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ANNEX

to the Commission Implementing Decision on the financing of the annual action plan in favour of Paraguay for 2022

Action Document for Forest 4life Paraguay

ANNUAL PROGRAMME

This document constitutes the work programme within the meaning of Article 110(2) of the Financial Regulation, within the meaning of Article 23 of the NDICI-Global Europe Regulation.

1 SYNOPSIS

1.1 Action Summary Table

1. Title CRIS/OPSYS business reference Basic Act	Forest 4life Paraguay OPSYS number: ACT-61278 Financed under the Neighbourhood, Development and International Cooperation Instrument (<u>NDICI-Global Europe</u>)/ Overseas Association Decision/European Instrument for International Nuclear Safety Cooperation Regulation
2. Team Europe Initiative	Yes Green Alliance for Paraguay
3. Zone benefiting from the action	The action shall be carried out in Paraguay
4. Programming document	Multi-annual Indicative Programme (MIP) for the Republic of Paraguay 2021 – 2027 ¹
5. Link with relevant MIP(s) objectives / expected results	Priority area 1: Green and Resilient Economy Specific Objective 1: To preserve and restore biodiversity by fighting against deforestation and promoting sustainable forest management Expected results: 1.1. Deforestation is reduced and forest cover in selected areas is re-established 1.2. Selected water basin ecosystems and protected areas are conserved/restored 1.3. Deforestation-free supply chains and traceability of supply chain mechanisms are promoted
PRIORITY AREAS AND SECTOR INFORMATION	
6. Priority Area(s), sectors	Green and Resilient Economy 410 – General Environmental Protection 312 – Forestry

¹ C(2021) 8988 final

7. Sustainable Development Goals (SDGs)	Main SDG (1 only): 15 (Life on Land) Other significant SDGs (up to 9) and where appropriate, targets: 5 (Gender Equality), 8 (Decent Work and Economic Growth), 10 (Reduced Inequality), 11 (Sustainable Cities and Communities), 13 (Climate Action), 17 (Partnerships to achieve the Goal)			
8 a) DAC code(s)	140 – Water Supply and Sanitation (25%) 14015 – Water resources conservation (including data collection) (25%) 312 – Forestry (30%) 31210 – Forestry policy and administrative management. Forestry sector policy, planning and programmes; institution capacity building and advice; forest surveys; unspecified forestry and agro-forestry activities. (30%) 410 – General Environmental Protection (25%) 41010 – Environmental policy and administrative management (10%) 41030 – Biodiversity management (15%) 430 – Other Multisector (20%) 43050 – Non-agricultural alternative development - Projects to reduce illicit drug cultivation through, for example, non-agricultural income opportunities, social and physical infrastructure (10%) 43060 – Disaster Risk Reduction (10%)			
8 b) Main Delivery Channel	Third Country Government (Delegated co-operation) - 13000 Developing country-based NGO – 23000 Other – 90000			
9. Targets	Please, indicate (if relevant) to which target(s) (including NDICI-Global Europe Regulation, INTPA and EU targets) this action is contributing to (indicatively) <input type="checkbox"/> Migration <input checked="" type="checkbox"/> Climate <input type="checkbox"/> Social inclusion and Human Development <input checked="" type="checkbox"/> Gender <input checked="" type="checkbox"/> Biodiversity <input type="checkbox"/> Education <input type="checkbox"/> Human Rights, Democracy and Governance			
10. Markers (from DAC form)	General policy objective	Not targeted	Significant objective	Principal objective
	Participation development/good governance	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Aid to environment	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Gender equality and women’s and girl’s empowerment	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Trade development	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Reproductive, maternal, new-born and child health	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Disaster Risk Reduction	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Inclusion of persons with Disabilities	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Nutrition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	RIO Convention markers	Not targeted	Significant objective	Principal objective

	Biological diversity	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Combat desertification	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Climate change mitigation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Climate change adaptation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
11. Internal markers and Tags:	Policy objectives	Not targeted	Significant objective	Principal objective
	Digitalisation @	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	digital connectivity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	/
	digital governance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	digital entrepreneurship	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	digital skills/literacy	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
digital services	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Connectivity @	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	digital connectivity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	/
	energy	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	transport	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	health	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	education and research	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Migration (methodology for tagging under development)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Reduction of Inequalities @ (methodology for marker and tagging under development)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Covid-19	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BUDGET INFORMATION				
12. Amounts concerned	Budget line(s) (article, item): 14.020140 Total estimated cost: EUR 12,689,474 Total amount of EU budget contribution EUR 12,000,000 Total of Member States' contribution to Team Europe Initiative EUR 6,000,000 (committed) This action is co-financed in joint co-financing by potential grant beneficiaries for an amount of EUR 189,474 This action is co-financed in joint co-financing by a pillar assessed entity for an amount of EUR 500,000			
MANAGEMENT AND IMPLEMENTATION				
13. Type of financing	Direct management through: - Grants - Procurement Indirect management with the entity(ies) to be selected in accordance with the criteria set out in section 4.4.4			

1.2 Summary of the Action

Despite more than ten years of sustained economic growth (average of 4.4%), Paraguay still faces a number of economic and social challenges, which have been further exacerbated by the COVID-19 pandemic. The level of inequality remains amongst the highest on the continent, while informality and poor diversification of the economy hamper sustainable and inclusive development.

The Paraguayan economy has been based on extensive use of its abundant natural resources, especially land for agri-business and livestock and water for hydroelectric production (which makes up to almost 100% of the energy mix). This makes Paraguay very vulnerable to climate change. The ND-GAIN index of climate vulnerability ranks Paraguay 71st out of 182 countries in its ranking of the least to most vulnerable countries.² Diversification and sustainable and inclusive use of these resources are key to reduce vulnerability and make the country more resilient.

The use of land and water for agricultural and livestock development increased pressure on the environment and on communities. Paraguay has one of the highest rates of forest loss in Latin America³. Forest ecosystems are under increasing pressure also due to forest fires, lack of conservation management capacities, increasing large-scale illegal plantations (mainly marijuana, even within protected areas), and illegal extraction of wood/coal for energy in off-grid communities. Fires are primarily ignited by people, through land-use change which is projected to increase (for increased food production) and these expanding frontiers will increase forest fragmentation and ignitions.

The limited capacity and fragmentation of government institutions, and the poor dialogue with businesses, civil society and local communities in rural and indigenous areas, as well as the limited use of existing incentives to conserve forests and promote sustainable management practices aggravate these challenges. Any attempt to develop a successful ecosystem restoration programme must involve all relevant stakeholders, both public and private, and involve local communities.

This Action aims to preserve and restore biodiversity by fighting against deforestation and promoting sustainable forest management in three selected areas. It will focus on the following intervention areas: (i) improvement of preparedness, prevention and capacities to reduce the incidence and extent of extreme wild forest fires. (ii) Strengthening of management and conservation of forests and other key ecosystems in three selected protected areas. (iii) Promote sustainable forestry, livestock and agriculture practices, and respective value chains in buffer zones/influence areas around the three selected areas. This Action reflects the main EU policy priorities embedded in the European Green Deal⁴ and the Biodiversity Strategy for 2030⁵. It is in line with the Multiannual Indicative Programme 2021-2027 for the Republic of Paraguay⁶, and the Team Europe Initiative on “Green Alliance for Paraguay” consisting of the following members: Spain, France, Italy, Germany. It will support Paraguay in implementing its commitments under the Paris Agreement, including its National Climate Adaptation Plan and Nationally Determined Contributions submitted in 2021.⁷

The Action will follow an integrated sustainable landscape approach for conservation, where complementary interventions will be implemented in the three selected areas, composed by both core/protected areas, and surrounding buffer zones (both public and private). This is complemented and supported by interventions at national level to prevent/fight against forest fires, and to strengthen the mandated institutions. The intervention logic is focused on incentives rather than punishment. Landowners and private companies,

² <https://gain.nd.edu/our-work/country-index/rankings/>

³ <https://dicf.unepgrid.ch/paraguay/forest>

⁴ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions The European Green Deal <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1576150542719&uri=COM%3A2019%3A640%3AFIN>

⁵ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions EU Biodiversity Strategy for 2030 Bringing nature back into our lives <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1590574123338&uri=CELEX:52020DC0380>

⁶ https://international-partnerships.ec.europa.eu/system/files/2022-01/mip-2021-c2021-8988-paraguay-annex_en.pdf

⁷ https://unfccc.int/sites/default/files/NDC/2022-06/Actualizaci%C3%B3n-NDC%20VF%20PAG.%20WEB_MADES%20Mayo%202022.pdf

holding most of the land (including within protected areas), will be involved in the implementation to ensure sustainability and better compliance of existing rules and laws.

As a result, this Action can set the scene for supply-side engagement strategies in views of the forthcoming EU Regulation on deforestation-free products and also make preparations for sustainable growth opportunities that will come along with the EU - Mercosur Association Agreement. The technical support envisaged under this project can help Paraguay meet sustainability requirements.

