the few funded by DEVCO that link in a structural way to RTD research activities or the occasional FP7 call that addresses development issues. Apart from policy briefs and communications, collaboration on the ground is very limited. There are exceptions of course (e. g. the Africa Call of RTD and the AU-ARG) where the work of the two DGs is more clearly coordinated but these are exceptions rather than the standard pattern.

Instead a greater effort could be made to think through how the grey area between the remits of RTD and DEVCO could be covered by more closely coordinated action. This is apparently done more systematically in other areas of EU policy. For instance, inside the EU there is a strategy for innovation in agriculture whereby farmer groups are funded by DG-AGRI and RTD fund exchanges between the groups across Europe. Similarly for the global level, if DEVCO could fund farmers groups to promote innovation on the ground in developing countries RTD could then fund regional networks to exchange results and lessons learnt.

Some RTD interviewees suggested this absence of close co-operation is due to the lack of a policy concept on the part of DEVCO on how to relate to RTD. In other words they felt DEVCO was unwilling to pay sufficient attention to so-called 'internal policies' such as the Commission's Innovation Union. Moreover co-ordination does not start early enough. According to these RTD officials, DEVCO has no real innovation policy and EUDs are not systematically asked to include these elements into their NIPs. On the other side, DEVCO officials often dismiss the RTD approach as too concerned with excellence in research and not enough with the practical solutions and innovations required to promote development.

4.1.2 Indicator 412: DEVCO and RTD aware of R&I needs identified relative to achieving MDGs

High-level policy documents and reports (e. g. COM(2008) 588, COM(2012) 497, the EU PCD Report COM(2009) 461) show a good level of general awareness of the need to align R&I to the MDGs in developing countries, but not in much detail other than to specify a number of sectors where this is important. The one that does get somewhat further is the Commission staff working document SEC(2008) 434. It suggests that R&I contributes to the achievement both directly and indirectly. Directly, R&I results in specific fields may make progress on the MDGs easier to achieve and indirectly a strong R&I base in a country can help it strengthen its competitiveness and promote sustained development. It furthermore proposes the EU take three actions: (i) promote research on MDG related issues, (ii) strengthen partner country research capacity and (iii) attract researchers to and retain them in developing countries.

However, while a new international co-operation strategy on Research and Innovation was adopted with the 2012 Communication (COM[2012]497), it does not foresee a specific division of tasks between DEVCO and RTD – only differentiation between countries (developing, emerging, etc.) is mentioned, nor does it mention capacity building for research which is not part of the immediate mandate and is supposed to be tackled by DEVCO. It is to be noted that this Communication was drafted by DG RTD, discussed with the MS in the RTD forum (strategic framework for international co-operation), and then went through an Inter-Service Consultation process. However, it cannot be considered a joint communication (also the 2008 Communication was only authored by RTD). The last joint Communication seems to date back to 1998, according to RTD interviews.

Interviews with DEVCO and RTD staff indicate that both are very aware of the MDGs and the need for R&I to address these needs though the way they each view this priority varies in line with the mission of their respective DGs. For DEVCO R&I is considered a tool for achieving the MDGs and therefore a direct objective whereas for RTD this might be so in specific cases, but the link can also be more indirect. In other words, the priority is to fund good research and if this benefits the MDGs this is considered an additional asset.

Two examples of DEVCO funded projects illustrate the importance of S&T in development and the link with MDGs:

- As already indicated above the case made for how high-speed interlink networks can contribute to reducing the 'digital' divide', one of the targets of MDG 8, is probably one of the most explicit links regularly made between S&T and the MDGs in EU documents. Thus, the @lis2 Evaluation notes the disparities in development across the region served by the project and the difficulty this causes for establishing a good dialogue about the objectives of the project. The @lis2 Action Fiche and Annual plans stress that the project supports the RSP in line with the MDGs and underpins the core development goals of Latin American countries.
- The sample of ACP S&TP funded projects examined all clearly make the link with progress on sustainable development and the importance of S&T for development progress. After evaluating S&TP I the MTR makes a good case for the value of the programme in development terms (see Box 6). Also, ACP Connect funded under the JAES 8th Partnership stresses the development importance of tackling the 'digital divide' (MDG 8).

Box 6 The case for supporting Research and Innovation for development

"Science (the art of knowing) and Technology (the art of making) have the potential to increase productivity, promote growth, decrease poverty and contribute to healthier, longer, wealthier and more fulfilling lives. S&T results from the interaction between public and private institutions, decision makers, academia, enterprises and civil society. At their heart is the strengthening of the innovation chain – the creating of conductive S&T environments in developing countries. Its effectiveness depends upon convivial policies, available research funding, effective communication and technology transfer. In the Evaluation Team's considered opinion, this is what the Programme should essentially be about and its relevance to EU policies and to the ACP beneficiaries' needs is undeniable.

…, as one 'knowledgeable' interviewee put it, 'The fact that the objectives of the ACP-S&T Programme are linked to MDGs serves as a good orientation mechanism for those wishing to submit proposals for funding, and promotes problem-solving research.'"

Source: ACP S&TP MTR Report (2012) Section 2.6

A separate issue is that DEVCO and RTD staff relate to different ministries in developing countries. DEVCO talks to government officials with international co-operation responsibilities including in line ministries, whereas RTD relates to the Ministry of Research officials. This means they can become victim of silo problems in partner country governments (interview RTD official).

Another RTD interviewee brought up a similar issue from within the EU, acknowledging that problems exist because Research per se is an internal EU policy (on which member states have a specific knowledge and are well involved in the programmes, etc.) for which the Ministries of Research are around the table not the Ministries of Development. So international co-operation has no in-built lobby in the RTD system. Member-states' ministers for research rarely support topics on foreign countries. Briefing them on that could be done, because otherwise this tendency will persist.

4.1.3 Indicator 413: DEVCO and RTD strategy documents recognise and stress needs particular to pro-poor R&I

The strategy documents cited for the previous indicator do not go beyond general statements on the importance of supporting development objectives and/or the MDGs. Although at one level this is fine they certainly do not go down to the details of spelling these statements out in terms of how R&I should contribute to pro-poor strategies.

DEVCO strategy documents are generally clear on this link though it is often not very specific. RTD strategy documents are by and large even less specific, although, as indicated above (I-412), SEC(2008) 434 does make clear the link between R&I and the achievement of the MDGs.

Although the absence of a clear pro-poor strategy in high-level policy documents may seem disconcerting it is worth also noting that a number of the projects funded under the ACP S&TP are very clearly pro-poor in their orientation in the way they focus on appropriate technology, innovation and outreach to small holders, small scale producers and the informal sector or on health services in rural areas. This might suggest that general statements are adequate at the overall strategy level as at least some project promoters clearly understand the need to submit proposals with a clear pro-poor orientation. As the quote in the box above indicates, a simple mention of the MDGs can be enough to give knowledgeable applicants a clear orientation.

4.1.4 Indicator 414: DEVCO and RTD have a clear idea of potential areas of danger of duplication and necessary redundancy between their respective roles and of those of other relevant EU institutions

DG RTD has a clear policy on what areas FP7 should be funding in international work (SEC(2008) 434). The same document suggests that EU development co-operation should focus primarily on 'investing in capacity building to unlock the development potential of research policy' not least because FP7 cannot spend money on capacity development. In particular, it proposes four actions:

- Strengthen research policy capacity in developing country ministries;
- Strengthen research policy capacity in developing countries with development funding;
- Identify R&I opportunities in the PCD section of CSPs;
- Encourage partner countries to establish S&T plans as part of the broader dialogue on governance.

Although this amounts to a fairly clear distinction and division of labour, there are grey areas where the two DGs need to be more proactive about complementarity, for instance where research organisations funded through FP7, but not by DEVCO, need better facilities[62]. In the one instance related EIB financing was noted the division of labour was clear with the EIB providing loan financing of infrastructure to an industrial/research growth pole where a DEVCO project was funding capacity building.

The following examples give some indication of the practice based on the above orientations:

- The ACP S&TP MTR indicates that some slippage has occurred with respect to planned complementarities. Thus, the S&T programme has ended up funding some scholarships which would, in principle, be better dealt with under the Mobility programmes of the EU. However, this duplication is not with RTD as the Mobility programmes are also funded by DEVCO. Equally, the MTR concluded that the Programme stringent should have concentrated more on capacity building leaving research proper to be funded by FP7. However, staffs managing the programme feel this is not realistic because the stringent of FP7 mean that most ACP ROs are ill-equipped to compete and the EU should anyway be providing a source of funds for ACP researchers as there are only limited other opportunities for funding where ACP researchers can be in the lead.
- DEVCO funds ACP Connect, @lis and other high-speed ICT networks for researchers in developing countries. These will connect with the European equivalent GEANT, that will in turn enable joint work between European and developing country researchers and can form a basis for applications to FP7, etc. DEVCO funds are thus used for the infrastructure in developing countries whereas RTD funds would support the actual research.
- MESA (and before that AMESD) where EDF funds are used to fund the infrastructure for research, by making satellite imagery on weather and environmental conditions (drought, etc.) accessible to African researchers and decision makers. The MESA documents (Action Fiche) make a clear link with FP7 funded projects but do not detail this further.
- RTD staff recognise the potential for overlap between the RTD funded ESASTAP Project in South Africa and the use of the EUD's Dialogue Facility[63]. Both can be used to stimulate networking. To avoid this potential duplication RTD staff seek to collaborate closely with the EUD staff.
- In Tunisia, among other things, PASRI provided training in innovation management to firms establishing themselves in selected industrial/research growth poles. Some of these also benefitted from EIB loan financing for infrastructure (Tunisia CN).

[62] For instance in an interview an RTD official suggested that in terms of capacity building, DEVCO could perhaps fund a research project instead of RTD. This was illustrated by the RTD funded EDCTP project in South Africa. In December 2014, RTD staff went to a clinic where this project was operational, and they saw that much of the needed infrastructure was missing at the laboratory, but they cannot finance it from H2020 (only a small amount is earmarked for such expenditure). DEVCO could have funded this on the other hand. More efficiency could be reached if more knowledge was shared between DEVCO and RTD in terms of funding possibilities and project synergies. But DEVCO funding are largely spent according to choices made by countries.

[63] Another example of potential overlap is between the ENP funded JSO project in Ukraine where there is also an RTD BILAT agreement in place

4.2 JC 42: Degree to which DEVCO support addresses issues that could/would not have been better, or equally well, addressed through RTD and vice versa

Summary judgement

Interview evidence yields a mixed picture on whether both DGs have adequate capacity to identify R&I needs properly. Some statistical evidence on staffing levels could help with this but a precise judgement on whether capacity levels are really adequate or not will be difficult to reach in the absence of some form of quantification of the work involved. Coordination between the two DGs does occur but it is largely ad-hoc and appears to vary considerably in depth from sector to sector and region to region. In the field, S&T Counsellors provide a useful co-ordination tool in the few countries where they have been posted or are active. Clear evidence of cases of duplication could not be identified.

However, some evidence on the difficulties of co-ordination involved does emerge already. Thus, the ACP S&T Programme MTR concluded that in the ACP S&T I the eligibility criteria could have been applied a bit more strictly so as to focus the Programme more on capacity building and avoid too much funding of actual research. The argument would then be the actual research could be funded by RTD calls. On the other hand, some interviews suggest that the ACP S&TP has been a useful training ground for FP7 if ACP researchers can apply to the ACP S&T, get experience of working with EU researchers there and learn about EU procedures before then moving on to FP7 applications. Yet, other evidence suggests this step is difficult to make as FP7 standards are high and the gap is difficult to bridge. The suggestion was made that both DGs therefore need to make an effort to move closer to each other. To bridge such a gap requires creative thinking and initiatives on both sides.

Evidence from the field also suggests that DEVCO plays a useful role in funding more applied research as opposed to the 'pure' research funded by DG RTD – in other words 'applied research' that is directly linked and needed in development processes. Various examples of applied research surfaced in the field missions often within what EUD staff essentially saw as sectoral projects rather than R&I projects.

The evidence collected suggests arrangements to ensure synergies between DEVCO and RTD operate very largely on an informal and ad-hoc basis resulting in fairly major variations between sectors and regions. Instances of duplication of effort do not appear to be the major issue rather there appears to be a clear gap between the reach of the two DGs, with both feeling the other could do more to complement their own efforts. The obstacles in terms of capacities (of all types: research skills, facilities, data, research management, etc.) that developing country researchers need to overcome to really obtain access to RTD funding is huge and a major sustained effort would be required by DEVCO to overcome it. The scale of the gap implies that major efforts are required on all sides to bridge it.

Staff capacity is also clearly an issue with both DGs suffering from limited numbers in different ways. Not surprisingly the issue plays out differently in each DG according to its overall purpose and ethos. Thus in RTD the issue is the proportion of staff time allocated to international co-operation and the limited capacity for outreach to all countries and regions. In DEVCO the concern is more the number, interest/expertise in research and permanence of staff working on R&I. Stuff numbers dedicated to R&I are limited, they move around regularly and they do not all have the same interest in and expertise on research. In the EUDs visited staff time dedicated to R&I was minimal and focussed and was largely organised around focus sectors rather than specifically allocated to R&I.

4.2.1 Indicator 421: DEVCO and RTD have internal capacity to identify R&I needs for development

Overall statistics on DG RTD staffing over the period evaluated could not be retrieved. However, RTD staff interviewed have a sense that staff numbers have grown a bit in line with needs. Yet, they are also aware of the management decision to move implementation to executive agencies and for the DG itself to become more of a policy DG than an operational DG. These changes are apparently staggered with some units undergoing the change ahead of others. It would seem therefore that a lack of capacity exists to some extent, but it varies between sectors and geographical areas. Where there are BILAT programmes, S&T agreements or INCONET programmes there is more capacity

For ground level knowledge which would be helpful for identifying R&I needs for development, RTD staff are dependent on their own S&T Counsellors or on research focal points that EUDs may have appointed though the latter are part time, and it seems from interviews that their number is limited and in the process of even being reduced further. It is therefore not uncommon that staff also heavily rely on their sector networks involving other organisations both in governmental and non-government to gather further information.

