





PROJECT-INDUCED IN-MIGRATION MANAGEMENT PLAN



MOZAMBIQUE LNG

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REVISION MODIFICATION LOG

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1. INTRODUCTION

1.1 Introduction

Total Exploration & Production Moçambique Area 1, Lda, (TEPMA1), the operator of Offshore Area 1 in the Rovuma Basin, northern Mozambique, is developing Mozambique's first onshore Liquefied Natural Gas (LNG) Project, hereafter referred to as 'the Project'.

An Environmental Impact Assessment (EIA) was undertaken for the Project and approved in 2014. The Project EIA recognizes project-induced in-migration (PIIM) as a potential indirect and induced Project impact and commits the Project to undertake an assessment of PIIM and the potential impacts and risks associated with an influx of people into the Project area. The Project Environmental and Social Management Plan (ESMP) commits the Project to the development and implementation of a Project Induced In-migration Management Plan.

The Project recognizes that multiple project and contextual factors may drive high rates of project-induced in-migration that in turn drive PIIM impacts. These factors include: (i) the large scale of the Project (and the possibility that the Area 4 LNG facility will be developed contemporaneously); (ii) the limited capacity of the area to meet project needs for labour and goods and services; (iii) a high tendency towards concentration of people in Palma Town (given the distance from other urban, governance and economic centers) and in the Afungi Peninsula (where the Project is being developed); (v) the limited assimilative capacity of the Project Area of Influence and more generally Palma District; and, (vi) significant opportunities for benefit capture. The Project also recognizes that PIIM has the potential to lead to both positive and adverse impacts.



Accordingly, the Project implemented a PIIM baseline and impact and risk assessment in 2014-15 to inform development of a PIIM Management Plan. This document presents a revision of the PIIM Management Plan, providing updates of: the Project and context; PIIM assessment including immigration pathways and potential hotspots; the impact and risk assessment; the definition of the PIIM management strategy; and, component programs and program implementation plans.

1.2 The Project-Induced In-Migration Phenomenon

Project development may be a catalyst for local and regional development and accelerated rates of change within the Project Area of Influence and beyond. A major driver of change associated with large-scale projects is the influx of migrants into the area in which the project is being developed – a phenomenon referred to as project-induced in-migration (PIIM). PIIM may be associated with both positive and adverse impacts.

Many of the changes associated with large-scale project development can be positive, including economic growth, increased investment in enabling infrastructure, public and private sector investments in local services and products, skill transfers, the development of small and medium enterprises (SMEs), increased Government revenue, and cultural exchange and refinement. Generally full expression of positive impacts requires pro-active recognition of the phenomenon and coordination and collaboration by all relevant stakeholders (i.e. the Project, Government, local communities, other project developers in the area, and development partners) to promote development outcomes.

However the experience of large-scale Project development globally indicates that in the absence of pro-active management involving the participation of relevant stakeholders, in-migration is more likely to contribute to adverse environmental and social impacts. PIIM has the potential to adversely impact upon local and regional development, with entry and (temporary) settlement of a migrant population

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being associated with changes in the environmental, social, cultural and economic landscape in which a Project is developed. Specifically, adverse impacts may include: overloading of infrastructure, services and utilities and a deterioration in law and order; migrant capture of local economic development; threats to traditional livelihoods; land use change and loss of forest cover; negative community health outcome; and a deterioration in social dynamics. In addition – and perhaps over-riding these potential impacts – is the capture of project benefits by a migrant population leading to adverse impacts on the Project Social License to Operate.

The International Finance Corporation (IFC) Handbook for Addressing Project-Induced In-Migration (2009) describes:

- the potential positive and negative impacts associate with PIIM;
- the basis for assessing in-migration pathways and PIIM hotspots; and,
- general management approaches for the effective management of PIIM and its impacts including:
 - *Improved stakeholder engagement and monitoring;*
 - *Management of project-induced in-migration into the project area, which includes minimizing in-migration, managing the inflow of in-migrants, and managing the physical and social footprint of in-migration within the project area; and*
 - *Mitigation of the adverse impacts associated with in-migration”.*

The IFC also recommends that a project “should assume primary responsibility for project-induced in-migration within the project area of influence” as well as “seek the agreement, coordination and collaboration of all stakeholders, including government, nongovernmental organizations, community-based organizations and project affected communities” for the management of PIIM and its impacts outside of its direct control.



1.3 Scope

This Project Induced In-Migration Management Plan is applicable to the LNG construction phase, commencing in 2018 with the start of construction of the Replacement Village and the Afungi Site Improvements (Project airstrip, Palma-Afungi Road and Afungi Camp Expansion) and applying through the 5-year project construction period. The PIIM MP distinguishes between the areas inside and outside the land assigned to the Project (i.e., Project DUAT). The Project Encroachment Management Plan¹ addresses un-authorized occupation or use of land within the Project DUAT. The PIIM MP addresses potential in-migration into the geographical area outside of the Project DUAT focussing on areas in the Project Area of Influence in Palma District.

1.4 Purpose and Objectives

The purpose of the Project-Induced In-Migration Plan is to establish a framework for development planning and change management that: increases the likelihood of positive outcomes associated with development of the Project and more generally, local and regional planned and induced development (e.g., industrialization); while simultaneously avoiding, minimizing and/or mitigating the potential negative impacts often associated with PIIM.

¹ The Encroachment Management Plan is already being implemented as a coordinated effort between the Project, Government and specific communities and community leadership structures as part of Resettlement management measures.

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The overall objectives of the plan are:

- to promote awareness and understanding of Project development, local and regional planned and induced development pathways, and project-induced in-migration;
- to promote a multi-stakeholder forum (bringing together government, development partners, private sector, civil society and communities) to serve as a focal point for participation, coordination and collaboration in development planning and avoidance, minimization and/or mitigation of potential negative impacts associated with PIIM;
- to build the preparedness of stakeholders (government, private sector, development partners, civil society and communities) to coordinate and collaborate efforts that simultaneously address development and project-induced in-migration;
- to promote design, planning and delivery of programs that address development and/or the footprint and impacts of project-induced in-migration

1.5 Methodology, Assumptions and Limitations

1.5.1 Methodology



Development of the PIIM MP involved the following steps:

1. Review of Project Documentation and External Source Material: A review of Project documents informed by additional Key Informant Interviews and a review of external source material;
2. PIIM Assessment: A high-level assessment of in-migration pathways, PIIM Areas of Influence and identification of PIIM Hotspots;
3. Impact Assessment: A qualitative impact assessment based on categories of positive and adverse impacts identified in PIIM guidance documents;
4. Identification of PIIM Management Priorities: Identification of means to promote positive impacts and/or avoid, minimize or otherwise mitigate adverse impacts and risks, including measures already included in existing management plans;
5. Definition of PIIM Management Strategy and Component Program Implementation Plan: Definition of the overall PIIM Management strategy and implementation plans for the component programs, including organization, budget and schedule.
6. Definition of Key Performance Indicators (KPIs): Definition of KPIs to inform monitoring and evaluation (M&E) of the PIIM MP.

1.5.2 Principles

The following principles have informed development of the PIIM MP:

1. Project induced in-migration is an indirect induced impact associated with the development of large-scale projects. Pro-active management of development and the adverse impacts associated with project-induced in-migration is the responsibility of multiple stakeholders including government, the private sector, development partners, civil society and communities.

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2. Multi-stakeholder support, ownership, coordination and collaboration in the design, planning and implementation of development and PIIM management measures is both a primary and fundamental contributor to the success of development and PIIM management.
3. The potential PIIM impacts and risks are generally large in number and diverse in scope and geographical extent. As such, it is necessary to focus on primary areas of impact and risk and management with the aim of building a framework through which other impacts may be more readily managed.

1.5.3 Limitations



This document is based on the development of the MozLNG Project. It is further informed by the District and Provincial Government development plans; Area 4 plans to contemporaneously develop an LNG facility on the same Project DUAT; and, early discussions regarding further infrastructure development and industrialization.



As noted, the purpose of the PIIM Management Plan is to pro-actively encourage development of a framework for development planning and change management that increases the likelihood of positive outcomes associated with Project development and planned and spontaneous development while simultaneously avoiding, minimizing and/or mitigating the potential negative impacts often associated with PIIM. It is intended that this framework will provide the basis for supporting subsequent development and PIIM. Nonetheless as and when necessary the PIIM MP will be revised to account for change in the operating context.

1.6 Structure of the Document

The PIIM MP consists of six sections, as described below.

- **Section 1 – Context:** Chapters 2 and 3 describe the Project and the context in which the Project will be developed.
- **Section 2 – PIIM Assessment:** Chapter 4 identifies PIIM-specific Areas of Influence, Pull Factors and Hotspots. Based on Chapter 4, Chapter 5 presents a qualitative assessment of the anticipated positive and adverse impacts of PIIM in the identified hotspots.
- **Section 3 – PIIM Management Strategy, Approach and Focal Areas:** Chapter 6 describes the strategy and approach to PIIM management. Chapter 7 describes nine focal areas for PIIM management: 1 – Multi-Stakeholder Forum; 2- Managing Inflow; 3 - Spatial Planning; 4 – Urban Planning (including services and utilities); 5 - Community Strengthening; 6 - Community Health Programs; 7 – Natural Resource Management; 8 – Functional Interventions Addressing PIIM and 9 - Monitoring.
- **Section 4 – Organisation, Schedule and Budget:** Chapter 8 sets out the organisation and PIIM implementation schedule and budget.
- **Section 5 – Monitoring and Evaluation:** Chapter 9 defines a PIIM monitoring framework.
- **Section 6 - Conclusion:** Chapter 10 concludes the PIIM MP highlighting key priorities and aspects of importance to the business and commitment for annual review.

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2. OVERVIEW OF LNG PROJECT AND POTENTIAL INDUSTRIALISATION

2.1 Exploration and Development of Discovered Gas Reserves

2.1.1 Exploration and Discovery

In the offshore Rovuma Basin, recent exploration activities have been carried out by TEPMA1 (Area 1), MRV (Area 4), Statoil (Areas 2 and 5) and Petronas Carigali Mozambique Rovuma Basin Limited (PCMRB) (Areas 3 and 6). A number of technical and commercial discoveries of natural gas have been made (including both standalone and straddling reservoirs) in Areas 1 and 4 (Fig. 1), leading to TEPMA1 and MRV declaring commerciality and progressing development projects.

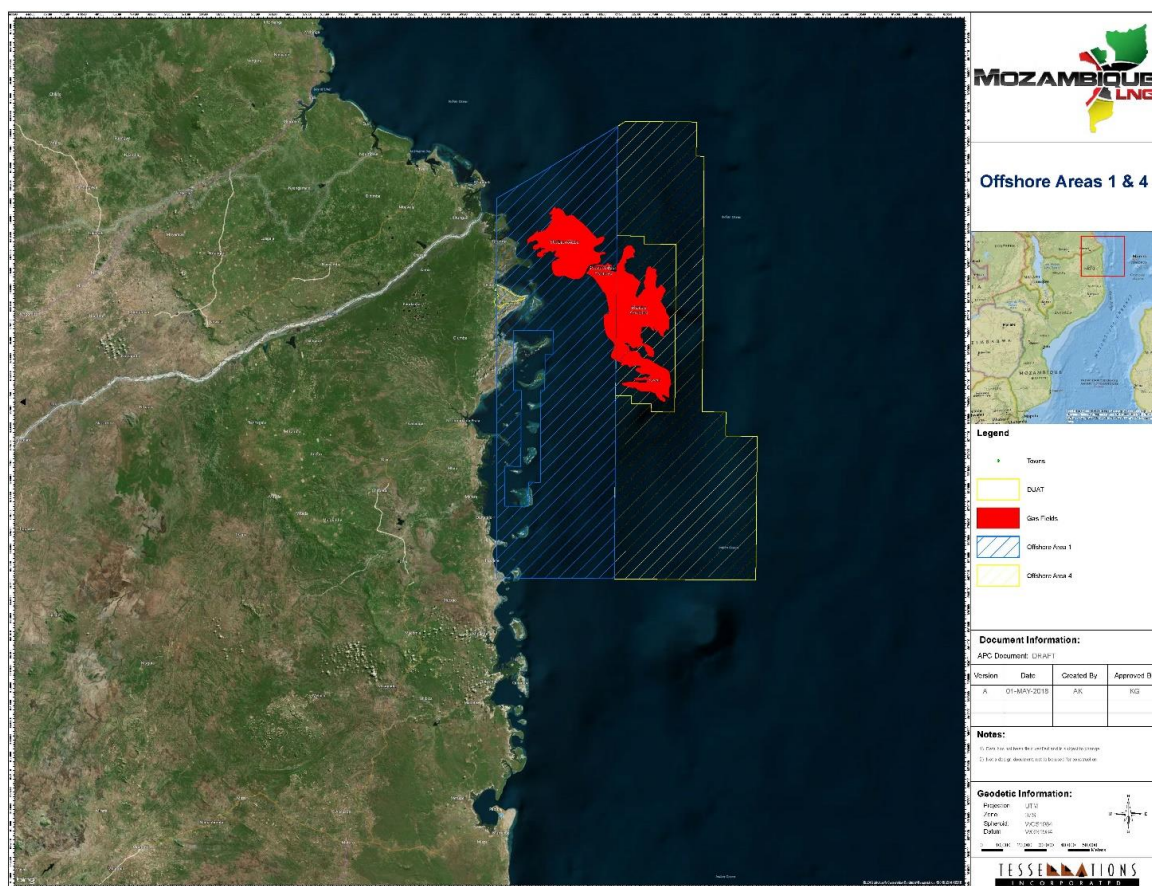




Figure 1: Area 1 and Area 4 Discovered Gas Fields

2.1.2 Project Description

TEPMA1 will develop the natural gas reservoirs in Area 1 including a part of the Prosperidade/Mamba straddling reservoir discovered across Area 1 and Area 4. Gas will be produced using subsea wells and transported by subsea pipelines to an onshore LNG Facility on the Afungi Peninsula. Once onshore, the gas will be processed to remove impurities and converted to liquid by cooling the gas to -160°C . Prior to export, the liquid will be stored in specially insulated storage tanks, before loading onto purpose built tankers and transported to International markets for re-gasification.

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Area 1 and Area 4 will each construct and operate their own LNG processing facilities. The construction and operation of common infrastructure will be carried out by a specially formed joint company, which will contract Area 1 to perform construction activities.

2.1.3 Project Footprint

The site of the onshore facilities was selected after a comprehensive site selection process that considered location, environmental, social, constructability and other factors. A Mozambican company, Rovuma Basin LNG Land, Lda. ('RBLL') was formed by TEPMA1, Eni and ENH to secure access to land.. The area encompassed by the Project DUAT is approximately 6,400ha. An additional 300 Ha was secured to build a Replacement Village for resettled residents. Figure 2 shows the Project and Replacement Village DUATS. The onshore LNG facility, comprising the LNG trains, the common infrastructures, marine facilities, LNG storage tanks, etc. will be located within the Project DUAT.

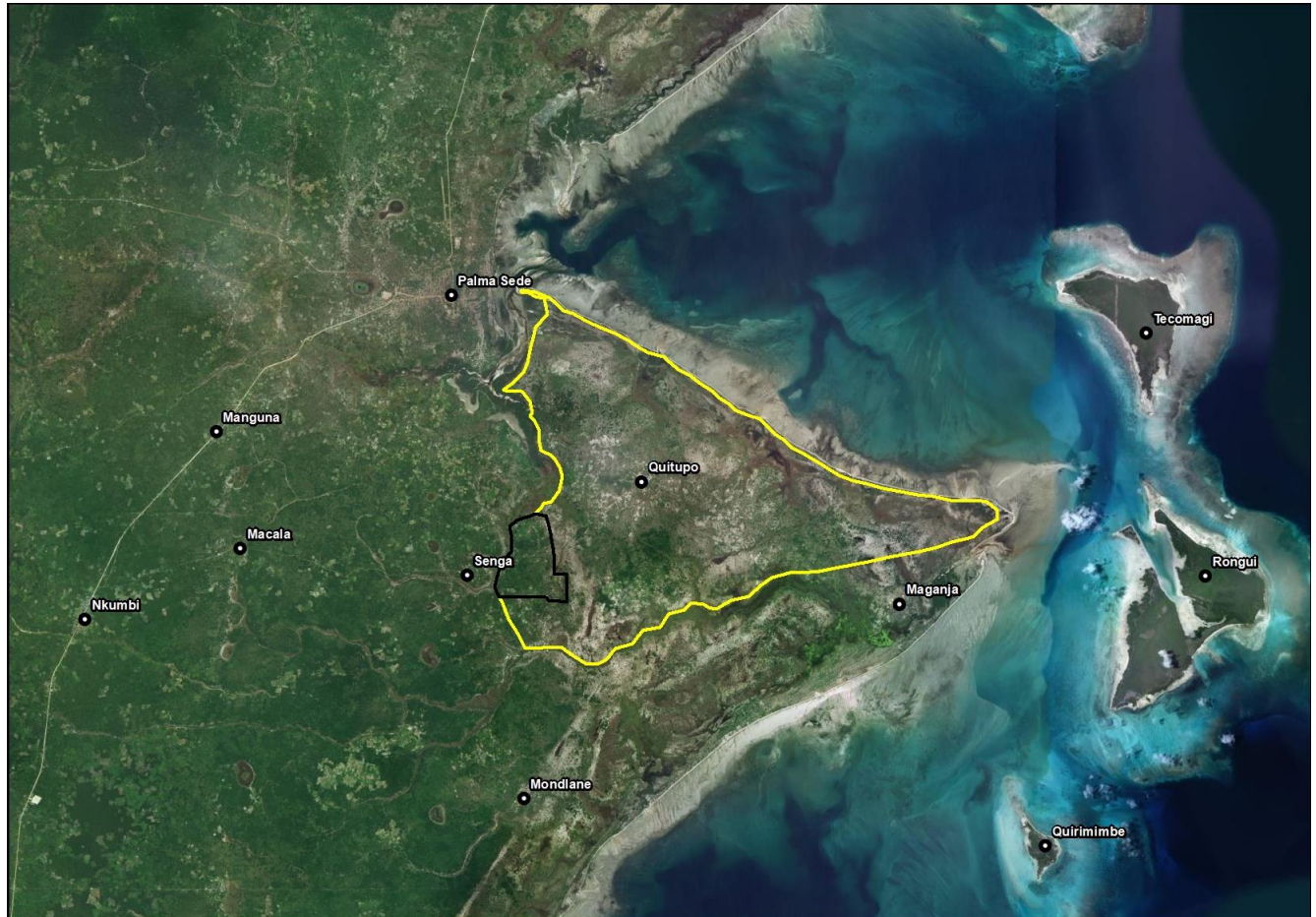




Figure 2: Project and Resettlement Village DUAT on the Afungi Peninsula

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2.2 Project Development

RBLL has granted the Area 1 and Area 4 Joint Ventures the right to develop multiple phases of LNG Trains within the LNG DUAT. For Area 1, the initial plan of development comprises 2 Trains totaling 12.88 MTPA. For Area 4 the initial plan of development comprises 2 Trains totaling 15.2 MTPA. Following successful completion of the 1st Phase developments, there is potential to develop further LNG projects.

2.2.1 Resettlement and Early Works



Access to and utilisation of the Project DUAT required the Project to develop and implement a Resettlement Plan for the economically and physically displaced households cultivating land and/or resident within the DUAT. The Resettlement Plan describes a 3-phase resettlement plan that provides for progressive land access and relocation occurring contemporaneously with project construction (Figure 3). The Project Resettlement Plan was approved in December 2016 and the Government declared a Moratorium in November 2017.



Figure 3: Phased Land Access and Resettlement Plan for Project DUAT

In anticipation of Project development, Area 1 started implementation of the resettlement plan, including construction of the replacement village as well as various early works in 2018. Specifically:

- **Land Access:** Processes for asset verification, compensation and development of Household Agreements to provide access to land for Project activities described below.
- **Replacement Village Construction** to provide replacement housing for households to be physically relocated due to Project land access and construction. This Village design includes public infrastructure, utilities and services) and replacement houses for the physically displaced households.

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- **Afungi Site Improvements (ASI):** comprising of three main activities to reduce risk and accelerate main construction phase;
 - Construction of the Afungi-Palma road
 - Expansion of Camp Accommodation
 - Construction of a Project airstrip

These projects ensure that both workforce and freight can be mobilized to site to support early works in the main construction phase.