The duration of this Action will be five years and the budget EUR 12 million. It will be implemented through technical assistance (mainly to public authorities), grants to civil society organisations for the management of protected areas, and a contribution agreement with a pillar assessed entity (possibly an EU Member State Development Agency).

2 RATIONALE

2.1 Context

Since 2004, Paraguay has been characterised by sustained economic growth (4.4% average gross domestic product growth until 2019), which helped in reducing poverty and raising living standards. However, the level of inequality remains amongst the highest on the continent. Informality and poor diversification of the economy hamper sustainable and inclusive development. With a gross national income per capita of over USD 5700, Paraguay is today classified as an upper-middle-income country . The country features considerable endowment of natural resources, vast energy potential, ample fertile land and young population (50% of the population is under the age of 30).Economic growth has been consistently above the regional average, inflation has been under control⁸ and public debt stayed at a sustainable level (33.9% of GDP in January 2022). The financial sector is sound with well-capitalised banks. Growth has been based on extensive leveraging of the country's natural resources, particularly land and water. The good performance of the agricultural and livestock sectors explains the positive contribution of both commodities (soybean and beef) to growth.

However, since 2019 Paraguay has faced economic and social challenges, mainly due to weak performance of its main partners in the region, the COVID-19 pandemic and climate adversities.

Agriculture, which is largely based on soybeans, beef, cotton and timber, contributes around 20% to Paraguay's GDP. The forestry sector in Paraguay also plays an important economic and environmental role. Forestry contributes 2.7% of total GDP while forest industries contribute about 2.2%. Of this, 26% was generated in primary forest activities, and 74% in wood processing - covering solid wood products and pulp, paper and board.

The extraordinary success of agribusiness and agri-exports has been based on large-scale and unsustainable use of two renewable resources: water and land. The massive conversion of natural land into agricultural use causes deforestation and grassland transformation, precisely the fountain source of the second renewable resource, namely water for electricity production. The unsustainable consumption of both resources is explained below.

Paraguay has five terrestrial ecoregions. The largest ecoregion is the Dry Chaco, which includes 17,269,795 ha in Western Paraguay. The second largest ecoregion is the Humid Chaco, with 12,856,674 ha in the centre of the country on both the east and west banks of the Paraguay River. The Upper Parana Atlantic Forest ecoregion occupies 8,661,796 ha, entirely located in Eastern Paraguay. The Pantanal ecoregion, with 187,778 ha, is on the border with Brazil and Bolivia along the Paraguay River and Rio Negro River while the Cerrado ecoregion, with 819,596 ha, is in the north of Eastern Paraguay, also along the border with the Brazilian state of Mato Grosso do Sul.

⁸ In 2022 first quarter, rising food and imported fuel prices sent inflation soaring 11.8%, almost three times the central bank's 4% target and one of the highest in the region.

The Paraguayan Chaco, or Western Paraguay, making up little more than half of the national territory, is an alluvial plain with a semi-arid to sub-humid climate, subdivided into dry and wet zones. The region covers three departments — President Hayes, Boquerón and Alto Paraguay — and includes mainly rural populations with a few small towns. The regional economy is driven by the use of land for agriculture (2.7%) and extensive cattle production (60%). Both activities have been growing rapidly.

In Eastern Paraguay, the single largest land use is pasture (savannah) with a territory once covered by more than 9 million hectares of Atlantic Forest. Agriculture and savannas are the second and third largest land uses. About 13% of Eastern Paraguay was covered by forest in 2009 while other key ecosystems, including water bodies and protected areas, covered 32.3%. The Alto Paraná forest in the Eastern region is part of the Atlantic Forest, one of the world's most threatened forest ecosystems and which extends across Eastern Paraguay, Brazil and north-eastern Argentina. The Cerrado in the northern part of Eastern Paraguay together with the Pampas in the South and the Chaco west of Paraguay River are also key natural habitats for biodiversity. These key ecoregions are shared with neighbouring countries and are a continuum of ecological zones beyond national jurisdictions.

Water, forests and neighbouring ecosystems are key in Paraguay. They are source of food, energy, water, employment, livelihoods and biodiversity. Forests provide a wide range of ecosystem services, which benefit not only the local communities but the economic development of the whole Paraguayan society. The provision of water services is among the most vital for economic development in Paraguay. Forests and other Paraguayan ecosystems, such as grasslands (or savannahs) influence stream discharge, precipitation, evapotranspiration, infiltration, groundwater recharge, runoff and water discharge to streams, which are main components of the hydrological cycle. Both forest and grasslands catchment ecosystems provide water for domestic, agricultural, industrial and ecological needs in both upstream and downstream ecoregions in the country. The country is located strategically at one of the largest watersheds in South America, Río de la Plata watershed (Cuenca del Río de la Plata).

Paraguay has one of the highest rates of forest loss in the world: between 2000 and 2020 alone, the country lost 6.9 million ha of native forests. According to the 2010 biodiversity assessment, 94% of the Atlantic Forest has disappeared and now the pressure has moved to the Western (Chaco) region, where 240,000 hectares of forest are removed every year in favor of agriculture to feed livestock. The Zero Deforestation Law in 2004 prohibited forest clearing in Eastern Paraguay and reduced the rate of Atlantic Forest deforestation. Yet, deforestation continued almost uncontrolled until 2018, especially in the proximity of protected areas. Change of land use for agriculture and livestock production continued to be the main driver of deforestation. Extraction of firewood is also a driver of forest degradation because of high demand from households, industry and agriculture. Wild forest fires, land invasions and illegal plantations (marijuana) are adding to the pressures. This results in a highly fragmented forest ecosystem.

Electricity generation in Paraguay is dominated by the colossal binational hydropower projects of Itaipú (Brazil-Paraguay, 7000 MW for Paraguay and Brazil each) and Yacyretá (Argentina-Paraguay, 1600 MW each), which provide almost 100% of the country's electricity and generate a large electric surplus for export to the two neighbouring countries. The Itaipú dam is the second largest hydroelectric facility generator of renewable energy in the world. Paraguay consumes around 10% of its share of Itaipú production and around 5% of its share of Yacyretá's production, exporting the rest to Brazil and Argentina correspondingly. For the past two years, the Paraná river has been experiencing its lowest water levels in 77 years. Consequently, energy production by Itaipu has dropped 28% due to low water volume⁹. Diversification and sustainable use of economic resources are needed to reduce the vulnerability and high dependence of growth on land and water. Paraguay's development depends on the sustainable development of its natural capital assets: land for agricultural and livestock and water for hydro-energy production. A green economy model requires measures to ensure sustainable water systems: decarbonised agricultural supply chains, deforestation-free commodities, restoration, reforestation and conservation strategies to ensure sustainable key water ecosystems (in the western region: brackish lagoons; in the eastern region: Ypacarai lake, Ypoa lake, White lagoon, wetlands of Tebicuary and Aquidaban Rivers; Ñeembucu wetlands), conservation, attention to integrated watershed

⁹ Paraguay's 2019 Climate Status. Section "The lowest hydroelectric energy generation in 25 years" <http://dncc.mades.gov.py/wp-content/uploads/2020/10/Estudio-del-Clima-Paraguay-2019.pdf>

management and state-of-the-art information platforms and green technologies to reduce emissions and meet the 2030 SDGs.

The development of a green economy is an opportunity for a country powered by 100% sustainable energy from two hydroelectric plants. Therefore, the focus of the intervention will be on reducing deforestation and finding sustainable and inclusive ways of making agriculture and forest-based value chains deforestation-free to facilitate the insertion of green economy commodities and ecosystem services into the world market.

The selected areas¹⁰ are the following:

Itaipu - Basin biodiversity corridor was the first biodiversity corridor in the country. UNESCO declared it Biosphere Reserve in 2017. It is 1 million hectares areas (belonging to public, private and Itaipu Binational), in Alto Parana and Canindeyú. Its conservation is of high relevance for the Itaipu River Basin. This Biosphere Reserve is connected to the Mbaracayu Biosphere Reserve. The area of intervention covers the Alto Parana Atlantic Forest, one of the most fragmented ecoregions worldwide (mainly due to soy crops), and holds a high number of endangered species and the indigenous groups of Mbya, Ava and Ache.

Tebicuary River Basin. This basin covers more than half million hectares extending from the highlands of eastern San Rafael-Tekoha Guasu Conservation unit downstreamed up to Ypoa National Park. It features extensive grasslands and wetlands associated with the Tebicuary watershed, the country's second largest watershed which bathes Caazapa, Guaira, and Paraguari. The Ybyturusu and Ybycui reserves dwell in this basin among many agricultural production systems (rice production, grazing and forest plantations). The area holds a number of endangered species in the Pampas or Southern Grasslands. Some communities of the Mbya Guarani people are found in the area.