In the case of Africa the EUD Addis for the AU have a Counsellor who has a wider Africa role beyond the AU/JAES and there are two more EUD staff who work 20-30% of their time on the JAES though not only on R&I. Apart for South Africa and the Northern part (which falls under the RTD's Mediterranean team), there is no BILAT agreement for Africa: it is more on an ad-hoc basis. Some countries are included in RTD political dialogue (Burkina Faso, Ethiopia, Algeria), but there is no pursuit of bilateral co-operation with those countries. For Kenya, which benefits from many FP7 projects, there is a small network of national contact points, and it is also part of RTD INCONET project (CASENET+, the regional one).

DEVCO capacity also appears to be stretched though again this varies per sector and the commitment of staff time to research appears to vary over time due to a variety of factors. The B4 Unit (Education, Health, Research and Culture) has around 20 staff which has apparently been reasonably stable for the period of the evaluation. In other sectors, notably Food Security, more staff time has been allocated to R&I partly it seems (RTD interview) due to personal staff interest and partly to the additional funds for FS made available by the EUR 1 billion promised by President Barroso at the time of the food price rises of 2007/2008 (DEVCO interviews). Ad-hoc solutions are also found, thus there are some cases of outsourcing to manage funds (e. g. ACP S&TP).

Problems also arise due to lack of staff at DEVCO and their regular rotation. DEVCO interest in research also appears to vary with some staff much more interested than others. An example was given of one official who had a clear concept of the role of R&I in his sector. He persuaded DEVCO colleagues and pushed RTD to give it a higher priority. Cross-DG expertise is also very useful, but there are very few officials who have worked in both DGs. As a result of these different elements there are also variations over time in the way policies are implemented and a good policy approach may only last a couple of years (RTD interviews).

Staffing levels for R&I in country EUDs visited were limited (see also JC 61). The EUD for Ethiopia only had staff with sectoral responsibilities who dealt with R&I only as it arose within their sectors and there was no person with an overview on R&I in Ethiopia. The EUDs for both India and Tunisia were a bit different and each had one staff member who took responsibility for R&I, but it was only in Tunisia with a project specifically oriented to encouraging R&I that this person was able to dedicate a good proportion of his time to the development of R&I in the country (Ethiopia, India and Tunisia CNs).

4.2.2 Indicator 422: Co-ordination meetings and information sharing between DEVCO and RTD

From interviews it is apparent that co-ordination and consultation between RTD and DEVCO is done on a regular but largely ad hoc basis. There is no guiding document or inter-service agreement that formalises this practice. Meetings occur at different levels right up to DG and their frequency varies depending primarily on need though the DGs themselves do have an annual meeting. When annual work plans are being finalised the frequency of consultations tends to increase. The intensity of this co-ordination also apparently varies from sector to sector and indeed on the basis of need, both in terms of the life cycle of activities (e. g. for a typical RTD Call for Proposals there would be more intense consultation at the design and decision stages and then again when it comes to reporting and final results) and in terms of more or less urgent situations arising (e. g. the Ebola crisis provoked urgent consultations and co-ordination on the need to fast track research on vaccines). The same holds true for officials with geographic responsibilities in relation to co-ordination with other DG.

Opinions on whether the consultation levels are adequate vary. One RTD interviewee felt there had been regular attempts to encourage better collaboration between the two DGs over the past 20 years but there was little progress. While the willingness is there, in practice it is very difficult to fix complementarity in action. Another felt the dialogue with DEVCO was difficult because it was not structured, though for other officials an informal approach worked well and structuring it more could produce a rather mechanistic and time consuming approach.

One RTD interviewee identified two recent specific cases of actions which had policy relevance where they had made efforts to share results with DEVCO: the NO-POOR project and the European Year for Development in 2015[64]. Generally social science projects are easier to advertise, because they are very policy-oriented, and policy papers are often outputs that can be produced.

[64] An RTD Interviewee explained that they try to make their results more visible for those projects that are more policy-relevant, In the NO-POOR project, for instance, the results were shown to DEVCO. The European Year for Development (EYD2015) is used to increase the visibility to the DEVCO community, but there is no systematic way of doing it. It really depends on the country; in South Africa, it is visible because DEVCO funds specific projects there relating to RTD issues.

4.2.3 Indicator 423: Level of duplication identified in evaluations, etc.

As indicated above, the ACP S&TP MTR did conclude the S&TP moved a bit too much into funding research, theoretically more the domain of FP7, and did not focus sufficiently on capacity development. However, as competition for FP7 may be tougher for ACP candidates and the two schemes (ACP S&T and the FP7) are not directly comparable it is hard to qualify this as a real duplication.

Other evaluations (country and thematic) do not bring this out as a problem suggesting the issue is not a major one.

On the contrary there appears to be more of an issue about the existence of a gap left between the 'reach' of DGs DEVCO and RTD. RTD funds excellence in research and recognises that developing country researchers have difficulty in reaching the standards they expect. They would therefore like DEVCO to do more capacity building. DEVCO funds for capacity building are limited and research is not their highest priority. Moreover, their policy of concentration in two or three focal areas per country means that research will never be a focal sector and will always only come in as a subsidiary item to a large sectoral programme. Their systems also make it difficult to fund capacity building over a sustained period of years.

An interviewee who works in neither DEVCO nor RTD suggested that both DGs needed to make more of an effort to bridge the funding gap that exists between them: DEVCO needed to fund capacity building in a more sustained manner over time and fund actual research in country so as to retain researchers. RTD on the other hand had to find ways of easing the entry to FP7 for researchers working under difficult conditions because it is also in the EU's wider interests to be funding research taking place in developing countries and not just in OECD countries.

At the country level the following observations should be noted:

- In India the two DEVCO funded R&I projects that both involved applied research and technology transfer/innovation work could not have been funded under RTD's FP7 system. There was also clearly no evidence of duplication (India CN).
- In Tunisia there was no evidence of overlap or duplication and the roles of the two DGs seem to be clearly distinct and well understood (Tunisia CN).
- In South Africa both EUD and DST officials were clear that FP7 would never have been able to finance capacity building through budget support (South Africa, CN).

And at the regional level:

- Research projects funded at AU-IBAR and CGIAR centres included a large component of stakeholder involvement and sharing of local knowledge which maximises the chances that research contributes to development processes. There is no similar mechanism in FP7 calls even though they do allow for African participation. FP7 on the other hand allows for the participation of high-level Kenyan researchers in collaborative international research which DEVCO could not fund (Kenya CN).
- The AU Research Grants offer better opportunities to do research that responds to African challenges than most FP7 calls (Ethiopia CN).

4.3 JC 43: Level at which DEVCO support has benefited from complementary action financed through RTD and vice versa

Summary judgement

There are a good number of examples of synergies between DEVCO and RTD support but the overall pattern that emerges from the evidence collected is that these are the exceptions that confirm the rule and that, by and large, the positive examples are largely ad-hoc and opportunistic. Yet, clearly this is not always the case and interviewees from both DGs can cite examples where complementarities are there by design rather than by chance.

Although more information is still required to get a precise picture of developing country researcher participation in FP7 it is already apparent from the initial data provided by DG RTD that participation is increasing. This is particularly so for countries in the European neighbourhood, both East and South, and in emerging countries. It is also quite clearly strongest in countries with S&T Agreements with the EU. This co-operation seems to be generally reaching its objectives but areas for improvement include the modalities for third country researchers participating in projects; in particular, they are very rarely project coordinators and there are still barriers to entry. The results of one RTD survey of FP7 INCO researchers' perceptions of impact does suggest a generally positive view of the impact of the co-operation, but this needs to be tempered with other evidence from field visits that suggests that FP7

calls are generally very euro-centric and provide only limited incentive for developing country researchers to participate in them.

SISS is a sector where there is a good deal of S&T co-operation between the EU, its neighbours and indeed with Africa particularly in the areas of ICT and space based technologies with both DEVCO and RTD money funding work in the these areas. These collaborations also exist with countries in regions further away from Europe but not as intensely.

4.3.1 Indicator 431: Applied research financed by DEVCO benefits from inputs from FP7 research

Despite various links between DEVCO supported R&I projects and FP7 projects, no clear or direct illustrations have surfaced as yet of R&I results of DEVCO funded projects benefiting from inputs from FP7 funded research.

That said a series of links between DEVCO support R&I projects and FP7 projects do exist as illustrated by the following examples.

Although this is not applied research it is clear that DEVCO funded research infrastructure does help developing country researchers benefit from European research results some of which is likely to be funded by FP7. This infrastructure in fact facilitates a two way exchange also giving European easier access to partner country ROs and researchers. Thus, the TEIN3 network has benefitted a number of development projects in Asia by significantly speeding up data transfer times and created new capacities for on-going collaborations between Asian and European researchers in fields such as high-energy physics, agriculture, disaster management, weather forecasting, climate changes and molecular biology (MR-140497). At the same time RTD interviewees suggested that these ICT networks had their limits. For instance the TEIN network reached Djarkarta but does not go as far as Bandung due to a lack of internal follow up in Indonesia. Equally, in Latin America, the Red-Clara had benefited universities, research institutes, but RTD was not able to take advantage of this project from DEVCO to support concrete actions where it was needed. There was a clear lack of interest and communication.

MESA (and before that AMESD) is a case of the opposite effect, where DEVCO (EDF) funds are used to fund the infrastructure for research that enable African researchers and decision makers to benefit from data collected by satellite imagery on weather and environmental conditions (drought, etc.). This satellite data (provided free by European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT)[65] as part of their International Co-operation work) has, however, been financed from other EU sources (EUMETSAT cooperates closely with DG ENTR. DG ENTR is responsible for the EU's space programme. Another relevant agency, the European Global Satellite Navigation Agency, also comes under DG ENTR).

The MESA project documents anticipate a lot of linkages with European programmes (FP7 and others) which are seen as mutually beneficial: DG RTD's JRC is one of the implementers; there is a link with its GMFS (Global Monitoring of Food Security project; an FP7 project on food security (starting 2011) the Group on Earth Observation's (GEO's) Agricultural Monitoring Tasks; and the FP7 space call for tenders in 2011 where EUR 1 million was allocated to "Support for the Global monitoring for environment and security (GMES) & Africa Action Plan" to facilitate dialogue between partners in the broader GMES and Africa initiative. In addition, FP7 co-ordination and support projects underway to which MESA related included:

- GMES for Africa – Regional Network for Information Exchange & Training in Emergencies (GARNET-E);
- Europe-Africa Marine Earth Observation (EO) Network (EAMNet);
- Support Action to GMES-Africa Earth Observation (SAGA-EO); and
- GEONETCast Applications for and by Developing Countries (DevCoCast).

In integrated water resources management, the JRC's AQUAKNOW programme also links up to MESA.

However, the conclusion remains that no specific examples were found of DEVCO funded R&I projects benefitting directly from the results of FP7 financed actions (for instance in countries as diverse as: India, Kenya, Ethiopia, Tunisia CNs).

[65] http://www.eumetsat.int/

4.3.2 Indicator 432: Researchers in DEVCO projects and programmes participate in FP7 international networks

The Ukraine JSO (Joint Support Office *c-170251*) is specifically established to encourage and facilitate Ukrainian researchers' participation in FP7. By October 2011 and the end of the two year project there were 941 Ukrainian applicants among the 380,000 total applicants. RTD data, however, suggests that for the full FP7 period there were only 79 FP7 projects with Ukrainian researcher participation. If one assumes that Ukrainian applications continued beyond October 2011 at the same rate for the remaining two years of the FP7 period it may be that some 1,300 UA researchers applied suggesting a success rate of around 6%, but the actual success rate may well be below that.

Other examples of links with FP7 include:

- MESA documents (Action Fiche) indicate high expectations for links with RTD funded activities as detailed above for I-431.
- The JAES 8th Partnership involves some projects which are primarily supported by DEVCO is also funded by DG RTD.
- One interviewed official working on the ACP S&TP, suggested "the same names crop up' in terms of the ACP academic institutions that apply to the S&TP and to FP7." However, this was not corroborated by quantitative evidence.
- FP7 funds a collaboration between Delft TU and RCEE in Vietnam that has been going on for many years and originally started with a DEVCO funded project (Vietnam CN JC 24)
- The PASRI in Tunisia involved researchers with experience of FP7 projects training and supporting other less younger and less experienced researchers in various aspect of research design and management (Tunisia CN).

Another example of where RTD benefited from prior DEVCO funding was in Mexico where DEVCO had worked with a Mexican institution the CONACIT (Mexican National Research Council) and funded a programme called the FONSICIT, an international co-operation fund for science and technology, as a pilot exercise. Initially it was devoted to facilitate the co-operation between Mexico and the EU. DG RTD then took it on board to create what was in effect a mini-FP7 just for Mexico which in due course progressed to a EUR 20 million EU-Mexican co-funding scheme that is still being used for Horizon 2020[66].

These examples aside it is clear that it is very unlikely that DEVCO funded support alone will build capacity to an academic standard adequate for FP7. That is a task primarily for government investment over many years and where external donors are involved this requires a sustained investment. One RTD interviewee indeed stressed that a long-term approach to capacity building is important. For instance Germany (GIZ) has provided long-term funding for engineer training in Tanzania which over time has created solid capacity in the sector. It takes time to build competitive infrastructure before applying for calls for proposals. DEVCO has not done this over many years in the same way. The well regarded AIMS (African Institute of Mathematical Science) in Cape Town is another example of this need to build up capacity over 10-15 years. The CEDAI/CEDAES, in connection with the FAO and led by the ICRA is another good example. Capacity also has to go hand in hand with institutional change (in Kenya for instance, many PhDs holders do not find a job, or they go to the private sector, or they simply work in a different field).