2.2.2 Project Construction

Once a Final Investment Decision is taken, construction will occur over a 5-year period. Figure 4 illustrates the Area 1 and Area 4 DUAT and near-shore development plans. Construction activities for the Area LNG development will occur in three zones:

- **Onshore and Nearshore Construction:** the main construction phase of the Project involving the construction of the onshore LNG Facility and associated infrastructure, including nearshore marine facilities (i.e. Materials Offloading Facility, LNG jetties). It will be managed by an Engineering, Procurement and Construction (EPC) Contractor as part of a turnkey lump sum bid.
- **Offshore Development Drilling:** comprises drilling and commissioning of offshore wells in Offshore Area 1 and installation of the subsea wellheads and associated infrastructure. This will be managed by TEPMA1 using specialized drilling Contractors.
- **Offshore Pipeline Installation:** comprises the installation of the subsea pipelines and associated infrastructure. This will be managed by an Engineering Procurement Construction and Installation (EPCI) Contractor as part of a turnkey lump sum bid.

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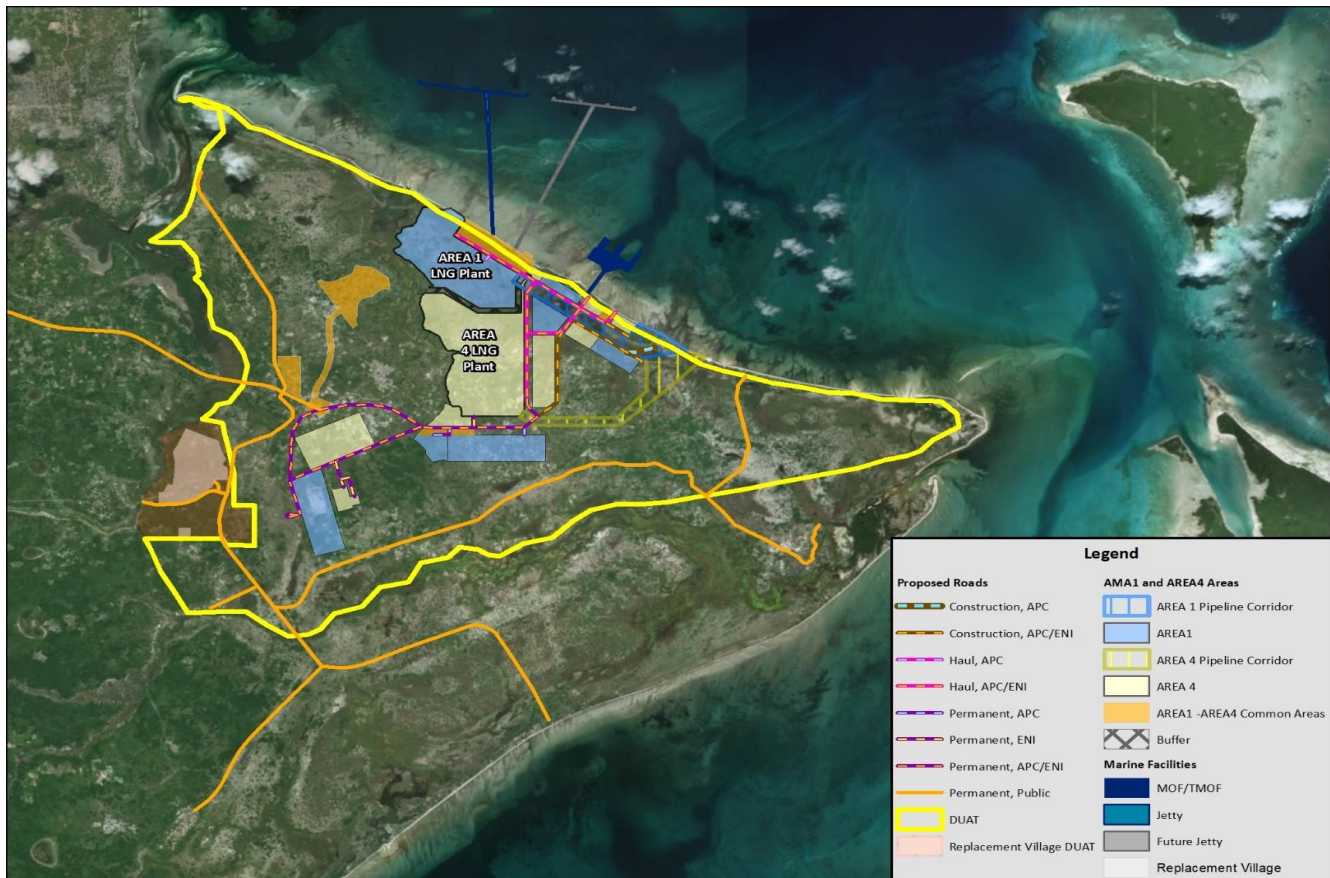




Figure 4: Area 1 and Area 4 Project Development Plans on Project DUAT

The construction phase will be associated with a significant ramp up of activity and opportunities for employment and supply of goods and services. Figure 5 provides the anticipated Mozambican workforce requirements for the Project construction phase.

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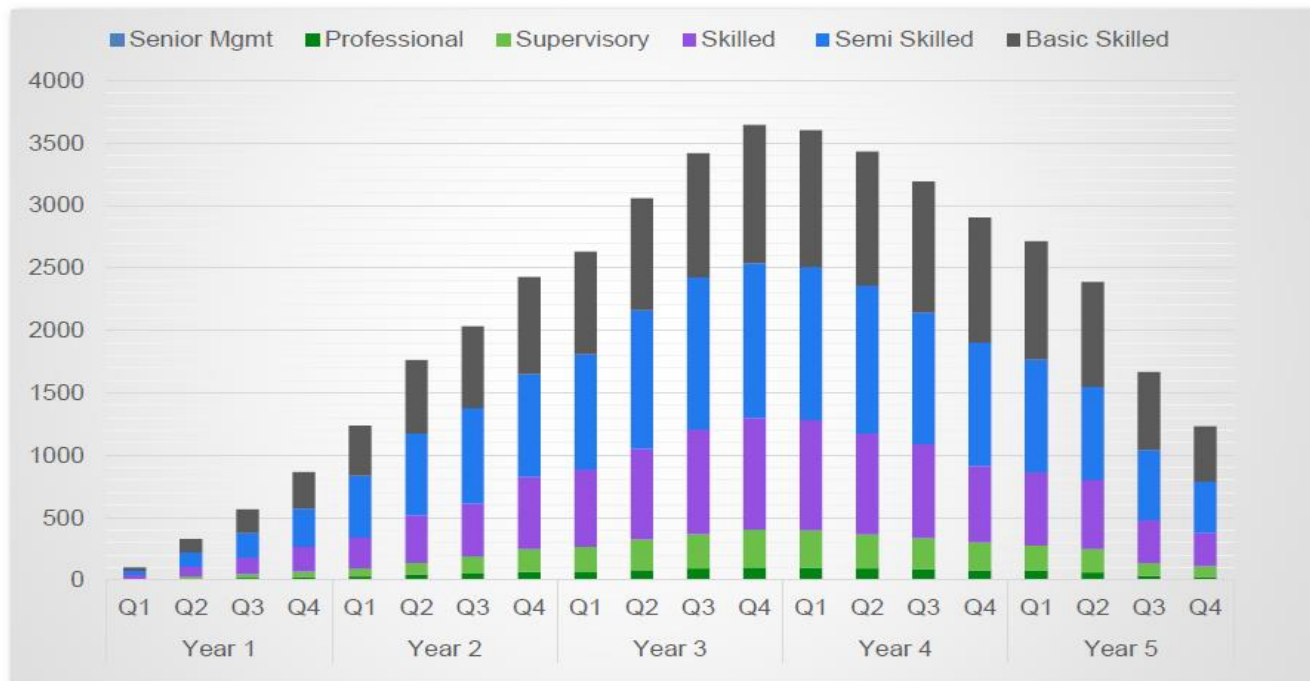


Figure 5: Anticipated Construction Phase Project Mozambican Workforce Requirements

2.3 Project Operations

Project construction is anticipated to be completed by 2024. On the Afungi Peninsula, it is anticipated that community roads will facilitate community access to the sea, with a northern route connecting the Resettlement Village to Quelimane on the northern tip of the Peninsula and the southern route connecting the Resettlement Village to Salama with spurs to Maganja, Maganja Vale and Mondlane. The Project operational area – referred to as the Project Industrial Zone – will be fenced. Within the bay Marine Exclusion Zones and Restricted Areas (Figure 6) will be established around the Material Offloading Facility (MOF) and LNG jetty. At this time the MEZ/MRA is defined as 1,500m on water with this being reduced to a 500 m shoreline exclusion zone. The operations phase workforce is anticipated to be 1,500 people.



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Figure 6: Operations Phase Site Layout including Shoreline and Offshore Marine Exclusion Zone/Restricted Area

2.4 The Potential for Gas-Driven Industrialization

The Government of Mozambique is focused on utilising industrialization as a vehicle for the economic development of the country. The discovery of large gas resources in the Rovuma basin may provide the basis for gas-driven industrialization.

The Government's vision for gas industrialization is laid out in a 2014 Gas Master Plan that envisions use of the gas resources to increase industrialization through primary processing (LNG, pipeline, electricity) and secondary processing (methanol, fertilizer, GTL, etc). Development of these industries is a key goal of the Government as a step towards inclusive growth.

To support the Gas Master Plan, the National Petroleum Institute (INP) launched a domestic gas tender to select initial projects in 2016, and selected three projects to receive initial domestic gas and develop projects. These were Yara – for fertilizer; Shell – for GTL; and GLA – for electricity production in Nacala. These projects are currently in the feasibility phase. If the fertiliser and GTL Projects progress, they are likely to be situated within either the industrial park described below, or the north-western corner of the LNG DUAT.

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In order to facilitate this growth, the Government envisages the establishment of an industrial park in Palma District and more specifically in the Afungi area, with a port to facilitate movement of inputs and finished products. The area that has been selected comprises 18,000ha to the south of the LNG DUAT, intended for industrial, commercial and residential development. During 2013, ENH, the state-owned hydrocarbons entity, commissioned a draft layout for this project. The final report that was delivered in December 2013 had a wide-ranging vision². The land use plan (General Urban Plan for Palma, 2013³) covering an area comprising 18,000 ha on the Afungi Peninsula (surrounding the Project's DUAT), sets out plans for the development of a proposed industrial area (5,000 hectares), residential area (2,000 ha), commerce and services (256 ha), the establishment of social infrastructure and the integration of eight local communities⁴. During 2018, a subsidiary of ENH, ENHL (ENH Logistics) commissioned an updated study.⁵ The scope of the study encompasses the preparation of the Master Plan for an envisaged 'Gas City'. The Gas City Master Plan will indicate residential areas, business headquarters/ district, industrial areas, as well as all necessary infrastructure for a settlement that could exceed 200,000 inhabitants in future years. The Master Plan of the area should also identify the modality by which the project should be realized (i.e. public and private investments) and provide assistance to ENH with the identification of the financiers and implementing parties of the works for the Gas City. This study is expected to be finalized by mid-year 2019.



In support of the industrial park and the general development of Palma, the Ministry of Transport and Communication has been developing plans to create a commercial port in the Palma region. The site selected for the port is in the northern corner of the LNG DUAT.

² The report was prepared by Tracus consultants.

³ <https://prezi.com/l97bmk2rxs3/plano-geral-de-urbanizacao-de-18-000-ha-em-palma/>

⁴ Senga, Patacua, Maganja, Mondlane, Macala, Ncalanga, Ncumbi, Matapata

⁵ The Master Plan is being developed by RENCO, a large-scale Real Estate development company. <https://www.renco.it/news/mozambique-gas-city-renco/>

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3. PROJECT CONTEXT

As described in Chapter 2, the Project is to be developed on a +/-6,400 ha DUAT located on the Afungi Peninsula in Palma District, Cabo Delgado Province. This chapter provides a high-level description of the Project context starting at the provincial level and moving to Palma District and finally the Afungi Peninsula.

3.1 Cabo Delgado Province

Cabo Delgado is the northernmost province of Mozambique. It has an area of 82,625 km² and a population of 2,333,278 (2017). It borders the neighboring country of Tanzania to the north, and the neighbouring provinces of Nampula to the south and Niassa to the west. The province is divided into 17 districts - Ancuabe, Balama, Chiúre, Ibo, Macomia, Mecúfi, Meluco, Metuge, Mocímboa da Praia, Montepuez, Mueda, Muidumbe, Namuno, Nangade, Palma, Pemba, Quissanga - 56 Administrative Posts, 134 localities, and 1,044 villages. The provincial capital is Pemba and there are 5 municipalities: Pemba, Chiúre, Montepuez, Mueda and Mocímboa da Praia..

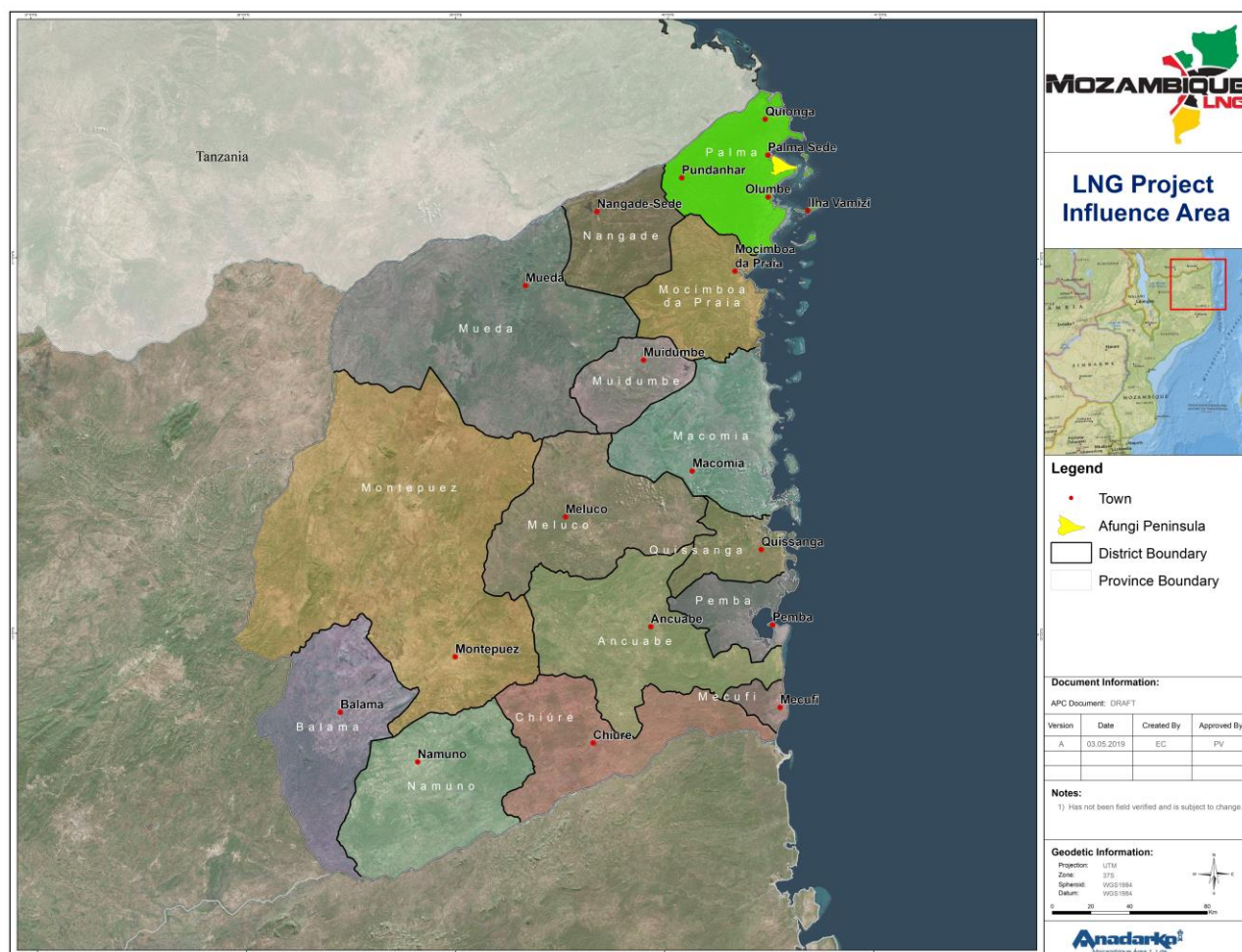




Figure 7: Map of Districts Comprising Cabo Delgado Province

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3.2 Palma District

3.2.1 Location

Palma District is located in the north-east corner of Cabo Delgado Province (Figure 8). It is bordered on the west by Nangade District and on the south by Mocimboa da Praia District. To the north the District borders Tanzania, with the Rovuma River watershed forming the international boundary with Tanzania. The district encompasses an area of 3,253 km² (351,434 ha) and has a 132 km coastline.

3.2.2 Accessibility – Road Network and Transportation

Figure 9 presents the road network in Palma District while Figure 10 shows the main roads. The network comprises approximately 256 km of poorly developed roads, most in bad condition. It consists of only tertiary roads and feeder or unclassified roads (typically unpaved). The regional tertiary road network connects Palma with the neighbouring districts, and joins the national secondary road network from Mocimboa da Praia to the City of Pemba and the other provinces within the country. There is limited connection between Palma town and other centres in the District.

The main roads in the District are:

- R762, connecting Pemba to Palma and continuing to Quionga via the R775 (22km);
- R763, which starts at the intersection with the R698 that comes from Mueda to Nangade (Imbuo) and then runs towards Pundanhara and Palma (160km); and
- R764, which starts at the intersection with the R762 in Palma and runs to Olumbe (15.7km).

Other important roads in the District comprise the following feeder (or un-classified) roads, which are also of poor quality:



- R1260, which connects Quionga to Namoto and the Rovuma River at the border with Tanzania;
- an unclassified road starting at the intersection with R775, which connects Palma to Quirinde; and
- an unclassified road starting at the intersection with R762, which connects Palma with the villages of Senga, Quitupo, and Maganja.

The improvement of the road network in the District is ongoing and focused on repairing and paving the roads linking Mocimboa da Praia with Palma (R762) (completed) Palma with Quionga (R775)(on-going) and Quionga with Namoto on the Tanzanian border ⁽⁶⁾ (R1260).

⁶ The contractor is ZAGOPE, a Brazilian company that will construct a 230km paved road from scratch between Mueda Town (in Mueda District) and the border with Tanzania in Namoto, north of Palma Town. The road is financed by the Portuguese Government (85%) and the Government of Mozambique (15%).



Figure 8: Satellite image of Palma District with Road Network

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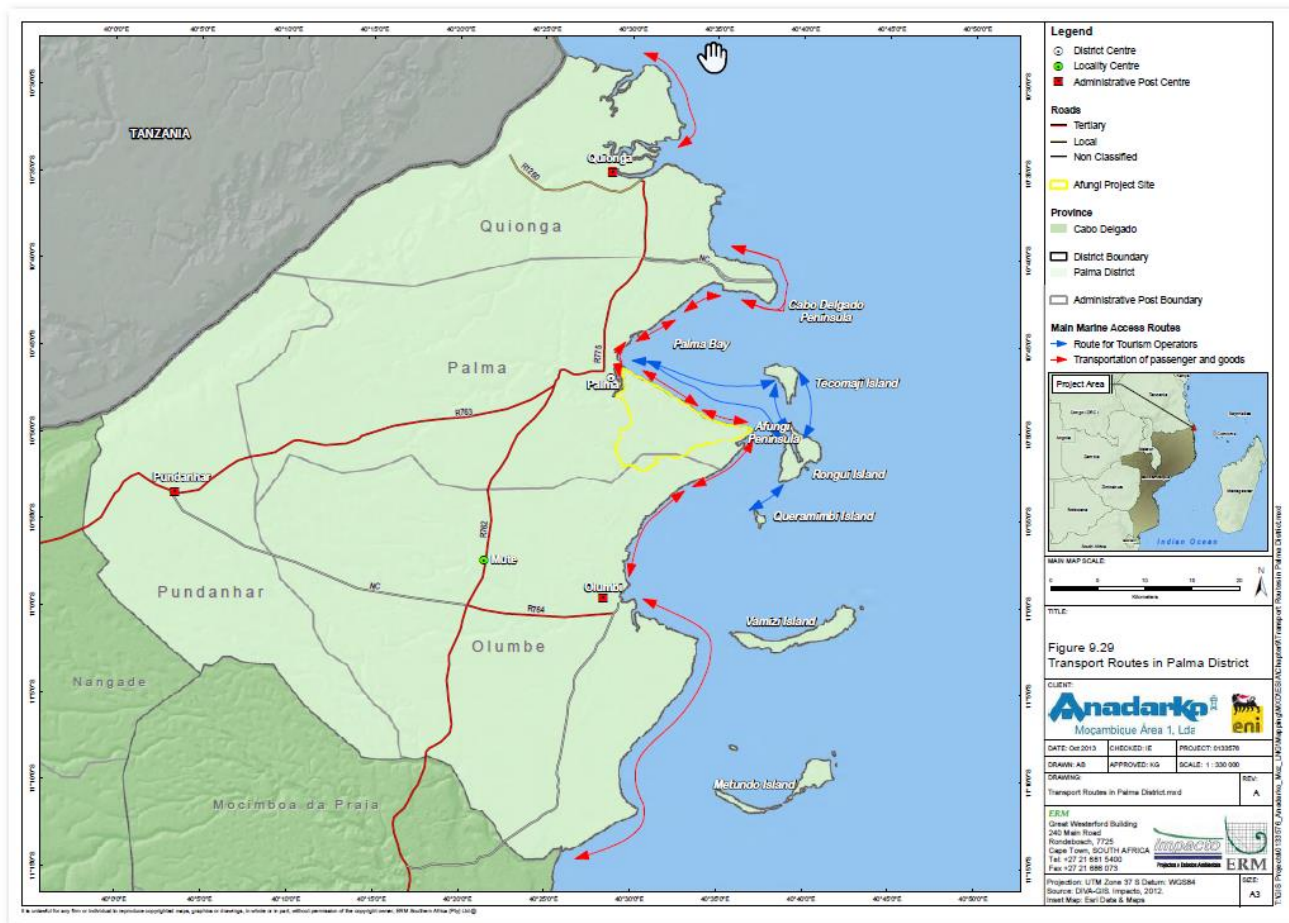




Figure 9: Classification of Road Network and Coastal Access

The main means of transport used in Palma District are motorbikes, semi-public minibuses and two-ton pickup trucks owned by private operators, and boats. The private road transport service providers cover the three following routes:

- Mocímboa da Praia – Palma – Namoto;
- Olumbe – Mocímboa da Praia; and
- Palma town (District Centre) – Pundandar–Nangade (a neighbouring district).