Chaco Biosphere Reserve. This large biosphere reserve is located in the northern part of Western Paraguay where there is a combination of dunes in the western part, Pantanal wetlands in the eastern part, the Dry Chaco Forest with Cerrado ecosystems in the northern part. It holds the most intact forests in the Chaco, an area with world's highest deforestation rate. It encompasses key National Parks, such as Defensores del Chaco, Medanos del Chaco, and Rio Negro and other public- and privately owned protected areas. This area of more than 5 million hectares in Alto Paraguay is vital. Remnants which are important for the connectivity of the Chaco Forest concentrate genetic flow of fauna and flora, some of global concern, such as jaguars, giant armadillos. There are three main indigenous peoples in the reserve, the Guarani Nandeva in the west, the Ayoreo in the center, the Yshyro Ybytosos in the east. El Chaco Biosphere Reserve stands out for its pluriculturalism. Indigenous groups from different linguistic families live and work here.

2.2 Problem Analysis

Recent economic development and growth has been grounded on massive and almost uncontrolled use of natural resources: the use of land for agricultural and livestock development and the unsustainable use of water resources increased pressure on the environment. The principal direct threat to biodiversity in Paraguay is the elimination, fragmentation and degradation of forests and associated ecosystems in buffer areas, which also affects the livelihoods of the most marginalised communities.

From 2002 to 2020, Paraguay lost 1.06 M ha of humid primary forest, making up 17% of its total tree cover loss in the same time period. Total area of humid primary forest in Paraguay decreased by 31% in this time period. While these figures for Brazil were, 26.2 M ha loss of humid primary forest, making up 46% of its total tree cover loss, and the total area of humid primary forest in Brazil decreased by 7.7% while in Argentina, 426 k ha loss of humid primary forest, making up 7.1% of its total tree cover loss with a total area of humid primary forest decreased by 9.7% in this time period.

In 2015, 47% of Paraguay's territory was under forest cover, with a total area of native forest corresponding to 19.1 M ha. In this respect, 4,994,077.52 hectares of forests have been lost throughout national territory,

¹⁰ The selection has been made these criteria: a) They are part of the SINASIP; b) They are located in river basin scenarios where co-management for integrated management approach can be undertaken; c) Vulnerable forest and degraded ecosystems; d) The relevance to maintain and restore ecological services; and e) Ecosystem-based adaptation and agricultural production are feasible in these lands.

which represents a deforestation rate of 332,938.52 ha per year according to the 2000-2015 report of Reference Levels of Forest Emission within the framework of the Joint National Programme UN REDD+. In 25 years, between 1987 and 2012, a total of 4.4 M ha were lost mainly due to expansion of cattle farms in the western part of the national territory.

The main direct drivers of forest cover loss are agricultural and pastureland expansion due to market opportunities and growth based on expansion of cultivated area rather than increased productivity. Between the 1960s and early 2000s, the deforestation rate was particularly high in Eastern Paraguay, which has experienced a boom in soybean production. The Alto Parana Atlantic Forest suffered significant deforestation and now has less than 10% of its original cover. Large-scale change of land use has now shifted to the Western Region (Chaco), which is experiencing annual deforestation rates of 240,000 ha on average. Besides, an increasing amount of soybean production is taking place in areas that had traditionally been used for ranching, as small livestock producers see the sale or rental of their land to soybean producers as a source of financing. In the East, deforestation has slowed down due to the moratorium on deforestation, introduced in 2004 and prolonged for other 10 years in 2021 (this extension came from a coalition and a platform for dialogue between the government, conservation NGOs and the private sector). However, the remaining native forests continue to experience degradation, often fuelled by demand for forest biomass. Fragmentation of forest areas and loss of connectivity is further exacerbating the loss of biodiversity.

Protected areas of Paraguay are located within the most productive agricultural regions. Therefore, the water bodies are subject to environmental threats arising from agriculture such as use of pesticides, waste from livestock production and soil erosion. For many decades, government policies have failed to stop the almost uncontrolled conversion of forest into pasture and crop land. Some of these practices continue to be implemented nowadays. There are considerable gaps in resources and productivity between the “dynamic” agro-business sector (concentrated in soy, wheat and meat) and the subsistence agriculture sector that occupies a large part of the rural population.

Forest ecosystems are under increasing pressure from other sources such as forest fires, climate change, lack of conservation management, increasing large-scale illegal plantations for marijuana (even within protected areas), unsustainable production of forest services and products and illegal extraction of wood/coal for energy in off-grid communities.

Wildfires are another substantial threat to the ecosystem in Paraguay. The country has increasingly suffered from climate change over recent years. This caused intensive and recurrent droughts and floods and intensification in wind patterns. Droughts combined with inappropriate management techniques have resulted in destructive forest fires originating from grasslands on the northern Bolivian border of the country. In 2022 alone, devastating fires in northern Paraguay have burned millions of hectares of global biodiversity forest.

Climate change is changing wildfire patterns, stretching fire seasons, increasing burning extensions, shifting occurrence outside of forest areas and reducing water availability, thus dramatically increasing the likelihood of forest fires. Global data and information about wildfires are scarce, fragmented and inconsistent. Some global data from satellite imagery provides information on spatial and time attributes of areas affected by fires, but they do not contain information on a single wildfire event.

The main root causes of forest fires in Paraguay are:

- a) A widespread lack of awareness about forest and land fires
- b) Institutional weakness and limited financial and human resources
- c) Weak law enforcement
- d) Overlapping claims to land and forest resources
- e) Human-induced changes in vegetation cover resulting in the rapid spread of fire-prone vegetation

There is also a fragile interinstitutional coordination in terms of fighting against forest fires. The detection software, hardware equipment and training is in most cases not up to date, and the emergency units to suppress flames are semi-professional crews.

The Earth Observation technology (satellites, remote sensing) to understand fires causes, fire size and fire spread speed is inexistent. Today, only a few governmental bodies in Paraguay, such as Ministry of Environment (MADES), National Forest Institute (INFONA), Emergency Secretariat (SEN), the Space

Agency of Paraguay (AEP) and research centres (University of Asunción) have their own isolated information systems for wildfire data collection and analysis, which is often inadequate for preventing and controlling these events. These agencies have historically work in isolation and only now are slowly starting to exchange information. There is an urgent need for a common early monitoring system that allows combining data from satellites with information on the ground. There is also a need to reach different audiences, ensure automation of data collection, and training for the use of this information. Early warning systems and readily available actionable geographic, climate and hydrographic information would help competent authorities and end users be prepared to address the threats and act accordingly, especially at the local level.

Land ownership and land tenure is another challenge. Approximately 95% of the land is privately owned by individuals, corporations, and cooperatives. More than 70% of productive land is occupied by 1% of farms that resemble latifundia-style holdings, making Paraguay the country with the highest level of land inequality in the world. Most forestland, even forestland with a recognised conservation status, are held by private landowners. This puts much of the responsibility and burden of forest management on private actors, often large-scale and commercially oriented agricultural or livestock producers.

The National System of Protected Areas (SINASIP) needs both, institutional strengthening and additional funding to ensure forest and environment conservation. The Forest Legal Reserve (FLR), Paraguay's environmental legal framework, enforces the protection of the native forest cover, demanding at least 25% of rural properties over 20 ha to conserve at least 25% of the natural forest area. However, enforcement is weak and the INFONA and MADES do not have the resources to effectively monitor the forest ecosystem. This limited capacity results in weak implementation of existing laws and a very low budget (0.06% of the national budget each), which in turn shows the need to ensure strengthened political support for fighting against deforestation and preservation of biodiversity.

Summing-up, the principal causes of biodiversity degradation are:

- 1) The unsustainable utilisation of biological resources (forest and other key ecosystems) and the consequent decline in forest land, water availability and biodiversity.
- 2) The conversion, modification and fragmentation of natural forest and other key ecosystems to other land uses (agriculture, livestock, use for hydropower), which often undermine the provision of vital ecological functions.
- 3) Climate change and the use of destructive agricultural production techniques, including inadequate land and resource uses such as destructive timber harvesting (coal for fuel) techniques and slash and burn agriculture, which can also cause wildfires.
- 4) Limited capacity and fragmentation of government institutions, and poor dialogue with businesses, civil society and local communities on reducing emissions from deforestation and forest degradation, forest carbon stock conservation, sustainable management of forests and the enhancement of forest carbon stocks.
- 5) Limited use of existing incentives from private sector to conserve forests and promote sustainable management practices.
- 6) Poor preparedness, prevention and reaction capacities to face forest fires.

Main stakeholders and corresponding institutional and/or organisational issues to be covered by the action:

The main government institutions with a direct responsibility on forest management and conservation are the Ministry of Environment (MADES), the National Forest Institute (INFONA), the Ministry of Agriculture and Livestock (MAG) and the Public Ministry (with the Fiscalía General del Ambiente). INFONA and MADES are developing various innovative initiatives to reduce pressure on native forests and give a boost to the local economy. For example, INFONA supports the local brick and clay production industry, engaging small landholders in plantation and reforestation, and the creation of a forest nursery to resource the forest wood energy needs of artisanal producers and the restoration of waterways and biological corridors. INFONA also collaborates with cooperatives to streamline sustainable forest management into livestock production by

piloting silvo-pastoral models and promoting plantations that offset forest deficits and maintain forest connectivity.