4.3.3 Indicator 433: Researchers in FP7 research programmes collaborate with developing country research and innovation practitioners to enhance the social impact of their results

There is little direct evidence of this effect, but a number of indirect indications can be used to build up a picture.

As a starting point it is important to note that the level of developing country participation in FP7 bids varies widely. The three ENP(S) countries (RTD C3 Report 7.2) with the highest levels of participation

[66] Initially in FONCISIT, RTD used the FP7 criteria, the same rules of participation as in the FP7 programming, and organised a few calls for proposals (around 527 projects and four networks) with a common assessment system. RTD received 800 proposals altogether. While this high response was positive many good proposals could not be funded. RTD then worked with CONACIT to recycle those proposals into full FP7 projects and a further 24 were funded but there were still many unfunded. This generated problems in terms of funding, overlaps, and duplication and created a lot of deception, all the more since the standards were very good. As a next step they therefore created consortia with European researchers and pooled EU money with CONACIT funding to create a EUR 20 million fund (half of it from CONACIT, the other half from the Commission). This worked well so the same system and infrastructure was then used to create the H2020 fund.

in FP7 bids are Tunisia, Egypt and Morocco. Between them, they participated in 68% of the bids involving the ENP(S) countries. Moreover, they had good success rates. Thus, while the average success rates for these bids from ENP(S) countries is 16% and 26% for the FP7 Co-operation and Capacities programmes respectively, Tunisia achieved success rates of 19% and 28%; Egypt, 13% and 24% and Morocco 20% and 24%.

In terms of regional distribution, FP7 statistics show the Mediterranean area has a third of the total 3,166 participants in FP7 projects, Africa has 638, Asia 544 and two other regions (Latin America and Central Asia/Eastern Europe) have just over 400 each. The two most important SISS sectors, ICT and Space, have just over 1,000 participants, with ICT by far the most. In terms of regional distribution, the SISS pattern is similar to the general pattern with a couple of exceptions: Africa does poorly on ICT projects but very well on Space projects, while for Asia and Latin America it is the reverse.

According to DG RTD's 2014 Report on its FP7 Co-operation Programme (p. 34) LICs have the highest rate of EU R&I funding in Health and in Environment. LMICs have received the most funding in the Food priority area and a fairly high level in the ICT area. Overall, ACP African countries have received the largest share of the FP7 Co-operation Programme. For the Space priority they come second. Asian countries are have the second highest participation rate for ICT. EECA countries have the highest participation rate for the Space and Nanotechnologies priorites. ACP African countries are second for Space while Latin American countries are second for Nanotechnologies.

The same RTD FP7 Co-operation Programme study analysed the RTD eCORDA database and discovered that, while third country researchers regularly participate in FP7 funded projects, they are very rarely the leaders: "…third countries have been project coordinators in nine cases while they have been participants in 3,437 cases" (p. 45). Their data also shows that for FP7 "…the geographic scope of international co-operation is based on existing relations, knowledge and perceived potentials." Furthermore, the report's survey of national contact points (NCPs) suggested that, while many FP7 INCO objectives had been achieved, certain specific ones had not in particular: " …facilitation of third country participation; reduction of barriers to enter FP7 consortia; good integration between national management procedures and EU FP7 management procedures" (p. 44).

These findings are broadly born out by comments from interviews during the field visits for the current study.

Across the 18 countries selected for this evaluation there are 1,063 FP7 projects fairly evenly distributed across the four sectors. Of the 298 in SISS, two thirds (193) are in ICT and 10% in the space sector. For SISS the four countries with the highest incidence of projects are, from the first down: China, South Africa, India and Ukraine with between 75 and 30 projects. The next group of four countries has around a dozen each: Chile, Kenya, Tunisia and Mozambique. All the others have less than ten participants, with at the bottom end of the scale RDC with only one and Burkina Faso with none.

There are thus a limited number of developing country researchers in FP7 consortia. They come from a few selected countries and they are rarely in leadership positions. This suggests that relative to the overall scale of FP7 the programmes effects on development processes are likely to be limited.

That said, the FP7 Co-operation study also asked a question about perceptions of impact in their survey of National Contact Points, though they are, for the most part, not quantified, the responses are reasonably positive:

- Third country partners are more positive than EU project coordinators;
- Both however felt the co-operation showed positive effects on scientific publications;
- There had also been a positive impact on innovation;
- For more than 50% of the third country partners the participation of EU partners had also had a significant impact on new or improved processes;
- The co-operation had helped open up new markets, develop new knowledge and make contacts;
- It had supported the development of various new skills (tools and methods R&I management) and the adaptation of product development;
- Positive impacts on respective organisations and their strategies.

An even more important finding was that, about 70% of third country partners asserted that the co-operation "facilitated the scientific exploitation of research results' and 'raised the ability to disseminate and exploit technological knowledge".

These perceptions of impact from this survey thus seem, by and large, very positive, and they do suggest a good level of different types of impact of the FP7 Co-operation projects. On the other hand one RTD interviewee suggested that RTD FPs are very euro-centric, and people from developing countries

have limited incentives to invest time in projects that will not advance their careers, views that were also frequently expressed by developing country researchers themselves during the field missions.

However, the RTD (2014) EAV (European Added Value) study report states that "…there is still only a small body of evidence of expected and achieved impacts through individual FP activities" and then discusses how this might be improved using different indicators in relation to EAV criteria of networking, excellence, capacity building, critical mass, mutual learning and harmonisation and efficiency.

Evidence from the field missions that points in the same direction includes the following: in both Ethiopia and Tunisia examples emerged of researchers involved in FP7 projects collaborating with national R&I practitioners on in-country projects and working with them on enhancing the social impact of research (Ethiopia and Tunisia CNs). Finally in South Africa the government's DST is using DEVCO budget support to review FP7 research results for possible application in development processes (South Africa CN).

4.3.4 Indicator 434: Increase in HEIs and Research Organisations participating in FPs and other international networks

Data provided so far by RTD is for the whole of the FP7 period and does not include time series. RTD data is only broken down by call. From one FP to the next there is evidence of increasing participation by developing country researchers but the conditions of access also vary.

There are no obviously relevant 'other international networks' in the SISS sector due to this not being a generally recognised sector with attached international networks.

In India, Ethiopia and Tunisia there was a general view that a growing number of HEIs and ROs had participated in FP7 during its course though no quantitative trend data was available. In India a drop in participation was expected in Horizon 2020 due to new conditions less favourable to India whereas the reverse was expected in Tunisia as a result of the signing of the association agreement for Horizon 2020 (Ethiopia, India and Tunisia CNs).

4.4 JC 44: Extent to which different mechanisms to promote PCD (ex-ante impact assessments, inter-service consultation, etc.) have been deployed and acted-upon

Summary judgement

Some strategic thinking has gone into PCD of DG RTD work with DEVCO development co-operation work. A Commission Staff Working Paper on the topic was issued early in the evaluation period in April 2008. Progress is monitored with R&I covered regularly by the EU PCD Report issued by DEVCO since then (2009, 2011 and 2013). FP7 policy does also seem to have been adjusted to development co-operation needs and priorities with a number of features being put in place to make FP7 more accessible to developing country research communities.

Inter-service consultations take place with all FP7 Calls for Proposals before publication, so as to encourage coherence between policies of the different DGs. The presence of an INCO Unit in DG RTD also seems to have encouraged greater debate over priorities within the DG as the unit apparently tends to take a different perspective than the thematic desks. Yet no evidence on the use of ex-ante impact assessments has yet been identified.

4.4.1 Indicator 441: Ex-ante impact assessments for R&I look at PCD and possible synergies / trade-offs between DEVCO and RTD R&I interventions

The Commission's Staff Working Paper SEC(2008)434 specifically looks at the question of how to promote PCD in DG RTD's work. As already indicated it focuses on what FP7 could do to promote the achievement of the MDGs (I-412). It proposes specific measures that, although they do not specifically include ex-ante impact assessments, do include policies that should be supportive of development objectives and therefore coherent with EU development policy:

- Support research that targets and addresses partner country problems (e. g. related to the MDGs);
- Support dialogue between EU and developing country researchers through the FP7 Capacities Programme;
- Promote networks of researchers through the FP7 INCO-NET programme. Six such regional networks were already established by 2008 in all the regions covered by this evaluation;
- Improve access to R&I results;
- Strengthen developing country research capacity;

- Mitigate developing country researcher brain-drain.

In other words, some strategic thinking has gone into identifying how the FP7 policy of DG RTD can be made more coherent with the development co-operation work of DEVCO. This is also reported on in the bi-annual EU PCD Reports though with only limited detail. What the SWP does not spell out is how this will be implemented in practice and what tools will be used.

However, the 2013 EU PCD Report (Section 46.2) indicates that ex-ante impact assessments "remain the main tool for promoting PCD in new policy initiatives of proposals for policy revisions" and explains that the Commission is working to improve these assessments and revise the guidelines for them.

No evidence has emerged as yet of how ex-ante impact assessments are being used for assessing the PCD impact of RTD policies.

4.4.2 Indicator 442: Inter-service consultations and quality support measures regularly include consideration of PCD issues

RTD interviewees indicate that all FP7 calls for proposals would normally go through discussions with various appropriate officials in RTD and in DEVCO and through a formal Inter-service consultation process before they are finally approved (documentary evidence of this was not made available). In RTD this would include a discussion between thematic desks and the international co-operation unit. This is important because the former are not usually that concerned about partner country views and 'prefer flagship projects with the US' and need to be convinced by their INCO unit colleagues. For some regions INCO staff feel there is not enough money to tackle development issues effectively which is also a problem. The situation might be slightly better for Africa, but not for work in Latin America. This confrontation between the RTD international co-operation directorate (a fairly new directorate created around 2010) and the thematic units (health is seen as a very strong one) has lasted for some time.

PCD issues and specifically RTDs input to the EU PCD Report are dealt with by a specific unit in RTD.

4.4.3 Indicator 443: R&I results, such as pro-poor innovations, IPRs, etc. are taken into account for programming and implementation of development, agricultural, climate and trade-related co-operation

Only a couple of projects covered in the field missions that dealt with innovation and the private sector looked at the issue of IPRs. These were the PASRI in Tunisia and the EBTC in India. In both cases efforts were being made to handle the issue systematically, notably by providing information and training on IPRs to stakeholders. The EBTC had also established a link with the European Patent Office so as to able to access IPR information from Europe systematically.

4.4.4 Indicator 444: R&I counsellors in EUDs regularly interact with development co-operation staff and proactively seek opportunities for alignment and synergy between their programmes

Both DEVCO and RTD interviews indicate that there is a good deal of co-operation between the counsellors and the development co-operation staff in EUDs. This was also confirmed in interviews with Science Counsellors and their colleagues in EUDs.

4.4.5 Indicator 445: Lessons from development co-operation inform DEVCO and RTD R&I priority-setting

DEVCO strategy and policy documents for R&I display a good general level of awareness of taking on board lessons of development co-operation. For instance, the EU PCD Reports do indicate that efforts are made to think through how FP7 could be more supportive of development processes and issues about capacity development, knowledge sharing, access, ownership, governance and dialogue are all regularly picked up in the reports.

RTD interviews indicate that issues to be addressed in RTD Calls for Proposals are not specifically designed to match development problems in developing countries nor do they take normally take account of any dialogue with the partner country authorities. Officials acknowledge this would ideally be the best way to proceed, especially if it is done from the inception stage. Lack of capacity or inadequate dialogue with EUD colleagues seems to be the main obstacle One interviewee felt sector policy dialogue was disappearing which he saw as a shame.

From a developing country point of view, the fact that FP7 has been opened up to partner country researchers is a major step forward as lack of access to the knowledge sharing and networking would be serious impediments. In that respect, FP7 is already more coherent with development that its predecessors and an important lesson on development processes has been learnt. The next step, as recognised in the Commission's strategy paper for international R&I (COM(2008) 588), is not just to

allow access, but enable it by improving capacities, infrastructure and the regulatory framework all of which are taken on board at the strategy level.

At the level of implementation, a number of the S&T programmes funded are reruns of earlier programmes and these all indicate lessons from the first edition have been taken on in the programming of the new programmes.

One RTD interviewee gave an example of research results coming out of RTD development projects being ploughed going back into DEVCO development projects: tick born diseases in East Africa – FP6 and FP7 originally funded the research and development of the vaccines.

4.4.6 Indicator 446: Instances of incoherence identified by external stakeholders are followed up internally

No instances of incoherence yet identified. Commission officials in both RTD and DEVCO have been asked for examples in interviews but they could not identify any on the spot.

5 EQ 5: Transfer of R&I results into development processes

To what extent has DEVCO support led to the transfer of R&I results into processes likely to impact on the achievement of EU development objectives?

5.1 JC 51: Clear and logical thinking at sector level on how DEVCO support could ultimately lead through to research results being used in development processes

Summary judgement

SISS is not a conventional sector. The name is derived from the JAES 8th Partnership, but otherwise it is not commonly used, one reason, no doubt, why no 'SISS sector level' policy as such exists.

Having made the point that the SISS does not have a sector policy as such it is possible to move both up and downstream from the sector level and find evidence that suggests that a certain amount of strategic thinking does go into deciding how DEVCO support might best encourage processes that lead to R&I results that can be used in development. The basic R&I policy documents (COM(2008) 588) identifies a number of priorities for support to R&I as a whole. Within that SISS is not identified per se but comparing these priorities with the SISS portfolio in the inventory it is clear that several of the main strands of the strategy are represented. Thus, improving research infrastructure and capacity building for research both feature strongly. Making S&T available for development is another strong element of the strategy and for collaboration with the ACP one that can be traced back to the ACP Ministerial Conference on S&T in Cape Town in 2002 and subsequent discussions with the European Commission.

