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Lot 2 – Infrastructure, sustainable growth and jobs

Final Evaluation
Upgrading of the Milange - Mocuba Road Phase – Phase I and II

FWC SIEA 2018- LOT 2

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List of abbreviations

AC	Asphalt concrete
ANE	Administração Nacional de Estradas (National Road Administration)
AO	Administrative Order
ARE	Assistant Resident Engineer
BOQ	Bill of Quantities
CLO	Community Liaison Officer
CME	Consortium Monte Adriano/Edifer
CPI	Consumer Price Index
DBST	Double Bitumen Surface Treatment
DIPRO	Directorate of Projects (ANE)
EDF	European Development Fund
EDM	Electricidade de Moçambique
EN	Estrada Nacional
EOT	Extension of Time
EQ	Evaluation Question
ERR	Economic Rate of Return
ET	Evaluation Team
EU	European Union
EUD	European Union Delegation
FA	Financing Agreement
GBV	Gender-Based Violence
GCC	General Conditions of Contract
GON	Gabinete do Ordenador Nacional (National Authorising Office)
INE	Instituto Nacional de Estatística
IPC	Interim Payment Certificate
M-E	Mota-Engil
MICOA	Ministério para a Coordenação da Acção Ambiental
MITADER	Ministério da Terra, Ambiente e Dessenvolvimento Rural
MOPH	Ministério das Obras Públicas e Habitação
MZM	Mozambique Metical
NAO	National Authorizing Office
NOD	Nicholas O'Dwyer & Company Ltd.
OSBP	One-Stop Border Post
PIDA	Program Infrastructure Development for Africa
PIF	Project Identification Fiche
PLC	Project Liaison Committee
PRAG	Practical Guide to Contract Procedures
PT	Project Team
QAP	Quality Assurance Plan
RE	Resident engineer
ROP	Revision of Prices
SCC	Special Conditions of Contract
TDM	Telecomunicações de Moçambique
VOC	Vehicle Operation Cost
VPD	Vehicles per day

1 Introduction

1.1 Background of the project

1.1.1 Country background

Mozambique remains on a subdued growth trajectory following the 2015 commodity price shock and 2016 hidden loans crisis, even though economic conditions have improved. The devastating impact of tropical cyclones IDAI and Kenneth on agricultural production and falling commodity prices, motivates muted growth prospects for 2019. Real gross domestic product (GDP) growth is estimated to reach 2%, below the average of 3.7% experienced between 2016 and 2018, and the lowest growth recorded since 2000 when Mozambique experienced devastating floods in the south of the country.

Mozambique five-year plan 2020-2024, presented in March 2020 for approval in Parliament, focuses its government actions on improving well-being and quality of living of Mozambican families, in reducing social inequalities and poverty. The priority strategic options focus are agricultural production, investment in economic and social infrastructures, development of fishing and aquaculture, implement tourism promotion through the various economic sectors, promote implementation of mining extraction projects, and requalify and integrate employment activities. The current COVID-19 situation in Mozambique, caused the government to go public in making available 700 million dollars via direct budget support of which the biggest portion valued at USD 553 million, will go towards building 79 hospitals.

Economic growth will recover towards 4.3% by 2021 as rehabilitation efforts and continued easing in interest rates provide additional stimulus to the economy, although large-scale investments in gas production could push this further.

Mozambique remains in debt distress. Progress has been made in debt restructuring, but the outlook remains unknown. The country's main challenges include maintaining the macroeconomic stability considering exposure to commodity price fluctuations and re-establishing confidence through improved economic governance and increased transparency.

GDP in Mozambique averaged 7.04 USD Billion from 1980 until 2019, reaching an all-time high of 16.96 USD Billion in 2014 and a record low of 2.09 USD Billion in 1988.

The Gross Domestic Product (GDP) in Mozambique was worth 15.20 billion US dollars in 2019, according to official data from the World Bank and projections from Trading Economics. The GDP value of Mozambique represents 0.01 per cent of the world economy.

GDP in Mozambique is expected to reach 16.00 USD Billion by the end of 2020, according to Trading Economics global macro models and analysts' expectations. In the long-term, the Mozambique GDP is projected to trend around 18.00 USD Billion in 2021 and 20.00 USD Billion in 2022, according to "trading economics" econometric models.

After a decrease of Foreign Direct Investment (FDI) in 2017 (USD 2.2 billion) due to the difficulties faced by the major investor countries and global oil price fall, FDI influx in 2018 increased to USD 2.7 billion. The stock of FDI was about USD 40 billion in 2018, representing 281% of the GDP (2019 World Investment Report, UNCTAD).

1.1.2 Road sector

The estimated total length of Mozambique's road network is at 32,500 km. The primary and secondary road networks were less than 5000 km each. The tertiary network was 12,700 km. Unclassified or local roads were estimated at 6,700 km, and urban roads at 3,300 km

Mozambique's road coverage is among the lowest in Africa, both per capita (45th) and by land area (46th). Only 33% of the rural population lives within 2 km of an all-season road, and only 20% of the estimated 32 500 km of the classified network is paved; the balance of the mostly rural network is in poor condition. Sector reforms have created institutions that are responsible for the network and its financial administration, and the sector has experience in adopting good practices on public-private partnerships (PPPs) and outsourcing for maintenance operations; however, persistent challenges in financing, maintenance, planning, implementation and technical capacity continue to hinder the development of the subsector.

Mozambique's inter-city roads are classified as a national or primary road, or as regional – secondary or tertiary – roads. National roads are given the prefix "N" or "EN" followed by a one- or two-digit number. The numbers generally increase from the south of the country to the north. Regional roads are given the prefix "R", followed by a three-digit number.

Most of the classified road network receives some annual routine maintenance but some roads remain in a poor condition due to lack of periodic maintenance. Moreover, Mozambique's road network is highly vulnerable to disruption during the rains due to washouts of drainage structures and embankments.

The survey of the conditions of conservation of the national road network, undertaken in 2017, evaluated in 70% the extension of roads being in a good or reasonable condition. Roads in good condition are key to establish a reliable and durable access from the fertile agricultural lands to the markets and social services. The analysis of the road network conservation also shows that the provinces of Zambézia, Manica and Cabo Delgado are those with the highest impassable road indexes, with Zambézia being the one with the highest impassability condition, with an index higher than 10%.

Annually the Government of Mozambique provides updates on the transport sector through the Social and Economic Plan (PES) report harmonized with the Integrated Road Sector Programme (PRISE - Programa Integrado do Sector de Estradas). The actions executed in the implementation of PES / PRISE fall under priority IV of the "development of economic and social infrastructures" of the Government Five-Year Plan (PQG) 2020 – 2024.

1.2 Description of the project

1.2.1 Milange-Mocuba road

The road between Milange and Mocuba has a length of 192 km and implementation divided into two stages. Both stages constituted of Phase I and Phase II of the Mocuba-Milange Road in the Zambézia province, as to address the need to provide for the link in a corridor of strategic value for the regional integration of Mozambique, which is to ensure the connectivity between Malawi and Mozambique's North/South road and ports, in continuation of the construction of the N 11, Milange-Mocuba upgrade-project.

The objective of the 10th EDF support to Road Transport Infrastructure and in particular to the upgrading of the Milange-Mocuba Road situated in Zambézia Province is to contribute to poverty reduction by increasing the access of the rural population to public services, markets and job opportunities while promoting socioeconomic growth through increased trade and regional integration.

The Milange-Mocuba road (N11) is considered of strategic relevance for the country's regional economic integration, in particular with Malawi and Zambia. Moreover, paving the road has established a reliable access from the fertile agricultural lands along the route to markets in Mocuba, Quelimane, and Beira and the wider region, including chronic food deficit areas in neighbouring countries.

It is interesting to note the difference in understanding of "regional integration". Whereas the EU understands this concept as integration between countries of the same region, the Government interprets it as integration between regions within Mozambique. One of the essential priorities of the Road Sector Strategy (RSS 2007-2011) is to increase regional interconnectivity. The Milange-Mocuba project was more successful for regional integration within Mozambique.

The road has been upgraded from a gravel road to an all-weather paved road. The road was impassable sometimes during the rainy season. On average the trip from Milange to Mocuba could take between 6 to 10 hours in good weather conditions. After the road was upgraded the duration of the trip was reduced to approximately 2.5 hours.

Stakeholders: Administração Nacional de Estradas (ANE), managing classified road network, Ministry of Public Works, Housing and Hydraulic Resources (MOPHRH), overall responsible for the Sector, Road Fund (FE), providing maintenance funds. Beneficiaries: road users, farmers, general population including from Malawi and Zambia, traders, women, transport operators, who should benefit from lower costs of traded goods and less expensive, faster trips.

Contracting Authority: NAO, Supervisor-ANE, Works Contractor Mota-Engil África, Supervision Consultants: Nicholas O'Dwyer Ltd., TA Consultants - Various/ Accompanying Measures - COWI; EU Delegation representing the EU and beneficiaries.

1.2.2 The final evaluation

The focus of this evaluation is on the assessment of achievements, the quality, and the results of Actions in the context of an evolving cooperation policy with an increasing emphasis on result-oriented approaches and the contribution towards the implementation of the SDG. Understanding that the main users of this evaluation will be the EU Delegation to Mozambique, the National Authorising Officer (NAO), the Road Fund (FE) and the National Road Administration (ANE).

This assessment collected evidence of why, whether or how these results are linked to the EU intervention and seek to identify the factors driving or hindering progress. Provides an understanding of the cause and effect links between inputs, activities, outputs, outcomes, and impacts, and serves accountability, decision making, learning and management purposes.

The main objectives of this evaluation, are to provide the relevant services of the European Union and the main interested stakeholder, the Government of Mozambique, with an overall independent assessment of the past performance of the program Upgrading Milange-Mocuba Road (Phase I and II), paying particular attention to its results measured against its expected objectives; and the reasons underpinning such results, such as the (i) key lessons learned, conclusions and related recommendations in order to improve current and future activities, and (ii) particularly, this evaluation serves to understand the performance of the action, its enabling factors and those hampering a proper delivery of results as to inform the planning of other ongoing and future EU interventions in the road sector (PROMOVE Transporte, Nacala Corridor and others related).

1.2.3 Phase I

FA for Phase I, for the upgrade of Milange-Mocuba road, through the signature of 5 Addenda's, the amount of the FA remained at EUR 80.0 million on the EU contribution (Total cost of the Programme at EUR 85.44 million, the beneficiary contribution at EUR 5.44 million as VAT at 6.8%) and the initial execution period of 72 months was extended to 133 months and the operational period from 48 to 91 months.

Table 1: Programme Budget

Categories	EC Contribution	Government Contribution	Total
	(EUR)	*(EUR)*	*(EUR)*
Works Contract	69 000 000	4 692 000	73 692 000
Supervision (Service Contract)	3 450 000	234 600	3 684 600
Communication and visibility	25 000	1 700	26 700
Contingencies	7 225 000	491 300	7 716 300
Monitoring	100 000	6 800	106 800
Audit	100 000	6 800	106 800
Evaluation	100 000	6 800	106 800
TOTAL	**80 000 000**	**5 440 000**	**85 440 000**

Source: Agreement no MZ/FED/2008/020-977 – 10th European Development fund

Then a Road Sector Budget support FA was also funded under the 10th EDF with a budget of EUR 22.5 million. This Road Sector Budget support included a Capacity building and a TA component of EUR 2.4 million

Table 2: Budget Support

	Amount	EU Contribution	Other Donors	Government sector budget (without external contributions)
	(EUR)	*(EUR)*	*(EUR)*	*(EUR)*
Budget Support	100 000 000	20 00 000	80 000 000 (estimated)	400 000 000
Complementary Support (Technical Cooperation)	10 000 000	1 800 000	8 200 000	20 000 000
Audit and Evaluation	2 000 000	400 000	1 600 000	5 000 000
Visibility	n.a.	50 000	n.a.	n.a.

Source: Agreement no MZ/FED/021-448 – 10th European Development fund – Road Sector Support 2010-2013

In **Phase I** construction was awarded to Mota-Engil, it began on the 1st of November 2010 and the period of implementation was revised from 30.00 to 31.33 months plus a liability period of 12 months. It had two main components, for an amount of EUR 69.64 million for the EU contribution, EUR 4.73 million VAT and total contract value of EUR 74.38 million: (i) Mocuba to Alto Benfica with Bill B: Section B (km 108 – km 155) at EUR 20.09 million and Bill C (km 155 – km 192) EUR 18.68 million, for a total amount EUR 38.77 million and (ii) Namacurra to Nampevo section of the N1 Road as Bill E for an amount of EUR 25.43 million.

Through 6 administration orders, including additional works, the final contract value was defined as follows:

Table 3: Phase I, construction scope

Activity	EDF Contribution
	(EUR)
Bill E – 1: Rehabilitation of Section A - Namacurra - Nampevo (Km 96+000 To 102+500)	1 194 189.53
Bill E - 2: Rehabilitation of Sections B - Namacurra - Nampevo (spots improvements south of Mocuba)	424 388.53
Bill E – 3: Licungo Bridge & Lugela Bridge - Emergency Works & Access	401 027.26
Bill C – 4: Drainage Repair Works on N11 & N321 - Additional Works Phase 1	913 012.00
Bill E - 5: Licungo Bridge South Approach	90 294.52
Bill E – 6: Licungo Bridge Structure	323 016.03
Bill E – 7: Lugela Bridge Structure	365 462.75
Bill E – 8: Road Embankment North of Licungo Bridge	116 792.26
Bill E – 9: Drainage in Mocuba Town - 3 Pipe Culverts	183 319.35
B3 – 13.01(i) Contractor's General Obligations - (Section B3) - 18.62% x 4 011 502.52 Euros	746 941.77
Total Deductions	4 758 444.29
Original Contract Price	**69 643 736.29**
Administrative Order	
Order 1 – Notice to Commence	0
Order 2 - Replacing crushed stone base nominal size 37.5 mm with crushed stone base nominal size 63 mm	- 186 454.24
Order 3 – Additional works	4 758 444.29
Additional Works for the Rehabilitation of Road Sections between Namacurra and Nampevo - Drainage Repairs and Flood Response	0
Order 6 - Additional Works for the Rehabilitation of Road Sections between Namacurra and Nampevo - Drainage Repairs and Flood Response	0
TOTAL	**74 215 726.34**

The contracted construction works, amended through AO3, between Namacurra and Nampevo, was section A: km 96 to km 102.6, Section B1: km 57.650 to km 63.750, Section B2: km 65.05 to km 65.63 and Section B2: km 66.650 to km 75.65 for an additional value of EUR 4.76 million. Only Section A was implemented as A03 was amended through AO4, AO5,

AO6 to incorporate emergency floods response works, mainly addressing damages experienced on the Bridges of Licungo and Lugela near Mocuba.

With a Total adjusted contract amount of EUR 74.22 million with administration order 6, excluding VAT of 6.8%.

1.2.4 Phase II

Through signature of 5 Addenda's to the FA for Phase II, the amount of the FA was increased from EUR 81.00 million on the EU contribution (Total cost of the Programme at EUR 81.65 million, the beneficiary contribution at EUR 0.65 million as VAT at 6.8%) to EUR 97.650 million (EUR 97.00 million being the EU contribution, of which EUR 81.0 million from EDF 10 and EUR 16.0 m from EDF 11). The initial execution period of 90 months was extended to 138 months and the operational period from 60 to 108 months.

Table 4: Programme Budget Phase II

Activity	EDF Contribution	Government Contribution	Total
	(EUR)	***(EUR)***	***(EUR)***
Works Contract Lot 1 (47 km Trunk road upgrade, 110 km Rural Road Improvement; construction of Weighbridge) Works Lot 2 (64 km Trunk Road upgrade) Works Lot 3 (construct One Stop Border Post (OSBP)) Works Flood Response	82 000 000		82 000 000
Services Works Supervision	9 300 000		9 300 000
Accompanying Measures	2 000 000		2 000 000
Land Acquisition		650 000	650 000
Audits	400 000		400 000
Evaluation	400 000		400 000
Visibility	100 000		100 000
Contingencies	2 800 000		2 800 000
TOTAL	**97 000 000**	**650 000**	**97 650 000**

Source: Agreement no MZ/FED/023-473 – integrated development of Milange – Mocuba corridor, Zambezi Province – Phase II, EDF X, 10th European Development fund

In Phase II the Road works were divided into two works Lots:

Lot 1 was awarded to Elevolution - Engenharia in May 2014. The commencement construction date of the Phase II works was in 2nd June 2014. The period of implementation was 24 months plus a liability period of 12 months. The contract was terminated in March 2017 (Elevolution received Euro 19.5 million) due to failure to make progress.

The project had also included a series of "Accompanying Measures" carried out by a Consultant and coordinated through a Liaison Committee with the communities, providing for the conduction of awareness campaigns on the benefits of the roads and preparation of its users on how to behave and protect the asset.

The Construction scope consisted of the following of Malawi Border (Muzola) – Milange – Geral Section of N11 to bituminous standard of 47 km including weight bridge, Road Namacurra – Nampevo, rehabilitation and upgrading of R650 Milange – Coromana of 57 km, R650 Milange

– Zalimba and R649 Zalimba to Majaua rural roads of a total of 53 km, and additional works for the reinstatement of three (3) flood-damaged box culverts, diversions, and two (2) damaged bridges, for a contract net amount of EUR 35.15 million for the EU contribution, EUR 2.24 million for 6.37% (compensation for VAT/other taxes) from the Government of Mozambique and, with a total contract amount of EUR 37.39 million.

Lot 2 was awarded to Mota-Engil on the 10th of October 2013. The commencement construction date of works was on 2nd June 2014. The period of implementation was changed from 24 to 69 months plus a liability period of 12 months. The original contract consisted of 64 km; (i) Construction of Upgrading of the Geral – Alto Benfica – section of N11 to bituminous standard (ii) Rehabilitation and partial upgrading of R653 Mocuba – Lugela rural road, for a contract net amount of EUR 32.28 million for the EU contribution, EUR 2.20 million for 6.37% (compensation for VAT/other taxes) from the Government of Mozambique and, with a total contract amount of EUR 34.47 million.

The scope of the works was amended due to floods which occurred in 2015 and to the need to complete the works of Lot 1 due to non-compliance of the Contractor and consequent termination of the works, for a net adjusted contract amount of EUR 63.54 million on the EU contribution, the Government of Mozambique portion at EUR 4.32 million for 6.37% (compensation for VAT/other taxes), and with a total contract amount of € 67.86 million, through 5 addendums to the contract.

The emergency works were added as Bill B2 for the repair of Licungo and Lugel Bridges and 3 pipe culverts included into Bill B, due to the 2015 floods, adding to the existing conditional contract Item B: Rehabilitation and partial upgrading of R653 Mocuba – Lugela rural road.

The works were adjusted and divided into Bill Sections, namely:

Table 5: Phase II, Lot 2 Construction Scope

Activity	TOTAL Contribution
	(EUR)
Bill A1: Upgrading of Main Road N11 (Km 36+000 – Km 111+000) Bill A2: Tambone and Chilo Schools	41 475 884.11
Bill B1: Upgrading and Rehabilitation of Rural Roads: R653 Mocuba – Lugela (Km 0+000 – Km 55+700) Bill B2: Licungo and Lugela Bridge repairs and 3 no. Pipe Culverts Mocuba Town	8 884 135.05
Bill C1: Construction of new Box Culverts at Nivo, Mudora and Serema and new Box Culverts Bill C2: New Namilate Bridge Construction	3 321 080.44
Bill D1: Construction of New Mutuasse Bridge Construction	2 623 719.40
Bill E1: Upgrading of main road N11, Main Road Km 4+400 Km 36+000 (31.6 Km)	6 462 862.96
Bill F1 (€ 2.49 million EU contribution) – Upgrading of main road N11, Main Road Km 0+000 Km 4+400 (4.4 Km)	2 309 671.64
Bill G1 – R653, Flood damage repairs Km 0+000 Km 55+500 (55.5 Km)	2 786 463.14
TOTAL	**67 863 816.74**

For the Rehabilitation of the small hydroelectric plant in Majaua, the EU decided to increase the Milange-Mocuba road funding and to use that increased funding in order to fund the necessary repairs. The 10th EDF contributed EUR 1.2 million for the works and the Belgian development agency Enabel contributed EUR 0.2 million for studies, supervision by Haskoning and other items.

2 Evaluation questions / Findings

This chapter presents the responses to the Evaluation Questions, supported by evidence from documents, field visits and interviews of key stakeholders and beneficiaries.

2.1 EQ1: To what extent, how and why did the programme affect positively or negatively the local agricultural, trade and transport sectors?

Judgement criteria: this EQ is linked to the overall impact of both phases of the project, which is to contribute to poverty reduction through economic development. Judgement criteria include, according to the logical framework, agricultural development, businesses established, and jobs created.

Indicators: according to the logical framework indicators, which include number of businesses established, number of jobs created, agricultural production of selected commodities, transit time for goods and passengers, and transit tariffs.

Sources: the information sources for the indicators include annual public statistics at district and province level, socio-economic O-D surveys, consultant's reports, and field visit interviews.

2.1.1 Responses

Agriculture

According to the Provincial Directorate of Agriculture in Quelimane, the Sustenta project in Mocuba, and the district authorities in Milange and Mocuba, the construction of the road Milange-Mocuba has had an important impact on agriculture in the region. Before the construction of the road, the Milange district had more relations with Malawi than with the rest of Mozambique. A large part of the agriculture production in the Milange district was collected by traders from Malawi. Because they did not face much competition the prices paid to the farmers were low. Now this production is collected by traders from Mocuba that pay higher prices and is sold in Mocuba and other regions of Mozambique. The result is that the area cultivated has increased, there is a change in cropping more towards crops that can be sold outside the region. This shows that the construction of the road Milange-Mocuba has effectively contributed to the objective of agricultural and economic development and regional integration.

The following statistics were provided by the district authorities of Mocuba district. During the period between 2015 -2019, the Milange-Mocuba road, allowed the flow of 217,351 tons of different cultures, detailed yearly as follows.

Table 6: Flow of agricultural products along the Milange-Mocuba road (tonnes per year)

	Escoamento de produtos agricolas (2015-2019)					
Anos	2015	2016	2017	2018	2019	Total
EN- Mocuba -Milange	43.031	26.870	41.206	35.777	70.468	217.352

Source: District authorities Mocuba district

The statistics collected in Milange district indicate an increase of the commercialization and production of the main agricultural produce as follows during the indicated periods.

Table 7: Agricultural products collected in Milange district (tonnes per year)

Produtos	Campanha 2015/2016	Campanha 2016/2017	Campanha 2017/2018	Campanha 2018/2019
Milho	39.886,2	41.231	42.137	45.271
Arroz	3.509	4.213	5.436	6.321
Mandioca	21.342	23.415	24.123	26.754
Amedoim	3.421	5.852	5.981	6.783
Feijoes	14.522	15.345	16.456	17.792
Soja	1.981	2.345	3.564	4.789
Girassol	3.917	4.712	5.763	6.824
Tabaco	2.696	3.561	4.568	5.872
Total	**91.274**	**100.674**	**108.028**	**120.406**

Milho: Corn, Arroz: Rice, Mandiaca: Cassava, Amedoim: Peanut, Feijões: Beans, Soja: Soy, Girassol: Sunflower, Tabaco: Tobacco

It should be noted that these results were obtained solely by the construction of the road and the resulting market forces. The project did not provide any additional assistance to the farmers[1] in order to increase production or in order to shift production to more commercial crops. No additional agricultural extension, education or training was provided, no micro-finance to help the farmers shift production. It is likely however that coupling such actions with the construction of the road would have accelerated the positive effects of the road.

Trade

According to the Governor of the Milange district, as mentioned above, farmers have been able to sell their crops for higher prices than before the road construction. Also, the cost of consumer goods in Milange has been reduced and their availability increased.

Transport sector

*A*ccording to the people interviewed the transport volume of goods and passengers has increased. This is especially true for the regional transport of goods and passengers, however, according to statistics provided by the customs authorities at the Milange border, cross-border transport has much decreased[2].

From figures provided by the District Services for planning and infrastructures, and district government, the number of passengers transported on the Milange-Mocuba route has increased as follows:

Table 8: Increase of passenger traffic along Milange-Mocuba road

Year	Number of passengers	Growth %
2015	15 552	
2016	20 246	23.18
2017	22 320	9.29
2018	23 410	4.66
2019	24 875	5.89

Source: District Government of Milange

[1] But maybe projects of other donors or Governmental programmes did. The Sustenta project mentioned they had only four beneficiaries along the Milange-Mocuba road. No other interventions were brought to the attention of the evaluation team.

[2] See EQ 5 for more details on cross-border traffic

Note on statistics and the INE

The evaluation team met with INE and requested statistical information related to the evaluation, but although several follow-up efforts were made, no information was received from INE up to present. INE has a website with statistical information but there is not much recent data, for example: (i) the last HIV report dates from 2011 and gives the situation that prevailed in 2009; (ii) the last economical district information dates from 2013. This confirms the opinion of the World Bank that statistical information is hard to get in Mozambique, probably because of a lack of capacity and funding. There may be a task for a DP to help the government build capacity in the sector of statistics.