Given the poor road network and infrastructure, an alternative mode of transportation of people and goods is by sea, along the coast between the districts of Palma and Mocímboa da Praia, Nacala (in Nampula Province) and to Tanzania to the north. Wooden planked sailing boats are the main vessels used for sea transportation.

There are historical and economic links between Palma District (and other northern districts of Cabo Delgado) and Tanzania, north of the Rovuma River. These links can be seen through Tanzanian traders established in Palma town and the flow of traders and goods between the two borders, using the road from the Namoto Border Post and the sea between the northern districts of Cabo Delgado and Tanzania.

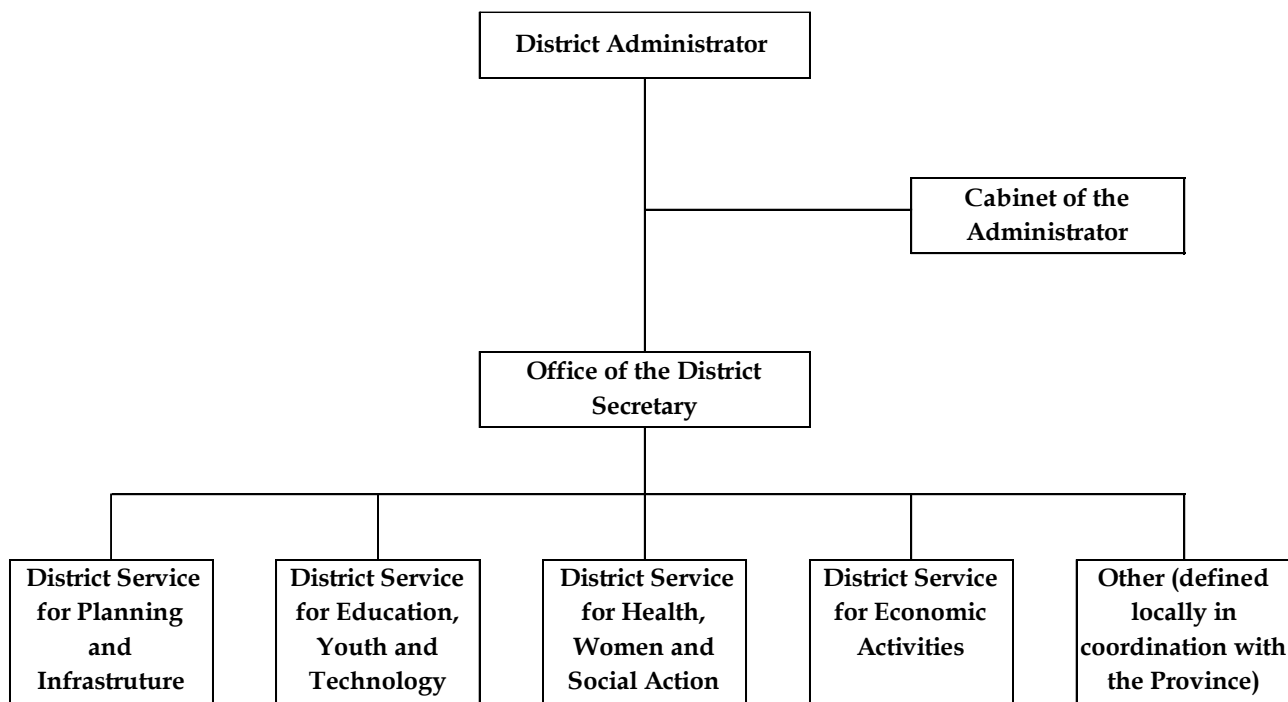
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The District also serves as an entry point for immigrants, specifically for people entering the country via the Namoto Border Post, on the Rovuma River bordering with Tanzania. Once in Mozambique, immigrants destined for Mozambique typically stay in Cabo Delgado Province or travel to Nampula and Zambézia provinces, where they participate in artisanal mining, or undertake onward travel to South Africa in search of work. There is evidence of irregular trade of goods and circulation of people by land and by sea, as not all movement is made through the Namoto Border Post and main roads, or from boat landings in or near Palma town, respectively.

The Rovuma River is the physical border between Mozambique and Tanzania, and the Namoto Border Post provides the only customs and immigration services in Palma District where authorities can control and document the migration of people and transportation goods.⁷

3.2.3 Political and Administrative Organisation



The District is headed by the District Administrator and supported by a Permanent Secretary and Directors of the District Services (Fig. 10). The minimum number of directors assisting the District Administrator is four, including the Director of Planning and Infrastructure; Director of Economic Activities; Director of Education, Youth and Technology; and Director of Health, Women and Social Affairs.



Source: Decree No. 6/2006 approved by the Council of Ministers

Figure 10: Structure of Governance in Palma District

⁷ The Unity Bridge, located in the north of Mueda District, is another point of entry from Tanzania, using the road network of Mueda District and giving access to the central region of Cabo Delgado Province and to some areas of Niassa Province.

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Until the publication of the Decree No. 11/2012, formal state authority at district level ended at the locality level, but it has since been extended to the village- (or settlement-) level through the appointment of local Community Authorities by the District Administrator. Below the district government level, formal governing structures comprise, in hierarchical order, Chiefs of Administrative Posts, Chiefs of Localities and local Community Authorities, each of which supersedes the administrative levels below them, as shown in Fig. 11.

Level of Territory	Government	State Administration	Community Authority	Civil Society Community Management	Consulting Structure
District	District Administrator Permanent Secretary District Directors of Services	Office of the Administrator District Secretariat District Services		Civil Society Platforms (informal)	District Consultative Council
Administrative Post	Head of the Administrative Post				Administrative Post Consultative Council
Locality	Head of the Locality				Locality Consultative Council
Community	Community Authority (Level 1 or 2)		Community Authority (3rd Level) Local Traditional Leaders Secretaries Production Zone Heads	Local Forums Community Committees and interest groups	Community Consultative Councils and Local Forums



Source: Decree nr 11/2005 and The Consultation Guideline for Community and Civil Society in the function of Local Consultative Councils, MASC, 2014.

Figure 11: Political and Administrative Organisation of Palma District

Palma District Consultative Council has 49 members and is presided over by the District Administrator. The four Consultative Councils at Administrative Post level and five at Locality level provide representatives to the levels above them as part of the participatory governance program⁸.

Palma District is divided into four Administrative Posts, namely Pundanmar, Quionga, Palma, Olumbi (Fig. 12). The majority of the Afungi Peninsula and indeed the Project Area of Operations lies within the Palma Administrative Post.

⁸ MAE, *Palma District Profile, Cabo Delgado Province, 2014*.

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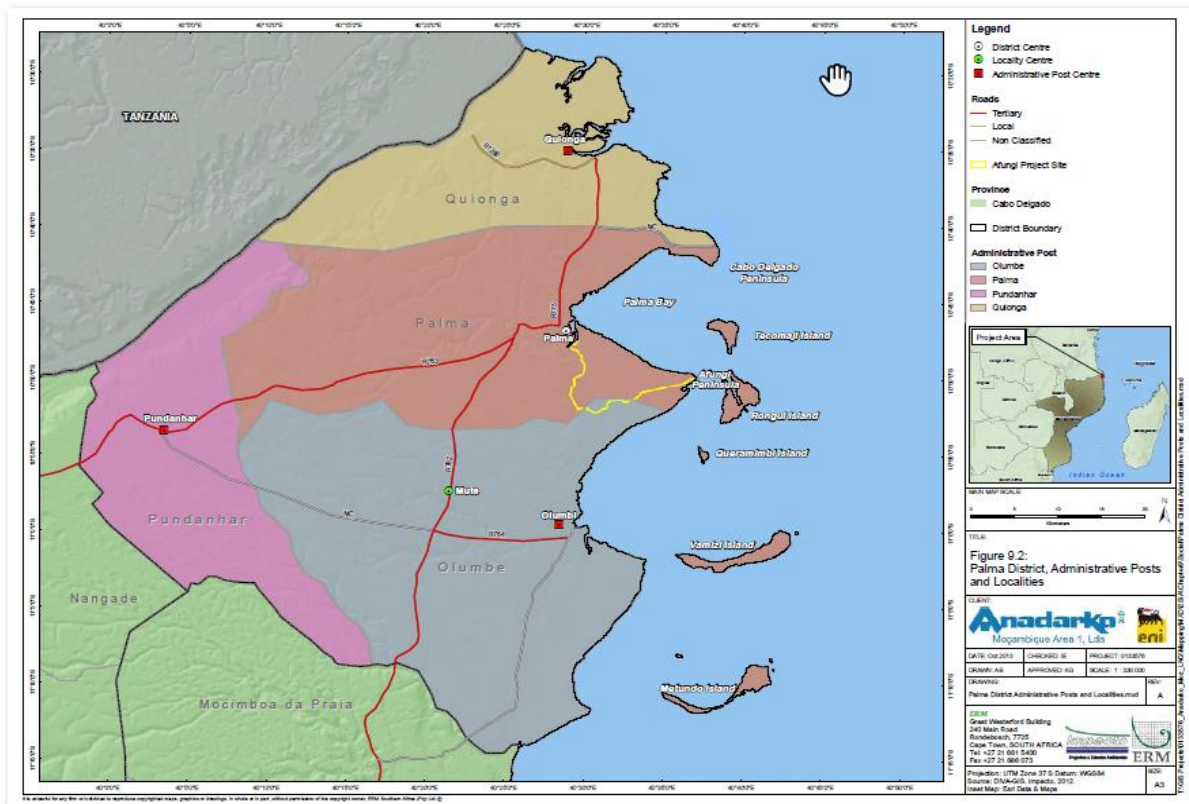


Figure 12: Administrative Posts in Palma District

3.2.4 Population and Settlement

Between 2007 and 2017 the population of Palma District grew from 50,594 to 62,667 inhabitants— similar to growth rates recorded in most districts of Cabo Delgado Province⁹.

Palma district may be characterised as a low population density rural district (Figure 13) where the majority of the population practice diversified livelihoods for subsistence. Rural settlements are characterised by the use of local materials for housing (stick and mud walls, thatch or corrugated roof), the absence of household water and sanitation, and limited access to electricity and water. Differences between inland and coastal populations exist in terms of livelihoods (i.e, the relative importance of agriculture or fisheries), ethnicity, language, etc.

⁹ INE, Preliminary results of 2017 Population Census

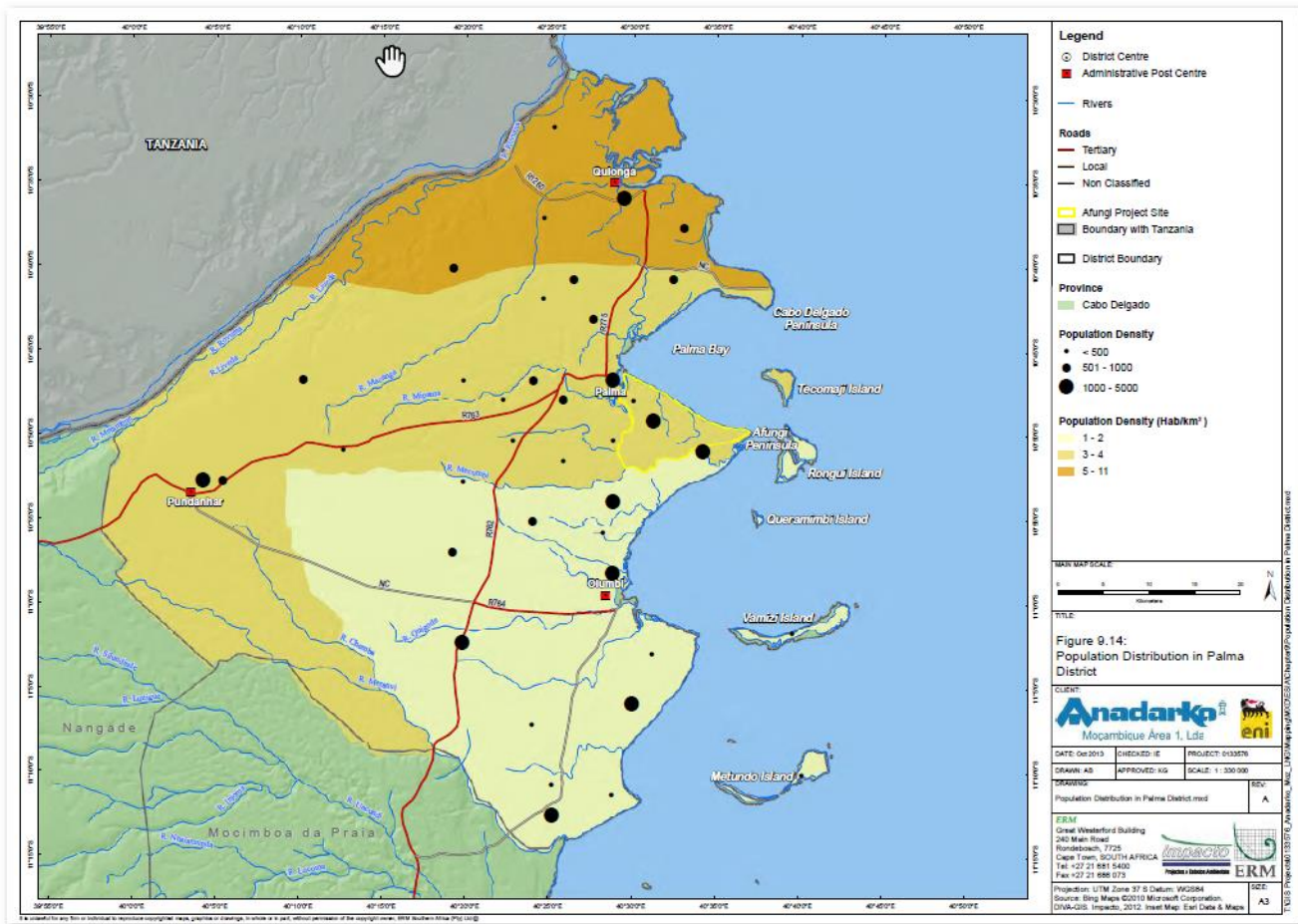




Figure 13: Population Density, Palma District

Palma Town is the capital of the district and as such is the major urban centre, serving as a locus for settlement, trade and commerce as well as key services. Until relatively recently, multiple factors including proximity; familial connections; and, shared culture, language and faith have led Palma Town to be strongly connected to the Tanzanian economy. Exploration, discovery and early works towards commercialisation of the discovered gas reserves has led to greater linkage with the mainstream Mozambique economy, perhaps most strongly expressed in terms of the entry of Mozambique business (banking, hotel, construction) and influx of people. As described in Chapter 2, Palma has, to some extent experienced a boom-bust cycle associated with exploration and progress towards FID and construction that was postponed due to the global downturn of the industry. However, with the prospect of 2 LNG projects achieving FID in the near future and with FID, a commitment to 5 years of construction and a prospect of further development as well as industrialisation, Palma will inevitably become the locus of development going forward.

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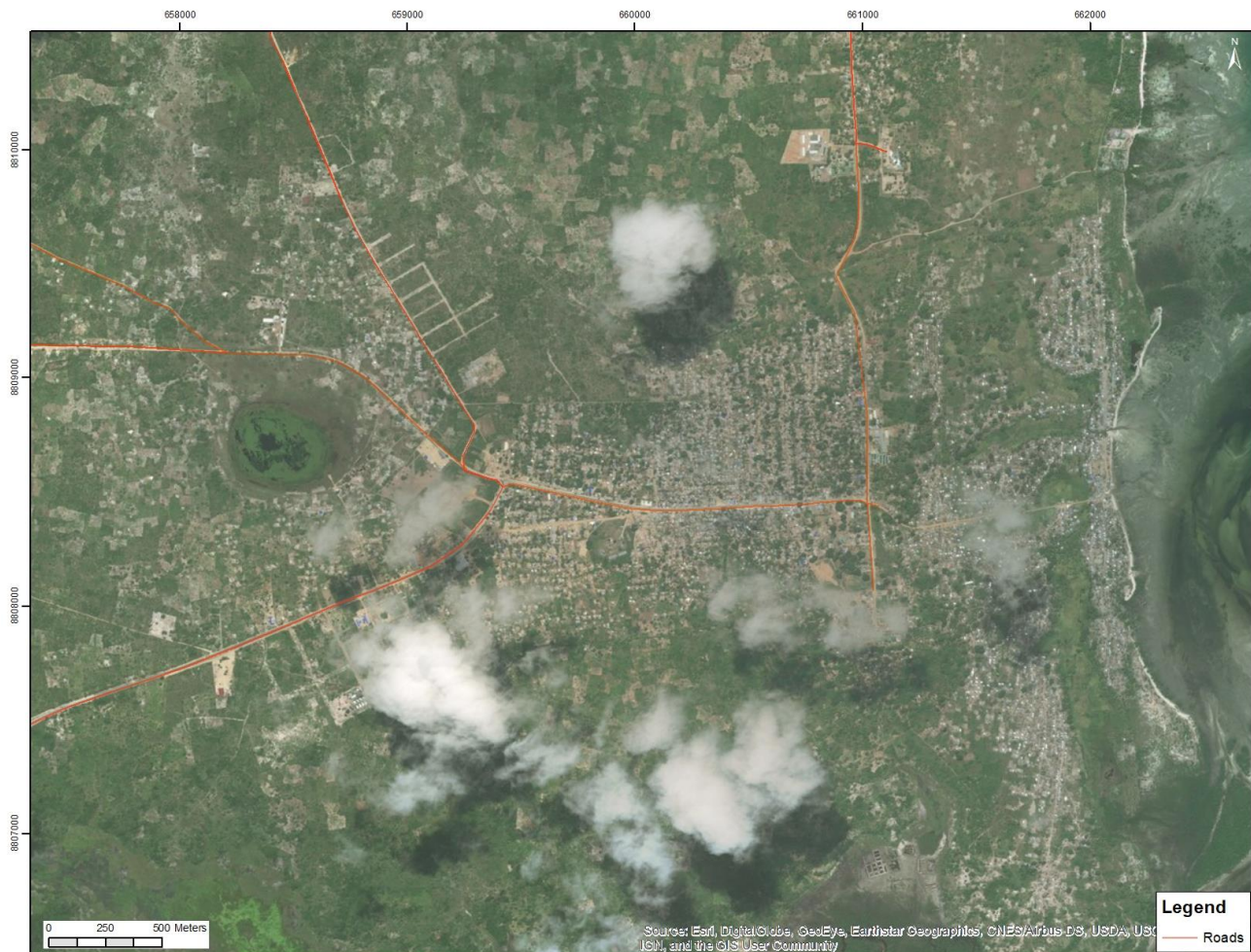


Figure 14: Satellite Image of Palma Town

Ethnicity

The predominant ethnic groups in the Project Area of Operations are: the Mwani, Makwe and a small cluster of Makhua (coast) and the Makonde (hinterland plateau). Languages spoken in the area include Kimwani, Chimakwe, , Emakhuwa, Chimakonde and Kiswahili and to a lesser extent Portuguese¹⁰.



