



East African Crude Oil Pipeline (EACOP)

# Supplementary Resettlement Action and Livelihood Restoration Plan

Consultancy Services for the Provision of a Supplementary Resettlement Action and Livelihood Restoration Plan - Chongoleani Peninsula

TZ 2040114

JANUARY 2023


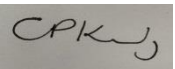





## RSK GENERAL NOTES

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# EXECUTIVE SUMMARY

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## Introduction

The East African Crude Oil Pipeline (EACOP; hereafter referred to as the 'Project') involves the construction and operation of a buried cross-border pipeline to transport crude oil from the Lake Albert area in Uganda to the east coast of Tanzania for export to international markets. The pipeline will run from Kabaale in Hoima district in Uganda to a marine storage terminal (MST) in Chongoleani ward in Tanga region of Tanzania.

The length of the pipeline is 1,443 kilometres (km), of which 1,147 km will be in Tanzania, where the pipeline will traverse eight (8) regions and the land administered by 27 administrative district/city councils.

This document is the supplementary resettlement action plan (SRAP) and livelihood restoration plan (LRP) for the Project's marine facilities at Chongoleani peninsula, which comprise the MST including a jetty and a load-out-facility (LOF), a soil storage site, and short sections of an access road to the site and the pipeline corridor.

## Overview

In 2017, the Tanzania Ports Authority (TPA) acquired nearly 200 ha of land in Chongoleani ward (hereafter referred to as 'TPA 200 ha'). For the construction of its marine infrastructure, the Project will lease approximately 82 ha of the TPA ha. The land leased by EACOP is referred to as 'EACOP ha'.

The 2017 land acquisition process followed Tanzanian statutory requirements. This SRAP and LRP includes the supplemental measures that will be undertaken by the Project to achieve the requirements of IFC PS5 in a way that is 'permitted by the responsible agency and implementation time schedule' (IFC, 2012, page 39). During engagements with the Government of Tanzania's (GoT) relevant agencies (i.e. TPA and Tanzania Petroleum Development Cooperation (TPDC)) agreement was reached to undertake a joint review of the 2017 acquisition process, with the understanding that any supplementary measures must be in-kind rather than monetary.

In addition to the persons affected by the 2017 land take, all persons affected by the Project's marine footprint are covered in the SRAP and LRP.

## Purpose and scope of the SRAP and LRP

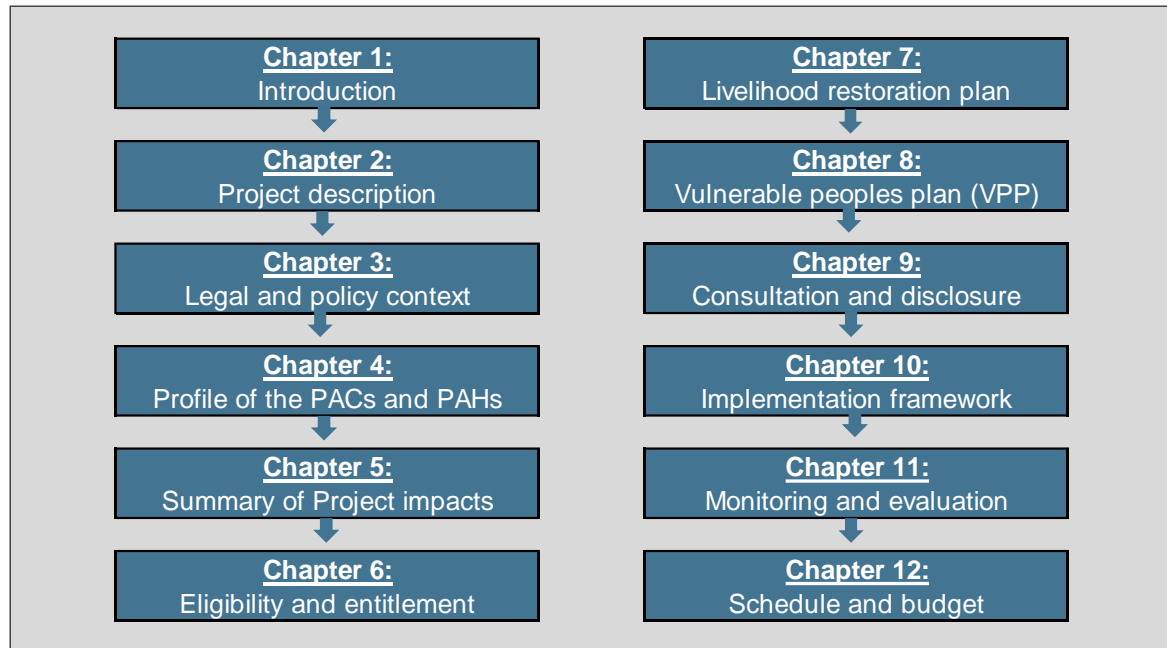
The overarching purpose of the SRAP and its LRP is to set out the supplemental measures that the Project will take to provide livelihood restoration support to persons/households who are affected by the Project.

More specifically, the scope of the SRAP and LRP is to establish and describe:

- The Project-affected communities (PACs), households (PAHs), and persons (PAPs)
- Eligibility criteria and livelihood restoration entitlements
- The process used to identify Project-affected vulnerable individuals and households
- Measures to restore, or where possible enhance, livelihoods of affected persons and households
- The Project's approach to SRAP and LRP implementation, consultation and disclosure, and monitoring and evaluation.

The SRAP and LRP has been prepared on behalf of the Project by the SRAP consulting team, which comprises the environmental and social consulting firms RSK International Project Group and RSK Environment (East Africa).

The SRAP and LRP has 12 chapters, each addressing a key component of the supplementary resettlement planning process. The sequence of chapters is shown in Figure ES 1.



**Figure ES 1: SRAP and LRP chapters**

## Project description

As mentioned above, the Project entails the construction and operation of a 24-inch diameter buried pipeline to transport crude oil from the Hoima district in Uganda to the MST export facility in Chongoleani ward.

Crude oil will be stored at the MST before it is moved to the offshore LOF from where it will be transported to export markets.

The MST area includes the construction of the following facilities:

- **MST:** consisting of floating roof tanks, discharge pumps and associated support systems, and a trestle with transfer lines that connects the MST to the LOF
- **LOF:** including a jetty, to transfer crude oil to vessels (i.e. ships) at a sheltered deep-water site offshore
- **Jetty (trestle):** A jetty of approximately 2 km in length which will connect the MST with the LOF.

The land take needed for the construction of the Project's marine facilities comprises approximately 82 ha of land located within the TPA 200 ha, a short section of the EACOP pipeline corridor, and an access road to the MST site, which is also located within the TPA 200 ha boundaries.

Access restrictions to Project land during construction and operation will be determined on the basis of health and safety considerations. The MST site will be fenced and access strictly controlled by the Project.



There will be a marine exclusion zone (EZ) of 500 m radius around the jetty, with an additional area adjoining the loading terminal for manoeuvring. During construction and operational phases (depending on a chosen operational scenario) <sup>1</sup>, fishers and gleaners are likely to experience loss of access to marine resources. Five operational scenarios identified by the Project are considered in the SRAP and LRP. The scenarios and associated impacts are detailed in Chapter 5.

## Legal and policy context

The Project is required to meet Tanzanian legislative requirements for land acquisition, compensation and resettlement and has committed to meet the relevant International Financing Standards (IFS) captured in the Equator Principles' (EP) IV and the IFC PSs.

### Summary of Tanzania's regulatory framework

Tanzania has a range of laws and policies related to categories of land tenure and acquisition, compensation and resettlement. All land in Tanzania remains vested in the President as trustee for and on behalf of all citizens of Tanzania. Land is divided into three administrative categories as summarised below:

- **Reserved land:** land set aside for wildlife, forests, marine parks, road reserves and similar. Specific legal regimes govern these lands under the laws used to establish the various forms of reserved land
- **General land:** land that is neither reserved land nor village land. This land is managed by the Commissioner for Lands
- **Village land:** includes all land inside the boundaries of registered villages, where the village development committees (VDCs) and village assemblies are given powers to manage the land.

The three categories of land translate into three main forms of tenure rights:

- Rights of occupancy (for general land)
- Customary rights of occupancy (for village land)
- Reserved land (for conservation and other areas).

Legislation and policy underpinning land acquisition and compensation practice in Tanzania falls into three broad groups:

- **Land legislation:** including Acts related to land, land acquisition, land regulations, removal and relocation of graves, antiquities, valuation and valuers, forestry, roads management, national and marine parks
- **Relevant policies:** including policies informing urban planning, marine parks and reserves act, and water resource management.

### EACOP policies and standards

These include:

- Code of conduct
- Health, safety, security, environment, and social policy
- Security policy
- Human rights policy.

### Host government agreement (HGA)

<sup>1</sup> The Project has identified five possible operational scenarios that inform access decisions around marine infrastructure (jetty) for fish gleaners and fishers. The actual operational scenario is pending further studies and has not yet been selected. As a precaution all five scenarios have been considered in the development of the SRAP and LRP.

The HGA between the upstream partners and the GoT was signed in May 2021. As part of the HGA, the Project has committed to address environment, health, safety and security standards (EHSS) and human rights principles at national and international levels. The requirements stipulated in the United Nations guiding principles (UNGP) on business and human rights (UN, 2011) underpin the Project's human rights efforts. The SRAP and LRP has adopted the HGA principles, ensuring compliance with these in the proposed processes.

### **International guidance and standards**

The Project and the SRAP and LRP align with the provisions of the Equator Principles (EP) IV and the International Finance Corporation (IFC) PSs:

- The EP are a tool adopted by many financial institutions to identify, assess and manage environmental and social risks. As the Project may be seeking funding from EP financial institutions, EP guidance on land acquisition, compensation and resettlement is relevant and applicable
- The IFC PS provide standards and guidance on the management of project-related social and environmental risks and impacts and the enhancement of development opportunities.

Among the eight (8) IFC PS, two (2) are directly relevant to the SRAP and LRP, in particular:

- PS1 Assessment and Management of Environmental and Social Risks and Impacts: the PS advises among other things on the effective management of social impacts, risks and opportunities
- PS5 Land Acquisition and Involuntary Resettlement: the PS provides systematic guidance on the planning and implementation of activities to minimise resettlement and displacement impacts and to restore or improve livelihoods and standards of living.

### **Gap analysis**

A gap analysis between the TPA 2017 land acquisition process which followed Tanzanian legislative requirements and IFC standards was undertaken. Material discrepancies have been identified in the context of socio-economic surveys, livelihood restoration, and vulnerable people. The gaps will be addressed as part of the Project's LRP.

## **Summary of Project-affected communities and households**

For this SRAP and LRP, the PACs are Chongoleani, Putini, and Ndaoya<sup>2</sup> mitaa located within Chongoleani ward. A map of Chongoleani ward, the PACs, and the Project's main components is shown in Figure ES-2.

### **Socio-economic and livelihoods survey**

To analyse the livelihoods of PAHs, Socio-economic and Livelihoods Investigations (SELIs) were undertaken by the SRAP Consultant's team. The SELI team conducted five separate surveys between January and September 2022 in Tanga region. These included the following:

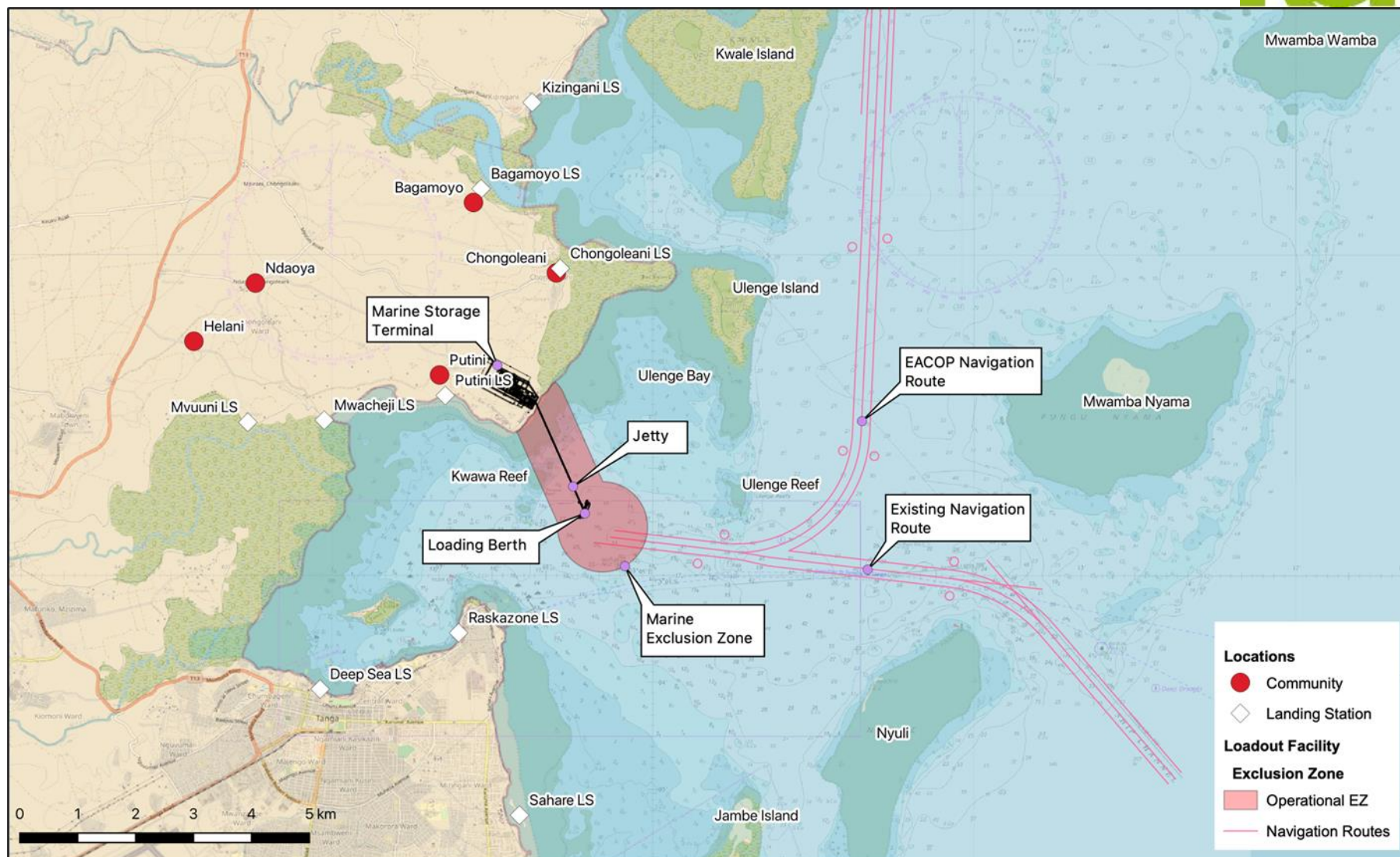
- Socio-economic household survey (SEHS) of 109 EACOP PAHs affected by the land acquisition (hereafter referred to as 'PAHs affected by EACOP ha'). The survey was conducted in February, March, and June 2022
- Follow-up SEHS of 337 households in the PACs who are at risk of being impacted by the marine EZ. The survey was conducted in July 2022
- A terrestrial livelihoods baseline assessment, conducted in January and February 2022

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<sup>2</sup> Ndaoya mtaa includes the fishery-based sub-mtaa Helani and Mvuuni.



- A marine livelihoods baseline assessment covering the northeast (NE) monsoon, conducted from January to April 2022
- An extended marine livelihoods baseline assessment covering the southeast (SE) monsoon, conducted from July to September 2022.



**Figure ES-2: The Project's MST site, planned LOF/jetty, navigation routes and operational marine EZ**

## Identification and survey of project-affected households and residents in the PACs

**PAHs affected by EACOP ha:** to identify PAHs affected by EACOP ha the Project's joint reviews of the 2017 land acquisition for the MST site were used (EACOP, 2022a; 2022b). According to information in the joint reviews, the total number of PAPs/landowners is 123. Of these, two PAPs are institutional (i.e. churches) and ten land parcels have unidentifiable owners.

31 of the PAHs affected by EACOP ha engage in fishing/gleaning activities and are likely to be double impacted by the land take and the marine EZ. These PAHs are included in the data on PAHs affected by EACOP ha.

**Community households surveyed at risk of being affected by loss of access to natural resources:** during the development of the final SRAP and LRP, households at risk of losing access to marine resources due to the Project's AOI were identified and surveyed.

To identify households at risk, findings from the initial marine baseline survey (RSK, 2022b) were used. The survey indicated that fishers in Chongoleani mtaa were unlikely to be impacted by the marine EZ. Moreover compared to gleaners in Putini, loss of access under the jetty would have minimal impacts on gleaners in Chongoleani. In addition, the baseline survey found that long-range fishers in Ndaoya were at risk of losing access to marine resources.

Due to the level of impact on Putini, to ensure that all community households surveyed were registered all households in the mtaa were surveyed during the SEHS. In addition, all fishery-based households in Ndaoya were surveyed and long-range fishers were identified. In Chongoleani, due to the low levels of estimated impacts, instead of a full census of fishers and gleaners a representative sample was surveyed.

However, noise modelling conducted after the SEHS had closed showed that diving fishers from Chongoleani mtaa are at risk of being impacted during construction. Therefore, a full registration of affected community households surveyed in Chongoleani mtaa may need to be conducted during implementation of the SRAP.

In total, the follow-up SEHS surveyed 337 households. This brings the final sample of surveyed households to 446.

Key demographic statistics of surveyed PAHs are shown in Table ES-1 and Table ES-2.

**Table ES-1: Key demographic statistics of PAHs affected by EACOP ha**

	Chongoleani		Putini		Other location <sup>3</sup>	
	Number	%	Number	%	Number	%
PAHs surveyed	12	10.7%	58	52.3%	41	37.8%
PAH household (hh) members	94	12.2%	392	51.0%	282	36.7%
<b>Gender of hh head</b>						
- Male	8	72.7%	31	53.4%	32	78.0%
- Female	3	27.3%	21	36.2%	6	14.6%
- n/a	1	9.1%	6	10.3%	3	7.3%
<b>Gender of hh members</b>						
- Male	48	51.1%	191	48.7%	144	51.1%

<sup>3</sup> 39 PAHs affected by EACOP ha have relocated to areas outside of Putini and Chongoleani mitaa. Their statistics are presented in the 'other location' column.



	Chongoleani		Putini		Other location <sup>3</sup>	
	Number	%	Number	%	Number	%
- Female	46	48.9%	198	50.5%	138	48.9%
- n/a	0	0%	3	0.8%	0	0%

Source: SEHS, 2022

**Table ES-2: Key demographic statistics of community households surveyed**

	Chongoleani		Putini		Ndaoya	
	Number	%	Number	%	Number	%
Households surveyed	44	n/a	142	n/a	58	n/a
Household (hh) members	302	n/a	774	n/a	307	n/a
<b>Gender of hh head</b>						
- Male	32	72.7%	109	76.8%	55	94.8%
- Female	12	27.3%	33	23.2%	2	3.4%
- n/a	0	0.0%	0	0.0%	1	1.7%
<b>Gender of hh members</b>						
- Male	130	43.0%	390	50.4%	167	54.4%
- Female	172	57.0%	383	49.5%	140	45.6%
- n/a	0	0.0%	1	0.1%	0	0.0%

Source: SEHS, 2022

Note: Data on Chongoleani mtaa are based on a representative sample of households.

### **Livelihood analysis of surveyed households**

To assess the livelihoods of surveyed households within the PACs, a livelihood analysis was conducted. The analysis used a sustainable livelihoods approach to the study of livelihoods. A summary of the livelihood analysis is provided in Table ES 3. Next dominant livelihood strategies and activities are briefly summarised.

**Table ES-3: Overview of surveyed households' livelihood activities, challenges, and coping strategies**

Livelihoods		Vulnerability context		Resilience and opportunities	
Land-based Livelihood source	Current activities	Challenges (shocks, trends, and seasonality)	Challenges affecting women, vulnerable and youth	Coping strategies	Opportunities for livelihood support
Marine-based activities	<ul style="list-style-type: none"> <li>Near shore fishing using canoes and small vessels that are powered by hand (paddle) or wind (sails), to access near-shore fishing grounds. Use combination of traps, lines, nets, and fish attracting devices</li> <li>Shoreline fishing using rod and hand line</li> <li>Gleaning</li> </ul>	<ul style="list-style-type: none"> <li>Inadequate fishing gear</li> <li>Price fluctuations</li> <li>Market saturation</li> <li>Heavy wind/weather</li> <li>Illegal fishing activities</li> <li>Government restrictions</li> <li>Have to rent or borrow boats</li> <li>High taxation on marine resources</li> </ul>	<ul style="list-style-type: none"> <li>Women and girls do generally not fish at sea due to cultural norms</li> <li>Vulnerable people are often not able to fish at sea</li> <li>Youth lack adequate fishing gear</li> </ul>	<ul style="list-style-type: none"> <li>Sell fish locally</li> <li>Sell fish at a lower price</li> </ul>	<ul style="list-style-type: none"> <li>Increase value of marine resources through better storage and packaging methods</li> <li>Use artificial reefs to increase fish stock and diversity</li> </ul>
Subsistence farming	<ul style="list-style-type: none"> <li>Decline in activities since the 2017 land take</li> <li>Usually conducted on small blocks of 20x30 meter</li> <li>Cassava, beans, and maize for food Cashew nut, coconut, and mango for food and cash</li> <li>Some horticultural crops such as okra, African eggplant,</li> </ul>	<ul style="list-style-type: none"> <li>Severe food insecurity from March to May</li> <li>Limited land availability</li> <li>Limited water availability</li> <li>Little use of inputs such as fertiliser due to soaring prices of inputs</li> <li>Frequent droughts</li> </ul>	<ul style="list-style-type: none"> <li>Land access due to customary practices that prevent women from owning land</li> <li>Limited labour time due to responsibility for reproductive work</li> <li>Used to obtain food such as cassava from farms now often buy food</li> </ul>	<ul style="list-style-type: none"> <li>Form self-help groups (limited and mainly for pooling labour)</li> <li>Walk long distances to find water sources that can irrigate small pieces of land</li> <li>Seek advice from extension officers</li> <li>Shift to other livelihood sources such as fishing</li> </ul>	<ul style="list-style-type: none"> <li>Investigate options for securing communal land and/or support agriculture on small residential land parcels</li> <li>Restore food security by planting improved crops (cassava, maize, and legumes)</li> <li>Restore food security by promoting small-scale 'kitchen' gardens</li> <li>Investigate methods to improve water supply (through rainwater)</li> </ul>

Livelihoods		Vulnerability context		Resilience and opportunities	
Land-based Livelihood source	Current activities	Challenges (shocks, trends, and seasonality)	Challenges affecting women, vulnerable and youth	Coping strategies	Opportunities for livelihood support
	watermelon, and amaranth	<ul style="list-style-type: none"> <li>Many inputs only available in agro-input shops in Tanga City</li> <li>Low yields</li> <li>Rain-fed agriculture</li> <li>Mixed farming where many crops are grown on small land parcels</li> <li>Only one Extension Officer in Ward with limited transport means</li> <li>Lack of knowledge on agricultural best practices</li> <li>Crop and pest disease</li> <li>Poor farming implements</li> <li>Inadequate water sources for irrigation</li> <li>Livestock kept free-range and wild animals destroy crops</li> </ul>	<ul style="list-style-type: none"> <li>Used to sell coconuts from farms, after 2017 land take have to buy from other places to sell</li> <li>Used to work as hired labour on farms, after 2017 land take the income source is not easily available</li> <li>Travel longer distances to source pesticide, herbicide, and other inputs</li> <li>Used to get income from farm, after 2017 land take more dependent on male head/relatives for support</li> </ul>	<ul style="list-style-type: none"> <li>Borrow money</li> <li>Other types of support from friends and relatives</li> </ul>	harvesting methods and irrigation schemes)

Livelihoods		Vulnerability context		Resilience and opportunities	
Land-based Livelihood source	Current activities	Challenges (shocks, trends, and seasonality)	Challenges affecting women, vulnerable and youth	Coping strategies	Opportunities for livelihood support
Commercial farming	<ul style="list-style-type: none"> <li>Limited after the 2017 land take</li> <li>Cassava, cashew nut, coconut, green grams, and cow peas grown</li> <li>Some horticultural crops such as okra, African eggplant, watermelon, and amaranth</li> </ul>	<ul style="list-style-type: none"> <li>As above and in addition:</li> <li>Soils are high in salinity rendering soils unsuitable for larger-scale crop production</li> <li>FGDs mention that only three advanced small-scale farmers exist in the Project-affected areas</li> <li>Strong orientation towards fishing</li> <li>Lack of agricultural best practice skills</li> <li>Following land take, have less cash crops such as fruit trees</li> <li>Lack of market access</li> <li>Coastal area – low soil suitability</li> </ul>	<ul style="list-style-type: none"> <li>Land availability</li> <li>Lack of capital</li> <li>Lack of labour/time as women are responsible for reproductive work</li> <li>Men sometimes control incomes from crop sales</li> </ul>	<ul style="list-style-type: none"> <li>No relevant coping strategies mentioned</li> </ul>	<ul style="list-style-type: none"> <li>Restore incomes by promoting crop diversity (plant crops with a good market that grow well on small parcels)</li> <li>Investigate methods to improve water supply (through rainwater harvesting methods and irrigation schemes)</li> <li>Training on agricultural best practices</li> <li>Facilitate access to main markets in town and/or establish local food stalls</li> <li>Investigate whether Project can source foodstuff and goods from PAHs during construction</li> </ul>
Livestock	<ul style="list-style-type: none"> <li>Cattle</li> <li>Goats</li> <li>Sheep</li> <li>Poultry</li> <li>Ducks</li> </ul>	<ul style="list-style-type: none"> <li>For cattle, limited land for pasture</li> <li>Climate change and droughts affect availability of fodder for animals</li> </ul>	<ul style="list-style-type: none"> <li>Cultural barriers often prevent women from rearing cattle</li> <li>Lack of capital to invest in needed inputs such as</li> </ul>	<ul style="list-style-type: none"> <li>Look for fodder in the nearby villages</li> <li>Watching and staying alert to minimize attacks of wild animals on livestock</li> </ul>	<ul style="list-style-type: none"> <li>Restore incomes and food security by providing training on improved/semi-intensive livestock farming</li> </ul>

Livelihoods		Vulnerability context		Resilience and opportunities	
Land-based Livelihood source	Current activities	Challenges (shocks, trends, and seasonality)	Challenges affecting women, vulnerable and youth	Coping strategies	Opportunities for livelihood support
		<ul style="list-style-type: none"> <li>• Low production due to limited use of improved breeds and methods</li> <li>• Livestock usually kept free-range</li> <li>• Animal disease. For poultry, Newcastle disease cause high morbidity and mortality</li> <li>• Wild animals may eat livestock</li> <li>• Animal theft</li> <li>• Limited use of modern/improved or hybrid varieties causing low livestock production</li> <li>• Lack of capital</li> <li>• Veterinary services are seldom used</li> <li>• Only one Extension Officer available in Ward</li> </ul>	<ul style="list-style-type: none"> <li>• fodder, vaccines, and housing</li> <li>• Lack of labour time as women are responsible for reproductive work</li> <li>• Very little processing and value addition to livestock produce</li> <li>• Men sometimes control incomes from livestock sales</li> </ul>	<ul style="list-style-type: none"> <li>• Borrow land from relatives</li> <li>• Seek advice from relatives</li> <li>• Go to town to sell produce such as eggs</li> <li>• Use plants such as African bird eye or neem to fabricate traditional medicine to prevent/cure poultry diseases</li> <li>• Few youths have formed a group and obtained a loan to invest in hybrid/improved poultry production</li> </ul>	<ul style="list-style-type: none"> <li>• Facilitate access to inputs such as vaccines, housing, and fodder</li> <li>• Facilitate access to veterinary services</li> <li>• </li> </ul>
Small businesses	<ul style="list-style-type: none"> <li>• Fish frying and selling</li> <li>• Weaving of baskets, mats, food covers, and roofing material</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of capital</li> <li>• Lack of business management skills</li> </ul>	<ul style="list-style-type: none"> <li>• Cultural norms often prevent girls and women to access markets in town</li> </ul>	<ul style="list-style-type: none"> <li>• Few form groups to access loans from the Government</li> <li>• VICOPA membership to</li> </ul>	<ul style="list-style-type: none"> <li>• Through training, enhance processing and value addition to products currently produced:</li> </ul>



Livelihoods		Vulnerability context		Resilience and opportunities	
Land-based Livelihood source	Current activities	Challenges (shocks, trends, and seasonality)	Challenges affecting women, vulnerable and youth	Coping strategies	Opportunities for livelihood support
	<ul style="list-style-type: none"> <li>• Small shops/'duka'</li> <li>• Selling water, coconuts, peanuts, and cashew nuts</li> <li>• Transport ('boda boda')</li> <li>• Food vendor ('mama lishe')</li> <li>• Selling vegetables</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of vocational skills</li> <li>• Strong orientation on fishing</li> <li>• Lack of access to markets due to high transport costs</li> <li>• Low diversity of businesses</li> </ul>	<ul style="list-style-type: none"> <li>• Men might control the incomes obtained</li> <li>• Early marriages and pregnancies</li> </ul>	<ul style="list-style-type: none"> <li>• access savings and loans schemes (mainly women)</li> <li>• Borrow money from friends and relatives</li> <li>• Use income from fishing to invest in small businesses</li> <li>• Young girls often learn to produce small business products from their mothers</li> <li>• Sometimes go to other districts to buy products for sale locally (mainly youth)</li> </ul>	<ul style="list-style-type: none"> <li>• farm products</li> <li>• livestock produce</li> <li>• coconut oil</li> <li>• edible oils</li> <li>• applying colour to mats and baskets</li> <li>• Through training, introduce new livelihoods that are applicable:</li> <li>• stationary</li> <li>• tailoring</li> <li>• hair and beauty</li> <li>• food catering</li> <li>• transport (boda boda)</li> <li>• cloth dying</li> <li>• Assist PAHs in accessing loan schemes that are available in the Mitaa</li> <li>• Financial training</li> <li>• Support to development of business plans</li> <li>• Seed capital</li> </ul>

Livelihoods		Vulnerability context		Resilience and opportunities	
Land-based Livelihood source	Current activities	Challenges (shocks, trends, and seasonality)	Challenges affecting women, vulnerable and youth	Coping strategies	Opportunities for livelihood support
Self-employment	<ul style="list-style-type: none"> <li>Artisans (carpentry, welding, etc.)</li> <li>Drivers</li> <li>Boda boda drivers</li> <li>Food vendors</li> <li>Mobile phone repair</li> <li>Micro-retail</li> <li>Vegetable stalls</li> <li>Casual labour on farms</li> <li>Casual labour in salt extraction and processing</li> </ul>	<ul style="list-style-type: none"> <li>Lack of formal/professional skills</li> <li>Strong orientation on fishing and small businesses</li> </ul>	<ul style="list-style-type: none"> <li>Reduced farmland caused a reduction in demand for hired farm labour (many were women)</li> <li>Cultural barriers might prevent women and girls from receiving training in e.g. driving</li> </ul>	<ul style="list-style-type: none"> <li>Some youth have received training in driving from VETA</li> </ul>	<ul style="list-style-type: none"> <li>Provide access to vocational training of skills in demand due to the Project's activities</li> <li>Keep a database registrar with names, skills, and contact details of PAHs interested in casual/unskilled/manual labour.</li> </ul>
Formal employment	<ul style="list-style-type: none"> <li>Teachers</li> <li>Drivers</li> <li>Medical staff</li> </ul>	<ul style="list-style-type: none"> <li>Lack of formal education</li> <li>No university in Tanga Region</li> <li>De-industrialisation since the collapse of the sisal industry</li> <li>Few formal jobs in rural areas</li> <li>Strong orientation on fishing</li> </ul>	<ul style="list-style-type: none"> <li>Similar challenges</li> </ul>	<ul style="list-style-type: none"> <li>No relevant coping strategies mentioned</li> </ul>	<ul style="list-style-type: none"> <li>Capacity building and CV and job preparedness training to PAHs with formal degrees</li> </ul>
Natural resources	<ul style="list-style-type: none"> <li>Weaving baskets, mats, food covers, and roofing material</li> </ul>	<ul style="list-style-type: none"> <li>Depend on resources collected from the Project-affected areas</li> <li>Forest degradation</li> </ul>	<ul style="list-style-type: none"> <li>Similar challenges</li> </ul>	<ul style="list-style-type: none"> <li>No relevant coping strategies mentioned</li> </ul>	<ul style="list-style-type: none"> <li>Ensure access to an alternative site for natural resource collection</li> </ul>

Livelihoods		Vulnerability context		Resilience and opportunities	
Land-based Livelihood source	Current activities	Challenges (shocks, trends, and seasonality)	Challenges affecting women, vulnerable and youth	Coping strategies	Opportunities for livelihood support
	<ul style="list-style-type: none"> <li>• Salt extraction and processing</li> <li>• Water</li> <li>• Firewood and charcoal production</li> </ul>	<ul style="list-style-type: none"> <li>• Limited skills in value addition of products</li> <li>• Little diversification in end-products</li> </ul>			<ul style="list-style-type: none"> <li>• Value addition (add colour to mats and baskets)</li> </ul>

## Dominant livelihood strategies and activities

The dominant livelihood strategy practiced by nearly all surveyed PAHs (and other members within the PACs) is that of livelihood/income diversification. That is they usually combine fishery (fishing or gleaning activities) and/or small businesses with some farming.

Livelihood diversification is predominantly used as a coping strategy to ensure sufficient cash incomes for essential needs. This type of diversification is possible due to two factors. First, livelihood activities are often gendered and second due to seasonality in fishing and crop growing several activities can be combined.

The dominant livelihood activities are fishery, operating small businesses, and to a lesser extent crop farming. These activities are briefly summarised below.

**Fishery:** due to the proximity to the sea, fishing and/or gleaning play a crucial role in the livelihoods of residents in the PACs. Offshore fishing in the Indian Ocean is conducted in several places within the PACs. Typical of small-scale fisheries in the western Indian Ocean, fisheries in the PACs are characterised by a diverse fleet of vessels targeting multiple species and operating within territorial waters (12 nautical miles from the coast). Fishing methods and technologies are low energy, and vessels depend more upon human and wind power than on mechanisation. Types of vessels used within the PACs are shown in the figure below.



Motorised dhow (with divers)



Motorised dhow



Sailing dhow



Outrigger canoe



Dugout canoe



Fisher without vessel

**Figure ES-3: Photographs of typical vessels used within the PACs**

Fishers from the PACs are all males of various ages starting from the age of 18 years. They fish with and without vessels, wading or swimming from the coast.