At the level of implementation in the SISS sector, a lot of emphasis has been put on the development of ICT networks for high-speed internet connectivity in all the regions (@lis, CAREN, TEIN, ACP Connect, etc.). The thinking on how this infrastructure for knowledge exchange will improve R&I in these regions and link it up with European R&I is straightforward and logical and based on a number of past evaluations it seems the approach works and is widely welcomed. There are various good examples of researchers working on topics that should have a positive impact on development. What is often less clear is how well the link is then made from the R&I community down to practice on the ground though even here some examples of good practice emerge from the programme documentation. Several projects, for instance, specifically address the need to encourage innovation in industry and the private sector (e. g. Ukraine Innovation Programme, Tunisia PASRI, EBTC India, etc…).

Another approach is support to higher education more generally and particularly institutional development (e. g. through EduLink in ACP countries such as Congo and Tempus IV in ENP countries such as Ukraine or Tunisia). Capacity building for research is another approach that also receives considerable support. Involving the private sector and particular in encouraging innovation in production is another element that comes out from the SISS portfolio.

From the country cases it is apparent that in some places the DEVCO engages directly with the governments' efforts to develop a national R&I or S&T policy (e. g. Ukraine, Tunisia, South Africa). In oth-

er cases even though the government is seeking to develop such a policy (e. g. Ethiopia) the EU prefers not to engage but still works in sectors where there is considerable R&I going on (e. g. coffee sector in Ethiopia). There are also cases where the engagement is made by RTD (e. g. India) but DEVCO is not really involved. Though equally there are other cases where both RTD and DEVCO have some involvement (e. g. South Africa). Finally there are cases where the government itself does not have a clear R&I strategy and so the EU's efforts in the area remain at the purely sectoral (e. g. Burkina Faso).

It is also apparent that all the different elements of SISS, i. e. Science, Information Society and even Space receive some attention: S&T is a major element of the SISS portfolio both in ACP countries where it is focussed on development purposes and in EU neighbourhood countries where in addition to local development there is the objective that the country can become more integrated with the European economy and wider research sector. As discussed, ICT features heavily in the portfolio with 15% of the SISS portfolio spent on high-speed internet networks and another 7% on ICT based projects in ACP. Even space is represented by projects such as MESA that use satellite imagery and space technology.

In sum overall there is overall clear logical thinking on how S&T in the various areas covered by SISS can contribute to the development process and to the application of R&I results and many elements are in place, even though no actual EU SISS sectoral strategy exists.

5.1.1 Indicator 511: Evidence that sector strategies are forward-looking in taking current R&I developments into account in areas where knowledge is rapidly accumulating

As indicated above SISS is not a conventional 'sector' and cannot be found in programming documents other than in the JAES where it is the name of the 8th Partnership. This indicator thus needs to be tackled at the level of the programmes that make up the SISS or at the overall support to R&I level as represented by the Commission's overall policy on support to R&I (COM(2008) 588).

In the latter policy document the Commission takes a forward-looking but broad brush approach to support to R&I by seeking to develop the conditions for research through such measures as capacity building, improved infrastructure and strengthening regulatory frameworks, rather than look into individual knowledge areas that might be developing fast. However, there is also a strong recognition that R&I and advances in S&T are fundamental to development. This is also well argued in another Commission paper of the same year (SEC(2008) 434) that looks at the PCD link between R&I and development processes.

For SISS more specifically, the Inventory shows that the SISS sector funding is made up of a limited number of major programmes (see Table 13). These make up 80% of the value of the SISS portfolio in the Inventory and focus on ACP Science & Technology (EUR 55 million), high-speed ICT research network infrastructure (EUR 46 million), higher education capacity building (EUR 72 million), elements of the JAES 8th Partnership (total EUR 36 million, though some of this also falls outside SISS), research and innovation support in Mediterranean countries (EUR 28 million), China research fellowships (EUR 5 million), ACP Regional ICT Support (EUR 17 million), MESA (EUR 9 million) and the TACIS Ukraine Innovation Programme (EUR 10 million). While there is no overall 'sector strategy' as such for SISS, each of these major programmes or areas of work has a strategy of its own.

Table 13 Main Science, Information Society and Space decisions

Major programmes in SISS inventory					
Decision no.in CRIS	***Decision title in CRIS***	***Source***	***Contract years***	***Amounts contracted***	
				Per decision in million EUR	***Per programme in million EUR***
ACP S&T Programme*					**55.05**
D-18197	Programme for S&T Innovations and Capacity building (PSTICB)	DCI-AFS	2009	4.73	
D-18593	S&T Innovations and Capacity Building in ACP Countries	EDF 9	2009	28.74	
D-22053	ACP S&T programme	EDF 10	2013	19.25	
D-22313	ACP S& T II	DCI-AFS	2013	2.34	
High-speed ICT research networks					**46.43**
D-21576	ACP Connect (incl. Africa Connect)	EDF	2011	12.55	
D-19842	@lis (Latin America)*	DCI-LA	2008	12.00	

Major programmes in SISS inventory					
Decision no.in CRIS	Decision title in CRIS	Source	Contract years	Amounts contracted	
				Per decision in million EUR	Per programme in million EUR
D-24604	CAREN2 (Central Asia)	DCI-Asia	2013	2.88	
D-19268 D-22663	TEIN 3 TEIN 4	DCI-Asia	2007 2011	11.00 8.00	
Higher Education Capacity Building					**72.64**
D-17570 D-20827 D-22171	EDU-Link I+II	EDF		17.29	
D-2571 D-17074	Asia-Link*	DCI-Asia	2005-2007	3.61	
D-16909 D-18414 D-19189 D-21526	ALFA II+III	DCI-ALA	2005-2011	51.74	
JAES 8th Partnership[67]*					**0.69**
D-21575	Africa Research Grants[68]	EDF	2011	0.16	
D-23075	GMES	EDF	2012-2013	0.53	
Other major projects/programmes					
D-22553	MESA*	EDF	2013		9.74
D-19460 D-21142	China Research Fellowships	PP-AP	2008-2010		5.56
D-16573	Regional ICT Support Programme	EDF	2004-2011		17.07
D-18038	Ukraine Innovation Programme*	TACIS	2009		10.05
D-18209 D-18252 D-20512 D-21866	Research & Innovation in Mediterranean countries (Jordan, Egypt*, Tunisia*)	MED+ ENPI	2007-2012		30.96
	Total major programmes in SISS & percentage of SISS total			**81%**	**248.19**
	** Case Studies in this evaluation*				
	Grand total SISS In Inventory			**100%**	**305.47**

Source: CRIS, Particip analysis

Indications of how strategic and forward looking the orientations of the different programmes are can be illustrated by various regional and national level examples.

Regional level:

- The @lis2 Evaluation is convinced by the case of the strategic value of this high-speed ICT network programme for R&I in development. The programme uses the latest technology in the upgrading of the Latin American telecommunications sector and supports the regional e-LAC in this respect. Likewise Africa Connect as part of ACP Connect (JAES Case Study) documents stress the importance of connectivity for knowledge exchange and uptake and tackling

[67] In total contracts for EUR 36.7 million in the Inventory have been issued for the JAES 8th Partnership, but not all are funded under SISS. JAES projects listed elsewhere include: Africa Connect (in ACP Connect in ICT above), Water for Food Security (FP7), Popularisation of Science and Technology / Nkrumah Scientific Awards (AUC Capacity Building), AXIS (EU-Africa Infrastructure Trust Fund), African Union Spatial Data Observatory (AUC Capacity Building).

[68] The decision for the Africa Research Grants is for EUR 19.4 million. Of this about EUR 7 million appears in the Inventory but under different thematic sectors. Only one contract for the assessment and preparation of the grants is in the SISS part of the Inventory.

the 'digital divide' (MDG 8 target). This is also visible in the documents for the other ICT connectivity programmes financed by DEVCO (@lis, CAREN, TEIN, etc.)

- The RSP Asia identifies 'Higher education and support to research institutes' as one of the strategic priorities for EU co-operation with Asia under the heading 'Policy and Know-How Based Co-operation'. Support to R&I and Higher Education is therefore a key area for support and Asia-Link and TEIN are cited as programmes through which this EU support will be mobilised.
- The approach of the ACP S&TP (Regional Profile) is forward looking and open to current R&I development, but it remains a theoretical level and is not worked out in great detail. The MTR of the Programme suggested more careful focussing on the eligibility criteria and particularly on the capacity building aspect that would increase the Programme's impact in its second phase.
- The MESA (Regional programme) encourages forward looking strategies in the land management sector by making knowledge on satellite imagery on land and environmental conditions (e. g. on water and drought) and weather patterns available to African researchers and decision makers.
- The ACP Sugar Research programme (Case Study Profile) Evaluation found that the research topics were not defined at a sectoral level but emanated from individual research centres' own agendas.

National level examples:

- The programme documents on EU support to research for the tea and coffee sector in Tanzania suggests the programmes were very forward looking both in terms of the trade and development context but also in terms of knowledge and research.
- Support to research and S&T is a major component of the EU programme in Ukraine (Country Note) with in mind the strategy to integrate Ukraine into the European ERA. Activities funded under EU projects have been reasonably well aligned with SME innovation, but many of the obstacles to SME development in Ukraine lie outside the realm of R&I and relate more to restricted markets, lack of experience, standards, lack of finance, high tax and an unstable legal environment (Ukraine CN).
- The PASRI programme in Tunisia has clear objectives and a strategy showing how R&I can improve the competitiveness of the Tunisian economy and increase employment. Evidence from the field visit indicated PASRI takes a comprehensive and strategic approach collaborating with the government on developing thinking for a national R&I strategy. Encouraging innovation in particular is a key element of the strategy (Tunisia CN).
- For India the S&T Agreement with the EU is managed by RTD and DEVCO is not involved. The dialogue around the Agreement is however forward looking in SISS areas (India CN).
- In Ethiopia on the other hand the EU has supported sectors where there is considerable R&I for many years (e. g. agriculture sector and particularly Coffee) but the EUD has not engaged with the government's efforts to promote a national S&T strategy (Ethiopia CN).

5.1.2 Indicator 512: Existence of clear sector strategies on how national, regional and global opportunities for, and barriers to sustainable innovation (diffusion) for development will be addressed

Again, in the absence of any 'sector' strategy for SISS, this indicator is best tackled at the level of individual programmes as illustrated by the following regional and national examples.

@lis2 Evaluation talks about consistency between the overall objectives of the project and actions implemented. Equally the problem analysis in the logical framework appears adequate and addresses the 'digital divide' directly. The evaluation also concludes it has found sufficient evidence to prove the logic chain: "Development with ICT → Reduction in Poverty → Increase in Social Inclusion'. ICTs also encourage innovation which helps growth and facing the crisis.

The @lis2 Action Plan points to the bottleneck constituted by the lack of investment in higher education in the Latin American region, which means that while primary school enrolment has been rising well, enrolment in higher education is not greater than 40% in any Latin American country apart from Argentina. It proposes the EU should help resolve this through its scholarship programmes (Erasmus Mundus).

The TEIN3 (*D-19268*) Action Fiche spells out several levels of stakeholders (the project partners – the Asian NRENs, the research and education organisations, specific user application stakeholders, the governments and ultimately the 'End-User Stakeholders – Asian citizens)' indicating that some strate-

gic thinking has gone into making the project relevant to a wide range of users so as to overcome potential bottlenecks in diffusion of information.

As for the country level, the CSP Egypt is also clear about the importance of supporting the development of the ICT sector and its regulation for the development of the country, particularly stressing the value of liberalising the Egyptian telecoms market in order to lower costs, encourage innovation and improve services to business. A ROM report for the RDI project in Egypt also refers positively to the clarity and logic of the intervention logic though is more critical about the intervention logic diagram.

The PASRI project in Tunisia has developed a clear strategy on promoting innovation in the country by linking up the research and industrial communities that includes a diversified approach to tackling a number of clearly identified barriers to innovation (Tunisia CN).

In South Africa the government DST has clearly articulated the role of R&I and particularly how innovation can support poverty reduction and employment generation objectives. Strategic discussion between the DST and the EU and EU-MS have consistently placed R&I within the country's development priorities. The DST acknowledges the EU support for their R&I plans (South Africa CN).

5.1.3 Indicator 513: Evidence at the sector level that the role of the private sector in the production and uptake of R&I results is adequately taken into account in R&I support

Again, in the absence of any 'sector' strategy for SISS, this indicator is best tackled at the level of individual programmes as illustrated by the following examples.