Household Size

Average household size in Palma District is approximately 5 people per household.

Religion

In Cabo Delgado Province, the population identifies as Muslim (53.8%) or Catholic (36.1%). Palma District is one of the districts with a higher percentage of Muslims (80.9%) with 16,8% of the population identifying as

¹⁰ EIA Report for the Liquefied Natural Gas Project in Cabo Delgado (2014)

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Catholic¹¹. On the Afungi Peninsula, the vast majority (95%) of displaced households are Muslim. In Senga 75% of displaced households are Muslim and 11% are Catholic - mostly of Makonde ethnicity – who are reported to have founded the settlement¹².

3.2.5 Infrastructure, Services and Utilities

Palma District is characterised by under-development of infrastructure, services and utilities. The road network described in Section 3.1.2 is circumscribed. The main secondary road (the R762) was recently upgraded. Tertiary roads that connect to the R762 are in poor condition. As such accessibility, transport and connection to markets is limited for much of the population. In rural areas, most villages have no electricity and rely on boreholes, shallow wells or surface water as a source of potable water. Most village have schools, but these vary in terms of construction material (often local materials) and generally are not adequate to meet the potential student load. As such it is no surprise that rates of illiteracy are among the highest in the country. Villages also have places of worship (primarily mosques given the prevalence of Islam). Across the District there are 6 health facilities.

As noted above, Palma Town is the most developed urban centre. In recent years the town has grown (as a result of the gas industry and increasing linkages to the mainstream Mozambique economy). This has seen the entry of new business activity. Palma Town has electricity and two reticulated water networks. Palma has a district hospital and the only secondary school in the district.

3.2.6 Health

As noted above, Palma district has 6 health facilities: 1 rural health center type I (in Palma Sede); 4 rural health centers type II (in Quionga, Maganja¹³, Olumbi and Pundanhar); and 1 health post (in Mute). The nearest hospital is in Mocimboa da Praia, located 80km south of Palma, which is also the referral hospital for Palma Sede health center and the District. The quality of services available at many of the facilities is diminished by physical infrastructure and basic health equipment that is either lacking or in poor condition, in addition to human resources constraints both in terms of the number and level of training of staff. At the community level Community Health Activists¹⁴ created by Government and NGOs provide medical support to the population.

3.2.7 Education

The District has 43 schools of different levels, with 23 schools of EP1(Primary Schools); 19 EPC's (Complete Primary Schools) and 1 Secondary School. There are 9 schools in the administrative post of Olumbe; 4 schools in the Administrative Post of Pundanhar; 7 schools in the Administrative Post of Quionga;and, 23 schools in the administrative post of Palma (8 EPCs and 14 EP1 and 1 Secondary School). The single secondary school in Palma was constructed in 2016. It has six classrooms, one administrative block, laboratories and two bathing blocks. It was anticipated that about 900 students, divided into three shifts, would study in the new schools. The only secondary vocational schools are in the south of the province.



In the immediate Project area, there are three full primary schools in each of the three adjacent communities of Senga (329 pupils, 133 girls), Mondlane (445 pupils, 188 girls) and Maganja (345 pupils, 128 girls). Only the Maganja primary school is constructed of permanent materials, although three classrooms are still lacking

¹¹ EIA Report for the Liquefied Natural Gas Project in Cabo Delgado (2014)

¹² Resettlement Plan (2016)

¹³ The Maganja Health centre was recently (January 2019) damaged during an insurgency attack in the village. Area 1 and 4 are working with the Government and community to refurbish the Centre.

¹⁴ Mozambique LNG Health Impact Assessment (2013); Anadarko Mozambique Area 1 Baseline Health Survey (2013); Strategic Development Plan for the District of Palma (2013 – 2017); Concept Note for Anadarko Health Project in Palma v3 (2017)

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roofing sheets. Quitupo – the village scheduled to be physically displaced from the Project DUAT - has a primary school made of local materials. Quitupo primary school students will relocate to the resettlement village. Although the drop-out rate for pupils is high after the first two or three years of schooling, as communities are gaining awareness about the benefits of employment, many older students who had left school earlier are returning to learn and sit their final exams. Pressure on these facilities and staff will increase with PIIM.

3.2.8 Security

In late 2017 and early 2018, a number of insurgent attacks targeted Government institutions and civilian homes in Mocimboa da Praia and Palma districts. This signaled the start of an increased number and frequency attacks resulting in casualties and damage to and destruction of villages in the northern districts of Cabo Delgado Province. The driver behind the insurgent attacks remains unknown but they are generally attributed to historical changes in power relations leading to tensions between coastal groups and groups from the hinterland and the display of reportedly radical Islamic ideals¹⁵.

In response to the attacks, Government has, in collaboration with military and police forces, deployed security forces in villages in the district. Other measures to enhance the security in villages and towns include, for instance, a mandatory 9:00 p.m. to 4:00 a.m. curfew that was declared in Mocimboa da Praia, with a complete ban on pedestrian and vehicular traffic.



Despite these measures, some attacks have occurred closer to and within the Project's AOI, resulting in casualties and damage or in some cases destruction of private and public social infrastructure.

3.3 The Afungi Peninsula

3.3.1 Location

Figure 14 is a satellite image of the Afungi Peninsula. The northern-most tip of the Peninsula lies immediately adjacent to Palma Sede (i.e, Palma Town). The north-eastern coastline fronts onto Tungui Bay. Two islands are located immediately east of the tip of the Peninsula, namely Tecomaji and Rongui.

¹⁵ Augusto, C. (2018). *A emergência do terrorismo no cinturão de Mocimboa da Praia* (2ª edição)

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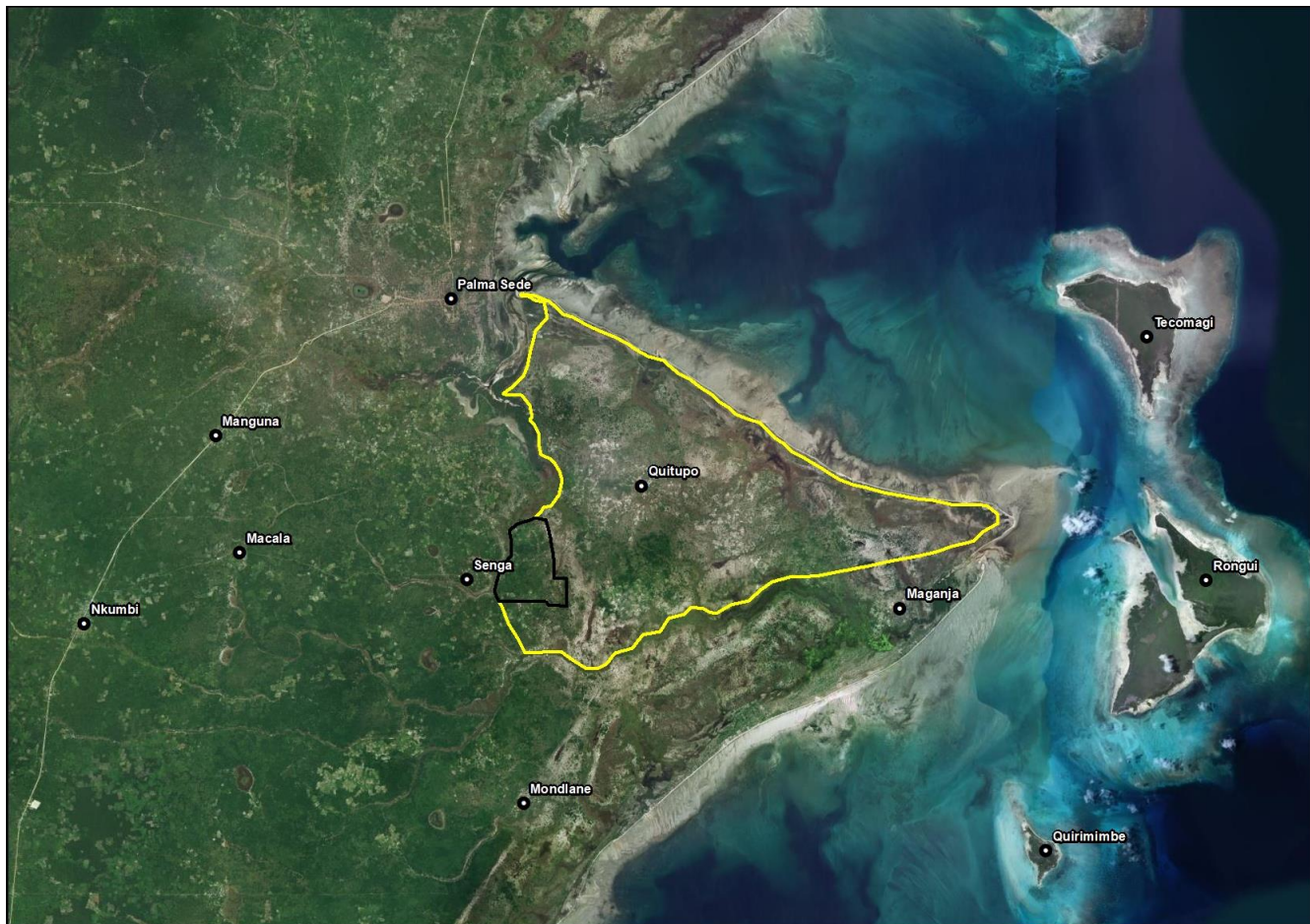




Figure 14. Project DUAT and Resettlement Village on the Afungi Peninsula

3.3.2 Accessibility

Like much of Palma District the Afungi Peninsula is relatively inaccessible except via boats from Palma; via boats along the coastline and via a road, branching from the R762. As noted above the northern-most tip of the Peninsula lies immediately adjacent to Palma Sede, the main town in Palma District. As demonstrated by resettlement data, many Palma Sede households have accessed the Afungi Peninsula either establishing houses and residing on the Peninsula on a seasonal basis or accessing natural resources such as inter-tidal collecting, fishing and gardening as part of their diversified livelihood strategies. Beyond 'local people' accessing the Afungi Peninsula, there is also seasonal occupation by fishermen who come from further afield, both north and south of the Peninsula. Finally, until recently the only terrestrial means of accessing the Peninsula was via a non-classified unsurfaced road branching from the R762 near Ncumbi and connecting to the villages of Macala, Senga, Mondlane, Quitupo and Maganja. In 2018 the Project commenced construction of the Palma – Afungi Highway, a surfaced road that branches from the R762 near Manguna and connects to the Project DUAT on the Peninsula. Looking ahead as part of the Resettlement Plan, the Project will also construct community roads – leading north and south from Quitunda (the replacement village) to coastal settlements on the north- and south-eastern coastline of the Afungi Peninsula.

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3.3.3 Political and Administrative Organisation

The settlements on the Afungi Peninsula fall into one of two Administrative Posts, namely Palma Administrative Post (headquartered in Palma) and Olumbi Administrative Post (headquartered in the settlement of the same name, Olumbi). Each Administrative Post is led by a *Chefes de Posto*. There are no Localities in the Project and each community comprises a main settlement where the Community Authority and local leaders are based. Each of the production zones in the Project area also have a designated leader.

3.3.4 Settlement – Housing, Infrastructure, Services and Utilities

Administratively the following Afungi communities are recognised – Macala, Senga, Quitupo and Maganja within Palma Administrative Post and Mondlane in Olumbi Administrative Post. Each settlement is characterized by a main settlement and a number of production zones. Settlements and the population therein differ in origin and length of residence on the Peninsula resulting in some differences in language, faith and culture between settlements. Data indicates that the majority are native to the area (approximately 60 percent) or long-term migrants (13.6 percent) who settled in the area over 20 years ago (between 1975 and 1992). The remaining 25 percent are more recent migrants who settled on the Afungi Peninsula after the Peace Agreement in 1992.

Afungi settlements have limited infrastructure, services and utilities. Houses are generally constructed of sticks and mud walls with a thatch or corrugated roof. Inland, houses are more substantial than coastal houses, reflecting in part the permanence of residence and availability of building materials. Public infrastructure in the main settlements include places of workshop (mosques or church) and primary schools. Primary schools are generally of stick and mud wall construction with thatch or corrugated roof. Only Maganja has two multi-classroom concrete structures (one of which is incomplete). Further only Maganja has a health clinic, the only public health service available on the Peninsula. Communities have no access to electricity; water is obtained from various sources including surface, shallow wells or boreholes. The majority of households have no latrines, using the beach and the bush areas instead contributing significantly to health risks in the area.

3.3.5 Demographics

Table 1 presents 2017 census data for Afungi settlements and Palma Sede. While a demographic pyramid is not available, the estimates of the working age population (aged 15-64) demonstrate that, like much of Mozambique, the Afungi Peninsula is young with almost 50% of the population being under 15 years of age.



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Table 1: Estimated Afungi and Palma Sede Population (2017 Census)

Community	Total Population (2017 Census)	Working Age Population
Maganja	2,642	1,385
Quitupo	1,555	815
Senga	1,057	554
Mondlane	2,781	1,458
Macala	358	188
Afungi Communities Sub-total	8,393	4,400
Palma Sede	35,632	18,671

Notes:

Populations from 2017 census data.

Working age population estimate based on percent of total Mozambique population aged 15-64 years.

As noted above the origin of the population and thus settlements is diverse. Coastal settlements (i.e., Quitupo, Mondlane, Maganja) speak multiple local languages (Kimwani, Chimakwe) and Swahili. The inland village of Senga is Makonde¹⁶ in origin (having migrated from the Mueda Highlands) and Chimakonde is the dominant language.

Most communities on the Afungi Peninsula display religious and cultural lifestyles influenced by the Muslim faith, integrated with their customary practices. This is demonstrated in a conservative lifestyle, relatively patriarchal family and decision-making structures, traditional marriage rites, early marriage, and polygamy¹⁷.



3.3.6 Livelihoods

Households and communities on the Afungi Peninsula operate diversified livelihood systems. Prior to the arrival of the Project these livelihood systems comprised of agriculture, fishing, inter-tidal collection and trade. While agriculture is prevalent further inland, fishing and inter-tidal collection become more important closer to the coast. The natural resource dependent livelihood activities provide for household subsistence requirements. Since the Project arrived, formal employment has been added as an additional livelihood activity.

The ecosystems on the Afungi support a range of agricultural activities. The main activity – essentially short-fallow shifting cultivation based on dryland agriculture involves dry season clearing of land, burning of dried vegetation to release nutrients and suppress weeds and cultivation of various crops, primarily maize and cassava. Plots may be maintained for multiple seasons with cassava serving as a reserve crop. In addition to the dryland shifting cultivation, households may have access to seasonally inundated lowlands where rice may be cultivated. Finally, households may also cultivate perennial cash crops including cashew, coconut and to a lesser extent



(16) The Makonde group has a history of migration to the coast, both in past centuries and recent migrations, after independence. However, this Social Assessment did not study the migrations of the Makonde group. In the concrete case of Senga, results from the Household Survey and discussions from the focus group indicated that most of its inhabitants arrived after independence (1975) to work in the ‘cooperatives of production’ that the socialist-oriented Mozambican Government constituted in the Ngodje palm tree plantations abandoned by Portuguese owners, while a smaller group came after the peace agreement in 1992.

¹⁷ *Resettlement Plan (2016)*

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mango, although these are not managed intensively. Otherwise, the landscape provides various resources for households including firewood, thatch for houses, medicinal plants, etc.

Intertidal collection involves the collection of nearshore marine resources at low tide. This activity is generally carried out by women from households on the Afungi Peninsula or from Palma. Fishing – using longlines and/or nets occurs within the bay and to a lesser extent out on sea, with fishermen using relatively small dugouts with sails to reach recognised fishing grounds.

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4. PIIM RISK ASSESSMENT

This chapter presents a PIIM risk assessment, first seeking to understand the probability of project-induced in-migration and the risk of influx-induced environmental and social impacts and subsequently conducting a situation analysis to help predict the expression of the phenomenon including migration pathways, concentration points (i.e., hotspots) and key environmental and social impacts and risks.

4.1 *Probability of Project-Induced In-migration*

4.1.1 *Population Mobility*

Chapter 3 describes the bases for potentially high levels of internal and cross-border migration of labour in Mozambique. Specifically, Chapter 3 demonstrates:

- (i) historically high levels of labour mobility (both voluntary and forced) within Mozambique as well to supply neighbouring countries' demands for labour;
- (ii) a protracted civil war that resulted in both narrow insitu livelihood activities and relatively high levels of urbanisation, with migration of the rural population to the relative safety of more urbanised and coastal environments;
- (iii) a relatively young population primarily engaged in natural resource-based subsistence livelihoods (i.e., agriculture, perennial cash crops, fishing, forestry)
- (iv) limited private sector driven employment opportunity.



Beyond Mozambique, Palma District shares a boundary with Tanzania. The relative proximity of Palma Town to Southern Tanzania, the strong economic social and cultural connections between the population in Southern Tanzania and coastal areas of Palma suggest a high likelihood of in-migration from Tanzania.

Set against the above observations are two specific characteristics of northern Mozambique that may deter in-migration from southern Mozambique, namely:

- (i) a specific economic, social, cultural and political context that sets northern Mozambique apart from central and southern Mozambique – a poorly developed area with limited infrastructure, services and utilities; limited integration into the mainstream Mozambique economy; a subsistence-based economy involving diversified livelihoods (agriculture with perennial cash cropping, fishing, small-scale trade); a resident population with a different faith (Muslim) and prevalence of Swahili (and other local languages) as the lingua franca.
- (ii) a more recent increase in insecurity in northern Mozambique and specifically Cabo Delgado province that is driving internal displacement of rural households to urban environments.

4.1.2 *Project Characteristics*

To date the Project has operated multiple bases during exploration and early works including Pemba, Mocimboa da Praia, Palma and finally the Pioneer Camp on the Afungi Peninsula. These activities – albeit at a relatively

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small-scale compared to the LNG construction phase - have been observed to be associated with a boom-bust cycle associated with increased in-migration, particularly in Pemba and Palma.

In contrast to the early Project activities, the proposed 2 train LNG project (coupled with the contemporaneous development of the Area 4 LNG plant) introduces a scale of construction and industrial development that is unknown in Mozambique, let alone Cabo Delgado. The scale of the Projects, the Project footprint, the potential for further expansion and prospects for medium-to-long term industrialisation provide the basis for transformation of the Afungi Peninsula, Palma Town and ultimately Palma District.

Construction of the 2 train LNG facility will occur over a 5-year period and require at least 3-5,000 Mozambican (mostly local) workers and a substantial international workforce. In addition to the Project workforce, the Project demand for goods and services and the prospect of medium-to-long term industrialisation will encourage national and international companies to establish bases in Palma District proximate to development.

4.1.3 Area Capacity to Meet Needs

Set against the project characteristics and requirements are the limited capacity of the population and more generally, the district to meet Project workforce requirements and supply goods and services. Historically limited access to formal education mean that the majority of the local population has limited formal education and consequently literacy and numeracy rates are amongst the lowest in the country. The lack of industrial development also means the population has had limited exposure to and experience with working in industrial regulated employment. As such, while the local population will participate in the Project as general labour, semi-skilled and skilled positions will inevitably be filled by non-local Mozambicans or an expatriate workforce.

Similarly, the area is characterised by low levels of economic development – until recently the Palma economy was more closely linked with Tanzania than Mozambique and the majority of economic activity that occurred might best be characterised as small-scale trade. The arrival of oil and gas has seen an increase in economic activity with entry of in-migrants and expansion of economic activity with entry and/or expansion of trade stores, hotel accommodation, etc. Yet, despite such improvements, the Palma economy is fundamentally unprepared to support gas development to any extent.



Finally, it is also worth noting that with the employment of a local workforce on the Project increased levels of disposable income may encourage further spontaneous in-migration of SMEs to support the growing demands of the local population employed by the Project.

4.1.4 Synopsis – Factors Contributing to the Probability of Project Induced In-migration



Table 2 presents an analysis of key national, provincial and local characteristics to determine the probability of PIIM. The table clearly demonstrates: high population mobility; high project requirements: and, limited assimilative capacity of the environment.