Hydropower binational entities are also extremely important. Paraguay is one of the world's largest net exporters of electric power. Paraguay's electricity generation is produced by 100% renewable energy sources with a power production capacity close to 60,000 GWh per year. The 14,000 MW Itaipú hydropower plant together with the 3,200 MW Yacyretá supply the National Interconnected System to meet electricity demand.

Itaipú and Yacyretá are binational hydropower plants owned jointly with the governments of Brazil (Itaipú Binational) and Argentina (Yacyretá Binational Entity). They have both played a significant role in national and regional conservation strategies. To ensure water quantity and quality, Itaipú has created an environmental conservation area, planting more than 44 million trees.

The protected areas now cover over 100,000 hectares, including reserves and wildlife refuges in both countries and the biological forest corridor that protects the reservoir. Recently, Itaipú became the first hydroelectric plant in the world to have its own protected areas and supporting landscapes which are now recognised by UNESCO as a Biosphere Reserve.

There are numerous active Non Governmental Organisations (NGO) in the field of environment and climate change in Paraguay. The most important environmental NGOs are the Fundación Moisés Bertoni, the Asociación Guyra Paraguay, the Institute for Environmental Law and Economics (IDEA), the Red Paraguaya de Conservación en Tierras Privadas, Sobrevivencia, Alter Vida, Environmental Management for Sustainable Development (GEAM), OPADES and Pro Cordillera San Rafael (PROCOSARA). Two recognised environmental international NGOs are established in Paraguay, the World Wide Fund for Nature (WWF) and Wildlife Conservation Society (WCS). The members of IUCN in Paraguay are grouped in the IUCN's National Committee and there is also a network of NGOs known as ROAM (Red de ONGs Ambientalistas) which is part of POJOAJU (Red de Organizaciones de la Sociedad Civil). In general, these NGOs have sufficient infrastructure, equipment and trained personnel to carry out their activities. Most of them, however, depend almost on financing from international organisations.

They play significant a role in advocacy, research, training, project implementation and technical assistance both at national and local level. Conservation NGOs have also developed the skills to formulate and supervise the implementation of national conservation management plans and sustainable conservation best practices with National System of Protected Areas (SINASIP).

In the last decade, NGOs have been using innovative financial mechanisms for conservation, such as the Debt-For-Nature Swap with the US, to create the Fondo para la Conservación de Bosques Tropicales (FCBT). The main national climate policy and technical discussion forums (finances, soybean, beef production and others) have been facilitated by the NGOs, and the foremost GEF conservation REDD+ projects together with international funds and endowments for biodiversity conservation have also been created and operationalised by the NGOs.

The private sector, especially in agriculture and forestry, is also active. Organised in farmers cooperatives and business organisations, they advocate their interest for the use of land and water. The production coalitions have a more conventional food production approach, often associated with intensive agrochemical monocultures often leading to deforestation. However, they are slowly transitioning away from forest-encroaching, input-intensive monoculture systems into more sustainable farming systems.

The Federación de Cooperativas de la Producción (FECOPROD) is a coalition of producers cooperatives lobbying for environmental and social standards (e.g., the Paraguayan Sustainable Beef Round table). The most articulated and noticeable groups are a) The Paraguay Federation of Wood Industries (FEPAMA), b) the Rural Association of Paraguayan Farmers and Ranchers (ARP); and c) the umbrella organisation Unión de Gremios, representing wood, livestock, and agriculture industries respectively.

An increasing number of producers are moving towards climate smart agriculture and sustainable forest management practices on their farms, following incorporation of agro-silvo-pastoral systems. Forests' role in Paraguay's economy can increase and sustainable forestry approaches are starting to develop in certain districts. They can be scaled up with the participation of local communities and other relevant stakeholders. As much as 60% of forest-related economic activities is categorised as informal in Paraguay, representing a

missed opportunity in terms of tax collection and formal job creation. Particularly in rural areas, a healthy forestry sector could create job opportunities and contribute to diversifying the productive matrix.

Indigenous groups are mostly represented by FAPI, the Federation for the Self-determination of Indigenous People, defending indigenous rights.

Rural and indigenous women's organisations that advocate for biodiversity conservation, protection of forests and ecosystems, and sustainable development are: Organisation of Rural and Indigenous Women (CONAMURI), Platform of Paraguay's Indigenous Women (MIPY), Association of Rural Women of Caaguazú (AMUCAP), Platform of urban and rural workers (CTCU), Platform of Rural Women (CMC).

Any attempt to develop a large-scale ecosystem restoration programme must involve all these stakeholders, and be based on incentives rather than punishment: Itaipú Binational, MADES, MAG, INFONA, the National Institute for Indigenous Peoples (INDI), the private sector, farmer's groups, and conservation NGOs.

The Action will also combine partnerships with medium and larger producers in the selected areas in Paraguay, including technical assistance and support for conservation/restoration initiatives. These private owners and producers can support sustainable production and forest-friendly activities within forestlands for example.

Synergies will be sought in regard to other EU-funded regional and bilateral programmes such Euroclima+, the NDC support programme, and the EU Team Europe Initiative on Tropical Forest in Brazil. Complementarity will also be ensured with the actions of thematic programmes for civil society and human rights and democracy under the new Neighbourhood, Development and International Cooperation Instrument – Global Europe (NDICI)¹¹. Activities will be aligned with the EU Civil Society Roadmaps developed together with the EU Member States, as well as the work done by other international donors.

3 DESCRIPTION OF THE ACTION

3.1 Objectives and Expected Outputs

The Overall Objective (Impact) of this action is to contribute to building a green and resilient economy in Paraguay.

The Specific Objectives (Outcomes) of this action are to:

1. Reduce the incidence and extent of extreme wild forest fires.
2. Improve the effectiveness and sustainability of management and conservation of forests and other key ecosystems in three selected protected areas.
3. Promote sustainable forestry, livestock and agriculture practices in buffer zones/influence areas around the three selected areas.

The Outputs to be delivered by this action contributing to the Specific Objectives (Outcomes) are:

1. Increased awareness, skills, technical capacities and technology of national and local authorities for preventing and managing forest fires.
2. Improved planning tools and strategies for sustainable management in the selected protected areas and buffer zones.
3. Improved practices and capacities in the buffer zones that are supportive to the sustainable management of the three selected areas.

¹¹ Thematic multi-annual indicative Programmes (MIPs): a) Civil Society Organisations https://international-partnerships.ec.europa.eu/system/files/2022-01/mip-2021-c2021-9158-civil-society-organisations-annex_en.pdf; b) Human Rights and Democracy https://international-partnerships.ec.europa.eu/system/files/2022-01/mip-2021-c2021-9620-human-rights-democracy-annex_en.pdf

3.2 Indicative Activities

Activities relating to Output 1:

Activity 1.1: To analyse ongoing wildfire national actions, strategies and policies. Conduct a review of ongoing information systems to improve forest fires management.

Activity 1.2: To strengthen both fire prevention and technical capacities at national and local level. Provide training from research and training institutions and technical assistance to build capacity based on successful European wildfire prevention and land management expertise.

Activity 1.3: To improve wildfire data collection and wildfire monitoring systems and impact analysis. Development of tools such as an early warning system, disaster risk management, fire monitoring and early detection, fire danger rating and asset vulnerability, codes and standards.

Activity 1.4: To strengthen stakeholder coordination and preparedness. This action will create an information platform to improve wildfire management and response involving different stakeholders including local communities, government, the private sector and civil society organisations.

Activity 1.5: To raise public awareness on fires and forests prevention and management.

Activities relating to Output 2:

Activity 2.1: To develop/update management plans (Planes de Manejo) of the selected protected areas to ensure their long term sustainability and inclusivity.

Activity 2.2: To develop business plans that include data on financing needs and possible sources, investment plans and valuation of ecosystem services in protected areas for each of the selected areas.

Activity 2.3: To conduct a site climate resilience assessment of each of the selected areas.

Activity 2.4: To develop a sustainable tourism management plan in the selected areas (where relevant).

Activity 2.5: To formulate and start implementing a long-term conservation business strategy including investment required for infrastructure support, in consultation with local communities.

Activities relating to Output 3:

Activity 3.1: Build alliances for forest conservation and multi-functional buffer zones surrounding the three selected areas to support sustainable forest management, river basin restoration, regional connectivity, resilience and sustainable practices at the level of the farms in which the forest is maintained or recovered with the integration of agro-silvo-pastoral systems. Explore public-private shared stewardship by increasing partnerships and commitment towards conservation goals.