2.1.2 Conclusions

The programme had a very positive impact on the agricultural sector by increasing and diversifying production. Statistics from both Milange and Mocuba show an increase in agriculture production and trade. Trade has increased in agricultural products and the prices paid to the farmers have increased. Trade in consumer goods has also increased and prices reduced. Transport of passengers and goods has increased, but transborder traffic has decreased, probably because of the competition of the Beira and Nacala corridors. There is however a lack of detailed statistics.

This EQ relates to the DAC criterium of impact.

2.2 EQ2: To what extent, how and why did the programme affect positively or negatively the environment?

Judgement criteria: this EQ is linked to one of the cross-cutting criteria, the environmental impact. This EQ explores the impact of the project's implementation activities and the operation of the completed infrastructures on the flora and fauna of the project area.

Indicators: Environmental Impact Assessment and an Environmental Management Plan, observed and reported impacts, claims, drainage infrastructure, flood damage repairs

Sources: reports by the supervising consultant and the technical auditor, annual public statistics at district and province level, and field visit interviews. The ROM of 2016 does not provide any information about the environmental impact.

2.2.1 Responses

Environmental Action Plan

The project has prepared an Environmental Impact Assessment and an Environmental Management Plan. This was transmitted to MICOA and this plan has been implemented. But due to the institutional changes taking place at that time in particular the transformation of MICOA to MITADER, the plan has never been approved by the Environmental Agency. In 2019 MITADER imposed a fine because the road was built without its approval. The fine has been lifted since. However, an environmental project closure needs to be implemented and approved with the local environmental government department of the Government of Mozambique – MITADER.

Impacts observed

From the interviews, it appears that no negative impacts have been noted. The exploration of existing forests has decreased, and more focus paid to agriculture and transport of people and goods, according to the Mitader in Mocuba. During the field visit the ET noted however important charcoal production all along the Milange-Mocuba road. This is often observed in Africa and almost inevitable. Many projects include the planting of trees in the project as a

mitigating measure. Some projects also include the distribution of improved energy saving stoves and the production of pellets from wood waste, as further mitigating measures. Many NGOs exist that have the necessary knowledge to assist in these actions.

According to the Mitader district representative, however, the road construction has had a negative impact on the environment, such as:

- After quarry exploitation in Povoado de Raivoso, in the Alto Benfica area, by Mota-Engil, some areas were not reshaped properly after the exploitation, causing the formation of some low-lying areas, creating lagoons, which may cause erosion, mosquito breeding areas and waste accumulation, that may cause sicknesses such as malaria, skin diseases and diarrhoeas.
- Also, some eight (8) aquaculture tanks were destroyed in the Alto Benfica in an area of 4 hectares, where activities were present since 2012.
- Due to charcoal demand, uncontrolled fires of the trees are common, and negatively impacting forested areas.

Illegal logging

During the project, it was mentioned that after the Lugela road was built, illegal logging was increasing in the area and the EUD complained to the Government. The Ministry of agriculture in Quelimane mentioned on the contrary that logging was on the decrease in the influence area of the road and agricultural production was on the rise, replacing logging.

The district representative of MITADER, in Mocuba, outlined that some adverse environmental impacts have occurred, such as deforestation and even the loss of biodiversity of certain areas near the road. The deforestation of certain areas is executed for commercial means and transported out of the Province and, also by private individuals for the conversion to charcoal and other fire burning purposes.

Drainage infrastructure

The project included the construction of drainage infrastructure along the road, which should have a positive impact on the erosion along the road provided that routine maintenance is correctly implemented which was unfortunately not the case so far. The increased traffic will increase air pollution and carbon dioxide emissions.

Heavy flooding occurred in the area during the project implementation and some of the project resources were mobilised, and also additional resources were made available, to repair some of the damaged infrastructures notably on the N1. The works increased the hydraulic capacity of the bridges and stabilised the up- and down-stream parts of the structures in order to make them more climate-resilient.

Claims

The technical audit report[3] number 14, mentions that road blockages have taken place by local residents demanding compensation payments. It was reported that these claims were about the additional compensations related to road deviations. According to the NAO, only a few owners still need to be reimbursed. Claims handling was done by committees including local leadership.

Recommendations regarding complaints handling: best practice is that each committee has a complaint's register with name of claimant, date introduced, subject, date solved. This allows to prepare a monthly report showing total number of claims introduced, number of claims still to be solved, calculate the average time it took to solve the claims and prepare a target for the average time for claims to be solved. Note that the complaints should not be limited to claims

[3] Report number 14 page 18.

related to reimbursements for expropriation of crops and structures, but also about other issues such as Gender-Based Violence. A World Bank project in Mali, requests the contractors to have a Code of conduct for their staff, this code of conduct is signed by workers, the population is informed, eventual complaints are registered and solved, and periodic reports prepared.

Climate change and need to update design standards

Mozambique's high vulnerability to extreme weather was demonstrated by the floods of 2000, 2001, 2012, and 2013, which together carried a restoration cost of approximately $400 million[4].

The design standards for drainage structures need to be updated because of climate change. The hydraulic design calculation of bridges and culverts use Intensity-Frequency-Duration charts or tables for specific recurrence intervals of 5, 10, 25, 50 or 100 years. These charts or tables are based on statistical information of the rainfall in the past. However, we need to design structures for the future rains that will be more intense. According to climate specialists, the yearly rainfall will increase in Eastern Africa because of climate change by 20 to 30%. But more importantly, the rains will come more as thunderstorms and therefore the rains will be more concentrated: shorter but more intense, resulting in more run-off to be evacuated in a shorter time. Therefore, design standards need to be revised by reviewing the use of the Intensity-Duration-Frequency charts, in order to be based on the forecasted future rains rather than on the rains of the past. This has an important impact on the calculation of the dimensions of bridges and culverts.

2.2.2 Conclusions

The programme prepared an Environmental Impact Assessment and implemented an Environmental Management Plan. However, this still needs official approval from MITADER. From the interviews, it appears that no negative impacts have been noted, but the ET observed important charcoal production all along the Milange-Mocuba road. It has been mentioned that illegal logging has increased but on the other hand, according to the ministry of agriculture in Quelimane, the exploitation of forests has decreased, and more focus paid to agriculture. Claims handling can be improved in future projects and committees should handle all complaints related to the road construction. Road drainage infrastructure has reduced erosion, and addendums to the second FA allowed to repair flood damage on the N1.

However, it is necessary to update design standards of hydraulic infrastructure to consider climate change and make these structures more climate-resilient.

Sensibilization of the community and industrial companies present in the area is essential on how to preserve the forests. Monitor and supervise activities that could be of harm to the environment, by creating management committees within the communities. Creation of the community forests and mapping of burned areas and environmental problems.

This EQ relates to the cross-cutting criterium of the environment and climate change.

2.3 EQ3: How did the program contribute directly or indirectly to create job opportunities?

Judgement criteria: this EQ is linked to the overall objective of both phases of the project, which is to contribute to poverty reduction through economic development. Judgement criteria include, according to the logical framework, increased number of jobs in the formal as well as the informal sectors.

[4] Ref. Moving Toward Climate-Resilient Transport, 2015, World Bank

Indicators: number of jobs created directly by the construction and the maintenance activities, number of jobs created in the transport and agricultural sector, and additional jobs created in the informal sectors.

Sources: the information sources for the indicators include annual public statistics at district and province level, socio-economic O-D surveys, consultant's reports, and field visit interviews.

2.3.1 Responses

Mozambique's population is 31.26 million in 2020[5]. Based on current projections, Mozambique's population will surpass 100 million by 2078 and will reach 122.8 million by the end of the century. This means that over the next 80 years, Mozambique is projected to almost quadruple its current population. Mozambique is growing at a rate of 2.93% every year. About 66% of its population of 28 million (2017) live and work in rural areas. Unemployment Rate in Mozambique increased to 25.04 per cent in 2017 from 24.37 per cent in 2016[6]. This shows the importance of employment creation in Mozambique.

During our visit in the country, meetings were held with INE in Maputo and Quelimane, but no information was provided to the ET on unemployment figures for the Zambézia region or the project districts.

2.3.2 Conclusions

The project required the use of local manpower for the construction of the roads. During the construction period, these were temporary jobs. The maintenance of the roads requires manpower, which comprises permanent and temporary jobs. The increased transport activity creates additional jobs in the transport sector. The increased accessibility creates additional jobs in the agricultural sector. The overall increased economic activity indirectly creates additional jobs in the formal and informal sectors. The interviews of key stakeholders indicate that the increased agricultural production has had a positive impact on job creation. However, there are no statistics available. In future, the choice of evaluation questions should take the availability of data into account.

This EQ relates to the DC criterium of impact.

2.4 EQ4: To what extent did the upgraded roads serve the program purpose with respect to travel time, cost of transit freight and passenger service, road safety and accessibility?

Judgement criteria: this EQ is linked to the project purpose, which are the expected outcomes that in turn will lead to the overall objective of both phases of the project.

Indicators: travel time, tariffs of transport of goods and passengers, road safety, accessibility.

Sources: the information sources for the indicators include annual public statistics at district and province level, socio-economic O-D surveys, consultant's reports, and field visit interviews.

2.4.1 Responses

Travel time

According to key stakeholders' interviews, the construction of the paved road Milange-Mocuba has dramatically cut travel times compared to the pre-project situation. Before the project it

5 https://worldpopulationreview.com/countries/mozambique-population/

6 https://tradingeconomics.com/mozambique/unemployment-rate

took one day in the dry season and several days in the rainy season to travel from Milange to Mocuba, now it can be done easily in three hours.

Cost of transit freight and passenger service

For road users that use their own vehicles the VOC reduction is certainly important. However, for passengers paying a fare, there has been no change since the fares were fixed by the Government in 2015 for a five-year period. It remains to be seen if the rates will be lowered when the fares are fixed for the next five-year period. However, the quality and comfort of transportation have improved, before the road construction most passenger transport was done in the back of pick-ups or trucks, while now more minibuses are used, there is however not yet regular large bus traffic.

Road safety

Road safety is a serious problem, during the field visit the ET saw many vehicles, heavily damaged in road accidents sitting along the road. Vehicles drive usually very fast without respect for speed limits. The speed limit in urban areas is relatively high (60 km/h) and no speed bumps are implemented on the Milange-Mocuba road since in accordance with the usual procedures in Mozambique, speed bumps are only implemented on tertiary roads not on primary roads. There are however rumble strips to warn drivers about speed limits.

The project included accompanying measures such as theatre presentations on road safety and road signage to schools to improve road safety.

Markets, parking areas, bus stations

The field visit showed that in the villages along the Milange- Mocuba road, the road shoulders have become markets. Cars stop on the road and the sellers surround the cars creating a very dangerous situation. In some other countries, the construction of markets with parking areas and bus stations is included as accompanying measures in the construction of roads in order to mitigate these dangerous situations (but also to boost local economic development). But it is not enough to build these markets and bus stations, these infrastructures also require efficient management. Best practice is to farm out the management of the markets and bus stations to a private-sector contractor in charge of collecting market taxes, cleaning, providing water and power, and security.

Rest areas

An important road safety measure is the creation of rest areas along major corridors for the long-distance drivers to be able to rest at regular intervals. In West Africa, the recommendation is to create rest areas about every 60 km along corridors. The rest areas should be fenced, lighted, guarded, and have toilets, showers, shops and/or restaurants, rooms. Best practice is to contract out the management of these rest areas to a private-sector contractor.

School fences

The field visit also showed that many schools exist near the Mocuba-Milange road. Usually, they have no, or only an easy-to-cross enclosure and the main gate opens directly towards the road. In some other countries, the construction of enclosure walls in durable materials with gates opening on a side road is included as an accompanying measure in the construction of roads, in order to mitigate these dangerous situations.

Road Safety Agency

Another issue related to road safety is that Mozambique does not have a Road Safety Agency. Many countries have created an autonomous agency in charge of road safety. These agencies have many tasks related to road safety. An important task is to check and certify that all detailed road designs give due consideration to road safety before construction can start (this should be done by an independent agency in a similar way that the environment agency certifies that a road project design respects all required environmental measures). These agencies then

also certify, after the construction of the roads at handing-over, that construction was done in accordance with the design and that road safety conditions are respected. ANE has a road safety department but there is a conflict of interest as the same organisation implements the road projects and at the same time certifies that all safety aspects have been respected. There is a task for a DP to help Mozambique create and operationalise a Road Safety Agency.

Accessibility

Accessibility has improved but is limited to a narrow area next to the Mocuba-Milange road since only one regional road has been implemented, the 57 km Lugela road. The rural roads in Milange district have been cancelled due to insufficient funds after the failure of the first contractor of lot 1 of phase 2. Several stakeholders have insisted on the need for improving rural feeder roads. This will be taken up in the PROMOVE project of the EUD and in the WB rural roads project under preparation.

It should be noted that improving rural roads along the Milange-Mocuba road will have a positive impact on the ERR of the Milange-Mocuba road.

2.4.2 Conclusions

The programme reduced travel time dramatically from several days in the rainy season to only three hours. Travel costs were reduced which allowed for higher prices paid to the farmers for their crops and reduced prices of consumer goods. Passengers are still transported by trucks, but minibus service is on the increase. Road safety remains a problem, more could have been done as accompanying measures such as the construction of enclosure walls for schools, the construction of markets, bus stations and rest areas. Creating a Road safety Agency may help increase road safety. Accessibility has improved but mainly along the Milange-Mocuba road, stakeholders insist on the need for rural roads improvement. This an issue that will be taken up by the new Promove project. As for other EQs also for this EQ4 it is difficult to obtain recent statistics in particular about road accidents.

The Accompanying measures objectives produced by the Technical Assistance COWI team, only focused on four focus main actions, as the (i) Road safety, (ii) promotion of markets, (iii) preservation of the transport infrastructures, and (iv) transport and rural electrification. The technical assistance accompanying measures report covered in full the soft road safety issues and preservation of the transport assets, partly covered promotion of markets and, cancelled the transport and rural electrification.

Accompanying measures should in future cover other issues, such as environmental protection and ecological follow-ups, support to community management of the environment, institutional support for the ministry of environment and forests in the province concerned, support to the national parks, public health, and protection of archaeological heritage.

This EQ relates to the DAC criterium of impact.

2.5 EQ5: To what extent were the road works cost-effective and sustainable?

Judgement criteria: this EQ is linked to the efficiency, effectiveness, and sustainability criteria. It explores whether the inputs were used in an efficient way to produce the outputs. Effectiveness relates to the balance between cost and benefits and is reflected in the Economic Rate of return (ERR) Sustainability is linked to the continued capacity of the road to provide the expected benefits over the life of the road. This depends on effective maintenance and other factors such as overloading.

Indicators: costs estimated in the feasibility studies compared to costs of the completed roads, ERR, maintenance programmes being implemented, and axle load controls being implemented.

Sources: consultants' final reports, maintenance programmes, weighbridge reports, visual inspections, and interviews during the field visits.

2.5.1 Responses

Cost-effectiveness: the ERR (Economic Rate of Return)

The initial feasibility study was prepared in 2007- 2008 by EGIS-BCEOM. The feasibility report was updated by WPS for the second phase in 2011. The updated feasibility report concluded in a higher ERR (20.2%) than the initial study (10.1%), because of a more positive economic outlook of the expected impact of the project. The difference between these two feasibility studies is however very large and requires an in-depth analysis.

Traffic counts and construction costs (phase I)

Traffic and cost of construction are the most important factors in determining the Economic Rate of Return (ERR).

The Egis feasibility report, dated June 2008, mentions an average cross border traffic at Milange of 157 vpd: 94 passenger and 63 goods vehicles[7]. This figure was twice as high as the traffic along the Milange-Mocuba road (80 vpd and 61 vpd at the two counting stations along the road). This confirms information that before the construction of the road, the Milange region traded more with Malawi than with Mocuba and the rest of Mozambique. Even now the evaluation team found that in the region near the border for example near Majaua, people use more the Malawian Kwatcha than the Mozambican Meticais.

The Egis feasibility study used as baseline in 2007 for the whole Milange-Mocuba road, an average daily traffic of 109 vdp.

The study expected a rapid increase in traffic, and in addition, a generated traffic of 16% and diverted traffic from the Nacala corridor through the use of the Quelimane port instead of the Nacala port. As a result, the traffic on the Milange-Mocuba road was supposed to reach about 450 vpd in 2020.

The feasibility study estimated the construction cost of the 193 km of the Milange-Mocuba road at EUR 58 million (2007). The Financing Agreement included, therefore, a budget for the works of EUR 69 million (VAT excluded).

The implementation of the project showed quickly that the cost of the feasibility study was based upon, was largely underestimated. It seems therefore that the ERR of the feasibility study was overestimated. In addition, part of the budget was to be used to finalise works on another EU project near Mocuba along the N1. By spreading the overheads and common costs pro-rata over the two roads, the ET estimates that of the total amount of the works of EUR 76,1 million, about EUR 48.0 million were used for the Milange-Mocuba road and about EUR 28,1 million for the N1. The result was that with the amount budgeted only the first 83 km from Mocumba to Alto Benfica could be executed instead of the full 193 km. The final amounts spent were as shown below.

[7] see page 13 station 5 of the Egis feasibility report dated June 2008

Table 9: Final Budget expenditure of Phase 1

Phase I	***(EUR)***	
Works	72 980 893	100%
Supervision	3 123 649	4.3%
Technical Audit	148 066	
Financial Audit	32 392	
Total:	76 285 000	

Amounts exclude local Mozambique VAT

Before deciding to fund the remaining 111 km the EU requested an updated feasibility study which was prepared in 2011 by WSP International.

WSP mention in the introduction of their report: "The EU asked WSP International to update the feasibility analysis taking into consideration, perceived higher growth rates since the previous work was undertaken and also, incorporating the higher construction costs."

WSP did incorporate a stronger economic growth but also changed the IRI (International Roughness Index) of the road before the project was implemented from 10 to 15, this means they supposed the road was in a much worse condition than Egis had assumed. This produced much larger vehicle operating cost (VOC) savings, justifying a greater generated traffic due to the greater VOC savings. They also included benefits from a more comprehensive treatment of non-motorised transport benefits. This produced an ERR of 20.2 % considering a construction cost of EUR 79.6 million for the whole 193 km road.

Traffic counts and construction costs (second phase)

The second Financing Agreement of EUR 81.65 million included a construction budget of 69 million for the construction of 111 km of paved road, but also 110 km of rural roads, a One-Stop Border Post at Milange and a weighbridge also near Milange.

The tender for the second phase was done for 2 lots: lot 1 was awarded for EUR 31.8 million and lot 2 for EUR 32.3, total EUR 64.1 million which was within the budget.

The final amounts spent were as follows:

Table 10: Budget expenditure of Phase II as of March 2020

Phase II	***(EUR)***	%
Works	67 201 685	100%
Supervision	8 112 807	12.1%
Technical Audit	199 218	
Financial Audit	87 900	
Accompanying Measures (Majaua)	1 080 000	
Total:	76 681 610	

Amounts exclude local Mozambique VAT

It is important to note that the traffic figures used by WSP are very similar to the figures used by Egis: baseline in 2007: 108 vpd and in 2020: 459 vpd.

The evaluation team obtained actual traffic figures from different sources.

ANE has provided traffic counts done by a consultant Consultec on the N11 (the counting sheets do not name the exact location along the road) from 25 to 31 October 2018 (7 days, each day 24 h) the average vpd totalled in both directions is 714 vpd. This is higher than the estimated traffic in both feasibility studies.

ANE has also provided figures for 2019. Traffic was counted at four locations: position 725 is just south of Milange; 728 is further south at Liciro; 724 is near Alto Benfica and 715 is on the R321 towards Mocuba. Traffic was counted from 6 am to 6 pm on several days. The table below shows that the average traffic is about 316 but if we add about 1/3 for the night traffic, we have about 420 vpd, which is not far from the expected traffic of 459 vpd.

Table 11: Traffic figures on Milange-Mocuba road in 2019

Position	Date	vpd	average	overall average
725	06-Nov-19	350	354	316
Milange-S	07-Aug-19	388		
N11	09-May-19	325		
728	06-Nov-19	265	247	
Ligiro-S	07-Aug-19	260		
N11	09-May-19	217		
724	06-Nov-19	284	324	
A. Benfica	07-Aug-19	399		
N11	09-May-19	290		
715	12-Sep-19	393	339	
on R321	06-Jun-19	285		

The customs authorities at Milange prepared a document for the evaluation team (dated 18 March 2020). This document gives the number of vehicles that crossed the border every year from 2016 to 2019. The figures are given per month, for light and heavy vehicles and foreign and national vehicles. The table below summarizes these figures.

Table 12: Cross-border traffic at Milange

Year	Foreign		National			
	Light veh.	Heavy veh.	Light veh.	Heavy veh.	Total	VPD
2016	735	1273	3568	1225	6801	19
2017	731	853	4047	777	6408	18
2018	626	713	3743	658	5740	16
2019	690	517	2696	3241	7144	20

Dividing the total number of vehicles per year by 365 gives the average number of vehicles per day (vdp). Two-thirds are light and one-third heavy vehicles. The traffic is relatively stable over these four years with an average of 18 vpd. But compared to the 157 vpd in 2007 (according to the Egis feasibility study, see above), the cross-border traffic has decreased by almost 90%[8]. We do not know what the reason is for this decrease. Apparently, not only has Blanthyre-Mocuba not become a corridor for international traffic as was expected in the feasibility study but also the local traffic in agricultural produce between the Milange region and Malawi has collapsed after the construction of the Mocuba-Milange road.

The most probable reason for this is that at the same time as the EU funded the Mocuba-Milange road, a group of DPs led by the AfDB funded the Nacala corridor, phase I from Nampula to Cuamba and Muita, and phase III from Muita to Lichinga.

The EU was one of the DPs that participated in the funding: in 2019, EUR 25 million has been allocated on the 11th EDF Regional Indicative Programme for Eastern Africa, Southern Africa

[8] This is a surprising figure; the ET contacted the border authorities after the field mission in May 2020 to confirm these figures and it was confirmed that cross border traffic was indeed very low.

and the Indian Ocean, for the Multinational Nacala Road Corridor Project – Phase I (contract nº412-196) through the African Investment Platform for a blended operation to be implemented by the African Development Bank. The completion of the Nacala Road Corridor is indeed of utmost national and regional importance as it connects the seaport of Nacala to Northern Mozambique, Malawi, and Zambia. This transport infrastructure, which is fundamental for the facilitation of trade, regional integration, and sustainable economic development of the region, is indeed identified as one of the key corridors for Southern Africa by the African Union. Funding includes the completion of the road as well as the construction of a One-Stop Border Post at Mandimba.

From information obtained in the field, there remains now only about 40 km of gravel road on the Nacala corridor between Nacala and Lusaka, the rest is paved. Traffic counts from ANE show the traffic at the counting station 1024 between Mandimba and the Malawi border on the Nacala corridor.

Table 13: AADT traffic counting station 1024 between Mandimba and Malawi border

Year	AADT	Light	Heavy
2016	438	219	220
2017	486	309	177
2018	445	232	213

Traffic is over 400 vpd about twenty times more than at Milange and almost half of the traffic are heavy vehicles. So, it seems almost all the international traffic is using this corridor. Maybe some of the traffic that originates or ends in the south of Malawi still uses the Milange-Mocuba road.

Another factor may be that Nacala is a large deep-water port whereas Quelimane is a smaller and shallow port.

The overall conclusion from these traffic counts is that the average traffic on the Milange-Mocuba road has increased more or less as was expected, but the transborder traffic has been strongly reduced but this shortfall has been replaced with local traffic.

Cost of supervision contract

To the cost of road construction must be added the cost of supervision. The feasibility estimated the cost of supervision at 5% of the works contract.

The latest financial figures (see tables above) show that the supervision cost of phase I was 4.3% and the supervision cost of phase II was 12.1% of the amounts paid to the contractors. The higher than expected supervision costs of phase II are due to (i) the slow progress of the works of lot 1 followed by the termination of the contract and the transfer of the remaining works to the contractor of lot 2, but also (ii) because of the additional flood repair works. This created a lot of extra work for the supervision consultant as can be seen from the increased percentage, but also for the NOD. The administrative work (reports and meetings) done by the NOD in the framework of the termination as well as the addendums to include part of the pending works in Lot 2 has been considerable. Finally, also for ANE and its TA, and for the EUD the termination and the additional works created an extra workload.

Final ERR

Because of the higher construction cost (+12%), while the traffic remained as forecasted, the ERR is below the forecasted 20.2%. The sensitivity analysis estimated that with an increase in costs of 20% the ERR would decrease to 17.4%. So, we can conclude that the final ERR is somewhere between 20.2 and 17.4% which is still a very good result.

Other conclusions

Another conclusion is that since the cross-border traffic has strongly decreased the need for an OSBP has decreased also strongly.

The same conclusion applies also to the weighbridge, a weighbridge near the border was included initially to make sure no overloaded trucks would enter Mozambique from Malawi. Now that there is very little cross-border traffic this may not anymore justify a weighbridge at that location.

DBST instead of AC

The selection of DBST (Double Bitumen Surface Treatment) instead of AC (Asphalt Concrete) is a lower-cost solution and increases the ERR (Economic Rate of Return) and therefore the efficiency. This is an approach favoured by transport economists because it allows the road to function well with a lower cost-driving surface for a period of 5 to 10 years before implementing a periodic maintenance by applying a layer of AC. There is however a danger, if the AC layer is implemented too late, the road is at risk of complete destruction and requires reconstruction.