The number of fishers varies slightly from community to community, and Putini community is estimated<sup>4</sup> to have the highest number and percentage of population engaged in fishery (Table ES-4).

**Table ES-4: Estimated number of fishers in the PACs**

PAC	Number of fishers
Chongoleani	135
Putini	167
Ndaoya	52

Gleaning is practiced by an estimated 65 people in Chongoleani and 47 people in Putini. Two main groups of gleaners were identified during the marine baseline assessment based on species collected and gears used. The first group gleans manually by picking organisms while the second group uses spears to catch octopus and cuttlefish.

Although women dominate in gleaning activities, both women and men from the age of 18 years onwards are actively involved. Women will often glean by hand whilst men will use spears. The division is however not rigid, and men may occasionally glean manually.

**Small businesses:** many especially women within the PACs rely on land-based activities such as small businesses. In the wake of loss of farmland, women have often diversified towards small businesses as a coping strategy. Natural resources are frequently used to operate these businesses. Examples include the use of wild grass and palm leaves to weave baskets, mats, food covers, and roofing material for sale (see Figure ES-4). Baskets and mats are often sold locally to buyers who sell the products in Tanga city. It takes typically one week to prepare five baskets.

<sup>4</sup> No registration or survey of fishers was carried out.





**Figure ES-4: Basket weaving, Chongoleani mtaa**

**Crop farming:** due to the peri-urban status of the ward and the TPA land acquisitions, which have affected both Chongoleani and Putini mitaa, there is limited farming land available in the area. Due to this and the strong orientation towards fishing, compared to other wards within Tanga region, crop farming and livestock keeping in the PACs play a minor role in people's livelihoods. However, some crop farming and livestock rearing does take place within the PACs, often combined with fishery activities.

The SELIs suggested that especially women and vulnerable people who are typically not active at sea rely on crop farming for food security and cash incomes. Crop cultivation is usually conducted without the use of inputs and modern agricultural practices. Crops are often intercropped (see Figure ES-5).



**Figure ES-5: Mango, citrus, coconut, and banana intercropped on farm in Putini mtaa**

**Livestock:** although not a dominant livelihood activity for residents within the PACs, livestock does play a significant role in peoples' livelihoods providing food and income.

Many residents in the PACs keep traditional village chicken, and a smaller number keep goats and cattle, which they use for domestic purposes. However, limited local sale does occur. Households largely use a livestock management systems where animals are kept free-range (see Figure ES-6).



**Figure ES-6: poultry kept free-range in Putini mtaa**

## Summary of Project impacts

This chapter summarises the Project's terrestrial and marine impacts.

### Marine impacts

#### Typology of impacts

The construction and operation of marine facilities may result in multiple impact on coastal fisheries. Broadly, these impacts fall into five classes:

- **Exclusion** from target resources
- **Impeded access** to or from target resources
- **Interrupted or impeded activity**
- **Degraded productivity of the resource**
- **Secondary impacts.**

In addition to the negative impacts listed above, there may be positive impacts on fisheries resources due to the presence of the exclusion zone and the elimination of fishing effort therein.

#### Categorisation of impacts

The categorisation of impacts is shown in Table ES-4.

**Table ES-4: Categorisation of impacts**

Impact category	Quantitative estimate	Implication
Severe	>50%	Activity can no longer provide reliable worthwhile contributions as part of a diversified household livelihood strategy
Significant	20%-50%	Activity can continue but with significantly reduced productivity which will not always make worthwhile contributions to a diversified household livelihood strategy
Moderate	5-20%	Activity can usefully continue but productivity will be reduced beyond normal variability
Minor	<5%	Activity can continue unrestricted, and without reduced productivity

In the following sections, marine impacts by construction and operational scenario phases are described.

## Marine impacts during construction

**Fishers:** the construction phase impacts on fishers will be significantly less than during the operational phase, where fishers may be excluded from the EZ. During construction there will however be additional impacts on divers from underwater noise associated with percussive piling.

A summary of impacts on fishers during construction is presented in Table ES-5. As the table shows, affected groups include fishers and divers from the PACs. The most severely affected group will be short-range diving fishers from Putini and Chongoleani.

**Table ES-5: Summary of construction phase impacts on fishers**

Community	Impact type	Affected group	Number of affected households <sup>1</sup>	Impact estimate	
				NE monsoon	SE monsoon
Chongoleani	Exclusion	Short-range fishers with vessels	44	0%	3%
	Exclusion	Short-range fishers without vessels	n/d <sup>2</sup>	2%	0%
	Exclusion	Short-range diving fishers	18	93%	82%
Putini	Exclusion	Short-range fishers with vessels	71	2%	1%
	Exclusion	Short-range fishers without vessels	n/d <sup>2</sup>	0%	3%
	Exclusion	Short-range diving fishers	26	81%	89%

1 No. of affected HHs for Chongoleani is derived from extrapolation of the sample covered by the SEHS. A full registration will be conducted during SRAP implementation.

2 No data. The SEHS did not successfully capture data on the number of HHs with fishers without vessel, possibly due to it being an occasional activity, rather than a regular occupation.

Source: RSK (2022b, 2022c)

**Gleaners:** A summary of impacts on gleaners during the construction phase is shown in Table ES-6. As the table shows, gleaners from Putini may be moderately impacted due to exclusion, whilst gleaners from Chongoleani would be much less affected.

**Table ES-6: Summary of construction impacts on gleaners**

Community	Impact Type	Affected Group	Number of affected households	Impact Estimate	
				NE monsoon	SE monsoon
Chongoleani	Exclusion	All gleaners	53	0%	0%
Putini	Exclusion	All gleaners	82	8%	16%

In the following sections, impacts during operations are discussed. These are shown by operational phase scenarios.

## Impacts during the operational phase

The operational phase will start once construction is completed in 2025 and continue for the life of the Project. During this phase fishers will be prevented from accessing the 500 m exclusion zone

for fishing operations, while gleaners may be allowed access into the intertidal zone, depending on the chosen operational access scenario<sup>5</sup>.

Five operational scenarios are presented:

1. Neither gleaners nor fishers may enter the 500m EZ for transit, gleaning or fishing.
2. Gleaners can glean in the EZ, but not transit or glean under the jetty. No access for fishers.
3. Gleaners can transit under the jetty, glean in the EZ but not under the jetty. No access for fishers
4. Unrestricted access for gleaners for transit and gleaning. No access for fishers
5. Unrestricted access for gleaners for transit and gleaning. Transit only for fishers.

A summary of impacts during each operational scenario is shown in Table ES-7 and Table ES-8.

**Table ES-7: Summary of Operational Phase impacts by scenario and season**

		Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5	
Community		NE	SE	NE	SE	NE	SE	NE	SE	NE	SE
Chongoleani	Fishers	4-11%	13-15%	4-11%	13-15%	4-11%	13-15%	4-11%	13-15%	4-11%	13-15%
	Gleaners	18%	22%	3%	0%	0%	0%	0%	0%	0%	0%
Putini	Fishers	0-18%	18-77%	0-18%	18-77%	0-18%	18-77%	0-18%	18-77%	6-17%	16-70%
	Gleaners	81%++	87%++	31%+	52%+	20%	33%	0%	0%	0%	0%
Ndaoya	Fishers	<8%	<8%	<8%	<8%	<8%	<8%	<8%	<8%	<5%	<5%

Qualitative Key <sup>6</sup>		Severe		Significant		Moderate		Minor
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As shown in Table ES-7, under all operational scenarios, fishers in Chongoleani are moderately affected by the marine EZ.

Depending on the season, fishers in Putini are moderately to severely impacted under all scenarios (Table ES-8).

**Table ES-8: Detail of Putini fishers operational phase impacts by scenario and season**

Impact type	Affected group	Scenarios 1-4		Scenario 5	
		NE	SE	NE	SE
Exclusion	Short range fishers with vessels	17%	18%	17%	18%
Exclusion	Short range fishers without vessels	0%	71% <sup>1</sup>	0%	71% <sup>1</sup>

<sup>5</sup> At the time of writing, EACOP had identified five possible access scenarios, but the actual operational scenario had not yet been defined.

<sup>6</sup> The link between the estimated impact and the qualitative key is described in Table ES-4. In the case of a range of estimated impacts, the qualitative category is based on the most severe estimate.

Impact type	Affected group	Scenarios 1-4		Scenario 5	
		NE	SE	NE	SE
Impeded Access	Fishers with dhows	18%	77%	6%	16%
Impeded Access	Fishers with outrigger canoes	<12%	<4%	<5%	<6%

1 Impact potentially distorted by purposeful changes in fishing patterns by fishers during enumeration in the SE monsoon period to exaggerate the role of the EZ as part of their normal fishing grounds.

Fishers in Ndaoya are moderately impacted under operational scenario 1-4 and may experience no/limited impacts under Scenario 5. Fish gleaners from Chongoleani are only impacted under operational scenario 1. Fish gleaners in Putini are significantly to severely impacted under operational scenario 1-3. No fish gleaners in Ndaoya are impacted.

### Terrestrial impacts

An overview is shown in Table ES-9. 31 PAHs affected by EACOP ha<sup>7</sup> engage in fishing activities and are thus at risk of becoming double impacted by land loss and restricted access to marine resources. Special attention is paid to these households who will be monitored to assess their level of vulnerability and whether they are in need of additional assistance to restore their livelihoods.

**Table ES-9: Summary of terrestrial displacement impacts for the EACOP ha**

No.	Terrestrial displacement impacts:	MST site	Soil storage, PPL, and/or access road
<b>Land parcels affected:</b>			
1	Number of EACOP PAPs including unidentified owners <sup>8</sup>	100 <sup>9</sup>	23
1a	Number of unidentified owners of affected land parcels	9	1
1b	Number of identified owners of affected land parcels	91	22
1c	Physically Displaced PAPs	9 <sup>10</sup>	1
1d	Institutional PAPs	2	0
2	Land parcels affected including unidentified owners	107	55
2b	Land parcels affected within EACOP ha	66	n/a
2c	Land parcels affected partly within EACOP ha	41	n/a

<sup>7</sup> 25 in Putini and six in Chongoleani

<sup>8</sup> This number excludes double entries and PAPs who lost land outside the TPA 200 ha boundary

<sup>9</sup> This includes nine land parcels/farms where the maps do not record the PAP name.

<sup>10</sup> Two physically displaced PAPs land is approximately half within and half outside the MST. Therefore, it is difficult to confirm whether their residential structures were within the 72 ha or not. If the Project Standards had been applied, during the MST land acquisition it is likely the land falling outside the MST would have been treated as orphaned land and these PAPs treated as physically displaced. A precautionary approach has been taken to assume these PAPs were physically displaced by the MST 72 ha area.



No.	Terrestrial displacement impacts:	MST site	Soil storage, PPL, and/or access road
3	Size of land acquisition	71.2 ha	8.89 ha for SS <sup>11</sup> 10.3 ha for PPL corridor
4	Graves affected	10	0
5	Complete residential dwelling	9	1
6	Incomplete residential dwelling	0	0
7	Other structures	2	0
8	Building foundation	0	0
9	School building	0	0
10	Church building	2	0
11	Mosque	0	0

Source: EACOP (2022a; 2022b)

### Loss of access to terrestrial natural resources

Of the 446 surveyed households (including households in Putini, Chongoleani, and Ndaoya that did not lose land to EACOP ha), 380 households (or 85.2%) depend on one or more natural resource. The dominant resources include firewood, timber for construction, and leaves for weaving mats and baskets. Two hundred and thirty-four of these households (61.6%) depend on natural resources collected within the TPA 200 ha.

There is currently no access to these natural resources within the EACOP ha (as part of the TPA 200 ha) due to site activity (site clearing and grading). In addition, access within the wider TPA 200 ha may become restricted as land may be leased out to other users/developers. This means that in time due to the cumulative impacts of the Project and other projects/developments in the PACs, households within the PACs will lose access to the natural resources within the TPA 200 ha outside the EACOP MST area. As a precaution, the SRAP and LRP has been designed to consider a scenario where all access to terrestrial resources within TPA 200 ha is lost.

### Terrestrial livelihood impacts

In summary, the analysis of terrestrial livelihood impacts suggest that the loss of farming land has had negative impacts on food security. These negative impacts were/are exacerbated by the declining land availability in the PACs. Loss of farmland has caused decline in subjective living standards (especially among women and vulnerable PAH members). The proposed immediate livelihood restoration packages/activities (LRAs) are designed to assist PAHs' in restoring their food security.

### Combined assessment of livelihood impacts

A livelihood analysis suggests that households who lost land within TPA 200 ha have become more dependent on marine activities and small businesses. The largest impacts are therefore likely to be on households who have lost land and depend to some degree on fishing and/or gleaning

<sup>11</sup> The area of land for the soil storage site is located within the MST site, TPA 200 ha boundary, pipeline corridor, and access road. The Project may only use and lease ~5 ha of this land. However, as a precaution the SRAP and LRP includes PAHs affected by the full 8.89ha.

activities. The SEHS showed that 25 households in Putini mtaa and six households in Chongoleani mtaa lost land to EACOP ha and are likely to become affected by the Project's marine EZ.

## Eligibility and entitlements

Based on the regional RAPs for the Project (EACOP, 2020), an eligibility and entitlement framework was designed. The livelihood restoration entitlements are linked to impacts on the PAPs and will be cumulative for PAPs with multiple affected land parcels and/or loss of access to marine resources. The Project will offer in-kind livelihood restoration assistance and transitional support.

Transitional support in the form of food baskets will be provided to PAHs who have lost land<sup>12</sup> and/or who are severely, significantly, or moderately affected by the Project's marine EZ. Special attention will be paid to households who are doubly impacted by land loss and restricted access to marine resources. The entitlement framework is shown in Table ES-10.

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<sup>12</sup> As discussed in Chapter 10 on Implementation, food baskets will be delivered to PAHs located within Chongoleani ward.

**Table ES-10: Livelihood restoration entitlement groups**

Groups	Criteria	Type of livelihood restoration and/or other in-kind support	Eligible PAHs
Groups impacted by the previous 2017 land acquisition (Project Required Land: MST, soil storage, access road and pipeline corridor within TPA 200 ha):			
<b>G1</b>	<p>PAHs who have permanently lost access to their residential dwelling(s).</p> <p>PAHs who have permanently lost access to land and crops or trees.</p> <p>PAHs who meet vulnerability criteria and loss of land.</p>	<ul style="list-style-type: none"> <li>Group-level land and non-land-based livelihood restoration programmes</li> <li>Individual-level livelihood restoration program</li> <li>Individual-level livelihood restoration programme(s) (as appropriate to vulnerability factors of PAH)</li> </ul>	<p>121 PAHs<sup>13</sup> who lost land (of these 10 are unidentified owners of land parcels within EACOP ha)</p> <ul style="list-style-type: none"> <li>10 of these are physically displaced PAHs</li> <li>30 of these are 'Category 1' vulnerable PAHs.<sup>14</sup></li> </ul>
<b>G2</b>	Households in PACs who permanently lose access to land used for communal purposes, particularly land used for collecting terrestrial natural resources.	<ul style="list-style-type: none"> <li>Livelihood restoration not applicable</li> <li>Provide/facilitate access to alternative resources with equivalent livelihood-earning potential and accessibility</li> </ul>	n/a
Groups impacted by the Project's marine activities and infrastructure:			
<b>G3</b>	<p>Fishers/gleaners who are <u>severely</u> impacted by the marine EZs or meet vulnerability criteria.</p> <p>PAPs who have <b>lost land to EACOP and are impacted by the loss of access to marine resources</b> will be placed on a list of 'potentially vulnerable' households. Further engagements will determine if they require additional support to restore their livelihoods.</p>	<ul style="list-style-type: none"> <li>Group-level land and non-land-based livelihood restoration programmes</li> <li>Individual-level livelihood restoration program</li> <li>Individual-level livelihood restoration programme(s) (as appropriate to vulnerability factors of PAP)</li> </ul>	Pending decision on operational scenario (likely to be fishing divers during construction and fish gleaner from Putini during operations)

<sup>13</sup> The entitlement framework excludes two (2) institutional PAPs.

<sup>14</sup> the vulnerability category is defined in the VPP presented in Chapter 8.

Groups	Criteria	Type of livelihood restoration and/or other in-kind support	Eligible PAHs
<b>G4</b>	Fishers/gleaners who are <u>significantly</u> impacted by the Project's marine EZs	<ul style="list-style-type: none"> <li>Group-level land and non-land-based livelihood restoration programmes</li> <li>Individual-level livelihood restoration programme</li> </ul>	Pending decision on operational scenario
<b>G5</b>	Fishers/gleaners who are <u>moderately</u> impacted by the Project's marine EZs	<ul style="list-style-type: none"> <li>Group-level land and non-land-based livelihood restoration programmes</li> </ul>	Pending decision on operational scenario

## Livelihood restoration plan (LRP)

The SRAP and LRP contains four (4) terrestrial livelihood restoration packages/activities (LRAs) and four (4) fishery-based LRAs that will be offered to eligible PAHs.

The principles underpinning the LRP are aligned with requirements and approaches embedded in applicable national laws and international standards.

An overview of the livelihood restoration activities/packages (LRAs) to be offered are shown in Table ES-11.

**Table ES-11: Overview of LRAs**

No.	LRA	Description
1	Resource management and enhancement	Support for community management of marine resources, including the use of artificial reefs for resource enhancement
2	Value chain support	Improvements to post-capture fish handling to maintain value and support improved food safety
3	Safety and visibility	Support for enhanced safety at sea for fishers and improved vessel control around critical infrastructure
4	Livelihoods support to gleaners (Putini)	Priority livelihood support for gleaners (only applicable under Operational Scenario 1)
5	Improved agricultural production A (maize and cassava)	Agricultural support to the production of key food crops
6	Improved agricultural production B ('kitchen' gardens and crop diversity)	Establishment of 'kitchen' gardens using peri-urban and urban farming methods and other agricultural support to crop diversification
7A and 7B	Enterprise development and vocational skills training	Support to the establishment and/or management of small businesses
8	Improved animal husbandry (poultry production)	Support semi-intensive poultry production

Entitlements to livelihood restoration is shown in the table below.

The Project will offer livelihood restoration assistance depending on the significance of impacts on the livelihood of a PAP and their resilience to restore livelihoods. Table ES-12 shows the options for each entitlement group is entitled to.

**Table ES-12: Livelihood restoration options and entitlements**

Livelihood restoration options: groups will be given access to group-level and some individual-level targeted support	
<p>EACOP terrestrial PAHs and severely impacted community households surveyed:</p> <p><b>Groups G1 and G3</b> – all eligible households are entitled to:</p> <p><i>These LRAs will continue for at least two cropping seasons and will last</i></p>	Improved agricultural methods A: cassava and maize
	Improved agricultural methods B: kitchen garden and crop diversity
	Vocational training and business support: existing livelihoods
	Improved livestock management: poultry



Livelihood restoration options: groups will be given access to group-level and some individual-level targeted support	
<i>through Phases 2/3 (as required for livelihoods to be restored)</i>	
Affected community households surveyed and EACOP terrestrial PAHs who rely on marine activities  <b>Groups G3, G4, and G5</b> (and community households surveyed from <b>G1</b> )	Immediate and longer-term fishery-based livelihood restoration programmes (LRA 1,2, 3 and 4 - depending on level of impact).

## Vulnerable peoples plan (VPP)

The VPP is aligned with the Project's regional RAP VPP (EACOP, 2020) and demonstrates how the vulnerability status of PAHs has been confirmed using data collected during the SEHS (RSK, 2022c).

The VPP recognises that vulnerable people and households might have reduced ability to access and benefit from livelihood restoration packages and hence, will require additional support, assistance and monitoring throughout the process. Support to vulnerable people will be assessed on a case-by-case basis and additional measures may be proposed.

### Coverage

The vulnerability analysis considered all surveyed EACOP terrestrial PAHs (109) and community households surveyed in Putini and Ndaoya (200). It excludes unidentified owners and individuals who fish or glean in Chongoleani. Vulnerable community households surveyed in Chongoleani will be identified during SRAP implementation.

### Vulnerability analysis (pre-existing characteristics)

The vulnerability analysis is based on pre-existing vulnerability characteristics (defined in Chapter 8) collected during the SEHS. During analysis, households were sub-divided into vulnerability categories one (1) to three (3) as follows:

- **Category 1 (vulnerable):** households who fall under category 1 will immediately be placed on the vulnerable households register (VHR). The households will qualify for individual level livelihood support. In addition, additional support may be necessary, commensurate to the household's level of vulnerability.
- **Category 2 (potentially vulnerable):** potentially vulnerable households will qualify for livelihood restoration support. The households will be monitored closely to assess whether they should be placed on the VHR.
- **Category 3 (at-risk):** at-risk households will be placed on a 'watch list' and must be included in forthcoming review/surveys to monitor potentially vulnerable PAHs.

To identify households that are vulnerable or potentially vulnerable due to their pre-existing conditions, several data queries were run through the Project's database. The outcome of the analysis is shown in Table ES-13 and Table ES-14.

**Table ES-13: PAHs affected by EACOP ha vulnerability status**

Current location	Category 1	Category 2	Category 3
Chongoleani	3	0	3
Putini	16	0	6
Other locations	10	1	3
<b>Total</b>	<b>29</b>	<b>1</b>	<b>12</b>

Source: SEHS

**Table ES-14: community households surveyed vulnerability status**

Current location	Category 1	Category 2	Category 3
Putini	10	21	22
Ndaoya	4	13	6
<b>Total</b>	<b>14</b>	<b>34</b>	<b>28</b>

Source: SEHS

Note: Vulnerable community households surveyed in Chongoleani will be assessed during SRAP implementation

In addition to households who are vulnerable due to pre-existing characteristics, households who are impacted by loss of land within EACOP ha and who are at risk of losing access to marine resources are listed as 'potentially vulnerable.' In total, 35 households fall into this category. As mentioned, these households will be closely monitored to see whether they require additional assistance to restore their livelihoods.

## Consultation and disclosure

### Disclosure of the SRAP and LRP

There are two levels of planned public disclosure of the SRAP and its LRP:

- During the public disclosure of the draft SRAP and LRP, terrestrial impacts and the associated livelihood restoration entitlements and options were presented and discussed with community representatives (completed in July 2022).
- During the public disclosure of the final SRAP and LRP, marine-related and terrestrial impacts and the associated livelihood restoration entitlements and options will be presented and discussed with community representatives and PAHs.

### Grievance management

The Project has developed an overall grievance mechanism (GM) (translated into Kiswahili) to receive and address complaints and grievances. The GM is summarised in Chapter 9 and detailed in the Project's regional RAPs (EACOP, 2020).

## Implementation framework

SRAP implementation is divided into two phases, design and implementation both described in detail in the sections below. The chapter also details additional mitigation measures needed for fishery-based livelihoods.

## **Roles and responsibilities**

To ensure the Project maintains ownership and accountability of the overall process, the LRP activities will be managed by the Project's livelihood restoration team. The Project will be responsible for contracting implementing partner(s) who will implement and deliver the livelihood restoration packages.

### **LRP design phase**

The LRP design phase consists of the process of appointing implementing partner(s), procurement of lead implementing partner(s), and the finalisation of the detailed livelihood restoration package design.

### **LRP implementation phase**

This phase will focus on the implementation of livelihood restoration (as per the LRP phasing) and delivery of transitional support. Before LRAs are implemented, a participatory trial phase may be conducted.

## **Monitoring and evaluation**

The objectives of the monitoring and evaluation (M&E) of the SRAP and LRP are to monitor the performance of the livelihood restoration activities. The M&E framework presented is thus designed to monitor the LRP for the marine facilities. Three levels of M&E will be conducted: process M&E to ensure livelihood restoration activities are implemented as planned, compliance M&E to ensure, among others, that livelihoods have been restored, and a completion audit at the end of SRAP implementation. Fisheries monitoring is also included in the M&E framework.

## **Schedule and budget**

### **Schedule**

An indicative time plan for SRAP and livelihood restoration activities has been prepared. In Q1 2023, livelihood restoration activities will commence. Livelihood restoration will continue till, from the point of Project land acquisition, all livelihoods have been fully restored.

### **Budget**

A budget for SRAP and LRP implementation has been developed. All in-kind livelihood restoration and transitional support entitlements have been monetised and included in the budget.

## GLOSSARY OF TERMS

Term	Definition
Acres per hectare	One acre is equivalent to 0.4 hectares (ha).
Census	A survey of all persons who will be displaced by a project that captures all appropriate socio-economic baseline data of affected persons and their households and records their assets to determine eligibility for compensation and other support.
Community	A group of individuals broader than the household, who identify themselves as a common unit due to recognised social, religious, economic, or traditional government ties, or through a shared locality.
Compensation	Payment in cash or in kind for an asset or a resource that is acquired or affected by a project at the time the asset needs to be replaced.
Crude oil	Oil that is extracted from the ground before it is refined into usable products, such as gasoline/petroleum.
Displacement	The physical, economic, social and / or cultural uprooting of a person, household, social group or community as a result of the project.
Economic displacement	Loss of assets (including land), or loss of access to assets, leading to loss of income or means of livelihood as a result of project-related land acquisition or restriction of access to natural resources. People or enterprises that may be economically displaced with or without experiencing physical displacement.
Focus group discussion	A qualitative data collection methodology involving small groups of people to discuss selected points of interest.
Household	A group of persons who may or may not be related, but who share a home or living space, who aggregate and share their incomes, and evidenced by the fact that they regularly take meals together.
International Finance Corporation (IFC) Performance Standards (PSs)	The international benchmark for environmental and social risk management in the private sector.
IFC PS5	The IFC's performance standard for dealing with Land Acquisition and Involuntary Resettlement.
Involuntary resettlement	Resettlement is considered involuntary when affected individuals or communities do not have the right to refuse land acquisition that will result in displacement. This occurs in cases of lawful compulsory acquisition or restrictions on land use based on eminent domain; and in cases of negotiated settlements in which the buyer can resort to compulsory acquisition or impose legal restrictions on land use if negotiations with the seller fail.
Land acquisition	Land acquisition includes both outright purchases of property and purchases of access rights, such as rights-of-way.
Livelihood	A livelihood comprises the capabilities, assets and activities required for a person to make a living such as: wages from employment; cash income earned through an enterprise or through sale of produce, goods, handicrafts or services; rental income from land or premises; income from a harvest or animal husbandry; share of a harvest (such as various sharecropping arrangements)

	or livestock production; self-produced goods or produce used for exchange or barter; self-consumed goods or produce, food, materials, fuel and goods for personal or household use or trade derived from natural or common resources; pensions; various types of government allowances (child allowances, special assistance for the very poor); and remittances from family or relatives
Livelihood restoration plan (LRP)	A plan intended to set out how to replace or restore livelihoods lost or reduced as a result of a project. The plan aims to restore, or if possible, improve, the quality of life and standard of living of affected parties and ensure food security through the provision of economic opportunities and income generating activities of affected property owners and their households.
Load-out facility (LOF)	Located offshore, the LOF is used to transfer product from the MST onto marine tankers for shipment to end users.
Marine storage terminal (MST)	An area close to the coast consisting of a number of external floating roof tanks with discharge pumps and support systems where product will be stored before it is transported to the end user via the offshore LOF.
Marine/fish resources	Fish and all other products, the aquatic environment, and the ecosystems in which these resources exist.
Fisheries	All livelihood activities of small-scale subsistence and artisanal fishermen related to access to and utilization of fish resources, including harvesting (fishing and capture of other marine products, e.g., harvesting of seaweed, bivalves, crabs, etc.), processing (salting, drying, smoking, food preparation), and distribution and marketing (i.e., the entire value chain).
Fish-based livelihoods	Livelihoods that include and are substantially dependent on fishing for subsistence and/or income.
Mtaa/mitaa	Mtaa/mitaa is the Swahili word for a street or streets. Administratively, mtaa/mitaa are local subdivisions in urban wards.
Non-governmental organisation (NGO)	Any not-for-profit, non-governmental and voluntary citizens group organised on a local, national or international level. It can perform a variety of public service and humanitarian functions and is often guided by a specific mission.
Physical displacement	Loss of permanently occupied house / apartment, dwelling or shelter as a result of Project-related land acquisition that requires the affected person(s) to move to another location.
Pipeline	Includes all parts of those physical facilities through which oil moves in transportation. It includes but is not limited to: line pipe, valves and other accessories attached to the pipe, pumping / compressor units and associated fabricated units, metering, regulating and delivery stations, and holders and fabricated assemblies located therein, and breakout tanks.
Project-affected community (PAC)	The population of any 'mtaa' overlapping with the Project footprint, it thus encompasses PAHs and PAPs and also households that reside in those mitaa but will not be physically or economically displaced by the Project
Project-affected household (PAH)	All members of a household, whether related or not, operating as a single economic unit, who are affected by a project.
Project-affected person (PAP)	Any individual who, as a result of the land acquisition required for the Project, loses the right to own, use, or otherwise benefit from a built structure, land (residential, agricultural, pasture or undeveloped/unused land), annual or perennial crops and trees, or any other fixed or moveable asset, either in full or in part, permanently or temporarily.



Region	The highest administrative division of Tanzania. Tanzania is divided into thirty-one regions (2016), each of which is further subdivided into districts.
Regulatory framework	The system of regulations and the means to enforce them, usually established by a government to regulate a specific activity.
Resettlement	The displacement or relocation of an affected population from one location to another within the national territory, and the restructuring or creation of comparable living conditions.
Resettlement action plan (RAP)	A plan that provides a comprehensive set of actions for addressing impacts related to physical and economic displacement. It describes the procedures and activities that will be taken to compensate for losses, mitigate adverse project impacts, and provide development benefits to those who will be resettled or displaced as a result of a project.
Resettlement policy framework (RPF)	A requirement for projects with sub-projects or multiple components that cannot be identified before project approval. The framework clarifies resettlement principles, organisational arrangements, and design criteria to be applied to subprojects to be prepared during project implementation.
Socio-economic baseline	A baseline record of land use activities within the project footprint as well as the socioeconomic characteristics of individuals and communities dependent on the land prior to the commencement of the land acquisition process, as well as host communities that will potentially be impacted by the project.
Stakeholder	Individual or groups of people who are directly or indirectly affected by a project, as well as those who may have interests in a project. They may have the ability to influence the outcome of the project, either positively or negatively.
Trestle/jetty	A frame that will support the crude oil transfer lines from the Marine Storage Terminal (MST) to the Load-out Facility (LOF).
Vulnerable persons	People who, by virtue of gender, ethnicity, age, physical or mental disability, economic disadvantage or social status in the context of the project, may be more adversely affected by displacement than others and who may be limited in their ability to re-establish themselves or take advantage of resettlement assistance and related development benefits. This group may include people living below the poverty line, the landless, the elderly, women- and children-headed households, ethnic minorities, communities dependent on natural resources or other displaced persons who may not be protected through national land compensation or land titling legislation.
Ward	A lower-level administrative subdivision of Tanzania. In urban areas, each ward generally comprises several 'mitaa' (streets, Kiswahili).

## ABBREVIATIONS AND ACRONYMS

Term	Definition
AEZ	Agro-ecological Zones
AMCOS	Agricultural Marketing Primary Cooperative Society
BRAC	Bangladesh Rural Advancement Committee
CC	City Council
CMT	City Management Team
COVID 19	Corona Virus Disease 2019
CCRO	Customary rights of occupancy
EACOP	East Africa Crude Oil Pipeline
EHSS	Environmental, Health, Safety and Social
EOI	Expressions of Interest
ESIA	Environmental and Social Impact Assessment
FGD	Focus Group Discussion
GBV	Gender Based Violence
GM	Grievance Mechanism
GPS	Global Positioning System
Ha	Hectare
HAT	Highest Astronomical Tide
HSSE	Health, Safety, Security and Environment
IFC	International Finance Corporation
KII	Key Informant Interview
Km	Kilometres
LOF	Load Out Facility
LRP	Livelihood Restoration Plan
MLHHSD	Ministry of Lands, Housing and Human Settlements Developments
MST	Marine Storage Terminal
NCEE	Northern Coalition for Extractive Industries and Environment
N/d	No data
NGO	Non-Governmental Organisation
OECD	Organisation for Economic Co-operation and Development
PAP	Project-affected Person
PAH	Project-affected Household
RAP	Resettlement Action Plan
RfP	Requests for Proposals
ROO	Right of Occupancy

Term	Definition
RPF	Resettlement Policy Framework
SEHS	Socio-economic Household Survey
SELI	Socio-economic and Livelihood Investigation
SDG	Sustainable Development Goals
SIDO	Small Industries Development Organisation
SGD	Small Group Discussions
SLA	Sustainable Livelihoods Approach
TASAF	Tanzania Social Action Fund
TC	Town Council
TPA	Tanzania Port Authority
TPDC	Tanzania Petroleum Development Corporation
TSF	Tanzania forest service agency
T.Shs.	Tanzania Shillings
UNGC	United Nations Global Compact
UNGP	United Nations Guiding Principle
UWASA	Urban Water and Sanitation Authority
VICOBA	Village Community Banking
VETA	Vocational Education Training Authority
VHC	Village Health Committee
VHW	Village Health Workers
VPP	Vulnerable People Plan
WDC	Ward Development Committee
WEO	Ward Executive Officer
WHO	World Health Organisation
YDCP	Youth with Disabilities Community Programme

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# 1 INTRODUCTION

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## 1.1 Background

The East African Crude Oil Pipeline (EACOP; hereafter referred to as the 'Project') involves the construction and operation of a buried cross-border pipeline to transport crude oil from the Lake Albert area in Uganda to the east coast of Tanzania for export to international markets. The pipeline will run from Kabaale in Hoima district in Uganda to a marine storage terminal (MST) in Chongoleani ward, Tanga region of Tanzania.

The length of the pipeline in Tanzania is 1,443 kilometres (km) and the pipeline traverses eight (8) regions and the land administered by 27 administrative district/city councils.

The management approach for land acquisition along the pipeline corridor in Tanzania, excluding the Project's marine facilities at Chongoleani peninsula, is described in the separate resettlement actions plans (RAPs) for the eight regions (EACOP 2020).<sup>15</sup> For the Project's marine facilities, which comprise the MST and a load-out-facility (LOF), a standalone supplementary resettlement action plan (SRAP), which encompasses a livelihood restoration plan (LRP), is presented in this report (referred to as the 'SRAP and LRP').