The role of private sector is very present in most of the programme and project level documents in the SISS 'sector'. The private sector is regularly identified as a user and supplier of S&T; CSPs identify the private sector as a key actor; the private sector is regularly involved a stakeholder in projects; and in certain cases specific projects are established to work directly with private entrepreneurs. These examples are all at the national level suggesting the Commission may be better equipped to deal with the private sector at this level than at the regional level. The following provide a few illustrations:

- The CSP for Tunisia notes that public sector investment in research is still very disconnected from the needs of the private sector and that this needs to be addressed in the S&T support provided. It also talks about the need to better connect higher education, professional training and the needs of the private sector. The PASRI project in Tunisia seeks to encourage innovation in the private sector. Evidence collected during the field mission showed that the private sector had a central place in the PASRI project and was the focus of training on innovation management systems. PASRI also funded MOBIDOC scholarships to enable university researchers to doing doctoral post-doc research in private sector firms addressing issues of importance to them (Tunisia CN).
- The CSP for South Africa talks of a need for a dialogue with the Government of South Africa (GoSA) Dept. of Trade and Industry to discuss economic co-operation and the needs of SME and larger companies in terms of education, training and research.
- In India the EBTC's (European Business & Technology Centre) overall objective is to improve links between European and Indian S&T stakeholders involving business, industry and public bodies with a view to promote the EU interests and tap the fast-growing Indian economy. The Mid-term Report (April 2013) did find the Centre's programme complex and ambitious and there was a difficult start-up phase. But it also concluded that the potential was good and the EBTC now needs to really show its worth which will require sharpening up some aspects.
- As indicated above (I-512) EU funded activities in Ukraine relate well to SMEs and their innovation needs although they have a series of other constraints (Ukraine CN).
- China: the final report of D-06130/c-109093 lists the organisation of three industrial seminars in China and the UK: "Decision makers regarding Chinese industry at national level as well as different industry representatives attended these seminars with overall attendance of over 180 participants. Good discussions and exchange of research results by European and Chinese industrial and academic participants were held... Success stories of Chinese industry as well as new industrial developments were exchanged among participants. Several key areas were identified during these seminars and it has been agreed that new collaborative research and development projects will be initiated jointly by European academic institutions and Chinese industrial companies."

5.2 JC 52: Extent of internal lessons learning, sharing and uptake in the EU Institutions within the sectors supported in partner countries, and at international level

Summary judgement

The examples of lesson learning that emerge at this stage are essentially at the programme and project level.

For instance there has clearly been a good degree of lesson learning about how best to establish and support the development of high-speed internet connectivity networks and there has been a lot of uptake of this approach within the EU and within the sectors in partner countries. Several similar programmes have been funded and the approach taken up in all the partner regions of the EU. Moreover, several of the programmes have had second phases building on the successes of the first phase. Naturally, such phases are supposed to build on experience accumulated, as was the case for MESA project which shows evidence of lesson learning from its predecessor in its design.

At the country level EUDs visited during field visits display a high level of knowledge of the results achieved in the project in their portfolios and put a clear emphasis on communication of results in the projects they support. This includes R&I results in the national context. Regional programme such as the SWITCH-Asia has also been designed with a strong lesson learning, exchange and communication of results component which DEVCO officials are clearly very committed to. What is less clear is how far the dissemination of these results reaches as there is no structured system of collecting R&I results and making them available publically beyond the levels of project briefs and newsletters.

What is also less in evidence are examples of specific R&I results being taken up by DEVCO, discussed with DG RTD and disseminated more widely. .

5.2.1 Indicator 521: R&I lessons learnt in co-operation communicated between DEVCO and RTD

One of the best examples of lesson learning and building on past experience seems to be with the high-speed ICT networks. The focus and scale of these projects suggest there must have been some level of communication between DEVCO and RTD concerning them. There is some evidence of cross-Commission communication (letter by Vice-President Kroes, see below), but so far none specifically on DEVCO-RTD communication.

Thus, the approach of @lis in Latin America, CAREN in Central Asia, TEIN in Asia and ACP Connect building high-speed ICT networks between the national research and education networks across a whole region and connecting these to European equivalent networks such as GEANT is essentially the same replicated across each region. The success of the approach has also led to projects being extended into a second generation with @lis2 and CAREN2 building on the experience of the initial projects.

The CAREN2 description quotes a letter of 14 November 2011 from Vice-President Nellie Kroes to Commissioner Piebalgs: … "The conclusions of the Working Group are in line with EU policy and with the initiatives in which our respective services have successfully collaborated in the last decade thanks to support by development and co-operation aid. In particular projects such as the Research and Education Networks in Asia (TEIN), in Latin America (RedCLARA), in the Mediterranean rim (EUMEDCONNECT) or very recently in Sub-Saharan Africa (AfricaConnect) have had a major impact in these regions in terms of advancing towards the Millennium Goals".

More widely, there is evidence of internal lesson learning in various projects as indicated by the following examples. What is less clear is how much these have been the object of dialogue between DEVCO and DG RTD.

- South Africa (D-18932) Action Fiche: “The key lessons learnt in the field of SBS in South Africa and in S&T development include the following: The Godisa Programme, established by DST in partnership with the Department of Trade and Industry (funded partly by the EC), proved to be a success at creating sector-focused technology business centres for developing viable and successful technology-based SMEs. This programme has contributed significantly in the development of monitoring systems, business concepts and ideas, models and services focusing on the small business sector that are currently still in use. It had a high impact in terms of innovation and technology development in this sector through an incubation business development approach and had positive, sustainable impacts in terms of employment creation and poverty alleviation.”
- The approach of the ACP S&T Programme (Case Study) documents shows mixed indications of seeking to learn lesson from the first to the second programme. Thus while a review was

conducted and made some recommendations on applying the grant award criteria more strictly, the distribution of grants in the second programme is very similar to that in the first.

- On the other hand, the design of the MESA Programme (Case Study) is based on the lessons learnt from the previous programme also funded by the EU (AMESD).

5.2.2 Indicator 522: Evidence that major R&I results (from EU funded programmes) are communicated to DEVCO sectoral officials

While these are not research results per se the SISS sector has various examples of successful S&T projects being run into a second phase: @lis and @lis2, CAREN and CAREN2, ACP S&TP I and II, AMESD and MESA, etc. In each of these cases, the project documents show that DEVCO officials have taken on board the successes of the first phases and sought to extend and improve them into second phases, but how far this goes inside DEVCO is not clear.

In India and more generally within the SWITCH-Asia programme there are reasonable indications of internal lesson learning between project holders and with EU officials involved. The SWITCH Asia programme itself creates opportunities for this exchange of lessons and puts considerable emphasis on communication of results among project implementing partners and more broadly (India CN).

In Tunisia the EUD has clearly followed the PASRI project closely and is very aware of the main issues and results. An evaluation of the PASRI, which would be an added opportunity to learn lessons, is being actively explored (Tunisia, CN).

In Ethiopia the EUD is very conscious of the progress made on R&I in the Coffee Improvement Programme and the research results in terms of new varieties developed and disseminated to coffee growers that are regularly achieved (Ethiopia CN).

5.3 JC 53: Extent of external lessons learning, sharing and uptake within the sectors supported in partner countries, and at international level

Summary judgement

There are clearly many levels at which dialogue is taking place and examples of lessons being learnt and rolled over into new programmes. Overall, there is thus a clear general intention to seek out opportunities for lesson learning, sharing and uptake. A good selection of examples were found during field visits of such sharing and communication exercises being conducted as integral parts of DEVCO funded programmes.

Just about all the programmes and projects examined do tend to have communication and networking components on a regional as well as national basis. Various examples of international seminars, networks and knowledge exchange exist and some projects have apparently developed specific Case Studies to demonstrate this knowledge sharing works in practice. The Latin American ICT sector structures appear to be among the more developed institutional partners with whom the EU works in this sector and there seems to be a high level of lesson learning here that could be usefully examined further.

While there is evidence of partner country involvement in lesson sharing internationally at the regional level and a bit with Europe it is not clear how much this extends beyond regions to the global level.

While most projects funded tend to involve government and the research communities there are also cases of certain projects that specifically focus on the private sector and their uptake of innovation.

The EU's S&T Agreements clearly foster a more established and on-going dialogue between the EU and those states with which such Agreements have been concluded. These dialogues involve different groups of actors on a variety of themes that cover both substance of different sectors and co-operation on regulatory matters. However, there are only a very limited number of countries with such Agreements and these processes are extensively supported by DG RTD and not just DEVCO.

5.3.1 Indicator 531: Evidence of DEVCO external networking activities aiming at promoting the uptake of results for development

Virtually no solid evidence of this really occurring has emerged though there are many references to good intentions of collaborations to share the use of project technology, such as the @lis2 Interim Report: "The second activity in contribution to the ALICE2 Project has been funded by FINEP of Brazil who provided a Grant to RNP (Brazil) to fund fibre-optic connectivity projects between the Mercosur Countries (Argentina-Brazil-Uruguay-Paraguay), funding that is being used through CLARA to complement the ALICE2 funding and is expected to be considered as part of the Latin American contribution to the ALICE2 Project."

Otherwise, most projects covered do have awareness raising and outreach components to be conducted by the project holders (rather than by DEVCO officials). For some projects, such as the Ukraine JSO/Innovation Programme, the Tunisian PASRI programme or the Indian EBTC outreach is a major objective. The PASRI project in Tunisia intends to encourage R&I lessons learning inside the business sector with other countries in the region (Morocco and Jordan) but evidence from the field visits suggests this has occurred only minimally (Tunisia CN).

In Ukraine the JSO programme has attempted to make available to Ukrainian scientists the lessons learnt in European countries. Evidence suggests that Ukrainian science is experiencing a sweeping change of mind-set in order to integrate with Europe.

The AU's MESA project funded by DEVCO under the JAES 8th Partnership included a MESA Forum at which several national focal points came to present how they use the MESA data and support to create and run innovative services at the national level. The Forum was therefore an opportunity for lesson learning and sharing results with other users from across Africa (Ethiopia CN).

5.3.2 Indicator 532: Evidence of active, DEVCO supported, partner country stakeholder involvement in international research networks

Evidence of partner country stakeholder involvement in international co-operation is relatively strong at both regional and national levels as a few cases show:

- The @lis2 Evaluation was positive about the contribution the programme was making to support the Latin American e-LAC initiative and REGULATEL, the telecom regulator network of the region.
- @lis/ALICE2 Project Interim report: "Another procedure followed was to look up information on published peer reviewed articles in mainstream scientific journals. It was found that all CLARA member countries are active in publications, and many in the areas related to the MDGs and FP-7."
- ACP Connect (D-21576) Action Fiche: "The main beneficiary of this project is the research and education community in ACP countries. This community includes universities, research institutes, academic institutions with their students and professional staff. The main stakeholders in the project are National Research and Education Networks (NRENs) which are organisations associating institutions from the research and education sector (universities, academic institutions, research centres) to commonly ensure digital connection for their students and researchers in sufficient capacity and on affordable terms."
- The ACP S&T Programme grantees are all consortia involving national and international – usually European or other regional – participation.
- The AU Africa Research Grants do encourage knowledge sharing among the several consortia members involved from both Africa and Europe. Wider sharing of results is less apparent but as the first two cycles of grants are just coming to an end some efforts are now going to be made to publicise outcomes more widely (Ethiopia CN).
- The China CSP (2007-2013): "The first EU-China S&T agreement entered into force in late 1999 and was renewed in December 2004. Co-operation has increased substantially since the first S&T agreement was signed. Its aim was to promote mutually beneficial research activities in a variety of areas, such as food and environmental safety, the management of natural resources, the control of infectious diseases, etc. Today, this co-operation shows growing dynamism as is demonstrated, for instance, by the participation of Chinese partners in 134 research projects funded by the Commission's 6th FP for RTD. China is rapidly becoming one of the most active players on the international research scene and in several areas it is a world leader – examples of the latter are nano-materials and energy components. The momentum gathered from both the launch of the 7th FP on the EU side (2007-2013) and China's Eleventh Five Year Plan (2006-2011) together with the forthcoming EU-China "S&T Year" may be used to review the present co-operation ..."
- The JSO project in Ukraine aims to encourage Ukrainian researchers learning interacting with and learning lessons from EU R&I networks. It organises various study visits to different European countries and seminars for this purpose and has chalked up a number of success including 940 instances of Ukrainian researchers participating in applications to FP7 with wider European consortia.

5.3.3 Indicator 533: Sector policy dialogues include national researchers, innovation practitioners and entrepreneurs

The S&T Agreements between the EU and various third countries involve policy dialogues between the EU and the relevant R&I/S&T ministries. A Commission staff working paper (SWD(2009)276) from September 2014 summarises the dialogue that has taken place and the state of play. For countries in the sample such as China, India, South Africa and Tunisia it indicates that dialogue certainly takes place among officials at different levels and from time to time at political level when new general or more specific agreements are signed. The level of actual national researcher involvement is certainly implied for some of these dialogues but not really detailed or quantified. The report also refers to different working groups dealing with issues such as the regulatory framework. Apparently much of this dialogue covers co-operation funded out of FP7.

Overall it is clear that sector policy dialogue does occur regularly, but much of the detail provided about this dialogue at the level of strategic, programming or even project planning documents concerns official dialogue with government departments. While the implication is that in many instances research practitioners are also involved it is not possible to gauge to what extent and in what roles. The following examples give some indication.

- The @lis2 Evaluation is also positive about the support the programme provides to the regulatory dialogue organised by REGULATEL and what it terms the 'regional broadband dialogue'.
- The CSP for South Africa talks of a need for a dialogue with the GoSA Dept. of Trade and Industry to discuss economic co-operation and the needs of SME and larger companies in terms of education, training and research.
- China CSP: "The Commission and the Chinese government also launched a dialogue on co-operation in space science applications and technology. Managers of aerospace companies and research institutions attended a workshop in April 2004. High-level meetings took place in July 2006 to explore ways of implementing the dialogue among the various parties concerned. Different fields of co-operation were reviewed, for instance earth observation (GMES)".

5.4 JC 54: Development processes and outcomes have been built on or used the results of research funded by DEVCO or shared through DEVCO supported research networks

Summary judgement

There are many examples in the programmes reviewed of development processes and outcomes that have built on or used the results of research shared through DEVCO funded networks and processes. Equally there are many good examples of DEVCO sectoral development projects that include research components. On the other hand as DEVCO only funds a limited amount of research directly in specific research projects the results from these are also more limited though they do appear to have good relevance to development processes.

All in all therefore DEVCO funded or supported R&I work can be seen to have a major impact on development processes.