One or two works contracts?

In phase 2 the works contracts were split into 2 lots, with a contractor only allowed to obtain one lot. This was done according to ANE/TA in order to increase the competition, reduce the cost and increase the efficiency. It is considered the participation to the works tender procedure was significantly higher than in former procedures (>20 tenderers), however, this could also result from improved conditions of access to business in Mozambique at the period of the tender. The stakeholder considers that the competition has resulted in most tenderers offering lower prices, as the level of competition is known to influence the level of prices. The fact that unit prices offered by Mota-Engil for the Phase II contract tend to be lower than the ones offered for the Phase I contract contributes to this assessment.

There is however no evidence that this has been the case. A restrictive look at the standalone tender results would rather lead to a contrary conclusion: the result of the tender was that Mota-Engil was lowest on both lots but got only lot 2 and lot 1 was given to Elevolution at a higher price than the price offered by Mota-Engil. After termination of the Lot 1 Contract, most of its non-executed scope was also contracted to Mota-Engil through a series of addenda to the Lot 2 contract. Costs as well as implementation duration and therefore associated cost like supervision have thus also increased.

The comparison with a unique lot or 2 lots for the same contractor should consider 2 scenarios:

1°) With the opportunity to be awarded for the whole of the project scope (Lot 1 & 2), a strong Contractor (such as Mota-Engil) may have won the contract(s) and would have implemented without facing the failure that has led to the termination. It would have resulted in lower cost, shorter project duration and therefore higher efficiency.

2°) With the opportunity to be awarded for the whole of the project scope (Lot 1 & 2), a weaker Contractor (such as Elevolution) may have won the contract(s) and would have failed without reasonable alternative for the Contracting Authority to ensure timely completion of the works. It would have resulted in incomplete implementation and/or even higher costs, longer project duration and therefore decreased efficiency and effectiveness.

One or two supervision contracts?

In phase 2 the supervision contract was awarded to one company, for the supervision of both lots. Even though the cost of the supervision in phase II ended up being very high, ANE/TA and EUD were not satisfied with the performance of the Supervisor's Representative's performance right from the beginning of the contract[9]. At several instances during the course

[9] See 3.11 for more details on the performance of the supervision contractor

of the project, the question of terminating the Supervision Contract and appoint a new Supervisor's Representative was raised and discussed internally. The conclusion was always that given the role of the Supervisor's Representative, it was not possible to ensure the continuity of the works during the time required for procuring another one (1 year). Also, the budget necessary to launch a tender could not be allocated without de-committing funds from the current contract. Not having another service contract in place that could take over these duties by means of addendum negotiated in parallel (as was done with works), terminating the Contract of the Supervisor's Representative and replace him by another one turned impossible or would cause more damages than the ones that the Supervisor would try to avoid.

The ANE concluded that whenever a Project has several Works Lots, it is recommended to conclude contracts also with several companies for Supervision Services, as it provides alternatives for the Supervisor and the Contracting Authority in case of low performance. Also, the Supervision Contractor, being aware of it, may adapt its performance because of this consideration.

Mocuba-Lugela rural road

It is important to note that the Actions were identified, formulated, and implemented in a period of moving the focus from regional integration infrastructure (Upgrading Milange-Mocuba Road (Phase I) towards rural development objectives (Promove Transporte). In this view, the Action of Integrated Development of Milange – Mocuba Corridor, Zambézia Province (Phase II) appears as the continuation of the 1st Action and also consists in a transition towards new objectives of a cooperation in evolution. This is the reason for the inclusion in the FA of phase 2, of the improvement of 110 km of rural roads. The FA mentions page 15: ii) Upgrade to all-weather standard of selected, classified rural roads linking to the N 11 corridor. As usual in rural feeder road projects combined with the construction of a major paved road, the objective is for these rural feeder roads to bring additional traffic to the main road. The FA had identified 110 km in the Milange district to be included in the lot 1 contract, and the following roads were included in the lot 1 contract of phase II : (i) Milange-Coromana, (ii) Milange-Zalimba, (iii) Zalimba-Majaua. These roads bring effectively additional traffic to the Milange-Mocuba corridor. The idea of the FA was to improve transitability by doing spot improvement of some sections. But the rehabilitation has been cancelled due to insufficient funds after the failure of the first contractor of lot 1. Apparently, these roads will now be taken up by the Promove project.

The Mocuba-Lugela road was included in the tender for phase II, lot 2, as an optional item. In February 2018, flood repairs were added in caused by the floods in the area in 2015. This brought the total amount to EUR 9.03 million (54.7 km, one bridge repair and 3 pipe culverts) The ET did not find any justification for the decision to build the Mocuba-Lugela road, the road was not in the project's FA, and it does not bring traffic to the Milange-Mocuba corridor. Also, the approach used is not one of spot improvement since it has been paved and received a DBST seal over the whole length. No feasibility study has been done but it would be very difficult to justify the investment in economic terms because the traffic is very low. As a rule of thumb, for a rural road that has less than 50 vpd, only spot improvement can be economically justified, over 50 vpd a fully engineered gravel road can be justified, and only when the traffic is over 400 vpd a paved road (DBST or AC) can be justified. ANE provided a traffic count of 121 vpd on 15 September 2016. This shows that a fully engineered gravel road is economically justified but a paved road is not.

Cost-effective

The budget of both FA has increased during their implementation, but this was mainly due to additional works. On the other hand, the failure of the initial contractor of lot 1 has led to a reduction in the scope of works implemented in particular the rural roads in Milange district.

Sustainability - Maintenance

The sustainability of the road investment depends first and foremost on road maintenance being implemented. This requires annual routine maintenance to be performed such as grass-cutting, cleaning drainage infrastructure, maintaining road signs, etc. In addition, there must be emergency maintenance as required. And after seven to eight years the road requires a periodic maintenance, such as a seal or an asphalt concrete layer.

Table 14: Yearly Road Maintenance Budgets (Mozambique Metical)

Year	2019	2018	2017	2016	2015	2014	total 2014-19	%
33000: Consultancy services for supervision of Maintenance civil works	200,805.00	350,827.00	136,103.00	189,612.00	396,836.97	137,736.00	1,411,919.97	8%
34000: Emergency works	24,764.00	257,015.00	364,000.00	125,882.79	281,088.00	196,765.00	1,249,514.79	7%
35000: Routine maintenance unpaved roads	826,553.29	788,400.00	629,946.00	1,164,208.02	1,832,462.64	2,221,496.00	7,463,065.95	41%
36000: Routine maintenance paved roads	749,875.00	700,000.00	619,964.00	693,150.45	840,569.80	486,987.00	4,090,546.25	22%
36100: Periodic maintenace paved roads	720,439.00	350,000.00	320,801.00	941,048.21	558,208.83		2,890,497.04	16%
37000: Bridges maintenance and rehabilitation	57,693.00	94,963.00	94,411.00	111,696.35	14,928.71		373,692.06	2%
51100: Rural roads rehabilitation	8,860.00	252,347.00	103,949.00	103,500.00	119,549.49	237,005.00	825,210.49	5%
TOTAL	**2,588,989.29**	**2,793,552.00**	**2,269,174.00**	**3,329,097.82**	**4,043,644.44**	**3,279,989.00**	18,304,446.55	100%

The above table provided by ANE shows the yearly maintenance expenditures between 2014 and 2019. The table shows that over this period only 16% of the budget was spent on periodic maintenance. Usually, about one-third of a maintenance budget is spent on routine maintenance and two-thirds is spent on periodic maintenance. So, this table shows that periodic maintenance is only about one-tenth of that required. Another worrying trend is that the total maintenance expenditure is decreasing rather than increasing.

According to the road fund and the road agency ANE, routine maintenance is implemented but periodic maintenance is not. But except for one team of grasscutters on the Mocuba-Lugela road the evaluation team did not see any sign of routine maintenance. And it is clear from driving on the N1 between Quelimane and Mocuba that no periodic maintenance is implemented systematically on the national road network.

In order to guarantee the sustainability of the investment, it would be necessary to ensure routine maintenance is effectively implemented and also that a periodic maintenance will be implemented 7 to 8 years after the end of the construction.

The Road Fund FE

The actual road fund is a first-generation road fund which is funded by the national yearly budget. In order to guarantee the funding for maintenance, Mozambique would need a second-generation road fund where the fuel taxes and other income of the road fund (penalties for overloading, etc.) would come directly to the Road Fund without going through the treasury. This way the fund would have a guaranteed increasing income, this would allow multi-year planning and multi-year maintenance contracts.

Overloading

Another factor in sustainability is overloading. According to the Governor of Lugela district logging trucks are often overloaded, and at the toll station the employee said the logging trucks often travel at night in order to escape detection. A weighbridge was planned to be built near Milange border under phase II but was cancelled. The installation of weighbridges is necessary, fixed weighbridges should be located at strategically selected locations such as in ports, dry ports, at main OSBPs, mines, cement factories, steel mills, and others. The planned location near Milange border crossing has only limited traffic and probably does not qualify as a strategically selected location. On roads where there are no fixed weighbridges mobile axle weighing equipment should be used regularly.

2.5.2 Conclusions

The initial estimate of the cost of construction was EUR 58 million in 2007, and the feasibility study calculated an ERR of 10.1%. This cost was however underestimated and allowed only part of the road to be built. The updated feasibility study of 2011 used an increased cost of EUR 79.6 million but also modified several other parameters and calculated an ERR of 20.2%. However, the final cost was again much higher, the ET estimates that the final cost of the road was about EUR 88.9 million which is an increase of 12% of the 2011 estimate.

In 2007 the cross-border traffic was 157 vpd, this decreased to 20 vpd in 2019. Probably because the international traffic is using the Nacala corridor now.

The forecasted traffic for 2020 was about 450 vpd in both feasibility studies. According to recent statistics, this figure is probably correct. This means that the shortfall in cross-border traffic has been more or less replaced by regional traffic.

However, because of the higher construction cost (+12%) while the traffic remained as forecasted, the ERR is below the forecasted 20.2%. The sensitivity analysis estimated that with an increase of costs of 20% the ERR would decrease to 17.4%. So, we can conclude that the final ERR is somewhere between 20.2 and 17.4% which is still a very good result.

The reduction in cross-border traffic means that the planned construction of an OSBP and a weighbridge near Milange are probably not justified.

The sustainability of the road depends on maintenance being implemented. According to ANE, there is a budget for routine maintenance, but the field visit showed a lack of routine maintenance. A road needs also periodic maintenance but in Mozambique the budget for periodic maintenance is only about one-tenth of that required. If this situation does not change rapidly then the road will deteriorate and require reconstruction in 5 to 10 years.

Sustainability requires also that trucks are not overloaded. Since the weighbridge was not built this requires that regularly mobile weighing equipment be used along the road.

Maintenance is a crucial point to include in the policy dialogue as it guarantees sustainability of this major investment. This is probably the last national road constructed in complete "grant" modality. Future infrastructure projects of this scope are all in "blended" mode. Another reason to carefully maintain this road.

This EQ is linked to the DAC criteria of efficiency, effectiveness, and sustainability.

2.6 EQ6: Have there been any negative social impacts (spread of HIV-AIDS and other Sexual Transmittable Disease, etc.)?

Judgement criteria: this EQ is related to the cross-cutting criteria of social impacts such as spread of HIV-AIDS and other Sexual Transmittable Disease, etc.

Indicators: increase in prevalence of HIV-AIDS and STDs, other negative social impacts.

Sources: the information sources for the indicators include annual public statistics at district and province level and field visit interviews.

2.6.1 Responses

According to the interviews with the stakeholders, there has been no negative health impact. Most of the stakeholders highlighted the fact that the road allowed for the transport of sick people and pregnant women to the hospitals and health centres, and for medicines to reach more easily the rural health centres.

The following table is from Milange district health services. It shows that cases of tuberculosis, HIV/Aids and Malaria have all rapidly increased since 2014. According to the health officials, part of this increase is due to the rapid population increase in the district which is about 2.7% per annum. However, they say that the construction of the road could also have had an impact.

Table 15: Milange district, yearly number of cases of TB, HIV/Aids, and malaria

Year	TB	HIV/Aids	Malaria
2014	340	8 501	13 497
2015	364	11 433	46 913
2016	315	11 842	72 347
2017	1 515	15 030	65 480
2018	1 923	14 029	76 282
2019	2 484	15 678	76 368

The figures for Mocuba show the same tendency only the number of diarrhoea cases are shrinking.

Table 16: Mocuba district, yearly number of cases of TB, HIV/Aids, malaria, and diarrhoea

Year	TB infantile	HIV/Aids	Malaria	Diarrhoea
2016	99	15 873	116 662	11 428
2017	167	18 810	136 607	13 799
2018	246	19 581	144 351	8 571
2019	194	23 150	185 425	9 041

The Mocuba District Health Department also provided the detailed figures for HIV/Aids for the Namajanvira and Alto-Benfica areas located along the Milange-Benfica road. These figures show a rapid increase in HIV/Aids infections between 2016 and 2019.

Table 17: Yearly cases of HIV/Aids in Namajanvira and Alto-Benfica administrative posts

Health Centre	Alto Benfica	Namanjavira
2016	358	389
2017	642	548
2018	888	759
2019	913	840

The fact that for HIV/Aids increased by 50% in the whole of Mocuba district but almost tripled in Alto Benfica and more than doubled in Namajanvira along the Milange-Mocuba road, lend credibility to the fact that the road may be a major factor in the spread of HIV/AIDS. This means that the mitigating efforts of the road project did not have the expected result and future projects should include more effective actions. In order to be effective, mitigating efforts should target construction workers, the communities along the Corridor and long-haul truck drivers.

2.6.2 Conclusions

Most of the stakeholders highlighted the fact that the road allowed for the transport of sick people and pregnant women to the hospitals and health centres, and for medicines to reach more easily the rural health centres. However, statistics show an important increase in HIV/Aids in the two districts of Milange and Mocuba and in particular in administrative posts along the road. This means that the mitigating efforts of the road project did not have the expected result and future projects should include more effective mitigating actions, target construction workers, the communities along the Corridor and long-haul truck drivers.

This EQ is related to the cross-cutting criteria of social impacts such as spread of HIV-AIDS and other Sexual Transmittable Disease, etc.

2.7 EQ7: To what extent does the EU assistance conform to the needs, priorities, policies, and strategies of the GoM and the development partners?

Judgement criteria: this EQ is related to the relevance criterium. It explores whether the project conforms to the needs of the target groups, whether it was and still is in line with Government policies and strategies, and whether it corresponds to the approaches used by other development partners.

Indicators: opinions of the target groups, government policies, and approaches of the DPs.

Sources: field interviews of target groups, published government policies and published DP strategies.

2.7.1 Response

The Milange-Mocuba road

The Road Sector Strategy (RSS) for 2007-2011, extended to 2016, links optimization of investments in the road network to poverty reduction objectives. The Milange-Mocuba project is the last, missing link of the transport corridor linking Malawi to Mozambique's North/South road and ports, and it therefore fundamental infrastructure for regional integration in Southern Africa. The Zambezi Corridor, of which the Milange-Mocuba road is an important component, provides links from Malawi´s Southern Region and Lilongwe to the ports of Quelimane and Nacala. The location of the project in the Zambézia province aligns well with the planned interventions under the 11th EDF. Upon the Government's request, a follow-up project (PROMOVE) to construct rural roads in Zambézia and Nampula provinces was signed in 2019, and the work on the Milange-Mocuba project is naturally seen as complementary.

The observations during the visit and the traffic figures obtained so far show that the road is mainly a road of regional importance in the Zambézia province and is not important as a road linking Zambia and Malawi to Mozambique and its ports. In order to fulfil its role as a road for the development of the region, it is necessary to complement the main road with feeder roads, as is intended in the Promove project and the WB rural roads project.

The EU has not only focused on the Milange-Mocuba road development but has also constructed two schools, repaired the Majaua Hydropower facility damaged by floods and repaired other flood damages. Initially, the project was also to build a weighbridge, an OSBP and several other rural roads. The Promove project will implement the weighbridge and the rural roads. As mentioned above the OSBP may not be justified because of the low cross-border traffic at Milange.

Construction of two schools in Chilo and Tambone

The newly built schools replace two schools that had to be moved because of the road alignment. The schools have been very well designed and constructed. They have five classrooms each, 9 teachers and about 600 students, 400 in the morning (the younger ones) and 200 in the afternoon (the older ones). The lay-out is the standard lay-out of the ministry of education. They have electricity for lighting from solar panels. However, they have not yet implemented adult education in evening classes. A few minor comments are: (i) there is no enclosure wall included in the construction contract, this is needed for safety and security, it appears the population has promised to build a wall but this has not yet happened; (ii) there are cisterns that collect the rainwater and there are toilets, but there is no piping to bring the

rain water near the toilets and no installation for washing hands. The school officials said the school was managed by the province, but they did not have a maintenance budget.

Majaua hydropower plant

An existing micro- hydropower station in Majaua, 75 km west of Milange, had been rehabilitated with EU funding in 2014. After the works were completed and due to exceptional rains in the area (400 mm in 48 h), the water level rose by 9 meters to previously unknown levels causing the flooding of the power station thereby damaging newly installed equipment. The EU decided to increase the Milange-Mocuba road funding and to use that increased funding in order to fund the necessary repairs. The 10th EDF contributed nearly EUR 1.2 million for the works and Enabel contributed EUR 0.2 million for studies, supervision by Haskoning and others.

The evaluation team met with Jesus Gavilan Marin, Energy Programme Officer at the EUD. The evaluation team met also FUNAE officials in Maputo and in the field, and finally, they met with Enabel, the Belgian TA at FUNAE in Quelimane. Enabel shared with the evaluation team the report prepared by SHER in November 2015 “Study of rehabilitation of Majaua Micro-hydro after flooding’s”. According to the study, the water level at the powerhouse during high flows had never been studied (see chapter 4.5.1 last paragraph page 19). The parties had always considered that the previous powerhouse had never been flooded during its lifetime. The previous powerhouse was built in the 1950s, but probably due to climate change the possibility of flooding is increasing.

The visit of the hydropower station showed that the works funded under the Milange-Mocuba road project were almost completed. The power station is located at the bottom of a narrow gorge and it seems that flooding could occur again. Flooding could probably be prevented by moving the station about fifty to hundred meters downstream where the gorge opens up and where the water level in case of flooding would be much lower. But this was not an option since that would have increased to a large degree the cost of the rehabilitation. The works funded by the 10th EDF aimed amongst others to increase the protection against new floods. These include water intake protection, penstock's protection, and removal of obstacles (large rocks) downstream the powerhouse to ease the flow of water during new exceptional floods.

The station produces 585 KW, it is not connected to the national power grid, the local grid is composed of 40 km of MT, 10 km of LT, 6 transformers, but local power consumption is still very low. Only 30 KW out of the 600 kW are actually used. What needs to be done according to the Enabel TA, is to increase productive use of the power produced. This could be achieved with a small programme and an estimated budget of EUR 1,258,000. This budget would include the following actions:

- Extension of the grid: 30 km of LT x 15,000 = EUR 450,000
- Microfinance for businesses: EUR 100,000
- TA (2 years): 17,000 x 24 = EUR 408,000
- Soft actions: EUR 300,000

Another beneficial follow-up project would be to connect the Majaua station to another power station nearby, this would require a budget of EUR 525,000:

- MT link between the two stations: 15 km MT x 25,000 = EUR 375,000
- Extension of the grid: 10 km of LT x 15,000 = EUR 150,000

These two options presented to increase power consumption are valid but certainly additional feasibility studies are required as well as an indicative timeline.

Another issue to be solved in a sustainable manner is the management of the power station, since the station is not connected to the national grid, EDM is not managing it and the EUD and FUNAE are looking for a private contractor to manage the power station and grid. This is

happening at a time that the institutional framework of the sector is changing. The World Bank has a project[10] that aims at reorganizing the sector and the legal framework while also providing some infrastructure investments.

It is important to mention that the road Milange-Majaua is in poor condition, it takes at least three hours to drive the 75 km. Initially, the rehabilitation of this road was included in the contract of lot 1 of phase 2. The rehabilitation has been cancelled due to insufficient funds after the failure of the first contractor. The new Promove project will rehabilitate the road in the near future. This is good news because the Majaua area has a high agricultural potential and is densely populated.

It may be worth to mention that the "Programme for Infrastructure Development in Africa (PIDA)" of the African Union, has prepared recently a policy and pilot projects for "Unlocking access of rural and remote areas to basic economic infrastructure and services". The policy calls for bringing at the same time rural roads, rural power, and internet to rural areas as a package and involving the private sector under a PPP for investment, construction, and operation. This would kick-start development in areas such as Majaua.

Also, Enabel mentioned their availability and willingness to cooperate as partner in the "global development policy" infrastructure projects of EU, concerning electrification and productive, income-generating use of energy where roads are built or upgraded, like in Majaua and Gurué under the Promove project.

Promove project

Cost items

Table 18: Budget of Promove project

Budget lines	*(EUR)*	%
Works contracts	99 700 000	100%
Supervision Service Contracts	9 000 000	9%
Technical Assistance Service Contract	3 000 000	3%
Accompanying Measures Service Contract	500 000	1%

Supervision, TA and accompanying measures service contracts amount to 13% of the works contracts, this is very high, usually supervision is between 4% and 7% depending on the size of the contract (for bigger contracts the percentage is lower) and the level of technicity (for low tech contracts the percentage is lower).

The budget does not show how much, if any, of the works contracts will be for accompanying measures (markets, bus stations, schools, etc).

Technical audit

A technical audit is scheduled for year 3. Best practice is to have several technical audits, yearly or 6-monthly, the most useful part of the technical audits are the recommendations for improving the project implementation. Therefore, early, and regular audits are more useful than late audits.

Labour-based methods

The term labour-based is used only once on page 4: "Routine maintenance on 1200 km unpaved rural roads carried out through an Area Based System using permanent maintenance camps established in selected districts, which will be operated by emergent local firms sub-

10 http://documents.worldbank.org/curated/en/302671506823294948/pdf/MZ-PAD-09112017.pdf

contracted to an international management contractor and using a combination of labour-based methods and small intermediate equipment".

It should be noted that "labour-based methods" already include small intermediate equipment in addition to labour, so it is not a combination. Using small local contractors is a good practice but having an international management contractor is not sustainable in the long term.

According to the EUD, one of the aims of joining small firms together with a big international firm in one contract is a transfer of competencies so that small firms are capacitated. There is however no assurance that this will be the outcome. Hiring a training consultant to train and advise the small contractors and the local authorities may be a more efficient method.

Using "permanent maintenance camps" seems to be in contradiction with the use of "small local contractors". But this is apparently the way ANE has organised maintenance since this is the same method used by the WB Feeder roads project.

Sustainability

When a DP implements a maintenance project the objective should be to work closely with the local authorities, using their methods while improving them, so that after the project the local authorities can carry on alone. This should include sustainable management, financing, and technical methods of maintenance. The institutional set-up is very important, because of decentralisation the project should work closely with the local institutions that are the owners of the rural roads. Putting in place sustainable financing should also be an objective. Instead of all maintenance being funded by the EU, there should be increasingly local funding be made available from the road fund and/or from local sources.

50% of budget spent on paved roads

The project document does not show the budget for the individual actions, but a quick calculation shows that about half the budget will be spent on periodic maintenance and construction of "paved" roads. This is unusual for a rural roads project. Rural roads are the tertiary or unclassified network (primary being national roads and secondary the regional roads). The FA of Promove says: "Promove Transporte will specifically focus on rural roads"[11]. Usually, tertiary or unclassified rural roads are earth or gravel roads, not paved roads. Exceptionally some short, steep sections may be paved representing not more than 5% of the total length of each road. Rural roads may be fully engineered gravel roads when the traffic justifies it (usually when traffic is more than 50 vpd). If traffic is lower, only spot improvement of earth roads is warranted.

Road selection

There is no mention of how the roads will be selected. Best practice is for paved roads and fully engineered gravel roads (the higher investments) to be based on the ERR which means feasibility studies have to be undertaken. For spot improvement, other methods can be used such as multicriteria analysis or cost per beneficiary.

OSBP and weighbridge

The construction of the OSBP and the installation of the weighbridge were transferred from the Milange Mocuba project to the Promove Transporte project. The decision on the relevance of the OSBP and the location of the weighbridge have to be made urgently.

Routine maintenance

It is not clear whether 1,200 km of routine maintenance means (i) 1,200 km are under yearly maintenance at the end of the project or (ii) 300 km have been maintained 4 years in a row.

[11] At the end of the first paragraph of the Summary.

Rural roads agency

Initially, when road agencies were created in developing countries, there was just one national road agency in charge of all roads. But invariably these agencies paid much more attention to the main roads and neglected the rural roads. Now, most developing countries have two road agencies, one for main roads and one for rural roads. Mozambique has not created a rural roads agency but intends to devolve their maintenance to the provinces and districts. The problem is that there is not enough capacity at the level of provinces and districts. Best practice is to have a rural roads agency that provides assistance to and works closely with the local authorities.