In 2017, the Tanzania Port Authority (TPA) acquired approximately 200 ha of land in Chongoleani ward (hereafter referred to as 'TPA 200 ha') for port development. In line with Tanzanian statutory requirements for land acquisition and compensation, a valuation of persons and assets affected by the land take was conducted in July 2017. Following approval from the office of the chief valuer at the ministry of lands, housing, and human settlements development (MLHSD), compensation was paid to affected persons in August 2017.

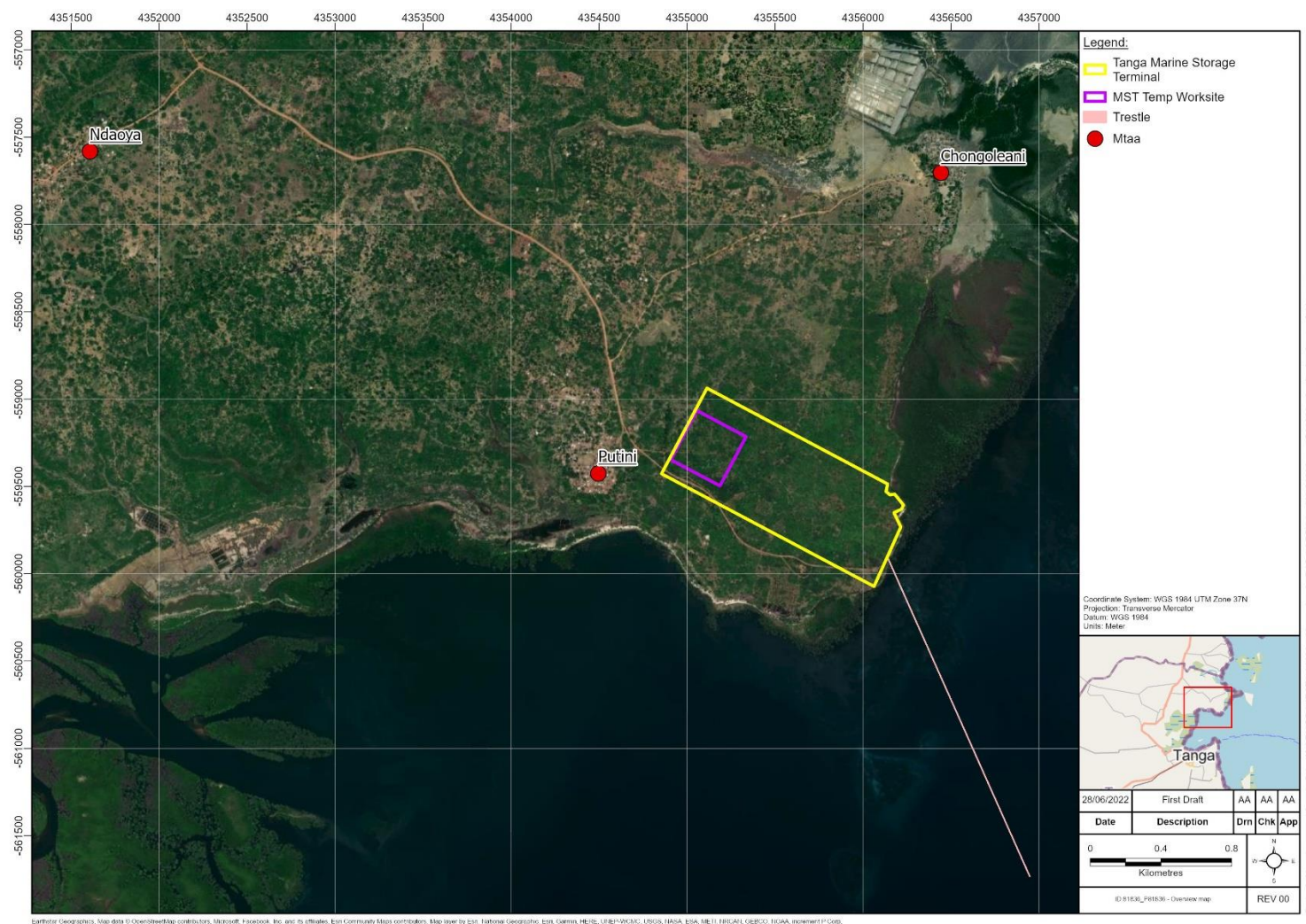
For the construction of the marine facilities, the Project will lease land from TPA's 200 ha. Approximately 82 ha of this land will be leased for the MST site and for a soil stockpiling site which will be used during construction of the MST and a short section of the EACOP pipeline corridor located within the TPA 200 ha area. The land to be leased is jointly referred to as the 'EACOP ha.'

Figure 1.1 shows the location of the MST, the Project-affected communities (PACs)<sup>16</sup>, and the 200 ha TPA boundaries. Figure 1.2 shows the Project's MST infrastructure. An overview of the Project's marine footprint is shown in Figure 1.3 below, including the marine infrastructure and marine exclusion zone (EZ) during the operational phase. These will affect a number of persons from the PACs who depend on gleaning in the intertidal zone or fishing for their livelihoods.

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<sup>15</sup> RAPs have been prepared for each of the eight affected regions and have been disclosed on the Project's website. The regional RAPs are available for download here: <https://eacop.com/information-center/other-publications> (last accessed 1 March 2022).

<sup>16</sup> For the purpose of this SRAP and LRP, a PAC is defined as the population of any mtaa overlapping with the Project footprint, it thus encompasses PAHs and PAPs and households who will not be physically or economically displaced by the Project.



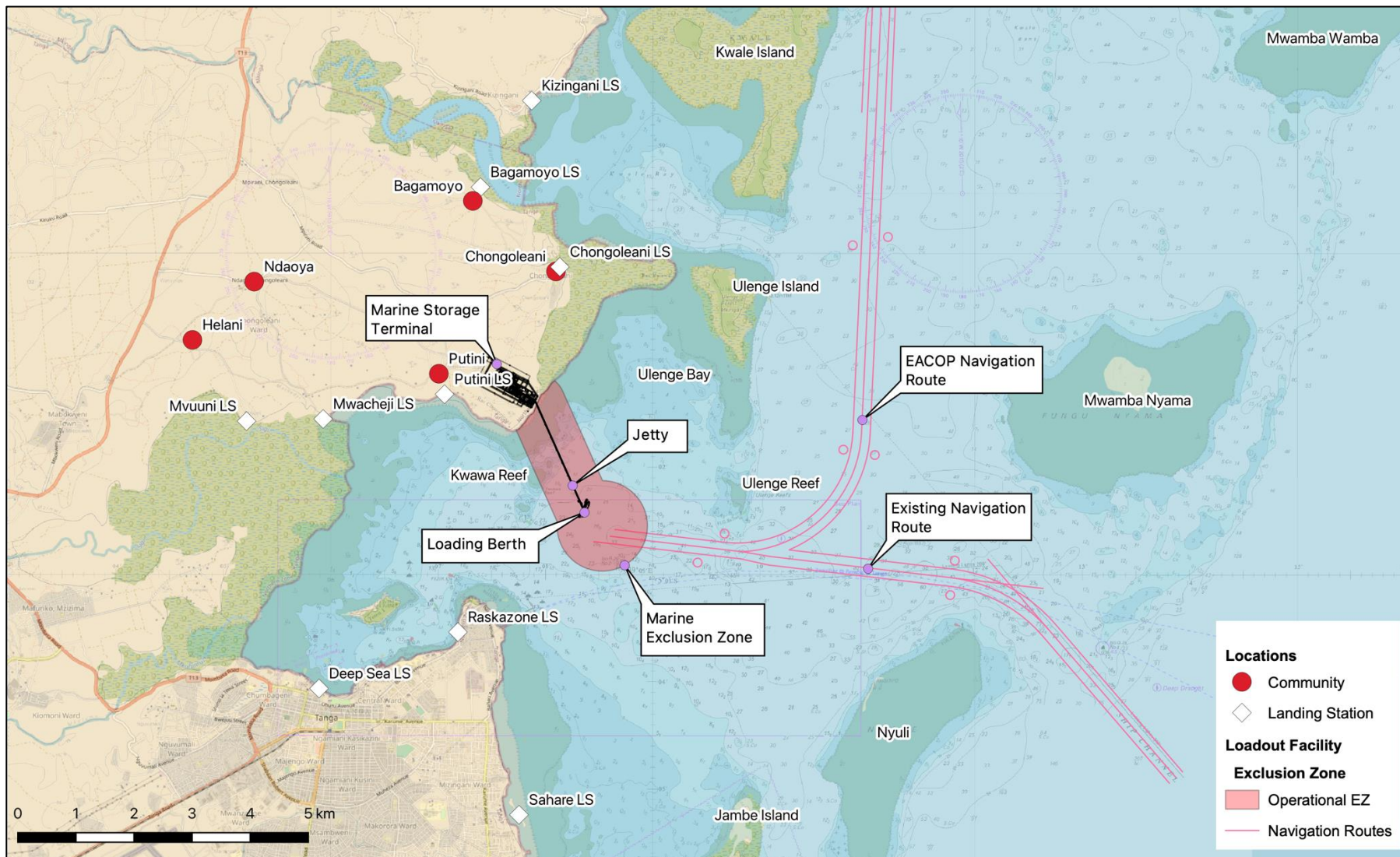
**Figure 1.1: The location of the Project's marine facilities, trestle/jetty and PACs**





Figure 1.2: MST facility infrastructures: pipeline corridor, access road reserves, and (potential) soil storage





**Figure 1.3: The Project's MST site, planned LOF/jetty, navigation routes and operational marine EZ**

The Project is being developed in compliance with the Tanzanian legal framework and international environmental, health, safety and social (EHSS) financing standards, including, among others, the International Finance Corporation (IFC) Performance Standard (PS) 5 related to land acquisition and involuntary resettlement. The legal and policy context is presented in Chapter 3.

According to IFC PS5 on ‘land acquisition and involuntary resettlement’ paragraphs 30-32, the Project is required to identify and describe the government resettlement measures that took place during the 2017 TPA land acquisition process. Pertaining to this, two joint reviews have been conducted by TPA and the Project (EACOP, 2022a; 2022b). The findings of the joint reviews identified gaps in livelihood restoration (and other in-kind entitlements such as transitional support) between the 2017 land acquisition process and those undertaken for the Project’s required land for the pipeline traversing Tanga (and along the pipeline corridor in Tanzania). IFC PS5 stipulates that where government measures did/do not meet the relevant requirements of the PS, a SRAP should be prepared that, together with the documents prepared by the responsible government agency, will address the relevant requirements of IFC PS5.

Therefore, this SRAP and LRP includes the supplemental measures that will be undertaken by the Project to achieve the requirements of IFC PS5 in a way that is permitted by the responsible agency and implementation time schedule. During engagements with the Government of Tanzania’s relevant agencies (i.e. TPA and Tanzania Petroleum Development Corporation (TPDC)), the joint reviews were agreed upon as on the basis that any supplementary measures would be provided in-kind and not monetary payments. The agreement for the joint review is contained within the Host Government Agreement (HGA).

The SRAP and LRP includes persons/households affected by the 2017 land take and persons/households who are at risk of being affected by the Project’s marine footprint.

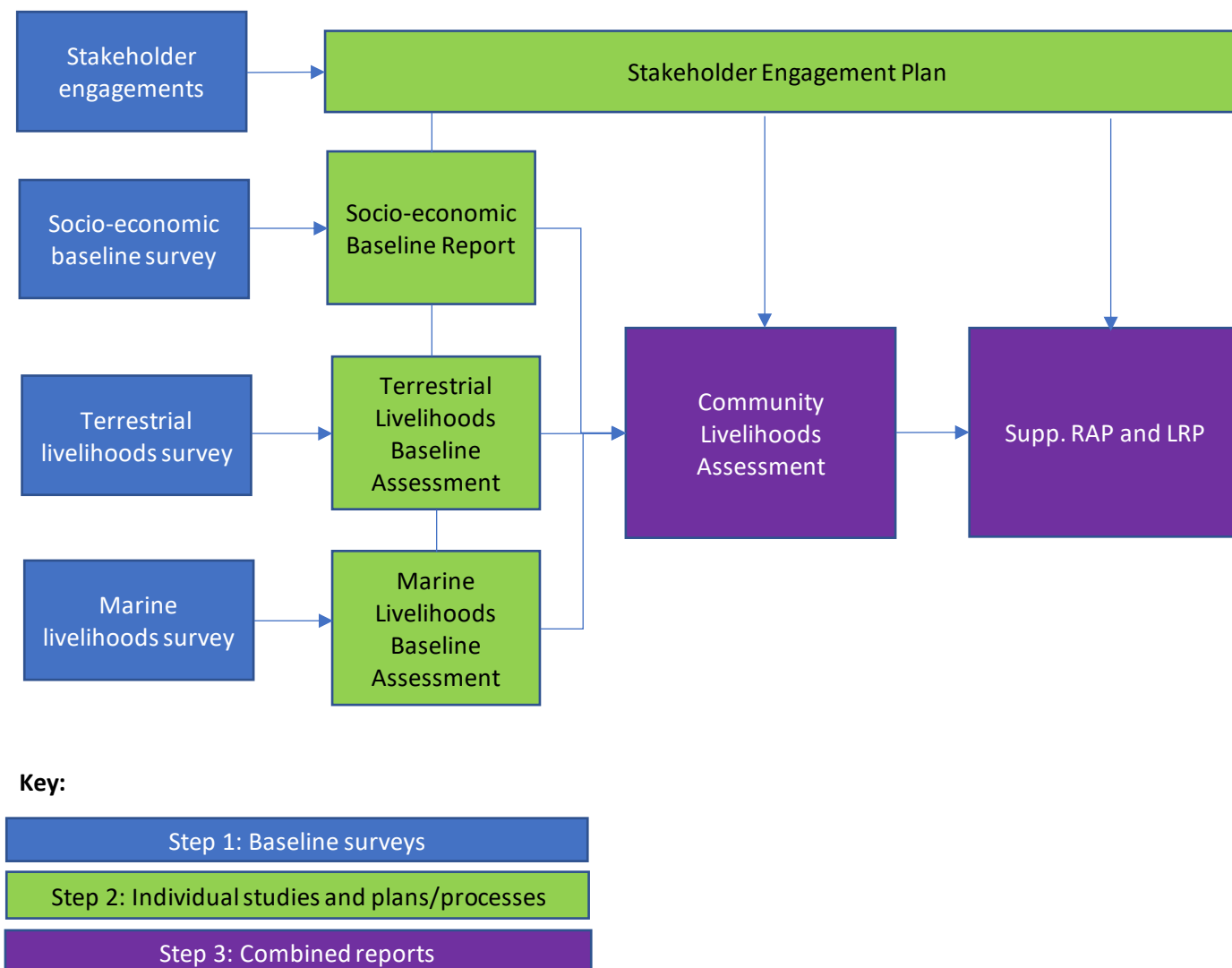
The SRAP and its LRP has been prepared and disclosed in two-stages:

- The draft SRAP and LRP (RSK 2022f) considers Project’s terrestrial land acquisition and livelihood impacts associated with the 2017 TPA land acquisition (disclosed July 2022)
- The final SRAP and LRP (presented in this report) covers terrestrial and marine livelihood impacts and associated livelihood restoration options.

The SRAP and LRP has been informed by the following documents:

- Marine livelihoods baseline assessment and appendix (RSK, 2022b)
- Socio-economic survey baseline (RSK, 2022c)
- Terrestrial livelihoods baseline assessment (RSK, 2022d)
- Community livelihoods assessment (RSK, 2022e).

An overview of the relationship between the different reports is shown in Figure 1.4 below.



**Figure 1.4: Overview of the technical inputs to the SRAP and LRP**



## 1.2 Purpose and scope of the SRAP and LRP

A crucial challenge associated with resettlement, particularly in a rural coastal context where people rely on both marine and terrestrial natural resources for their livelihoods, is the restoration or enhancement of existing livelihood<sup>17</sup> strategies.

In accordance with national and international good practices (for more detail, see Chapter 3), the overarching objective of the SRAP and LRP is to set out the supplemental measures that the Project will take to mitigate adverse impacts and to provide livelihood restoration support to persons/households who lost land within EACOP ha and/or who are affected by the marine EZ. The options consist of a number of proposed livelihood restoration packages which are presented in Chapter 7, section 7.7.

More specifically, the scope of the SRAP and LRP is to establish and describe:

- The current baseline of the people and households affected by the Project's marine facilities at Chongoleani peninsula
- Eligibility criteria and livelihood restoration entitlements
- The process used to identify Project-affected vulnerable households
- Measures to restore, or where possible enhance, livelihoods of persons and households who had lost land within EACOP ha
- The Project's approach to SRAP and LRP implementation, consultation and disclosure, and monitoring and evaluation.

## 1.3 Project-affected persons and households

To access the land required for the Project and due to the Project's marine EZ some physical displacement (loss of shelter) and economic displacement (loss or interruption of access to land and/or marine resources) of households and individuals have or will occur. These are defined as follows:

- **Project-affected persons (PAPs) affected by EACOP ha** include any individual who, as a result of the land acquisition required for the Project, lost the right to own, use, or otherwise benefit from land (residential, agricultural, pasture or undeveloped/unused land), annual or perennial crops and trees, a built structure, or any other fixed or moveable asset, either in full or in part, permanently or temporarily. Households within this groups might also be affected by the Project's marine EZ
- **Project-affected households (EACOP PAHs) affected by EACOP ha** include members of a household, whether related or not to the household head, operating as a single economic unit, who are affected by the Project's land take
- **Community households surveyed** include households in the PACs who are at risk of being affected by the Project's marine EZ because they rely on fishing and/or gleaning within the Project's Area of Influence (AOI). These households may also have terrestrial livelihood activities; however, these have not been impacted by the Project's land acquisition. Although these households did not

<sup>17</sup> Livelihood refers to strategies that households and individuals employ to meet their economic and survival needs. Such strategies may involve cash income, but this is not necessarily the case – a household may also meet its needs by growing its own food, bartering produce for necessities, etc. A household or individual may also engage in more than one form of livelihood, some being cash-based and others being subsistence-oriented (EACOP 2020).

lose land to EACOP ha, some of them (especially within Putini mtaa) have lost land to TPA 200 ha.

The main unit of analysis for the assessment is the PAH, however, where necessary individual members of the PAH have been focused on (i.e., when presenting sex and age-disaggregated data in Chapter 4).

PAHs' livelihoods have been assessed using the sustainable livelihoods approach (SLA) developed by Chambers and Conway (1992) and expanded by, among others, Scoones (1998) and Ellis (2000). The SLF recognises that in general rural (and coastal) people's livelihood is not derived from one economic activity such as for instance fishery but instead derive from a number of activities, predominantly from self-employment pursuits. Particular attention is paid to livelihood strategies and challenges of vulnerable groups such as women, youth, elderly, and other vulnerable groups.

For a full description of vulnerability criteria and assessment of households/individuals, see Chapter 8 'vulnerable people plan (VPP)'.

## 1.4 Structure of the SRAP and LRP

The structure of the remaining chapters of this report is presented in Table 1.1.

**Table 1.1: Structure summary**

Chapter	Content
Chapter 2	Brief Project description.
Chapter 3	Regulatory framework including Tanzanian laws relating to the 2017 TPA land acquisition, applicable international guidelines and standards, and an analysis of the gaps between the 2017 TPA land acquisition process and EACOP's process for Project required land in Tanzania.
Chapter 4	Overview of the socio-economic and livelihood context of Tanga city council and the Project-affected communities and households.
Chapter 5	Summary of Project impacts.
Chapter 6	Eligibility and the livelihood restoration entitlements to be offered to PAHs to meet international standards.
Chapter 7	Livelihood Restoration Plan (LRP) describing the approach to be adopted by the Project to restore, or improve where possible, the livelihoods and standard of living of persons displaced.
Chapter 8	Vulnerable Peoples Plan.
Chapter 9	Approach to stakeholder engagement, consultation and information disclosure related to the SRAP and LRP.
Chapter 10	Implementation of the SRAP and LRP.
Chapter 11	Monitoring and evaluation of livelihood restoration.
Chapter 12	Budget and schedule associated with the implementation of the SRAP and LRP.

## 1.5 SRAP and LRP planning team

The SRAP and its LRP has been prepared on behalf of the Project by the SRAP consulting team, which comprises the environmental and social consulting firms RSK



International Project Group and RSK Environment (East Africa). The team's key personnel included:

- Project manager with expertise in resettlement planning
- Team leader
- RAP specialists
- Stakeholder engagement lead
- Livelihood restoration lead
- Marine-based livelihoods lead
- Terrestrial livelihoods lead
- Gender and legal specialist
- Community development specialist
- Agricultural specialist
- GIS and database specialists.

## 2 PROJECT DESCRIPTION

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### 2.1 Overall Project description

The Project entails the construction and operation of a 24-inch diameter insulated, electrically trace heated, buried pipeline to transport crude oil from the Hoima district in Uganda to the mentioned MST export facility in Chongoleani ward located in Tanga region of Tanzania.



### 2.2 Description of the Project's marine facilities

The MST area includes the construction of the following facilities:

- **MST:** consisting of floating roof tanks, discharge pumps and associated support systems, and a trestle with transfer lines that connects the MST to the LOF
- **LOF:** including a jetty trestle, to transfer crude oil to vessels (i.e. ships) at a sheltered deep-water site offshore. The LOF will terminate in a 300m wide loading berth with breasting and mooring dolphins, suitable for tankers up to 'Supermax' size.
- **Jetty (trestle):** A jetty of approximately 2 km in length, 10m above mean sea level, will connect the MST with the LOF.

The MST will be used to store the crude oil before it is discharged through pipelines to the offshore LOF. Its footprint will be approximately 1,037 by 533 m.

**Table 2.1: Main marine facility components**

Project component	Summary description	Example
<b>Marine storage terminal (MST) x1</b>	<p>Crude oil will be stored at the MST before it is transported to the end user via the offshore load-out facility (LOF). The MST will consist of external floating roof tanks with associated discharge pumps and support systems, and a trestle with transfer lines to connect the MST to the LOF.</p>	
<b>Load-out facility (LOF offshore) x1</b>	<p>From the MST, crude oil is discharged through pipelines to offshore LOF where it is loaded onto marine tankers for shipment to end users. LOF will be constructed, including a jetty to transfer crude oil to vessels (i.e. ships) at a sheltered site offshore.</p>	

Source: EACOP (2018)

## 2.3 The Project's marine EZ

The LOF, consisting of the jetty and a single loading berth, will be built extending south-southeast from a point of approximately 550 m northeast of Ras Chongoleani. During construction moving EZs will be established around each of the two piling/construction rigs. In the inshore zone the EZ will be 50m radius around the rig whilst the rig working in deeper water will have a 100m radius EZ. The construction EZ is shown in Figure 5.1 and the operation EZ is shown in Figure 1.3.

When the facilities are commissioned a 500 m radius operational EZ will be set around all marine infrastructure, and an additional exclusion area of 750 m radius will be established offshore from the loading berth when a tanker is present or manoeuvring. These will continue for the life of the project.

The operating scenarios for access for gleaners and fishers within the EZ are subject to an ongoing assessment by EACOP for security, technical, environmental and social considerations. This will identify the Project's proposed operating scenario for the EZ. The final operation of the EZ is subject to approval by relevant maritime regulatory authorities. At the time of writing, five operational scenarios have been established. Under these operating scenarios<sup>18</sup>, gleaners may be permitted transit through or even full access to the EZ, and fishers could be permitted transit. The five operating scenarios are described in more detail in Chapter 5.

Buoyed navigation routes will be established to give ships access to the load out facility from two directions, each route being 212 m wide.<sup>19</sup> The first route will follow the existing navigation route and approach Tanga Bay from the east via the channel between Nyuli Reef and Mwamba Nyama. The second route will approach the bay from the north, taking a path inside the reefs at Mwamba Wamba and Mwamba Nyama, before turning west around Ulenge Reef to access the loading berth (a map of the Project's area of influence including navigation routes is shown in Chapter 1.1, Figure 1.3).

## 2.4 Project's activities

The sections below provide a summary of the marine construction and operations activities. During the operational phase, depending on the chosen operational scenario, fishers and gleaners will experience loss of access to marine resources (for more details, see Chapter 5).

### 2.4.1 Marine construction phase

The construction of the Project's marine facilities is set to commence in 2023. The jetty and loading berth are piled structures which will be constructed by driving a series of steel piles into the seabed with a percussive pile driver, and then mounting a prefabricated deck structure to take the pipe rack and access road from the shore to the loading berth.

The jetty will be built on a series of inclined paired piles.<sup>20</sup> The loading berth and dolphins will be constructed from multiple inclined piles. Construction will progress on two fronts,

<sup>18</sup> The Project has defined five possible access scenarios for the operational phase. The actual operational scenario had not yet been selected.

<sup>19</sup> EACOP (2022a).

<sup>20</sup> At a pitch of 11 m inshore (up to 720 m from the HAT mark) and 47 m offshore (720 m to 2000 m from HAT).



with one piling rig working on the inshore section (from 770 m towards the shore) and the other from the loading berth at the jetty head towards the 770 m mark.

The piling rig working from the 770 m mark towards the shore will be elevated and advance incrementally along the structure as it is built, with almost no terrestrial footprint. The piling rig working from the loading berth will be based on a barge with a spud mooring system supported by conventional spread anchors. The same barge-based rig will be used for the installation of piles at the loading berth and dolphins.

#### **2.4.2 Marine operational phase**

The operational phase will start once construction is completed and continue for the life of the Project. During this phase fishers will be prevented from accessing the 500 m EZ for fishing operations, and gleaners may be allowed access into the intertidal zone, depending on the chosen operational access scenario. One of the operational access scenarios under assessment does envisage the crossing under the jetty at a designated point for local fishers (vessels powered by hand/paddle). As mentioned, the five access scenarios are described in detail in Chapter 5.

### **2.5 Permanent land acquisition**

The land acquisition needed for the construction of the Project's marine facilities comprises approximately 82 ha located within the TPA 200 ha and a short section of the EACOP pipeline corridor, which also fall within the TPA 200 ha land acquisition area. For additional access roads to the installations existing routes will be used and no additional land acquisition for widening or upgrading is currently planned.<sup>21</sup>

As mentioned, TPA, who will provide the lease the land to the Project, acquired all land for the MST and the short-section of the pipeline in 2017. Both the Right of Occupancy (ROO) and the lease (drafted and initiated in 20202) comply with the principles stated in the EACOP Resettlement Policy Framework (EACOP, 2018) and the signed HGA.

Access restrictions to Project land during construction and operation will be determined based on health and safety considerations. The MST site will be fenced, and access strictly controlled by the Project.

### **2.6 Temporary land access**

At the time of writing, no temporary land access is anticipated for the construction of the MST, jetty, and LOF.

### **2.7 Efforts to avoid or minimise displacement**

The land to be leased for the Project's marine facilities was acquired by TPA without the Project requesting it but after the location was identified. Because the land acquisition occurred in 2017 displacement impacts cannot be avoided. To mitigate the displacement impacts that have already occurred the Project has developed a LRP described in Chapter 7.

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<sup>21</sup> If any additional households may be impacted by access roads development, the construction contractor follow Project principles during detailed construction design and execution planning.

In the marine environment, economic displacement during the construction phase has been minimised through the reduction of the footprint of the construction exclusion zone. The original 500 m full EZ has been reduced to dynamic EZs of 50 m and 100 m around the shallow and deep-water construction rigs respectively, with transit and access permitted for resource users outside of these areas.

Although, the footprint during construction has been reduced, impacts on human divers from underwater noise during construction activities is still predicted to be significant. Still, the impact has been minimised through the use of a sound suppression system around the deep-water piling rig.

Options for the minimisation of displacement during the operational phase are still being studied. These include the operational scenarios, each with different limits and access conditions for the EZ. As can be seen in Chapter 5, four of these scenarios focus on reduced exclusion and/or access through the EZ for gleaners. One scenario looks at transit through the EZ for fishers.

The residual impacts on fishers and gleaners are described in Chapter 5, sections 5.3 and 5.4.

## 3 LEGAL AND POLICY CONTEXT

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This chapter outlines the SRAP and LRP's institutional and legal framework, it includes a description of relevant institutions and an outline of the regulations and policies that govern SRAP and LRP planning and implementation. The chapter includes:

- Tanzanian institutional framework
- Tanzanian legal framework
- International standards and guidance
- Comparative analysis of national law and international standards (gap analysis).

### 3.1 Tanzanian administrative divisions

Tanzania is a democratic unitary republic with three spheres of governments: central, Zanzibar devolved administration, and local government. Regions are the highest administrative division. There are 31 regions (2016), each of which is further subdivided into districts, which are the second-highest administrative division. As of 2012 there are 169 districts, including rural districts (district councils) and urban districts (town councils, municipal councils, and city councils). In urban districts, wards are further sub-divided into 'mitaa.'

### 3.2 Summary of Tanzania's regulatory framework

Tanzania has a range of laws and policies related to categories of land, land and acquisition, compensation, and resettlement. All land in Tanzania remains vested in the President as trustee for and on behalf of all citizens of Tanzania. Land is divided into three administrative categories as summarised below:

- **Reserved land:** land set aside for wildlife, forests, marine parks, road reserves and similar. Specific legal regimes govern these lands under the laws used to establish the various forms of reserved land
- **General land:** land that is neither reserved land nor village land and is managed by the commissioner for lands
- **Village land:** includes all land inside the boundaries of registered villages, where the village development committees and village assemblies are given powers to manage land. The Village Land Act (1999 as amended from time to time) specifies how this is to be achieved.

The land affected by the MST site was understood to be village land prior to acquisition by TPA and now would be treated as general land.

The three categories of land translate into three main forms of tenure rights:

- Rights of occupancy (for general land)
- Customary rights of occupancy (for village land)
- Reserved land (for conservation and other areas).

The enactment of the Land Act and the Village Land Act in 1999 created two types of land rights, namely, customary rights of occupancy and granted rights of occupancy. A person can have a legal right to land under a 'right of occupancy' (CROO) from the Government for terms of 33, 66 or 99 years. Generally, only 99-year rights of occupancy

are issued or a derivative right from a right of occupancy (derivative right). Landowners may have customary rights to unregistered land (which is not surveyed). Many landowners have no formal land holding documentation. Foreign nationals and companies with a majority of shares held by foreigners cannot have a right of occupancy or derivative right (unless they have a certificate of incentives issued by the Tanzania investment centre).

The key regulatory framework for land acquisition and compensation in Tanzania is summarised below:

- Land Act, 1999, Cap 113 R.E. 2018 (as amended from time to time) in particular
  - The Land Act, no. 4 (General land) of 1999, section 6 on categories of reserved land, sub section 1d on 'hazardous land'
- Land Acquisition Act, 1967, Cap 118 R.E. 2018 (as amended from time to time)
- Village Land Act, 1999, Cap 114 R.E. 2018 (as amended from time to time)
- Village Land Regulations, 2001
- Land Disputes Courts Act, 2002
- Valuation and Valuers Registration Act, 2016
- Valuation and Valuers (General) Regulations, 2018.

### 3.2.1 Other related legislation

Relevant legislation includes:

- Graves (Removal) Act, 1969; regulates the removal, reinternment and compensation relating to the graves in the Project site
- Antiquities Act, 1964, and Antiquities (Amendment) Act, 1979; affords protection of Tanzanian cultural heritage (including burial grounds and sacred sites) should any be discovered in the Project site
- Forest Act, 2002; the Act establishes that certain nominated developments in a forest reserve, private forest or sensitive forest are subject to the preparation of an ESIA, specifically forests that may become part of certain livelihoods restoration interventions
- Roads Management Regulations, 2009; regulates provision of roads within communities to national road safety standards including drainage and safety crossings where required
- Marine Parks and Reserves Act, 1994; regulates developments in Marine Parks and Reserves and requires the preparation of an ESIA
- Urban Planning Act, 2007; provides for Tanga City to manage consent to develop land and powers of control over the use of land and to provide for other related matters
- Water Resources Management Act, 2009; makes provision for the management, use and protection of water resources, water use, conservation and water allocation in the Project site where water scarcity is a concern.

### 3.3 EACOP policies and standards

These include:

- Code of conduct
- Health, safety, security, environment, and social policy
- Security policy
- Human rights policy.

### 3.4 Host government agreement (HGA)

The HGA between the Upstream Partners and the GoT was signed in May 2021. As part of the HGA, the Project has agreed to address EHSS and human rights standards at national and international levels, guided by international good practice in general including the United Nations guiding principles (UNGP) on business and human rights (UN, 2011). The SRAP and its LRP have adopted the HGA principles, ensuring compliance with these.

### 3.5 International guidance and standards

#### 3.5.1 Equator Principles

The Equator Principles (EP) are a risk management tool adopted by numerous financial institutions in 37 countries to identify, assess and manage environmental and social risks. The EP IV (2020) are largely based on the IFC's Performance Standards (PS) with some additional requirements for lenders who have adopted the Equator Principles. As the Project may be seeking funding from EP financial institutions, the process for land acquisition, compensation and resettlement must recognise the applicable international standards within the EP IV.

#### 3.5.2 International Finance Corporation Performance Standards

The IFC, a member of the World Bank Group, has adopted a suite of PSs on social and environmental sustainability (IFC, 2012). The IFC applies these PS to manage project-related social and environmental risks and impacts, and to enhance development opportunities in its private sector financing. At the core of the standards is the IFC's principle of 'do no harm' to people or the environment. Negative impacts should be avoided where possible and if these impacts are unavoidable, they should be reduced, mitigated or compensated for appropriately.

The IFC is committed to ensuring that the costs of economic development do not fall disproportionately on poor or vulnerable people, that the environment is not compromised and that natural resources are managed sustainably. The IFC also recognises the roles and responsibilities of the private sector in respecting human rights.

The PSs, designed to improve social and environmental outcomes, consist of the following:

- Performance Standard 1: Social and Environmental Assessment and Management System
- Performance Standard 2: Labour and Working Conditions
- Performance Standard 3: Pollution Prevention and Abatement

- Performance Standard 4: Community Health, Safety and Security
- Performance Standard 5: Land Acquisition and Involuntary Resettlement
- Performance Standard 6: Biodiversity Conservation and Sustainable Natural Resource Management
- Performance Standard 7: Indigenous Peoples
- Performance Standard 8: Cultural Heritage.

Private sector related displacement is particularly defined by the IFC's Performance Standard 1 (PS1): Social and Environmental Assessment and Management System, and Performance Standard 5 (PS5): Land Acquisition and Involuntary Resettlement. These are briefly described below.