Activity 3.2: Build alliances for grassland conservation in the three selected areas with producers, cooperatives and farmer groups to conduct sustainable grasslands management with the integration of sustainable practices that restore degraded and/or converted sites in the selected areas.

Activity 3.3: Develop and sign co-management agreements in the selected areas among farmers, small livestock ranchers and communal landowners for recovery of forests and key ecosystems that protect water resources (Integrated Water Resources Management approach).

Activity 3.4: Support municipalities in the three selected areas to conduct zoning, planning and categorization of land uses in the buffer zones around conservation areas. It can include the development of zoning plans and management strategies in the selected areas.

Activity 3.5: Support the establishment and exploration of carbon certification based on avoided deforestation. Includes support to INFONA and to farmers, as well as implementation with Agua Dulce producers' association (APAD) of an operation manual / certification process demonstration sites, and pilots with local organizations in the selected areas.

Activity 3.6: Support installation of equipment (climate service software, water monitoring stations, etc.) to monitor the quantity, timing, and quality of water flows that allow the conservation of ecosystems.

Activity 3.7: Support identified value chains with technical and business capacities as well as other means to enable them to receive private finance.

The commitment of the EU's contribution to the Team Europe Initiative (TEI) foreseen under this action plan will be complemented by other contributions from Team Europe partners. It is subject to the formal confirmation of each respective partners' meaningful contribution as early as possible. In the event that the TEIs and/or these contributions do not materialise the EU action may continue outside a TEI framework.

3.3 Mainstreaming

Environmental Protection & Climate Change

Outcomes of the SEA screening

The Strategic Environmental Assessment (SEA) screening concluded that key environmental and climate-related aspects need be addressed during the design of the financed interventions under the different outcomes and described in 4.4.1, 4.4.3 and 4.4.4.

Outcomes of the EIA screening

The EIA (Environment Impact Assessment) screening classified the action as Category C (no need for further assessment). However, case by case financed intervention under the different outcomes, and especially outcome 3 may require of an EIA.

Outcome of the CRA screening

The Climate Risk Assessment (CRA) screening concluded that this action is no or low risk (no need for further assessment). However, case by case financed intervention under the different outcomes, and especially outcome 3 may require of a CRA or a CRA as part of an EIA. Climate change, biodiversity loss and ecosystems degradation must be tackled together. Protecting biodiversity, restoring healthy ecosystems, and sustainably managing forests can help mitigate and adapt to climate change.

Gender equality and empowerment of women and girls

Biodiversity loss, and ecosystems degradation have complex consequences on indigenous and rural women. The advance of agribusiness expels small-scale productive units in which women have a key role. As a result, gender gaps are more critical in rural areas. As per the OECD Gender DAC codes identified in section 1.1, this action is labelled as G1. This implies that it will integrate explicit gender lens to reduce women's vulnerability by enhancing socio-economic empowerment; by facilitating exploitation of forest resources that has direct impact on provision of income, food, energy and medicinal materials, as well as by promoting legal reforms in land tenure, all these based on the National Strategy for Gender in Climate Change¹² and its action plan (under final approval phase), Forest for Sustainable Growth National Strategy¹³, and Team Europe Gender Action Plan 2021-2025¹⁴. The Action will support a forestry policy environment that promotes gender equality. This will be done also by putting in place mechanisms to ensure gender-responsive activities. Activities will be conducted in a participatory and gender-responsive manner. Gender-disaggregated data will be mainstreamed across all indicators. A strong focus will be placed during the design of the financed interventions under the different outcomes. The evaluations set out in section 5.2 will integrate a gender-responsive approach.

Human Rights

¹² http://dncc.mades.gov.py/wp-content/uploads/2020/09/ESTRATEGIA-NACIONAL-DE-G%C3%89NERO-ANTE-EL-CAMBIO-CLIM%C3%81TICO_FINAL13.06.18.pdf

¹³ <http://dncc.mades.gov.py/wp-content/uploads/2020/10/ENBCS-v2.0-2019.10.29.pdf>

¹⁴ <https://ueconparaguay.org/igualdadparacrecer/>

Protection of the environment is a right that is enshrined in both the Paraguayan constitution together and the National Development Plan 2030¹⁵. The Action addresses biodiversity and habitat loss and aims at preventing their negative impacts on human well-being. The actions will also contribute to reduce inequalities (mainly based on sex, age and ethnicity) by providing new employment or livelihood opportunities. Indigenous peoples' rights will be taken into account by regularly consulting representatives of indigenous peoples on action that may affect their rights and in order to respect the right to Free, Prior and Informed Consent, in line with the UN Declaration on the Rights of Indigenous Peoples¹⁶. Furthermore, the Action will support indigenous peoples' participation in the management and ownership of some of the areas targeted by the programme. The Action will also raise awareness on environmental rights.

Disability

As per OECD Disability DAC codes identified in section 1.1, this action is labelled as D0. This implies that disability is not a significant objective of this Action. Nevertheless, disability inclusion approach will be taken into account under each Action's component with the aim to generate solutions that contribute to and benefit persons with disabilities along with other. The specific needs of persons with disabilities (and older persons) will be integral part of plans and measures to be developed on wildfire prevention, early warning and disaster risk management.

Democracy

The Action recognises the strong links between biodiversity and ecosystems protection and consolidation of democracy in Paraguay. The Action's proposed activities will be grounded in a sensitive understanding of Paraguay's democracy, including awareness of the effects of corruption and levels of political participation.

Conflict sensitivity, peace and resilience

The Action will identify, prioritize, and act on biodiversity and ecosystems degradation that would otherwise have the potential to generate conflict. This involve working with all relevant stakeholders and contribute to an environment that is conducive to sustainable development rather than opposed interests that can be source of conflicts.

Disaster Risk Reduction

The Action will build on the Eco-DRR approach which incorporates sustainable management, conservation and restoration of ecosystems with the purpose of providing services that reduce disaster risk by mitigating hazards and by increasing livelihood resilience. It will also contribute to the National Policy for Disaster Risk Reduction¹⁷. Based on the data gathered in the National Atlas of Disasters Risk,¹⁸ response mechanisms to strengthen local capacities will be integrated into the design of the interventions under Outcome 1.

Other considerations if relevant

N.A.

3.4 Risks and Lessons Learnt

Category	Risks	Likelihood	Impact	Mitigating measures

¹⁵ <https://www.stp.gov.py/pnd/>

¹⁶ https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf

¹⁷

https://www.sen.gov.py/application/files/8015/9188/4586/Politica_Nacional_de_Gestion_y_Reducccion_de_Riesgos__2018.pdf

¹⁸

https://www.sen.gov.py/application/files/9015/9862/5498/Atlas_de_Riesgos_de_Desastres_de_la_Republica_del_Pa raguay_2018.pdf

		(High/ Medium/ Low)	(High/ Medium/ Low)	
External	Heterogeneous capacity of stakeholders (MADES, INFONA, NGOs, municipalities, etc.) and local partners can affect implementation	Medium	Medium	Differentiated approach for different stakeholders. This will also take into account the specific challenges faced by each one of the three selected area.
Internal	Insufficient coordination amongst implementing partners	Low	Medium	The three components have been designed in a way to ensure coordination. The TA team (component 1) will also act as general coordinator and cross-cutting support. Component 2 and 3 specific activities (to be defined during contracting phase) will be designed in a complementary way.
External	Weak interest and dedication of stakeholders.	Medium	High	Relationships among the INFONA, MADES, line ministries as MAG, INDI; Municipalities, etc. and other public and private stakeholders are good and conducive to timely and appropriate contract implementation.
External	Low absorption capacity of environment and climate change institutions.	Medium	Medium	The Action includes TA and institutional support to the main public counterparts. Regular interaction with government will be ensured throughout the duration of the intervention. Institutional strengthening will be undertaken for all three Outputs.
External	Possible inconsistency between support provided at local and national levels	Medium	Medium	Appropriate mechanisms, including a Steering Committee and technical working groups, will be established to ensure coherence of actions and synergies between central and local levels.
Internal	Visibility is insufficient.	Low	Medium	The project will build alliances and partnership with organisations with a track record for advocacy/efficient communication. The latter will also be ensured by the EUD in the framework of the TE narrative in framework of the Green area.

External	Possible delays in the implementation of the Action due government change (August 2023), mainly in terms of staff recruitment in the public sector	Medium	Medium	Component 2 and component 3 will be mobilised shortly after Action's start (2023 Q1) and the TA (component 1) will be deployed at the same time the new authorities come to power. EUD will advocate for a swift recruitment and maintain continuity of technical staff in the involved public authorities.
External	Environment enabling civil society to operate deteriorates	Low	Medium	The EUD will follow implementation closely and will engage with main public counterparts, local authorities and CSOs to promote dialogue.

Lessons Learnt:

Years of experience with ecosystem conservation in Paraguay encourage the utilisation of a landscape approach to the protection and conservation of forest. This comprehensive approach to the management of specific areas (or landscapes) aims to reconcile the competing objectives of nature conservation and economic activities.