The World Bank Integrated Feeder Road Development Programme

The World Bank is funding a feeder roads programme that will enhance rural access in selected districts in Nampula and Zambézia by adopting climate-resilient interventions across the road network in an integrated manner. The project has five components as follows:

- Component 1: Rehabilitation and Maintenance of Feeder Roads (estimated cost USD 95 million)
- Component 2: Rehabilitation of Primary Road Network (estimated cost USD 80 million)
- Component 3: Pilot Rural Transport Services (estimated cost USD2.5 million)
- Component 4: Capacity Building and Project Administration (estimated cost USD 7.5 million)
- Component 5: Contingent Emergency Response

For more details see PAD Integrated Feeder Road Development program P158231[12], and PAD Integrated Feeder Road Development Program Additional Financing P171093[13]

The project operates in the same districts as the Promove project and has a similar approach.

2.7.2 Conclusion

The programme expected the road to be an important international corridor and at the same time an important road for regional development of the Zambézia province. Although the statistics show that the road has not become an international corridor, the importance of the road for the regional development is confirmed and the shortfall of international traffic has been compensated by the growth of the regional traffic. This shows that the construction of the road was, is and will be relevant for the development of the region.

The Accompanying Measures such as the construction of two schools improved the relevance of the project socially and the commitment of the Milange-Mocuba road development has on the local population and the upliftment of the province.

The programme has also funded the repair works at the Majaua micro-hydropower station. This project is very relevant for the development of the Majaua region.

The Promove follow-up project will further improve connectivity and improve the EIRR.

This EQ is related to the DAC criterium of relevance.

12 The project document PAD can be found here: http://documents.worldbank.org/curated/en/108991524514539660/pdf/PAD2289-Mozambique-pad-PAD2289-P158231-corrigendum-05092018.pdf

13 The project document PAD can be found here: http://documents.worldbank.org/curated/en/493671570154517147/pdf/Mozambique-Integrated-Feeder-Road-Development-Project-Additional-Financing.pdf

2.8 EQ8: To what extent were gender issues included in the identification/formulation documents and reflected in the implementation of the Action?

Judgement criteria: inclusion of gender issues in the formulation of the project (identification/feasibility/formulation documents) and inclusion of gender issues in the implementation of the project.

Indicators: mention of gender issues and inclusion of specific activities to promote gender equality in the project documents, effective specific activities implemented during the project.

Sources: identification/feasibility/formulation documents, quarterly progress reports, field interviews of target groups.

2.8.1 Responses

Women as beneficiaries

The FA's of both projects have identified women specifically as a subgroup of the beneficiaries living along the roads. The FA of phase I mentions that the project would facilitate the provision of basic social services and has studied the social impacts intending to provide better short-term and longer-term employment and income-generating opportunities, but this is not specifically directed towards women.

Employment of women

As in most road projects, gender issues did not figure prominently in the formulation nor the implementation of the project. Of course, women as men are employed by the project. The supervising consultant and ANE were to report quarterly on gender issues, but apart from some figures on employment of women (mentioned below) not much was reported.

Some figures were gathered from the contractor figures and construction supervision team monthly reports, which showed that in Phase 1: the employment figures by the contractor team was on average of 263 men and 26 women, giving just 8-9% women employed compared to men employed. And in Phase 2: Lot 2 achieved 5% on average employment of women in the workforce. Thus, confirming an average of 7-8 % employment of woman for the whole construction period of the project.

Training was provided to the operators on HSE during the construction period. Also, between 2011 and 2013, training was provided via educators to the population along the route by the HLM sub-contractor to the main contractor on recycling measures, in Phase I. And, in Phase II, training was provided on road signage and safety in the toolbox talks. But the figures of trainees were not disaggregated according to gender.

Gender-based violence

In order to eliminate gender-based violence (GBV) in the context of road works some projects have included a code of conduct for contractor's staff. This code of conduct includes the subject of GBV. As mentioned above, complaints committees should also receive and solve complaints related to GBV.

2.8.2 Conclusion

Women are beneficiaries of the project as are men, and women have been employed on the project, but only approximately 8% of the workforce were women. But there is little gender and age-disaggregated statistics available on employment in the project.

It is recommended in future projects to include the issue of GBV. Also, in future projects more positive action is required to promote the participation of women. Positive actions could include

for example (i) creation of women-only teams, under a woman team leader, and giving them work where women are better than men such as spreading, tree planting, planting grass (see World bank project in Ghana); (ii) providing training specifically for women, and more specifically for women team leaders (see ILO project in Madagascar); (iii) having a sociologist examine the ways women participation could be increased taking into account local cultural barriers (see DfID project in the Eastern DRC); (iv) creating part-time jobs if this would attract more women; (v) requiring a minimum percentage of women in the workforce, the ILO uses the figure of 30% in their projects; (vi) contracting a family rather than a man, the family can then send a man or a woman (see Rural roads project in Rwanda).

This EQ is related to the cross-cutting criterium of gender.

2.9 EQ9: To what extent does the Action bring additional benefits to what would have resulted from Member States' interventions only?

Judgement criteria: this EQ is related to the added value of the action by the EU compared to the case where an EU member state would have implemented the action on its own.

Indicators: willingness and capacity of EU members states to formulate and implement the project.

Sources: identification/feasibility/formulation documents, interviews of main stakeholders and DPs.

2.9.1 Responses

Budget size

The budgets of both phases I and II are relatively high and individual EU members usually do not have the budgets to take on projects of this size. It was essential for the whole road from Mocuba to Milange to be upgraded in order to provide a continuous link between Zambia, Malawi and the ports in Mozambique, but also in order to link the densely populated Milange district to the rest of Mozambique. An upgrade of only a section of the road would fall short of these objectives.

Synergy

According to interviews with stakeholders, the advantage of the EU is also that they have regional projects in other sectors that benefit from the improved transport situation and that are complementary.

Donor coordination

The EUD also played an important role as the leader of the donor coordination committee of the transport sector. According to the World Bank, the donor coordination committee works very well. The EUD was leading this committee until last year, since then the WB has taken over this role.

Majaua micro-hydropower station

The Majaua micro-hydropower station was recently rehabilitated with EU funding when a major flood damaged the installation. The Belgian Enabel was providing TA to FUNAE and contributed limited funds for a study and supervision, but only the EUD was able to mobilise quickly the funds for the repairs.

2.9.2 Conclusion

Stakeholders agree that the Action implemented by the EU did bring additional benefits to what would have resulted from Member States' interventions only. The size of the funding required for the construction of the 192 km road was well above usual budgets for individual member states, and only feasible within the budgets of larger DP's such as the EU. Also, the synergy with other EU projects in other sectors in the same geographical region acted as a multiplier of the impact. The role of the EU as leader of the donor coordination committee ensured efficient coordination of the action with the Government and the other DPs. Finally, the flexibility of the EU allowed for urgent interventions for repairs of the important flood damages in the region.

This EQ is related to the criterium of EU added value.

2.10 EQ10: Were the principle of Leave No-One Behind and the rights-based approach methodology followed in the identification/formulation documents and to what extent have they been reflected in the implementation of the Action, its governance and monitoring?

Judgement criteria: inclusion of the principle of Leave No-One Behind and the rights-based approach methodology in the formulation of the project (identification/feasibility/formulation documents), inclusion of these issues in the implementation of the project.

Indicators: mention of the principle of Leave No-One Behind and the rights-based approach methodology in the project documents, inclusion of the principle of Leave No-One Behind and the rights-based approach methodology in the monitoring of the implementation of the project.

Sources: identification/feasibility/formulation documents, quarterly progress reports, M&E reports, field interviews of target groups

2.10.1 Responses

The principle of Leave No-One Behind and the rights-based approach methodology are not explicitly mentioned in the identification/feasibility/formulation documents. But this is to be expected since these documents date back to a period before these issues were routinely included in the formulation of projects. However, the overall objective of both phases is poverty reduction and as such is aimed at improving the lives of the poorest population in the project area.

The overall objective of the project is poverty reduction by constructing a road that reduces transport costs. But reducing transport costs is not enough to obtain poverty reduction, it is necessary that the reduced transport costs benefit the poorest end users and not the transport companies. Since the poorest end users do not own a vehicle it is important that passenger fares are reduced, but this was not the case since they were fixed for a five-year period. Future programmes could have a conditionality specifying that the government will reduce the fares after construction of the road reflecting the reduction in transport costs. It is also necessary that reduced transport cost of goods translates into reduced prices of consumer goods. We have no statistics only the word of the Governor of Milange. It is also necessary that the reduced transport costs translate into increased prices for the sale of crops. Here also we have no statistics only the word of the Governor of Milange.

The population as a whole has access to the road, through the various transportation options available along the rehabilitated routes, however, the inner feeder roads need to be improved

in order to increase the geographical movement. These improved access routes have contributed to the reduction of some of the socio-economic disadvantages in these areas.

However, the various populations felt that the accompanying measures started late and not all social issues were attended to. The process was well driven on the road safety, visibility and some environmental concerns and awareness, but did not cover other issues such as public health, concerns on preservation of the environment in the rural context and national Park conditions, and if any, on archaeological heritage.

As the construction activity reduced, and members of the contractor and supervision teams became fewer, less attention was invested in the follow-up of the various social and environmental concerns. One example was the delayed compensations of the population.

In future, more attention to paid on a wider range of social-economic and environmental accompanying measures, from before construction begins all the way to its commissioning, and proper evaluation and monitoring of the aftereffects.

Another way the project ensured that the principle of Leave No-One Behind and the rights-based approach were respected was through the use of liaison committees (see also EQ2).

This EQ is related to the criterium of Leave No-One Behind and the rights-based approach.

2.11 EQ11: The impact of the Technical Assistance on the capacities of the ANE and other beneficiaries to inform the future TA programme.

Judgement criteria: this EQ is related to the impact criterium. It explores what impact the Technical Assistance had on the capacities of the ANE and other beneficiaries to inform the future TA programme.

Indicators: opinions of the target groups, participation of ANE and other stakeholders in the preparation of future TA programmes.

Sources: field interviews of target groups, reports.

2.11.1 Response

TA under the FAs for Milange-Mocuba

Usually, FAs include a TA component to provide capacity building to the Government entities involved in the implementation and management of the infrastructure provided. This was not the case in both the FAs for Milange-Mocuba. According to the EUD, this was because other projects were covering TA to ANE and the Ministry in charge of Public Works. This is confirmed by the FA1 which mentions page 10:" The monthly progress reports by the supervising team will be evaluated by ANE, assisted by the EDF-funded Technical Assistance. Both the offices of the NAO and the Delegation will be closely associated with the monitoring of the project implementation."

TA provided under other FAs

The TA to ANE was not funded under the two FAs funding the road, but from the FA for Road Sector Budget support. This FA included a budget of EUR 1.8 million for capacity building and TA. A substantial part of their activities was used towards assisting the road project. According to the final completion report[14] dated June 2018 of the TA provided by POHL CONSULTING

[14] TA for Capacity Development Support in the Road Sector in Mozambique Final Report - EU Contract No: FED/2014/337 206 / ANE Contract No: 80/DIAFI/2013 Page 5

& ASSOCIATES GMBH, 28% of the resources of the contract were used towards assistance for the Milange Mocuba road.

TA for capacity building

All the DPs active in the road sector I Mozambique have capacity buildings projects or project components for ANE and FE. The problem with this is that there is often a lack of coordination, even if donor coordination works well in Mozambique. Some countries have prepared a national training plan and have asked the different DP's to provide each some parts of the national training plan. This provides a much more coordinated approach. Some countries have gone further and have created their own national training centre for all the actors in the road sector, government, and private sector. Sometimes these training centres do also to research in the road sector. These are more sustainable approaches to training rather than having each DP provide some training for some actors under a project approach.

The ET was informed that the contractors have a national training centre based in Chimoio since the 90's. Contractors have been required to contribute to costs for additional training, but even these relatively modest values have been beyond the means of the smaller contractors. ANE mentioned that recently attendance by small contractors on the courses held by CFE in Chimoio has not been good.

3 Conclusions

This chapter contains the conclusions of the evaluation, organised per DAC and EU evaluation criterium.

3.1 Relevance

All the stakeholders interviewed agreed that this project was highly relevant in poverty alleviation through the development of the agricultural, trade and transport sectors and improving regional integration.

EQ1 concludes that the programme had a very positive impact on the agricultural sector by increasing and diversifying production. Trade has increased in agricultural products and the prices paid to the farmers have increased. Trade in consumer goods has also increased and prices reduced. Transport of passengers and goods has increased, but transborder traffic has decreased, probably because of the competition of the Beira and Nacala corridor.

EQ7 concludes that the programme expected the road to be an important international corridor and at the same time an important road for regional development of the Zambézia province. Although the statistics show that the road has not become an important international corridor, the importance of the road for the regional development is confirmed and the shortfall of international traffic has been compensated by the growth of the regional traffic. This shows that the construction of the road was, is and will be relevant for the development of the region.

The Accompanying Measures such as the construction of two schools improved the relevance of the project socially and the commitment of the Milange-Mocuba road development has on the local population and the upliftment of the province.

The programme has also funded the repair works at the Majaua micro-hydropower station. This project is very relevant for the development of the Majaua region.

3.2 Effectiveness

All the stakeholders interviewed agreed that this project was highly effective in achieving the intended objectives.

The ET observed that the project achieved the objectives of the development interventions[15]: (i) an important reduction in transit time and also (ii) reduced VOC and therefore reduced cost of transport, along and in the influence area of the Milange-Mocuba road. The results obtained are in agreement with the results as planned in the feasibility study.

One of the elements contributing to effectiveness (and to efficiency) of the implementation of a FA is the choice of the Implementation Modality. The Note on Implementation Modalities[16] prepared in November 2017 by Pohl Consulting & Associates, compared the adequacy of the chosen Implementation Modality (Project Approach) to other Modalities available for EU support (Sector Budget Support, Blending Facility). Concerning blending the Note argues that (i) most projects decided or considered in the pipeline for funding through blending are in the

[15] See EQ4 for more detailed information

[16] Identification of 11th EDF - Prefeasibility Study for Rural Development through Improved Rural Transport in Mozambique, Note on Implementation Modalities, Version 9, November 2017, Pohl Consulting & Associates under the Specific Contract N° 2014/337 206

Energy Sector; (ii) currently there is no qualified lead financial institution engaged with the EU and National Partners of the Road Sector (iii) Macro-Economic performance in Mozambique has declined in recent years; (iv) blending operations experience increased time and transaction costs; (v) the required capacity regarding blending operations must first be created in the Road Sector; (vi) blending results in a lower contribution to policy dialogue and policy reform, lesser recognition of the EU role, and little EU visibility. Concerning Budget support the Note mentions that (i) the assessment of general budget support carried out by the Delegation in early 2016 concluded that progress by the Government was unsatisfactory; (ii) the previous experience with budget support in the road sector in Mozambique was unfavourable (ROM 2015); (iii) opportunities for leverage in policy dialogue were limited under previous Road SBS in Mozambique. Therefore, the Note concluded rightly that the project approach was the only implementation modality feasible and appropriate under current conditions in Mozambique for financing the rural transport component of the rural development programme under the NIP of the 11th EDF. The same arguments can be applied to the two FAs of the Milange-Mocuba road. The project approach is the only approach that allowed the flexibility required to deal with unexpected events such as the flooding on other than project roads such as the N1 and the only one that made it possible to include the repairs required on the Majaua hydropower plant.

3.3 Efficiency

The EQ5 concludes that the initial estimate of the cost of construction was EUR 58 million in 2007, and the feasibility study calculated an ERR of 10.1%. This cost was however underestimated and allowed only part of the road to be built. The updated feasibility study of 2011 used an increased cost of EUR 79.6 million but also modified several other parameters and calculated an ERR of 20.2%. However, the final cost was again much higher, the ET estimates that the final cost of the road was about EUR 88.9 million which is an increase of 12% of the 2011 estimate.

In 2007 the cross-border traffic was 157 vpd, this decreased to 20 vpd in 2019. Probably because the international traffic is using the Nacala corridor now.

The forecasted traffic for 2020 was about 450 vpd in both feasibility studies. According to recent statistics, this figure is probably correct. This means that the shortfall in cross-border traffic has been more or less replaced by regional traffic.

However, because of the higher construction cost (+12%) while the traffic remained as forecasted, the ERR is below the forecasted 20.2%. The sensitivity analysis estimated that with an increase of costs of 20% the ERR would decrease to 17.4%. So, we can conclude that the final ERR is somewhere between 20.2 and 17.4% which is still a very good result.

The reduction in cross-border traffic means that the planned construction of an OSBP and a weighbridge near Milange are probably not justified.

3.4 Sustainability

Sustainability is not guaranteed because of lack of routine and periodic maintenance and because of overloading.

The EQ5 concludes that the sustainability of the road depends on maintenance being implemented. According to ANE, there is a budget for routine maintenance, but the field visit showed a lack of routine maintenance. A road needs also periodic maintenance but in Mozambique the budget for periodic maintenance is only about one-tenth of that required. If

this situation does not change rapidly then the road will deteriorate and require reconstruction in 5 to 10 years.

Sustainability requires also that trucks are not overloaded. Since the weighbridge was not built this requires that regularly mobile weighing equipment be used along the road.

Maintenance is a crucial point to include in the policy dialogue as it guarantees sustainability of this major investment. This is probably the last national road constructed in complete "grant" modality. Future infrastructure projects of this scope are all in "blended" mode. Another reason to carefully maintain this road.

3.5 'Early signs of' Impact

There are early signs of impact as related by the stakeholders during the interviews. Most of these impacts are the result of the fact that after the construction of the road Milange-Mocuba the agricultural sector of Milange region was integrated into the economic activities of Mozambique rather than those of Malawi.

The programme had a very positive impact on the agricultural sector by increasing and diversifying production. Statistics from both Milange and Mocuba show an increase in agriculture production and trade. Trade has increased in agricultural products and the prices paid to the farmers have increased. Trade in consumer goods has also increased and prices reduced. Transport of passengers and goods has increased, but transborder traffic has decreased, probably because of the competition of the Beira and Nacala corridors. There is however a lack of detailed statistics.

3.6 Crosscutting issues

Environment

EQ2 concludes that the programme prepared an Environmental Impact Assessment and implemented an Environmental Management Plan. However, this still needs official approval from MITADER. From the interviews, it appears that no negative impacts have been noted, but the ET observed important charcoal production all along the Milange-Mocuba road. It has been mentioned that illegal logging has increased but on the other hand, according to the ministry of agriculture in Quelimane, the exploitation of forests has decreased, and more focus paid to agriculture. Claims handling can be improved in future projects and committees should handle all complaints related to the road construction. Road drainage infrastructure has reduced erosion, and addendums to the second FA allowed to repair flood damage on the N1. However, it is necessary to update design standards of hydraulic infrastructure to consider climate change and make these structures more climate-resilient.

Gender

The EQ8 concludes that women are beneficiaries of the project as are men, and women have been employed on the project, but only approximately 8% of the workforce were women. But there is little gender and age-disaggregated statistics available on employment in the project.

It is recommended in future projects to include the issue of GBV. Also, in future projects more positive action is required to promote the participation of women. Positive actions could include for example (i) creation of women-only teams, under a woman team leader; (ii) providing training specifically for women; (iii) having a sociologist examine the ways women participation could be increased taking into account local cultural barriers; (iv) requiring a minimum percentage of women in the workforce, the ILO uses the figure of 30% in their projects.

HIV/Aids

EQ6 concludes that statistics show an important increase in HIV/Aids in the two districts of Milange and Mocuba and in particular in administrative posts along the road. This means that the mitigating efforts of the road project did not have the expected result and future projects should include more effective mitigating actions, target construction workers, the communities along the Corridor and long-haul truck drivers.

Leave-no-one-behind

The EQ10 concludes that the principle of Leave No-One Behind and the rights-based approach methodology are not explicitly mentioned in the identification/feasibility/formulation documents. But this is to be expected since these documents date back to a period before these issues were routinely included in the formulation of projects. However, the overall objective of both phases is poverty reduction and as such is aimed at improving the lives of the poorest population in the project area.

The overall objective of the project is poverty reduction by constructing a road that reduces transport costs. But reducing transport costs is not enough to obtain poverty reduction, it is necessary that the reduced transport costs benefit the poorest end users and not the transport companies. Since the poorest end users do not own a vehicle it is important that passenger fares are reduced, but this was not the case since they were fixed for a five-year period. Future programmes could have a conditionality specifying that the government will reduce the fares after construction of the road reflecting the reduction in transport costs. It is also necessary that reduced transport cost of goods translates into reduced prices of consumer goods. We have no statistics only the word of the Governor of Milange. It is also necessary that the reduced transport costs translate into increased prices for the sale of crops. Here also we have no statistics only the word of the Governor of Milange.

3.7 EU added value

The EQ9 concludes that the Action implemented by the EU did bring additional benefits to what would have resulted from Member States' interventions only. The size of the funding required for the construction of the 192 km road was well above usual budgets for individual member states, and only feasible within the budgets of larger DPs such as the EU. Also, the synergy with other EU projects in other sectors in the same geographical region acted as a multiplier of the impact. The role of the EU as leader of the donor coordination committee ensured efficient coordination of the action with the Government and the other DPs. Finally, the flexibility of the EU allowed for urgent interventions for repairs of the important flood damages in the region.

The “Evaluation of EU support to the transport sector in Africa 2005-2013”, conducted by a consortium led by Ecorys, concluded that in regard to the EU added value “The EU has brought and developed real added values when providing support to the transport sector, i.e.: long sector experience, size of budget, political neutrality, expertise of some individuals in the EUD’s, in-country presence, focus on cross-cutting and social development issues, flexibility in seeking to cooperate with sector partners, sound implementation procedures and some specific EU policies and strategies (especially as regards division of labour, partnership and coordination). On the other hand, ‘subtracted values’ have also been identified, such as: changing sector strategies with each EDF cycle, the length of time required for programming and decision making and some EDF procedures.”

As noted above, this project confirms those conclusions; in particular with regard to the long sector experience, the size of budget, in-country presence, focus on cross-cutting and social

development issues. But, 'subtracted values' have also been identified, such as the length of time required for programming and decision making and some EDF procedures.

3.8 Coherence, with the EU strategy and policies and Member State Actions.

The action is coherent with the EU strategy as expressed in the consecutive National Indicative Programmes, Africa-Europe alliance, Africa-EU partnership, and strategy and, The Africa-Europe Alliance for Sustainable Investment and Jobs.

The NIP 2008-2013 has two focal sectors (i) Transport and regional economic integration; and (ii) Agriculture. The design of the Milange-Mocuba road had been funded under the 9th EDF and is explicitly included for implementation under the first focal sector of the 10th EDF.

The NIP 2014-2020 also has two focal sectors: (i) Good Governance and Development; and (ii) Rural development. In the second focal sector of rural development, the accent is on improving rural accessibility. The donor matrix (Annex 2 page 26) showing the indicative allocations per sector, lists the road Milange-Mocuba started under the 10th EDF.

The Africa-Europe Alliance: Better transport and mobility between Africa and the European Union offers concrete recommendation and conclusions on three important areas of transport cooperation: aviation, road safety and connectivity.

The Africa-EU Partnership strives to bring Africa and Europe closer together through strengthening economic cooperation and promoting sustainable development, with both continents co-existing in peace, security, democracy, prosperity, solidarity, and human dignity. Against this backdrop, the two partners are determined to work together on a strategic, long-term footing to develop a shared vision for EU-Africa relations in a globalised world.

The Joint Africa-EU Strategy (JAES) sets out the intention of both continents to move beyond a donor/recipient relationship towards long-term cooperation on jointly identified mutual and complementary interests. It is based on principles of ownership, partnership and solidarity and its adoption mark a new phase in Africa-EU relations.

The Africa-Europe Alliance for Sustainable Investment and Jobs was launched by the European Commission in September 2018, as an effort to drive forward intercontinental cooperation on an equal footing. The African Union and the European Union are committed to strengthening a mutually beneficial partnership. The launch of the Alliance is a clear sign of the enhanced way Europe and Africa work as partners, with a strong focus on economic potential, and including the mobilization of the private sector. Within the framework of the Alliance, Europe and Africa are discussing our common challenges and explore mutual opportunities. Among the specific actions triggered by the Alliance, four thematic task forces were set up to focus on digital economy, energy, agriculture, and transport.

There are other partnerships which the Mozambique Government is focussed on and is part of, such as the South African Development Community (SADC), New Partnership for Africa's Development (NEPAD), African Peer Review Mechanism (APRM), Agenda 2063 adopted by the Heads of state and Governments of the African Union (AU), sustainable Development Goals (SDG) and Post 2015 Global Development Agenda.

The collaboration with Enabel on the Majaua hydro-power project is an illustration of the coherence with the Member State Actions.

3.9 Coherence with Government's sector strategy.

The Action is coherent with the Road Sector Strategy (RSS) for 2007-2011 and the Plano Quinquenal do Governo 2020-2024 (Mozambique Government Five Year Plan). The Strategy extended to 2016, links optimization of investments in the road network to poverty reduction objectives. The Milange-Mocuba project was the last, missing link of the transport corridor linking Malawi to Mozambique's North/South road and ports, and it is therefore fundamental infrastructure for regional integration in Southern Africa. The Zambezi Corridor, of which the Milange-Mocuba road is an important component, provides links from Malawi´s Southern Region and Lilongwe to the ports of Quelimane and Nacala.

The EU Milange-Mocuba program has been coherent with the mission of the Member State actions and the Government's Five-Year Program 2020–2024, which also defines its main objective in improving the living conditions of the Mozambican population, increasing employment, productivity and competitiveness, creating wealth and generating balanced and inclusive development, in an environment of peace, security, harmony, solidarity, justice and cohesion among Mozambicans.