### 3.5.2.1 *Performance Standard 1: Assessment and management of environmental and social risks and impacts*

IFC PS1 structures how environmental and social issues should be addressed and is the foundation for the other standards. It requires that affected communities be appropriately engaged on issues that could potentially affect them. Key pre-requisites include:

- Ensuring free, prior and informed consultation, and facilitating informed participation
- Obtaining broad community support
- Focusing on risks and adverse impacts, and proposed measures and actions to address these
- Undertaking consultation in an inclusive and culturally appropriate manner
- Tailoring the process to address the needs of disadvantaged or vulnerable groups.

IFC PS1 establishes the importance of:

- An integrated assessment to identify the environmental and social impacts, risks, and opportunities of projects
- Effective community engagement through disclosure of Project-related information and consultation with local communities on matters that directly affect them
- The client's management of environmental and social performance throughout the life of the Project.

### 3.5.2.2 *Performance Standard 5: Land acquisition and involuntary resettlement*

The Project will lease land which has been acquired by the government which involved the involuntary resettlement of households and assets thereby making IFC PS5 applicable (in particular paragraphs 30-32). The objectives of IFC PS5 are to:

- Avoid or at least minimise involuntary resettlement wherever feasible by exploring alternative Project designs
- Mitigate adverse social and economic impacts from land acquisition or restrictions on affected persons' use of land by: (i) providing compensation for loss of assets at replacement cost; and (ii) ensuring that resettlement activities are implemented with appropriate disclosure of information, consultation, and the informed participation of those affected
- Improve or at least restore the livelihoods and standards of living of displaced persons which includes persons with formal legal rights to the land or assets they



occupy or use, formal legal rights to land or assets, but have a claim to land that is recognised or recognisable under national law and those who have no recognisable legal right or claim to the land or assets they use/occupy

- Improve living conditions among displaced persons through provision of adequate housing with security of tenure at resettlement sites
- Provide opportunities to displaced people to derive appropriate development benefits from the Project
- Offer land-based compensation where land is collectively owned, where possible
- Ensure that there is consultation and informed participation of affected persons and communities in decision-making processes related to resettlement
- Ensure that a grievance mechanism is established to receive and address specific concerns about compensation and relocation.

IFC PS5 applies to all physical and/or economic displacement resulting from the following types of land-related transactions:

- Land rights, or land use rights, acquired through expropriation or other compulsory procedures in accordance with the legal system of the host country
- Land rights, or land use rights, acquired through negotiated settlements with property owners or those with legal rights to the land if failure to reach a negotiated settlement would have resulted in expropriation or other compulsory procedures
- Project situations where involuntary restrictions on land use and existing access to natural resources cause a community, or groups within a community, to lose access to resource usage where they have traditional or recognisable usage rights
- Restriction on access to land or use of other resources including communal property and natural resources
- Certain Project situations requiring evictions of people occupying land without formal, traditional, or recognisable usage rights.

According to IFC PS5, preference should be given to land-based resettlement strategies for displaced persons whose livelihoods are land-based.

For persons, whose livelihoods are natural resource-based and where project related restrictions on access apply, implementation of measures will be made to either allow continued access to affected resources or provide access to alternative resources with equivalent livelihood-earning potential and accessibility. Where appropriate, benefits and compensation associated with natural resource usage may be collective in nature rather than focused on individuals or households.

### **3.5.3 IFC requirements for addressing project impacts on fishing-based livelihoods**

Adhering to the IFC PS5, the IFC good practice handbook on fishing-based livelihoods (IFC, 2015) addresses the assessment and management of project impacts on fish resources, fisheries and fishing-based livelihoods, and specifically the assessment and management of physical and/or economic displacement of small-scale subsistence and artisanal fishers. The document details the assessment of project impacts on fish/marine resources and habitats, fisheries, and fish-based livelihoods as well as recommended livelihood restoration and monitoring. These requirements and recommendations have been taken into consideration when developing the marine-based mitigation measures described in Chapter 7.

### 3.5.4 Human rights considerations

Some international requirements concerning displacement, livelihoods, and poverty are relevant to the Project. These are based on international human rights frameworks. As set out in the host government agreement (HGA), the Project has agreed to consider national and international human rights standards.

#### 3.5.4.1 Displacement

The need for consent to relocation is inferred from international human rights law, in particular the right to freedom of movement, in two key documents on displacement

- Guiding Principles on Internal Displacement, 2004 (Principle 7)
- United Nations Guidelines on Development-Based Evictions and Displacement, 2007 (para 56 I).

The ‘Guiding Principles on Internal Displacement’ prohibit arbitrary displacement for development unless it has ‘compelling and overriding public interest’ (United Nations 2004 Principle 6 2I).

#### 3.5.4.2 Information, participation, and disclosure

The United Nations Declaration on the Right to Development under Article 2 (United Nations 1986; United Nations 2007a) states the right of impacted people to participate in decision-making consistent with the principle of equality and non-discrimination, with adequate attention to the needs of vulnerable groups. It requires ‘active, free and meaningful’ participation. It further states that participation is inclusive, requiring that all people, including women, the elderly, youth and the disabled, be encouraged to be involved.

## 3.6 Gap analysis

A gap analysis between the 2017 TPA land acquisition process and the process executed by for Project for the land acquisition along the pipeline corridor in Tanzania was conducted in the mentioned joint reviews (EACOP 2022a; 2022b). The gap analysis is shown in Table 3.1. The table also includes supplementary in-kind activities that will be used to close the gaps.

The analysis identified a number of gaps, which will be addressed as part of this Project’s LRP presented in Chapter 7.

Although replacement land is a preferred mitigation measure under IFC PS5, pertaining to issues of land availability in the PACs (for more details, see Chapter 4, section 4.2.13), the Project determined that it will not be feasible to commit to replacement land for all PAHs. Instead, the Project will engage with the relevant local authorities on land availability and enquire as to whether the authorities may have future allocations of farming land for the affected communities in their development planning.

**Table 3.1 Analysis of gaps between the TPA 2017 land acquisition process and the Project's land acquisition process for Project required land in Tanzania**

TPA 2017 land acquisition process	Standards/principles applied during EACOP's land acquisition process	Findings of EACOP and TPA's joint review	Supplemental measure(s)
<b>Timeframe of valuation</b>			
Cut-off date set as commencement of valuation	If not provided by host Government legislation, a cut-off date should be established by the Project and widely disseminated	TPA valuation preceded EACOP valuation by at least 1 year.	Not required
<b>Process and status of land acquisition and valuation</b>			
<ul style="list-style-type: none"> <li>Tanga city received instructions from TPA to conduct valuation for Mpirani-Ndaoya-Putini road extension and 200Ha Chongoleani area</li> <li>PAPs were then informed by Tanga City through their leaders in an undated meeting as reported by Tanga City Valuer</li> <li>No specific cut-off date was revealed, but assets counting, and cadastral survey started early July 2017</li> <li>No records of any forms that were provided to PAPs (difficult to obtain today)</li> <li>Valuation report writing took two weeks in July 2017</li> <li>The TPA 200 ha valuation report was approved by subordinate of the Chief Valuer on 28<sup>th</sup> July 2017</li> <li>All payments were completed by the 4<sup>th</sup> of August 2017. PAPs started vacating the area once they received their payments</li> </ul>	<p>Typical process and status of land acquisition and valuation is as follows:</p> <ul style="list-style-type: none"> <li>Land market research. The land market rates reports were approved by the Chief Valuer</li> <li>Sensitisation of PAPs along the pipeline</li> <li>Service of cut-off date notices</li> <li>Physical inspection of assets. PAPs were served with Land Form No. 69, Valuation Form No. 3, Land Survey Form and Certificate of Completion.</li> <li>Asset validation. <ul style="list-style-type: none"> <li>Preparation of Tanzanian and IFC compensation schedules for each PAP. Disclosure of valuation compensation schedules.</li> </ul> </li> </ul>	<p>Gap identified</p> <p>EACOP valuation was prepared to meet both Tanzanian legal requirements and IFS standards. Therefore, each PAP has additional in-kind entitlements under IFS.</p> <p>For EACOP's Project required land a RAP, LRP, and VPP were prepared outlining PAPs entitlements. This was not the case for the TPA land acquisition.</p> <p>No socio-economic household studies or</p>	<p>Socio-economic household survey, terrestrial and marine livelihood assessments conducted as part of SRAP</p> <p>LRP and VPP included in the SRAP</p>

TPA 2017 land acquisition process	Standards/principles applied during EACOP's land acquisition process	Findings of EACOP and TPA's joint review	Supplemental measure(s)
	<p>PAPs were served with the Asset Disclosure forms.</p> <ul style="list-style-type: none"> <li>• RAP studies including: socio-economic household survey, livelihood surveys and data collection, identification of vulnerable households, preparation of RAP, LRP and VPP. [Documents in line with IFS].</li> <li>• Local Government sign-off of valuation reports.</li> <li>• Approval of Tanzanian valuation reports by the Chief Valuer and submission for information of IFS Valuation Reports to Chief Valuer. Most of the pipeline and above-ground installation valuation reports were approved by the Chief Valuer in April and May 2021. The Tanga City Valuation Report was approved on 12<sup>th</sup> November 2021.</li> </ul>	<p>livelihood studies were undertaken for the TPA 200 ha land acquisition.</p>	
<b>Project standard for valuation</b>			
<p>The acquisition only considered Tanzanian legal framework.</p>	<p>Tanzanian Legal Framework EHSS and Human Rights International Financing Standards (IFS) (e.g. IFC PS 5)</p>	<p>Gap identified No entitlements in TPA 200 ha valuation/land acquisition process to achieve compliance with EHSS and human rights international financing standards</p>	<p>LRP and VPP included in the SRAP</p>

TPA 2017 land acquisition process				Standards/principles applied during EACOP's land acquisition process	Findings of EACOP and TPA's joint review	Supplemental measure(s)																								
					(e.g. IFC Performance Standard 5) and good international industry practice.																									
Tanzanian compensation – land																														
Market value per ward: established by market research at the point of the valuation and using indicative base land rates from Chief Valuer (Ministry of lands, housing, and human settlements development (MLHHSD) (2016).				Market value using comparative method:	No gap identified	Not required																								
<table><tr><td>Ward</td><td>Mtaa</td><td>Land Rate per Acre (T.Shs.)</td></tr><tr><td rowspan="2">Chongoleani</td><td>Ndaoya</td><td>2,000,000</td></tr><tr><td>Putini</td><td>2,000,000</td></tr></table>				Ward	Mtaa	Land Rate per Acre (T.Shs.)	Chongoleani	Ndaoya	2,000,000	Putini	2,000,000	<table><tr><td>Ward</td><td>Mtaa</td><td>Land Rate per Acre (T.Shs.)</td></tr><tr><td rowspan="2">Chongoleani</td><td>Ndaoya</td><td>2,000,000</td></tr><tr><td>Putini</td><td>2,000,000</td></tr></table>	Ward	Mtaa	Land Rate per Acre (T.Shs.)	Chongoleani	Ndaoya	2,000,000	Putini	2,000,000										
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Tanzanian compensation – building and structures																														
<table><tr><td>Compensable Item/Item under Consideration</td><td>Valuation Basis</td><td>Valuation Method</td><td>Applied Rate</td></tr><tr><td>Buildings/Structures</td><td>Replacement Cost</td><td>Cost Method</td><td></td></tr><tr><td>Traditional buildings</td><td>Replacement Cost</td><td>Cost Method</td><td>T.Shs. 100,000 / sqm</td></tr><tr><td>Semi- Traditional buildings</td><td>Replacement Cost</td><td>Cost Method</td><td>T.Shs. 150,000 / sqm</td></tr><tr><td>Modern buildings with burnt bricks</td><td>Replacement Cost</td><td>Cost Method</td><td>T.Shs. 150,000/ sqm **</td></tr><tr><td>Modern buildings with sand cement blocks</td><td>Replacement Cost</td><td>Cost Method</td><td>T.Shs. 150,000 / sqm **</td></tr></table>				Compensable Item/Item under Consideration	Valuation Basis	Valuation Method	Applied Rate	Buildings/Structures	Replacement Cost	Cost Method		Traditional buildings	Replacement Cost	Cost Method	T.Shs. 100,000 / sqm	Semi- Traditional buildings	Replacement Cost	Cost Method	T.Shs. 150,000 / sqm	Modern buildings with burnt bricks	Replacement Cost	Cost Method	T.Shs. 150,000/ sqm **	Modern buildings with sand cement blocks	Replacement Cost	Cost Method	T.Shs. 150,000 / sqm **	Contractors test (replacement cost) method – cost of replacing a building or structure of similar nature, quality of construction, levels of completion in works-in progress and size based in market prices of materials and labour. Depreciation <b>not</b> taken into account. There are no affected EACOP buildings/structures in Chongoleani ward.	Gap identified No depreciation applied in EACOP valuations.	In-kind livelihood restoration support
Compensable Item/Item under Consideration	Valuation Basis	Valuation Method	Applied Rate																											
Buildings/Structures	Replacement Cost	Cost Method																												
Traditional buildings	Replacement Cost	Cost Method	T.Shs. 100,000 / sqm																											
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Modern buildings with burnt bricks	Replacement Cost	Cost Method	T.Shs. 150,000/ sqm **																											
Modern buildings with sand cement blocks	Replacement Cost	Cost Method	T.Shs. 150,000 / sqm **																											

TPA 2017 land acquisition process	Standards/principles applied during EACOP's land acquisition process	Findings of EACOP and TPA's joint review	Supplemental measure(s)
<p>** Rates used in the compensation schedule are higher at T.Shs. 300,000 to 400,000 per square metre for buildings of concrete block construction and cis roofs.</p>			
<b>Tanzanian compensation – crops and trees</b>			
<p>Valuation report cites crops/trees as having been valued based on:</p> <ul style="list-style-type: none"> <li>• Crops/Trees Schedule, 2015 issued by Ministry of Lands.</li> <li>• Some rates obtained/checked from Majengo Estates Ltd work (MAVA EACOP).</li> </ul> <p>Old crop maturity rates used: 30%, 60%, 100% and 15% (aged crop). As this was prior to the 2018 Valuation Regulations these percentages were valid in 2017.</p> <p>There is no mention of seasonal crops being valued and these are not found in the compensation schedules.</p>	<p>Market value based on type, growth rate quantity and age using the relevant zone 2012 Crop Rates. The crops % growth rates used those contained in the Valuation Regulations 2018 i.e. 15%, 25%, 50%, 75%, 100% and 30% (old stage).</p> <p>Valuation of crops and trees was based on the Northern Zone crop/trees schedule issued by the Chief Valuer.</p> <p>EACOP prepared a list of crops and trees considered to have an economic value but omitted from the crop and tree 2012 rates schedule. The rates for these 'unlisted tree and crops' were approved by the Chief Valuer for use in EACOP valuations.<sup>22</sup></p>	<p>Minor gap identified Crop rate schedule appears to be the same. No unlisted crop and trees (with an economic value) were valued for TPA unlike in EACOP.</p> <p>Maturity rates percentages differ between the TPA 200 ha and EACOP valuations but this is as a result of the valuation regulations coming into effect in 2018.</p> <p>Seasonal crops were not valued in TPA valuation. Understood the basis of this may have been as the seasonal crops could</p>	<p>In-kind livelihood restoration support</p>

<sup>22</sup> The unlisted trees and crops which were valued in Chongoleani ward comprised: Mchane (tree), Mng'ong'o (tree) and Mchaichai (crop).



TPA 2017 land acquisition process	Standards/principles applied during EACOP's land acquisition process	Findings of EACOP and TPA's joint review	Supplemental measure(s)
		be harvested by the affected persons.	
<b>Tanzanian compensation – disturbance allowance</b>			
As per Regulation 10 of the Land (Assessment of the Value of Land for Compensation) Regulations, 2001. Disturbance allowance was based on interest on fixed deposit reserves with commercial banks for 12 months. In the TPA valuation, 8% was applied.	For EACOP priority area valuation 8 % and pipeline and above-ground installation EACOP Valuation 7% <sup>23</sup>	No gap identified	Not required
<b>Tanzanian compensation – accommodation allowance</b>			
As per Regulation 8 of The Land (Assessment of the Value of Land for Compensation) Regulations, 2001. 36 months rental (market price per room/house) where dwelling on affected land. The dwelling must be in occupation.	36 months rental (market price per room/house) where dwelling on affected land and is in use at time of valuation).	No gap identified	Not required
<b>Tanzanian compensation – transport cost</b>			
As per Regulation 8 of The Land (Assessment of the Value of Land for Compensation) Regulations, 2001. It is the cost of transporting 12 tons of luggage by rail or road (whichever is cheaper) within 20km from point of displacement. A flat rate amount of T.Shs. 240,000 was applied in the TPA valuation.	Cost of transporting 12 tons of luggage by rail or road within 20 km from point of displacement. Transport allowance T.Shs. 300,000.	Minor gap identified TZS. 300,000 (EACOP) and 240,000 (TPA 200 ha). This gap could be due to the difference in valuation dates.	In-kind livelihood restoration support
<b>Tanzanian compensation – loss of profit</b>			
Item does not appear in the TPA valuation report.	Net profit per month evidenced by audited accounts for 36 months.	No gap identified No loss of profit valuations were undertaken in Chongoleani ward (no	Not required

<sup>23</sup> This was based on discount rate from the Central Bank – Valuation regulations 2018 disturbance allowance and consultations with the MLHSD.

TPA 2017 land acquisition process	Standards/principles applied during EACOP's land acquisition process	Findings of EACOP and TPA's joint review	Supplemental measure(s)
		business structures were affected)	
<b>Tanzanian compensation – graves</b>			
Compensation rate based on full exhumation costs, costs for placatory and expiratory rites, transportation and re-interment costs. A flat rate amount of T.Shs. 300,000 was applied in the TPA valuation.	Compensation rate based on full exhumation costs, costs for placatory and expiratory rites, transportation and re-interment costs – without construction grave rate is T.Shs. 300,000.	No gap identified	Not required
<b>Tanzanian compensation – orphaned land</b>			
No orphaned land has been valued in the TPA valuation.	Orphaned land valued and offered for compensation where remainder of land is 20% or less of a PAPs land parcel or less than 0.5 acres (outside city, municipality or township).	No gap identified There is no report on a claim on orphaned land valuation raised by PAPs. <sup>24</sup>	Not required
<b>Additional entitlements under IFC: transaction costs for land</b>			
Transaction costs for land purchase have not been considered in the TPA valuation. This is apart from surveying costs for some of the institutional valuations, such as the mosque.	To achieve replacement value 10% percent was added to land rates for transaction costs.	Gap identified Transaction costs as required to meet replacement cost under IFS not included in TPA 200 Ha land valuations.	Gap to be closed with in-kind livelihood restoration support
<b>Additional entitlements under IFC – Inflation Adjustment for 2012 Crops / Tree Rates</b>			
There is no inflation adjustment on the value of crops and trees.	Valuation undertaken in Oct 2018. Crop and tree rates were for 2012 so inflation % applied up to point of	Gap identified	Gap to be closed with in-kind

<sup>24</sup> No orphaned land valuation for TPA 200 ha. For the EACOP ha the 200 ha any such 'orphaned land' would have likely been valued and compensated within the TPA 200 ha boundaries.

TPA 2017 land acquisition process	Standards/principles applied during EACOP's land acquisition process	Findings of EACOP and TPA's joint review	Supplemental measure(s)
	valuation (i.e. 2012 – June 2018 for PAs) – 45.44% inflation applied to crops and economic trees. Additional % for the delay to payment of compensation is now being applied.	No inflation uplift to the 2012 crop and trees rates applied.	livelihood restoration support
<b>Additional entitlements under IFC – disturbance allowance</b>			
Item not considered.	7% disturbance allowance on valuation items (land and assets) for additional entitlements under IFC.	Gap identified	Gap to be closed with in-kind livelihood restoration support
<b>Additional entitlements under IFC – livelihood restoration entitlements</b>			
Livelihood restoration and transitional support entitlements not considered.	Depending on significant of impact and vulnerability Project-affected households (PAHs) entitled to livelihood restoration programs. These are all set out in the LRP contained in the RAP.  Some PAPs are also entitled to transitional support, in the form of food baskets, directly after displacement to support food security.	Gap identified  No livelihood restoration programs and transitional support.	LRP developed as part of the SRAP – includes livelihood restoration entitlement and options and transitional support to eligible PAHs
<b>Additional entitlements under IFC – vulnerable persons</b>			
Vulnerable households not identified and no VPP.	Additional resettlement assistance for potentially vulnerable PAHs. In PPLs RAPs vulnerability criteria included and VPP.	Gap identified  No identification of vulnerable PAHs and VPP not part of TPA 200 ha land acquisition program.	VPP developed as part of the SRAP. The identification of <u>current</u> vulnerable EACOP PAHs is based on the 2022 SEHS.
<b>Additional entitlements under IFC – replacement land</b>			

TPA 2017 land acquisition process	Standards/principles applied during EACOP's land acquisition process	Findings of EACOP and TPA's joint review	Supplemental measure(s)
Replacement land in-kind compensation not considered in the TPA 200 Ha valuation/land acquisition program.	<p>Eight replacement land eligibility categories based on land lost and vulnerability, aligned with livelihood restoration groupings contained in RAPs.</p> <p>Replacement land secured by Project for physically displaced PAPs who select replacement housing and require replacement land.</p> <p>Project will offer vulnerable economically displaced PAPs support to secure replacement land with their compensations.</p>	<p>Gap identified</p> <p>No replacement land</p>	<p>Physically displaced PAHs are entitled to additional livelihood restoration options</p>
<b>Additional entitlements under IFC – Replacement housing</b>			
Replacement housing in-kind compensation not considered in the TPA 200 Ha valuation/land acquisition program.	<p>If households will permanently lose residential/associated dwellings the offer replacement house and latrine and kitchen structures.</p>	<p>Gap identified</p> <p>No replacement housing</p>	<p>Physically displaced PAHs are entitled to additional livelihood restoration options</p>

## 4 PROFILE OF TANGA CITY COUNCIL AND THE PROJECT-AFFECTED COMMUNITIES AND HOUSEHOLDS

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### 4.1 Introduction

This chapter presents research methodology, socio-economic and livelihoods profiles of the host council, Tanga city council (CC), the PACs, and the surveyed EACOP PAHs. The chapter is structured as follows:

- Profile of Tanga CC
- Socio-economic and livelihood investigations (SELIs)
- Overview of the Project-affected communities (PACs)
  - Dominant livelihood activities
    - Marine livelihood activities
    - Terrestrial livelihood activities
- Overview of Project-affected households
  - Combined (marine and terrestrial) livelihood analysis
  - Livelihood strategies of vulnerable households
  - Physically displaced households.

Baseline information presented in this chapter was derived from:

- Socio-economic and livelihood investigations (SELIs) undertaken in the Tanga region by RSK (2022)
- Tanga city master plan (2021)
- Tanga city five-year strategic plan (2016)
- Tanga region socio-economic profile draft report (2015)
- Tanzania population and housing census (2012).

### 4.2 Profile of Tanga City Council

#### 4.2.1 Introduction

To provide the overall livelihood context of PAHs, the following section presents a profile of Tanga CC, which encompasses Chongoleani ward and the PACs. A detailed profile of the livelihoods of PAHs is shown in sections 4.5.

Tanga city is located close to the Kenyan border in the north-eastern part of Tanzania's coastline and borders Mkinga and Muheza districts. The city covers an area of 662 sq. km and the topography is coastal lowland/plains.

Tanga city, the fourth largest city after Dar es Salaam, Mwanza, and Mbeya, is the capital of Tanga region. The city was elevated to city status in 2005 and is currently one of Tanga region's eight districts. The city, which serves as the administrative and commercial centre of the region, has the second largest port in Tanzania.

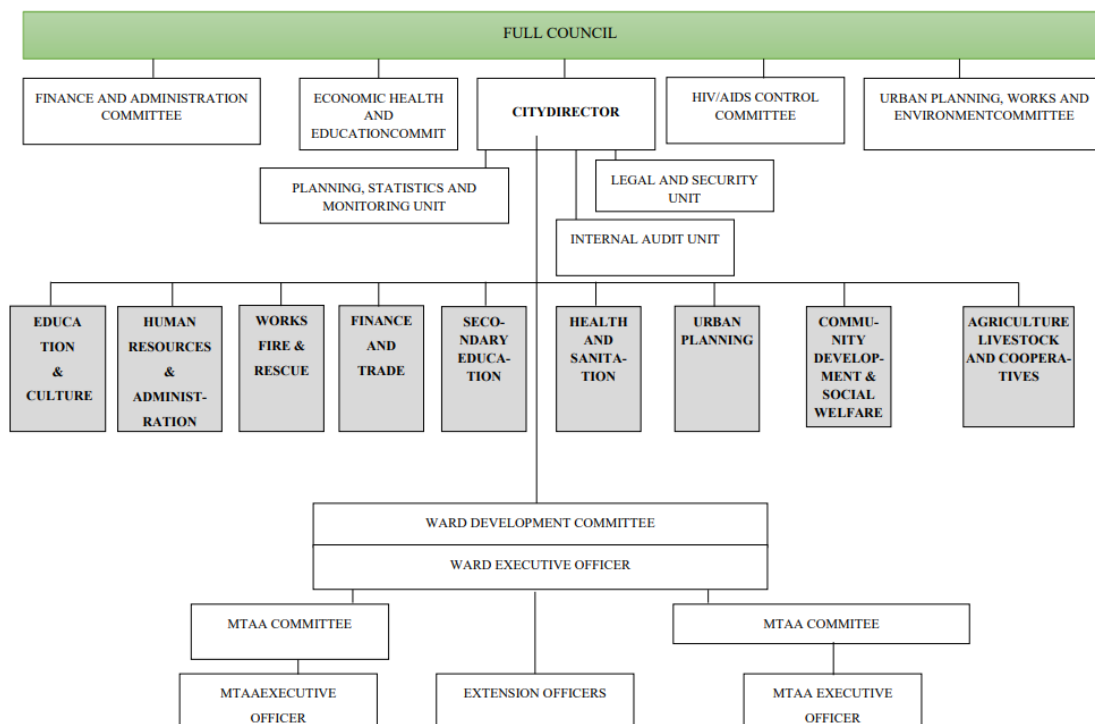
Tanga has a long trade history dating back to the flourishing 13<sup>th</sup> century trade in ivory, slaves, spices, and other goods for export. Later, under German colonial rule, the city became a military, commercial, and administrative hub. During the colonial area, a sisal industry was established causing a peak in Tanga's economy in the late 1950s whereby the city saw increased industrial development including the establishment of the harbour. Since the late 1970s, the sisal industry has lost its importance and employment, economic growth, and harbour activities have all declined.

#### 4.2.2 Administration

Tanga city has city council status, with two administrative structures: a city council (CC) and a city management team (CMT). Functions of both are described below. An organogram is presented in Figure 4.1.

The CC is divided into four divisions which are further sub-divided into 27 wards (14 urban and 13 peri-urban/mixed). These wards are further sub-divided into 146 smaller sub-administrative units known as 'mitaa'. At the ward-level the day-to-day administration falls under the ward executive officer (WEO) who is the chief executive of the ward and is assisted by the mtaa executive officers. The WEO reports to the ward development committee (WDC), which falls under the leadership of the elected ward councillor. A range of technical personnel including community development, agriculture livestock and irrigation, and health officers supports the functions of the WDC.

The CMT is formed by heads of departments, sections, and units and is headed by the city director. The CMT consists of nine departments including administration, finance, education, and health.



Administrative Structure of Tanga City Council

**Figure 4.1: Tanga CC organisational chart**



### 4.2.3 Climate

Due to the city's location near the coast, the climate is humid and tropical. The city has two rainy seasons and one period of light rains (see Table 4.1).

**Table 4.1: Climate**

Season	Period
Dry season	January to mid-March
Long rains	March to May
Short rains	October to December
Light rains (occasionally)	June to July

### 4.2.4 Population

According to the latest available population census (United Republic of Tanzania, 2012), the population of Tanga city was 273,332 persons accounting for approximately 13.0% of the total population of Tanga Region. The Project-affected ward, Chongoleani, had a population of 4,737 persons.

While the majority (80.9%) of people resided in the urban wards of the city, there has been a tendency for people to move back to rural areas. This urban to rural migration is caused by a decline in industrial activities in Tanga and many return to rural livelihood activities such as agriculture, livestock, and fishing as a subsistence fall back.

### 4.2.5 Ethnic groups

Tanga city has a myriad of ethnic groups with none constituting more than 20% of the population. The main groups are the Digo (18.0%), Sambia (13.9%), Bondei (10.7%), Zigua (7.6%), and the Segeju (7.5%). Due to the once burgeoning sisal sector, many people from inland Tanzania migrated to Tanga in search of employment. Therefore, a number of ethnic groups such as Masaai, Nyakyusa, Sukuma, Chagga, and Pare are also present in the city.

### 4.2.6 Education and literacy

There are 79 public primary schools and 26 public secondary schools in Tanga city. In addition, the city has three vocational training centres of which one, (the vocational education training authority (VETA)), is run by the Government. Moreover, the city has a number of teacher training colleges and higher education training facilities, which provide certificates and diplomas. Currently Tanga has no university and students in pursuit of higher education have to move to other regions. Compared to the rural parts of Tanga region, the adult literacy rate is high in Tanga city (87.7%).

### 4.2.7 Economic development

Since the colonial era, the city has depended heavily on its sisal sector. Nevertheless, as mentioned, since the late 1970s the sisal sector has declined. Lately, however, the economy has slowly been revived and new industries have emerged. Currently the city has 48 formally listed manufacturing industries including the privately owned Tanga Fresh, which sources milk from small-scale farmers, sea product processors, and cement factories. Milk processing in particular has increased significantly and the Government is heavily promoting small-scale dairy farming.

#### 4.2.8 Dominant livelihood activities

The dominant economic activity in the city is agriculture and more than 72.0% of the city's rural population depends on farming and livestock keeping. The main food crops are cassava followed by maize, rice, and legumes. Crops grown for sale are coconut, oranges, cashew nut, mango and some pineapples.

The city has around 696 ha of irrigable land (not currently under irrigation) of which 20 ha are within Chongoleani ward. If irrigation schemes are implemented this could allow for the cultivation of crops such as okra, watermelons, chili, and amaranths.

A large number of urban and rural people also keep livestock. A hindrance, however, for cattle farming is the limited availability of grazing land. Of the 8,000-ha used for grazing in the city, 50.0% is prone to Tsetse fly that causes disease in animals.

Because of the close proximity to the coastline, fishing is another important livelihood activity. Fishing activities are largely artisanal and reef based and conducted near the shore (within 15 km). The city has three managed fishing landing stations: Deep Sea, Sahara, and Tongoni, which are used for controlling fishing activities. Fish catch data from Tanga city as a whole, shows an increase from 2.6 to 4.0 tons per day from 2005 to 2015.

Lastly, the informal sector plays a crucial role in supporting livelihoods. The dominant informal activities in the city include street vending, metal works, tailoring, food processing and catering, and manufacturing of building materials.

#### 4.2.9 Natural resource use

Households in the city also rely on natural resources for livelihoods. The primary natural resource products used are summarised below.

**Bee keeping:** in 2009, Tanzania Social Action Fund (TASAF) introduced bee keeping. Currently there are 750 beehives and the activity is practiced in a number of wards including in Chongoleani.

**Fishery:** fishing is a critical livelihood source in the areas of the city that are close to the sea including the two Project-affected Mitaa. The marine resources in the city include fish, octopus, sea cucumbers, spiny lobsters, prawns, crabs, and seaweed.

**Forestry:** Tanga city has a number of forest reserves including mangrove and coastal forest. Mangroves, primarily situated near Chongoleani ward, are important sources of fuelwood, timber used as poles for construction, and medicinal plants. While supporting the livelihoods of people, the forests also contribute revenue for the CC from the sales of products such as timber.

**Historical sites and tourist attractions:** tourism is not a dominant livelihood source, yet there is potential for development of this sector. Tanga city is home to a number of historical sites and tourist attractions including the Amboni limestone caves and hot sulphur springs located 8 km from town, Tongoni ruins, Totten island, and sandy beaches.

**Salt and mineral extraction:** salt, of which the production is close to 5,220 tons annually, is extracted from water of the Indian Ocean, through evaporation processes either by sunlight or by using saltpans.

The mining and quarrying activities in Tanga city include the production of lime, cement, salt, sand and stone aggregates. The mining sector in the city is operated on both small- and large-scale and the Government is making efforts to provide extension services to small-scale miners on the use of proper technology.

#### 4.2.10 Access to safe water

Water supply in Tanga city is managed by the Tanga Urban Water Supply and Sewerage Authority (Tanga-UWASA). The last measured coverage was 98.0% of the urban population and 76.0% of the rural population. Typically, water from Tanga-UWASA is available on a fixed schedule (delivered twice per week). Other functional water sources present in the city comprise large shallow wells and rainwater harvesting tanks (Table 4.2).

**Table 4.2: Functional water sources in Tanga city**

Functional water source	Number
Charcoal dam	3
Spring	1
Shallow well	28
Rainwater tank	20
Borehole	10
Protected river water	1
Dam	26

Source: United Republic of Tanzania (2015)

#### 4.2.11 Health services

Tanga city has a mixture of public health facilities which include one referral hospital, eight health centres, and 43 government-run dispensaries which are distributed across Tanga city. Chongoleani ward has two dispensaries. The official health system is supplemented by traditional health services that are recognised by the Government and includes traditional birth attendants.

The health care challenges are high maternal mortality rates (450/100,000) and high infant mortality (15/1,000 live births). Other challenges are high prevalence of malaria, urinary tract infections, and respiratory infections.

#### 4.2.12 Road networks

Compared to other areas within Tanga region, the road network in Tanga city is of higher quality. The city is connected to the Kenya border and major Tanzanian towns including Dar es Salaam and Moshi via tarmac highways.

In 2022, a third phase construction of a planned highway project connecting Tanga, Pangani-Saadani, Makurunge and Bagamoyo was launched. When complete, the highway is expected to offer easier access to Dar es Salaam and to develop tourism in the region by providing better access to Saadani National Park (Sembony, 2022).

92.0% of the roads in Tanga city are passable all year. This most likely refers only to the urban roads as the rural network is described as substandard and lack of access to markets and services is considered a concern for the city council.

#### 4.2.13 Tanga city development plans

The livelihood activities of residents in Tanga city might change with the establishment of commercial fisheries companies who have signed business deals to institute processing facilities in the city council area. Furthermore, ~300 acres of land within Chongoleani ward have been earmarked for the establishment of on-shore oil and gas storage facilities by oil and gas companies. Moreover, to be able to accommodate larger vessels, there are ongoing efforts to expand Tanga's port. The first phase of the project was concluded in 2020. At the time of writing, the second phase was ongoing and expected to be complete by late 2022.<sup>25</sup>

In preparation for the upcoming industrial development, the CC has put aside a budget for capacity building of residents interested in engaging in the fisheries industry. Training includes business management, sustainable fishing skills and methods, as well as provision of fishing equipment (boats and nets). It is anticipated that the skills attained will assist households in taking up opportunities associated with the soon to be developed fisheries industry. The CC officials expect that additional training and capacity development initiatives will be introduced in the future based on the needs of the businesses/industries to be established.