This methodology allows combining a set of different incentives (nature-based solutions, use of rights/payments over ecosystem services, carbon credits and certifications for markets, conservation management plans, etc.) to integrate policy and practice to ensure sustainable use of the selected areas while strengthening measures to mitigate and adapt to climate change.

Another incentive is the use of the Integrated Water Resources Management Approach (IWRM). The approach follows watershed organization criteria to plan sustainable management of renewable resources. A country such as Paraguay selling massive hydropower and deriving so much of its national budget from this unique source should focus its concern on strategic watershed stability.

Recent conservation experiences with privately-owned land encourage land-use management techniques where trees are grown around crops or pastureland (agroforestry). This diversification of the farming system ensures agroecological succession of natural ecosystems and enhances the functionality and sustainability of the farming system. This demonstrates the need to include community forestry or agroforestry interventions by the conservation community, both governmental and NGO-based, in the buffer zones around the protected areas.

The experience shows that the two relevant government environmental institutions in the forestry sector (MADES and INFONA) have very limited presence on the ground and insufficient resources to effectively monitor forest cover and enforce the law. Therefore, the actions should be complementary: strengthening INFONA and MADES so that they can fulfil their mandates, while also supporting public-private management through strategic alliances that will contribute to improving forest planning and environmental analysis and decision making. Full advantage of modern technology shall be sought as well as sound approaches on environmental assessments and administrative records.

Responsible and accountable involvement of private sector/companies in conservation and sustainable production is key. There are already examples of private investments in conservation and forest land restoration as part of forest plantation-based value chain development. These offer opportunities to scale private financing in conservation, enhance public-private partnerships and integrate conservation and sustainable value chains ensuring also benefits for the local stakeholders. The most realistic way to leverage private financing for conservation and land restoration efforts is with integrated sustainable value chains.

Recent positive experiences in paying for forest conservation in the marketplace show opportunities for technological innovation and strengthened entrepreneurial capabilities in the agro/wood industry sector related to protected areas. This also provides advantages in the regional and global marketplace.

Sustainable forestry/carbon certification is also in the early stages of development in Paraguay. The sector faces obstacles in terms of the investment climate and limited access to credit and markets and is often perceived as risky. Nevertheless, a number of positive experiences in recent years encourage the use of targeted incentives that promote sustainable forestry to overcome these structural challenges.

Any intervention in this area in Paraguay should include an institutional strengthening component to enhance their capacities of both CSOs and government institutions. This will also ensure effective and efficient capabilities to make sure that the NGOs working in the buffer zones around the protected natural areas are incorporating natural resources management technologies that work towards a more sustainable farming system.

Other lessons learnt include: (i) the importance of technical assistance and use of updated technological information; (ii) the need for combining technical assistance with goods (seeds, seedlings, TICs, equipment, etc.); (iii) information sharing using a range of techniques and gathering in field demonstration areas; and (iv) the need for a landscape approach connecting protected areas and production sites in the interventions.

3.5 The Intervention Logic

The underlying intervention logic for this action is designed to contribute to forest conservation and restoration. The activities will support Paraguay in implementing its commitments under the Paris Agreement, including inter alia its National Climate Adaptation Plan and Nationally Determined Contributions (NDCs). Activities will also contribute to reducing risk and strengthening community resilience to climate change, promoting adaptation and mitigation efforts and finding ecosystem-based adaptation solutions. Specific attention will be given to involving the private sector.

The EU intervention has been formulated with MADES and INFONA to ensure that the programme is aligned to the NDC 2030 objectives and sectoral policies. SO1 is aligned with NDC Objective 16 to prevent wild forest fires, SO2 is aligned with NDC Objective 19 to improve the performance of the forestry sector with integrated production systems under a sustainable production scheme, and SO3 is aligned with NDC Objective 10 to ensure resilience of ecosystems anchored in the use of nature-based solutions and promoting water resource management through multi-level and multi-stakeholder management.

Protected area management plans (*Planes de Manejo de areas protegidas*) have traditionally failed to bring economic sustainability. Therefore, the promotion of biodiversity conservation in the rural environment should come from innovative financing tools and actions combining agricultural, forestry and capacity-building activities with the ecosystem approach for sustainable natural resources management. Ultimately, this means that conservation and land restoration should be integrated with value chains.

The Action has been designed following the landscape approach for conservation, where complementary interventions are implemented in the three selected areas, composed by both, a) core area (protected areas) and b) surrounding buffer/public conservation and private lands.

Assumed the weak institutional capacities at national and local levels, the intervention logic is focused on incentives rather than punishment. Large landowners and private companies holding most of the land will be involved in the action to ensure better compliance of existing rules and laws.

The intervention logic integrates lessons learnt from: a) the EU and other donors (WWF, IUCN) with extensive experience in the region (particularly those that target the conservation of the Atlantic forest and biodiversity corridors), b) the expertise and views of local communities, c) the private sector around the supply chain approach, and d) creating a sense of shared ownership of resources.

The Action design provides strategic partnership and a strong participatory approach and opportunities to involve the private sector, both large landowners and small producers who still have significant remnants of forests. The design takes into account the key role of stakeholder engagement (local communities that depend on their lands, farmers' organisations, NGOs, etc.) in biodiversity conservation activities. Activities will be coupled with outreach, awareness raising and a communication strategy to ensure transparency and increased ownership. Finally, the programme will entail technical assistance to accompany the different stakeholders (in particular the public sector) and ensure sustainable and inclusive, long-term impacts.

The EU is a natural ally for Paraguay and has a clear comparative advantage and credibility in the forestry and conservation sector in relation to other international players. In the framework of the Team Europe Initiative, the EU action will also aim at: (i) building strategic alliances with Paraguayan conservation groups, the agriculture, forestry and livestock cooperative and private sector, academia and the media, and (ii) raising awareness on possible benefits that a greener model can bring in terms of economic development, employment opportunities, health, trade, etc.

3.6 Logical Framework Matrix

This indicative logframe constitutes the basis for the monitoring, reporting and evaluation of the intervention.
 On the basis of this logframe matrix, a more detailed logframe (or several) may be developed at contracting stage. In case baselines and targets are not available for the action, they should be informed for each indicator at signature of the contract(s) linked to this AD, or in the first progress report at the latest. New columns may be added to set intermediary targets (milestones) for the Output and Outcome indicators whenever it is relevant.

- At inception, the first progress report should include the complete logframe (e.g. including baselines/targets).
- Progress reports should provide an updated logframe with current values for each indicator.
- The final report should enclose the logframe with baseline and final values for each indicator.

The indicative logical framework matrix may evolve during the lifetime of the action depending on the different implementation modalities of this action. The activities, the expected Outputs and related indicators, targets and baselines included in the logframe matrix may be updated during the implementation of the action, no amendment being required to the Financing Decision.

Results	Results chain (@): Main expected results (maximum 10)	Indicators (@): (at least one indicator per expected result)	Baselines (values and years)	Targets (values and years)	Sources of data	Assumptions
Impact	Contribute to building a green and resilient economy in Paraguay.	1. Area of natural and man-made forests (ha) 2. Forest area (% of land area) 3. Tree cover loss (ha)	1. 16102000 ha (2020) 2. 40,5% (2020) 3. 277000 ha (2021)	1. To be determined (2027) 2. To be determined (2027) 3. To be determined (2027)	1. Global Forest Resources Assessment Paraguay - FAO 2. Food and Agriculture Organization, electronic files and web site 3. Hansen/UMD/Google/NASA available at: globalforestwatch.org	<i>Not applicable</i>
Outcome 1	Reduce the incidence and extent of extreme wild forest fires	1.1 Annual area of illegal deforestation in the selected protected areas (hectares) 1.2 Annual area burnt in wildfires in the three selected areas (hectares) 1.3 Areas of terrestrial and freshwater ecosystems under (a) protection, (b) sustainable management with EU support (km ²)**GERF 2.9 1.4 Forest area certified under a forest management certification scheme (hectares) 1.5 Number of government conservation policies/management plans developed or revised with civil	1.1. To be determined (2023) 1.2 To be determined (2023) 1.3 a) 3,200,000 ha to be intervened, b) to be determined (2023) 1.4. 4 169 000 ha (2020) 1.5 0 (2022) 1.6 To be determined (2023)	1.1. To be determined (2027) 1.2 To be determined (2027) 1.3 a) To be determined (2027), b) to be determined (2027) 1.4. to be determined (2027) 1.5 to be determined (2027) 1.6 to be determined (2027)	1.1. Ministry of Environment report 1.2. National Forest Institute (INFONA) 1.3. World Database of protected Areas b) Ministry of Environment report 1.4. Global Forest Resources Assessment Paraguay – FAO 1.5. Action Monitoring System/Grants reports 1.6. METT/ScoreCard Assessment	