On the one hand it is clear that DEVCO has financed several major ICT projects to encourage the diffusion and sharing of knowledge between researchers and potentially this has greatly improved the infrastructure for R&I and with it the capacity of HEI and other research organisations. Equally, these networks can be used for the diffusion and sharing of research results. On the other hand, it is less clear what this has meant in practice for the R&I community in partner countries and in particular whether this has led to greater uptake of R&I results by the public or private sector. A few examples of this do emerge from the documentation.

There is also evidence to suggest that much of the R&I that the EU supports under SISS does ultimately benefit development and the achievement of the MDGs, but it is less clear how directly the EU support impacts on the research output of HEIs and ROs except in the limited cases of research projects funded directly under the ACP S&T Programme and AU Research Grants programmes.

5.4.1 Indicator 541: Evidence that DEVCO supported knowledge management and communication facilitates the diffusion and uptake of research results for development in partner countries

Evidence on DEVCO support to knowledge management and communication (KMC) at the regional level and how it facilitates the diffusion of knowledge in general is more readily available at this stage than on the actual nature of the knowledge and how it has been used. The following examples are worth noting.

The @lis2 Evaluation accepted the argument of the programme that the EU support to the RedCLARA fibre optics network actually supports communities of researchers in Latin America more widely: "Thus innovation is fostered by strengthening RedCLARA, researcher networks and e-infrastructure". The @lis Action Fiche talks about the importance of supporting communication activities to encourage take up of the services by its various stakeholders provided by the programme.

The CAREN2 Description Fiche outlines how in the first phase the CAREN project created a well-established web presence with both a public website and a portal for Central Asia researchers[69]. The latter provides online resources and support for the research community including libraries and other information, technical support and links to research activities. It concludes: "The Commission is thus supporting a project with a strong KMC element that facilitates the diffusion of knowledge and R&I results – actual uptake is not so easily measured." In phase 2 it is planned to extend this web presence and promote it more widely in the research community as well as extend its reach to other research user groups. It is also hoped this will increase interaction between the region's HEIs and European researchers and user communities. As an example of the type of interaction that this support has encouraged, it mentions: "Together with the World Health Organisation Collaborating Centre at the University of Pittsburgh, a regional hub of the Supercourse facility has been established at the CAREN NOC (Network Operations Centre, Bishkek) allowing medical professionals access to more than 5,300 medical presentations in more than 31 languages including Russian and various Central Asian languages. A spinoff of this activity is the intention to set up a Research Help Desk for Central Asian medical scientists to assist them in the design phase of research activity using proper statistical methodology. The aim of this activity is increase the number of accepted publications in western journals such as the British Medical Journal and Nature."

As with @lis and CAREN, ACP Connect (JAES Case study) puts in place an important tool for knowledge management and communication. The Commission is thus supporting a tested model across several regions. While each individual project is a useful support to KMC in itself, the cumulative effect of these multiple networks should also be very significant.

The MESA (Case Study) makes the results of knowledge and data from satellite imagery on land and environment management available to researchers and decision makers in different areas related to land use management, rural development, agriculture and water resource management. The periodic MESA Forum is designed to facilitate and disseminate information about the use made of MESA data and the results of research based on this data (Ethiopian CN).

DEVCO thus puts considerable emphasis on support to projects that encourage knowledge management and communication. Much of this support is specifically intended for use by researchers to exchange knowledge amongst themselves, but also to disseminate results to wider user communities. Based on initial successes particularly in relation to the high-speed ICT networks, this support has also been built on and extended further.

5.4.2 Indicator 542: Evidence of public sector uptake of results of R&I supported by DEVCO being reflected / taken up in sectors relevant to achieving EU development objectives

In the SISS sector, where only a limited amount of actual research is funded, direct evidence of R&I results from DEVCO funded projects is limited; on the other hand it is clear that many SISS projects help with the transfer of results and innovations to end users.

The @lis2 Evaluation concluded that "…thanks to the project a debate was started on the most suitable policies to make telecommunications universal as well as on the role of private initiatives and public services aimed at palliating the lack of private investment…" The same evaluation also highlights examples of good practice in e-health, e-education and e-government derived from @lis demonstration projects being picked-up and raising interest in political sectors.

The MESA programme makes the results of knowledge and research on land and environment management available to public sector working through a series of regional specialist research institutes in different sectors across Africa.

At the national level field visits identified the following:

- The Willay project in Peru had a positive impact on the way the government approaches ICT infrastructure in remote and poor regions. The project has had an impact on increasing transparency and accountability of local government through improving digital alphabetisation of public officials and local communities (Peru CN).
- National take up of the satellite data provided by the AU MESA project has shown to be very high with many African government agencies developing new services based on this data in a

[69] http://caren.dante.net and http://www.icaren.org.

wide variety of fields that affect development (meteo, agriculture, environment, flooding, water resources, fishing, etc.((Ethiopia CN).

- Another example is provided by a research project funded by an AU ARG grant in Senegal that developed local technologies for improving production and management of Jatropha. The project coordinator has been working with the government to use this technology as the basis for country level strategies on biofuels and Jatropha.
- In the PASRI project in Tunisia, researchers funded under the MOBIDOC scheme are doing their research directly in private firms tackling problems identified by these firms. The innovations identified are then used to improve their production processes.

5.4.3 Indicator 543: Evidence of private sector uptake of results of R&I supported by DEVCO

While in some planning documents studies, there is clear indication of the intention to strengthen uptake by the private sector there is not extensive evidence of this being a major priority.

A few examples illustrate what has been done in this area:

- As indicated in the India 2008 Joint Action Plan one objective is to develop business-to-business (B2B) and research co-operation with the help of the European Business & Technology Centre (EBTC). The project supported contacts between European and Indian firms to develop the transfer of technologies and their adaptation to the Indian market (India CN).
- As already indicated above (I-521) the South Africa (*D-18932*) Action Fiche describes the success of the Godisa Programme, established by the government (DST in partnership with the Department of Trade and Industry and funded partly by the EC), “at creating sector-focused technology business centres for developing viable and successful technology-based SMEs.”
- The Asia-Link China (*c-109093*) Final Report reported that there had been an “overwhelming response’ from industry throughout Asia (particularly from Pakistan) for their personnel to attend the training courses organised. Moreover “…industry approached the project staff with queries to solve their real world problems related to design and manufacturing engineering. … Two major Chinese companies have approached SU to discuss the trainings of their engineers through short training courses; … industry was also actively involved through co-supervising the students’ group projects and final MSc dissertation projects. Over 36 group projects and 137 final MSc dissertation projects have been jointly conducted by academic and industrial supervisors to solve the problems of the local industry.”
- In Tunisia the PASRI programme had a strong private sector component which included capacity strengthening in innovation management but also scholarships to support PhD students to conduct their research in participating firms on the technology problems these firms identified themselves. These MOBIDOCs are also allocated to PhD students and post-docs who have promising ideas to help them develop them into spin-offs (Tunisian CN).
- In Ukraine there has been a successful commercialisation of 24 different technologies under the STCU (S&T Centre Ukraine) programme covering areas as diverse as holography, nanotechnology, non-invsive testing, solar energy and environmental pollution (Ukraine CN).

5.4.4 Indicator 544: Evidence that EU supported R&I led to innovation of locally-owned and sustainable solutions for the poorest and most vulnerable in the society

There is considerable documentary evidence indicating plans and intentions that support this approach, but field visits also brought up a number of projects on the ground.

Examples at the national level include:

- The EU-India 2008 Joint Action Plan stresses that the co-operation is locally owned to the extent that it is based on a joint ministerial level dialogue with co-investment in research and technology and an EU-India S&T Agreement.
- The EBTC project establishes collaborations between European and Indian firms as well as Indian ROs (e. g. technical colleges) to help adapt European technology to Indian circumstances so they can be used and marketed in India
- As already indicated above (I-542) the Willay project in Peru had a positive impact on the way the government approaches ICT infrastructure in remote and poor regions (Peru CN).
- The KASAL and ASAL programmes in Kenya include stakeholders in the development of research programmes to produce practical knowledge and technologies for sustainable agriculture (Kenya CN).

While the regional level, the following illustrations emerge:

- @lis2 Interim Report: One of the explicitly stated objectives of the ALICE2 project is "To develop, deploy and maintain applications and services which are useful to communities. The newly created Software Development area has been doing research on Open Source Tools that may be available for use with communities".
- ACP Connect (*D-21576*) Action Fiche: "The final beneficiaries would be the citizens of ACP countries that would benefit from the access to the new information technologies including the rural areas. This would on one hand include improved education and research possibilities, on the other hand the emerging use of information technologies in other sectors like medicine".
- TEIN3 (*D-19268*) Action Fiche: "End-User Stakeholders (Asian citizens): This is the most important stakeholder group in terms of the TEIN3 relevance and potential for contributing to the Millennium Development Goals and other related EU development goals. These are the ultimate beneficiaries of TEIN3 hosted user applications".

Only four respondents to the EUD Survey indicated they were aware of examples of specific innovations that were at least partially the result of DEVCO R&I support. None of the examples cited were in the SISS sector.

5.4.5 Indicator 545: Evidence that EU supported R&I has contributed to enhancing the research capacity of HEIs and research organisations at regional and national level

At the level of documentation there is a lot of evidence indicating plans and intentions that support enhanced capacity of HEIs. Evidence from the field confirms this is a major orientation of the support from the Commission and it is interpreted in a variety of ways including in terms of strengthening infrastructure, but there are also indications that support for capacity building can be rather piece meal with multiple programmes that are not always explicitly coordinated.

At the regional level the following examples however do show that the Commission, at least in terms of the infrastructure, is making a major effort to strengthen the capacity of the research community:

- @lis2 evaluation concluded that the programme by strengthening the capacity of the telecommunications network was contributing to encouraging collaborative research between European and Latin American research communities. The RedCLARA network that @lis2 supports is a regional network connecting research communities across Latin America and with their European counterparts.
- The approach of @lis in Latin America, CAREN in Central Asia and ACP Connect building high-speed ICT networks between national RENs across a whole region and connecting these to European equivalent networks such as GEANT is essentially the same.
- The CAREN2 Description Fiche explains that: "Over 500,000 Central Asian researchers, academics and students are benefitting from the high quality, high capacity international Internet connectivity the CAREN network provides. The CAREN network is starting to be used for collaborative programmes with Europe in fields such as solar and environmental research, e-health and distance learning. The expected results and main activities for CAREN2 are to expand the network, promote applications and meet the growing demand for international bandwidth."
- The CAREN2 Description Fiche also argues that: "It is generally accepted that high-speed, high-capacity broadband Internet access is a basic infrastructure need for research and education communities and essential inter alia in accelerating progress towards the Millennium Development Goals. Also, it is arguably a fundamental right that research and education communities be allowed uninterrupted high-speed, high-capacity broadband Internet access."
- High-Speed Internet (*c-255139),* AfricaConnect: "In Africa, intra-regional research networking connectivity is currently non-existent. Today all traffic flows between two African research networks are being exchanged by multiple satellite hops through Europe, Asia or the United States. There is also little organised connectivity between the European research network GÉANT and the NRENs in Africa other than through the UbuntuNet Router co-located at the GÉANT PoP in London. – Collaborative research between European and African researchers is effectively hindered by this lack of organised and direct connectivity. AfricaConnect will create an intra-regional network and its interconnection to Europe. Collaborative research within Africa and between Europe and Africa will for the first time be able to benefit from direct connectivity and its consequences for collaborative research".

Asia-Link (see Case Study) aims to extend HEI human resource development and research capacity.

At the national level the following examples show that there is also effort to address capacity issues, including human resource capacity, through a variety of different types of projects:

- CSE Vietnam: "The Small Project Facility (SPF) … has not only strengthened the capacity of SMEs, local government agencies and emerging civil society organisations … Furthermore, and probably most importantly for a country that is in the process of forming a robust research infrastructure, the involvement of academic institutions in many SPF projects provided a valuable contribution to the training and capacity building of young academic researchers. … EC interventions were especially effective in building capacity at academic and research institutions".
- South Africa (*D-18932*) Action Fiche: stresses value of ACP S&TP in "…building and enhancing strong scientific and technological capacity to support research, development and innovation in the ACP region". The project will improve the infrastructure available to participating African national research and education networks for international research networking within Africa and between Europe and Africa, with the aim of fostering greater collaboration and cohesion between the regions. In addition it will provide a cost effective platform for projects with sites connected to NREN partners in AfricaConnect.
- There is also some interest in the capacity of the private sector such as in China (*D-06130/ c-109093*)*:* "One of the main reasons of lack of industrial growth in the targeted countries (such as Pakistan, Bangladesh and China) is the lack of technical and managerial expertise of the industrial personnel in the advanced fields of applied science and technology such as design and manufacture". The project tackled this through capacity building activities such as workshops and seminars.
- In Tunisia the PASRI programme also has a component to strengthen HEI capacities to design and manage research which has been taken up enthusiastically by a variety of national universities (Tunisia CN). Equally PASRI has funded a series of MOBIDOC, or PhD and post-doc, places in combined HEI/industry locations. These are intended to promote the capacity of HEIs to relate their research directly to private sector needs.
- Also in Tunisia various universities benefited from the Tempus IV programme that was aimed at strengthening capacity on research governance and management, but not actual research activities. Tempus IV is administered from Brussels with information provided through the Erasmus liaison office in Tunis. These inputs are however not coordinated with the EUD or even with the PASRI project.
- Academic researchers in various countries commented that involvement in EU financed research consortia usually brought with it the opportunity for creating PhD places, temporary placements in other ROs abroad, participation in research networks and joint papers that were published all of which contributed to capacity development.
- The field missions showed that EU funded mobility programmes are well known among researchers. Most of the information is available from and the administration of these is conducted from Brussels but in some places dedicated offices had been established to promote them (EURAXESS in Delhi, Erasmus office in Tunis). On the other hand EUDs have very limited knowledge of these programmes and while they do clearly provide important capacity development opportunities this is in a general rather than targeted manner.
- In India academics commented that EM scholarships do a lot to enhance individual capacity but because national HEIs are not adequately involved in the choice of students the impact on the HE institutional capacity was minimal.