Currently Tanga city has large areas of unplanned settlement including in the affected Chongoleani ward. The 'Tanga City Master Plan' (United Republic of Tanzania 2021<sup>26</sup>) describes a number of proposals for city planning and land use. Figure 4.2 shows the proposed land use plan for Tanga city in 2036. At the heart of the urban planning framework is the division of areas into satellite centres. Chongoleani ward, belonging to the Ndaoya/Mabokweni satellite centre, is planned to be developed into a commercial centre.

According to KIIs held with the Tanga city office for urban land planning, the current overall plan/strategy is to transform the city into an 'oil city' with modern services and hotels. As oil developments commence, there are expectations within the office that residents in Chongoleani ward will resettle elsewhere potentially in the neighbouring Mabokweni ward.<sup>27</sup> It should be noted that only the MST area is related to the Project and the wider oil sites shown in the land use plan are not related to the Project.

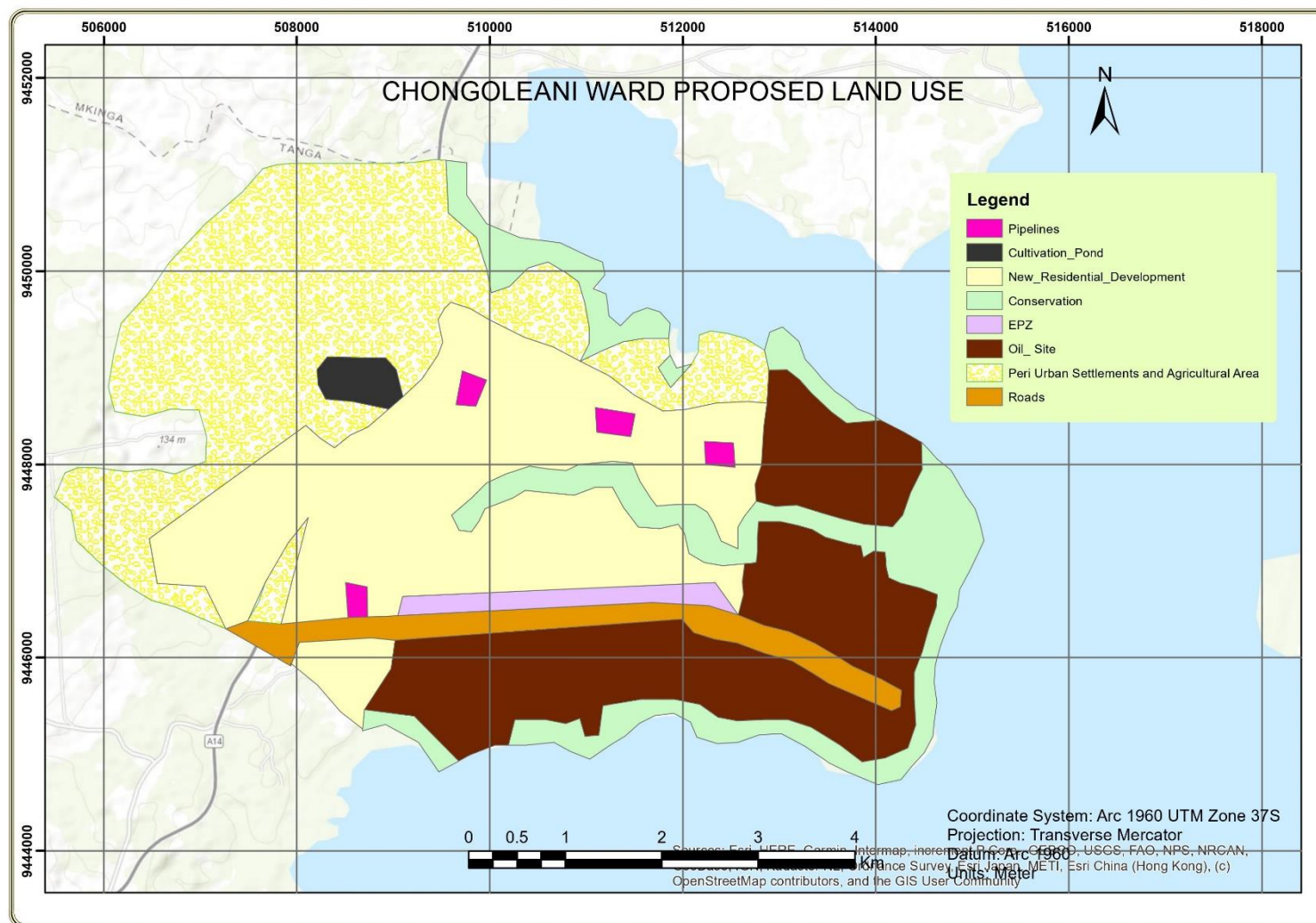
As the figure shows, for Chongoleani ward the suggested land use involves residential areas and oil sites.<sup>28</sup> Consequently due to urban development in general and the land use plan, it is highly likely that arable land availability will continue to decline in the PACs. The majority of land demarcated for agriculture is in the neighbouring Mabokweni village located to the left of the affected mitaa towards Mkinga and Muheza districts. As mentioned in Chapter 3, lack of land is the main reason the provision of replacement land for the PAPs was not feasible. The livelihood restoration plan considers crop farming on small residential parcels. A Cumulative Impact Assessment (CIA) is underway to determine, among others, the viability of land-based livelihoods in Putini. Associated mitigation measures will be described in the CIA.

<sup>25</sup> Kamagi (2021).

<sup>26</sup> The Master Plan developed in 2016 is reviewed every five years and the latest 2021 version has been used.

<sup>27</sup> KII Tanga city council - office for urban land planning, 10-02-22

<sup>28</sup> No further definition of 'oil sites' is provided in the plan; however, the document also refers to these sites as 'oil depots.' Only the MST area is related to the EACOP Project, the wider oil sites shown in the Land Use plan are not related to the EACOP Project.



**Figure 4.2: Chongoleani ward proposed land use plan, 2016-2036**

Source: Adapted from United Republic of Tanzania (2021)



## 4.3 Profile of PACs and PAHs

The following sub-sections present profiles of PACs and PAHs. First, data sources and research methods are discussed.

### 4.3.1 Socio-economic and livelihood investigation (SELI)

To enable the design and implementation of appropriate livelihood restoration, a detailed understanding of the socio-economic conditions and livelihood strategies of the PACs and PAHs, including vulnerable people and other critical sub-groups such as women and youth, was needed. To this end, several SELI surveys were conducted in Tanga region.

The survey methodology used to obtain the required data is discussed in detail in the socio-economic baseline and the terrestrial and marine baseline livelihoods assessments (RSK 2022b; 2022c; and 2022d). Below is a summary of the methods.

The SELI team conducted five separate surveys between January and September 2022 in Tanga region. These included the following:

- A socio-economic household survey (SEHS) of terrestrial PAHs affected by the land acquisition in 2017, conducted in February, March, and June 2022
- A socio-economic SEHS of households in the PACs who did not lose land to EACOP but are at risk of being affected by loss of access to terrestrial and marine resources. The survey was conducted in July 2022. This survey also included non-fishing households in Putini mtaa and a representative sample of all households in Chongoleani mtaa (fishing and non-fishing households)
- A terrestrial livelihoods baseline assessment, conducted in January and February 2022, which collected qualitative data on terrestrial livelihoods in Putini and Chongoleani. To collect data on non-EACOP PAHs, households in Bagamoyo (Chongoleani mtaa) who were not affected by the land acquisition were also consulted
- A marine livelihoods baseline assessment that covered the northeast (NE) monsoon period was conducted from January to April 2022. An extended marine baseline assessment covering the southeast (SE) monsoon period was conducted from July to September.

The methods, objectives and data collected are summarised below.

#### 4.3.1.1 SEHSs methodology and identification of households

The overall objective of the SEHSs were to collect household-level data on livelihoods, challenges, and vulnerabilities. All households were enumerated face-to-face using a detailed household questionnaire.

The first round of SEHS collected data on households who have lost land to EACOP ha. To identify PAHs who lost land within the EACOP ha, the Project's joint reviews (EACOP 2022a; EACOP 2022b) were used. 113 PAPs were identified by name. Of these the households of 109 PAPs (or 96.4% of the sample of identified EACOP PAPs) were located and surveyed (these PAHs are jointly referred to as 'PAHs affected by EACOP ha'). Four households who had lost land within EACOP ha could not be interviewed.<sup>29</sup>

<sup>29</sup> One PAP had passed away and no relatives could be traced, one could not be located, and one declined to be interviewed.



Table 4.3 presents an overview of PAHs' surveyed who lost land within the EACOP ha boundary.

**Table 4.3: Overview of surveyed PAHs affected by EACOP ha**

Category	MST site	Soil storage, PPL, and/or access road	Total
EACOP PAHs identified in the Joint Reviews <sup>30</sup> (excluding unidentifiable owners)	91	22	113
EACOP PAHs surveyed	87	22	109
EACOP PAHs not surveyed	4	0	4

Data from the marine baseline study (RSK, 2022b) showed that households in the PACs were at risk of losing access to marine resources due to the Project's EZ. The survey indicated that fishers in Chongoleani mtaa were unlikely to be impacted by the marine EZ. Moreover compared to gleaners in Putini, loss of access under the jetty would have minimal impacts on gleaners in Chongoleani. In addition, the baseline survey found that long-range fishers in Ndaoya were at risk of losing access to marine resources.

Due to the level of impact on Putini where households are affected by loss of access to marine and terrestrial natural resources, all households in the mtaa who were not included in the first SEHS were surveyed during the follow-up. In addition, all fishery-based households in Ndaoya were surveyed and long-range fishers were identified. These households are jointly referred to as community households surveyed in the SRAP and LRP.

In Chongoleani, due to the low levels of estimated impacts, a full census of fishers and gleaners was not conducted. Instead, a representative sample of households were surveyed. Noise modelling conducted after the SEHS had closed showed that diving fishers from Chongoleani mtaa are at risk of being impacted during construction. Therefore, a full registration of affected community households surveyed in Chongoleani mtaa may need to be conducted during implementation of the SRAP and LRP. See Table 4.4 for an overview of households surveyed during the follow-up SEHS.

In total, the follow-up SEHS surveyed 337 households. This brings the final sample of surveyed households to 446. It should be noted that one household can be active in both fishing and gleaning activities thus the sum of community households surveyed is lower than the count of households engaged in each activity separately.

<sup>30</sup> The figures exclude double entries and PAPs who lost land located outside the TPA 200 ha boundary.

**Table 4.4: Community households surveyed during follow-up SEHS**

Activity/PAC	Chongoleani*	Putini	Ndaoya
Surveyed households with one or more members active in fishing activities	37	101	58 <sup>31</sup>
Surveyed households with one or more members active in gleaning activities	15	81	Not impacted
Surveyed households who are likely to be affected by the Project's marine EZ (i.e. household fish and/or glean)	44	142	58

Note: Data on Chongoleani are based on a representative sample of households.

Table 4.5 presents a breakdown of surveyed households by location. The sample of all surveyed households including PAHs affected by EACOP ha is 446.

**Table 4.5: Community households surveyed during follow-up SEHS**

Location	Type of household	Number
Chongoleani mtaa	Representative sample of households*	74
Putini mtaa	Full census of households	195
Ndaoya mtaa	Full census of community households surveyed	68 <sup>32</sup>
<b>Total</b>		<b>337</b>

Note\*: The population of households in Chongoleani is 330.

All SEHS survey data are stored confidentially in a FlowFinity database specifically designed for the purpose of the surveys.

#### 4.3.1.2 Terrestrial livelihoods assessment

In addition to the SEHS, a qualitative terrestrial livelihoods assessment was conducted. Fieldwork activities were largely concentrated in Tanga city and within Chongoleani and Putini mitaa. The overall objective of the qualitative livelihoods assessment was to collect sufficient data to allow for a detailed analysis of terrestrial livelihood activities, challenges, coping strategies, and opportunities for livelihood support. Specific attention was paid to the livelihoods of women, vulnerable people, and youth. Moreover, data were collected to capture changes in livelihoods since the 2017 TPA land acquisition.

Using a combination of FGDs and SGDs, KIs, and observational walks, 169 stakeholders which included local government officials and NGOs were consulted during the fieldwork (for the methods used to identify these stakeholders see chapter 9). The qualitative data collected is shown in Table 4.6.

<sup>31</sup> Long-range fishers.

<sup>32</sup> Of which 58 have been identified as long-range fishers.

**Table 4.6: Overview of ‘terrestrial’ qualitative data collected**

Category	Number
KIIs with key stakeholders	40
FGDs/SGDs with members of the PACs	21
Observational walks within the PACs	2

#### 4.3.1.3 Marine baseline assessments

The marine baseline assessments were centred around four core activities:

- FGDs with members of the PACs who have fishery-based livelihoods
- Catch monitoring
- Activity monitoring (including at sea monitoring)
- Value chain study of the fish chain.

Initial fieldwork for the marine baseline assessment was conducted between February and April 2022. The period coincided with the final period of the northeast (NE) monsoon (*kaskazi*) and the transition period (*matalai*) to the start of the southeast (SE) monsoon. A second assessment to capture data on activity patterns and catch for SE monsoon period (*kusi*) was conducted in July to September 2022.

During the first round of fieldwork, fishery-based livelihoods within the PACs were mapped using FGDs across the communities of Chongoleani, Putini, and Ndaoya (including the two fishing sub-mitaa (known as ‘kitongiji’ in Kiswahili), Helani and Mvuuni).

Catch monitoring studies were implemented to monitor catch of both fishers and gleaners. Enumerators collected data at the main landing sites (at Chongoleani and Putini mitaa and at the fish auction ‘Deep Sea’ in Tanga city<sup>33</sup>). Enumerators observed landed catch directly, weighed as many recorded catches as possible and recorded values either from the primary auction (Deep Sea) or direct observation of first sale. The focus of the catch monitoring was the collection of economic and social data. Biological information such as species composition and length / weight of fish were not recorded. For the NE monsoon, 3,853 recordings of fish catch were made. For the SE monsoon, 1,818 recordings were made.

With the aim of monitoring the movements of fishers and gleaners, activity monitoring surveys were conducted from 22 February to 16 April 2022 for the NE monsoon and from 23 July to 25 September 2022 for the SE monsoon. Six ‘global positioning system’ (GPS) trackers were issued daily to fishers and gleaners, who then took the devices with them during their normal activities. After 24 hours, tracks were offloaded from the trackers, batteries refreshed, and the trackers reset to record the next day’s activities. Trackers were rotated between individuals every two days to try to ensure a representative selection of records. For the NE monsoon, 292 tracks were recorded and for the SE monsoon, 329 tracks were captured. The recorded tracks were later mapped and post-processed to separate transit from fishing/gleaning activity and then the duration and frequency of activity in any location was extracted to develop ‘heatmaps’ of fishing and gleaning effort.

<sup>33</sup> This landing site is used by communities on the north shore of Tanga bay.

To ensure the activity of fishers from outside of the communities on the Chongoleani peninsula who might be active in the Project's Aol was captured, an at-sea monitoring exercise of fishing was implemented during the NE monsoon. During monitoring, an enumerator in a motor launch would pass daily through pre-planned fishing areas recording the position and details of every fishing vessel encountered. NE monsoon at-sea monitoring closed on 13 April with 709 records entered. For the SE monsoon, no at-sea monitoring was conducted.

Finally, to describe the downstream value chain (traders, transporters, markets, and consumers) which may be affected, a value chain study was administered. The value chain study mapped different trading routes and markets, identified actors (transporters and businesspeople) within the PACs, assessed their roles in the value chain and how their trading activities may be affected by the Project.

Similarly to the SEHS, all data were entered into FlowFinity.

### 4.3.2 Livelihood analysis methods

The livelihoods of residents in the PACs have been assessed using the sustainable livelihoods approach (SLA). While a detailed description of the framework is provided in RSK (2022d), key elements are summarised in this section.

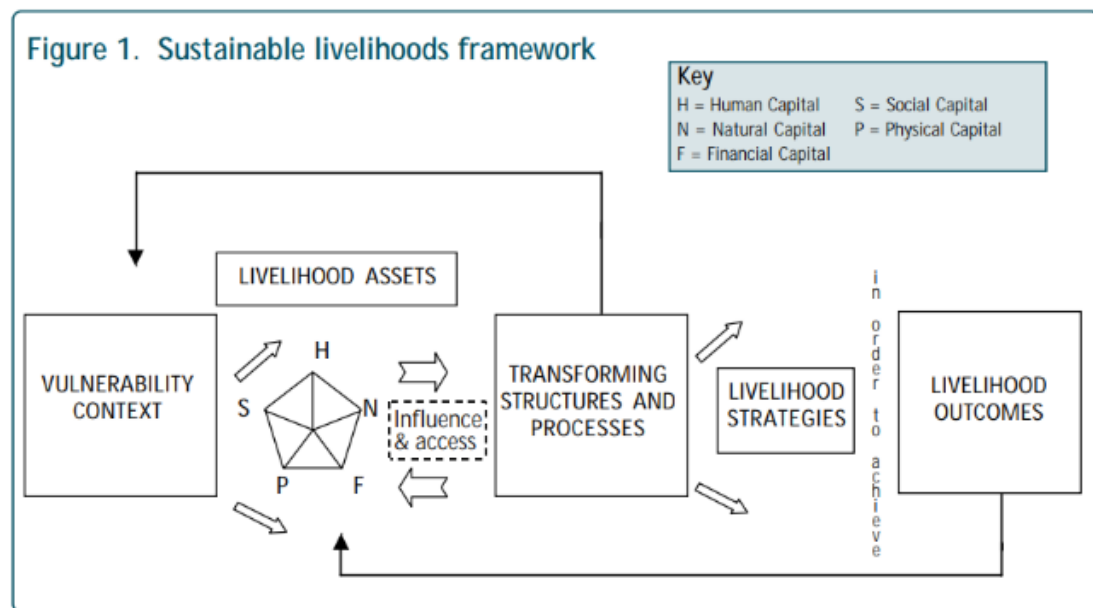
The SLA has been developed to help practitioners understand and analyse the livelihoods of people. Although, the analysis could be applied to all people and communities, it is predominantly used to understand the livelihoods of people who live in poorer communities.

Within the SLA, livelihoods comprise the assets/capitals (tangible and intangible), and activities required to secure a means of living. Livelihoods are considered sustainable when they can 1) cope with and recover from stresses and shocks such as drought, floods or diseases and 2) maintain or enhance its capabilities and assets, while not depriving its natural resource base such as forestry or water sources.

The key takeaway from the SLA is that all activities of rural people such as fishery, agriculture, and off-farm income generation have to be examined in an integrated manner. Moreover, the approach seeks to improve livelihoods by building on the resources/assets people already have. The framework recognises that people, whether poor or not, are agents with assets and capabilities who act in pursuit of their own livelihood goals.

In its essence, the SLA seeks to understand, in a given context, what combination of assets or capital results in the ability to follow which livelihood strategies with what outcome. Broadly speaking, five types of livelihood resources are usually considered (although more can exist) – natural, physical, economic/financial, human, and social capitals.

Critical to the analysis is an understanding of the vulnerability context. That is, how trends, shocks, and seasonality affect livelihoods. Moreover, an analysis should also give consideration to institutions or organisations' effect on individuals' access to resources or assets (Scoones 1998; DFID 2000). An illustration of the framework is provided in Figure 4.3.



**Figure 4.3: The sustainable livelihoods approach**

Source: DFID (2000)

A detailed mapping of households' capitals is provided in RSK (2022c; 2022d) and is not repeated here. Instead, key findings are summarised and put into context in the following sections. First, livelihoods at PAC-level are analysed, followed by a closer examination of the households affected by the Project. The outcome of the analysis has been used to inform the LRP presented in Chapter 7.

## 4.4 Project-affected communities (PACs)

### 4.4.1 Area of influence

A PAC is defined as the population of any mtaa overlapping with the Project footprint. It encompasses PAHs and PAPs, but also includes households that reside in those mitaa who are not physically or economically displaced by the Project.

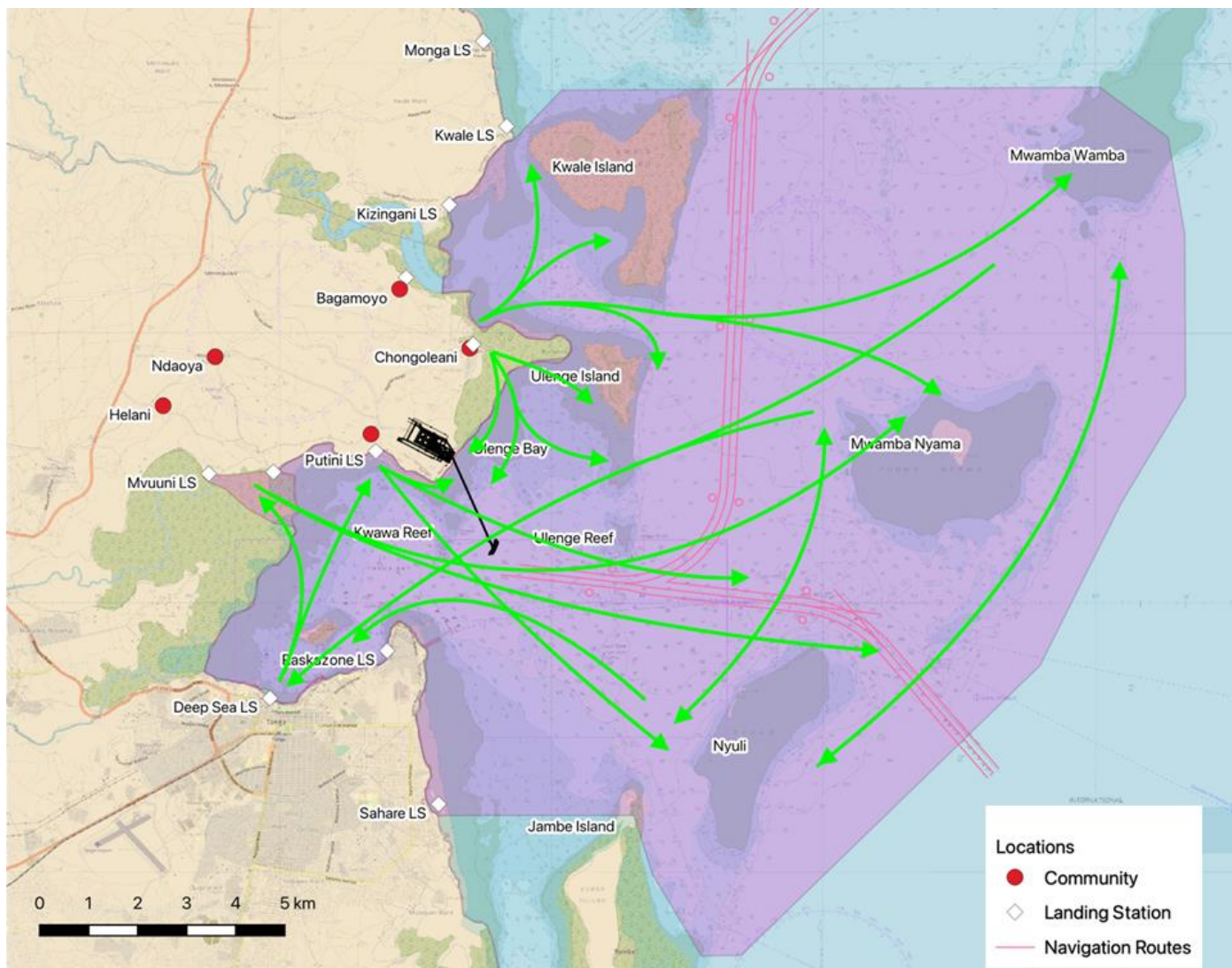
For this SRAP and LRP, the terrestrial area of influence incorporates Chongoleani and Putini mitaa where households had land within the Project's terrestrial boundaries (see Figure 1.2 in the Introduction). The marine area of influence incorporates communities who fish, dive and/or glean within the marine EZ (including the construction EZs). Apart from Putini and Chongoleani (including the sub-mitaa Bagamoyo), the sub-mitaa Helani and Mvuuni located in Ndaoya mtaa are likely to be affected by the Project's marine EZ.

The PACs are all located within Chongoleani ward. A map of the affected communities and sub-communities considered is shown in **Error! Reference source not found..** According to data obtained from the Ward Executive Officer (WEO), the current population in the three PACs is as follows: Chongoleani 330 households (1,437 persons), Putini 215 households (972 persons), and Ndaoya 430 households.<sup>34</sup>

<sup>34</sup> Number of persons not available.

Apart from the demarcated PACs, during construction fishers coming from Deep Sea landing station are also at risk of being impacted. As shown in **Error! Reference source not found.**, Deep Sea, an official landing station, is situated on the south side of Tanga Bay just to the west of the commercial port and serving Tanga city. The landing station is situated on a narrow strip of land between Bomani avenue and the sea, at the bottom of a steep slope with no direct access for vehicles. Because Deep Sea is frequently used by vessels from Putini and Ndaoya, and occasionally those from Chongoleani, the description of fishers coming from Deep Sea is covered in the sections on the PACs.





**Figure 4.4: The Project's terrestrial and marine area of influence (including fishers and gleaners transit routes)**

#### 4.4.2 Dominant livelihood strategies in the PACs

Many households within the PACs rely on income/livelihood diversification as an overall livelihood strategy. Thus, to ensure subsistence and some cash income, households engage in a number of different activities including fishery, crop farming, and small businesses/self-employment.

These activities are usually gendered; for instance, male household members typically fish at sea while women are active in gleaning and/or operate small businesses such as food vending ('mama lishe' in Kiswahili) and basketry. These activities have been assessed and are discussed in the following sub-section. However, the relative importance of each activity in a households' overall livelihood strategy varies across households and depends on a range of factors including access to farming land, gender of the household head, educational attainment, vocational skills, and the presence of any vulnerability factors. An indication of the relative importance of each activity is provided in section 4.5 on PAHs' livelihood strategies.

#### 4.4.3 Fishing within the PACs

Due to the proximity to the sea, fishing and/or gleaning play a crucial role in the livelihoods of residents in the PACs. This sub-section presents results from the two marine baseline assessments. Where relevant, data is disaggregated by monsoon period.

Offshore fishing in the Indian Ocean is conducted in several places within the PACs. Typical of small-scale fisheries in the western Indian Ocean, fisheries in the PACs are characterised by a diverse fleet of vessels targeting multiple species and operating within territorial waters (12 nautical miles from the coast). Fishing methods and technologies are low energy, and vessels depend more upon human and wind power than on mechanisation.

Fishers from the PACs are all males of various ages starting from the age of 18 years. They fish with and without vessels, wading or swimming from the coast. The number of fishers varies slightly from community to community, and Putini community is estimated<sup>35</sup> to have the highest number and percentage of population engaged in fishery (Table 4.7 below).

**Table 4.7: Estimated number of fishers in the fishery-based mitaa**

PAC	Number of fishers
Chongoleani	135
Putini	167
Ndaoya	52

Source: RSK (2022b)

##### 4.4.3.1 Fishing grounds

The fishing grounds used by the PACs are linked to marine habitats including mangroves, seagrasses, and coral reefs. Distinguishing the area around the jetty and to the north of

<sup>35</sup> No registration or survey of fishers was carried out.

Tanga Bay, the fishing grounds and their locations are shown in Figure 4.5 and Figure 4.6.

#### 4.4.3.2 *Intensity of use*

The fishing grounds shown above are subject to varying intensities of exploitation by residents in the PACs. The use differs between monsoon periods. Heatmaps of fishing efforts are shown in Figure 4.7 and Figure 4.8.<sup>36</sup> The arrows show the areas targeted by each PAC but do not represent the exact routes taken.

As Figure 4.7 shows, during the NE monsoon, longer-range dhows from Chongoleani usually target Mwamba Nyama and Mwamba Wamba. Meanwhile, the shorter-range dugout canoes from Chongoleani target the grounds in Ulenge Bay. Fishers from Putini target a wider variety of grounds, to the southeast towards Nyuli (*Jutoni / Kijamba*) and east to Mwamba Nyama. Fishers from Ndaoya are concentrated on similar grounds, with even more focus on the areas around Nyuli.

As shown in Figure 4.8, during the SE monsoon, effort moves inshore, with some concentration on Ulenge Bay (and in the area that will be affected by the marine EZ, see Chapter 5 for more details). Longer range vessels continue to reach *Mwamba Nyama* but there is little fishing further north towards *Mwamba Wamba*, on account of the unfavourable wind direction for the return trip. There is significant fishing effort in the area inside of Nyuli reef (*Jutoni/ Kijamba*), in waters protected by the reef from the south-east wind.

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<sup>36</sup> The heatmaps were calculated from the frequency that tracked fishers visited a given area as well as the duration spent fishing there.

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SRAP and LRP – Chongoleani Peninsula  
TZ 2040114



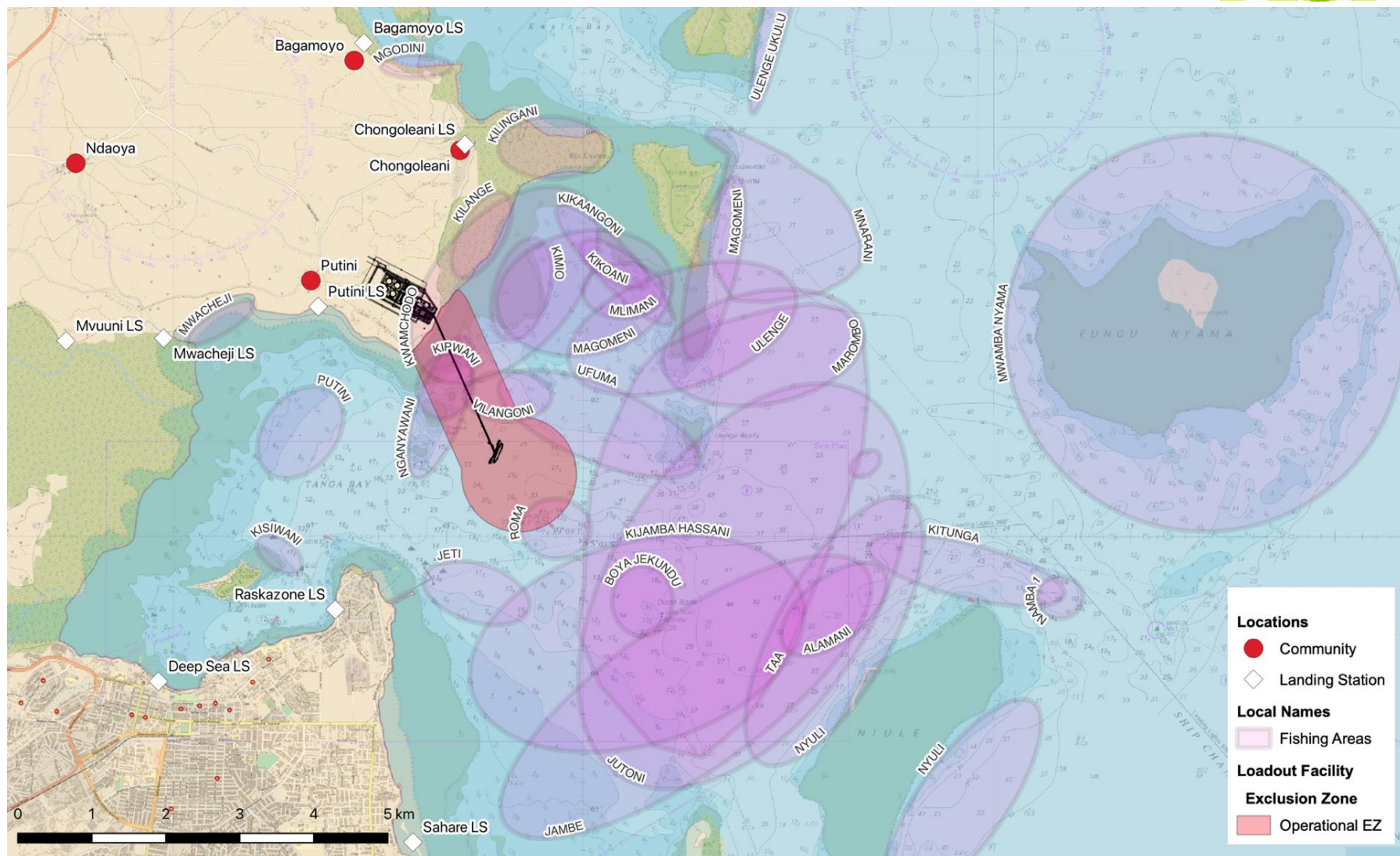


Figure 4.6: Names and locations of fishing grounds in Ulenge Bay and the Northern Part of Tanga Bay