Table 2: Analysis of Key National, Provincial and Local Characteristics to Determine the Probability of PIIM

Factor	Indicators	Level	Comment
Population Mobility	National and regional working age population	High	
	Level of un- and under-employment	High	
	Per capita GDP	Low	
	Occurrence of internally displaced people	Yes	
	Proximity to neighbouring countries with factors	Yes	Historically high levels of internal and external migration of labour; EI

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Factor	Indicators	Level	Comment
Project Characteristics			projects developed in provinces with an international boundary experience high levels of cross-border in-migration; proximate countries have similar characteristics and may be a source of in-migrants
	Occurrence of PIIM on similar projects	Yes	PIIM phenomena on mining projects in CDG and nationally
	Direct and indirect construction phase labour requirements	High	Estimate 3-5,000 Mozambican will be engaged for Area 1 2 train development; similar number estimated for Area 4 project to be developed contemporaneously
	Construction phase demand for goods and services	High	High demand but limited local and provincial SME capacity likely to lead to sourcing elsewhere in Mozambique or internationally
	Increase in access and availability of infrastructure, services and utilities as part of project development	Yes	The upgrade of the R762 from Mocimboa da Praia to Palma in early 2000 cut travel time from Pemba from 8 to 6 hours; the Project will lead to improvements in accessibility (to the Afungi Peninsula through development of the Palma – Afungi Highway), availability of transport; the development of the RV will lead to significant local improvements in infrastructure, services and utilities on the Afungi Peninsula
	Increase in access and availability of resources for third parties	No	
Area Capacity to Meet Needs	Opportunities for land speculation associated with project development	High	Land speculation along R762 from Ncumbi to Palma and within Palma already evident and potential for land speculation exists along newly constructed Palma-Afungi Highway connecting R762 to Afungi Peninsula
	Working age population	High	
	Capacity of working age population	Low	Limited access to formal education leading to low literacy and numeracy rates; limited experience and participation with industrial regulated employment and activity.
	Adequacy of infrastructure, services and utilities	Low	
	Availability of goods and services	Low	
	Capacity of SME	Low	

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4.2 Contextual Factors Relevant to PIIM Footprint

Table 3 describes contextual factors relevant to understanding the PIIM footprint within the Project Area of Operations.







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Table 3: Contextual Factors Relevant to Understanding the PIIM Footprint within the Project Area of Operations

Factor	Indicators	Level/Comment
Tendency toward Dependency and Concentration	Level and distribution of infrastructure, services and utilities	Limited development of infrastructure, services and utilities with majority concentrated in Palma Town.
	Level and distribution of general economic activity	Limited; Palma district has low population density with population primarily engaged in subsistence agriculture and perennial crop production; coastal areas engage in limited trade and local fishing; other EI (ruby, graphite) exist to the west of Pemba, southwest of the Project area.
	Level and distribution of sector specific economic activity	Note comment above; EI activities exist to west of Pemba, southwest of the Project Area; coastal area generally unsuited for agriculture
	Level of road access between production sites and markets	Limited
Assimilative Capacity of Area	Nature of settlements nearest to project site	Proximate settlements have basic housing and limited access to services and utilities; majority of population practice diversified livelihoods focussing on fishing, intertidal collection, subsistence agriculture, cash cropping and petty trade. Access is limited.
	Existence and a capacity of public infrastructure, services and utilities	Limited. Palma Town is the most developed urban area with public infrastructure, services and utilities.
	Strength of local and provincial government administration	Local administration limited in resources, experience and capacity for large scale Project development and induced development
	Existence and application of laws and regulations	
	Existence of provincial development plan	Yes, but generic in nature and not directed towards specific projects, activities and outcomes.
	Existence of Palma urban development plan	No
	Physical space for additional habitation	Yes. With regard to Palma Town expansion areas along R762 Highway and to the west and north of Palma
	Health and security risks	Yes. Health – high incidence of malnutrition; malaria and HIV/AIDS. Security – increased insecurity since 2017 with ongoing low-level insurgency.
	Socio cultural factors relating to integration of migrants and response to rapid change in income	Yes. Area characterised by low population density and relative under-development. Population is Muslim (cf Christian in south); Swahili is the coastal language along with other ethnic derived languages with Portuguese not widely used nor understood.

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Factor	Indicators	Level/Comment
Rate and Magnitude of PIIM	In-migration phenomena experienced by projects in same sector and context	Other EI projects nationally and in CDG have experienced high levels of in-migration, e.g., SASOL gas project; coal projects in Tete; ruby mining and ASM in CDG
	Development of low, medium, high in-migration scenarios	
Specific factors	Potential for cross border migration	Yes. Proximity to and economic, familial and cultural connection to Southern Tanzania as well as Malawi and Zimbabwe.

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4.3 Recent PIIM Trends in the Afungi Peninsula and Palma Town

From 2011-2013 induced in-migration into the Project's area of influence was observed to be associated with early Project activities. Specifically, such in-migration was in Pemba City from which the Project managed its offshore drilling campaign and where population growth increased significantly (beyond natural growth) during that period and in Mocimboa da Praia and Palma where the Project operated camps in support of onshore seismic operations. Limited numbers of in-migrants are reported to have come from other parts of the District in which operations were taking place and/or other nearby Districts or Provinces and temporarily settled in Palma. Some foreigners (mainly from Tanzania, South Africa and Portugal) moved to the area to establish offices and conduct business. Some service providers established logistics/laydown areas and the hospitality trade increased with the establishment of hotels and mid-level accommodation. At the end of these early activities and with the global slowdown of the oil and gas industry, there was evidence of migrants departing the area¹⁸.



Palma Sede has changed significantly over the last decade. The major driver of this change is the improvement of the R762 connecting Mocimboa da Praia to Palma, which was previously severely compromised and in a very poor condition. As a consequence of road improvement, traffic on the road has increased significantly and thereby improved the linkage of the Palma economy to the rest of Cabo Delgado and Mozambique and vice versa. Along the R762 road leading into Palma Sede, there has been a noticeable increase in the allocation and demarcation of land parcels by external actors seeking to establish operations in Palma in anticipation of opportunities associated with the Project and more generally, accelerated economic development in Palma. In Palma the business district has grown with the addition of coffee shops, taverns, guest houses and hotels, banks, fuel stations and many new shops, keeping a greater variety of goods than before. As noted in Chapter 3, the majority of shop owners are not local, deriving from elsewhere in Mozambique (e.g., Pemba, Maputo) where they have established businesses and are now opening a branch in Palma. Some of the new business/traders in Palma originate from Tanzania, Kenya, Somalia, India, Lebanon and Nigeria.

Arriving immigrants indicate that they have travelled to Palma Sede to benefit from business and employment opportunities. These new arrivals come from Maputo, Gaza, Sofala, Tete and Nampula provinces, but also from neighbouring countries including Zimbabwe, Tanzania, Malawi, South Africa, Somalia, Nigeria, Rwanda and Burundi. Arrival to Palma District is either via road (the R762 from Mocimboa da Praia, or Nampula), or sea. Some arrivals from Tanzania reported that a 'hidden' entry into Palma Sede is via the islands situated along the coast. Migrants from Malawi and Zambia report traveling to Maputo first, and then making their way north to Palma.¹⁹

In-migrants also originate from Cabo Delgado Province making their way to the Project area from Mueda, Nangade, Montepuez and Mocimboa da Praia districts, in search of job opportunities. In Palma the in-migration phenomenon has been exacerbated by the temporary lack of capacity to house non-local workers on the Afungi Peninsula construction camps. Non-local workers are reported to rent a room in which 3 or 4 people stay as close as possible to the Project site. Entire families working for some of the main ASI/ RV contractors have also been witnessed, while workers that have previously worked for TEPMA1 contractors in other parts of Mozambique, reportedly send their job applications and, prior to receiving confirmation that their job application has been successful, make their way from Pemba (and elsewhere in Mozambique) to the Project

¹⁸ Personal comment, Pedro Wate, 2018

¹⁹ Interviews conducted by M. Devji between December 2018 and January 2019.

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area. Finally, the increased availability of regular employment, wages and hence increased disposable income has also encouraged commercial sex workers from Nampula, Pemba, Montepuez, Chiure, Mueda, Moma and Cuamba to frequent Palma Sede on a monthly basis.

Senga community leaders indicated that following the Resettlement Moratorium, there was an increase in requests for land, evidence of new houses being built for rental and even a store opened by a shopkeeper from Mocimboa da Praia. Given the timing, it is likely that these activities represent an early in-migration wave and/or opportunistic behaviour in readiness for the expected arrival of job seekers and other migrants who will require land and/ or accommodation. In-migrants to Afungi communities mostly originated from Mocimboa da Praia, the locality of Mute, and Palma Sede and generally relied on the existence of familial relations with the population on the Afungi Peninsula..

4.4 Situation Analysis

4.4.1 Potential Sources of In-Migration

Four potential sources of population influx may be identified, specifically: (i) the rest of Mozambique (especially areas with other large extractives projects in various phases of hiring and demobilization of employees); (ii) Cabo Delgado Province; (iii) the rural hinterland of Palma District; and (iv) Southern Tanzania (and other proximate countries, i.e., Zimbabwe, Malawi).

Section 4.1 suggests a pre-disposition for high internal (and international) migration in search of economic opportunity. In the case of northern Mozambique internal inter-provincial migration might be tempered by political, economic, social and cultural differences and the recent increase in insecurity. In Palma District, and specifically for the link between the Tanzanian border and Palma, historical and current social, cultural and economic links with Tanzania suggest a high likelihood of cross-border migration to capture economic benefits. Within Palma District, internal migration may be tempered by ethnic differences between the hinterland population and that of the coast although it is likely that these differences would drive general migration towards urban environments (i.e., Palma).

4.4.2 PIIM Pathways

Chapter 3 describes access to Palma, identifying terrestrial road access involving:



- the R762 connecting Palma to Mocimboa da Praia (and beyond) in Cabo Delgado Province and Mozambique;
- movement along tertiary roads from the hinterland of Palma District to the coast, including Palma Sede;
- road access connecting Palma through Quionga to Namiranga (on the Tanzanian border) and entry into Southern Tanzania including Mtwara.

In addition, it is noted that both historically and currently dhows and other ships continue to ply the coastline facilitating transport along the coast of Mozambique and north along the East African coastline (i.e., Tanzania, Kenya, Somalia) and potentially across to India.

4.5 PIIM Hotspots

PIIM hotspots, or areas to which migrants are likely to be drawn, were defined in line with the following criteria:

- Road access

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- Proximity to the Project area
- Availability of infrastructures (primarily accommodation), services and utilities

Based on the above criteria, three primary PIIM hotspots have been identified as follows:

- (i) Palma Town;
- (ii) the R762 highway connecting Mocimboa da Praia to Palma and specifically the section between the roadheads of side-roads leading to the Afungi Peninsula and Palma Town; and
- (iii) the Afungi Peninsula, primarily the Resettlement Village and Senga.

The Project has identified Palma Sede as the primary hotspot in the district. Further, road-side development along the R762 between Palma and the road-head of the Palma-Afungi Highway and on the Palma-Afungi Highway itself serves as possible 'growth corridors' with development of settlement, commercial activity and/or light industry. Within the Afungi Peninsula, Quitunda (the Resettlement Village) and nearby Senga Village are identified as likely PIIM hotspots in the medium-long term as in the near-term the 3-phase resettlement program will only be complete in 2020 and it is deemed less likely that in-migrants will enter an active construction area. Identified primary and secondary PIIM hotspots are shown in Figure 15.

The pre-eminence of Palma Town as a hotspot is based on its accessibility, its relatively high state of development of infrastructure, services and utilities compared to the Afungi Peninsula (and in other rural environments) and the on-going concerns regarding insecurity affecting more remote areas. Migration to the Afungi Peninsula will rely more on familial and personal links although it is noted that development of the Resettlement Village (with infrastructure, services and utilities) and the creation of a more secure and safe project-operating environment centred on the Afungi Peninsula may encourage influx to the Project Area of Operations and specifically the Resettlement Village.

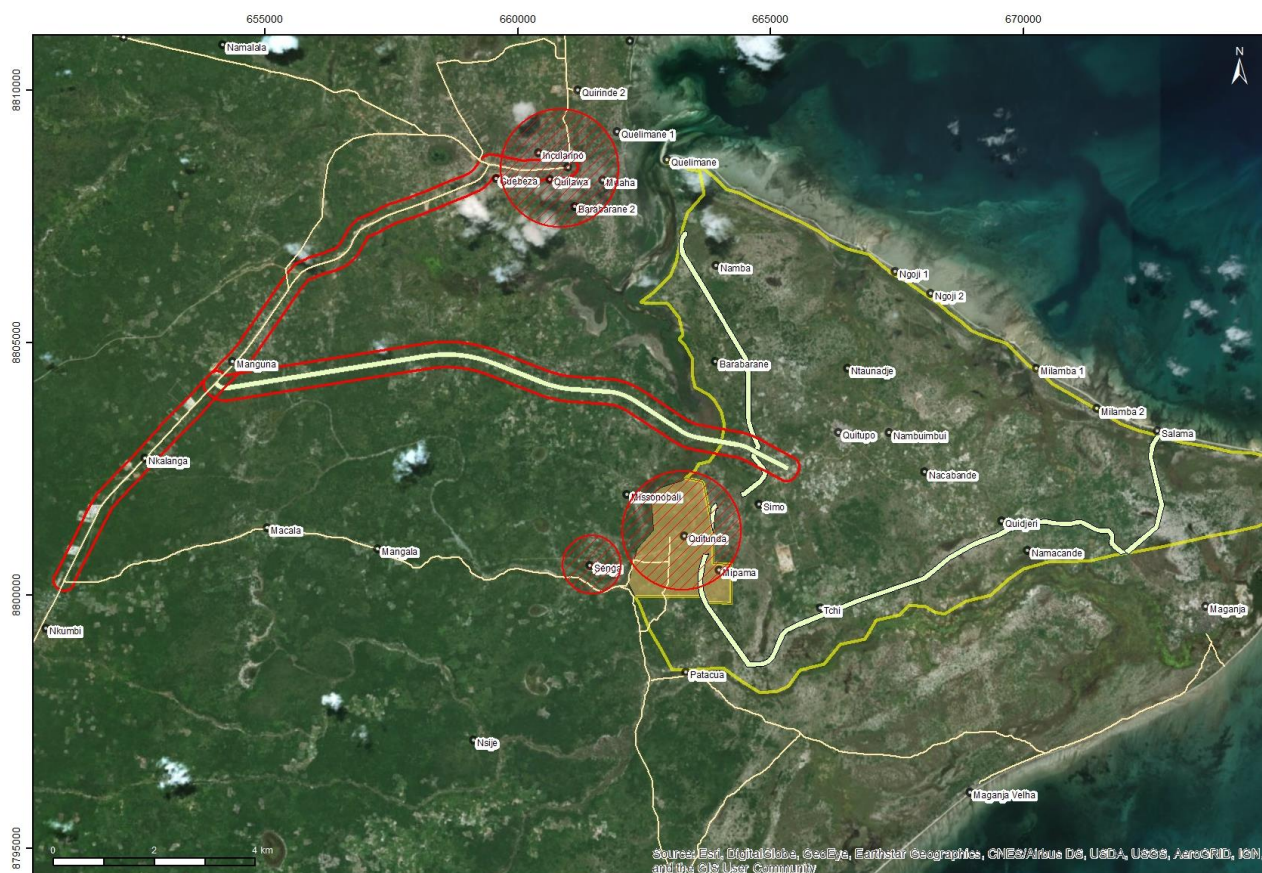




Figure 15: Project-Induced In-migration (PIIM) Hotspots

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5. ASSESSMENT OF PIIM IMPACTS

5.1 Introduction

The PIIM assessment identified pathways to the Project Area of Influence and probable PIIM hotspots. PIIM hotspots were identified as follows: (i) Palma Town; (ii) a growth corridor from Palma heading south along the R762 highway to Manguna at the road-head of the Palma-Afungi Highway (and extending to Nkumbi) and the Palma-Afungi Highway itself; and, (iii) the Afungi Peninsula, primarily the Resettlement Village and Senga. This chapter presents a PIIM impact assessment for the identified hotspots.

5.2 Methodology

The PIIM impact assessment is carried out at the ‘hotspot’ level. The assessment involves two steps:

- (i) the development of a general statement regarding the probable expression of PIIM in the identified hotspot; and,
- (ii) implementation of a PIIM impact assessment for the identified hotspot using a generic list of potential PIIM impacts. The generic list of positive and adverse impacts is derived from relevant tables in the IFC Handbook on Project Induced In-migration, identifying potential impacts and their applicability, potential scale, timeframe for expression and potential severity. These characteristics are then aggregated to define a single ranking i.e., 1 (High), 2 (Medium) and 3 (Low) significance.

5.3 Understanding PIIM in Palma Town

5.3.1 Potential Expression of PIIM

Palma Town will be the locus of in-migration, whether this originates from central/southern Mozambique, the hinterland or Tanzania (and other neighbouring countries). As the only proximate town acting as a centre of commerce and trade and with relatively developed infrastructure, services and utilities it is inevitable that Palma will be the growth centre. This growth is likely to be linked to a peri-urban growth corridor along the R762 stretching from Palma to Ncumbi, reflecting the advantages of roadside development of industrial support activities as well as along the Palma-Afungi Highway as described in Section 5.3.2.

5.3.2 Positive Impacts

Table 4 provides an assessment of the positive impacts associated with PIIM on Palma Town.

5.3.3 Adverse Impacts

Table 5 provides an assessment of the adverse impacts associated with PIIM on Palma Town.





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Table 4: Assessment of the Positive Impacts Associated with PIIM on Palma Town

Category	Applicability	Potential Impacts	Probability/Scale	Timeframe	Level/Severity
Administrative	Yes	Potential change in status of Palma Town to Municipality; potential increase in tax revenue associated with Project;	Medium/Limited	Short-Medium	Low
Economic linkages	Yes	Improved economic linkages within CDG and rest of Mozambique. Increased market integration potentially associated with increased linkages, increased number, scale and diversity of economic activities.	High/Significant	Short-Medium	High
MSME	Yes	Economic opportunity driving arrival of both individual entrepreneurs and establishment and growth of MSME leading to rapid expansion of goods and services.	High/Moderate	Short-Medium	High
Skills	Yes	Increased arrival of entrepreneurs and establishment and growth of MSME creates demand for and opportunity for local population to increase skills.	High/Moderate	Short-Medium	Medium
Housing	Yes	Influx associated with increased demand for housing; at least some of demand will be for higher standard housing	Medium/Moderate	Medium	Low
Adequacy of Services and Utilities	Yes	As per housing, there will be demand for a higher standard of housing including services and utilities	Medium/Moderate	Medium	Low

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Category	Applicability	Potential Impacts	Probability/Scale	Timeframe	Level/Severity
Livelihoods	Yes	A more diverse active economy will drive demand for goods and services, artisanal and vocational skills, employment and provide greater opportunities for livelihood diversification	High/High	Short-Medium	Medium
Socio-Cultural	Yes	Greater interaction with migrants from CDG and Mozambique - greater integration into the mainstream Mozambique - potential for greater recognition of northern citizens. Increase in number of CSO and NGO actors promoting positive social and livelihoods development.	High/High	Medium-Long	Medium
Political	Yes	Focus on the north, increased budget allocation for resources development, PPP & promotion of contextual economic development programmes.	High/moderate	Short-Medium	Medium







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Table 1: Assessment of the Adverse Impacts Associated with PIIM in Palma Town

Category	Applicability	Potential Impacts	Probability/Scale	Timeframe	Level/Severity
Environmental	Yes	Increase in population likely to lead to increased demand for fuelwood and charcoal creating a market that may accelerate deforestation in proximate accessible forested areas. Potential increase in solid domestic waste and environmental and health issues in the absence of an established and functional waste management. Similarly, potential concerns re water and sanitation with potential environmental and health impacts.	High/Moderate	Short-Medium	Medium-High
Law and Order/Security	Yes	Influx may be associated with decrease in law and order/insecurity.. Construction and operation of residences and small businesses on verge of existing roads and lack of control of area by local government provide opportunity for easy transit for miscreants. Likely arrival of primarily single/unaccompanied men driving increase in night-life; increased number of migrants searching for employment may be idle and create mischief, promote social unrest or indulge in crime and violence, especially gender related;	High/Moderate	Short-Medium	Medium-High
Infrastructure, Services and Utilities	Yes	Rapid increase in single unaccompanied men will drive demand for accommodation; proliferation of single accommodation and opportunistic development of housing; increase demand for utilities associated with issues with ground water sanitation, domestic waste; increased demand for health services, security services, electricity.	Medium/Medium	Short-Medium	Medium

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Category	Applicability	Potential Impacts	Probability/Scale	Timeframe	Level/Severity
Economics and Livelihood Strategies	Yes	Increased economic opportunity and rapid economic development may lead to uncontrolled business development; entry of external business with greater capacity and resources capable of capturing benefit; etc.	High/High	Short-Medium	High
Health	Yes	Increase in communicable diseases both in situ and by interaction with Palma; potential susceptibility to malaria; increase demand on health services; potential decrease in clean water sources; potential issues with sanitation; potential issues with waste management, increase in road related accidents and injuries.	High/High	Short-Medium	High
Social Dynamics	Yes	Potential friction between culture, customs, values and norms of resident population and in-migrants; rapid growth of in-migrating population and merge with local population likely to challenge traditional and religious leadership; increase in social ills associated with single/unaccompanied males with disposable income; women marginalized from economic and social benefits will increase domestic social fractures, sex work and gender-based violence.	High/High	Short-Medium	High

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5.4 Understanding PIIM Along R762 Between Ncumbi and Palma and the Palma-Afungi Highway

5.4.1 Potential Expression of PIIM

While Palma Town will be the locus for in-migration, the phenomenon is likely to stretch south along the R762, essentially creating a growth corridor. The growth corridor is likely to extend south along the R762 to Ncumbi and along the newly constructed Palma-Afungi Highway. Unless planned, this growth corridor will develop to support industrialization and as such combine settlement and small industry. Such ribbon development takes advantage of accessibility on the R762 but these advantages may be hampered by a lack of integrated planning, and other issues associated with water utilisation, waste management, etc. Given the general limited scale of economic activity in Palma the growth corridor will be associated with new entrants.