3.10 Materialisation of the expected results

The two project phases succeeded in effectively completing their main objective, the construction of the Milange-Mocuba road, even though it took longer and was more expensive than initially anticipated. In addition, the project completed an earlier EU funded project on the N1 (Namacurra-Nampevo section) and provided much-needed repairs after flood damages occurred in the region and in particular on the N1. Only one rural road was constructed from Mocuba to Lugela. The impact of the project so far is important as is shown a. o. by the increased traffic figures that are as high as was anticipated. Goods transport is happening in a competitive environment, but fares for passenger traffic are regulated by the government and have not decreased since the road was constructed, although speed, comfort and availability have improved. Sustainability remains a problem with routine maintenance underfunded, periodic maintenance almost non-existing and overloading still not sufficiently controlled.

3.11 Performance of the project management

We can distinguish different levels of project management: (i) at the top level in Mozambique is the DEU and its infrastructure department; (ii) from the government side there is the NAO; (iii) both ministries of works and transport were involved; (iv) the ANE is the executing road agency, (v) ANE was assisted by the EU funded TA; (vi) the supervision was done by EGIS in phase I and O'Dwyer in phase II.

The performance of the project management as a whole was successful, considering all the development outcome issues and challenges faced during this project implementation. In particular, its capacity to adapt to changing conditions, including weather-related disasters, has been much appreciated.

As mentioned above under EQ 5, the cost of the supervision by EGIS amounted to 4.8% of the construction cost of phase I, which is correct. The cost of supervision by Nicholas O'Dwyer amounted to 12.1% of the construction cost. This is very high but may be due in part to the failure of the contractor Elevolution to complete its contract, the resulting delays and also the additional flood damage repairs added under the FA2 that created a lot of extra work for the resident engineer's staff.

Even though the cost of the supervision in phase II ended up being very high, ANE/TA and EUD were not satisfied with the performance of the Supervisor's Representative's performance right from the beginning of the contract. The Supervisor's Representative was supposed to support the evaluation of tenders, prepare an inception report, do a design review and establish a baseline for the M&E, but they were found to be lacking in all these services as far as quality and meeting of deadlines were concerned. During the implementation of the works the Supervisor's Representative was to ensure field supervision, manage the Flood Response, and provide Project Management, but the performance was again well below expectations. Finally, the assessments of claims have all come very late and were all quite weak. It ended up in a situation in which the Supervisor, in consultation with GON and EUD, requested that the Project Manager and the Resident Engineer for Lot 2 be replaced. It resulted in the mobilisation of a new Project Manager and a new Resident Engineer. It also corresponded with another Director taking the lead over the former one. The collaboration of the parties and the level of services significantly improved after these replacements, though the heritage of the past has remained a burden until the end of the project.

At several instances during the course of the project, the question of terminating the Supervision Contract and appoint a new Supervisor's Representative was raised and discussed internally. The conclusion was always that given the role of the Supervisor's Representative, it was not possible to ensure the continuity of the works during the time required for procuring another one (1 year). Also, the budget necessary to launch a tender could not be allocated without de-committing funds from the current contract. Not having another service contract in place that could take over these duties by means of addendum negotiated in parallel (as was done with works), terminating the Contract of the Supervisor's Representative and replace him by another one turned impossible or would cause more damages than the ones that the Supervisor would try to avoid.

The TA to ANE was not funded under the two FA's funding the road, but from the FA for Road Sector Budget support. A substantial part of their activities was used towards assisting the road project. According to the final completion report[17] dated June 2018 of the TA provided by POHL CONSULTING & ASSOCIATES GMBH, 28% of the resources of the contract were used towards assistance for the Milange Mocuba road.

3.12 Visibility

The project implemented a Communication and Visibility Plan with the support of the Supervisor's Representative (Nicholas O'Dwyer) and the Consultant contracted for implementing the Accompanying Measures (TA - COWI). The various activities were to provide awareness to the public in general and the local communities in particular. The activities were implemented by a team consisting of a social specialist of ANE together with a sociologist from the TA and a social specialist from the Supervision Consultants. The deliverables included the distribution of printed pamphlets and brochures, conduction of animated theatre plays as well as radio broadcasts. An interesting video was also produced (a copy of which was provided to the ET by the Project Officer of the EU Delegation), containing interviews with various local residents, business owners and operators in which they expressed their opinions on the benefits brought by the upgrading of the roads. The EU logo featured on all reports, on signpost along the road and those inaugurating the two schools.

The Accompanying measures objectives produced by the Technical Assistance COWI team, only focused on four focus main actions, as the (i) Road safety, (ii) promotion of markets, (iii)

[17] TA for Capacity Development Support in the Road Sector in Mozambique Final Report - EU Contract No: FED/2014/337 206 / ANE Contract No: 80/DIAFI/2013 Page 5

preservation of the transport infrastructures, and (iv) transport and rural electrification. The technical assistance accompanying measures report covered in full the soft road safety issues and preservation of the transport assets, partly covered promotion of markets and, cancelled the transport and rural electrification.

Accompanying measures should in future cover other issues, such as environmental protection and ecological follow-ups, support to community management of the environment, institutional support for the ministry of environment and forests in the province concerned, support to the national parks, public health and protection of archaeological heritage.

4 Lessons learnt

1. ***Base line**:* Evaluations should be based on quantitative indicators as far as possible; but this requires the baseline values for the indicators to be known. The definition of the relevant indicators and the collection of their baseline values should be part of the project formulation.
2. ***INE**:* The INE does not publish a statistical yearbook and was not able to provide data required for the evaluation. Most probably this is due to a lack of capacity and/or a lack of financial resources. There may be a task for a DP to help the government of Mozambique build capacity in the sector of statistics.
3. ***Weak statistics***: in order to deal with the issue of weak statistics in future projects, in addition to collecting baseline data, the road agency should also collect yearly statistical data during and after the completion of the road.
4. ***ERR**:* In many projects the ERR calculated during the feasibility study is too optimistic, project formulation should be very critical of the assumptions used.
5. ***Agricultural extension**:* The project has had a measurable impact on agricultural production and trade. It should be noted that these results were obtained solely by the construction of the road and the resulting market forces. The project did not provide any additional assistance to the farmers in order to increase production or in order to shift production to more commercial crops. No additional agricultural extension, education or training was provided, no micro-finance to help the farmers shift production. It is possible however that coupling such actions with the construction of the road would have accelerated the positive effects of the road.
6. ***Gender:*** It is recommended in future projects to include the issue of GBV. Also, in future projects more positive action is required to promote the participation of women. Positive actions could include for example (i) creation of women-only teams, under a woman team leader, and giving them work where women are better than men such as spreading, tree planting or planting grass (see World bank project in Ghana); (ii) providing training specifically for women, and more specifically for women team leaders (see ILO project in Madagascar); (iii) having a sociologist examine the ways women participation could be increased taking into account local cultural barriers (see DfID project in the Eastern DRC); (iv) creating part-time jobs if this would attract more women; (v) requiring a minimum percentage of women in the workforce, the ILO uses the figure of 30% in their projects; (vi) contracting a family rather than a man, the family can then send a man or a woman (see Rural roads project in Rwanda); (vii) reserve certain jobs for women or for women head of a household (see WB Rural roads and markets project in Bangladesh).
7. ***Climate change and need to update design standards**:* The design standards for drainage structures need to be updated because of climate change. Actual design standards are based upon statistical data of rains in the past. The newly build hydraulic infrastructure needs to be built for the rains of the future. According to climate specialists, the quantity of rain will increase in Eastern Africa because of climate change by 20 to 30%. But more importantly, the rains will come more as thunderstorms and therefore the rains will be more concentrated: shorter but more intense, resulting in more run-off to be evacuated in a shorter time. This has an important impact on the calculation of the dimensions of bridges and culverts but would make these structures more climate-resilient.
8. ***Reduce fares***: Road projects assume that because they lower the VOC this will automatically benefit the road users. But this was not the case on the Milange-Mocuba road since the government had fixed the passenger fares for the period 2015-2020.

Future programmes could have a conditionality specifying that the government will reduce the fares after construction of the road reflecting the reduction in transport costs.

9. ***Markets and bus stations****:* In order to improve road safety, it is recommended to remove roadside markets and bus stops in villages and towns by the construction of markets with parking areas and bus stations as accompanying measures in the construction of roads. In order to mitigate dangerous situations but also to boost local economic development. It is however not enough to build these markets and bus stations; these infrastructures also require an efficient management. Best practice is to farm out the management of the markets and bus stations to a private-sector contractor in charge of collecting market taxes, cleaning, providing water and power, and security.
10. ***Rest areas****:* An important road safety measure is the creation of rest areas along major corridors for the long-distance drivers to be able to rest at regular intervals. In West Africa, the recommendation is to create rest areas about every 60 km along corridors. The rest areas should be fenced, lighted, guarded, and have toilets, showers, shops and/or restaurants, rooms. Best practice is to contract out the management of these rest areas to a private-sector contractor.
11. ***School fences****:* The field visit showed that many schools exist near the Mocuba-Milange road. Usually, they have no, or only an easy-to-cross enclosure and the main gate opens directly towards the road. In some other countries, the construction of enclosure walls in durable materials with gates opening on a side road is included as an accompanying measure in the construction of roads, in order to mitigate these dangerous situations.
12. ***Road Safety Agency***: Another issue related to road safety is that Mozambique does not have a Road Safety Agency. Many countries have created an autonomous agency in charge of road safety. These agencies have many tasks related to road safety. An important task is to check and certify that all detailed road designs give due consideration to road safety before construction can start (this should be done by an independent agency in a similar way that the environment agency certifies that a road project design respects all required environmental measures). These agencies then also certify, after construction of the roads at handing-over, that construction was done in accordance with the design and that road safety conditions are respected. ANE has a road safety department but there is a conflict of interest as the same organisation implements a road project and at the same time certifies that all safety aspects have been respected. There is a task for a DP to help Mozambique create and operationalise a Road Safety Agency.
13. ***Accessibility***: Accessibility has improved but is limited to a narrow area next to the Mocuba-Milange road. Several stakeholders have insisted on the need for improving rural feeder roads. This will be taken up in the PROMOVE project of the EUD and in the WB rural roads project under preparation. It should be noted that improving rural roads along the Milange-Mocuba road will have a positive impact on the ERR of the Milange-Mocuba road.
14. ***The road Fund FE****:* In order to guarantee the funding for maintenance Mozambique would need a second-generation road fund where the fuel taxes and other income of the road fund (penalties for overloading, etc.) would go directly to the Road Fund. This way the fund would have a guaranteed increasing income, this would allow multi-year planning and multi-year maintenance contracts.
15. ***HIV/Aids:*** Statistics show an important increase in HIV/Aids in the two districts of Milange and Mocuba and in particular in sub-districts along the road. This means that the mitigating efforts of the road project did not have the expected result and future projects should include more effective mitigating actions.

16. ***Complaints handling:*** best practice is that each committee has a complaint's register with name of claimant, date introduced, subject, date solved. This allows to prepare a monthly report showing total number of claims introduced, number of claims still to be solved, calculate the average time it took to solve the claims and prepare a target for the average time for claims to be solved.

5 Recommendations

1. ***Environment**:* ANE should obtain approval by MITADER of the ESIA and EMP for all infrastructure built under the project.
2. ***Complaints**:* Complaints handling should be improved in future projects. Owners should be reimbursed for property expropriated before works start. Complaints should include all complaints, including misbehaviour of contractors' staff, such as related to GBV and VIH/Aids. This requires a code of conduct for contractor's staff. This includes monitoring of the complaints committees and use of best practices.
3. ***Charcoal production**:* Road construction in Africa very often stimulates the production of charcoal and this is almost impossible to prevent. Therefore, the planting of trees as a mitigating measure should be included in most projects. Some projects also include the distribution of improved energy saving stoves and the production of pellets from wood waste, as further mitigating measures. Many NGOs exist that have the necessary knowledge to assist in these actions.
4. ***Nacala corridor impact:*** the feasibility studies expected the international cross-border traffic to increase at Milange, instead it decreased very strongly, most probably due to the development of the Nacala corridor. As a result, the construction of an OSBP is not justified anymore. Also, the weighbridge at Milange could probably be moved to another location.
5. ***DBST instead of AC**:* The selection of DBST (Double Bitumen Surface Treatment) instead of AC (Asphalt Concrete) is a lower-cost solution and increases the ERR (Economic Rate of Return) and therefore the efficiency. This is an approach favoured by transport economists because it allows the road to function well with a lower cost-driving surface for a period of 5 to 10 years before implementing a periodic maintenance by applying a layer of AC. There is however a danger, if the AC layer is implemented too late, the road is at risk of complete destruction and requires reconstruction.
6. ***Majaua power station**:*
   The station produces 585 KW, it is not connected to the national power grid, and local power consumption is still very low. Synergies with existent or future programmes from the EU/other donors should be actively sought after in order to ensure higher consumption of energy and therefore more efficiency. Accompanying measures for increasing access to credit, knowledge transfer and productive use of energy are also necessary. Besides, priority should be also given to the definition of the most appropriate model for the operation and maintenance of the mini-grid to ensure its sustainability. It is important to mention that the road Milange-Majaua is in poor condition, the rehabilitation has been cancelled but the new Promove project will rehabilitate the road in the near future. It may be worth to mention that the new PIDA policy calls for bringing at the same time rural roads, rural power, and internet to rural areas as a package, to kick-start development in areas such as Majaua.
7. ***PROMOVE project**:* The report includes some recommendations for the Promove project concerning the technical audit, labour-based methods, sustainability, and road selection. Also, the construction of the OSBP and the installation of the weighbridge were transferred from the Milange Mocuba project to the Promove Transporte one. The decision on the relevance of the OSBP and the location of the weighbridge have to be made urgently.
8. ***Maintenance:*** Maintenance is a crucial point to include in the policy dialogue as it guarantees sustainability of this major investment. This is probably the last national road constructed in complete "grant" modality. Future infrastructure projects of this scope are all in "blended" mode. Another reason to carefully maintain this road.

SPECIFIC TERMS OF REFERENCE

Final Evaluation

Upgrading of the Milange - Mocuba Road Phase – Phase I and II

FWC SIEA 2018 - LOT 2: Infrastructure, sustainable growth and jobs

EuropeAid/138778/DH/SER/multi

[CRIS 2019/410920]

Contracting Authority: The European Union Delegation to Mozambique

1 BACKGROUND

1.1 Relevant country / sector background

Country

Mozambique achieved significant economic growth between 2000 and 2015, with real GDP growth rates averaging 7% over this period, largely driven by sound macroeconomic management, several large-scale foreign-investment projects in the extractives sector and significant donor support. It also benefitted from the impact of the commodity price boom of the 2000s in agricultural and mineral sectors. However, Mozambique's robust economic performance was not translated into similar gains in living standards nor invested in strengthening resilience at local level, including to climate shocks despite being recurrent.

Mozambique still ranks amongst the ten countries with the lowest Human Development Index (180th out of 189 countries in 2017) and among the ten lowest annual GDP per capita in 2018 (USD 490). Poverty remains high with 46,1% of the population living below the national poverty line in 2014-2015, down only by 6.7 percentage points from rates prevailing at the beginning of the 2000s. The absolute number of people living in poverty has remained relatively constant (11.8 million people) as the population has been growing faster. Moreover, there is a widening economic gap between rural and urban zones (37.4% urban poverty compared to 50.1% in rural areas) and geographical regions (Provinces in the Centre and North have poverty rates of nearly 40 points higher than the Province of Maputo).

The impressive GDP growth of Mozambique abruptly slowed down in 2015, declining to 3.7% in 2017. The economic downturn factors included the impact of the 2016 El Niño drought on agricultural production, the fall in commodity prices affecting Mozambique's mineral exports (particularly aluminium and coal), and a contraction of Foreign Direct Investment (FDI) inflows. These were aggravated by the discovery in 2016 of undisclosed state-guaranteed loans representing 10% of GDP (approx. USD 1.4 billion) which created a climate of mistrust among the donor community causing the International Monetary Fund (IMF) to discontinue its programmes and the budget support donors to terminate subsequently all budget support operations. Nonetheless, considering the expected FDI inflows related to investments in large gas deposits, Mozambique has the potential to become a middle income country in the course of the next 15 years.

Finally, with a 2,470-km shoreline on the Indian Ocean and nine river basins, Mozambique ranks as the third most hydro-meteorologically disaster-prone country in Africa (World Bank Risk Index, 2017). The occurrence of natural disasters such as floods, cyclones, droughts and earthquakes has consistently had a significant impact on women and men and the economy.

Road network

Mozambique's classified roads network is of functional nature and consists of a total extension of 30,331 kilometres of which about 6,303 km (21%) are paved and the remaining 24,028 km (79%) are unpaved. Road density is rather low with 4 km/100 km2 of land, compared with 28 km/100 km2 in Kenya and 9 km/100 km2 in Tanzania. However, the road network is generally well planned, with classified roads provided to all significant population centres and administrative posts. Most of the classified road network receives some annual routine maintenance but some roads remain in a poor condition due to lack of periodic maintenance. Moreover, Mozambique's road network is highly vulnerable to disruption during the rains due to washouts of drainage structures and embankments.

The survey of the conditions of conservation of the national road network, undertaken in 2017, evaluated in 70% the extension of roads being in a good or reasonable condition. Roads in good condition are key to establish a reliable and durable access from the fertile agricultural lands to the markets and social services. The analysis of the road network conservation also shows that the provinces of Zambézia, Manica and Cabo Delgado are those with the highest impassable road indexes, with Zambézia being the one with the highest impassability condition, with an index higher than 10%.

The institutional setup for roads is largely consistent with that advocated by the Sub-Saharan Africa Transport Policy Programme (SSATP) under the Road Management Initiative (RMI). Institutional reforms in the 1990s and 2000s resulted in the establishment of the National Road Administration (Administração Nacional das Estradas - ANE) and the Road Fund (Fundo de Estradas - FE) as separate institutions. These institutions are semi-autonomous but fall under the responsibility of the Ministry of Public Works, Housing and Water Resources (MOPHRH).

The latest Road Sector Strategy (RSS), drafted in 2015 with the EU support, is still in the process of being adopted by the Government (Implementation Plan). The RSS supports the strategic objective of the Government Five Years plan (PQG2015-2019) of "improving and expanding the road network and key bridges for socioeconomic development of Mozambique". The RSS commits the road sector to the principles of good governance and quality technical performance. This includes transparent and accountable management and appropriate devolution of authority for roads to the provinces and districts. The strategy highlights the importance of secure financing and appropriate technical solutions, good planning for maintenance and investment, improving the use of local materials and labour, resilience of the network, promoting private sector involvement, improving road safety and protecting the environment.

The Government provides updates on the transport sector through the annual report of the Social and Economic Plan (PES) harmonized with the Integrated Road Sector Programme (PRISE - Programa Integrado do Sector de Estradas). The actions executed in the implementation of PES / PRISE fall under priority IV of the “development of economic and social infrastructures” of the Government Five-Year Plan (PQG) 2015 – 2019.

Milange-Mocuba

The objective of the 10th EDF support to Road Transport Infrastructure and in particular to the upgrading of the Milange-Mocuba Road situated in Zambézia, was to contribute to poverty reduction by increasing the access of the rural population to public services, markets and job opportunities, while promoting socioeconomic growth through increased trade and regional integration.

The Milange-Mocuba road (N11) is considered of strategic relevance for the country's regional economic integration, in particular with Malawi and Zambia. Moreover, paving the road has established a reliable access from the fertile agricultural lands along the route to markets in Mocuba, Quelimane, and Beira and in the wider region, including chronic food deficit areas in neighbouring countries.

The road has been upgraded from a gravel road to an all-weather paved road. The road was impassable sometimes during the rainy season. On average the trip from Milange to Mocuba could take between 6 to 10 hours in good weather conditions. During the rainy season it could take several days. After the road was upgraded the duration of the trip was reduced to approximately 2.5 hours.

1.2 The Actions to be evaluated[1]

Titles of the Actions to be evaluated	• Upgrading Milange-Mocuba Road (Phase I) • Integrated Development of Milange – Mocuba Corridor, Zambezia Province (Phase II)
Budgets of the Actions to be evaluated	• Phase I- € 80 mil • Phase II - € 97 mil
CRIS numbers of the Actions	• Decision nº 2008 / 020-977 (Phase I)

[1] *The term ‘Action’ is used throughout the report as a synonym of ‘project and programme’.*

to be evaluated	• Decision nº 2013 / 023-473 (Phase II)
Dates of the Actions to be evaluated	Phase I • Start: September 2010 • End: August 2016 Phase II • Start: April 2014 End: October 2019

Evolution in the programme scope

The road between Milange and Mocuba has a length of 192 km.

Phase I originally included the upgrade of 81 km of the N11 (PK 108 to PK 192). The scope was reduced during the implementation by 3 kms (PK 111 to PK 192).

During the formulation phase of the first Financing Agreement (Phase I) in 2007-2008, the Delegation was implementing another roads programme on the N1, close to Mocuba, the Rehabilitation of the Namacurra - Rio Ligonha Road (financed on 9th EDF). One of the contractors failed to execute his contract for the Namacurra-Nampevo section. After discussions with all stakeholders, it was decided to include this section under the Phase I of the Milange-Mocuba programme.

The original scope of Phase II was the upgrade of the remaining 111 km of the N11 (PK 0 to PK 111).

From November 2014 until late January 2015, Northern and Central parts of Mozambique experienced extensive rainfall which caused serious flooding in many regions. The most critical area affected was in the centre of the country, precisely in the Licungo River Basin (Zambézia province). Floods here reached historical levels (in some areas up to 12m height). Land transportation was hindered, with many roads and bridges destroyed or completely flooded. The main national road N1 was cut multiple times, mainly in Mocuba and Gúruè districts. Many communities were completely isolated and only accessibly by air.

As the programme was operating in this area, the Delegation together with the National Authorising Officer (NAO) and ANE identified an early response for mitigation. This quick response was mobilised on the two ongoing Financing Agreements for the Milange-Mocuba Road (Phase I and II).

The infrastructure works on the N1 focused on the rehabilitation/reconstruction of bridges. Those bridges included Licungo, Lugela, Namilate and Mutuasse Bridge, all having suffered from different degrees of damage. The recovery works also included the full reconstruction and upgrading of three culverts close to Namilate Bridge.

The Zambézia province was again affected by torrential rains and winds in 2019 due to tropical Cyclone Idai. Damages to the infrastructures funded on the programme were limited this time, except for the Lugela Road, one of the rural roads. For this road it was necessary to carry out additional works. These works end in October 2019.

Implementation of the programme

Under Phase I, one single works contract was signed with *Mota-Engil Engenharia e Construcão* (Mota Engil) in September 2010. The Commencement Order was given in November 2010. The period of implantation was 30 months plus a liability period of 12 months. Due to several issues, mainly the additional works included in the contract after the floods of 2015, the period of implementation was extended until August 2016.

Under Phase II, the works tender process was launched in two lots.

Lot 1 was awarded to *Elevolution - Engenharia* in May 2014. The Commencement Order was given in April 2014. The period of implantation was 24 months plus a liability period of 12 months. The contract was terminated in March 2017 because of unacceptable delays. The progress equalled to 52.3% progress on the N11 while 137% of the performance period had elapsed. Litigation with the contractor is currently ongoing. Unfinished works in Lot 1 were awarded to Mota Engil except the rural roads which have been incorporated in the new roads programme PROMOVE Transporte (11th EDF).

The scope of Lot 1 was the following:

- Upgrading of the Malawi border (Muzola) - Milange - Geral section of N11 (47 km)
- Road Namacurra – Nampevo (N1)
- Improvements to rural roads:
    - R650n Milange – Corromana (57 km)
    - R650s / R649 Milange – Majaua (53 km).
- Additional works in the N1 due to the floods in 2015

Lot 2 was awarded to Mota Engil in April 2014. The Commencement Order was granted in June 2014. The period of implantation was 24 months plus a liability period of 12 months. Due to several issues, mainly the additional works included in the contract after the floods of 2015, after termination of Lot 1 and after the floods of 2019, the period of implementation was extended until October 2019.

The scope of Lot 2 is as follows:

- Upgrading of the Geral - Alto Benfica section of N11 (64 km) to bituminous standard
- Improvements to rural road R653 Mocuba – Lugela (56 km)
- Additional works in the N1 due to the floods in 2015
- Additional works due to the termination of Lot 1
- Construction of schools in Chilo and Tambone (accompanying measures)

Phase II also included funds for accompanying measures. The following projects were funded under this line:

- Two schools (mentioned above)
- Rehabilitation of the small hydroelectric plant in Majaua

The Logical Framework Matrix (Logframe) of the Actions shall be subject to the evaluators' scrutiny and reconstruction during Inception. The Logframes are included in Annex to these ToR.

1.3 Stakeholders of the Actions

The key stakeholders of the Actions are the entities involved in the implementation:

- The National Authorising Officer (NAO)

The National Authorising Officer's (NAO) office (Gabinete do Ordenador Nacional (GON)) is the main interlocutor for the EDF and other EU cooperation instruments, playing a central role in their implementation. It incorporates technical, operational and political functions and responsibilities assigned by the Cotonou Agreement and ensures the required institutional memory. The NAO office also plays a key coordinating role in the ongoing EU-Mozambique political and policy dialogue.