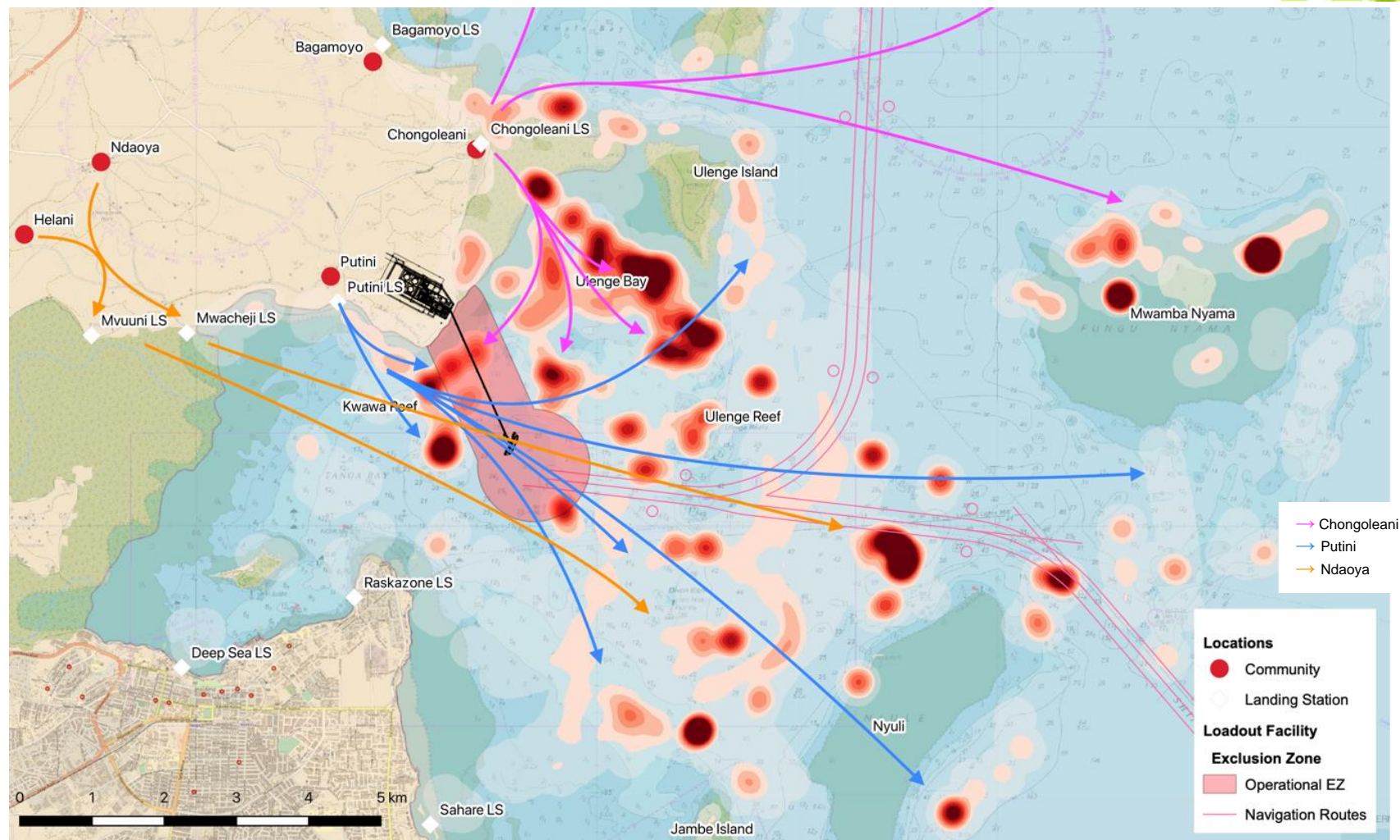


Figure 4.7: Heatmap of intensity, NE monsoon (darker red shows higher intensity)



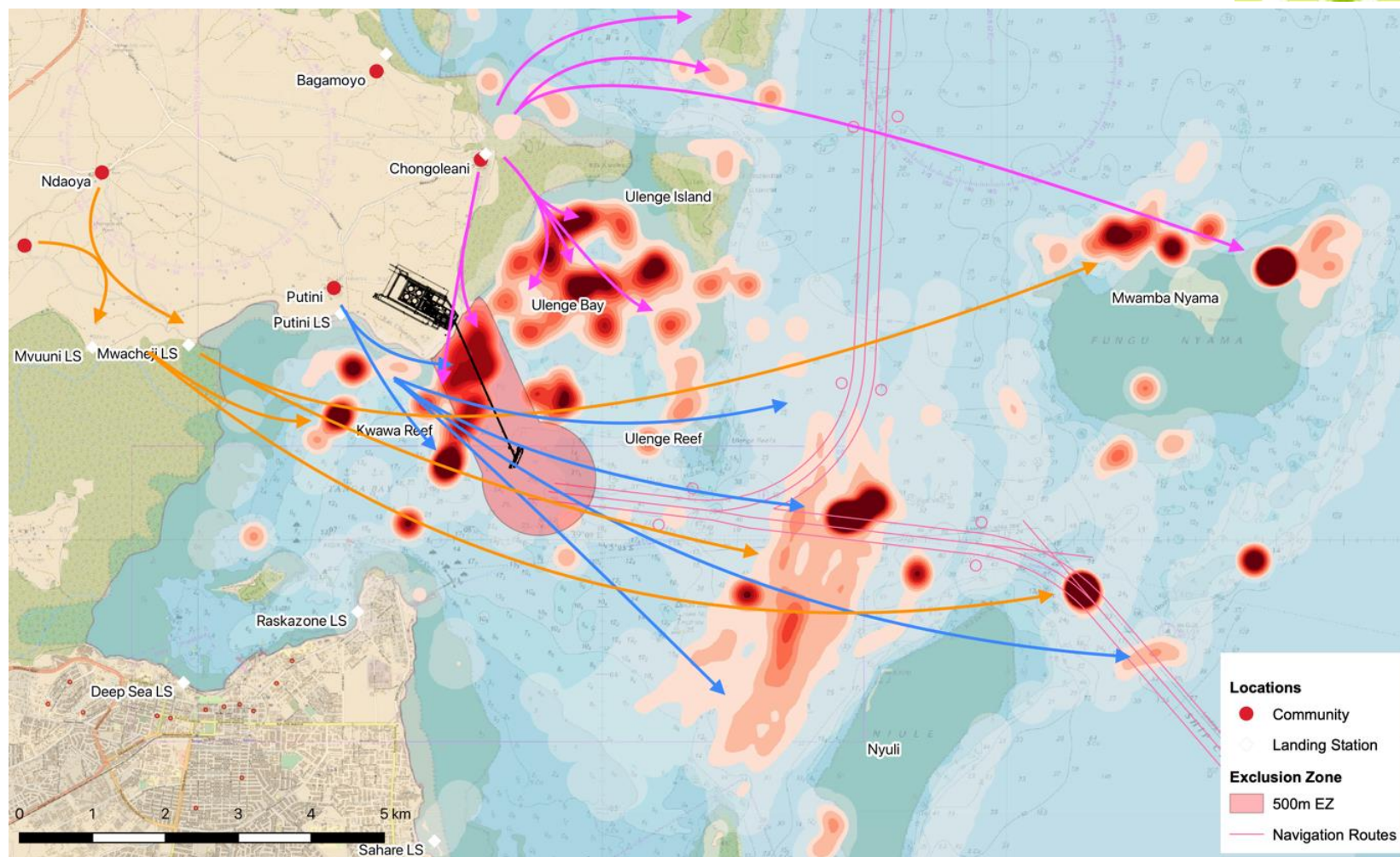


Figure 4.8: Heatmap of intensity, SE monsoon (darker red shows higher intensity)

#### 4.4.3.1 Fishing vessels

Fishers in the PACs own and operate fishing vessels made from wood with traditional designs. Four different types are found in the PACs. The most common vessels are outrigger canoes followed by dugout canoes, and to a lesser extent dhows. Dhows may be either powered by sail or motor. Dugout canoes were recorded in all communities except for Putini. Photographs of typical vessels are shown in Figure 4.9 below.



Motorised dhow (with divers)



Motorised dhow



Sailing dhow



Outrigger canoe





Dugout canoe



Fisher without vessel

**Figure 4.9: Photographs of typical vessels used within the PACs**

#### 4.4.3.2 Species targeted by fishers

Main fish species targeted by artisanal fishers within and near the PACs include both local and migratory species. Common species caught include Emperors (*Changu*), Octopus (*Pweza*), Groupers (*Chewa*), Parrot fish (*Pono*), Prawns (*Kamba*), Blue fish (*Kangu*), *Chaa*, *Koana*, Rabbit fish (*Tasi*), Jacks (*Kolekole*), Rays (*Taa*), and Goat fish (*Mkundaji*). Likewise, the migratory species caught in the area include Tuna (*Jodari*), Sharks (*Papa*), Billfish (*Samsuri*) and Frigates (*Sehewa*).

The catch varies depending on season and fishing grounds. Tuna and tuna like species are caught in deep water north of Tanga bay and are more prolific during Northeast monsoon than in Southeast monsoon. Also, some brackish water species such as striped eel catfish (*Ngogo*) and giant sea catfish (*Hongwe*) are caught within Tanga bay in the SE monsoon at the start of the rainy season.

#### 4.4.3.3 Fish catch

Median values of catch per PAC by vessel and fishing gear per day and by monsoon period are presented in Table 4.8 and Table 4.9. As the Tables show, catch rates are lower during the SE monsoon, especially for the longer-range outrigger canoes with handlines. Short-range dugout canoes seem to maintain performance across the periods.

**Table 4.8: Median catch per day per vessel by vessel, gear, and community, NE monsoon**

Catch in kg		Dhow	Outrigger canoe	Dugout canoe	No vessel	All vessels
Chongoleani	Handline	5.6		3.2		3.6
	Traps			4.6		4.5
	Harpoon	13.3		3.6	1.8	2.3
	Nets	39.2				37.5
Putini	Handline	5.0	8.0		2.1	7.4
	Traps	2.2				2.2

Catch in kg		Dhow	Outrigger canoe	Dugout canoe	No vessel	All vessels
	Harpoon	4.6			1.7	3.0
	Nets					
Ndaoya	Handline		8.1			8.1
	Traps					
	Harpoon					
	Nets					
All Communities	Handline	5.1	8.0	3.2	2.1	6.7
	Traps	2.2		4.6		4.0
	Harpoon	7.3		3.6	1.8	2.4
	Nets	39.2				35.7

Source: RSK (2022b)

**Table 4.9: Median catch per day per vessel by vessel, gear, and community, SE monsoon**

Catch in kg		Dhow	Outrigger canoe	Dugout canoe	No vessel	All vessels
Chongoleani	Handline	2.9		3.3		3.1
	Traps	2.8		3.4		3.3
	Harpoon	9.9		3.9	1.7	2.3
	Nets	30.3			7.6	30.0
Putini	Handline	3.5	3.6		1.7	3.6
	Traps	2.0		2.1		2.0
	Harpoon	18.9			1.5	4.1
	Nets					
Ndaoya	Handline		3.9			3.9
	Traps					
	Harpoon					
	Nets					
All Communities	Handline	3.1	3.6	3.2	1.6	3.5
	Traps	2.2		3.3		3.2
	Harpoon	14.7		3.9	1.7	2.3
	Nets	30.5				30.3

Source: RSK (2022b)

#### 4.4.3.4 Fishers' gross revenues

Median values of gross revenues per fisher per day, per PAC, per vessel and fishing gear in TZS are presented by monsoon period in the Table 4.10 and Table 4.11.<sup>37</sup> Due to the lower catch, gross revenues are lower during the SE monsoon.

**Table 4.10: Gross revenue per fisher per day in TZS, NE monsoon**

Gross revenue in TZS		Dhow	Outrigger canoe	Dugout canoe	No vessel	All vessels
Chongoleani	Handline	10,000		13,500		12,100
	Traps			16,800		16,000
	Harpoon	10,300		10,500	6,300	7,500
	Nets	28,400				27,700
Putini	Handline	12,000	11,300		6,800	11,300
	Traps	10,100				10,100
	Harpoon	4,800			5,300	5,100
	Nets					
Ndaoya	Handline		14,500			14,500
	Traps					
	Harpoon					
	Nets					
All Communities	Handline	11,400	12,000	13,500	6,700	11,700
	Traps	9,400		16,800		14,400
	Harpoon	7,200		10,500	6,000	6,900
	Nets	28,400				26,800

Source: RSK (2022b)

<sup>37</sup> It is important to note that these values are simply the value of the catch divided by the number of crewmen, and do not necessarily represent the fisher's take-home income. This is especially the case with dhows fishing with nets, most of which are motorised. Operating costs (including fuel) will be deducted from the value of the catch, and the balance will typically be split between the crew and the owners of capital equipment (vessel, engine, and gear), with the crew getting about one third. In the case of net fishing from dhows, the crewman's actual revenue would be about a quarter of the value in the table.

**Table 4.11: Gross revenue per fisher per day in TZS, SE monsoon**

Gross revenue in TZS		Dhow	Outrigger Canoe	Dugout Canoe	No Vessel	All Vessels
Chongoleani	Handline	8,200		12,250		10,500
	Traps			12,700		12,300
	Harpoon	13,300		19,500	8,500	9,5600
	Nets	24,700				22,100
Putini	Handline	9,300	7,700		5,800	7,700
	Traps	8,200				8,200
	Harpoon	17,600			6,500	12,500
	Nets					
Ndaoya	Handline		9,000			9,000
	Traps					
	Harpoon					
	Nets					
All communities	Handline	9,000	8,000	12,200	5,600	8,000
	Traps	7,700		12,500		11,800
	Harpoon	14,500		19,500	8,400	10,000
	Nets	22,100				22,000

Source: RSK (2022b)

#### 4.4.3.5 Seasonality

Fishers in the PACs use mostly small open vessels with sail or human propulsion and they are sensitive to changes in the weather (especially the wind) and seasons. The PACs have two major seasons namely the NE and SE monsoons, each defined by a consistent wind direction. Usually, sales are lower during months with strong wind particularly in the SE monsoon period ('kusi' in Kiswahili) because of lower production, although both demand and price tends to be high. Fishing becomes restricted during this period of the year. During the NE monsoon ('kaskazi' in Kiswahili), the intensity of fishing activities is higher and production increases, however prices tend to fall as the market reaches saturation.

#### 4.4.3.6 Value addition

Storage or commercial processing facilities are seldom used, and most fish must be sold whilst fresh with no option for storage in the case of temporary market saturation. However, some value addition in the form of frying or drying smaller opelagic catch is conducted in the PACs. The fishery value chains showed that the frying of fish is mainly done by women (Figure 4.10).





**Figure 4.10: Women selling dried fish in Putini mtaa**

#### 4.4.3.7 Level of organisation

There is limited organisation amongst fishers and little representation of fishers at community level. Formally recognised beach management units exist in all three PACs (, with a shared responsibility to protect resources, and many of the fishers are members. However, although they have historically been active and involved with initiatives such as mangrove replanting, the role and activities of BMUs was very seldom mentioned by fishers during discussions or observed during the baseline fieldwork. This, coupled with the prevalence of illegal fishing activities in waters very close to the PACs (such as use of beach seines and harpoon guns), indicates that BMUs are not very active in resource protection or the control of illegal fishing activity.

#### 4.4.4 Gleaning in the PACs

An estimated<sup>38</sup> 65 people in Chongoleani and 47 people in Putini are engaged in gleaning activities.<sup>39</sup>

Two main groups of gleaners were identified during the marine baseline assessment based on species collected and gears used. The first group gleans manually by picking organisms while the second group uses spears to catch octopus and cuttlefish.

Although women dominate in gleaning activities, both women and men from the age of 18 years onwards are actively involved. Women will often glean by hand whilst men will use spears. The division is however not rigid, and men may occasionally glean manually.

##### 4.4.4.1 Gleaning grounds

There are five gleaning grounds within the PACs (see Figure 4.11). Most of the grounds are in the intertidal zone along the northern part of Tanga Bay and are accessible by

<sup>38</sup> No survey or register of gleaners was undertaken. The estimate of the number of gleaners is taken from FGDs, KIs and direct observation.

<sup>39</sup> This does not include seasonal gleaners and younger persons who participate occasionally during spring tides and holidays when schools are closed.

communities on foot. Putini community spend most of their time and efforts at the 'Mtambwe' and 'Kwamchodo' grounds.

#### 4.4.4.2 Gleaning trips

All gleaning is conducted during the day subject to the tidal phase, and gleaners will be active for about nine days per tidal cycle (19 days per calendar month). Trips will be timed to ensure that they are in the intertidal zone as the tide is dropping and gleaners will aim to be active around the time of low water. During any one trip gleaners will typically spend two and a half to three and a half hours gleaning.

#### 4.4.4.3 Gleaning species

A range of species are collected. The frequently recorded species and their uses are shown in Table 4.12.

**Table 4.12: Species collected by gleaners and their uses**

Species	Purpose
Cowries	Commercial
Tiger cowries	Food, ornamental
Mud whelks	Food
Cockles	Food
Razor clams	Food
Mussels	Food
Octopus	Food, commercial
Cuttlefish	Food, commercial

Source: RSK (2022b)

#### 4.4.4.4 Gleaning catch/collection

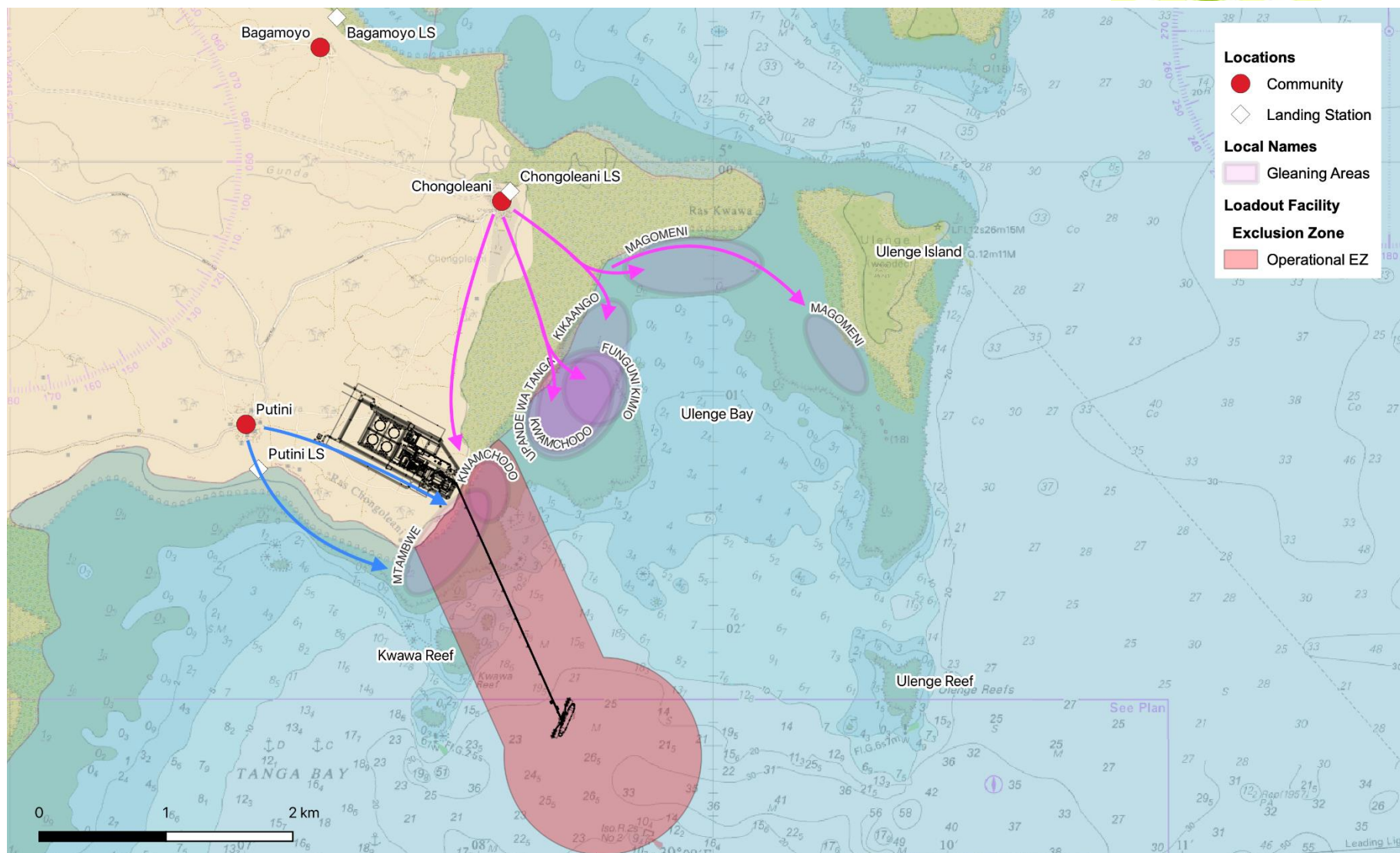
Median values of catch and revenues for gleaners per PAC are presented in **Error! Reference source not found.** and Table 4.18. Incomes do not differ much between monsoon periods. Revenues, at around one US dollar per day may be considered low, yet the supplementary income source makes a meaningful contribution to vulnerable households.

**Table 4.13: Gleaning catch and revenue by PAC, NE monsoon**

PAC	Catch per day <sup>40</sup>	Daily revenue in TZS
Chongoleani	2.8 kg	2,290 (0.98 USD)
Putini	3.0 kg	2,550 (1.09 USD)

Source: RSK (2022b)

<sup>40</sup> Wet whole weight.



**Figure 4.11: Names and locations of gleaning grounds in the PACs**

**Table 4.14: Gleaning catch and revenue by PAC, SE monsoon**

PAC	Catch per day <sup>41</sup>	Daily revenue in TZS
<b>Chongoleani</b>	3.9 kg	3,310 (1.4 USD)
<b>Putini</b>	2.6 kg	2,210 (0.96 USD)

Source: RSK (2022b)

#### 4.4.4.5 Use of gleaning products and markets

The market for gleaning products is determined by species uses. Species of commercial values such as cowries are cleaned, dried and sold to specific traders in the PACs. At the time of writing, the market value for cowries was about TZS 1,200 (0.5 USD) per kg dry weight.

Species collected for consumption e.g., mussels, mud whelks and razor clams are processed and sold as piles within local markets which are limited to nearby communities. The price ranges from TZS 600-1,000 (0.3-0.4 USD) per pile.

Ornamental shellfish species, locally known as 'vizibo', fetch decent prices up to TZS 3,000 (1.3 USD) per piece. This is attributed to their scarcity which attracts competitive prices from buyers.

#### 4.4.4.6 Seasonality

Gleaning seasons are also determined by SE and NE monsoon winds. Both Chongoleani and Putini communities attain maximum yields during southeast monsoon although this is characterized by windy and rough weather conditions. The highest yield is attained when there are spring low tides which increase both access to the intertidal zone and collection time for gleaners.

Collection is generally low during the NE monsoon which is characterised by higher temperatures and less rainfall. During this season, some gleaners opt to engage in other activities such as weaving or other income generation activities to supplement deficit. Gleaning activities will stop during neap tides regardless of season due to high-water levels which restrict access to grounds. The seasonal changes in gleaning activities are summarised in Table 4.15 below.

**Table 4.15: Summary of seasonal changes to gleaning**

	NE monsoon	SE monsoon
<b>Target species</b>	Cowries and edible species	Cowries
<b>Gleaning Grounds</b>	Jetty area and round to Ulenge. ( <i>Mtambwe</i> and others including <i>Magomeni</i> ).	Focused on jetty area up to Chongoleani ( <i>Mtambwe</i> and <i>Kwamchodo</i> ).
<b>Productivity</b>	See Table 4.7	Higher cowrie production
<b>Price</b>	See Table 4.7	May drop by 15% for cowries

<sup>41</sup> Wet whole weight.



#### 4.4.5 Terrestrial livelihood activities in the PACs

This section presents a description of dominant terrestrial livelihood activities.

##### 4.4.5.1 *Small businesses and self-employment activities*

Many women within the PACs rely on land-based activities such as small businesses. In the wake of loss of farmland, women have often diversified towards small businesses as a coping strategy. Natural resources are frequently used to operate these businesses. Examples include the use of wild grass and palm leaves to weave baskets, mats, food covers, and roofing material for sale (see Figure 4.12 and Figure 4.13). Baskets and mats are often sold locally to buyers who sell the products in Tanga city. It takes typically one week to prepare five baskets.



**Figure 4.12: Basket weaving, Chongoleani mtaa**



**Figure 4.13: Examples of mat weaving, Putini mtaa**

Other popular types of small businesses run by women in the PACs involve the preparation of food for sale; in particular, the preparing and selling of fried fish is a common activity that girls learn from their mothers. The fish are sold locally using basic

food covers. Bread and cakes, which require few ingredients (cooking oil, flour, firewood) are also popular food items.

A number of businesswomen are supported by membership of village community banking (VICOBA) schemes. At the time of the survey, there were two active VICOBA in the Project area, 'TAFKARI' in Putini mtaa and 'CHADA CHEMA' in Chongoleani mtaa. Established in 2010, the VICOBA in Chongoleani is the oldest. The group currently has 60 members all of which are women. The VICOBA in Putini was established in 2017 and has 30 members (of which three are men).

The groups function as a savings and loans scheme. Each week, the group members meet and contribute an agreed upon amount of money. After having paid their contributions, members can obtain a loan that has to be paid back with interest by the end of the year. The VICOBA is then split once or twice per year (implying that all profits made from interest rates and joint projects are shared) and a new round is started. Loans obtained from the VICOBA are typically used for essential needs such as school fees and uniforms but also for investments in productive assets such as cows or inputs for running small-scale businesses.

#### 4.4.5.2 Crop farming

Due to the peri-urban status of the ward and the TPA land acquisitions, which have affected both Chongoleani and Putini mitaa, there is limited farming land available in the area. Due to this and the strong orientation towards fishing, compared to other wards within Tanga region, crop farming and livestock keeping in the PACs play a minor role in people's livelihoods. However, some crop farming and livestock rearing does take place within the PACs, often combined with fishery activities.

FGDs conducted during the SELIs suggested that especially women and vulnerable people who are typically not active at sea rely on crop farming for food security and cash incomes. The dominant crop and cultivation techniques used within the PACs are described below. The descriptions are based on observational walks and FGDs conducted within the PACs by the SELI team's agricultural and rural livelihoods specialists.

##### *Crops*

The main crops include:

**Cassava:** due to the limited agro-ecological potential in the area cassava, with its drought-resistant nature, is a critical food crop for households in the PACs. Cassava is boiled or cooked, deep fried, roasted, or mashed into '*futari*' (often eaten during the holy month of Ramadan). The leaves of cassava plants are a popular vegetable often used as a side dish. Usually, residents in the PACs intercrop cassava with other early maturing crops such as maize, cowpea, and green gram.

**Maize:** compared to other parts of Tanzania, maize plays a smaller role in food security. Still, maize is an important crop in the area and is used to make '*ugali* (stiff porridge, Kiswahili),' which is consumed daily. Maize is also sold as a street food as a green cob either roasted or boiled. Like other crops grown in the area, maize is farmed on small pieces of land intercropped with cowpea and cassava. Due to low intensification and inadequate management, productivity of maize in the area is low.



**Legumes:** legumes also play a critical role in food security within the PACs. The dominant leguminous crops grown are beans, cowpea, green gram, and pigeon peas. These crops are mainly used as accompaniment for staple foods such as rice, 'ugali,' and cassava. Either legumes are intercropped on small areas of land or parts of a larger plot are demarcated for the cultivation of legumes.

**Horticultural crops:** a few residents in the PACs operate small 'kitchen' gardens on which they grow horticultural crops. The most common crops include okra, eggplant and African eggplant, amaranth, Chinese cabbage, potato leaves (locally known as 'tembele'), watermelon, and cucumber. The horticultural crops are normally grown on small plots in areas where ground water is available through ponds, shallow and deep wells. This allows farmers to irrigate their plots using buckets, or other containers. Some farmers reported the use of improved seeds obtained from agro-input stores in Tanga city. The vegetables harvested are typically sold at the farm gate to buyers who transport the crops to other areas within Chongoleani ward or to Tanga city.

#### *Economic trees*

**Cashew:** cashew is an important cash crop among residents in the PACs. Cashew nut farming is characterised by low productivity, as many cashew nut trees are old and low yielding. In addition, although fungicides (Sulphur dust) may be used to protect cashew trees against powdery mildew disease, few other inputs are used. In general, cashew trees are managed by the household members complemented with limited use of hired labour. If good agricultural practices are followed, potential yields are close to 400 kg per acre, still, consultations in the field suggested that farmers in the PACs typically harvest below the potential. Cashew nuts are officially marketed and sold to overseas exporters through the Mabokweni AMCOS.

The official price obtained for cashew nuts fluctuates. At the time of the SELIs, the price offered to farmers was 1,700 TZS (0.73 USD) per kg, yet, in 2015 the price peaked at 3,000 TZS (1.29 USD) per kg. Apart from the official marketing channels, portions of cashew nuts are sold to individual buyers who locally process and pack cashew nut kernels in plastic sachets for sale at local markets.

**Citrus:** citrus fruits (lemon, lime, and to a lesser extent oranges) are other crops grown by PAHs. The products from the citrus trees are valued for their acidity and sour taste and used to make juice or as ingredients in food. Moreover, citrus fruits are used to make homemade immune enhancers mixing the juice with hot water for drinking.

Residents in the PACs, grow between 20 and 60 citrus trees on a small area of land. Like other trees planted in the area, limited management of the citrus fruit trees is practiced, and modern technological requirements are rarely met.

Normally, there are two harvesting seasons for lime and lemon: one in the period between June and October and another between December and April. During the June-October harvest prices typically peak.

**Coconut:** coconut is another cash crop among residents within the PACs. Although the crop serves as a cash crop, it is also used for home consumption. Although some residents have shorter varieties, the East African Tall coconut tree is the dominant variety grown. Most trees in the PACs have aged and few within the PACs conduct replanting of new trees. Coconut trees are usually interplanted with other crops and trees (see Figure 4.14).

While some coconuts are consumed within the PACs, the majority are sold at the farm gate to traders who transport the products to Ngamiani market in Tanga city. Additionally, coconuts are sometimes processed into coconut oil used for skin care. Nevertheless, this practice is usually conducted for home consumption involving no marketing or packaging of the products.



**Figure 4.14: Mango, citrus, coconut, and banana intercropped on farm in Putini mtaa**

**Mango:** mango is a tree crop, which prefers warm subtropical and tropical conditions making it suitable for cultivation in Chongoleani ward. Still, most mango trees grown within the PACs are scattered and intercropped with other trees and crops. The dominant varieties are traditional and known locally as ‘dodo’ and ‘bolibo.’ Similar to other trees, minimal management of mango trees is practiced, and use of inputs is low. Despite this, mango serves as an important source of income and many mangoes harvested are sold at the farm gate to buyers who transport the fruits to Tanga city.

**Banana:** bananas grow well in diverse agro-ecological conditions ranging from lowland at sea level to highlands. Consequently, a number of residents in the PACs also grow banana. Bananas are typically consumed green and cooked or ripe as a fruit. Usually, PAHs have planted few banana holes (15 to 30).

**Forest trees/timber trees:** in the PACs, ‘forest’ trees are popular because they provide shade, timber for firewood, construction materials, and medicinal products. PAC members have planted different varieties of trees on their farms and homesteads including Neem, Teak, Kassad, and Moringa.

#### 4.4.5.3 *Livestock farming*

Although not a dominant livelihood activity for residents within the PACs, livestock does play a significant role in peoples’ livelihoods providing food and income.

Many residents in the PACs keep traditional village chickens, and a smaller number keep goats and cattle, which they use for domestic purposes. However, limited local sale does

occur. The dominant livestock management systems, where animals are typically kept free-range (see Figure 4.15 and Figure 4.16) are described below. Similarly, to crop cultivation techniques, the descriptions are based on observational walks conducted within the PACs.

**Poultry:** chicken and ducks form an important part of livestock farming in the area. Residents in the PACs mostly keep local/indigenous breeds of poultry under free-range systems. Nonetheless, a few residents have constructed poultry pens (known locally as a 'banda'). Households usually rely on the ward livestock officer (one specialist is employed by the Government in the area) or private agro-vet stores in Tanga City centre for inputs such as vaccines and animal feed. It is also common for poultry keepers to use traditional herbs such as neem, African bird's eye chilli, and aloe vera to control poultry diseases (plants are pound, mixed with water, and added to feed).

**Cattle and smaller ruminants:** a smaller number of residents within the PACs keep cattle and smaller ruminants. Residents usually keep their animals free range. Animals are grazed on open pastureland during the day and confined in animal houses during nights. Local breeds ('Bos indicus') are most common although few exotic breeds ('Bos Taurus'/dairy cows) can be found. Indigenous cattle have the advantage of being adapted to tropical conditions as they are heat tolerant and more resistant to tick-borne and other diseases. A drawback, however, is their low milk productivity (one litre per day, often milked in the mornings).

Milk from cattle is normally consumed at home, sold locally, or sold to Tanga Fresh Milk (who has a milk collection centre located in Mabokweni).

Smaller ruminants such as goats and sheep are local breeds. The animals are kept for their meat (for home consumption or sale locally).



**Figure 4.15: Goat kept free-range, Chongoleani**



**Figure 4.16: Poultry kept free-range, Chongoleani**

#### 4.4.5.4 *Livelihood activities of vulnerable people*

An assessment of vulnerable EACOP PAHs and proposed livelihoods support is presented in the Vulnerable Peoples' Plan (VPP) in Chapter 8. This section discusses vulnerable people within the PACs in general and their livelihood strategies.

Common for many vulnerable people within the PACs is that their livelihood resources and their strategies are land-based. Prior to the 2017 land take, vulnerable people were reliant on their farm produce such as cassava and fruits. Vulnerable elders report that they used to farm lime, lemon, cassava, cowpeas, and green grams as their main livelihood source. Hence, vulnerable people state that the loss of farmland has had a significant impact on their livelihoods.

Currently, livelihood strategies of vulnerable people in the PACs include a mixture of small businesses and support from friends and relatives. Business activities conducted by vulnerable people are usually small-scale, require little input, and can be conducted at or close to the homestead. Like the activities of many women, these activities usually include poultry rearing using traditional methods (keeping ten to 20 chicken) and (for women with vulnerabilities) food vending and basket and mat weaving for sale. These activities are supplemented with income and support received from relatives or other community members.

A few vulnerable people have specialised skills and/or assets. It was observed that some can keep cattle for a livelihood or engage in mobile phone repair to earn an income (although sometimes lacking some of the needed equipment).

The next section discusses livelihood activities and strategies of EACOP terrestrial PAHs and community households surveyed in the PACs (who are likely to be impacted by the Project's marine EZ).

## 4.5 **Project-affected households (PAHs)**

Since the 2017 land acquisition, PAHs affected by EACOP ha, have moved to areas outside of the PACs. These households were enumerated during the first round of the SEHS and their findings are summarised under 'other location.' Their locations are shown in Table 4.16. 33 PAHs reside outside of Chongoleani ward. As explained in section 10.4.1.1, certain implementation considerations apply to the delivery of livelihood restoration support to these households.

**Table 4.16: PAHs affected by EACOP ha' current (2022) location**

Location	Number
Within Chongoleani ward	6
Tanga city	21
Mabokweni ward	2
Mkinga ward	3
Dar es Salaam region	4
Morogoro region	1
Zanzibar (Unguja) island	2
<b>Total</b>	<b>39</b>

Source: RSK (2022c)

#### 4.5.1 Demographic statistics of surveyed PAHs

Demographic statistics of surveyed PAHs affected by EACOP ha and community households surveyed are presented in Table 4.17 and Table 4.18 respectively.

For PAHs affected by EACOP ha, while the majority of household heads surveyed are male, in Putini 21 households are headed by a woman. In 'other locations,' the PAH male ratio is highest, while in Putini there are more female than male PAH members.

For community households surveyed, in Putini 33 households are headed by a woman. The same is true for three households in Chongoleani and two in Ndaoya.