5.4.2 Positive Impacts

Table 6 provides an assessment of the positive impacts associated with PIIM on the R762 and Palma-Afungi road growth corridor.

5.4.3 Adverse Impacts

Table 7 provides an assessment of the adverse impacts associated with PIIM on the R762 and Palma-Afungi road growth corridor.



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Table 6: Positive Impacts Associated with PIIM Along Potential Growth Corridors

Category	Applicability	Potential Impacts	Probability/Scale	Timeframe	Severity
Administrative	NA		Medium/Limited	Short-Medium	Low
Economic linkages	Yes	Improved economic linkages with Palma; increased frequency of traffic on R672 promoting greater commerce and trade.	High/Significant	Short-Medium	High
MSME	Yes	Expect development of local MSME, trade stores, along route from Ncumbi to Palma primarily to capture increased levels of disposable income from local population engaged as Project workforce	Moderate/Moderate	Short-Medium	Medium
Skills	Yes	Increased arrival of entrepreneurs and MSME creates demand for and opportunity for local population to increase skills	High/Moderate	Short-Medium	Medium
Housing	Yes	Influx associated with increased demand for housing; at least some of demand will be for higher standard housing	Moderate/Low	Medium	Low
Adequacy of Services and Utilities	Yes	As per housing, there will be demand for higher standard housing including services and utilities	Low/Low	Medium	Low
Livelihoods	Yes	A more diverse active economy will drive demand for goods and services, artisanal and vocational skills, employment and provide greater opportunities for livelihood diversification including from natural resources	High/High	Short-Medium	Medium
Socio-Cultural	Yes	Greater interaction with migrants from CDG and Mozambique - greater integration into the mainstream Mozambique - potential for greater recognition of northern citizens	High/High	Medium-Long	Medium







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Table 7: Adverse Impacts Associated with PIIM Along Potential Growth Corridors

Category	Applicability	Potential Impacts	Probability/Scale	Timeframe	Severity
Environmental	Yes	Both local- and Palma-based increase in population coupled with good access and transportation may provide basis for greater resource exploitation, e.g., fuelwood, charcoal, with adverse effect on forest cover; bush meat; etc; increased demand for subsistence and scope for commercialisation of agriculture may drive land use change; competitive uses for roadside landholdings e.g., light industry may displace households and traditional roadside land use leading to conflict and/or displacement; local population may experience greater demand for groundwater and increased issues with sanitation and domestic waste	High/High	Short-Medium	High
Law and Order/Security	Yes	Influx may be associated with decrease in law and order/insecurity albeit on smaller scale of urban environment of Palma. Use of road reserves for construction of residences and small businesses, lack of control of area by local government, easy transit for miscreants.	High/High	Short-Medium	High
Infrastructure, Service and Utilities	Yes	Influx and settlements in roadside communities likely to lead to demand for and development of housing and may see opportunistic development of accommodation; increased population will be associated with increased demand for water and sanitation and production of domestic waste. Industrial services established in roadside plots with access to electricity and water create new settlement nodes and quality of power reaching Palma further reduced.	High/High	Short-Medium	High

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Category	Applicability	Potential Impacts	Probability/Scale	Timeframe	Severity
Economics and Livelihood Strategies	Yes	Competition for road-side land for other use (e.g., light industry) will provide alternative employment and also displace agriculture and natural resource-based livelihoods; subsistence agriculture will become more commercialised to cater for increased population in situ and in Palma; roadside communities may become 'peri-urban; and act as source of labour and services to Palma	High/High	Short-Medium	High
Health		Increase in communicable diseases both in situ and by interaction with Palma; potential susceptibility to malaria; increase demand on health services; potential decrease in clean water sources; potential issues with sanitation; potential issues with waste management, increase in road related accidents and injuries;	High/High	Short-Medium	High
Social Dynamics		Proximity of Palma will limit influx in these settlements but influence of proximity of Project and development of small industry along the road will draw labour. Living further from government services and control, labour sourcing, residential areas and management likely to be less controlled, and the cause of social stresses among local families, especially among women. Road access facilitates the passage of miscreants.	High/High	Short-Medium	High

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5.5 Understanding PIIM in the Afungi Peninsula

5.5.1 Potential Expression of PIIM

Given the scale of the Project DUAT (in relation to the Afungi Peninsula as a whole), the multi-phase resettlement program, simultaneous commencement of LNG facility construction and a local employment program including BIBO it is felt unlikely that the Afungi Peninsula as a whole will experience much in-migration, with the exception of Senga and Quitunda (the Resettlement Village). Quitunda may be characterised as a relatively high end infrastructure, services and utilities urban estate on the edge of the DUAT. As such it is likely to be considered as a highly desirable destination for people seeking employment during construction and ultimately for families with members employed in the operations phase. Quitunda households are likely to experience economic incentives to rent out part of or their entire houses, the only limitation being that construction of the resettlement village and LNG construction are happening simultaneously for the first 1-3 years. Further, influx impacts are likely to be somewhat masked by the ongoing resettlement program that already introduces significant change to physically displaced households and communities. Senga is likely to experience similar forces and trends as Quitunda and probably at greater intensity - partly because it is not the center of district government attention and as such somewhat less regulated and partly because the infrastructure, services and utilities are comparatively worse meaning influx impacts will be more significant.

5.5.2 Positive Impacts

Table 8 provides a summary of the positive impacts associated with PIIM on the Afungi Peninsula, focussing on Senga and the RV.

5.5.3 Adverse Impacts

Table 9 provides a summary of the adverse impacts associated with PIIM on the Afungi Peninsula, focussing on Senga and the RV.



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Table 8: Positive Impacts Associated with PIIM on the Afungi Peninsula (RV and Senga)

Category	Applicability	Potential Impacts	Probability/Scale	Timeframe	Intensity/Severity
Administrative	Yes	Quitunda (resettlement village) will be the administrative base for the Palma Administrative Post. As such the administrative context will have fundamentally changed. Influx is likely to strengthen the administrative oversight.	High/High	Short-Medium	High
Economic linkages	Yes	Influx will lead to greater connectivity to Palma, the growth corridor and beyond.	High/High	Medium	High
MSME	Yes	Influx may lead to greater economic development of Quitunda and MSME development in general, taking advantage of higher levels of household disposable income on the one hand and potential business opportunities with LNG and beyond on the other. The development of non-local middlemen is likely to occur.	High/High	Medium	High
Skills	Yes	Influx may be associated with entry of semi-skilled and skilled people seeking employment with LNG	High/High	Medium	High







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Table 9: Adverse Impacts Associated with PIIM on the Afungi Peninsula (RV and Senga)



Category	Applicability	Potential Impacts	Probability/Scale	Timeframe	Intensity/Severity
Environmental	Yes	Resettlement of Quitupo to Quitunda (RV) likely to be associated with higher intensity utilisation and thus depletion of local natural resources leading to deforestation (charcoal production), changes in land use intensity and potential for increased conflict. Pollution may increase although this is dependent on the success of development and operation of existing systems. Overall influx will exacerbate environmental degradation. Erosion in areas exposed for construction and agriculture. Surface water pollution of wetlands surrounding Quitunda (RV) affecting Senga neighbours and elsewhere from increased traffic and inorganic litter associated with increased purchasing power, employment and rising expectations.	High/High	Short-Medium	High/High
Law and Order/Security	Yes	Quitunda (RV) police post has limited mobility and interest in the wider area. Any significant increase in single/unaccompanied men is likely to increase disorder and unlawfulness especially because the Quitunda (RV) is an urban estate with good infrastructure, services vulnerable to more 'urban' distractions. Influx during construction phase may be associated with threats to project workforce, assets, business continuity, and personal security, especially of women, who are also susceptible to gender based violence.	High/High	Short-Medium	High/High

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Category	Applicability	Potential Impacts	Probability/Scale	Timeframe	Intensity/Severity
Housing	Yes	Demand for housing in Senga will rise as people expect it to be used as the closest access point from which to secure employment and are attracted to the proximity of Quitunda (RV) and opportunities for goods & services provision. Site selection for Quitunda (RV), specifically its proximity to the LNG park associated with community expectations including the assumption of being closest to employment opportunities.	High/Moderate	Short-Medium	High/moderate
Infrastructure, Service and Utilities	Yes	Influx has potential to overwhelm capacity of infrastructure, services and utilities especially water, waste management and social/health services. Potential for uncontrolled development of housing near Quitunda (tapping into utilities) and with Senga.	Medium/Medium	Short-Medium	Medium/Medium
Economics and Livelihood Strategies	Yes	Resettlement will introduce significant change and challenge in economic context and livelihood strategies. In-migrants likely to target capturing increase in disposable income through establishment of market stalls, acting as middlemen, etc. Increase of sex workers. Increased market and population driven competition for land may lead to establishment of informal land markets.	Low/low	Short-Medium	Medium/Medium
Health	Yes	A new urban environment with a largely rural population faces multiple health concerns most of which would be exacerbated by influx. Influx to Senga and the interaction with Quitunda (RV) would increase surface water pollution, commercial sex providers, gender based violence especially related to alcohol consumption.	Low/Low	Short-Medium	Medium/Medium

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Category	Applicability	Potential Impacts	Probability/Scale	Timeframe	Intensity/Severity
Social Dynamics	Yes	Resettlement associated with significant change in leadership; power relationships, loss of social cohesion and sense of place. In and out of Quitunda, influx to neighbouring communities may introduce and promote social ills (crime, GBV, sex work and intake of alcohol).	Medium/Medium	Short-Medium	Medium/Medium

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6. PROJECT INDUCED INMIGRATION MANAGEMENT STRATEGY AND APPROACH

This chapter sets out:

- the Project's overall strategy and approach to management of project-induced in-migration (PIIM);
- the management plan's PIIM management principles;
- the basis for selection of PIIM management areas of intervention; and,
- a description of these selected interventions areas.

6.1 Strategy and Approach to Managing PIIM

The Project PIIM Management strategy is defined by the potential socio-economic development of Palma District, the proximity of Palma Town to the Afungi Peninsula (and thus the Project site), the probable concentration of PIIM in Palma Town, the likelihood of roadside development and the potential impacts and risks of PIIM.

As such, the PIIM management strategy is based on pro-active development planning for Palma Town and Palma District as the foundation for management of the influx footprint and its potential impacts. This strategy recognizes that multiple stakeholders' primary interest will lie in promoting the sustainable development of Palma and Palma District as a whole and thus seeks to leverage this interest by framing PIIM considerations as a potential threat to sustainable development. Implicit in this argument is that while PIIM is a project-induced phenomenon its expression represents a more active threat to sustainable development of Palma Town and the R762 corridor than to the communities on the Afungi Peninsula, the Project and the Project's immediate social license to operate.

Across the Project Area of Operations (including Palma Town and the Afungi Peninsula) the key potential PIIM social impacts and risks have been identified in terms of: (i) communities' ability to understand change and to be actively involved in managing the expression of such change and (ii) community health impacts. These impacts will be pro-actively managed by promoting community capacity to manage change and the implementation of targeted community health management programs.



On the Afungi Peninsula, the large Project footprint together with simultaneous implementation of resettlement and Project construction activities may limit short-term in-migration until such time the resettlement village is complete. PIIM management interventions will primarily occur through integration of specific measures in existing functional areas activities.

Based on the preceding, development processes that lead to strategic development plans, diversified growth and multiple nodes of development of the district coupled with a more focused approach to urban planning in Palma Town (including assessment of infrastructure, services and utilities) will simultaneously address key concerns with the PIIM physical and social footprint and PIIM impacts and risks.

6.2 Principles for Managing PIIM

The key principles for managing PIIM adopted in this PIIM MP are:

- Recognised relationship between broader socio-economic development and management of Project Induced In-migration;

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- Recognition of the complementary nature of development programming and PIIM management, involves recognition of the roles and responsibility of multiple stakeholders including Government, development partners, private sector and communities for planning and management of development and PIIM;
- Effective design, planning and delivery of development and PIIM management will be facilitated by the establishment of a Multi-Stakeholder Development Forum
- PIIM management will pro-actively address the three thematic areas
 - inflow
 - footprint
 - negative Impacts
- PIIM management focus will be determined by pathways for in-migration; recognised hotspots; and, an understanding of development opportunity and PIIM impact and risks.
- In addition to specific focal areas, the potential PIIM impact and risks will be integrated across relevant functions.

6.3 Approach to Selection of PIIM Management Measures



The selection of PIIM management measures aligns with the strategy articulated in Section 6.2. As such the selection of management measure scan be considered in terms of the following:

- (i) Establish a common framework for development
 - Spatial Planning
 - Urban Planning, Service and Utilities
 - Capacity Building
- (ii) Address key environmental and social impacts and risks of PIIM
 - Community Strengthening
 - Community Health
 - Household and Community Resource Management and Agroforestry
- (iii) Address project footprint specific PIIM related issues through functional interventions

6.4 PIIM Management Focal Areas

This PIIM Management Plan comprises nine program areas as follows:

- (i) Managing Inflow
- (ii) Multi-Stakeholder Forum (provincial and district)
- (iii) Spatial Planning
- (iv) Urban Planning – Infrastructure, Service and Utilities and Government Capacity
- (v) Community Strengthening
- (vi) Community Health

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- (vii) Community Natural Resource Management and Agroforestry
- (viii) PIIM Interface
- (ix) Tracking/Monitoring

Table 10 outlines the objectives of these program areas. Tables 11 and 12 demonstrates the link between identified management measures and positive and adverse impacts and risks identified in Chapter 5.





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Table 10: PIIM Management Plan Program Objectives

Focal Area	Objectives
Managing Inflow	<ul style="list-style-type: none"> Identify in-migration pathways and work with key stakeholders (government) and Project functions to create systems that deter opportunistic in-migration
Multi-Stakeholder Forum (MSF)	<ul style="list-style-type: none"> Promote and facilitate active multi-stakeholder (Project, Government, private sector, development agencies, NGO/CSO and communities) involvement, participation and joint management of PIIM risks and opportunities via well-defined areas of PIIM intervention. Enable synergies and promote improved planning for and oversight of interventions aimed at regional development associated with the O&G projects.
Spatial Planning	<ul style="list-style-type: none"> Enable adequate spatial planning in relation to anticipated increase in demand for land, competing land uses, increased demand for services and utilities, as associated with economic development and PIIM, with the view of proactively managing the risk of unplanned and uncontrolled development.
Urban Planning - Infrastructure, Services and Utilities and Capacity	<ul style="list-style-type: none"> Support development of an urban plan for Palma Town (and surrounds) that provides the basis for ongoing development; Support assessment of Palma Town infrastructure, services and utilities capacity to meet future demand and where appropriate, design and plan measures to address key issues Support development of government and administrative capacity to support development of Palma Town.
Community Strengthening	<p>Build and strengthen communities' resilience to adapt to an accelerated process of change and an environment with new demands through targeted programs aimed at:</p> <ul style="list-style-type: none"> Strengthening community organizational and leadership structures; Strengthening their ability to articulate aspirations and assert own cultural norms and identity; Strengthening community law and order and conflict management systems; Empowering those most marginalized and vulnerable, in gender-sensitive ways; Enabling the acquisition of new and diversified skills so communities are able to take advantage of opportunities for development.
Community Health Programs	<ul style="list-style-type: none"> Support the coordinated development and implementation of strategic health programs in collaboration with Government and other partners including Area 4, to mitigate health risks to communities on the Afungi peninsula and anticipated PIIM hotspots in Palma District, as associated with PIIM impacts. Support Government with the development of a multi-year district health strategy.
Natural Resource Management	<ul style="list-style-type: none"> Monitor trends in forest cover, land use change and natural resource use

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Focal Area	Objectives
	<ul style="list-style-type: none"> Support community-level definition of community land boundaries and the definition and assessment of community resources/ecosystem services as a basis for more pro-active planning Design and implement sustainable natural resource management programs focused on areas identified to be under threat. For example, promotion of agroforestry systems including tree planting to mitigate anticipated effects of land use change and demand for fuelwood and charcoal
PIIM Interface	<ul style="list-style-type: none"> Establish clear coordination and collaboration channels between internal Project functions implementing discipline-specific management measures contributing to collective management of PIIM and an enabled Project environment.
Tracking/Monitoring	<ul style="list-style-type: none"> Determine appropriate PIIM tracking/monitoring indicators that can be collected and shared with key stakeholders on a timely basis to inform awareness, understanding, priorities and decision making.



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Table 11: Relationship between PIIM Component Program and Identified Positive Impacts

No	Identified Impact/Risk Area	MSS	Inflow	Spatial	Urban	CommStr	CommHeal	NRM	XFn	M&E
1	Administration	X								X
2	Economic Development	X		X			X	X	X	X
3	MSME Development	X						X	X	X
4	Skills	X						X	X	X
5	Housing	X			X	X			X	X
6	Services and Utilities	X			X	X	X		X	X
7	Livelihoods	X				X	X	X	X	X
8	Socio Cultural	X				X	X		X	X
9	Political	X		X	X					X





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Table 12: Relationship between PIIM Component Program and Identified Adverse Impacts and Risks

No	Identified Impact/Risk Area	MSS	Inflow	Spatial	Urban	CommStr	CommHeal	NRM	XF _n	M&E
1	Environment	X		X	X	X		X	X	X
2	Law and Order/Security	X	X			X			X	X
3	Housing	X	X		X	X			X	X
4	Infrastructure, Services and Utilities	X	X		X	X			X	X
5	Economics and Livelihood Strategy	X				X	X	X	X	X
6	Health	X				X	X		X	X
7	Social Dynamics	X				X	X			X

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7. PROJECT INDUCED INMIGRATION MANAGEMENT IMPLEMENTATION PLAN

This chapter provides a summary description of the PIIM Management Plan component programs. For each program, there is a narrative description of the purpose, the specific objectives, the key activities and anticipated approach to program implementation.

7.1 Multi-Stakeholder Forum (MSF)

7.1.1 Purpose

To promote the establishment and operation of a development Multi-Stakeholder Forum (DMSF) at provincial and district levels. The DMSF will serve as a platform through which to develop a shared vision of development and to promote (i) sharing of information; (ii) an understanding of the roles and responsibilities of stakeholders; and, (iii) coordination, collaboration and partnership in planning and the design and delivery of development interventions and PIIM management programs.



7.1.2 Objectives

- Promote establishment and operation of a Multi-Stakeholder Forum at Provincial and District level.
 - Build effective means for coordination, collaboration and partnership between stakeholders including government, multi-lateral and bilateral development partners, private sector, communities and implementation partners.
 - Facilitate improved awareness, coordination and collaboration and ultimately partnership in identification, assessment and design and planning of development and PIIM management interventions both between stakeholders and across Project functions.
- Promote and facilitate stakeholder awareness, understanding and inclusion of PIIM impacts, risks and management in development strategy and plans.
- Encourage stakeholders to design, plan and implement development and/or PIIM management programs

7.1.3 Key Activities

➤ Mapping of Key PIIM Stakeholders

- Key national Government institutions/structures involved in strategic planning and regional development
- Key Provincial and District Government institutions responsible for sectoral areas relevant to PIIM management programs defined in this document including: land use planning and management; rural development; the sea and inland water; urban planning and delivery of infrastructure, services and utilities; migration; law and order; employment and training; water and sanitation; health services; social assistance.
- Multilateral and bilateral agencies, national and international NGOs, business and trade

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organizations/ associations, Mozambican CSOs, academia, operating in Cabo Delgado and/ or with interest in the subject matter - regional sustainable development, socio-economic development, land use planning, management of natural resources.