- The Road Fund (FE)

The FE was established as a separate entity in 2003. It manages road user charges as well as state budget allocations and development partner contributions. The primary source of funding is the fuel levy, which covers routine maintenance and a portion of periodic maintenance requirements.

- The National Road Administration (ANE)

The ANE is responsible for the management of the national classified road network. Investment projects on primary roads are managed at a central level (ANE headquarters), whereas projects on rural roads and all routine maintenance is managed by the ANE provincial delegations.

Non-classified roads fall under the responsibility of district administrations and municipalities. The Road Fund makes annual allocations to the local authorities for basic maintenance and improvements. ANE provides technical support through its provincial delegations.

- The Technical Assistance (TA) provided to the Government (Civil Design Solutions (CDS)

Despite progress with the institutional reforms, the management of the roads sector continues to be constrained by the low capacity of the institutions. ANE staff have become experienced project managers but large and regular staff turnover undermines a cooperative office culture where timely, confident technical and managerial decision-making can be independently undertaken. Senior managers are not empowered to develop long-term strategic plans and see them through to completion. This leads to hampered operations, delays on construction projects, and ultimately claims against the Government by contractors. TA was mobilised in this programme to assist the ANE and other institutions involved.

- The Supervisor

For Phase I, the roles of Contracting Authority and Supervisor were played by ANE. The Supervisor´s Representative originally was Egis International (Egis). Nicholas O'Dwyer and Company (NOD) took over this role once Egis´s contract was finished.

For Phase II, the Contracting Authority is NAO and the Supervisor is ANE. The Supervisor´s Representative is NOD.

- The Technical Auditor

The Technical Auditor (CDS) is accompanying the programme from the beginning and continues to collaborate with the EU Delegation having participated in the identification and formulation of PROMOVE Transporte.

Beneficiaries

The group of beneficiaries of the action is very wide. The Milange-Mocuba road (N11) is considered of strategic relevance for the country's regional economic integration, in particular with Malawi and Zambia. Paving the road has established a reliable access from the fertile agricultural lands along the route to markets in Mocuba, Quelimane, and Beira and in the wider region, including chronic food deficit areas in neighbouring countries.

Steering Committee

EU road sector collaboration on a programme level takes place in a Steering Committee chaired by the Road Fund and with participation of ANE, NAO and the MOPHRH. The committee usually meets twice a year. The Steering Committee was generally well attended, particularly in the period in which the Delegation was also implementing a Road Sector Budget Support Programme (2011-2016) and many policy issues were discussed at the Steering Committee.

1.4 Other available information

This is the first evaluation that will be carried out on the project, no other evaluations were carried out.

A ROM was carried out in 2016 for Phase II. The ROM concluded that the project addresses well the needs and priorities of target groups and beneficiaries. The Accompanying Measures were a very relevant project component, designed to increase the benefits to the Target Groups. It was recommended that given that the completion of the N11 road corridor was of fundamental importance for the region, the agreement with Mota-Engil for the completion of the Lot 1 (excluding rural roads) appeared to be the

solution that, in the very short term, provided more added value to the project Mocuba- Milange – Phase II.

Traffic counts were carried out at the end of October 2019 on the N11.

This information will be made available to the Evaluation team.

2 DESCRIPTION OF THE EVALUATION ASSIGNMENT

Type of evaluation	Final
Coverage	Upgrading of the Milange - Mocuba Road (Phase I and II)
Geographic scope	Main geographical scope: Zambezia Province (Mozambique) served by N11 Road and the Rural Road from Mocuba to Lugela. Extended scope: national and regional territories impacted by the upgrading of N11.
Period to be evaluated	from September 2010 to October 2019 (implementation period Phase I and II)

2.1 Objectives of the evaluation

Systematic and timely evaluation of its programmes and activities is an established priority[2] of the European Commission[3]. The focus of evaluations is on the assessment of achievements, the **quality** and the **results**[4] of Actions in the context of an evolving cooperation policy with an increasing emphasis on **result-oriented approaches and the contribution towards the implementation of the SDGs.**[5]

From this perspective, evaluations should **look for evidence of why, whether or how these results are linked to the EU intervention** and seek **to identify the factors driving or hindering progress**.

Evaluations should provide an understanding of the **cause and effect links** between: inputs and activities, and outputs, outcomes and impacts. Evaluations should serve accountability, decision making, learning and management purposes.

The main objectives of this evaluation are to provide the relevant services of the European Union and the main interested stakeholder, the Government of Mozambique, with:

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[2] COM(2013) 686 final "Strengthening the foundations of Smart Regulation – improving evaluation" - http://ec.europa.eu/smart-regulation/docs/com_2013_686_en.pdf; EU Financial regulation (art 27); Regulation (EC) No 1905/200; Regulation (EC) No 1889/2006; Regulation (EC) No 1638/2006; Regulation (EC) No 1717/2006; Council Regulation (EC) No 215/2008

[3] SEC (2007)213 "Responding to Strategic Needs: Reinforcing the use of evaluation", http://ec.europa.eu/smart-regulation/evaluation/docs/eval_comm_sec_2007_213_en.pdf ; SWD (2015)111 "Better Regulation Guidelines", http://ec.europa.eu/smart-regulation/guidelines/docs/swd_br_guidelines_en.pdf ; COM(2017) 651 final 'Completing the Better Regulation Agenda: Better solutions for better results', https://ec.europa.eu/info/sites/info/files/completing-the-better-regulation-agenda-better-solutions-for-better-results_en.pdf

[4] Reference is made to the entire results chain, covering outputs, outcomes and impacts. Cfr. Regulation (EU) No 236/2014 "Laying down common rules and procedures for the implementation of the Union's instruments for financing external action" - https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/pdf/financial_assistance/ipa/2014/236-2014_cir.pdf.

[5] The New European Consensus on Development 'Our World, Our Dignity, Our Future', Official Journal 30th of June 2017. http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:C:2017:210:TOC

- an overall independent assessment of the past performance of the program Upgrading Milange-Mocuba Road (Phase I and II), paying particular attention to its results measured against its expected objectives; and the reasons underpinning such results;
- key lessons learned, conclusions and related recommendations in order to improve current and future Actions.

In particular, this evaluation will serve to understand the performance of the Action, its enabling factors and those hampering a proper delivery of results as to inform the planning of other ongoing and future EU interventions in the road sector (PROMOVE Transporte, Nacala Corridor, etc.).

The main users of this evaluation will be the EU Delegation to Mozambique, the National Authorising Officer (NAO), the Road Fund (FE) and the National Road Administration (ANE).

2.2 Requested services

2.2.1 Scope of the evaluation

The evaluation will assess the Action using the five standard DAC evaluation criteria, namely: relevance, effectiveness, efficiency, sustainability and 'early signs of' impact. In addition, the evaluation will assess the following:

- the EU added value (the extent to which the Action brings additional benefits to what would have resulted from Member States' interventions only);
- the coherence of the Action itself, with the EU strategy in the sector and with other EU policies and Member State Actions.
- the matching of the programme to the needs of national and local partners (coherence with Government's sector strategy).
- the materialisation of the expected results and their facilitating and contrasting factors (e.g. did the programme manage to go beyond delivering the outputs and how did it impact the distribution of effects in changing transport costs, in serving some categories of the population, in supporting a sustainability of the infrastructure constructed, etc.)
- the performance of the project management and its capacity to adapt to changing conditions, including to weather-related disasters.
- the impact of the Technical Assistance on the capacities of the ANE and other beneficiaries to inform the future TA programme.

The evaluation team shall furthermore consider whether gender, environment and climate change were mainstreamed; the relevant SDGs and their interlinkages were identified; the principle of Leave No-One Behind and the rights-based approach methodology was followed in the identification/formulation documents and the extent to which they have been reflected in the implementation of the Action, its governance and monitoring.

2.2.2 Issues to be addressed

The Issues to be addressed as formulated below are indicative. Based on the latter and following initial consultations and document analysis, the evaluation team will discuss them with the Evaluation Manager[6] and propose in their Inception Report a complete and finalised set of Evaluation Questions with

[6] *The Evaluation Manager is the staff of the Contracting Authority managing the evaluation contract. In most cases this person will be the Operational manager of the Action(s) under evaluation.*

indication of specific Judgement Criteria and Indicators, as well as the relevant data collection sources and tools.

Once agreed through the approval of the Inception Report, the Evaluation Questions will become contractually binding.

1. To what extent, how and why did the programme affect positively or negatively the local agricultural, trade and transport sectors?
2. To what extent, how and why did the programme affect positively or negatively the environment?
3. How did the program contribute directly or indirectly to create job opportunities?
4. To what extent did the upgraded roads serve the program purpose with respect to travel time, cost of transit freight and passenger service, road safety and accessibility?
5. To what extent were the road works cost-effective and sustainable?
6. Has there been any negative social impacts (spread of HIV-AIDS and other Sexual Transmittable Disease, etc.).

2.3 Phases of the evaluation and required outputs

The evaluation process will be carried out in four phases:

- Inception
- Desk
- Field
- Synthesis

The outputs of each phase are to be submitted at the end of the corresponding phases as specified in the synoptic table in section 2.3.1.

2.3.1 Synoptic table

The following table presents an overview of the key activities to be conducted within each phase and lists the outputs to be produced by the team as well as the key meetings with the Contracting Authority and the Reference Group. The main content of each output is described in Chapter 5.

Phases of the evaluation	Key activities	Outputs and *meetings*
Inception Phase	• Initial document/data collection • Background analysis • Stakeholder analysis • Reconstruction of the Intervention Logic • Methodological design of the evaluation (Evaluation Questions with judgement criteria, indicators and methods of data collection and analysis) and evaluation matrix	• *Kick-off meeting with the Contracting Authority and the Reference Group* [via remote conference] • Inception note
Desk Phase	• In-depth document analysis (focused on the Evaluation Questions) • Interviews • Identification of information gaps and of hypotheses to be tested in the field phase • Methodological design of the Field Phase	• Desk Note

Phases of the evaluation	Key activities	Outputs and *meetings*
Field Phase	• Evaluation tools to be used: cost effectiveness analysis, quantitative analysis of travel time and costs, road safety blackspots profiling, and quantitative analysis of job creation. • Gathering of primary evidence with the use of the most appropriate data gathering techniques (interviews, field observation, focus group discussions – to be defined during desk phase by Evaluators) Analysis of the data (linked to the hypotheses to be tested in the field and in view of filling the gaps – to be defined during desk phase by Evaluators) • Attention should be paid to make sure the evaluation approach is gender-sensitive	• *Presentation of key findings of the field phase* • *Debriefing with the Reference Group face-to-face*
Synthesis phase	• Final analysis of findings (with focus on the Evaluation Questions) • Formulation of the overall assessment, conclusions and recommendations • Reporting	• Draft Final Report • Executive Summary according to the standard template published in the EVAL module • Final Report • *Meeting with Reference Group* [via remote conference]

2.3.2 Inception Phase

This phase aims at structuring the evaluation and clarifying the key issues to be addressed.

The phase will start with initial background study, to be conducted by the evaluators from home. It will then continue with a kick-off session via teleconference (held in English) between the EU Delegation, the Reference Group and the evaluators. Half-day presence of the Team Leader is required. The meeting aims at arriving at a clear and shared understanding of the scope of the evaluation, its limitations and feasibility. It also serves to clarify expectations regarding evaluation outputs, the methodology to be used and, where necessary, to pass on additional or latest relevant information.

In the Inception phase, the relevant documents will be reviewed (see annex II).

Further to a first desk review of the political, institutional and/or technical/cooperation framework of EU support to transport, the evaluation team, in consultation with the Evaluation Manager, will reconstruct or as necessary construct, the Intervention Logic of the Action to be evaluated.

Furthermore, based on the Intervention Logic, the evaluators will develop a narrative explanation of the logic of the Action that describes how change is expected to happen within the Action, all along its results chain, i.e. Theory of Change. This explanation includes an assessment of the evidence underpinning this logic (especially between outputs and outcomes, and between outcomes and impact), and articulates the assumptions that must hold for the Action to work, as well as identification of the factors most likely to inhibit the change from happening.

Based on the Intervention Logic and the Theory of Change the evaluators will finalise i) the Evaluation Questions with the definition of judgement criteria and indicators, the selection of data collection tools and sources, ii) the evaluation methodology, and iii) the planning of the following phases.

The methodological approach will be represented in an Evaluation Design Matrix[7], which will be included in the Inception Report. The **methodology of the evaluation should be gender sensitive**, **contemplate the use of sex- and age-disaggregated data and demonstrate how actions have contributed to progress on gender equality**.

The limitations faced or to be faced during the evaluation exercise will be discussed and mitigation measures described in the Inception Report. Finally, the work plan for the overall evaluation process will be presented and agreed in this phase; this work plan shall be in line with that proposed in the present ToR. Any modifications shall be justified and agreed with the Evaluation Manager.

On the basis of the information collected, the evaluation team should prepare an **Inception Note**; its content is described in Chapter 5.

2.3.3 Desk Phase

This phase is when the document analysis takes place. The analysis should include a brief synthesis of the existing literature relevant to the Action.

The analysis of the relevant documents shall be systematic and reflect the methodology developed and approved during the Inception Phase.

Selected face-to-face phone interviews with the programme management, the relevant EU services and key partners may be conducted during this phase to support the analysis of secondary sources.

The activities to be conducted during this phase should allow for the provision of preliminary responses to each evaluation question, stating the information already gathered and its limitations. They will also identify the issues still to be covered and the preliminary hypotheses to be tested.

During this phase the evaluation team shall fine-tune the evaluation tools to be used during the Field Phase and describe the preparatory steps already taken and those to be taken for its organisation, including the list of people to be interviewed, dates and itinerary of visits, and attribution of tasks within the team.

At the end of the desk phase a **Desk Note** will be prepared; its content is described in Chapter 5.

2.3.4 Field Phase

The Field Phase starts after approval of the Desk Note by the Evaluation Manager.

The Field Phase aims at validating / changing the preliminary answers formulated during the Desk phase and further completing information through primary research.

If any significant deviation from the agreed work plan or schedule is perceived as creating a risk for the quality of the evaluation or not respecting the end of the validity of the specific contract, these elements are to be immediately discussed with the Evaluation Manager and, regarding the validity of the contract, corrective measures undertaken.

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[7] The Evaluation Matrix is a tool to structure the evaluation analysis (by defining judgement criteria and indicators for each evaluation question). It helps also to consider the most appropriate and feasible data collection method for each of the questions,

In the first days of the field phase, the evaluation team shall hold a briefing meeting with the programme management, the Delegation, local authorities and other relevant stakeholders.

During the field phase, the evaluation team shall ensure adequate contact and consultation with, and involvement of the different stakeholders; with the relevant government authorities and agencies. Throughout the mission the evaluation team will use the most reliable and appropriate sources of information, respect the rights of individuals to provide information in confidence, and be sensitive to the beliefs and customs of local social and cultural environments.

At the end of the field phase, the evaluation team will summarise its work, analyse the reliability and coverage of data collection, and present preliminary findings in a meeting (held in English) with the programme management, the EU Delegation, the Reference Group.

At the end of the Field Phase, a PowerPoint Presentation will be prepared; its content is described in Chapter 5.

2.3.5 Synthesis Phase

This phase is devoted to the preparation by the contractor of **two distinct documents**: the **Executive Summary** and the **Final Report**, whose structures are described in the Annex III; it entails the analysis of the data collected during the desk and field phases to answer the Evaluation Questions and preparation of the overall assessment, conclusions and recommendations of the evaluation.

The evaluation team will present, in a single Report with Annexes, their findings, conclusions and recommendations in accordance with the structure in Annex III; a separate Executive Summary will be produced as well, following the compulsory format given in the EVAL module (see Annex III).

The evaluation team will make sure that:

- Their assessments are objective and balanced, statements are accurate and evidence-based, and recommendations realistic and clearly targeted.
- When drafting the report, they will acknowledge clearly where changes in the desired direction are known to be already taking place.
- The wording, inclusive of the abbreviations used, takes into account the audience as identified in art. 2.1 above.

The evaluation team will deliver and then present via VC (held in English) the **Draft Final Report** to the Reference Group to discuss the draft findings, conclusions and recommendations. One day of presence is required of the Team Leader.

The Evaluation Manager consolidates the comments expressed by the Reference Group members and sends them to the evaluation team for the report revision, together with a first version of the Quality Assessment Grid (QAG) assessing the quality of the Draft Final Report. The content of the QAG will be discussed with the evaluation team to verify if further improvements are required, and the evaluation team will be invited to comment on the conclusions formulated in the QAG (through the EVAL Module).

The evaluation team will then finalise the **Final Report** and the **Executive Summary** by addressing the relevant comments. While potential quality issues, factual errors or methodological problems should be corrected, comments linked to diverging judgements may be either accepted or rejected. In the latter instance, the evaluation team must explain the reasons in writing. After approval of the final report, the QAG will be updated and sent to the evaluators via EVAL Module.

2.4 Specific Contract Organisation and Methodology (Technical offer)

The invited Framework Contractors will submit their specific Contract Organisation and Methodology by using the standard SIEA template B-VII-d-i and its annexes 1 and 2 (B-VII-d-ii).

The evaluation methodology proposed to undertake the assignment will be described in the Chapter 3 (Strategy and timetable of work) of the template B-VII-d-i. Contractors will describe how their proposed methodology will address the cross-cutting issues mentioned in these Terms of Reference and notably gender equality and the empowerment of women. This will include (if applicable) the communication action messages, materials and management structures.

2.5 Management and Steering of the evaluation

2.5.1 At the EU level

The evaluation is managed by the Evaluation Manager of the EUD; the progress of the evaluation will be followed closely with the assistance of a Reference Group consisting of members of EU Services [Project Manager] and the National Authorising Officer, the Road Fund, the National Road Administration and the current Technical Assistance provided to the Government of Mozambique.

The main functions of the Reference Group are:

- To define and validate the Evaluation Questions.
- To agree on tools and techniques proposed by the Evaluators for the field phase.
- To facilitate contacts between the evaluation team and the EU services and external stakeholders.
- To ensure that the evaluation team has access to and has consulted all relevant information sources and documents related to the Action.
- To discuss and comment on notes and reports delivered by the evaluation team. Comments by individual group members are compiled into a single document by the Evaluation Manager and subsequently transmitted to the evaluation team.
- To assist in feedback on the findings, conclusions, lessons and recommendations from the evaluation.
- To support the development of a proper follow-up action plan after completion of the evaluation.

2.5.2 At the Contractor level

Further to the Requirements set in the art. 6 of the Global Terms of Reference and in the Global Organisation and Methodology, respectively annexes II and III of the Framework contract SIEA 2018, the contractor is responsible for the quality of: the process; the evaluation design; the inputs and the outputs of the evaluation. In particular, it will:

- Support the Team Leader in its role, mainly from a team management perspective. In this regard, the contractor should make sure that, for each evaluation phase, specific tasks and outputs for each team member are clearly defined and understood.
- Provide backstopping and quality control of the evaluation team's work throughout the assignment.
- Ensure that the evaluators are adequately resourced to perform all required tasks within the time framework of the contract.

2.6 Language of the Specific contract

The language of the specific contract is English.

3 EXPERTISE REQUIRED

3.1 Number of experts and of working days per category

The table below indicates the minimum number of evaluators and the minimum number of working days (overall and in the field), per category of experts to be foreseen by the Contractor.

Category of experts	Minimum number of evaluators	Total minimum number of working days (total)	(Out of which) minimum number of working days on mission
Cat I	1	40	15
Cat II	1	35	15
Cat III			

In particular, the Team Leader (to be identified in the Organisation and Methodology and in the Financial Offer) is expected to be a Cat I expert, possess a demonstrable senior evaluation expertise coherent with the requirements of this assignment and not provide less than 40 working days, out of which 15 in the field.

3.2 Expertise required

Minimum requirements of the team

A team of 2 key experts is required. The team will be led by a senior evaluation expert (Cat I). The Team Leader will be supported by a senior expert in the field of transport (Cat 2).

Minimum requirements of the team:

- At least one member of the team: 5 years of experience in the evaluation of development projects;
- At least one member of the team: 3 evaluations of EU-funded projects or EU programmes;
- At least one member of the team: 6 years of experience in the field of projects related to transport sector;
- At least one member of the team: 2 evaluations of EU-funded road infrastructure projects
- Both members of the team should be fluent in English and at least one team member should master Portuguese (minimum level C1).

Languages levels are defined for understanding, speaking and writing skills by the Common European Framework of Reference for Languages available at https://europass.cedefop.europa.eu/en/resources/european-language-levels-cefr and shall be demonstrated by certificates or by past relevant experience.

The European Union pursues an equal opportunities policy. Gender balance in the proposed team, at all levels, is highly recommended.

3.3 Presence of management team for briefing and/or debriefing

The presence of member(s) of the management team is not required for briefing or debriefing purposes.

4 LOCATION AND DURATION

4.1 Starting period

Provisional start of the assignment is February 2020.

4.2 Foreseen duration of the assignment in calendar days

Maximum duration of the assignment: 180 calendar days.

This overall duration includes working days, week-ends, periods foreseen for comments, for review of draft versions, debriefing sessions, and distribution of outputs.

4.3 Planning, including the period for notification for placement of the staff[8]

As part of the technical offer, the framework contractor must fill in the timetable in the Annex IV [(to be finalised in the Inception Report)]. The 'Indicative dates' are not to be formulated as fixed dates but rather as days (or weeks, or months) from the beginning of the assignment (to be referenced as '0').

Sufficient forward planning is to be taken into account in order to ensure the active participation and consultation with government representatives, national / local or other stakeholders.

4.4 Location(s) of assignment

The field phase of the assignment will take place in Maputo with visits to Zambezia Province. The inception, desk and synthesis phases would take place at the office/home base of the experts.

5 REPORTING

5.1 Content, timing and submission

The outputs must match quality standards. The text of the reports should be illustrated, as appropriate, with maps, graphs and tables; a map of the area(s) of Action is required (to be attached as Annex).

List of outputs:

	Number of Pages *(excluding annexes)*	**Main Content**	**Timing for submission**

Inception Note	5 pages	• Intervention logic
		• Stakeholder map
		• Methodology for the evaluation, incl.:
		  o Evaluation Matrix: Evaluation Questions, with judgement criteria and indicators, and data analysis and collection methods
		  o Consultation strategy
		  o Field visit approach
		• Analysis of risks related to the evaluation methodology and mitigation measures
		• Work plan
			End of Inception Phase

Desk Note	10 pages	• Preliminary answers to each Evaluation Question, with indication of the limitations of the available information • Data gaps to be addressed, issues still to be covered	End of the Desk Phase

[8] *As per art 16.4 a) of the General Conditions of the Framework Contract SIEA*

	Number of Pages *(excluding annexes)*	Main Content	Timing for submission
		and hypotheses to be tested during the field visit • Update of the field visit approach • Update of the work plan of the following phases	
Presentation		• Activities conducted during the field phase • Difficulties encountered during the field phase and mitigation measures adopted • Key preliminary findings (combining desk and field ones)	End of the Field Phase
Draft Final Report	30 pages	• **Cf. detailed structure in Annex III**	End of Synthesis Phase
Draft Executive Summary – by using the EVAL online template	N/A	• **Cf. detailed structure in Annex III**	End of Synthesis Phase
Final report	30 pages	• Same specifications as of the Draft Final Report, incorporating any comments received from the concerned parties on the draft report that have been accepted	2 weeks after having received comments to the Draft Final Report.
Executive Summary – by using the EVAL online template	N/A	• Same specifications as for the Draft Executive Summary, incorporating any comments received from the concerned parties on the draft report that have been accepted	Together with the final version of the Final Report

5.2 Use of the EVAL module by the evaluators

It is strongly recommended that the **submission of deliverables** by the selected contractor **be performed through their uploading in the EVAL Module**, an evaluation process management tool and repository of the European Commission. The selected contractor will receive access to online and offline guidance in order to operate with the module during the related Specific contract validity.

5.3 Comments on the outputs

For each report, the Evaluation Manager will send to the Contractor consolidated comments received from the Reference Group or the approval of the report within [14] calendar days. The revised reports addressing the comments shall be submitted within [14] calendar days from the date of receipt of the comments. The evaluation team should provide a separate document explaining how and where comments have been integrated or the reason for not integrating certain comments, if this is the case.

5.4 Assessment of the quality of the Final Report and of the Executive Summary

The quality of the draft versions of the Final Report and of the Executive Summary will be assessed by the Evaluation Manager using the online Quality Assessment Grid (QAG) in the EVAL Module (text provided in Annex V). The Contractor is given – through the EVAL module - the possibility to comment on the

assessments formulated by the Evaluation Manager. The QAG will then be reviewed following the submission of the final version of the Final Report and of the Executive Summary.

The compilation of the QAG will support/inform the compilation by the Evaluation Manager of the FWC SIEA's Specific Contract Performance Evaluation.

5.5 Language

All reports shall be submitted in English.

The entirety of the Final Report and the Executive Summary shall be furthermore translated into Portuguese.

5.6 Number of report copies

Apart from their submission -preferably via the EVAL Module-, the approved version of the Final Report will be also provided in [5] paper copies and in electronic version (DVD) at no extra cost.