5.4.6 Indicator 546: Contribution of EU supported R&I on research output of HEIs and research organisations

A good number of higher education institutions and ROs encountered during the field visits have participated in FP7 funded research programmes enabling them to carry out research that they would not otherwise be able to conduct (e. g.: India, Ethiopia, Tunisia CNs). At the same time academic researchers in all three countries indicated the FP7 Calls were mostly oriented towards European needs. The two major exceptions to this were the FP7 Africa Call (2011) and the FP7 coordinated calls under the EU-India S&T Agreement, both of which were much related to local research needs.

Aside from the RTD funded FP7 research funds, in the SISS sector there is only a limited amount of DEVCO funding going into HEIs to directly support R&I although there are more cases of institutional support.

The two major programmes under which this occurs are:

- The AU Africa Research Grants programme under the JAES 8th Partnership has funded 20 consortia of African and European HEIs to conduct research projects in Africa on various development related problems (Ethiopia, CN). These research projects are coming to their end in late 2015 and late 2016.
- The ACP S&T Programme administered by the ACP Secretariat which led to some 50 grants to research consortia from ACP and European HEIs (Case Study). Interviews indicated that some of these resulted in publications in academic journals.

5.4.7 Indicator 547: Evidence that EU supported R&I has contributed to relevant programme objectives and MDGs

From the evidence collected it is apparent that the Commission does make an effort to justify projects in terms of their contribution to the achievement of the MDGs.

Examples of this at the regional level include the following:

- @lis2 evaluation concluded that the programme was having a clear positive impact on reducing poverty and social exclusion and in tackling the digital divide target of MDG 8. It was also contributing to encouraging collaborative research between European and Latin American research communities on matters relating to development and the MDGs.
- As indicated above (I-521) the CAREN2 description quotes a letter of 14 November 2011 from Vice-President Nellie Kroes to Commissioner Piebalgs stating that a variety of projects in which their DGs cooperated [the Research and Education Networks in Asia (TEIN), in Latin America (RedCLARA), in the Mediterranean rim (EUMEDCONNECT) or very recently in Sub-Saharan Africa (AfricaConnect)] had “a major impact in these regions in terms of advancing towards the Millennium Goals".
- @lis2 Interim Report: One of the explicitly stated objectives of the ALICE2 project is to identify or create groups/communities working in the selected thematic areas to meet the Millennium Development Goals.
- @lis/ALICE2 Project Interim report: “A survey has been carried out among CLARA NRENs and thru them with the ONCYT (National Science Councils) to detect main working topics in MDG or FP7 areas and existing communities. The survey has also been accompanied by a search of Latin American researchers, networks and groups that are working on projects related to the satisfaction of the United Nations Millennium Development Goals (MDG´s) and the core of the EU Seventh Framework Programme (FP-7) using different data bases. Using just CyTED as a Case Study it was found that there are over ten networks, with all but two of the Latin American countries represented in the area of Agronourishment which is closely related to the goal of reducing worldwide hunger. In the case of health, CyTED has 16 networks with representation of all of the member countries of CLARA.”

6 EQ 6: EU capacities

To what extent have the EU external relations services ensured adequate capacities to conduct policy dialogue related to R&I and to support research and innovation in partner countries?

6.1 JC 61: Extent to which EU internal capacity to manage R&I support and conduct policy dialogue is in place at the levels required

Summary judgement

On the DEVCO side, EU internal staff capacity to support R&I is limited. There is currently only one post dedicated to R&I in the research unit in DEVCO so this person deals with several SISS related topics. Other R&I work is handled in thematic or geographical units by officials also dealing with other topics. The number of full-time employment (FTE) equivalent posts on R&I does, however, seem to have increased a bit since the start of the evaluation period and was apparently boosted at the time of the Lisbon treaty reorganisation of the external services and the creation of EEAS. Interviewees typically suggest that capacity levels are inadequate but fail to be precise on actual requirements. In the

EUDs, only 16 worldwide have designated S&T Counsellors appointed by DG RTD. There is some evidence of outsourcing to PMUs and of course to the EACEA for scholarship programmes. Some of processing of the Calls for Proposals is also contracted out. DG RTD has embarked on a policy of further outsourcing and reducing the number of S&T Counsellors.

The evidence collected from field visits and the survey of EUDs on the capacity of the available staff to organise the policy dialogue on R&I suggest that the staffing levels are inadequate. This is not so much a problem where the R&I work supported comes under a specific sectoral programme and the support appears adequately covered by EUD sectoral specialists nor indeed in programmes specifically dedicated to R&I (e. g. the PASRI in Tunisia). The problem arises more in relation to general national strategies on R&I or S&T which DEVCO generally does not prioritise as a 'sector' to follow.

On the other hand around the EU's formal S&T Agreements the dialogue is essentially supported by DG RTD and from two of the cases reviewed (India and AU) there is an S&T Counsellor and this appears to work well. For Ukraine however, despite the existence of an S&T Agreement there was no counsellor post anymore at the time of the field mission in 2015.

One CSE (South Africa, 2013) expressed doubts about the capacity of the EUD to manage the policy dialogue though interviews suggest this dialogue is well resourced and productive and this was born out by the field mission (South Africa CN). In other evaluation reports reviewed the issue was not raised.

6.1.1 Indicator 611: Evidence of suitably qualified staff formally designated and actually deployed as R&I support at country, regional and HQ level

At HQ, there is currently one dedicated research post in the DEVCO B4 Unit (Education, Research, Health & Culture) but at the start of the period of this evaluation the staffing was about 0.2 FTE. This was increased to around one FTE in 2011 after the reorganisation of the Commission. However, most R&I work is handled in thematic units. While the precise qualifications of the officials interviewed are not known, most of them clearly have years of experience and background knowledge of this work (DEVCO Interviews). In the EEAS, there are currently two staff members with research among their tasks adding up to a total of about 0.5 FTE on research (EEAS interview). The rather limited staff level in both organisations resonates well in a perception by RTD interviewees who feel that DEVCO could usefully allocate more staff to R&I work: "there could probably be more expertise and dedicated staff to ensuring a more prominent place and role for Research and Innovation in development policy".

S&T Counsellors, who are RTD officials, are deployed in a limited number of EUDs and their numbers are apparently to be further reduced. In 2013, 16 of them were posted in partner/developing countries: African Union (EUD Addis), Brazil, Cambodia, China, Colombia, Egypt, Georgia, India, Indonesia, Laos/Thailand, Malaysia, Philippines, South Africa, Ukraine, Venezuela and Vietnam[70]. Otherwise, S&T issues are generally dealt with by the EUD Operations staff alongside their regular development co-operation work.

RTD staff are obviously more numerous and, while their work is largely separate of that of DEVCO, interviews suggest that there is some mutual support and movement back and forth of R&I of tasks. A policy decision has, however, been taken in 2015 to reduce staff at RTD and do more outsourcing of actual grants administration while the RTD staff themselves are supposed to focus on policy (RTD interviews).

Some of the programmes covered by the Case Studies are managed by collaborating authorities (ACP Secretariat and AU Commission) and/or by PMUs (ACP S&TP) indicating that the DEVCO has taken some steps to increase their capacity and deploy more staff resources to manage their R&I portfolio. Thus, mobility scholarships (Erasmus Mundus, etc.) are managed by the Agency (EACEA) for the Commission.

The Calls for Proposals for the ACP S&T Programme are managed by the ACP Secretariat but their actual administration is contracted out to consultants. The ACP contact person managing the programme is a scientist with a PhD and therefore some familiarity with academic research. While the consultants administer the CfP and check eligibility, the actual scrutiny of the content of the proposal is done by a scientific advisory panel of independent academics selected for the purpose. Their recommendations are then reviewed by an ACP Secretariat staff committee with DEVCO in attendance as observers. While this process does suggest a degree of rigour and independence in the scrutiny, some evidence collected indicated there are doubts in some quarters about the real rigour of the pro-

[70] RTD List 2013 – those underlined are covered by Country Notes in this Evaluation. At the time of the field mission to Ukraine in 2015 the S&T Counsellor post there had been abolished.

cess. The MTR of the ACP S&TP also felt the scrutiny process did not apply the selection criteria as rigorously as it might.

At the country level the following evidence was collected from field missions:

- In India the EUD had one RTD S&T Counsellor supported by two policy officers. The main capacity is therefore dedicated to the S&T Agreement and follow up. In addition EEAS/DEVCO officials working on sectoral issues follow R&I projects as part of their work. There is also a EURAXESS office in Delhi that disseminates information on opportunities for education in Europe and funding opportunities when these arise (India CN).
- Likewise in the EUD for the AU in Addis there was a S&T Counsellor supported by limited local staff. His mandate was to cover the AU and the whole of Africa though in practice he concentrated on a limited number of countries (e. g. 20% of his time on South Africa) (Ethiopia and South Africa CNs).
- In various EUDs visited (Ethiopia, Peru, Burkina, Kenya CNs) there is no specific capacity to follow R&I issues. The topic is only covered in so much as it comes up under focus sector activities.
- In the Tunisia EUD staffing was adequate to follow the PASRI and engage with the government actively on the development of a national R&I policy.
- In Ukraine the EUD capacity for dealing with R&I had recently been reduced from one to two positions and staff were having difficulty to cover the full range of possible work. The EU-Ukraine S&T Agreement has not led to the appointment of an S&T Counsellor (Ukraine CN).
- From the Survey of EUDs it appeared that most respondents feel that EUD staffing levels are inadequate to deal with R&I issues though seem feel this is a consequence of the low prioritisation accorded to R&I overall.

At the regional level:

- As just indicated the EUD for the AU has an S&T Counsellor who follows the S&T policy debates on S&T at the level of Africa and the AU. This includes the on-going dialogue with the S&T ministers and the STISA2024. In addition the EUD-AU has specialist staff dealing with specific projects such as the Africa Research Grants and MESA (Ethiopia CN).
- Certain regional projects in R&I are covered from Brussels and EUDs are not always fully informed of the work in their country (Ethiopia, India, Ukraine CNs).

6.1.2 Indicator 612: Staffing (both designated and deployed) adequate for effective policy dialogue

One evaluation report consulted, the CSE South Africa, specifically pointed to the difficulties the EUD has in mobilising expertise on different areas of policy oriented research and in getting the collaboration of various actors including DEVCO, other DGs and Member States: “Practice suggests that the EUD faces considerable challenges in mobilising expertise for policy experimentation and dialogue from these actors – thus potentially reducing the capacity of the EU to use policy dialogue as a fully-fledged co-operation instrument.”

The Science Counsellor in Addis covers the whole of sub-Saharan Africa and nominally also North Africa[71]. For the latter, he is however assisted by other staff in EUDs and from headquarters. For sub-Saharan Africa there is one official with an R&I mandate (among other things) in South Africa but that is the only assistance. As a result, effectively only a few countries in Africa (Kenya, Uganda, Rwanda, Ghana, Senegal, Burkina Faso,…) are really covered, countries where the bulk of the work on R&I takes place.

DG RTD also supports policy dialogue in selected countries though this appears to be essentially in the context of the S&T Agreements. S&T Counsellors are RTD (rather than DEVCO) staff and a key part of their role is to promote policy dialogue on R&I at least at the official level.

As indicated above (I-611) in the Tunisia EUD staffing was adequate to follow the PASRI and engage with the government actively on the development of a national R&I policy.

Where RTD S&T Counsellors are in place (India and AU) there appears to be adequate capacity to follow the policy dialogue (India and Ethiopia CNs). At the country level EUD’s appear equipped to fol-

71 The Job Description of the Africa S&T Counsellor outlines his main tasks to be: policy analysis (including monitoring and reporting to HQ) and policy development (both EU-Africa cooperation and EU-South Africa cooperation), representation, negotiation and presentation, communication and internal management and inter-DG/service coordination particularly with the EUD.

low policy dialogues in the chosen sectoral areas and where these include elements of R&I work that these appear well covered. However, beyond the sectoral level, the Ethiopia case suggest they do not seem to have the capacity to follow policy dialogue on national R&I or S&T strategies even where the government is engaged in such a reflection (further examples in Vietnam and Ukraine CNs).

This is born out by the results from the Survey of EUDs where most respondents feel that EUD staffing is inadequate to deal with R&I policy dialogue and the national level.

6.2 JC 62: Extent to which R&I policy dialogue is operational at all levels

Summary judgement

There are frequent references to R&I policy dialogue in the programming documents and also in programme reports. At the programming stage there is therefore considerable emphasis put on the importance of dialogue in setting agendas. Output reports for projects also typically list seminars and dialogue sessions held but there is little evidence so far on the quality of this dialogue (content, participation and impact) picked up in documents such as ROM reports or Evaluations. Certain high-level meetings particularly at the political level are reported and the agreements reached at them are referred to in the documents. There is also regular reference to the importance of involving stakeholders in the dialogue and not just officials.

The actual frequency and quality of the dialogue obviously varies from one country to another. The existence of an EU S&T Agreement for the country concerned is an indicator of the importance the parties attach to the dialogue though this also varies over time. In India for example the dialogue appears to have been very active during the period covered by this evaluation but has slowed down latterly. The EU (DG RTD) has in the past invested in the Agreements by nominating an S&T Counsellor to the EUD concerned, but the number of such posts is being reduced and already in Ukraine despite the existence of an Agreement the post has been dropped.