- O&G operators active in Cabo Delgado Province to align on regional development priorities and investments (social investment, local content, training).
 - Other stakeholders operating or planning to operate in Cabo Delgado Province in relation to involved in socio-economic development / sustainable development programs, that should be aware of PIIM, consequent potential risks and opportunities and the need to consider it in provincial strategies and plans.
- Advocacy and engagement promoting the establishment and operationalization of the MSF, focusing on its potential to serve as vehicle for ongoing multi-sectoral dialogue to promote sustainable regional development and management of PIIM risks and impacts.
- Development and agreement on DMSF governance procedures, systems and documentation. The Project will support the development of the required governance procedures, systems and documentation including:
- Terms of Reference
 - Decision making processes and procedures
 - Communications
 - Record-keeping mechanisms to ensure processes and outcomes are documented for future reference
 - Define M&E and assurance activities
- Promote awareness and understanding of the Project including the Environmental Impact Assessment and associated Environmental and Social Management Plan, including all component environmental and social impact management plans
- Design, planning and delivery of sustainable development and PIIM, potentially through an Institutional Support Program.

7.2 Managing Inflow

7.2.1 Purpose

As described elsewhere, four in-migration pathways have been identified as follows:

- (i) from the south, including southern districts within Cabo Delgado Province or other provinces in Mozambique;
- (ii) from the southwest and north, with in-migration from rural areas in neighbouring districts or the hinterland of Palma district;
- (iii) from Southern Tanzania either entering formally by crossing the border at the relevant point and travelling south by road or entering informally by crossing the Rovuma River that marks the boundary between Tanzania and Mozambique; or,

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- (iv) by using boats that ply the trade routes between Tanzania and Mozambique as well as between coastal areas of Mozambique.

The purpose of managing inflow is to identify and implement interventions that minimise and otherwise rationalise in-migration into Palma District and the Project Area of Influence including Palma Town and the Afungi Peninsula.

7.2.2 Objectives

The objectives of managing inflow are:

- To avoid, minimise or otherwise rationalise in-migration into Palma District and the Project Area of Influence including Palma Town and the Afungi Peninsula by working with provincial and district stakeholders to:
 - Promote diversified growth within the province
 - Ensure communications promoting awareness and understanding of Project employment and business requirements and opportunities
 - Develop value chains that link providers of goods and services to demand (e.g., project)
 - Identify, design, plan and implement approaches that may help mitigate inflow, e.g., use of regional registration centres

7.2.3 Key Activities

The program comprises the following activities:



- Promote a vision of broad-based economic development, the potential contribution of LNG and other sectoral economic opportunities for Palma District and more generally, Cabo Delgado Province.
- Communication to build awareness and understanding of Project-related employment and business requirements and opportunities; the Project approach to sourcing the requisite workforce included 'local first' prioritisation; and, means through which suppliers of goods and services can link to the Project remotely.
- Coordination and collaboration with Workforce and Industrial Relations and Local Content functions, the EPC Contractors and Area 4 to promote regional channels for employment and business registration.
- Promote awareness and understanding and build value chain linkages between the Project and potential suppliers (primarily agribusiness and fishing).

7.3 Spatial Planning

7.3.1 Background

Between 2006 and 2014 various spatial planning exercises have been completed at the provincial and district levels including:

- 2006 Spatial Development Plans for Palma and Mocimboa da Praia Districts for World Bank and MICOA
- 2009-2010 Spatial Development Planning Project – Perspectives on Regional Development for Aga Khan Development Network (AKDN)

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- 2012 Igniting the Future for Cabo Delgado Province for Anadarko Petroleum Company
- ENH Sponsored Urbanisation Plan

These studies point to the potential of specific sectors including agriculture, forestry, conservation – eco-tourism and fisheries. While useful these studies are dated and generally do not consider extractive industry activities including mining (graphite and rubies) and gas.

7.3.2 Purpose

To support development of provincial and district spatial plans to guide integrated development of the province and district including priority sectoral areas, infrastructure, services and utilities.

7.3.3 Objectives

- Promote development of provincial and district level spatial plan to guide sustainable development and facilitate coordination and collaboration amongst stakeholders in identification, design, planning and implementation of projects
- To support development of provincial and district-level spatial plan
- To ensure spatial plan is used to guide sustainable development and facilitate coordination and collaboration amongst stakeholders in identification, design, planning and implementation of projects

7.3.4 Key Activities

- Facilitate awareness and dissemination of completed work relevant to district strategic development plans and spatial planning
- Support development of provincial and district-level spatial plans
- Promote link between spatial plans and development planning



7.4 Urban Planning – Infrastructure, Services and Utilities and Capacity Building

7.4.1 Purpose

Support development of urban development plan for Palma Town

7.4.2 Objectives

- Promote development of Palma Town urban plan to guide sustainable development
- Explore scope for Palma Town to achieve status of Municipality
- Use urban plan to guide sustainable development and facilitate coordination and collaboration amongst stakeholders in identification, design, planning and implementation of projects
- Support capacity of District Government to design, implement and enforce spatial plan and guide development in Palma Town

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7.4.3 Key Activities

- Engage Government regarding the impacts of development and PIIM on infrastructure, services and utilities, including: increased demand for land, housing and accommodation; competitive land uses including development of light industry to support gas and associated industrialisation; increased demand for services and utilities including domestic water, health services, transportation, electricity, communication, waste management; the risks of unplanned and uncontrolled development; and the necessity to be prepared and proactively plan for an influx of people.
- Engage DMSF regarding:
 - the need to formalize Palma Land Use Plan
 - the identification/ confirmation of expansion and/ or satellite areas
 - support needed for zoning / land use plans for satellite areas and hotspots and necessary demarcation
 - assessment of infrastructure needs in hotspots, satellite and/ or expansion areas
 - need for and support required (Engineering, Technical Support, Contracting, etc.) to enable establishment or improvement of priority infrastructure (water supply and health).
- Support Provincial and District Authorities to revise and approve the Palma Sede Urbanization Plan and Palma District Land Use Plan
- Assessment of current status of Palma Town services and utilities and their adequacy/capacity to meet predicted influx
- Support improvement in status and capacity of selected services and utilities based on assessment
- Assist capacity development of stakeholder groups represented in the MSF, including Government, communities, local development agencies and civil society, potentially through the development and implementation of a fit for purpose Institutional Support Program, to enable adequate provision of social services, land use planning, natural resources management in relation to PIIM.
- Support District Government in operation and maintenance of infrastructure and equipment, during an agreed initial stage



7.5 Community Strengthening

7.5.1 Purpose

To enable communities in the Project Area of Influence to manage and adapt to accelerated rates of direct, indirect and induced development associated with the Project.

7.5.2 Objectives



- To strengthen links between village leadership and local government, to ensure awareness and understanding of change processes
- To facilitate processes of village delimitation for villages in the Project Area of Operations

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- To establish and/or strengthen community-based processes to define development needs and priorities
- To integrate key thematic areas into village strengthening processes including:
 - Village Representation
 - Participatory planning
 - Community based security

7.5.3 Key Activities

- Village Mapping and Stakeholder Identification: Map and develop profiles of villages within the Project Area of Influence. Within villages, identify community leaders and influencers/opinion leaders and community structures including those involved in: natural resource management, water and school committees, community health activists, women's organizations, youth organizations, fisheries associations, religious groups, etc.
- Awareness Campaign: Conduct awareness campaign in villages within the Project Area of Influence including sensitization on:
 - District development planning;
 - Project development;
 - Increase in demand for land and natural resources
 - Potential impacts on infrastructure, services and utilities, specifically increased demand for water supply, waste management and health services
 - Economics and livelihood strategies: opportunities to develop new and grow existing businesses, spin-off and alternative livelihood/livelihood diversification opportunities, awareness of entrepreneurship programs, developing/establishing structures to represent economic and livelihood interests in the district, potential increase in demand for housing and accommodation, likely inflation and increased cost of living, etc.
 - Changes in social dynamics, including potential changes in the dynamics and relationships between groups (increased income levels, women in business, relations with cashed-up migrants); potential changes and impacts in social cohesion (identity, values, habits, traditions); increase in social ills; increased demand for transactional sex and associated risks (early pregnancy, STIs); potential increased vulnerability of marginalized groups due to the arrival of in-migrants, and on the expected conduct and potential tension points between locals and in-migrants
 - Safety and security (incl. law and order) and potential increase in social ills, increased tensions over jobs and business opportunities, increase in criminality
 - Public and community health, including coverage of the health themes HIV/AIDS and STIs; waterborne diseases; communicable diseases, etc.
- Promote community-strengthening programs to strengthen community structures and their linkage to government structures. Develop and implement a series of integrated resilience programs. Anticipated themes for community strengthening include:



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- **Theme 1: Land and natural resource management** – to promote the sustainable and responsible use and management of natural resources including forest (forestry conservation and sustainable timber use) and marine resources, water, and land, relating this to livelihood and income-generating activities;
- **Theme 2: Strengthening of community-based structures** – to review and assess the mandate of existing community organizational structures and current capacity to address challenges, including PIIM, Local Development and Natural Resource Management, with a view of expanding their mandate (if appropriate) to address new challenges, or to, together with development partners and local leadership identify opportunities to create new representative community-based structures and leadership to address new challenges (such as PIIM). This remit includes strengthening women's and youth groups, savings schemes, etc.
- **Theme 3: Health (and health behaviour), sanitation, nutrition** – the Project will implement programs in accordance with the Community Health Management and Monitoring Program. In addition, a number of programs are already being implemented through Social Investment and as part of ACDF activities;
- **Theme 4: Community-based security** – introduce and implement approach to community-based security
- **Theme 5: Strengthened community law and order and conflict management systems** (community courts and traditional systems), including aspects of conflict analysis, communication, negotiation, facilitation and mediation. Include aspects of expected conduct and potential tension points between host communities and in-migrants.
- **Theme 6: Good neighbours** – to promote the peaceful co-existence of communities in the same geographic area that hold different visions, development aspirations, are party to different benefit streams and suites of opportunities;
- **Theme 7: Resilience and livelihood diversification** – to promote or link communities to development opportunities and entrepreneurship programs such as how to develop new or grow existing businesses, how to take advantage of spin-off and alternative livelihood/ livelihood diversification opportunities, etc.;
- **Theme 8: As cross-cutting themes, gender mainstreaming and vulnerability inclusion.** Strengthening measures focused on vulnerable people should include measures to monitor and act on changed levels of vulnerability.

7.6 Community Health Programs

7.6.1 Context

From 2014-2018, the Project has supported a number of health-related programs through its Social Investment programs. These programs include:

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- (i) HIV/AIDS awareness and mitigation program focussing on adults including commercial sex workers in Palma and Mocimboa da Praia;
- (ii) an adolescent girls program addressing multiple themes including domestic violence, pregnancy, sexually transmitted diseases, etc in Palma and Mocimboa da Praia;
- (iii) a nutrition program in Palma District (Olumbi, Palma; Pundanhara and Quionga); and,
- (iv) a district road safety campaign focussing on the Project Area of Operations.

The Project has also implemented various Community Health Impact Assessment activities. Specifically, the EIA assessment and mitigation was based on a Rapid Health Impact Assessment. The EIA identified the following Project Induced influx and unplanned settlements/ 'urbanization' health impacts and risks during the Project construction phase:

During the construction and operations stage there is an increased potential for communicable disease transmission but with greater intensity (than during early works), increased utilization of health services as well as increased stress on limited basic services, also with greater intensity. Other impacts include an altered economy in the area with increased disposable income and potentially an increase in transactional sex (placing women and young girls in a vulnerable position); inflation of housing and food prices (further adding to stressors on vulnerable populations such as indigenous peoples among others); and erosion of traditional values and social harmony giving rise to social decay such as crime, domestic violence, ethnic conflict and commercial sex work and substance abuse.

Subsequently the Project first implemented a comprehensive Community Health Impact Assessment (HIA) focussing on the Project Area of Influence followed by a Regional HIA (implemented jointly with Area 4) which is now the most up-to-date assessment of health impacts. The Regional HIA has been used to inform the development of a Community Health Management and Monitoring Plan (CHMMP).

The CHMMP focuses on the mitigation of health aspects related to the workplace and the community. Specifically, the following focal areas have been identified:



- ✓ Health system strengthening
- ✓ Communicable diseases: HIV, malaria, TB, zoonotic and potential outbreaks
- ✓ Water and Sanitation
- ✓ Nutrition and food access
- ✓ Community Safety to prevent road accidents with adequate response system
- ✓ Monitoring and evaluation

Based on the above, it is noted that the Project CHMMP addresses the PIIM health impacts and risks.

7.6.2 Purpose

To pro-actively address the high probability/severity Project Induced In-migration health impacts and risks so as to avoid and/or minimize potential adverse health outcomes.

7.6.3 Objectives

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- Support the coordinated development and implementation of strategic health programs addressing PIIM health impacts and risks in collaboration with Government and other partners so as to mitigate health risks to communities in anticipated PIIM hotspots on the Afungi peninsula and Palma District, as well as the broader District.
- Support Government with the development of a multi-year district health strategy that proactively plans for influx and requirements to upgrade health services.

7.6.4 Key Activities

- Engage Government and other stakeholders regarding anticipated PIIM related health impacts and risks including: the increase in demand for health services (and health workers) as a result of the arrival of migrants; increased risks of communicable disease transmission; increased generation of waste and demand for waste removal & management and impact of lack thereof on sanitation and disease proliferation; increased risk of road and traffic incidents due to more people and vehicles, etc.
- Coordination, collaboration and partnership with Government and other implementation partners to define, develop and implement health programs addressing agreed priorities and needs.

7.7 Natural Resource Management

7.7.1 Purpose



To pro-actively address land use change and potentially unsustainable use of natural resources associated with Project Induced In-migration and increased utilisation and/or demand of natural resources (both terrestrial and marine) associated with the influx.

7.7.2 Objectives

- Promote government, community and household level awareness of trends in forest cover, land use cover and natural resource use/demand and issues pertaining to sustainable natural resource use
- Utilise and build on PIIM and resettlement program interventions addressing sustainable natural resource management
- Implement targeted environmental programs addressing identified natural resource management issues

7.7.3 Key Activities

- Monitor trends in forest cover, land use change, marine resource use and productivity and other natural resource use
- Promote demarcation of boundaries of community landholdings as a basis for discussion regarding land and sustainable natural resource management and use
- Link to other PIIM MP component (i.e., community strengthening and focus on land use and natural resource management) and Project initiatives (resettlement program promotion of community

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demarcation, natural resource-based livelihood development, fuel efficient cookstoves, MSME development, fisheries co-management etc) to ensure inclusion of land use and marine resource management issues in discussion.

- As appropriate work with relevant livelihood development initiatives and community organisations to ensure discussion of NRM and sustainability issues. For example, design and implement an agroforestry project to promote multi-storey agroforestry systems in communities in the Project Area of Influence and beyond (as defined by the sourcing of fuelwood and/or charcoal); actively promote use of fuel-efficient cookstoves (refer link to Resettlement Agricultural Livelihood Restoration program); and actively promote development of alternative sources of household cooking fuel
- Promote the participation in fisheries resource management through the Community Fisheries Councils. This may include the development of local marine resource management plans, and wider extension of the debate around closed areas, (including beneficial aspects of the Marine Exclusion Zone and the possibility of establishment of community closed areas as part of resource management).

7.8 PIIM Interface - Functional PIIM Impact and Risk Mitigation

7.8.1 Purpose

Ensure cross-functional coordination and collaboration to ensure PIIM related impacts and risks in other disciplinary areas are pro-actively included and addressed in functional impact and risk management plans.

7.8.2 Objectives

Establish clear coordination and collaboration channels between internal Project functions implementing discipline-specific management measures contributing to collective management of PIIM and an enabled Project environment.

7.8.3 Key Activities

Functions represented include Security, HSE (for Environmental and Biodiversity issues), Resettlement, Local Content and Workforce and Industrial Relations. Table 13 sets out functional areas activities relevant to PIIM MP.







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Table 13: Functional Area Mitigation Measures Related to Management of PIIM



Functional Area/Issue	Risk	Mitigation Measures
Security	Decrease in law and order; conflict between in-migrants and resident population	Continuous engagement and monitoring of law and order and conflict; implementation of Security approach in Project Area of Operations in accordance with security plan; implementation of Community-Based Security Plan together with Implementation Partner for Community Strengthening program
Environment and Biodiversity	Environmental degradation due to land conversion, land use and increased demand and harvesting of natural resources	Resettlement Affected Communities on Afungi Peninsula able to participate in livelihood re-establishment and development programs that address sustainability of resource use
		Resettlement Affected Communities on Afungi Peninsula are part of a village governance and resource management program
		Work with Environment and Biodiversity to establish a Biodiversity and Livelihoods Working Group to ensure coordination and collaboration in key workstreams that involve livelihoods, ecosystem services, biodiversity, etc
Health	High risks associated with transport and driver behaviour especially regarding health	Project will avoid, to the extent possible, allowing workers to overnight in Mocimboa da Praia when making connections to and from the site.
		Project will apply precautionary principles when accommodating workers in Pemba.
		Workers undertaking vehicle journeys: - Required to register a journey management plan - Identify plans to stop for fuel, food and lodging (as necessary). - Journey management plans subject to review and approval
		Truck drivers will only be permitted to: - stop at approved truck stops - stop at controlled locations where drivers can eat, rest and refuel - no interaction with roadside communities is permitted
		Drivers supplied with sufficient food and beverages to complete journey without stopping at roadside convenience stalls.

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Functional Area/Issue	Risk	Mitigation Measures
		Project Code of Conduct prohibits external fraternization of Project workers and community members.
Land Access and Resettlement	Opportunistic in-migration to capture compensation and/or benefits	<ul style="list-style-type: none"> - Cut-off date for eligibility in compensation process established - Moratorium was announced by the Palma District Administrator - Houses / assets-built post Cut-off date not be eligible
		Continuous engagement of community leaders and influencers to manage opportunistic in-migration into areas affected by physical and/or economic displacement
		Development and implementation of a DUAT encroachment management plan
		Development of physical barrier on DUAT boundary restricting entry
Workforce and Industrial Relations	Incentive to migrate to Palma District	Establish recruitment registration centres on identified in-migration pathways including Nampula and Pemba
		Establish workforce recruitment policy defining (i) prioritisation for recruitment from Resettlement and Project Affected Communities on the Afungi Peninsula and more generally in Project Area of Influence and (ii) no recruitment at camp or work site
		Support GoM to issue national identity cards to Palma District residents
		Develop and update recruitment registers: <ul style="list-style-type: none"> - individuals who originate from Resettlement and Directly Affected Communities - new arrivals
		Notices distributed throughout Cabo Delgado Province <ul style="list-style-type: none"> - Explaining eligibility requirements - Processes and opportunities for work on the Project
		Non-local workers will be required to live in camp accommodation <ul style="list-style-type: none"> - Camps will be operated as closed camps - Workers will be prohibited from leaving camps for non-work-related activities and from interacting with local communities unless agreed by the Project
		Project will provide bus-in bus-out transport arrangements for all local workers (residing within 1 hour commute of the Project site).
		Workforce accommodation will be provided in a camp located within the DUAT areas

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Functional Area/Issue	Risk	Mitigation Measures
		Camp will be located to allow a clear area of land of at least 100m between the camp and the security fence.
		The camp will be designed to include adequate recreational, leisure and sporting facilities, activities and programs for workers.
		Camp inductions will be mandatory for all camp residents
		Disciplinary consequences for breaking camp rules
Local Content	Opportunity to supply goods and services	Communication throughout Cabo Delgado Province - Project goods / services will not be purchased at Project camp sites or work locations - Goods / services only procured through formal contracts via approved suppliers

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7.9 Tracking and Monitoring

7.9.1 Purpose



Pro-actively identify, collect and share leading indicators for PIIM with Multi-Stakeholder Platform to create awareness and inform planning and development

7.9.2 Objectives

- Identification and collection of leading quantitative and qualitative indicators for PIIM
- Development and dissemination of PIIM dynamic reports to Multi-Stakeholder platform and other stakeholders on an ongoing basis
- Drive periodic review of PIIM mitigation measures and their efficacy, effectiveness and relevance.

7.9.3 Key Activities

Activities are described in Chapter 9 addressing Monitoring and Evaluation.