5.7 Formatting of reports

All reports will be produced using Font Arial or Times New Roman minimum letter size 11 and 12 respectively, single spacing, double sided. They will be sent in Word and PDF formats.

ANNEXES

ANNEX I: SPECIFIC TECHNICAL EVALUATION CRITERIA

SPECIFIC TECHNICAL EVALUATION CRITERIA

[Request for Services n. 2019/410920]

FWC SIEA 2018 - LOT <2> : Infrastructure, sustainable growth and jobs

EuropeAid/138778/DH/SER/multi

1. TECHNICAL EVALUATION CRITERIA

The Contracting Authority selects the offer with the best value for money using an 80/20 weighting between technical quality and price[9].

Technical quality is evaluated on the basis of the following grid:

Criteria	Maximum
Total score for Organisation and Methodology	***40***
• Understanding of ToR and the aim of the services to be provided	**7**
• Overall methodological approach, quality control approach, appropriate mix of tools and estimate of difficulties and challenges	**20**
• Technical added value, backstopping and role of the involved members of the consortium	**5**
• Organisation of tasks including timetable	**8**
Score for the expertise of the proposed team	***60***
OVERALL TOTAL SCORE	***100***

2. TECHNICAL THRESHOLD

Any offer falling short of the technical threshold of 75 out of 100 points, is automatically rejected.

[9] *For more details about the 80/20 rule, please see the PRAG, chapter 3.3.10.5 - https://ec.europa.eu/europeaid/funding/about-funding-and-procedures/procedures-and-practical-guide-prag_en*

ANNEX II: INFORMATION THAT WILL BE PROVIDED TO THE EVALUATION TEAM

- Legal texts pertaining to the Action(s) to be evaluated
- National Indicative Programmes (and equivalent) for the periods covered
- Action identification studies
- Action feasibility / formulation studies
- Action financing agreement and addenda
- Action's technical reports
- European Commission's Result Oriented Monitoring (ROM) Reports, and other external and internal monitoring reports of the Action
- Any other relevant document

Note: The evaluation team has to identify and obtain any other document worth analysing, through independent research and during interviews with relevant informed parties and stakeholders of the Action.

ANNEX III: STRUCTURE OF THE FINAL REPORT AND OF THE EXECUTIVE SUMMARY

The contractor will deliver – **preferably through their uploading in the EVAL Module** - **two distinct documents**: the **Final Report** and the **Executive Summary**. They must be consistent, concise and clear and free of linguistic errors both in the original version and in their translation – if foreseen.

The Final Report should not be longer than the number of pages indicated in Chapter 6. Additional information on the overall context of the Action, description of methodology and analysis of findings should be reported in an Annex to the main text.

The presentation must be properly spaced and the use of clear graphs, tables and short paragraphs is strongly recommended.

The cover page of the Final Report shall carry the following text:

''*This evaluation is supported and guided by the European Commission and presented by [name of consulting firm]. The report does not necessarily reflect the views and opinions of the European Commission*''.

Executive Summary	A short, tightly-drafted, to-the-point and free-standing Executive Summary. It should focus on the key purpose or issues of the evaluation, outline the main analytical points, and clearly indicate the main conclusions, lessons to be learned and specific recommendations. It is to be prepared by using the specific format foreseen in the EVAL Module.

The main sections of the evaluation report shall be as follows:

1. Introduction	A description of the Action, of the relevant country/region/sector background and of the evaluation, providing the reader with sufficient methodological explanations to gauge the credibility of the conclusions and to acknowledge limitations or weaknesses, where relevant.
2. Answered questions / Findings	A chapter presenting the answers to the Evaluation Questions, supported by evidence and reasoning.
3. Overall assessment *(optional)*	A chapter synthesising all answers to Evaluation Questions into an overall assessment of the Action. The detailed structure of the overall assessment should be refined during the evaluation process. The relevant chapter has to articulate all the findings, conclusions and lessons in a way that reflects their importance and facilitates the reading. The structure should not follow the Evaluation Questions, the logical framework or the evaluation criteria.

4. Conclusions and Recommendations

4.3 Lessons learnt

Lessons learnt generalise findings and translate past experience into relevant knowledge that should support decision making, improve performance and promote the achievement of better results. Ideally, they should support the work of both the relevant European and partner institutions.

4.1 Conclusions

This chapter contains the conclusions of the evaluation, organised per evaluation criterion.

In order to allow better communication of the evaluation messages that are addressed to the Commission, a table organising the conclusions by order of importance can be presented, or a paragraph or sub-chapter emphasizing the 3 or 4 major conclusions organised by order of importance, while avoiding being repetitive.

4.2 Recommendations

They are intended to improve or reform the Action in the framework of the cycle under way, or to prepare the design of a new Action for the next cycle.

Recommendations must be clustered and prioritised, and carefully targeted to the appropriate audiences at all levels, especially within the Commission structure.

5. Annexes to the report

The report should include the following annexes:

- The Terms of Reference of the evaluation
- The names of the evaluators (CVs can be shown, but summarised and limited to one page per person)
- Detailed evaluation methodology including: options taken, difficulties encountered and limitations; detail of tools and analyses.
- Evaluation Matrix
- Intervention logic / Logical Framework matrices (planned/real and improved/updated)
- Relevant geographic map(s) where the Action took place
- List of persons/organisations consulted
- Literature and documentation consulted
- Other technical annexes (e.g. statistical analyses, tables of contents and figures, matrix of evidence, databases) as relevant
- Detailed answer to the Evaluation Questions, judgement criteria and indicators

ANNEX IV: PLANNING SCHEDULE

This annex must be included by Framework Contractors in their Specific Contract Organisation and Methodology and forms an integral part of it. Framework Contractors can add as many rows and columns as needed.

The phases of the evaluation shall reflect those indicated in the present Terms of Reference.

		Indicative Duration in working days[10]		
Activity	**Location**	**Team Leader**	**Evaluator …**	**Indicative Dates**
Inception phase: total days				
•				
•				
Desk phase: total days				
•				
•				
Field phase: total days				
•				
•				
Synthesis phase: total days				
•				
•				
TOTAL working days (maximum)				

[10] *Add one column per each evaluator*

ANNEX V: QUALITY ASSESSMENT GRID

The quality of the Final Report will be assessed by the Evaluation Manager (since the submission of the draft Report and Executive Summary) using the following quality assessment grid, which is included **in the EVAL Module**; the grid will be shared with the evaluation team, which will have the possibility to include their comments.

Action (Project/Programme) evaluation – Quality Assessment Grid Final Report

Evaluation data				
Evaluation title				
Evaluation managed by			**Type of evaluation**	
CRIS ref. of the evaluation contract			**EVAL ref.**	
Evaluation budget				
EUD/Unit in charge			**Evaluation Manager**	
Evaluation dates	**Start:**		**End:**	
Date of draft final report			**Date of Response of the Services**	
Comments				
Project data				
Main project evaluated				
CRIS # of evaluated project(s)				
DAC Sector				
Contractor's details				
Evaluation Team Leader			**Evaluation Contractor**	
Evaluation expert(s)				

Legend: scores and their meaning

Very satisfactory: criterion entirely fulfilled in a clear and appropriate way
Satisfactory: criterion fulfilled
Unsatisfactory: criterion partly fulfilled
Very unsatisfactory: criterion mostly not fulfilled or absent

The evaluation report is assessed as follows

1. Clarity of the report

This criterion analyses the extent to which both the Executive Summary and the Final Report:

- Are easily readable, understandable and accessible to the relevant target readers
- Highlight the key messages
- The length of the various chapters and annexes of the Report are well balanced
- Contain relevant graphs, tables and charts facilitating understanding
- Contain a list of acronyms (only the Report)
- Avoid unnecessary duplications
- Have been language checked for unclear formulations, misspelling and grammar errors
- The Executive Summary is an appropriate summary of the full report and is a free-standing document

Strengths	Weaknesses	Score
Contractor's comments	**Contractor's comments**	

2. Reliability of data and robustness of evidence

This criterion analyses the extent to which:

- Data/evidence was gathered as defined in the methodology
- The report considers, when relevant, evidence from EU and/or other partners' relevant studies, monitoring reports and/or evaluations
- The report contains a clear description of the limitations of the evidence, the risks of bias and the mitigating measures

Strengths	Weaknesses	Score
Contractor's comments	**Contractor's comments**	

3. Validity of Findings

This criterion analyses the extent to which:

- Findings derive from the evidence gathered
- Findings address all selected evaluation criteria
- Findings result from an appropriate triangulation of different, clearly identified sources

- When assessing the effect of the EU intervention, the findings describe and explain the most relevant cause/effect links between outputs, outcomes and impacts
- The analysis of evidence is comprehensive and takes into consideration contextual and external factors

Strengths	Weaknesses	Score
Contractor's comments	**Contractor's comments**	

4. Validity of conclusions

This criterion analyses the extent to which:

- Conclusions are logically linked to the findings, and go beyond them to provide a comprehensive analysis
- Conclusions appropriately address the selected evaluation criteria and all the evaluation questions, including the relevant cross-cutting dimensions
- Conclusions take into consideration the various stakeholder groups of the evaluation
- Conclusions are coherent and balanced (i.e. they present a credible picture of both strengths and weaknesses), and are free of personal or partisan considerations
- (If relevant) whether the report indicates when there are not sufficient findings to conclude on specific issues

Strengths	Weaknesses	Score
Contractor's comments	**Contractor's comments**	

5. Usefulness of recommendations

This criterion analyses the extent to which the recommendations:

- Are clearly linked to and derive from the conclusions
- Are concrete, achievable and realistic
- Are targeted to specific addressees
- Are clustered (if relevant), prioritised, and possibly time-bound
- (If relevant) provide advice for the Action's exit strategy, post-Action sustainability or for adjusting Action's design or plans

Strengths	Weaknesses	Score
Contractor's comments	**Contractor's comments**	

6. Appropriateness of lessons learnt analysis *(if requested by the ToR or included by the evaluators)*	
This criterion is to be assessed only when requested by the ToR or included by evaluators and is not to be scored. It analyses the extent to which: • Lessons are identified • When relevant, they are generalised in terms of wider relevance for the institution(s)	
Strengths	**Weaknesses**
Contractor's comments	**Contractor's comments**

Final comments on the overall quality of the report	Overall score

ANNEX VI: LOGICAL FRAMEWORK MATRIX (LOGFRAME) OF THE EVALUATED ACTION(S)

Attachment 1 - LOGICAL FRAMEWORK: Upgrading of the Milange to Mocuba road in Zambezia Province, Mozambique

	Intervention	Indicator	Verification source	Assumption
Overall Objectives	Contribute to economic development and poverty reduction through reduced time and cost of transport	• Transport tariffs reduced • New businesses established • Increased number of jobs in the formal as well as informal sector	• Public statistics • Socio-economic origin-destination surveys • Consultant's reports	
Project Purpose	Provide regional fast and safe all-weather road between Milange and Mocuba for connectivity from Malawi and Zambia to the ports of Quelimane, Beira and Nacala.	• Volume of road traffic • Number of accidents reduced • Travel time	• Traffic counts • INAV and Police reports • Site visit	Appropriate coordination between ANE, INAV and Police at central and provincial levels. Missing links on the road corridors construction completed.
Results	Upgrading of the road completed and commissioned and included in maintenance plans.	• Entire road section in good condition • Percentage of Transitability	• Road condition survey • ANE statistics • Road completion report • Bi-annual joint review reports	Routine and periodic maintenance according to plans. Annual on budget road funds allocated for maintenance.
Activities	Phase 1: Feasibility study (Detailed design) Phase 2: Construction Supervision Evaluation(s) Audit	• Timely delivery of complete study • Continuous supervision and monitoring during entire implementation period • Timely payments due to the Contractor and TA	• Consultant's reports	Successful tendering and efficient execution of feasibility study, works and supervision contracts. No undue delays by Customs, no delays on delivery of payments, no delays on delivery of road reserve, borrow pits and quarries to the Contractor.
		Specification of inputs	**Specification of costs (Euro)** EC contribution	Availability of 10th EDF funds.
		Phase 2: Works contract Supervision Monitoring Evaluation(s) Audit Communication Total	69.000.000 3.450.000 100.000 100.000 100.000 25.000 72.775.000	
		Contingencies	7.225.000	
		Total Phase 2	**80.000.000**	

Appendix 1 –Logical framework

	Intervention Logic	Objectively Verifiable Indicators	Sources of Verification	Risks / Assumptions
Overall Objective	Contribute to poverty reduction by way of promotion of economic and social development and facilitate international trade thereby enhancing regional integration.	▫ Trends in n° of trading/business establishments at district and local levels ▫ Trends in agricultural production of selected commodities at regional level ▫ Transit time for vehicles and people	▫ Annual provincial and district government statistics[2] ▫ M&E Framework ▫ Records of operation of One Stop Border Post (OSBP)	
Project Purpose	i) Contribute to development of a safe and sustainable national road network	▫ Trends in axle over loading of trucks weighed at Milange and Nicoadala weigh-stations ▫ N° trucks weighed daily at Milange and Nicoadala weigh-stations ▫ Trends in frequency and cost of transport services on upgraded roads ▫ Trends in accident occurrence ▫ Maintenance budget allocated	▫ ANE records of weigh-station operation ▫ Monitoring & Evaluation Framework (M&E Framework)	▫ Effective coordination and harmonisation of approach on integrated development between sector institutions ▫ No exceptional weather causing crop failure and/or damage to road assets ▫ ANE effectively and efficiently manage the national road network, including this project
	ii) Contribute to integrated economic, social and rural development of areas surrounding the Milange - Mocuba Corridor, Zambezia Province	▫ Trends of costs for selected commodities at district and local levels ▫ Trends in usage of upgraded road N11 (AADT ESA) ▫ Trends in usage of upgraded rural roads (vpd) ▫ Trends in ownership of road vehicles (NMT & MT) at district and local levels	▫ MINAG weekly records of commodity prices (Mocuba and Milange) ▫ ANE statistics/ annual traffic counts ▫ Annual provincial and district government statistics[1] ▫ M&E Framework	
Results	i) Upgrade of N 11 corridor between Alto Benfica and Milange to paved standard	▫ N11 corridor road completed and to 100% in good condition	▫ Road completion report ▫ M&E Framework	▫ Road sector receives timely sufficient allocation for road maintenance
	ii) Upgrade to all-weather standard of selected, classified rural roads linking to the N11	▫ Rural target roads completed and 100% in good condition	▫ Road completion report ▫ M&E Framework	

[2] Including 'Indicadores e Matriz de Desenvolvimento – Governos Distritais de Mocuba, Milange e Lugela'

	corridor			◦ Enforcement of axle load control and road safety (including reporting)
	iii) Improved border transit through an OSBP on Malawi/Mozambique (Mulozo/Milange) border	◦ OSBP built	◦ Contract completion report ◦ Records of operation of OSBP ◦ M&E Framework	◦ Continued high level political commitment of GoM to sector dialogue/coordination and data collection
	iv) Improved axle load control through a fixed weighbridge at the Malawi/Mozambique (Mulozo/Milange) border	◦ Weighbridge built	◦ Contract completion report ◦ ANE records of weigh-stations operation ◦ M&E Framework	◦ Risks are mitigated in regard to procurement/cost overruns through appropriate contract packaging encouraging competitive bidding and reduced procurement lead time by adherence to the agreed procurement time schedule
	v) Mitigation of flood damages and climate resilient rebuilding of critical infrastructure	◦ Transitability in the project area is guaranteed during the project and road and bridge infrastructure along N11, N1 and its contributors are rebuild in climate resilient and environmental sound manner	◦ Road completion report ◦ M&E Framework	◦ Design assumptions in terms of hydraulic data and climate change parameters are realistic
Activities	1. Road works 2. OSBP construction 3. Weighbridge construction Supervision Cross Cutting Activities 1. Environmental 2. Gender 3. HIV/AIDS 4. Road Safety 5. M&E Framework 6. Accompanying measures: Flood response, transport services and local initiatives			◦ Project is efficiently and effectively implemented by ANE in its entirety within costs, quality and time ◦ No exceptional construction costs escalation and financially robustness of contracting firms ◦ Governments of Mozambique and Malawi implement agreement on OSBP

		Pre – conditions before signing of works contracts ▫ The Terms of Reference for the EU-capacity development support to the road sector institutions is agreed and submitted for tendering; ▫ Budget is allocated, so that 90% of land for compensation identified in the resettlement action plan can be acquired; ▫ Appropriate road pavement and surfacing designs are adopted for the project to contain costs; ▫ Government reserves indentified quarry sources for construction materials to guarantee supplies during project implementation; ▫ The proposed environmental mitigation measures are approved by the Ministry for the Coordination of Environmental Affairs. In addition Government further pursues the dialogue and negotiations with Malawi to agree on the implementation of OSBPs along its borders and approves the type of OSBP to be constructed at Milange before launch of the tender for the OSBP. During project implementation, Government commits itself to implement accompanying measures by drawing on work and experiences gained under AFCAP and SSATP in regard to transport services to the rural population along the corridor. Such accompanying measures will be agreed and designed on project start-up.

Annex 4: Evaluation matrix

Evaluation questions	Indicators	Sources	Limitations and risks
1. To what extent, how and why did the programme affect positively or negatively the local agricultural, trade and transport sectors?	Improvement of the situation of the local agricultural, trade and transport sectors after the road construction	Initial situation described in the feasibility studies Yearly statistics Observations and interviews during the field visit	Other factors may influence the sectors and isolating the project impact may be difficult
2. To what extent, how and why did the programme affect positively or negatively the environment?	Improvement of the environmental situation after the road construction	Initial situation described in the environmental studies Observations and interviews during the field visit	
3. How did the program contribute directly or indirectly to create job opportunities?	Direct and indirect job creation during construction and job creation in the local agricultural and transport sector as a result of the road construction	Progress reports Yearly statistics of the agricultural and transport sector Observations and interviews during the field visit	Isolating the impact of the project on job creation in the sectors may be difficult
4. To what extent did the upgraded roads serve the program purpose with respect to travel time, cost of transit freight and passenger service, road safety and accessibility?	Surveys of travel time, VOC and transport costs before and after the road construction	Feasibility studies Traffic surveys Transport cost statistics	Availability of relevant data may be doubtful
5. To what extent were the road works cost-effective and sustainable?	ERR of the completed works (taking into account the funds effectively used on the MM road) Maintenance regime	Feasibility studies Final reports Observations and interviews during the field visit	Re-evaluation of ERR after construction may not be available and difficult to determine
6. Have there been any negative social impacts (spread of HIV-AIDS and other Sexual Transmittable Disease, etc.)?	Regional HIV and STD occurrences before and after construction	HIV and STD statistics	Availability of regional statistics is not certain
7. To what extent does the EU assistance conform to the needs, priorities, policies and strategies of the GoM and the development partners?	Policies and strategies of the GoM, Expressed needs of the population	Literature review Interviews with stakeholders Observations and interviews during the field visit	Priorities may be different for different stakeholders

8. To what extent were gender issues included in the identification/formulation documents and reflected in the implementation of the Action?	Situation of gender issues before, during and after road construction	Progress reports Labour Statistics Observations and interviews during the field visit	Availability of statistics for the specific influence area may be limited. Other factors may influence changes
9. Were the principle of Leave No-One Behind and the rights-based approach methodology followed in the identification/formulation documents and to what extent have they been reflected in the implementation of the Action, its governance and monitoring?	Situation of the population in the influence area before and after the project implementation	Project documents Progress reports Observations and interviews during the field visit	Availability of statistics for the specific influence area may be limited. Other factors may influence changes
10. To what extent does the Action bring additional benefits to what would have resulted from Member States' interventions only?	Benefits from the Action compared to Member States' interventions	Financing agreements Programme/project documents Interviews with stakeholders	Opinions expressed may be subjective
11. What has been the impact of the Technical Assistance on the capacities of the ANE and other beneficiaries to inform the future TA programme?	Capacity of the beneficiaries of the TA	Progress reports of TA and Technical audits Interviews with stakeholders	It may be difficult to separate the impact of the TA from other factors influencing the capacities of the beneficiaries

The final report will include a chapter with the answers to the above evaluation questions. In a following chapter the different DAC and additional EU criteria will be discussed (see 4.2 below). In order to provide a link between both chapters the answers to the different evaluation questions will contain a concluding paragraph that shows how the answers to the EQs are linked to the criteria discussed in the following chapter. Some of the EQs may be linked to several criteria others may address only one aspect of a criteria, and since this is difficult to determine in advance it will be made clear in the final report.

Annex 5: Intervention logic and theory of change

Intervention logic and theory of change

The intervention logic of the project is described in the logical frameworks of the FAs. Each FA has its own logical framework. The initial logical frameworks for FA1 and FA2 are attached to the ToR attachment 1, pages 28 to 31. The general outline of these logical frameworks is similar. The framework of the second FA is modified to include the construction of feeder roads, a border post and a weigh bridge in addition to the paving of the Milange-Mocuba road.

Both logical frameworks aim at a **general objective** of poverty reduction through economic development as a result of the reduction of cost and transit time, along and in the influence area of the Milange-Mocuba road.

The **purpose** of both phases is to provide a safe and sustainable all-weather road linking Malawi and Zambia to Mozambique. The second phase includes, in addition, the development of the areas surrounding the Milange-Mocuba road.

The **results** are defined as the upgrading of the Milange-Mocuba section to a paved road and the upgrading of feeder roads to gravel roads.

The **activities** of the project are the studies, the construction and the supervision of the works.

What was not anticipated was that another road project funded by the EUD nearby ended without being completed and the completion works were included in the Milange-Mocuba road project.

Another occurrence that was not anticipated was that in late 2014 and early 2015 extensive rains flooded and damaged important hydraulic infrastructure in the area. Here also rehabilitation and reconstruction works were included in the phase II of the road project.

The theory of change is based on the main assumption that improving the Milange-Mocuba road to a paved standard, and improving feeder roads to a fully engineered gravel road standard, will decrease travel times for all road users and will also reduce the Vehicle Operation Cost (VOC). This is a usual assumption for road upgrading projects. For this assumption to remain valid over the life span of the road it is assumed that the road will be maintained. It is also assumed that the savings in VOC will result in a reduction of transport costs for the end-users; this means that the benefits from reduced VOC will be transferred to the end-users through lower transport costs and will not remain with the transport companies in the form of higher profits. It is also assumed that the increased speed does not lead to a large number of traffic accidents and therefore the assumption is that the road designs consider road safety and that furthermore the road safety is guaranteed by the actions of the road safety agency and the traffic police.

If these assumptions are verified, then the reduced cost and time should stimulate economic growth in the area. This will translate into increased traffic numbers and this can be measured. The increased traffic figures will be the result of higher local traffic through the development of the area along the Milange-Mocuba road but also the result of increasing international through traffic between Zambia, Malawi and Mozambique and its ports. It is also assumed that the economic growth will lead to poverty reduction that reaches the whole population including the very poor, including women and young people.

Logical frameworks

There are two logframes for FA1 and FA2. Both are included in the ToR see annex 1 of this report.