**Table 4.17: PAHs affected by EACOP ha key demographic statistics**

Characteristic	Chongoleani		Putini		Other location	
	Number	%	Number	%	Number	%
PAHs surveyed	12	10.7%	58	52.3%	41	37.8%
PAH household (hh) members	94	12.2	392	51%	282	36.7%
<b>Gender of hh head</b>						
- Male	8	72.7%	31	53.4%	32	78.0%
- Female	3	27.3%	21	36.2%	6	14.6%
- n/a	1	9.1%	6	10.3%	3	7.3%
<b>Gender of hh members</b>						
- Male	48	51.1%	191	48.7%	144	51.1%
- Female	46	48.9%	198	50.5%	138	48.9%
- n/a	0	0%	3	0.8%	0	0%

Source: RSK (2022c)

Note: In a few cases, the respondent did not answer all questions (referred to as non-responses in the survey). As is usual with household surveys, non-responses were often caused by the respondent lacking information on all household members (i.e. age, education, and occupations).



**Table 4.18: Community households surveyed key demographic statistics**

	Chongoleani		Putini		Ndaoya	
	Number	%	Number	%	Number	%
Households surveyed	44	n/a	142	n/a	58	n/a
Household (hh) members	302	n/a	774	n/a	307	n/a
<b>Gender of hh head</b>						
- Male	32	72.7%	109	76.8%	55	94.8%
- Female	12	27.3%	33	23.2%	2	3.4%
- n/a	0	0.0%	0	0.0%	1	1.7%
<b>Gender of hh members</b>						
- Male	130	43.0%	390	50.4%	167	54.4%
- Female	172	57.0%	383	49.5%	140	45.6%
- n/a	0	0.0%	1	0.1%	0	0.0%

Source: RSK (2022c)

Note 1: Data on Chongoleani are based on a representative sample of households.

Note 2: In a few cases, the respondent did not answer all questions. As is usual with household surveys, non-responses were often caused by the respondent lacking information on all household members (i.e. age, education, and occupations).

## 4.5.2 Household composition of surveyed PAHs

The household composition of PAHs is shown in Table 4.19 and Table 4.20. Table 4.19 shows that close to half of all members of PAHs affected by EACOP ha are adults (52.7% in Chongoleani, 46.6% in Putini and 54.1% in 'other locations'). Children account for between 37.4% and 43.5% of household members while the elderly account for less than 10%. The largest average household size is found in 'other locations' (8.6 household members). This is followed by Chongoleani (8.2) while PAHs in Putini have the smallest size (7.3 household members).

The Tables also show dependency ratios (children and elders divided by the number of working age household members).

For PAHs affected by EACOP ha, dependency ratios are fairly high (close to one) implying that, for each household, for every dependent there is only one person of working age. For community households surveyed, as Table 4.20 shows, children constitute the majority of household members in the three mitaa and dependency ratios are fairly similar (lowest in Putini).

**Table 4.19: PAHs affected by EACOP ha household composition**

Household composition	Chongoleani		Putini		Other location	
	Number	%	Number	%	Number	%
Children (<18 years)	34	37.4%	166	43.5%	109	37.6%
Adults (18-64 years)	48	52.7%	178	46.6%	157	54.1%
Elderly (+65 years)	9	9.9%	38	9.9%	24	8.3%
Average hh size	8.2	n/a	7.3	n/a	8.6	n/a
Dependency ratio	1.0	n/a	1.1	n/a	0.62	n/a
<b>Total</b>	<b>91</b>	<b>100%</b>	<b>382</b>	<b>100%</b>	<b>290</b>	<b>100%</b>



**Table 4.20: community households surveyed composition**

Household composition	Chongoleani		Putini		Ndaoya	
	Number	%	Number	%	Number	%
Children (<18 years)	152	50.3%	411	53.1%	160	52.1%
Adults (18-64 years)	132	43.7%	347	44.8%	138	45.0%
Elderly (+65 years)	16	5.3%	16	2.1%	9	2.9%
N/a	2	0.7%	0	0.0%	0	0.0%
Average hh size	7.9	n/a	7.3	n/a	6.7	n/a
Dependency ratio	1.2	n/a	1.0	n/a	1.2	n/a
<b>Total</b>	<b>300</b>		<b>774</b>	<b>100%</b>	<b>307</b>	<b>100%</b>

Source: RSK (2022c)

Note: Data on Chongoleani are based on a representative sample of households.

## 4.6 Livelihood analysis of surveyed households

Triangulating the data from the two rounds of SEHS with the qualitative data collected during FGDs with PAHs, a livelihood analysis at the household level has been conducted. Table 4.21 below presents an overview of the findings from the livelihood analysis.

Similar to other households in the PACs, EACOP PAHs and those affected by restricted access to marine resources, face a number of challenges which relate to the limited availability of farming land (for an identification of Project-induced livelihood impacts, see section 5.5.8). In the following sub-sections, the key topics of the livelihood analysis are summarised.

**Table 4.21: Overview of surveyed households' livelihood activities, challenges, and coping strategies**

Livelihoods		Vulnerability context		Resilience and opportunities	
Land-based Livelihood source	Current activities	Challenges (shocks, trends, and seasonality)	Challenges affecting women, vulnerable and youth	Coping strategies	Opportunities for livelihood support
Marine-based activities	<ul style="list-style-type: none"> <li>Near shore fishing using canoes and small vessels that are powered by hand (paddle) or wind (sails), to access near-shore fishing grounds. Use combination of traps, lines, nets, and fish attracting devices</li> <li>Shoreline fishing using rod and hand line</li> <li>Gleaning</li> </ul>	<ul style="list-style-type: none"> <li>Inadequate fishing gear</li> <li>Price fluctuations</li> <li>Market saturation</li> <li>Heavy wind/weather</li> <li>Illegal fishing activities</li> <li>Government restrictions</li> <li>Have to rent or borrow boats</li> <li>High taxation on marine resources</li> </ul>	<ul style="list-style-type: none"> <li>Women and girls do generally not fish at sea due to cultural norms</li> <li>Vulnerable people are often not able to fish at sea</li> <li>Youth lack adequate fishing gear</li> </ul>	<ul style="list-style-type: none"> <li>Sell fish locally</li> <li>Sell fish at a lower price</li> </ul>	<ul style="list-style-type: none"> <li>Increase value of marine resources through better storage and packaging methods</li> <li>Use artificial reefs to increase fish stock and diversity</li> </ul>
Subsistence farming	<ul style="list-style-type: none"> <li>Decline in activities since the 2017 land take</li> <li>Usually conducted on small blocks of 20x30 meter</li> <li>Cassava, beans, and maize for food Cashew nut, coconut, and mango for food and cash</li> <li>Some horticultural crops such as okra,</li> </ul>	<ul style="list-style-type: none"> <li>Severe food insecurity from March to May</li> <li>Limited land availability</li> <li>Limited water availability</li> <li>Little use of inputs such as fertiliser due to soaring prices of inputs</li> <li>Frequent droughts</li> </ul>	<ul style="list-style-type: none"> <li>Land access due to customary practices that prevent women from owning land</li> <li>Limited labour time due to responsibility for reproductive work</li> <li>Used to obtain food such as cassava from</li> </ul>	<ul style="list-style-type: none"> <li>Form self-help groups (limited and mainly for pooling labour)</li> <li>Walk long distances to find water sources that can irrigate small pieces of land</li> <li>Seek advice from extension officers</li> </ul>	<ul style="list-style-type: none"> <li>Investigate options for securing communal land and/or support agriculture on small residential land parcels</li> <li>Restore food security by planting improved crops (cassava, maize, and legumes)</li> <li>Restore food security by promoting small-scale 'kitchen' gardens</li> </ul>

Livelihoods		Vulnerability context		Resilience and opportunities	
Land-based Livelihood source	Current activities	Challenges (shocks, trends, and seasonality)	Challenges affecting women, vulnerable and youth	Coping strategies	Opportunities for livelihood support
	African eggplant, watermelon, and amaranth	<ul style="list-style-type: none"> <li>Many inputs only available in agro-input shops in Tanga City</li> <li>Low yields</li> <li>Rain-fed agriculture</li> <li>Mixed farming where many crops are grown on small land parcels</li> <li>Only one Extension Officer in Ward with limited transport means</li> <li>Lack of knowledge on agricultural best practices</li> <li>Crop and pest disease</li> <li>Poor farming implements</li> <li>Inadequate water sources for irrigation</li> <li>Livestock kept free-range and wild animals destroy crops</li> </ul>	<ul style="list-style-type: none"> <li>farms now often buy food</li> <li>Used to sell coconuts from farms, after 2017 land take have to buy from other places to sell</li> <li>Used to work as hired labour on farms, after 2017 land take the income source is not easily available</li> <li>Travel longer distances to source pesticide, herbicide, and other inputs</li> <li>Used to get income from farm, after 2017 land take more dependent on male head/relatives for support</li> </ul>	<ul style="list-style-type: none"> <li>Shift to other livelihood sources such as fishing</li> <li>Borrow money</li> <li>Other types of support from friends and relatives</li> </ul>	<ul style="list-style-type: none"> <li>Investigate methods to improve water supply (through rainwater harvesting methods and irrigation schemes)</li> </ul>

Livelihoods		Vulnerability context		Resilience and opportunities	
Land-based Livelihood source	Current activities	Challenges (shocks, trends, and seasonality)	Challenges affecting women, vulnerable and youth	Coping strategies	Opportunities for livelihood support
Commercial farming	<ul style="list-style-type: none"> <li>Limited after the 2017 land take</li> <li>Cassava, cashew nut, coconut, green grams, and cow peas grown</li> <li>Some horticultural crops such as okra, African eggplant, watermelon, and amaranth</li> </ul>	<ul style="list-style-type: none"> <li>As above and in addition:</li> <li>Soils are high in salinity rendering soils unsuitable for larger-scale crop production</li> <li>FGDs mention that only three advanced small-scale farmers exist in the Project-affected areas</li> <li>Strong orientation towards fishing</li> <li>Lack of agricultural best practice skills</li> <li>Following land take, have less cash crops such as fruit trees</li> <li>Lack of market access</li> <li>Coastal area – low soil suitability</li> </ul>	<ul style="list-style-type: none"> <li>Land availability</li> <li>Lack of capital</li> <li>Lack of labour/time as women are responsible for reproductive work</li> <li>Men sometimes control incomes from crop sales</li> </ul>	<ul style="list-style-type: none"> <li>No relevant coping strategies mentioned</li> </ul>	<ul style="list-style-type: none"> <li>Restore incomes by promoting crop diversity (plant crops with a good market that grow well on small parcels)</li> <li>Investigate methods to improve water supply (through rainwater harvesting methods and irrigation schemes)</li> <li>Training on agricultural best practices</li> <li>Facilitate access to main markets in town and/or establish local food stalls</li> <li>Investigate whether Project can source foodstuff and goods from PAHs during construction</li> </ul>
Livestock	<ul style="list-style-type: none"> <li>Cattle</li> <li>Goats</li> <li>Sheep</li> <li>Poultry</li> <li>Ducks</li> </ul>	<ul style="list-style-type: none"> <li>For cattle, limited land for pasture</li> <li>Climate change and droughts affect availability of fodder for animals</li> </ul>	<ul style="list-style-type: none"> <li>Cultural barriers often prevent women from rearing cattle</li> <li>Lack of capital to invest in needed inputs such as</li> </ul>	<ul style="list-style-type: none"> <li>Look for fodder in the nearby villages</li> <li>Watching and staying alert to minimize attacks of</li> </ul>	<ul style="list-style-type: none"> <li>Restore incomes and food security by providing training on improved/semi-intensive livestock farming</li> </ul>

Livelihoods		Vulnerability context		Resilience and opportunities	
Land-based Livelihood source	Current activities	Challenges (shocks, trends, and seasonality)	Challenges affecting women, vulnerable and youth	Coping strategies	Opportunities for livelihood support
		<ul style="list-style-type: none"> <li>• Low production due to limited use of improved breeds and methods</li> <li>• Livestock usually kept free-range</li> <li>• Animal disease. For poultry, Newcastle disease cause high morbidity and mortality</li> <li>• Wild animals may eat livestock</li> <li>• Animal theft</li> <li>• Limited use of modern/improved or hybrid varieties causing low livestock production</li> <li>• Lack of capital</li> <li>• Veterinary services are seldom used</li> <li>• Only one Extension Officer available in Ward</li> </ul>	<ul style="list-style-type: none"> <li>• fodder, vaccines, and housing</li> <li>• Lack of labour time as women are responsible for reproductive work</li> <li>• Very little processing and value addition to livestock produce</li> <li>• Men sometimes control incomes from livestock sales</li> </ul>	<ul style="list-style-type: none"> <li>• wild animals on livestock</li> <li>• Borrow land from relatives</li> <li>• Seek advice from relatives</li> <li>• Go to town to sell produce such as eggs</li> <li>• Use plants such as African bird eye or neem to fabricate traditional medicine to prevent/cure poultry diseases</li> <li>• Few youths have formed a group and obtained a loan to invest in hybrid/improved poultry production</li> </ul>	<ul style="list-style-type: none"> <li>• Facilitate access to inputs such as vaccines, housing, and fodder</li> <li>• Facilitate access to veterinary services</li> <li>• </li> </ul>
Small businesses	<ul style="list-style-type: none"> <li>• Fish frying and selling</li> <li>• Weaving of baskets, mats, food covers, and roofing material</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of capital</li> <li>• Lack of business management skills</li> </ul>	<ul style="list-style-type: none"> <li>• Cultural norms often prevent girls and women to</li> </ul>	<ul style="list-style-type: none"> <li>• Few form groups to access loans from the Government</li> </ul>	<ul style="list-style-type: none"> <li>• Through training, enhance processing and value addition to</li> </ul>



Livelihoods		Vulnerability context		Resilience and opportunities	
Land-based Livelihood source	Current activities	Challenges (shocks, trends, and seasonality)	Challenges affecting women, vulnerable and youth	Coping strategies	Opportunities for livelihood support
	<ul style="list-style-type: none"> <li>• Small shops/'duka'</li> <li>• Selling water, coconuts, peanuts, and cashew nuts</li> <li>• Transport ('boda boda')</li> <li>• Food vendor ('mama lishe')</li> <li>• Selling vegetables</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of vocational skills</li> <li>• Strong orientation on fishing</li> <li>• Lack of access to markets due to high transport costs</li> <li>• Low diversity of businesses</li> </ul>	<ul style="list-style-type: none"> <li>• access markets in town</li> <li>• Men might control the incomes obtained</li> <li>• Early marriages and pregnancies</li> </ul>	<ul style="list-style-type: none"> <li>• VICOBA membership to access savings and loans schemes (mainly women)</li> <li>• Borrow money from friends and relatives</li> <li>• Use income from fishing to invest in small businesses</li> <li>• Young girls often learn to produce small business products from their mothers</li> <li>• Sometimes go to other districts to buy products for sale locally (mainly youth)</li> </ul>	<p>products currently produced:</p> <ul style="list-style-type: none"> <li>• farm products</li> <li>• livestock produce</li> <li>• coconut oil</li> <li>• edible oils</li> </ul> <p>applying colour to mats and baskets</p> <p>Through training, introduce new livelihoods that are applicable:</p> <ul style="list-style-type: none"> <li>• stationary</li> <li>• tailoring</li> <li>• hair and beauty</li> <li>• food catering</li> <li>• transport (boda boda)</li> <li>• cloth dying</li> <li>• Assist PAHs in accessing loan schemes that are available in the Mitaa</li> <li>• Financial training</li> <li>• Support to development of business plans</li> <li>• Seed capital</li> </ul>

Livelihoods		Vulnerability context		Resilience and opportunities	
Land-based Livelihood source	Current activities	Challenges (shocks, trends, and seasonality)	Challenges affecting women, vulnerable and youth	Coping strategies	Opportunities for livelihood support
Self-employment	<ul style="list-style-type: none"> <li>Artisans (carpentry, welding, etc.)</li> <li>Drivers</li> <li>Boda boda drivers</li> <li>Food vendors</li> <li>Mobile phone repair</li> <li>Micro-retail</li> <li>Vegetable stalls</li> <li>Casual labour on farms</li> <li>Casual labour in salt extraction and processing</li> </ul>	<ul style="list-style-type: none"> <li>Lack of formal/professional skills</li> <li>Strong orientation on fishing and small businesses</li> </ul>	<ul style="list-style-type: none"> <li>Reduced farmland caused a reduction in demand for hired farm labour (many were women)</li> <li>Cultural barriers might prevent women and girls from receiving training in e.g. driving</li> </ul>	<ul style="list-style-type: none"> <li>Some youth have received training in driving from VETA</li> </ul>	<ul style="list-style-type: none"> <li>Provide access to vocational training of skills in demand due to the Project's activities</li> <li>Keep a database registrar with names, skills, and contact details of PAHs interested in casual/unskilled/manual labour.</li> </ul>
Formal employment	<ul style="list-style-type: none"> <li>Teachers</li> <li>Drivers</li> <li>Medical staff</li> </ul>	<ul style="list-style-type: none"> <li>Lack of formal education</li> <li>No university in Tanga Region</li> <li>De-industrialisation since the collapse of the sisal industry</li> <li>Few formal jobs in rural areas</li> <li>Strong orientation on fishing</li> </ul>	<ul style="list-style-type: none"> <li>Similar challenges</li> </ul>	<ul style="list-style-type: none"> <li>No relevant coping strategies mentioned</li> </ul>	<ul style="list-style-type: none"> <li>Capacity building and CV and job preparedness training to PAHs with formal degrees</li> </ul>
Natural resources	<ul style="list-style-type: none"> <li>Weaving baskets, mats, food covers, and roofing material</li> </ul>	<ul style="list-style-type: none"> <li>Depend on resources collected from the Project-affected areas</li> </ul>	<ul style="list-style-type: none"> <li>Similar challenges</li> </ul>	<ul style="list-style-type: none"> <li>No relevant coping strategies mentioned</li> </ul>	<ul style="list-style-type: none"> <li>Ensure access to an alternative site for natural resource collection</li> </ul>

Livelihoods		Vulnerability context		Resilience and opportunities	
Land-based Livelihood source	Current activities	Challenges (shocks, trends, and seasonality)	Challenges affecting women, vulnerable and youth	Coping strategies	Opportunities for livelihood support
	<ul style="list-style-type: none"> <li>• Salt extraction and processing</li> <li>• Water</li> <li>• Firewood and charcoal production</li> </ul>	<ul style="list-style-type: none"> <li>• Forest degradation</li> <li>• Limited skills in value addition of products</li> <li>• Little diversification in end-products</li> </ul>			<ul style="list-style-type: none"> <li>• Value addition (add colour to mats and baskets)</li> </ul>

#### 4.6.1.1 Dominant livelihood strategies

As mentioned, the dominant livelihood strategy practiced by nearly all surveyed PAHs is that of livelihood/income diversification. The dominant type of diversification at the household-level is the combination of fishery, small businesses, and to a lesser extent crop farming. This type of diversification is possible due to two factors. First, livelihood activities are often gendered and second due to seasonality in fishing and crop growing several activities can be combined. For instance, while men fish at sea, women are predominantly engaged in gleaning and terrestrial activities such as basketry and/or food vending ('mama lishe' in Kiswahili). Moreover, due to the mentioned seasonality in fishing where large waves prevent fishers from going out to sea, fishers can attend to crop farming and/or they may hire farm labour using cash earned from their fishing activity.

Because income diversification is practiced by all households, no livelihood activity strongly dominates among PAHs. Instead, households rely on a number of activities where, depending on the household, some activities are more important than others. To understand better the relative ranking of activities, the SEHS enquired about the livelihood activity that provides most benefit<sup>42</sup> to the household. The most important livelihood activity by location is shown in Table 4.22 and Table 4.23. Most important activity by socio-economic category is shown in Table 4.24 and Table 4.25.

As can be seen from the tables, households are quite heterogeneous in their ranking of activities. However, some generalisations can be made. For the dominant livelihood activities, PAHs affected by EACOP ha can be ranked as follows:

- Income diversification where **fishing brings most benefit to the households** (26.6% of surveyed PAHs)
- Income diversification where **small businesses brings most benefit to the household** (21.1% of surveyed PAHs)
- Income diversification where **crop farming and/or livestock brings most benefit to the household** (13.8% of surveyed PAHs).

For community households surveyed not impacted by the Project's land acquisition, the divide is as follows:

- Income diversification where **fishing brings most benefit to the households** (68.4% of surveyed PAHs)
- Income diversification where **small businesses brings most benefit to the household** (14.3% of surveyed PAHs)
- Income diversification where **crop farming and/or livestock brings most benefit to the household** (4.5% of surveyed PAHs).

Further observations include:

- Terrestrial EACOP female-headed households are mostly dependent on transfers (in the form of remittances) (23%). For community households surveyed, most female-headed households depend on small businesses (51.5%)
- Terrestrial EACOP lower-income households are mostly dependent on fishing (31%). Similarly, for marine-based lower-income households, most rely on fishing (50.0%)
- Terrestrial EACOP higher-income households are mostly dependent on businesses (33%). Conversely, for marine-based higher-income households, most rely on fishing (76.7%).

<sup>42</sup> Benefit should be understood as a broad term incorporating both in-kind and/or cash benefits.

**Table 4.22: PAHs affected by EACOP ha – activity that brings most benefit to the household by location**

Livelihood/ income source that brings most benefit to the hh	All		Chongoleani		Putini		Other location	
	Number	%	Number	%	Number	%	Number	%
Business	23	21.1%	0	0.0%	10	17.5%	13	31.7%
Fishing	29	26.6%	6	54.5%	19	33.3%	4	9.8%
Crop farming	12	11.0%	1	9.1%	6	10.5%	5	12.2%
Transfers <sup>43</sup>	14	12.8%	0	0.0%	7	12.3%	7	17.1%
Salaries	11	10.1%	0	0.0%	2	3.5%	9	22.0%
Livestock farming	3	2.8%	1	9.1%	1	1.8%	1	2.4%
Other	16	14.7%	3	27.3%	11	19.3%	2	4.9%
N/a	1	0.9%	0	0.0%	1	1.8%	0	0.0%

Source: RSK (2022c)

**Table 4.23: Community households surveyed – activity that brings most benefit to the household by location**

Livelihood/income source that brings most benefit to the hh	All		Chongoleani		Putini		Ndaoya	
	Number	%	Number	%	Number	%	Number	%
Business	35	14.3%	9	20.5%	25	17.6%	1	1.7%
Fishing	167	68.4%	23	52.3%	91	64.1%	53	91.4%
Crop farming	11	4.5%	6	13.6%	5	3.5%	0	0.0%
Transfers	5	2.0%	3	6.8%	2	1.4%	0	0.0%
Salaries	7	2.9%	1	2.3%	6	4.2%	0	0.0%
Livestock farming	1	0.4%	0	0.0%	1	0.7%	0	0.0%
Other	12	4.9%	2	4.5%	10	7.0%	0	0.0%
N/a	6	2.5%	0	0.0%	2	1.4%	4	6.9%

Source: RSK (2022c)

Note: Data on Chongoleani are based on a representative sample of households.

<sup>43</sup> In line with the Food and Agriculture Organization ((FAO), 2009), transfers are defined as remittances and pension.



**Table 4.24: PAHs affected by EACOP ha – activity that brings most benefit to the household by socio-economic category**

Livelihood/income source that brings most benefit to the hh	Female-headed hh		Lower income hhs <sup>44</sup>		Higher income hhs <sup>45</sup>	
	Number	%	Number	%	Number	%
Business	5	17.0%	10	18.0%	8	33.0%
Fishing	2	7.0%	17	31.0%	5	21.0%
Crop farming	2	6.0%	8	14.0%	1	4.0%
Transfers <sup>46</sup>	7	23.0%	9	16.0%	4	17.0%
Salaries	3	10.0%	2	4.0%	1	4.0%
Livestock farming	0	0.0%	0	0.0%	2	8.0%
Other	11	37.0%	9	16.0%	3	13.0%

Source: RSK (2022c)

**Table 4.25: Community households surveyed – activity that brings most benefit to the household by socio-economic category**

Livelihood/income source that brings most benefit to the hh	Female-headed hh		Lower income hhs <sup>47</sup>		Higher income hhs	
	Number	%	Number	%	Number	%
Business	17	51.5%	3	20.0%	5	8.5%
Fishing	6	18.2%	8	53.3%	44	74.6%
Crop farming	0	0.0%	0	0.0%	2	3.4%
Transfers <sup>48</sup>	1	3.0%	0	0.0%	2	3.4%
Salaries	0	0.0%	0	0.0%	1	1.7%
Livestock farming	0	0.0%	0	0.0%	1	1.7%
Other	8	24.2%	4	26.7%	4	6.8%

Source: RSK (2022c)

Note: Data on Chongoleani are based on a representative sample of households.

Due to the myriad of activities PAHs' rely on for their overall livelihood strategies, the livelihood restoration packages presented in section 7.7 have been designed to cover a range of terrestrial and marine-based activities.

In the following sub-sections using the household-level data collected, each dominant livelihood activity is further described.

<sup>44</sup> Defined as incomes 50% below the median income. For PAHs affected by EACOP ha, the median is 2,680,000 T.Shs. (1,149 USD). For community households surveyed, the median income is 2,500,000 T.Shs. (1,072 USD).

<sup>45</sup> Defined as incomes 50% above the median income.

<sup>46</sup> Defined as remittances or pensions.

<sup>47</sup> Defined as per capita incomes 50% below the mean (for the sample the mean income is 652,921 T.Shs.).

<sup>48</sup> Defined as remittances or pensions.

#### 4.6.1.2 Marine-based activities of PAHs

**Fishing and gleaning:** as mentioned in the section on the wider PACs, fishing and gleaning are important activities. Surveyed PAHs' fishing activities (one PAH can have several) are shown in Table 4.26 and Table 4.27.

In terms of fishing methods, the majority of surveyed households rely on near shore fishing. Due to the lack of engines, fishing is conducted close to the shore using canoes and small vessels that are powered by hand. Lesser common fishing activities include deep sea fishing and diving. All fishing activities are a near full-time profession, conducted on average five days a week.

**Table 4.26: PAHs affected by EACOP ha engagement in marine-based activities**

Type of fishing	Number of PAHs who are active in activity	Average number of household members who participate		Average days/months spent on activity
		Male	Female	
Near shore (with boat) <sup>49</sup>	23	2.7	0	20.1
Use nets	1	0	4	n/a
Handline	3	3	1	30
Rod line	4	1.3	1.3	22.5
Deep sea	4	1.5	0	21.5
Shoreline <sup>50</sup>	3	2	3	17.6

Source: RSK (2022c)

**Table 4.27: Community households surveyed engagement in marine-based activities**

Type of fishing	Number of PAHs who are active in activity	Average number of household members who participate		Average days/months spent on activity
		Male	Female	
Near shore (with boat) <sup>51</sup>	173	3.3	0	26.1
Use nets	5	4.7	1	24.5
Handline	6	2.5	1	24.0
Rod line	7	1	1	25.4
Deep sea	1	2	0	26
Diver	1	1	0	26
Traps	1	5	1	20
Shoreline <sup>52</sup>	5	1.4	2	19.2

Source: RSK (2022c)

<sup>49</sup> Canoes and small vessels that are powered by hand (paddle), wind (sails), or motors to access near-shore fishing grounds; fishing using combination of traps, lines, nets, and fish attracting devices (FADs).

<sup>50</sup> Shoreline and near-shore fishing, including casting of nets and setting of lines and traps.

<sup>51</sup> Canoes and small vessels that are powered by hand (paddle), wind (sails), or motors to access near-shore fishing grounds; fishing using combination of traps, lines, nets, and fish attracting devices (FADs).

<sup>52</sup> Shoreline and near-shore fishing, including casting of nets and setting of lines and traps.

Fishers can further be sub-divided by the fishing grounds they target (see Figure 4.5). For fishers in the PACs, the following fishing grounds further from the shore are defined as long-range:

- Taa
- Hassani
- Nyuli
- Jutoni
- Nyama
- Ulenge
- Ufuma.

Table 4.28 provides a breakdown for surveyed households. The definition of long versus short-range fishers is used to assess impacts in Chapter 5.

**Table 4.28: Number of short- and long-range fishers, all surveyed households**

PAC	Long-range	Short-range
Chongoleani	23	37
Putini	86	165
Ndaoya	58	10

Source: SEHS, 2022

Note: Data on Chongoleani is based on a representative sample of households.

The types of fish caught/gleaned and their use for cash or consumption are shown in Table 4.29 (PAHs affected by EACOP ha and community households surveyed). One household can target several types of marine resources.

The table shows that similar to the wider PACs, the majority of surveyed households fish emperor ('change') and grouper ('chewa'). Other common marine resources include crab, octopus and oysters.

Marine resources are both used for household consumption and for sale. The marine resources mentioned by surveyed households are predominately sold locally at the fish land site Deep Sea, and in 'other locations.' To reach markets PAHs stated that they use a combination of motorcycle ('boda boda') and public transport.

**Table 4.29: Marine resources surveyed households rely on**

Local Kiswahili name	Common English name	PAHs affected by EACOP ha who target marine resource	Marine-based HHs who target marine resource	Usage
<b>Fish:</b>				
Changu	Emperor/emperor breams	22	129	Sale and home consumption
Chewa	Grouper	14	85	Sale and home consumption
Dome	Cuttlefish	0	28	
Kangu	Scaridae	2	21	Sale and home consumption
Koana	Threadfin beam	2	74	Sale and home consumption
Kolekole	Jacks	7	92	Sale and home consumption
Mkundaji	Goatfish	1	54	Sale and home consumption
Nguru	Kingfish	1	45	Sale and home consumption
Pono	Parrotfish	7	47	Sale and home consumption
Samsuli	Marlin	5	55	Sale and home consumption
Tasi	Rabbitfish	7	43	Sale and home consumption
Tembo	Spot snapper	1	77	Sale and home consumption
Vibua	Fusilier	4	34	Sale
<b>Other marine resource:</b>				
Chaza	Oysters	1	1	Sale and home consumption
Chimbachi	Razor clam	0	10	Sale and home consumption
Kaa	Crab	2	1	Sale and home consumption
Kombe	Mussels	1	55	Sale and home consumption
Kungugu	Tiger cowrie	0	12	Sale
Mirindi/tondo	Mangrove whelk	1	51	Sale and home consumption
Ngisi	Squid	1	0	Sale and home consumption
Pweza	Octopus	6	1	Sale and home consumption
Simbi	African cowrie	0	71	Sale

Source: RSK (2022c)

#### 4.6.1.3 Terrestrial activities of PAHs

**Small businesses:** An overview of the types of businesses PAHs operate is presented in Table 4.30 and Table 4.31.

For PAHs affected by EACOP ha, 78 have a small business or self-employment activity. The common types of businesses are small-scale trade and services and artisan goods and handicraft. For community households surveyed, 142 households have a small businesses/self-employment. Again, artisanal goods and handicraft and small-scale services dominate.

The SELIs revealed that these small businesses usually constitute a mixture of activities such as basketry, selling second-hand clothes, running local café/coffee shops, (known as 'mkahawa' in Kiswahili), selling firewood or operating small stalls where they sell vegetables such as okra, tomatoes, and onions. It is noteworthy that very few households have self-employment activities that require vocational skills such as carpentry or welding.

**Table 4.30: PAHs affected by EACOP ha self-employment activity**

Business	Number
Small business and services	26
Artisan goods and handicrafts	19
Retail shop	5
Mobile trade	7
Transport/'boda boda'	3
Carpentry	2
Food processing	2
Renting out room/accommodation	1
Manufacturing	1
Other	12
<b>Total</b>	<b>78</b>

Source: RSK (2022c)



**Table 4.31: Community households surveyed self-employment activity**

Business	Number
Small business and services	45
Artisan goods and handicrafts	63
Retail shop	7
Market stall	6
Mobile phone services	3
Mining	1
Carpentry	1
Welding	1
Food processing/vendor (incl. selling fried fish)	2
Other	13
<b>Total</b>	<b>142</b>

Source: RSK (2022c)

Note: Data on Chongoleani are based on a representative sample of households.

The FGDs and SGDs conducted as part of the SELIs revealed that, generally, these small businesses are run by PAHs who do not possess vocational training skills and who rely on informal skills that have been passed down generations.

Most businesses are characterised by the use of limited and easily available inputs and are often heavily dependent on access to natural resources such as grass, palm leaves, and firewood.

**Land use and crop farming:** the SEHS distinguished between land for residential purposes (classified as 'residential land') and land for crop or livestock farming (classified as 'farming land').<sup>53</sup> 'Ownership' status of residential land is presented in Table 4.32 and Table 4.33.

**Residential plots:** the majority of PAHs affected by EACOP ha 'own' residential plots without legal documentation and 16 PAHs stated that they did not own their residential plot. Of these, the majority reside in 'other locations.' This suggest that a considerable proportion of EACOP PAHs who have resettled are renting their new homes. While, on average, they appear slightly better off than PAHs who remained in the PACs (see Table 4.43), in terms of tenure they might be more vulnerable.<sup>54</sup>

For community households surveyed, the majority own residential plots without legal documentations (see Table 4.33).

The median size of residential plots is 0.5 acres for PAHs affected by EACOP ha and 0.3-0.7 for community households surveyed (see Table 4.34 and Table 4.35).

<sup>53</sup> It is widespread practice to distinguish residential and agricultural parcels/land (see e.g. FAO, 2002).

<sup>54</sup> The reasons stated for lack of ownership of residential plots were lack of means to buy a house (seven PAHs) or because that the plot was owned by a family member (five PAHs).

**Table 4.32: PAHs affected by EACOP ha residential plots**

Residential plots	Chongoleani		Putini		Other locations	
	Number	%	Number	%	Number	%
Ownership with legal documentations	0	0%	0	0%	0	0%
Ownership without legal documentations	11	91.7%	52	89.7%	22	53.6%
Signed lease	0	0%	0	0%	1	2.4%
Title deed/letter of allotment	0	0%	0	0%	4	9.8%
Customary/traditional land rights	1	8.3%	4	6.9%	0	0%
Usufruct rights	0	0%	0	0%	0	0%
Does not own residential plot	0	0%	2	3.4%	14	34.1%
<b>Total</b>	<b>12</b>	<b>100%</b>	<b>58</b>	<b>100%</b>	<b>41</b>	<b>100%</b>

Source: RSK (2022c)

**Table 4.33: Community households surveyed residential plots**

Residential plots	Chongoleani		Putini		Ndaoya	
	Number	%	Number	%	Number	%
Ownership with legal documentations	0	0.0%	0	0.0%	0	0.0%
Ownership without legal documentations	34	77.3%	108	76.1%	39	67.2%
Signed lease	0	0.0%	0	0.0%	0	0.0%
Title deed/letter of allotment	0	0.0%	0	0.0%	0	0.0%
Customary/traditional land rights	0	0.0%	7	4.9%	0	0.0%
Usufruct rights	0	0.0%	0	0.0%	0	0.0%
Does not own residential plot	0	0.0%	24	16.9%	0	0.0%
Other/n/a	10	22.7%	3	2.1%	19	32.8%
<b>Total</b>	<b>44</b>	<b>100%</b>	<b>142</b>	<b>100%</b>	<b>58</b>	<b>100%</b>

Source: RSK (2022c)

Note: Data on Chongoleani are based on a representative sample of households.