		society organisation participation through EU support**GERF 2.29 1.6. Forest Management Effectiveness (METT/ScoreCard) of 5 key MPs				
Outcome 2	Improve the effectiveness and sustainability of management and conservation of forests and other key ecosystems in three selected protected areas.	2.1. Suitable, trained and equipped personnel 2.2. Defined land limits and tenure 2.3 Number of conservation finance for selected sites contributing to sustainability 2.4 Number of native forests in protected areas conserved and restored	2.1 0 (2022) 2.2 To be determined (2023) 2.3 To be determined (2023) 2.4 To be determined (2023)	2.1 Baseline (year 1) and 10% effectiveness increase per year. 2.2 Management plans need identified in year 1 and developed/updated in year 2, implementation begins in year 3. 2.3 Financial sustainability in place and towards annual 4, 20% of conservation finance secured 2.4 Land tenure clarified and processes initiated in year 1 and finished in year 2.	2.1 Documentation in Minister of Environment 2.2 Information in the Academia (mainly theses) 2.3 Local/ Municipal institutions' reports 2.4 CSOs networks reports	Institutional support from Environmental Authority Local support National established capacities Financial support in place Agreements in actions plans for selected sites Markets for conservation finance available for Paraguay
Outcome 3	Promote sustainable forestry, livestock and agriculture practices in buffer zones/influence areas around the three selected areas	3.1 Number of alliances among associated partners and productive associations for improved/better sustainable productive practices 3.2 Number of hectares of natural habitats conserved/restored 3.3 Vision for enhanced connectivity in the landscape with the protected areas 3.4 Number of plans for land use planning and zoning at local levels 3.5 Number of better practices improved at the farm level to create/recreate connectivity 3.6 Menu of better practices improved, piloted and scalable.	3.1 – 3.7 To be determined (2023)	3.1 – 3.7 To be determined (2027)	3.1 – 3.3 Documentation in Minister of Environment and Ministry of Agriculture 3.4 – 3.5 Food and Agriculture Organization, electronic files and web site 3.6 Cooperatives' association reports	Institutional support from Environmental and Agricultural authorities

		3.7 At least ten markets and supply chains for sustainably harvested non-timber forest products developed or enabled with direct benefit for networks or groups of women and youth in particular.				
Output 1 relating to Outcome 1	Increased awareness, skills, technical capacities and technology of national and local authorities for preventing and managing forest fires	1.1.1 Number of national wild fire tools supported by the intervention 1.1.2 Number of people reached by action's campaigns on wild forest prevention and management Number of trained farmers that report an increased knowledge on the consequences of wild forest, their prevention and management.	1.1.1. To be determined (2023) 1.1.2. To be determined (2023) 1.1.3. To be determined (2023)	1.1.1 To be determined (2027) 1.1.2 To be determined (2027) 1.1.3 To be determined (2027)	1.1.1 -1.1. 2 Contractor Monitoring system / Contract Reports 1.1.3 Survey at the end of the intervention to be carried out by contractor	Systems and technology are frequently updated and maintained Stakeholders make use of technical capacities and acquired knowledge for decision making
Output 2 relating to Outcome 2	Improved planning tools and strategies for sustainable management in the selected protected areas and their buffer zones	1.2.1Number of alliances among associated partners and productive associations to support sustainable forest management, river basin restoration, and sustainable practices at the level of the farms 1.2.2Number of multi-stakeholder initiatives (MSI) that involve the private sector (global commodity chains), small farmers, traditional communities, governments and donors established with the support of the EU 1.2.3Number of alliances built for grassland conservation in the three selected areas with producers, cooperatives and farmer groups Number of co-management agreements in the selected areas among farmers and small livestock ranchers for recovery of forests that protect water resources (Integrated	1.2.1 0 (2022) 1.2.2 0 (2022) 1.2.3 0 (2022) 1.2.4 0 (2022)	1.2.1 To be determined (2027) 1.2.2To be determined (2027) 1.2.3 To be determined (2027) 1.2.4 To be determined (2027)	1.2.1 -1.2.4 Grant Reports	Sufficient budget is allocated for the implementation of management plans

		Water Resources Management approach established with the support of the EU				
Output 3 relating to Outcome 3	Improved practices and capacities in the buffer zones that are supportive to the sustainable management of the three selected areas	<p>1.3.1 Number of smallholders reached with EU-supported interventions aimed to increase their sustainable production, access to markets and/or security of land, disaggregated by sex **GERF 2.</p> <p>1.3.2 Number of people trained by the EU-funded intervention who increased their knowledge of and/or skills in using innovative agroforestry techniques (disaggregated by sex, age and ethnicity), disaggregated by sex</p> <p>1.3.3 Number of people trained by the EU-funded intervention who increased their knowledge of and/or skills in following sustainable land and water management practices (disaggregated by sex, age and population group), disaggregated by sex</p> <p>1.3.4 Areas of agricultural and pastoral ecosystems where sustainable management practices have been introduced with EU support (ha), disaggregated by type of practice ** GERF 2.2</p> <p>1.3.5 Number of carbon certification system in force based on avoided deforestation</p> <p>1.3.6 Number of pilots of a carbon certification system implemented</p> <p>1.3.7 Number of demonstration sites implemented</p>	<p>1.3.1 0 (2022)</p> <p>1.3.20 (2022)</p> <p>1.3.30 (2022)</p> <p>1.3.4 To be determined (2023)</p> <p>1.3.5 To be determined (2023)</p> <p>1.3.6 To be determined (2023)</p> <p>1.3.7 To be determined (2023)</p>	<p>1.3.1 To be determined (2027)</p> <p>1.3.2 To be determined (2027)</p> <p>1.3.3 To be determined (2027)</p> <p>1.3.4 To be determined (2027)</p> <p>To be determined (2027)</p> <p>1.3.5 To be determined (2027)</p> <p>1.3.6 To be determined (2027) To be determined (2027)</p> <p>1.3.7 To be determined (2027)</p>	1.3.1 – 1.3.7 Monitoring System / Reports from Pillar Assessment Entity	Sufficient budget is allocated for the implementation of capacity building

4 IMPLEMENTATION ARRANGEMENTS

4.1 Financing Agreement

In order to implement this action, it is envisaged to conclude a financing agreement with the Paraguay.

4.2 Indicative Implementation Period

The indicative operational implementation period of this action, during which the activities described in section 3 will be carried out and the corresponding contracts and agreements implemented, is 60 months from the date of entry into force of the financing agreement.

Extensions of the implementation period may be agreed by the Commission's responsible authorising officer by amending this Financing Decision and the relevant contracts and agreements.

4.3 Implementation Modalities

The Commission will ensure that the EU appropriate rules and procedures for providing financing to third parties are respected, including review procedures, where appropriate, and compliance of the action with EU restrictive measures¹⁹.

4.3.1 Direct Management (Grants)

Grants: (direct management).

(a) Purpose of the grant(s).

Engage NGOs in protecting and maintaining selected protected areas through sustainable forest management.

To achieve Output 2 and implement Activities 2.1 to 2.5, a multi-beneficiary grant will be awarded to a lead applicant (Coordinator).

(b) Type of applicants targeted

The target organisations to implement these activities in the three selected areas are recognized local and international NGOs. They are internationally reputed due to their strong knowledge and experience in the sector, as well as their continuous engagement with public and private sector at different levels (from local communities to governments entities to global/regional networks of NGOs and businesses). Under the contractual management of the Coordinator, the beneficiaries will be able to implement the Action in a flexible manner, adapting to local needs and changing context, while ensuring the necessary financial and administrative solidity to manage EU Funds.

(c) Justification of a direct grant

Under the responsibility of the Commission's authorising officer responsible, the grant may be awarded without a call for proposals to a lead applicant and co-beneficiaries (a CSO consortium) according to the article 195 FR, case f, due to the Action's need to delegate SO2 implementation in a body that (a) holds expertise in Integrated Sustainable Landscape Management and in enhancing competent national institutions' knowledge on Geographical Information System (GIS); (b) enjoys legitimacy on multi-stakeholder dialogue which is pivotal to transform perspectives and initiate cooperation across technical, cultural and institutional boundaries, and (c) has worked on empowerment and support of environmental stewardship involving indigenous peoples and local communities. The beneficiaries to cover geographically all the selected protected areas will be selected using the following criteria: for actions with specific characteristics that require a particular type of body on account of its technical competence, its high degree of specialisation or its administrative power, on condition that the actions concerned do not fall within the scope of a call for proposals. As specific but interlinked interventions are needed for each selected area, a direct grant is the most convenient modality to achieve the expected results. Engaging in call for proposals would be unlikely to result in customised interventions.