Annex 6: Geographic maps where the Action took place

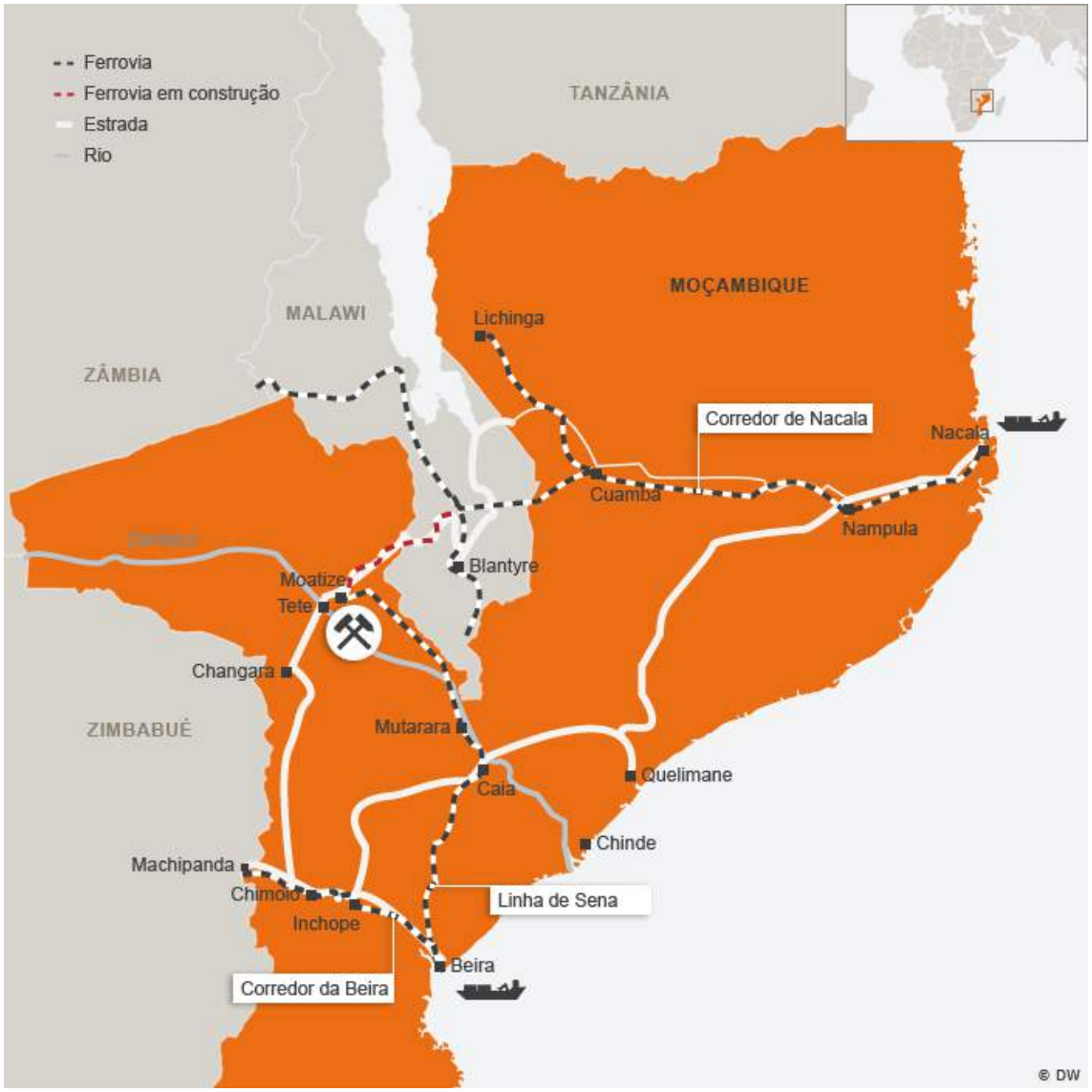
Source: Google maps

Legend:

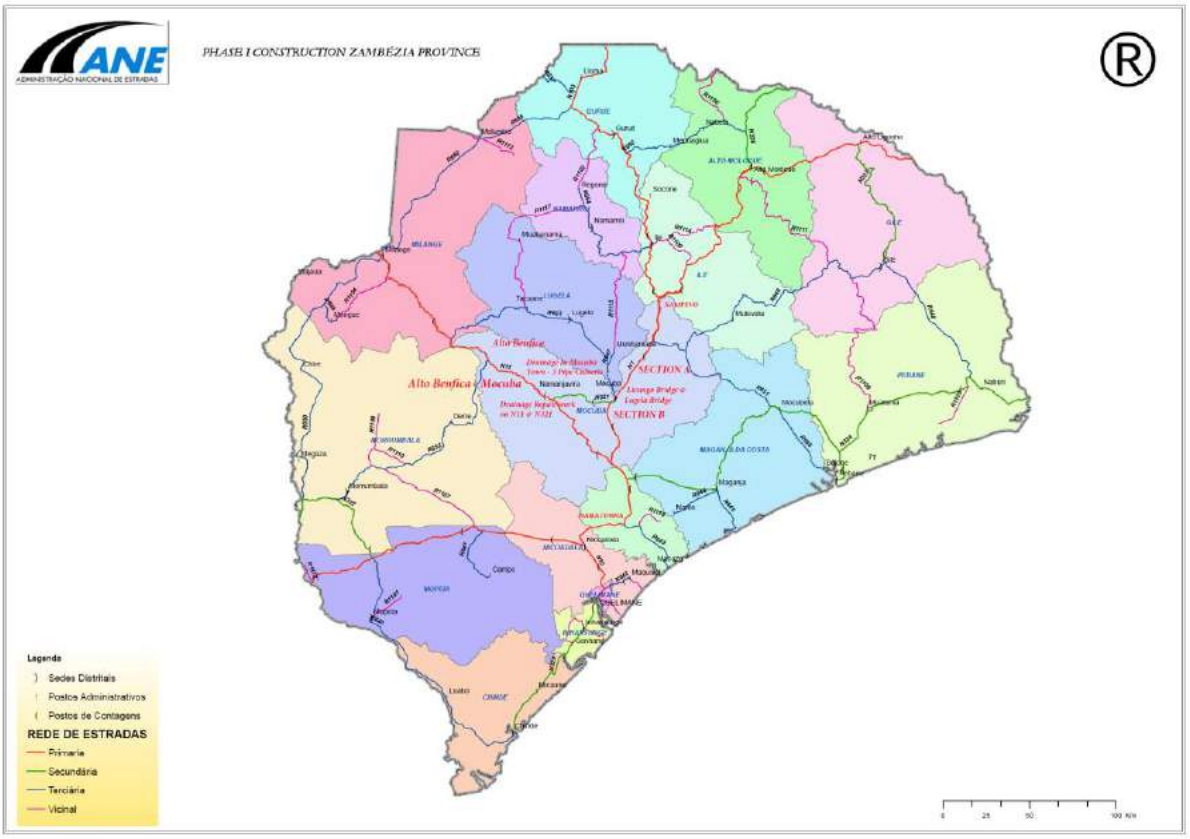
Red: project roads Milange-Mocuba-Lugela and Namacurra to Nampevo

Green Nacala-Lusaka road corridor

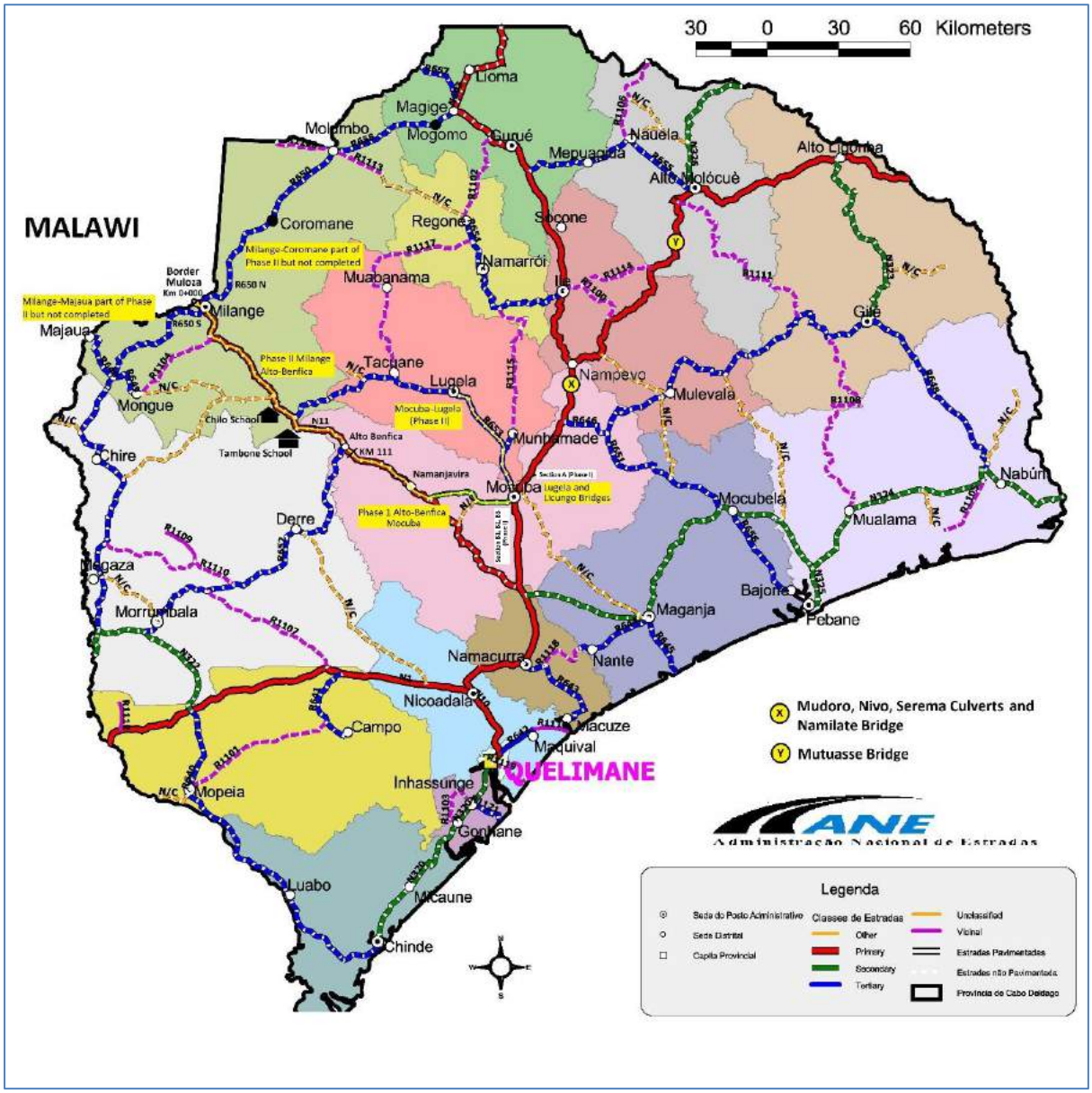
Beira and nacala corridors



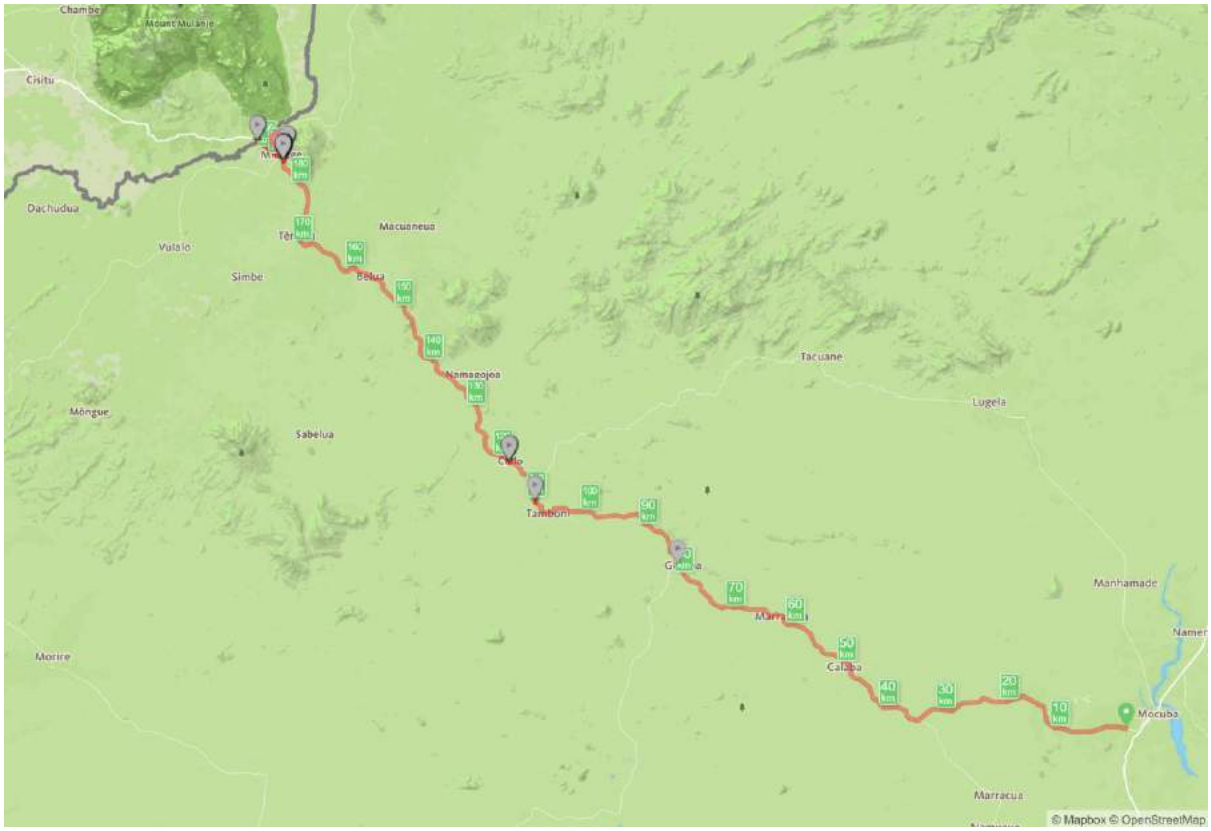
Map of Zambesia province with phase I locations



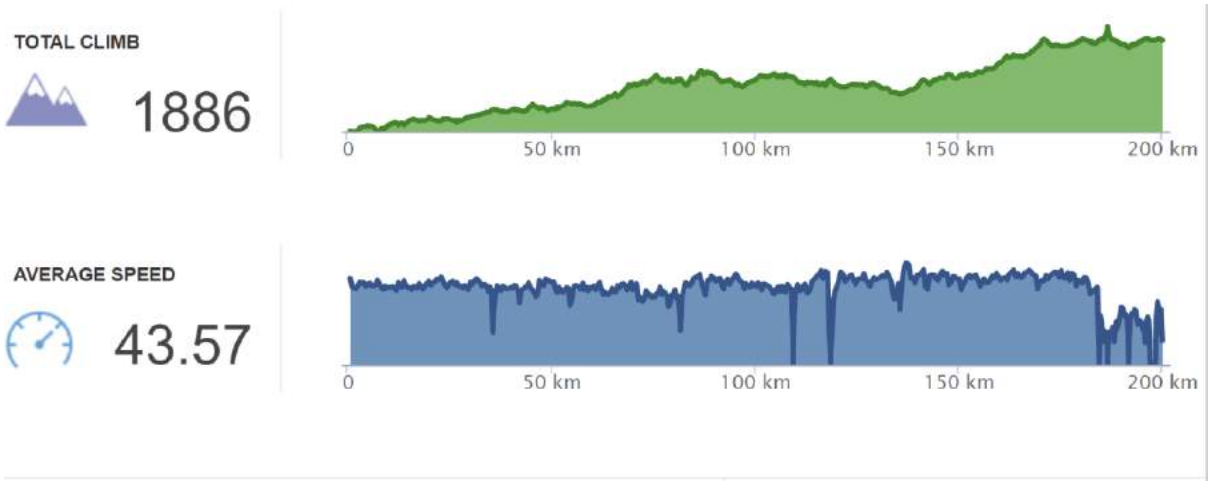
Map of Zambesia province with phase II locations



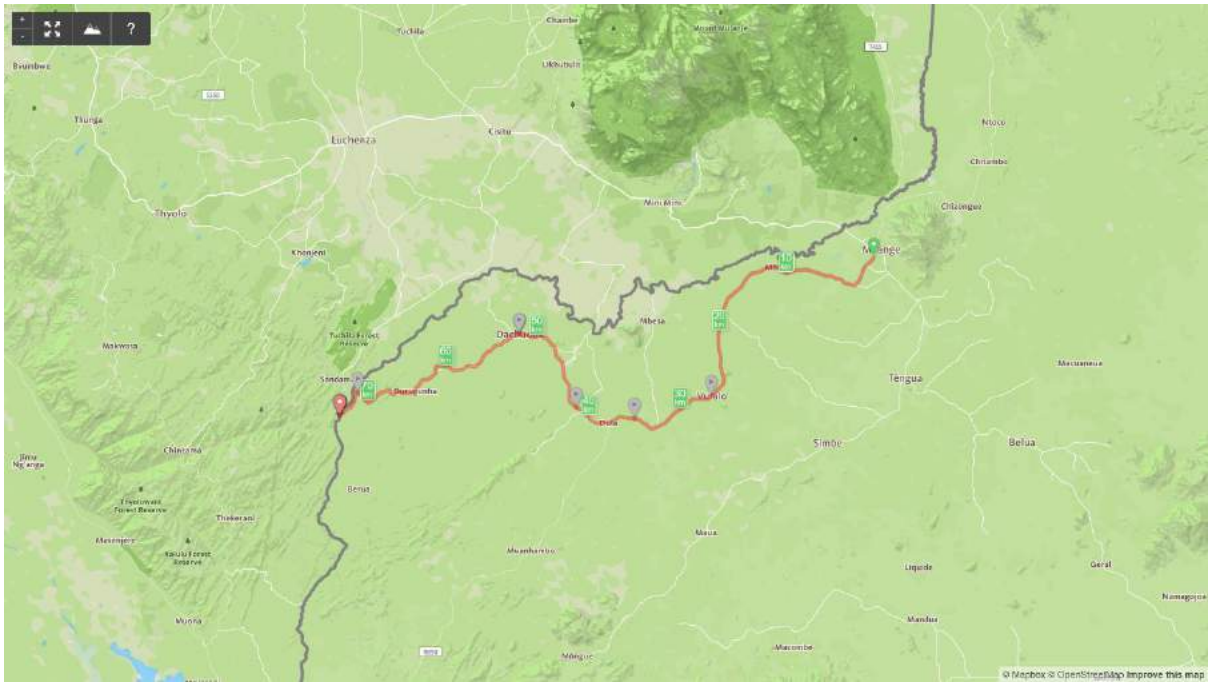
Milange-Mocuba



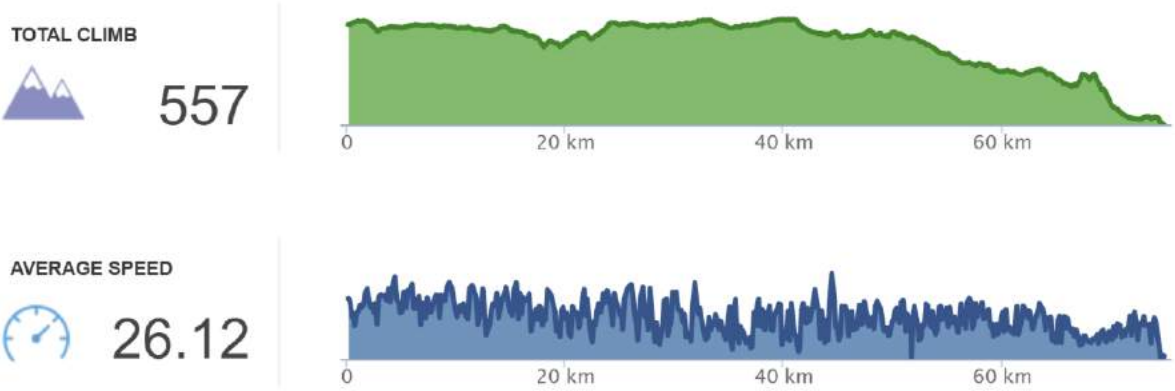
Source: GPS track registered by smartphone and printed using Open streetmap



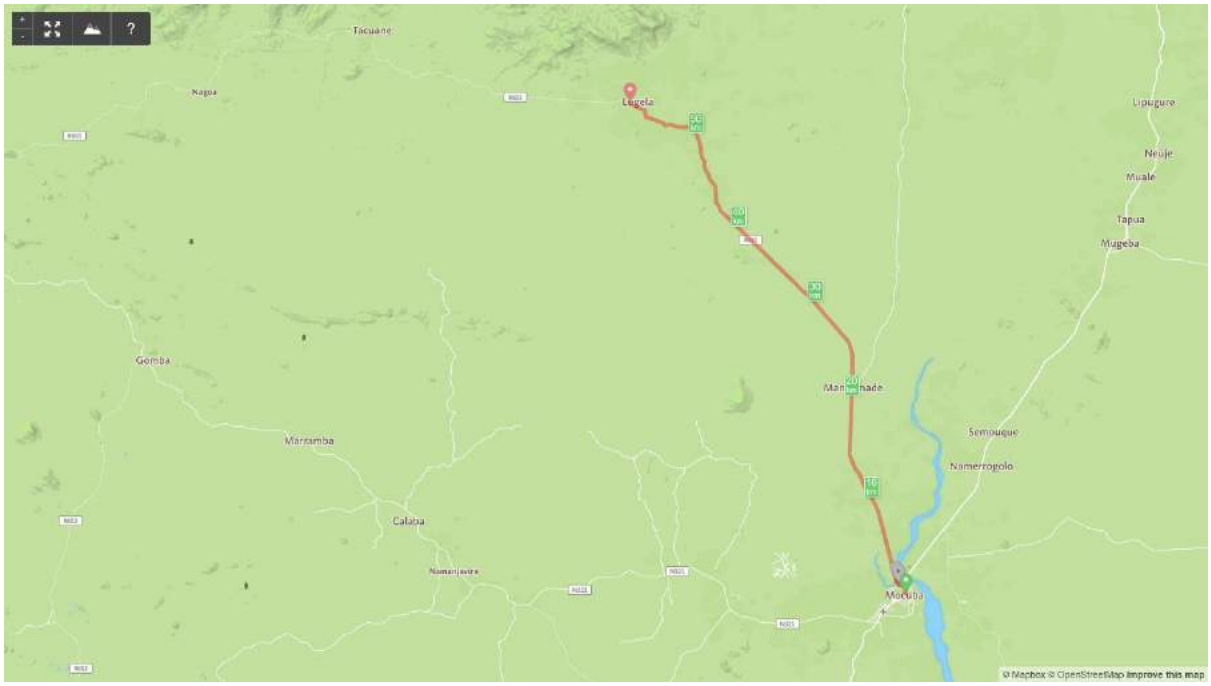
Milange-Majaua road



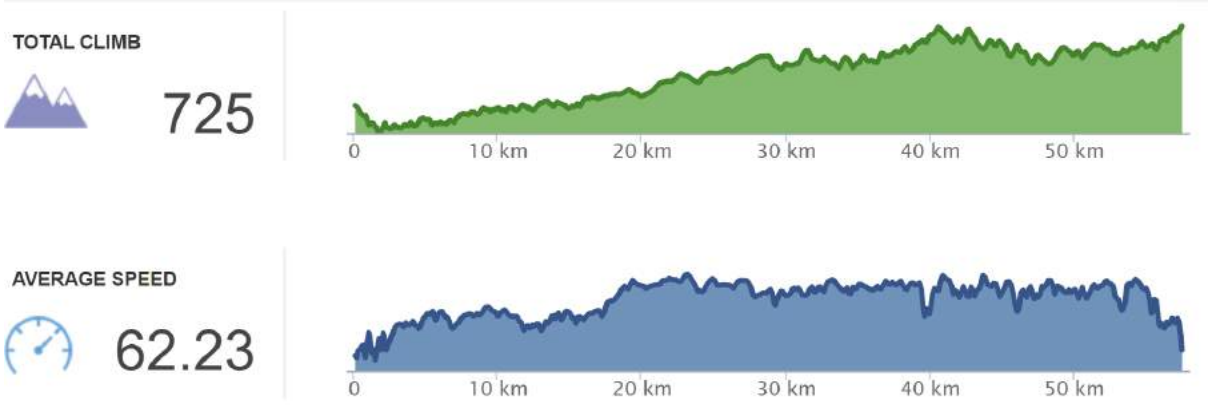
Source: GPS track registered by smartphone and printed using Open streetmap



Mocuba-Lugela road



Source: GPS track registered by smartphone and printed using Open streetmap



Annex 8: Literature & documentation consulted

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Proposta do Programa Quinquenal do Governo 2020-2024, apresentado na 7ª sessão ordinária do Conselho de Ministros – 3 de Março 2020

National Indicative Programme - NIP 2008-2013 NIP 2008-13 (10th EDF)

National Indicative Programme - NIP 2014-2020

Phase I

- FA
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- Provisional and Final Acceptance Certificates
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Annex 9: Pictures of field visit

Schools at Chilo and Tambone

New school in Tambone. Note the watertanks that collect rain water and photo voltaic cells that provide electricity

20 tables and three students per table : up to 60 students per class

Inauguration panel and EU visibility at Chilo room

Inside view of the school. Note lighting powered by photo-voltaic cells

Majaua micro hydro power station

View upstream from the power station looking into the narrow canyon

View downstream from the power station

View of the powerstation

View inside the power station

The power generation unit

Milang-Mocuba road

At the border post in Milange at the start of the Milange-Mocuba road. EU visibility.

Typical section

Ditch needs routine maintenance

Katadiopter

EU visibility. Note that the speed limit sign is becoming invisible

Routine maintenance required. Note good erosion protection around the headwall

Road side markets create a dangerous situation

Rumble strips warn of speed limits, but these may need to be repaired before final handing over

Speed limit sign at KM 107 of N11 road

Note crash barrier at drainage structure

Mocuba-Lugela road

Typical section of Mocuba-Lugela road

End of the road at Lugela showing the initial condition

Video recordings

In addition to taking pictures the ET made a video of the whole length of the Milange-Mocuba road and of the Mocuba-Lugela road. The vidoe is quite heavy, the total volume is 57 Gbytes. On request the ET can provide a copy of the video recordings. The following are some still pictures extracted from the videos. The videos show also the speed of the vehicle (in km/h), the elevation (in meter), and the GPS location.

Milange Mocba road

Start of the road at Mocuba going towards Milange

Heay trucks are using the road. This one is coming from Milange having picked up agricultural produce.

Rumble strips inform the drivers about the start of speed limits, here: 60 km/h

Most of the roofs of the houses are thatched roofs but some have been converted to corrugated steel. This is a good indicator of development. According to the WB algoritms do exist that can be used to extract the nature of the roof materials from satelite pictures and in this way follow year by year the change in roofing materials reflecting the development of an area.

Entry into Namanjavira. Note the ditches protected with masonry on both sides.

Heay trucks are using the road this one going to Milange.

On the left hand the camp of the contract Mota-Engil

A typical section but grass-cutting is required.

The enclosure wall of the school on the left hand is not continuous and opens towards the road. No warnings to drivers, no speed limits, no zebra crossing.

Charcoal is beng sold along the road

Passenger traffic still uses pick-ups

A lot of goods are still transported by bicycle.

Entrance of Tambone where one EU funded school was built.

Typical section

A lot of charcoal is produced in the region

Mucuba-Lugela road

Start of the Mocuba -Lugela road at the Lugela river bridge

Typical section, note the concrete drainage ditches