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8. PIIM IMPLEMENTATION PLAN

8.1 Organizational Framework

The Social Performance function assumes responsibility for the design, planning and delivery of the Project Induced In-migration Management Plan. Within the Social Performance function, delivery of the PIIM Management Plan is mapped under Social Investment in recognition that many of its constituent programs are aligned to development programs involving collaboration, coordination and partnership with district and provincial government, with development partners, the private sector and communities (Figure 16).

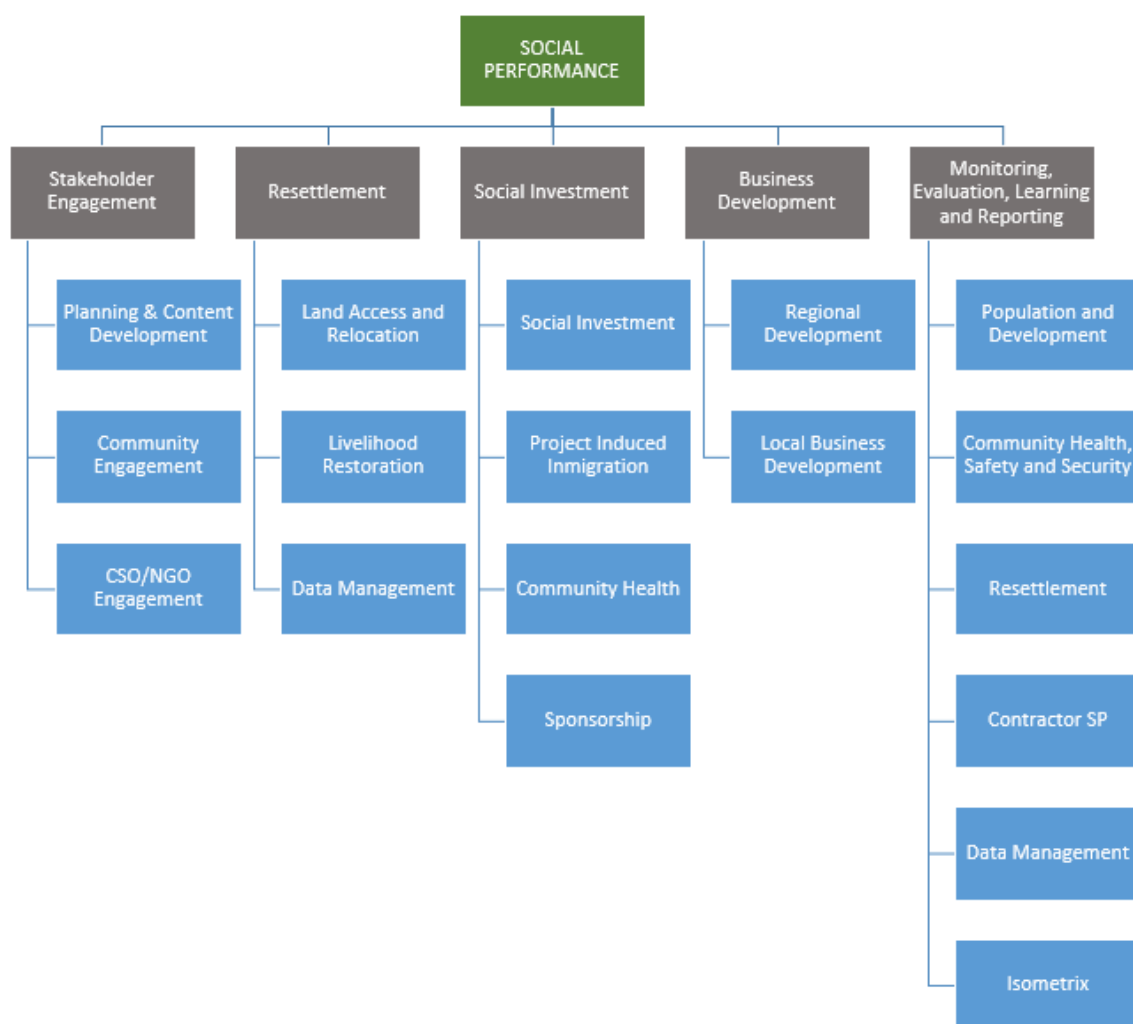




Figure 6: Social Performance Functional Organization

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The strategic direction and management of the PIIM Management Plan will be the responsibility of a Steering Group including the Social Performance Director, the Social Investment Manager and the Project Induced In-migration Manager. This PIIM Steering Committee will ensure: (i) ensuring visibility of PIIM and leadership commitment at management level; (ii) inclusion of PIIM risks in business level risk registers and business management plans; (iii) ensuring adequate human resources and budget are available for the management of PIIM related risks and opportunities; and (iv) coordinate PIIM management and integration across Social Performance functional areas and programs as well as other functional areas to ensure PIIM Management Plan delivery, especially in areas involving interface with within and between functions.

Day-to-day operational management of the PIIM Management Plan will be the responsibility if the PIIM Manager. The PIIM Manager will assume primary responsibility for planning and delivery of the PIIM Management Plan, including: (i) being the Project lead in engagement on PIIM; (ii) development of annual plans and budgets; (iii) driving component program implementation by actively promoting coordination, collaboration and partnership with stakeholders including Area 4, development partners and government; (iv) interface with all relevant Project functions that have a role and responsibilities in ensuring PIIM Management; (v) developing program SOW and contracting and program management; and (vi) monitoring, evaluation and reporting. The PIIM team will also include PIIM Coordinators Officers to help facilitate day-to-day delivery.



8.2 Key Implementation Roles and Responsibilities

8.2.1 Multi-Stakeholder Forum

As described in Chapter 7, the Project PIIM Management envisages the formation and operation of multi-stakeholder fora at the provincial and district levels. From a project perspective, such fora would assume multiple responsibilities including: (i) acting as convenor for interested stakeholders; (ii) building consensus on a strategic development plan at provincial and district levels; (iii) building a platform for delivery of projects at provincial and district levels; (iv) being recognised as a representative multi-stakeholder development focussed body with established governance systems and ability to engage externally. In principle, the Project sees the potential for such fora to lead development and implementation of both the strategic development narrative as well as the operational framework for project delivery. In this way the Project will serve as a member and participant in the fora, recognising the significant potential for the Project and its activities to contribute to development, more so when multiple parties creating enabling conditions for this to occur.

Both the PIIM MP and the Project have and will continue to advocate for the establishment of multi-stakeholder fora. For example:

- In Q4/2018 the Cabo Delgado provincial government shared plans for a provincial spatial planning workshop. Discussions encouraged the expansion of the workshop to include multi-lateral and bilateral agencies, development partners and private sector actors in Cabo Delgado, including Area 4 and Area1.
- In Q4/2018 multilateral and bilateral agencies expressing interest Palma District and Cabo Delgado Province with a number of agencies arranging for multi-stakeholder meetings amongst donors, the private sector and NGOs amongst others.

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Nonetheless the PIIM MP recognises that establishment of multi-stakeholder fora requires extensive engagement amongst stakeholders and as such may take some time. With regard to PIIM MP, the establishment of such fora is not seen to be a condition precedent for delivery of workstreams identified in this document.

8.2.2 Partnership

The Project PIIM MP provides scope for various program design, planning and delivery models. While the Project can and will contract implementation partners directly as and when required, there is a preference to explore opportunities for partnership in design, planning and delivery. From a project perspective there is a preference to explore mechanisms through which PIIM management can contribute to development outcomes whilst simultaneously addressing the development and/or expression of PIIM impacts and risks.

8.2.3 Implementation Partners

It is anticipated that Implementation Partners will assume primary responsibility for delivery of PIIM Management Plan component programs.

8.3 Schedule

Table 14 presents a Gantt chart for PIIM Management Plan component program implementation.

8.4 Budget

From 2019-2024 the annual PIIM Management Plan budget ranges fromt US\$1.25-3Mreflecting the anticipated implementation schedule for component programs. The total budget for implementation of the PIIM Management Plan is US\$11.055M. The budget is nominally allocated across the component programs but retains flexibility in application based on assessment, need and opportunity as defined by potential partnership with other stakeholders.





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Table 14: PIIM MP Program Gantt Chart

No	Program	Activity	2019				2020				2021				2022				2023				2024			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	Managing Inflow	Assessing immigration pathways																								
		Coordination and collaboration with government																								
		Target communications																								
		Establish workforce registration mechanisms																								
2	Multi-Stakeholder Forum	S/H Engagement																								
		Development Partners																								
		Government Engagement																								
		Establish Provincial Platform																								
		Establish District Platform																								
3	Spatial Planning	Spatial Planning Workshop																								
		Review previous spatial planning work																								
		Agree priorities																								
		Implement agreed projects																								
4	Urban Planning, Infrastructure, Services and Utilities	S/H Engagement																								
		Urban Planning																								
		Assessment of Infrastructure, Services and Utilities																								
		Infrastructure, Services and Utilities Projects																								
5	Community Strengthening	Agree project design																								
		Define SOW																								
		Contract IP																								
		Program implementation																								
6	Community Health	Regional Health Impact Assessment																								
		Community Health Management and Monitoring Program																								
		Area 4/Area 1 Prioritisation																								
		Review SI Health Programs and Adapt																								
		Adapt and align SI Health Programs																								
		Community Health Outreach																								
		HIV/AIDS																								
7	Functional Interface	Adolescent Girls																								
		Review status and identify gaps across functions																								
		Address gaps with functions																								
8	Tracking/Monitoring	Track progress in implementation																								
		S/H Engagement																								
		Define tracking/monitoring PIIM Phenomenon																								
		Define PIIM program M&E																								
		Implement M&E																								

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9. TRACKING, MONITORING, EVALUATION, REPORTING AND LEARNING

This chapter provides a summary description of the PIIM Management Plan's framework for:

- Tracking whether in-migration is taking place and the impacts that it may have and communities' perceptions of the effectiveness of programs;
- Monitoring the effectiveness of the component programs in enhancing positive impacts and mitigating negative impacts;
- Evaluating the PIIM MPs ultimate success;
- Reporting findings to external stakeholders; and
- Documenting learnings from the process that includes documenting the various changes made to processes and approaches due to required improvements as well as lessons learnt.

Subsequent sections provide an overview of the strategy to be followed. Reporting and learnings are integrated within the sections as they are not discrete activities but rather imbedded within the process.



9.1 Tracking

Chapters 4 and 5 detailed the assessment of PIIM and potential impacts and risks associated with PIIM. The objective of tracking²⁰ is to provide the Multi-Stakeholder Platform with evidence of the ongoing development and expression of the PIIM phenomenon and in this way, where necessary, support adaptive design of interventions to respond to the evolving situation.

The following activities will be undertaken in order to track the occurrence of PIIM and its impacts:

- Satellite imagery will be used to digitize structures within PIIM hotspots and along in-migration pathways. Historical imagery will be used to establish a baseline. On an annual basis, new imagery will be obtained and digitization of additional structures. This will provide an in-direct indicator of the occurrence of PIIM. Additional structures could also be indicative of other population movements as a result of, for example, insecurity.
- Identification of a Civil Society organization to undertake the following tracking activities with oversight of the Consortium of Civil Society Organizations who is responsible for the independent environmental and social monitoring for the Project:
 - Review of the Project's satellite imagery analysis.
 - Observations of general changes within communities located within PIIM Hotspots and pathways.
 - Focus group discussions with community members on a bi-annual basis to elicit the communities' own assessment of whether PIIM is taking place and what effects they have experienced. The focus would not be on leading questions but having the communities define in-migration and its effects from their perspective.

²⁰ Also known as reflexive monitoring. See <https://transitiepraktijk.nl/en/programma/monitoring/what-are-in-general-the-objectives-of-monitoring-and-evaluation>

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- Interviews with key informants specifically within the District Government on their observation of potential PIIM and its effects.
- Analysis of data collected to identify impacts and effects. These impacts and effects will then be compared to those identified in Chapter 5 to confirm accuracy.
- Reporting to the Multi-Stakeholder Forum on the findings of the tracking exercise.
- Documentation of any changes required to the PIIM PM as a result of the tracking process.
- Documentation of any learnings that may have arose during the tracking process that may be applicable to any social performance areas.

9.2 Monitoring

Monitoring is an ongoing analysis of progress towards achieving the goal of a specific project or program, but does not measure the achievement of the PIIM Management Plan's (MP) goal. Monitoring allows the Project to answer the following questions:

- Are we doing what we planned to do?
- Are we doing what we were planning to do in the timeframes we planned to?
- Are we achieving our objectives?

For the purposes of the PIIM MP two streams of monitoring will be undertaken:

- The first stream is the analysis of the progress of various PIIM area programs that are being implemented under the PIIM MP. The monitoring of these programs will focus on the specific programs and whether they are progressing as planned and performing successfully. The monitoring of these programs will be undertaken by the contractors responsible for implementing the specific program with verification from the Social Performance team.
- The second stream is the progress and performance monitoring of the PIIM MP. The Project will analyse whether the planned activities have been undertaken within the timelines defined within the PIIM MP and whether the objectives of the PIIM MP has been achieved. The monitoring of the PIIM MP will be undertaken by the Social Performance Team.



The following monitoring activities will be undertaken

- **Input (or progress) monitoring²¹** – measures whether activities or inputs are being delivered in accordance with the relevant schedule and as defined by the PIIM MP and/or program scopes of work. Inputs are services, resources or goods that contribute to achieving outputs and ultimately, desired outcomes. Examples of input indicators are number of contractors with whom contracts have been signed to implement specific programs under the PIIM MP; or, number of staff members mobilized in order to complete a specific scope of work.

Output (or performance) monitoring²² – measures the direct results of inputs. Examples of output indicators include: the number of sessions held by the MSF; number of awareness raising campaigns launched to make job seekers aware of the recruitment process. Error! Not a valid bookmark self-reference. provides examples of Key Performance Indicators

²¹ Within the ESMP Monitoring Program this is known as compliance monitoring.

²² Within the ESMP Monitoring Program this is known as compliance monitoring.

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(KPIs), based on the program area objectives and key activities, that could potentially be used to monitor the PIIM program area interventions.

Table 15 Examples of Key Performance Indicators for PIIM Program Areas

PIIM Program Area	Examples of KPIs
Development Multi-Stakeholder Forum (DMSF)	<ul style="list-style-type: none"> Stakeholder mapping of DMSF members completed DMSF guidelines and governance procedures established DMSF members clustered by PIIM Program area (i.e. managing inflow, or spatial planning) # of DMSF meetings held annually
Managing Inflow	<ul style="list-style-type: none"> Interventions for minimizing and/or mitigating in-migration into Palma District identified for each of the four in-migration pathways Priority economic development sectors identified Value chain analysis of priority economic development sectors conducted Communication and awareness campaign for employment and business requirements and opportunities designed.
Spatial Planning	<ul style="list-style-type: none"> Palma District spatial plan developed # of workshops held to disseminate Palma district spatial plan # of development projects designed by DMSF members that were designed using the Palma district spatial plan
Urban Planning - Infrastructure, Services and Utilities and Capacity	<ul style="list-style-type: none"> Palma Town urban development plan designed # of plots demarcated as part of the urban development plan for Palma Town # of capacity building sessions held with district administration on urban planning
Community Strengthening	<ul style="list-style-type: none"> Village Profiles completed # of awareness campaigns designed and implemented (various topics) # of Community-strengthening programs designed and implemented (8 Themes)
Community Health Programs	<ul style="list-style-type: none"> # of participants in community safety training sessions # of injuries as a result of road accidents (monthly) % change of malnutrition incidence in Palma District on a biannual basis
PIIM Interface	PIIM related KPIs for each of the functional areas that include security, environment and biodiversity, health, land access and resettlement, workforce and industrial relations, and local content will be developed.

Monitoring is a continuous project management function and it allows the Project to identify areas where improvement is required in a timely manner. Improvements to the PIIM MP can therefore be made to ensure that the objectives and the ultimate goal is reached.

Monitoring results will be reported on a monthly basis within the Project's Social Performance Monthly report. This also allows regular feedback to external stakeholders based on verifiable data. Learnings and improvements is also shared within the monthly reports, DMSF and internal coordination channels so that it provides other Project functions and stakeholders an opportunity to apply learnings in their own scopes if it is relevant.

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9.3 Evaluation

Evaluation allows the Project to answer the question: “Did we achieve what we planned to achieve with the PIIM MP?” The purpose of the PIIM MP is to “establish a framework for development planning and change management that increases the likelihood of positive outcomes associated with Project development and planned (i.e., industrialization) and spontaneous development while simultaneously avoiding, minimizing and/or mitigating the potential negative impacts often associated with PIIM.”

Evaluation assesses the effectiveness of inputs and outputs in achieving the objectives of the PIIM MP. Outcomes are usually not immediately evident and maintenance of social license is a long-term, continuous process. An example of an outcome indicator includes ‘households with improved living standards’ and whether the Project-Induced In-Migration Management Plan is successful in mitigating the adverse impacts associated with in-migration. Outcome evaluation is undertaken by the MERL team, the IESC, and the completion auditor (specifically for the resettlement program).

Similar to monitoring, evaluation will also be undertaken in two streams. The first stream is the evaluation of the effectiveness of the various programs being implemented by contractors under the PIIM MP. For example, whether the community health programs specific to PIIM achieved the specified goal. These evaluations will be undertaken by the contractors who will be implementing the programs with oversight and verification from the Project. It is assumed that the achievement of the goals of the individual programs implemented under the PIIM MP will influence the attainment of the overall goal of the PIIM MP.

The second stream of evaluation is the evaluation of the PIIM MP’s goal. The primary questions that should be responded to are:



1. Did the development measures proposed by the PIIM MP contribute to enhancing development?
2. Were the mitigation programs proposed by the PIIM MP successful in mitigating the negative impacts of PIIM?

In order to respond to these two questions, an analysis of the findings of the tracking and monitoring activities will be undertaken on an annual basis. However, due to the nature of PIIM there might only be a true achievement of this goal once the expected boom in economic activities has stabilised or start to decline. Population movements are also dynamic and job seekers may move to other projects that may start construction elsewhere in Mozambique. As such, the assessment will focus on the identification of trends and indicators towards success.

Additionally, the DMSF will conduct an internal review and assessment of their performance based on their annual plans and governance procedures. This will allow the DMSF to identify any gaps in their effectiveness and areas for improvement. Finally, a crucial determinant of the PIIM Plan’s success hinges on the provincial and district government’s capacity to integrate PIIM into sector development plans, as well as to implement the various PIIM initiatives. Thus, an assessment of government capacity will be conducted on an annual basis to ensure that any gaps in capabilities and/or capacity are duly addressed and strengthened.

The tracking to be undertaken by the CSO as discussed in Section 0 is therefore critically important to the evaluation of the effectiveness of the PIIM MP. Evaluation of the various data sources will be undertaken on an annual basis and will look at an aggregate of all of the monitoring and tracking results to determine whether the PIIM MP is being effective.

The results of the evaluation will be presented to the MSF, included into the relevant Social Performance Monthly Report, Lenders report and Environmental and Social Performance Report submitted to Government.

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This Project Induced In-migration Management Plan has provided a description of the MozLNG project and the context in which it is to be implemented. Project activity – whether associated with exploration (2008-2014), with early works (i.e., Afungi Site Improvement, 2017-present) or resettlement (2017-present) already has and will continue to change the context. As the Project moves into the 5 year construction phase it is anticipated that change will occur at greater scale and at an increased rate. Further it is recognised that Project development and induced development will, over time, transform the context of Palma District.

Overall it is recognized that the early and pro-active development of the Project-Induced In-Migration Management Plan and implementation of the component programs will help establish a framework for development planning and change management that together increase the likelihood of positive outcomes associated with Project development and spontaneous and planned development and, at the same time, the framework and specific programs will also seek to mitigate the potential negative impacts often associated with PIIM.

The analysis of in-migration pathways, hotspots and potential positive and adverse impacts and risks has led to the development of a plan that focuses on key areas, specifically: (i) managing inflow; (ii) a multi-stakeholder forum; (iii) district level spatial planning; (iv) urban planning in Palma Town; (v) community strengthening; (vi) community health; (vii) interface with project functions and plans specifically the link between PIIM and related programs (e.g., resettlement, social investment, workforce and industrial relations, local content, environment, security); and (viii) monitoring.

The Project Induced In-migration Management Plan is a multi-year program whose success is based on multiple criteria including the participation, commitment and coordination and collaboration between multiple stakeholders (government, development actors, private sector, community), the timeliness of interventions and an active monitoring program that can further inform development and implementation of the plan. Accordingly a substantive qualitative and quantitative approach to monitoring will need to be developed and implemented.

The Project commits to an annual review of the overall plan and its components. The review will seek to identify what is working (or not working), what needs to be accelerated/strengthened and to respond to an evolving context.

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10. CONCLUSION

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