The specific technical competence that will be sought consists of exclusive knowledge and technical competence in conservation and biodiversity preservation/restoration (see letter "a" in previous paragraph); economic,

¹⁹ www.sanctionsmap.eu. Please note that the sanctions map is an IT tool for identifying the sanctions regimes. The source of the sanctions stems from legal acts published in the Official Journal (OJ). In case of discrepancy between the published legal acts and the updates on the website it is the OJ version that prevails

administrative and financial solidity, privileged relationships with public authorities and private sector (business) (see letter “b” in previous paragraph), research and training capacities, proved track record in effective monitoring and evaluation of similar projects, proven track record on fostering roles and custodianship of indigenous peoples and local communities - skilful working with nature and people at the same time (see letter “c” in previous paragraph, strong operational experience, capable of demonstrating leadership on conservation matters, willing to establish and sustain a learning and capacity development network is a short and medium term priority to strengthen both conservation policies and results.

4.3.2 Direct Management (Prize(s))

N.A.

4.3.3 Direct Management (Procurement)

Output 1 and Activities 1.1 to 1.5 will be implemented through procurement contract under direct management. The selected contractors will contribute to improve the quality and impact of the EU support, and will ensure overall coordination of the three components as well as awareness raising activities.

4.3.4 Indirect Management with a pillar assessed entity

Output 3 and activities 3.1 to 3.7 will be implemented in indirect management with an entity, which will be selected by the Commission’s services based on the following criteria: technical competence in regional and local interventions addressing sustainable and inclusive green production, as well as in promoting partnerships between the public and private sectors; facility to identify and contract experts, including from public sector for peer exchange and learning; robust administrative and financial capacity. The implementation by this entity entails promoting sustainable forestry, livestock and agriculture practices in buffer zones around the three selected areas and thus, increasing resilience of forests and other ecosystems.

4.3.5 Indirect Management with the Partner Country

N.A.

4.3.6 Contribution to <name of the relevant Regional Investment Platform>

N.A.

4.3.7 EFSD+ operations covered by budgetary guarantees

NA.

4.3.8 Changes from indirect to direct management mode (and vice versa) due to exceptional circumstances (one alternative second option)

If negotiations with the target organisations to implement the directly awarded grant fail, or if the mentioned modality (4.4.1) cannot be implemented due to circumstances outside of the Commission’s control, activities 2.1 to 2.5 may be implemented in indirect management in accordance with the implementation modalities identified in sections 4.4.4.

If negotiations with a pillar assessed entity fail, or if the indirect modality (4.4.4.) cannot be implemented due to circumstances outside of the Commission’s control, activities 3.1 to 3.7 may be implemented in direct management in accordance with the implementation modalities identified in sections 4.4.3.

4.3.9 Other actions or expenditure

N.A.

4.4 Scope of geographical eligibility for procurement and grants

The geographical eligibility in terms of place of establishment for participating in procurement and grant award procedures and in terms of origin of supplies purchased as established in the basic act and set out in the relevant contractual documents shall apply, subject to the following provisions.

The Commission’s authorising officer responsible may extend the geographical eligibility on the basis of urgency or of unavailability of services in the markets of the countries or territories concerned, or in other duly substantiated cases where application of the eligibility rules would make the realisation of this action impossible or exceedingly difficult (Article 28(10) NDICI-Global Europe Regulation).

4.5 Indicative Budget

Indicative Budget components	EU contribution (amount in EUR)	Third-party contribution, in currency identified
Implementation modalities – cf. section 4.3:		
Objective 1: Reduce the incidence and extent of extreme wild forest fires composed of:	4,400,000	N.A.
Procurement (direct management) – cf. section 4.3.3		
Objective 2: Improve the effectiveness and sustainability of management and conservation of forests and other key ecosystems in three selected protected areas composed of:	3,600,000	189,474
Grants (direct management) – cf. section 4.3.1		
Objective 3: Promote sustainable forestry, livestock and agriculture practices in buffer zones/influence areas around the three selected areas composed of:	3,000,000	500,000
Indirect management with pillar assessed entity - cf. section 4.3.4.		
Evaluation – cf. section 5.2	400,000	N.A.
Audit – cf. section 5.3		
Contingencies	600,000	N.A.
Total	12,000,000	689,474
		12,689,474

4.6 Organisational Set-up and Responsibilities

The Action will be supervised by a Steering Committee in charge of the strategic guidance to ensure that the expected results are achieved. It will be led by the Ministry of Environment, and tentatively include the following members:

- The Minister of Environment or a duly designated representative, who will chair the Committee;
- The Head of Delegation of the European Union in Paraguay or a representative;
- The President of the National Forest Institute (INFONA) or a representative;
- The Coordinator (lead applicant);
- The Representative of the pillar assessed entity;
- The Representative of the technical assistance, who will act as Secretary of the Committee.

The Steering Committee shall meet at least twice yearly and provide overall guidance, coherence and coordination with other institutions, and ensure that actions are followed up with the necessary stakeholders. Representatives from other private or public institutions and from stakeholders, as appropriate, can attend specific sessions of the Steering Committee, based on the topics of the sessions.

A programme technical board would be established to coordinate, monitor and support implementation challenges, embark on social and economic innovation, and deforestation-free value chain development. The mentioned board is tentatively composed of the following members:

- The Director General of Biodiversity Protection and Conservation (from MADES) or a representative, who will co-chair the board;
- The Director General of Forests (from INFONA) or a representative who will co-chair the board;
- The Head of Cooperation of the European Union in Paraguay or a representative;

The Coordinator (lead applicant);
The Representative of the pillar assessed entity;
The Representative of the technical assistance, who will act as Secretary of the Committee.

The technical board will aim to meet at least once every three months. Additional working groups can be established if pertinent.

As part of its prerogative of budget implementation and to safeguard the financial interests of the Union, the Commission may participate in the above governance structures set up for governing the implementation of the action.

4.7 Pre-conditions

N.A.

5 PERFORMANCE MEASUREMENT

5.1 Monitoring and Reporting

The day-to-day technical and financial monitoring of the implementation of this action will be a continuous process, and part of the implementing partners' responsibilities. To this aim, the implementing partners shall establish a permanent internal, technical and financial monitoring system for the action and elaborate regular progress reports (not less than annual) and final reports. Every report shall provide an accurate account of implementation of the action, difficulties encountered, changes introduced, as well as the degree of achievement of its results (Outputs and direct Outcomes) as measured by corresponding indicators, using as reference the logframe matrix (for project modality) and the partner's strategy, policy or reform action plan list (for budget support).

The Commission may undertake additional project monitoring visits both through its own staff and through independent consultants recruited directly by the Commission for independent monitoring reviews (or recruited by the responsible agent contracted by the Commission for implementing such reviews).

Roles and responsibilities for data collection, analysis and monitoring. As part of this action, the Commission plans to contract services for the technical assistance component (Section 4.4.3) which will include specialised monitoring missions, data collection and reporting on results and recommendations.

In terms of the active engagement of stakeholders, the social fabric will be strengthened through implementing partners' involvement at multiple levels and developing partnerships with local communities, NGOs, as well as collaborations with local authorities and central government counterparts.

5.2 Evaluation

Having regard to the nature of the action, mid-term and final evaluation(s) may be carried out for this action or its components via independent consultants contracted by the Commission.

In case a mid-term evaluation is envisaged: It will be carried out for problem solving and learning purposes with a gender-responsive approach, in particular with respect to assessing the continued relevance and the progress made towards achieving its planned objectives providing an opportunity to make modifications to ensure the achievement of the objectives and in the event a second phase of the action might be envisaged.

The Commission shall inform the implementing partner at least 30 days in advance of the dates envisaged for the evaluation missions. The implementing partner shall collaborate efficiently and effectively with the evaluation experts, and inter alia provide them with all necessary information and documentation, as well as access to the project premises and activities.

The evaluation reports may be shared with the partners and other key stakeholders following the best practice of evaluation dissemination. The implementing partner and the Commission shall analyse the conclusions and recommendations of the evaluations and, where appropriate, apply the necessary adjustments.

Evaluation services may be contracted under a framework contract.

5.3 Audit and Verifications

Without prejudice to the obligations applicable to contracts concluded for the implementation of this action, the Commission may, on the basis of a risk assessment, contract independent audit or verification assignments for one or several contracts or agreements.

6 STRATEGIC COMMUNICATION AND PUBLIC DIPLOMACY

The 2021-2027 programming cycle will adopt a new approach to pooling, programming and deploying strategic communication and public diplomacy resources.

It will remain a contractual obligation for all entities implementing EU-funded external actions to inform the relevant audiences of the Union's support for their work by displaying the EU emblem and a short funding statement as appropriate on all communication materials related to the actions concerned. This obligation will continue to apply equally, regardless of whether the actions concerned are implemented by the Commission, partner countries, service providers, grant beneficiaries or entrusted or delegated entities such as UN agencies, international financial institutions and agencies of EU member states.

However, action documents for specific sector programmes are in principle no longer required to include a provision for communication and visibility actions promoting the programmes concerned. These resources will instead be consolidated in Cooperation Facilities established by support measure action documents, allowing Delegations to plan and execute multiannual strategic communication and public diplomacy actions with sufficient critical mass to be effective on a national scale.