Another important factor can be the existence of a specific support programme as in Tunisia where the PASRI has provided various types of support to actively encouraging a national debate on R&I policy and activities to strengthen different elements of the national R&I system.

Policy dialogue is more frequent at the sectoral level than at the overall national level where the EU is not always involved (Ethiopia CN). At the sector level where the EU invests in support to the sector it generally also ensures it is equipped to handle the policy dialogue, including any dialogue on R&I that is relevant to the sector.

6.2.1 Indicator 621: Sector policy dialogues feature R&I at country and regional level

Most country and regional programmes reviewed involve some degree of policy dialogue. What is less clear from the documentation is to what extent this dialogue features discussion on R&I.

At the country level this is illustrated by the following examples:

- The CSP Mexico refers to the EUD organising sector policy dialogues with government, EU embassies and other donors. Thematic working groups include one on S&T since 2005.
- The CSE Tanzania recommends the establishment of an M&E programme to inform the policy dialogue around the SBS programme
- The CSP China refers to the value of the Higher Education dialogue with China in order to develop co-operation in the sector. It also refers to a Europe-China dialogue on the information society and research: “This is seen as essential to ensure exploitation of research results at a global level and to build interoperable technology and standards solutions. It is of high value for the competitiveness of European industry, and is of great interest to the Chinese government.” There was also an EU-China dialogue on Agriculture (County Profile) initiated in 2006 that, inter alia, looked at food technologies and the BioAsia project (c-108962) involved academic exchanges including both faculty and PhD students. There are some indications that these dialogues influenced.
- In Ukraine the JSO conducted policy dialogue with the authorities and researchers on R&I policy at different levels and in various formats.
- Policy dialogue on R&I is regularly organised in partner countries with S&T Agreements with the EU such as India, China or South Africa as part of the process of establishing the agreements and ensuring adequate follow-up. The Science Counsellor in Addis is particularly positive in his assessment of the policy dialogue on R&I in South Africa which is apparently well resourced by the Dialogue Facility managed by the EUD.
- In India the R&I policy dialogue is organised around the EU-India S&T Agreement and occurs regularly. Latterly there has been some slow down in the frequency of dialogue with the EUD

feeling the government processes are too slow. The government however seems determined to continue (India CN).

- In Tunisia the R&I policy dialogue between the EUD and the GoT is very active and is encouraged by the existence of a dedicated support project, the PASRI (Tunisia CN).
- In South Africa, the EUD in co-operation with the government DST has used the Dialogue Facility to ensure a dialogue on S&T takes place (South Africa CN).

Sector policy dialogue at the regional level takes place but very little evidence has emerged so far about the quality of the dialogue and the extent to which it focuses on R&I if at all, as shown by the following cases:

- In the ACP S&TP projects SARIMA and CabRIMA (*D-18593/c-218782*) the MR-144116.01 stresses the value of the dialogue that has occurred in terms of developing co-operation on R&I and R&I management capacity. Particularly in the Caribbean, there has been more involvement of different actors in the dialogue and this has helped improve impact.
- The overall design of the whole ACP S&TP (Case Study) is based on high-level ACP-EU policy dialogue and is administered by the ACP Secretariat with the involvement of the Commission and the South African Embassy (as part of the funds comes from the DCI-South Africa allocation), which maintain the dialogue at an officials level.
- The JAES 8th Partnership (Case Study) on SISS has at its core an AU-EU policy dialogue mechanism that in addition to the two Commissions (EU and AU) involves member states from both sides. The mechanism operates at officials' level but also up to a political/Ministerial level. From the EU side, it is coordinated by the S&T Counsellor in the EUD for the AU in Addis (Ethiopian CN).
- The @lis project involves considerable policy dialogue at the regional level in Latin America with bodies such as the regional telecom regulator REGULATEL.
- Tunisia participates in the MoCo (Monitoring Committee for Euro-Mediterranean Co-operation in Research and Technological Development) which is composed of high level officials from research ministries around the Mediterranean and supported by the EU (Tunisia CN).

6.2.2 Indicator 622: Sector policy dialogues include R&I stakeholders at country and regional level

The composition of the participants in the policy dialogue sessions is usually not made explicit in the reports reviewed. While there seems to exist a genuine interest of national and regional stakeholders to be involved in R&I policy dialogue, as shown by the CSE South Africa (2013), this only rarely materialises. What evidence does emerge, however, indicates the degree of importance attached to such dialogue:

- South Africa (*D-18932*) *MR-135682*: "To a very large extent, the SPSP has been vital in bringing the subject of S&T, innovation and poverty in the spotlight, through various ways. These include the Policy Dialogue Forum, the Donor Co-ordination Platform and other engagement mechanisms with S&T stakeholders. However, the DST (Dept of S&T) still needs to have better strategies of engaging civil society groups, to enable improved involvement by marginalised groups, from design and throughout all the development stages."
- The ACP S&TP (Case Study) involves some dialogue among political leaders officials at national and regional but does not appear to include R&I practitioners (as a particular group of stakeholders) at country or regional level. The JAES 8th Partnership (Case Study) on the other hand does seem to involve some practitioner representatives.
- The dialogue around the ACP S&TP projects SARIMA and CabRIMA (*D-18593/c-218782*) involves academics and researchers but also other public and private stakeholders.
- In Tunisia the R&I policy dialogue between the EUD and the GoT in the context of the PASRI project is very active and includes a wide variety of stakeholders such as researchers, HEIs, different government ministries, the private sector and civil society (Tunisia CN).

Respondents to the EUD survey indicated that in almost all cases policy dialogue was led by or co-organised with the national government. Major outcomes of the policy dialogue included both strengthening of national policy on R&I and some strengthening of co-operation with the EU on R&I. Only five out of 22 respondents reported that their EUD had been involved in regional R&I policy dialogue.

6.2.3 Indicator 623: Evidence that sector policy dialogues help matching country and regional needs with appropriate EU programmes for R&I support

The dialogue involved in the EU-India S&T Agreement ensured that the FP7 coordinated calls related to Indian priorities much more systematically than the usual FP7 open calls (India CN).

At the regional level the AU Africa Research Grants based on the policy dialogue in the JAES 8th Partnership provided African researchers with access to R&I funding related to topics that were relevant to African needs in a way that FP7 was unable to do in consistent fashion with the sole exception of the FP7 Africa Call (Ethiopia CN).

6.3 JC 63: Extent to which the EU facilitates R&I activities at all levels

Summary judgement

In the SISS area, the EU has provided a lot of support to building of the high-speed ICT infrastructure to facilitate communication and knowledge exchange on R&I. As indicated in evaluation and other reports this is clearly seen as a very valuable contribution towards encouraging and facilitating R&I projects at all levels. These networks are also used for disseminating information and all project contracts (not only for the internet connectivity) will generally include clauses relating to visibility and communication, which, if done well, can also encourage participation.

Evidence also suggests researcher networks are encouraged or even built around these internet connections and, in various cases, these do seem to lead to knowledge exchange and even new research collaborations. This was also confirmed by evidence collected during the field missions.

S&T Counsellors play an important role in information dissemination in the few countries they are based but the decision has been taken to reduce their numbers. There are also a few projects (e. g. Ukraine JSO, Tunisia PASRI) specifically aimed at providing practical support to researchers seeking to access wider EU research funds, but projects with this as a key objective do not seem to be common in the Inventory.

Overall it would seem the EU provides considerable support for networking activities and policy dialogue both to encourage exchange and lesson learning and to promote the dissemination of results of R&I. Considerable efforts are also made to advertise opportunities and share information on funding and academic mobility and scholarships. However, support on the dissemination of results has inherent limits as this support is built in to projects and will stop once the funding for these ends. Longer term dissemination of results is left to the researchers themselves.

6.3.1 Indicator 631: Informing about available opportunities at country and regional level

As standard practice all EU project grants contain clauses relating to visibility and communication and beyond this; in many cases, information dissemination and communication is a specific objective of the projects (e. g. JSO in Ukraine).

The high-speed ICT networks are primarily designed for knowledge exchange between researchers but they also provide valuable infrastructure for information dissemination that is used for advertising opportunities and putting researchers in touch with the wider research community. Thus, the @lis2 Interim Report talks about how @lis2 also involves dissemination of information. The CLARA community makes use of the RedCLARA infrastructure to do this and has specific communication strategies. The other regional networks, TEIN, CAREN and ACP Connect, are all used in similar ways to @lis although they are at different stages.

In various countries (e. g. India, China, Egypt, Tunisia) the EUDs collaborate closely with ministries of higher education and advertise opportunities through their networks with the national universities. The S&T Counsellors in the different priority countries are also expected to encourage dissemination of information on opportunities.

Half of the respondents to the Survey of EUDs had carried out an information dissemination exercise in the period covered and all these (53%) seem to have involved information on FP7 though not always (37%) on DEVCO funding for R&I. For DEVCO funding examples of actions taken were information campaigns, side events at summits, workshops, etc. Objectives cited were raising awareness about the scope for research collaboration and providing information about funding.

The following evidence emerged from the field mission:

- In India DG RTD takes various steps to inform Indian researchers about opportunities for R&I funding. The EUD with the S&T Counsellor advertises FP7 calls, runs information days for European universities and supports a EURAXESS office in Delhi to publicise EU research funding, higher education and capacity strengthening opportunities in Europe (India CN).

- The RTD S&T Counsellor for Africa based in Addis runs information similar workshops on FP7 in different countries in Africa (Ethiopia CN).
- The PASRI project in Tunisia supports the ANPR (National agency for research) which provides information on opportunities for researchers (Tunisia CN).
- The EUD in South Africa in conjunction with the government DST has undertaken various activities such as science days, mobility promotion and information sharing collaborations, to advertise opportunities (South Africa CN).

6.3.2 Indicator 632: Network activities of R&I stakeholders are operational at country and regional level

Various examples of operational networks emerge from the documentation as the following examples show:

- All the regional ICT infrastructure projects (CAREN, @lis, TEIN, ACP Connect) clearly involve operational networks that link up R&I with high-speed internet connectivity. In most cases, programme documents for these projects refer to the benefits this brings in pulling individual researchers into networks and some examples are given of research projects or activities built on these links.
- CAREN2 description of action (c-328578): CAREN connectivity facilitates network activities of R&I stakeholders in Central Asia built up during the first phase of the project (CAREN1).
- @lis2 Interim Report. @lis2 also involves networking of R&I stakeholders. The CLARA community makes use of the RedCLARA network.
- In Vietnam (c-109370), the final report for Asia-link refers to the formation of networks of Asian health researchers as one impact that the project has had.
- In China (c-109093), a final report refers to the value of the professional networks around the project.

From the field missions it was apparent that various projects R&I projects supported by DEVCO involve networking activities at both country and regional level:

- Support to networking was one of the three main pillars of the PASRI project in Tunisia and a variety of efforts were taken to implement this objective. There was also evidence of spontaneous networks emerging from the PASRI work (Tunisia CN).
- The AU MESA project involves periodic forums bringing users together from across Africa to exchange views and learn lessons on how best use can be made of the data available from MESA. A number of research collaborations have also been built on this networking (Ethiopia CN).

6.3.3 Indicator 633: Practical support (including advice) for R&I stakeholders during the application process for and with the administration of EU R&I programmes

In Ukraine the JSO project (*c-170251*) supported a website with information on EU R&I opportunities for Ukrainians and provided support, training and advice to potential applicants to FP7. In Tunisia one of the objectives of the PASRI project (*c-291276*) is to encourage applications to FP7 and various training sessions are oriented towards helping applicants. However, no other projects with these specific objectives have been identified elsewhere.

According to interviews, the PMU for the ACP S&TP provides a limited amount of advice and support to applicants for its own grants. Such support increases for grant-holders, to help them with the administration of grants once these have been approved.

While Science Counsellors in EUDs also spend time on communicating about the EU's R&I policies in seminars and conferences, but, according to their job description (see above: I-612), they are not expected to help applicants to FP7 with their applications.

A few respondents to the EUD Survey referred to providing practical help in establishing contacts with EU researchers, in-country contacts or with international organisations. Only one case of more specific advice and help with application forms emerged.

6.3.4 Indicator 634: Practical support for R&I stakeholders in the dissemination of research results

In the SISS sector, with its greater emphasis on funding research infrastructure and limited funding for actual research, only very limited specific evidence of practical support for the dissemination of research results emerged. Of course research infrastructure, particularly on the communication side, is

in itself support for researchers to network and share their results. Some examples provide some indication of what type of support can be provided:

- High Speed Internet. The TEIN Asia (*D-19268*) Action Fiche refers to the way the internet infrastructure network supports researchers in disseminating knowledge and capacity building activities.
- The investment in high-speed internet network in Central Asia also allows for the quick sharing and dissemination of knowledge and research results. For example, as indicated above (I-541), the CAREN Network Operations Centre in Bishkek has teamed up with the WHO and the University of Pittsburgh to allow medical professionals in Central Asia to access more than 5,300 medical presentations in more than 31 languages including Russian and various Central Asian languages. Part of the aim of this project is also to increase the number of articles published in western medical journals.
- In China, the progress report of c-256524 refers to the communication strategy of the project and the support it provides to R&I stakeholders to disseminate information and exchange knowledge through websites and conferences supported by the project.
- The AU MESA programme organises a periodic MESA Forum where projects based on the satellite data provided by MESA are presented and discussed.
- The PASRI project in Tunisia puts a major emphasis on networking and communication to encourage the exchange of ideas and innovations.
- The core purpose of the EBTC project in India is to disseminate European technology in India and facilitate its adaptation to practical applications appropriate to Indian circumstances.

Respondents to the EUD survey indicated they were directly involved in activities to encourage the dissemination of results of R&I principally through workshops, conferences and publications. Yet only five out of twenty-two EUDs indicated they had provided support to external stakeholders for the dissemination of research findings.