**Table 4.34: PAHs affected by EACOP ha average and median size of residential plots**

Size of residential plots	Chongoleani	Putini	Other locations
	Number	Number	Number
Average size of residential plots in acres	0.4	0.6	2.1
Median size of residential plots in acres	0.5	0.5	0.5
Households with less than 0.25 acres	0	5	0

Source: RSK (2022c)

**Table 4.35: Community households surveyed average and median size of residential plots**

Size of residential plots	Chongoleani	Putini	Ndaoya
	Number	Number	Number
Average size of residential plots in acres	0.3	0.3	0.7
Median size of residential plots in acres	0.25	0.25	0.25
Households with less than 0.25 acres	6	0	0

Source: RSK (2022c)

Note: Data on Chongoleani are based on a representative sample of households.

Residential plots, while usually small in size, may be suitable for small-scale cultivation of crops such as cassava and legumes and traditional poultry rearing (see Figure 4.17).



**Figure 4.17: Residential plot with cassava cultivation, Putini mtaa**

**Farming land:** larger-scale crop cultivation is conducted on farming land, which is located away from the residential area (yet within walking distance to the main dwelling). As mentioned in section 4.2.13, due to urban development and land acquisition in the area, there is a general shortage of land in the PACs (especially in Putini). This trend is confirmed when analysing PAH's access to land. The type of land tenure for farmland stated during the SEHS is shown in Table 4.36 and Table 4.37.

Almost one in five PAHs affected by EACOP ha (or 18.9%), stated that they own non-Project affected farming land with or without legal documentation.<sup>55</sup> In addition, another 13 PAHs have access to non-Project affected farming land either by renting/leasing land or through farming on land owned by the extended family. Implied that the total

<sup>55</sup> The exact form of ownership was not verified during the SEHS. In general, land in Tanzania is governed by the land act for general land and the village land act for village land (land act no. 4 of general land and land act no. 5 of village land (1999). Under the general land act, people with surveyed plots are granted with a title deed as proof of ownership. Under village land, people with surveyed plots are granted with certificate of 'customary rights of occupancy' (ccro) as proof of ownership. PAHs who have relocated to urban areas would most likely have a title deed while those within the PAC who had their land surveyed, would in all likelihood have a ccro.

percentage of households who either 'own' or have access to land is 30.6%. Correspondingly, 72 PAHs (or 64.8%) do not have any access to farming land and depend entirely on their residential plots.<sup>56</sup>

For community households surveyed as Table 4.37 confirms, 33 of the surveyed households in Chongoleani (75.0%), 125 households in Putini (88.0%) and 37 households in Ndaoya (54.4%) do not have access to farming land. For households who have access, the majority 'own' farming land without legal documentation.

The average sizes of remaining non-Project affected farming land are shown in Table 4.38 and Table 4.39. For PAHs affected by EACOP ha, the average size of remaining non-Project affected farming land per PAH is 1.0 acre in Chongoleani, 2.2 acres in Putini, and 4.8 acres in 'other locations.' For community households surveyed, the average size of land is 2.8 acres in Chongoleani, 3.2 acres in Putini and 2.7 acres in Ndaoya.

**Table 4.36: PAHs affected by EACOP ha land tenure status of non-Project-affected farming land**

Farming land tenure	Chongoleani		Putini		Other locations	
	Number	%	Number	%	Number	%
Ownership documents for arable land	2	16.7%	4	6.9%	5	12.2%
Ownership without legal documents	1	8.3%	6	10.3%	3	7.3%
Has access to family-owned land	1	8.3%	1	1.7%	1	2.4%
Has access to rented/leased arable land	0	0%	3	5.2%	4	9.8%
Has access to land through other means	0	0%	1	1.7%	2	4.9%
Does not have access to farming land	7	58.3%	43	74.1%	22	53.7%
N/a	1	8.3%	0	0%	4	9.8%
<b>Total</b>	<b>12</b>	<b>100%</b>	<b>58</b>	<b>100%</b>	<b>41</b>	<b>100%</b>

Source: RSK (2022c)

**Table 4.37: Community households surveyed land tenure status of non-Project-affected farming land**

Farming land tenure	Chongoleani		Putini		Ndaoya	
	Number	%	Number	%	Number	%
Ownership documents for arable land	0	0.0%	0	0.0%	1	1.7%
Ownership without legal documents	0	0.0%	13	9.2%	0	0.0%
Has access to family-owned land	0	0.0%	3	2.1%	0	0.0%
Has access to inherited land (ownership status unknown)	0	0.0%	0	0.0%	0	0.0%

<sup>56</sup> Five PAHs did not respond to the question on access to farming land.

Has access to rented/leased arable land	0	0.0%	0	0.0%	2	3.4%
Has access to land through other means	11	25.0%	0	0.0%	0	0.0%
Does not have access to farming land	33	75.0%	125	88.0%	32	55.2%
N/a	0	0.0%	1	0.7%	23	39.7%
<b>Total</b>	<b>44</b>	<b>100%</b>	<b>142</b>	<b>100%</b>	<b>58</b>	<b>100%</b>

Source: RSK (2022c)

Note: Data on Chongoleani are based on a representative sample of households.

**Table 4.38: PAHs affected by EACOP ha average and median size of farming land**

Size of farming land (acres)	Chongoleani	Putini	Other locations
Average size of farming land	1.0	2.2	4.8
Median size of farming land	1.0	2.1	4.5

Source: RSK (2022c)

**Table 4.39: Community households surveyed average and median size of farming land**

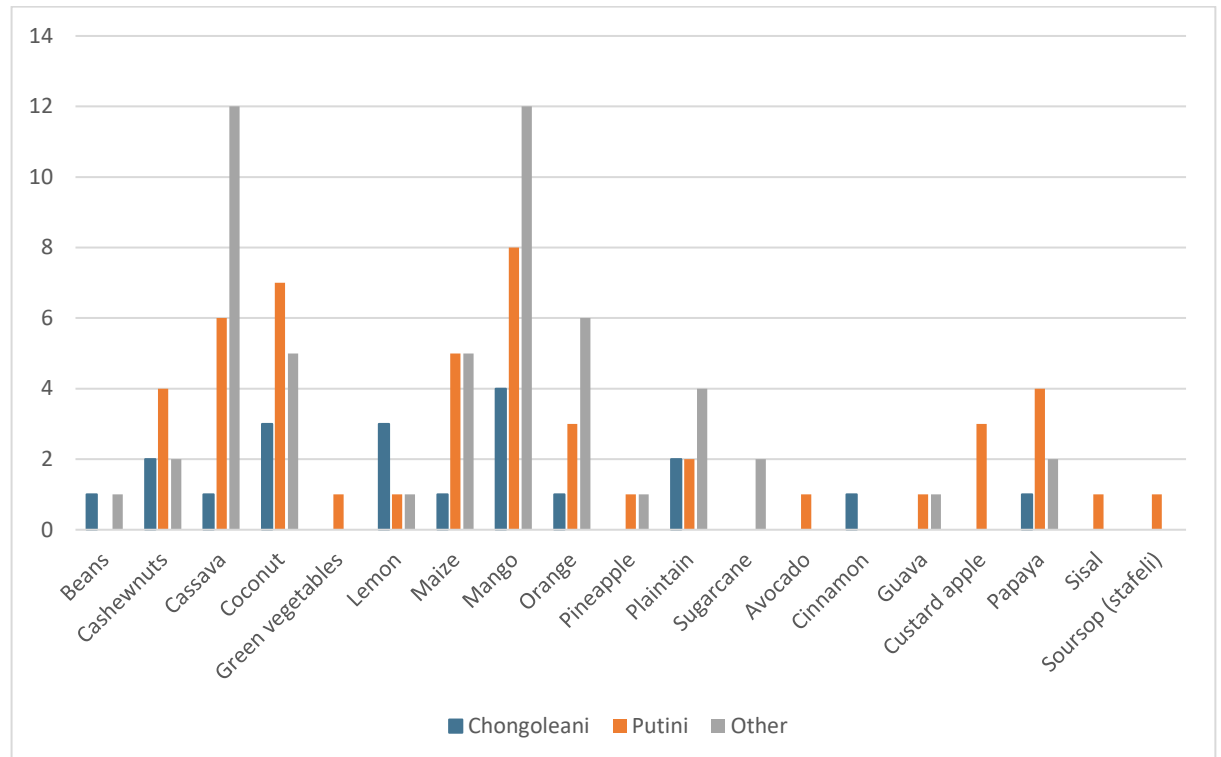
Size of farming land (acres)	Chongoleani	Putini	Ndaoya
Average size of farming land	2.8	3.2	2.7
Median size of farming land	2.0	3.0	2.0

Source: RSK (2022c)

Note: Data on Chongoleani are based on a representative sample of households.

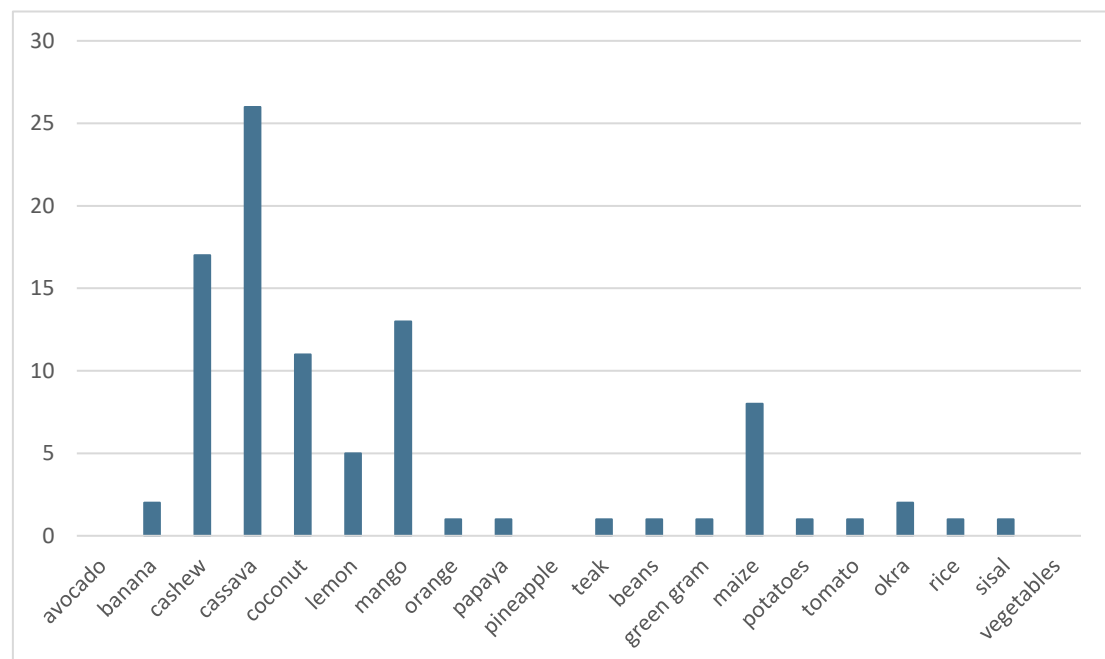
**Crop farming:** 43 PAHs affected by EACOP ha (or 12.2%) state crop farming as one of the household's main income/livelihood sources.<sup>57</sup> For community households surveyed, the figure is 6 households (or 3.0%). Figure 4.18 and Figure 4.19 shows the number of PAHs affected by EACOP ha and community households surveyed who grow crops or trees. As the figures illustrate, the majority of households grow cassava, cashew, coconut, mango and lemon.

<sup>57</sup> 12 PAHs in 'Other location', 11 PAHs in Putini, and one PAH in Chongoleani.



**Figure 4.18: Number of PAHs affected by EACOP ha who grow crops or trees**

Source: RSK (2022c)



**Figure 4.19: Number of community households surveyed who grow crops or trees**

Source: RSK (2022c)

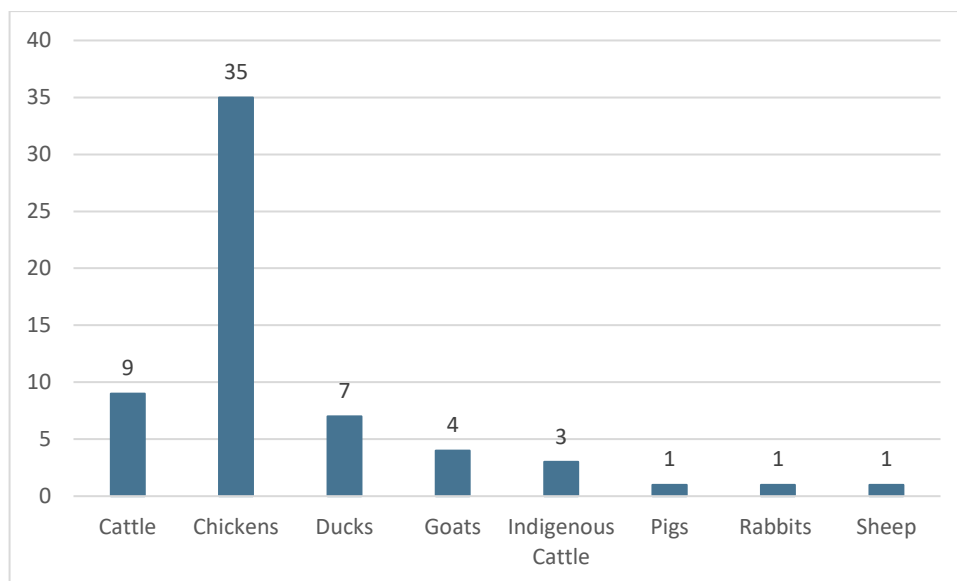
Similar to the crop cultivation techniques described for the wider PACs, crops and trees are usually intercropped on small areas of land with limited input and yields are low. Compared to other rural areas in Tanzania, farming skills are not well developed.



For PAHs affected by EACOP ha, 26 (23.8%) report that they use improved agricultural methods. This includes nine who reported that they intercrop; seven practice monoculture, six use crop rotation, and four apply intensive tillage. However, the use of fertiliser, compost, or irrigation is limited to just one PAH.

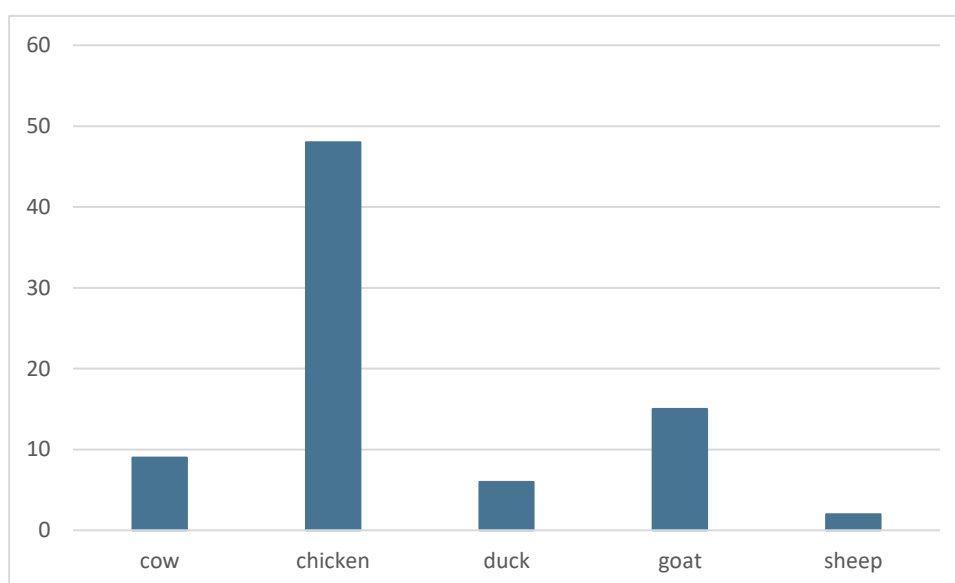
For community households surveyed a similar share, 41 (19.5%) state that they use improved agricultural practices such as intercropping (21), crop rotation (4), monoculture (15), and control of livestock disease (1).

**Livestock farming:** Figure 4.20 and Figure 4.21, shows the number of households that keep livestock. For PAHs affected by EACOP ha, the vast majority of households keep poultry. However, other ruminants such as cattle and goats are rare.



**Figure 4.20: PAHs affected by EACOP ha livestock possession, all areas**

Source: RSK (2022c)



**Figure 4.21: Community households surveyed livestock possession, all areas**

Source: RSK (2022c)

#### 4.6.1.4 Gender division of labour

In general, female PAH members are dependent on the male household head's income from fishing at sea. Despite this dependency, women play a critical role in the household, taking care of the majority of reproductive work (see Table 4.40 and Table 4.41). For most tasks, surveyed households state that the activity is carried out by both male and female household members (jointly). Despite this, women are often responsible for domestic work.

**Table 4.40: EACOP terrestrial PAHs gender division of labour**

Type of work/activity	Share of households			
	Female	Male	Jointly	N/a
Domestic work	68.2%	2.7%	27.7%	1.8%
Deciding how to use income	22.7%	18.2%	55.5%	3.6%
Attending village meetings	22.7%	23.6%	50.0%	3.6%
Planting/weeding	4.6%	8.2%	15.5%	71.2%
Harvesting cash crops	3.6%	7.3%	17.3%	71.8%
Livestock rearing	4.6%	10.0%	20.0%	65.5%
Marketing produce (crops/livestock)	9.1%	10.0%	19.1%	61.8%
Working outside home for cash incomes	11.8%	24.6%	39.1%	24.6%

Source: RSK (2022c)

**Table 4.41: Community households surveyed gender division of labour**

Type of work/activity	Share of households:			
	Female	Male	Jointly	N/a
Domestic work	56.2%	13.3%	30.5%	0.0%
Deciding how to use income	14.2%	19.1%	64.8%	1.9%
Attending village meetings	14.2%	19.1%	66.2%	0.5%
Planting/weeding	2.4%	3.3%	14.8%	79.6%
Harvesting cash crops	1.9%	1.4%	15.2%	81.4%
Livestock rearing	3.8%	1.4%	18.1%	76.7%
Marketing produce (crops/livestock)	2.4%	4.3%	21.4%	71.9%
Working outside home for cash incomes	10.4%	21.4%	29.1%	39.1%

Source: RSK (2022c)

#### 4.6.2 Physically displaced PAHs

Ten PAHs affected by EACOP ha were physically displaced (loss of dwelling) during the 2017 land acquisition (see Table 5.13 in Chapter 5). Similar to the economically displaced PAHs, the vulnerability analysis in the VPP will determine if any of the physically displaced households should be characterised as vulnerable.

In Table 4.42, an overview of socio-economic indicators of the physically displaced PAHs' is presented. The table shows that there are significant differences in PAHs' self-reported annual income. Two physically displaced PAHs reported to have had an annual income of respectively 43 USD (100,000 T.Shs.) and 129 USD (300,000 T.Shs.). These two

PAHs can be characterised as extremely poor. In contrast, two PAHs (one located in Putini and one in Dar es Salaam) have fairly high annual incomes, above the minimum wage level. Despite the two PAHs with very low incomes, a general comparison of the physically displaced PAHs and all surveyed PAHs showed no significant differences (RSK, 2022a).

**Table 4.42: Overview of physically displaced PAHs affected by EACOP ha**

Current location	Gender of PAH head	Hh members	Main livelihood/ income source	Access to farming land	PAHs' self-reported annual income in TZS
Putini	Male	7	Remittances and small-scale business	No	300,000 (129 USD)
Putini	Female	1	Business	No	1,500,000 (645 USD)
Putini	Male	8	Business	No	1,200,000 (517 USD)
Putini	Male	11	Farming	Yes	4,800,000 (2,067 USD)
Putini	Male	11	Fishing	Yes	3,600,000 (1,550 USD)
Chongoleani	Male	13	Fishing	No	2,400,000 (1,033 USD)
Maramba	Female	2	Farming	Yes	100,000 (43 USD)
Tanga	Male	6	Formal employment	No	3,024,000 (1,302 USD)
Dar es Salaam	Male	7	Business	No	7,500,000 (3,230 USD)
Putini	Male	9	Farming	Yes	2,700,000 (1,157 USD)

Source: RSK (2022c)

#### 4.6.3 PAHs affected by EACOP ha who have resettled in other locations

As mentioned, 39, PAHs affected by EACOP ha have relocated after the 2017 land acquisition. The survey results suggest that the PAHs who migrated are better off than those who did not move outside of Putini or Chongoleani after the land acquisition (see Table 4.43).

There are two likely explanations for this. Perhaps PAHs who decided to migrate after land take were already better off before 2017 and were therefore able to relocate to new areas as available farmland in the PACs decreased. Alternatively, PAHs who migrated were not better off initially yet the new places they have settled into provide better livelihoods opportunities. Suggesting that the former might be the case, PAHs who have migrated have a higher proportion of household members with more than ordinary

secondary education ('Form 4') and may therefore have better access to income generating activities.

**Table 4.43: Comparison of PAHs who remained and who relocated after land acquisition**

Indicator/area	Putini and Chongoleani combined		Other location	
	Number	%	Number	%
At least one hh member has more than Form 4 education	9	2.4%	18	15.4%
At least one hh member has a private-sector job	3	1.3%	7	5.7%
HH has experienced food shortages in past 12 months (yes)	45	66%	17	41.4%
Subjective welfare: 'living standards have worsened since 2017' (yes)	62	91.2%	34	83%

Source: RSK (2022d)

## 5 SUMMARY OF PROJECT IMPACTS

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### 5.1 Introduction

Identified Project-induced terrestrial and marine impacts are described in this chapter.

### 5.2 Impacts on marine-based livelihoods

#### 5.2.1 Methodology

##### 5.2.1.1 *Typology of impacts*

The construction and operation of marine facilities can result in multiple impact on coastal fisheries. Broadly, these impacts fall into five classes:

- **Exclusion** from target resources: this will occur when the EZ, anchoring area or similar occupies a fishing/gleaning zone and prevents the use of that zone. The degree of impact will be determined by the portion of the target resource that is excluded, and the value of that portion. Exclusion impacts may be seasonal if target fishing areas also vary seasonally
- **Impeded access** to or from target resources: access to and from resources may be compromised by structures, the EZ and moored vessels, requiring fishers / gleaners to use a less desirable route. This will usually result in additional transit time and/or distance between the base, the resource, and the preferred landing site. The impact on users will be that they have less time available either to fish / glean or to participate in other normal activities, whether productive or not. As with exclusion, the degree of impact of impeded access may vary seasonally if routes between the base, resource and market also change with the seasons. Impacts due to impeded access are not linear and a 20% increase in travel time will not necessarily lead to a 20% decrease in catch. The actual impact will depend on the balance between travel time and fishing time for a particular vessel targeting a specific fishing ground
- **Interrupted or impeded activity:** specific Project activities can temporarily or periodically oblige the suspension or interruption of normal fishing or gleaning. Such activities could include the presence of shipping outside of the EZ (even in transit) or underwater noise from piling. The latter would have specific impact on diving fishers who would normally work within the range where underwater noise could affect safety. The degree of impact of interrupted activity will be determined by the frequency and duration of interruption and overlap of the areas affected with normal fishing or gleaning grounds. The degree of impact may also vary seasonally as fishing areas change
- **Degraded productivity of the resource:** the productivity of resources may be affected by both structures and activities. Underwater noise will affect the behaviour of marine organisms including fish, resulting in changes in the presence and catchability of stocks. The degree of impact will vary by species, with greater

influence on fish species with swim bladders<sup>58</sup>. In the intertidal zone, shade from structures may have impact on the quality of seagrass beds and the productivity of that habitat. The degree of degrading of fisheries resources due to noise is particularly difficult to estimate as not only is it species dependant but there is some evidence to suggest that fish can become used to noise after a period and return to normal behaviour and habitats<sup>59</sup>

- **Secondary impacts:** secondary impacts are associated with the consequences of the four primary impacts classified above. Typically, secondary impacts are associated with the displacement of fishing or gleaning, because of direct project impacts, onto resources that then become degraded by the additional fishing effort. This may happen when a significant part of a resource is impacted, and effort then becomes focussed on the part that is still accessible.

In addition to the negative impacts listed above, there may be positive impacts on fisheries resources due to the presence of the exclusion zone and the elimination of fishing effort therein.

It should be noted that the analysis of impacts by phase below is focussed on normal Project activity and does not contemplate impacts resulting from accidents of any type.

To ease readability, a summary of impacts by typology is presented in the main text. A detailed description of each impact by typology is shown in Appendix 7.

#### 5.2.1.2 *Categorisation of impact*

Where possible quantitative impact estimates have been made for each type of impact listed above, based on data collected during the marine baseline (RSK, 2022b). These correspond to expected decrease in catch/production that affected persons would experience. Both the methodology used for the quantitative estimate of impacts and details as to how the results should be interpreted are presented Appendix 6. The thresholds used to categorise marine impacts are shown in Table 5.1.

<sup>58</sup> Spiga, I, Cheesman, S, Hawkins, A, Perez-Dominguez, R, Roberts, L, Hughes, D, Elliott, M, Nedwell, J, Bentley, M (2012). Understanding the Scale and Impacts of Anthropogenic Noise upon Fish and Invertebrates in the Marine Environment. SoundWaves Consortium Technical Review (ME5205)

<sup>59</sup> Nedwell J.R., A.W.H. Turnpenny, J. Lovell, S.J. Parvin, R. Workman, J.A.L. Spinks & D. Howell (2007) A validation of the dBht as a measure of the behavioural and auditory effects of underwater noise. Subacoustech Report No. 534R1231



**Table 5.1: Categorisation of impacts**

Impact category	Quantitative estimate	Implication
Severe	>50%	Activity can no longer provide reliable worthwhile contributions as part of a diversified household livelihood strategy
Significant	20%-50%	Activity can continue but with significantly reduced productivity which will not always make worthwhile contributions to a diversified household livelihood strategy
Moderate	5-20%	Activity can usefully continue but productivity will be reduced beyond normal variability
Minor	<5%	Activity can continue unrestricted, and without reduced productivity

In the following sections, marine impacts by construction and operational scenario phases are described.

## 5.2.2 Project-affected households

The analysis of impacts includes an estimate for the number of affected households per community. In the case of Putini this has been taken from a complete (100% coverage) survey of livelihood activities in all households, covering (amongst other issues) both gleaning and fishing. For Ndaoya the same survey covered all fishing households but no gleaners, as these are not projected to be impacted by the project. In the case of Chongoleani, impacts were initially projected to be very small and not warrant the individual identification of affected persons or households. Thus, only a sample of households were surveyed and the results are extrapolated from the sample. The final acoustic model (received after the household survey was completed) however indicated that the impacts on divers from Chongoleani will be much more widespread than initially anticipated, and it will be necessary to conduct further field work to identify affected persons as part of implementation of livelihood restoration for this group.

## 5.3 Marine impacts during construction

Construction will start at a point 770 m from the shore with two piling rigs. One rig will work from there towards the shore, whilst the other will move to the loading berth and work from there back towards the 770 m mark. A total of 170 deeper water piles will be driven, including 57 for the construction of the loading berth. The piling will be restricted to daylight hours.

The piling contractor will implement an underwater noise suppression system around the deep-water rig to attenuate underwater noise from piling and reduce the impact on both aquatic resources and human divers. Acoustic modelling has been conducted to determine the radius for safe bare-headed free diving (without hood or any other headgear), as practised by fishers in Ulenge Bay<sup>60</sup> (RSK, forthcoming).

<sup>60</sup> Ward P. "Underwater noise impact study for EACOP Project, Cumulative Piling with and without Acoustic Mitigation, Tanga Bay, Tanzania." Award Environmental Consultants November 2022.

During the construction phase, vessel movements will be confined to the EZ and the access channels. Some vessels, such as barges carrying piles, cranes, and prefabricated deck structure, may have an almost permanent presence in the EZ during construction. Other vessels may include specialised ships for security, technical services (such as crew change or diving) and anchor handling.

#### *5.3.1.1 Timing and duration*

The piling campaign will last nine months and is expected to start in 2023. The deep-water piles should be complete within one year end and the shallow water piles within 18-months. The entire marine construction phase is expected to be complete by 2025.

#### *5.3.1.2 Loss of access during construction*

During the construction phase a moveable safety EZ will be established around each of the piling rigs. The elevated rig working in the inshore zone will have a 50 m EZ, whilst a 100 m EZ will be set around the barge-based piling rig operating in deeper water. As each rig progresses towards the land, the EZ will move with the rig. Fishers and gleaners will not be allowed within the EZs but will be allowed to transit, fish, and glean both ahead of the rigs and under the constructed jetty once the rig has passed, providing that there are no ongoing works overhead.

The map presented in Figure 5.1 shows the routes accessible around the EZs and through the line of the jetty, together with the diver exclusion zone, discussed further in section 5.3.2.1 below.



### 5.3.2 Impacts during construction

Impacts on fishers during construction is presented first, followed by impacts on gleaners. A detailed description is provided in Appendix 7.

#### 5.3.2.1 Fishers

A summary of impacts on fishers from exclusion during construction is presented in **Error! Reference source not found.** As the table shows, affected groups include fishers and divers from the PACs. The most severely affected group are short range divers from the PACs.

**Table 5.2: Summary of construction phase impacts on fishers**

Community	Impact type	Affected group	Number of affected households <sup>1</sup>	Impact estimate	
				NE monsoon	SE monsoon
Chongoleani	Exclusion	Short range fishers with vessels	44	0%	3%
	Exclusion	Short range fishers without vessels	n/d <sup>2</sup>	2%	0%
	Exclusion	Short range diving fishers	18	93%	82%
Putini	Exclusion	Short range fishers with vessels	71	2%	1%
	Exclusion	Short range fishers without vessels	n/d <sup>2</sup>	0%	3%
	Exclusion	Short range diving fishers	26	81%	89%

1 No. of affected HHs for Chongoleani is derived from extrapolation of the sample covered by the SEHS.

2 No data. The SEHS did not successfully capture data on the number of HHs with fishers without vessel, possibly due to it being an occasional activity, rather than a normal occupation.

Source: RSK (2022b, 2022c)

An overview of construction impacts on gleaners is presented below.

#### 5.3.2.2 Gleaners

A summary of impacts on gleaners during the construction phase (due to exclusion) is shown in Table 5.3. As the table shows, gleaners from Putini are moderately impacted. Due to changes in the construction design, gleaners from Chongoleani are no longer affected.

**Table 5.3: Summary of construction impacts on gleaners because of exclusion**

Community	Impact Type	Affected Group	Number of affected households	Impact Estimate	
				NE monsoon	SE monsoon
Putini	Exclusion	All gleaners	82	8%	16%

## 5.4 Impacts during the operational phase

The operational phase will start once construction is completed by 2025 and continue for the life of the Project.

During this phase fishers will be prevented from accessing the 500m EZ for fishing operations, and gleaners may or may not be allowed access into the intertidal zone, depending on the chosen operational access scenario<sup>61</sup>.

The five operational scenarios and associated impacts are described in the following sub-sections. First impacts by operational phase are summarised.

### 5.4.1 Overview of Operational Scenarios

The five Operational Scenarios and their access for fishers and gleaners are as follows:

- **Scenario 1:** Neither gleaners nor fishers may enter the EZ for transit, gleaning or fishing
- **Scenario 2:** Gleaners can glean in the EZ, but not transit or glean under the jetty. No access for fishers
- **Scenario 3:** Gleaners can transit under the jetty, glean in the EZ but not under the jetty. No access for fishers
- **Scenario 4:** Unrestricted access for gleaners for transit and gleaning. No access for fishers
- **Scenario 5:** Unrestricted access for gleaners for transit and gleaning. Transit only for fishers.

A summary of the access scenarios under each Operational Scenario is presented in Table 5.4.

**Table 5.4: Summary of operational phase access scenarios**

Operational scenario		Access either side of Jetty	Transit Under Jetty	Work Under Jetty
Scenario 1	Fishers	x	x	x
	Gleaners	x	x	x
Scenario 2	Fishers	x	x	x
	Gleaners	✓	x	x
Scenario 3	Fishers	x	x	x
	Gleaners	✓	✓	x
Scenario 4	Fishers	x	x	x
	Gleaners	✓	✓	✓
Scenario 5	Fishers	x	✓	x
	Gleaners	✓	✓	✓

<sup>61</sup> At the time of writing, EACOP had defined the five possible access scenarios, but the actual operational scenario had not yet been selected.



#### 5.4.1.1 Overview of impacts

An overview of impacts by operational scenario is presented first (Table 5.7). Each phase is described in more detail in the following sub-sections. The Table shows the following general findings:

- Impacts during the SE monsoon period are more severe than in the NE monsoon period
- Fishers and gleaners from Putini are more severely impacted than those from Chongoleani and Ndaoya
- There is considerable variation in impact on specific fisher groups in each community
- Only fishers and gleaners from Putini suffer severe impacts
- Operational Scenarios 2, 3, 4 and 5 (Chongoleani) and 4 and 5 (Putini) allow gleaning to continue with no or minimal impact
- Operational scenario 5 (transit through the EZ) reduces impacts for long range fishers (mostly using outrigger canoes to access grounds at the outer reefs) from Putini and Ndaoya, but there are still severe impacts for short range fishers (using smaller vessels in Tanga Bay and Ulenge Bay) from Putini during the SE monsoon period.

**Table 5.5: Summary of operational phase impacts by scenario and season**

		Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5	
Community		NE	SE	NE	SE	NE	SE	NE	SE	NE	SE
Chongoleani	Fishers	4-11%	13-15%	4-11%	13-15%	4-11%	13-15%	4-11%	13-15%	4-11%	13-15%
	Gleaners	18%	22%	3%	0%	0%	0%	0%	0%	0%	0%
Putini	Fishers	0-18%	18-77%	0-18%	18-77%	0-18%	18-77%	0-18%	18-77%	6-17%	16-70%
	Gleaners	81%+	87%+	31%+	52%+	20%	33%	0%	0%	0%	0%
Ndaoya	Fishers	<8%	<8%	<8%	<8%	<8%	<8%	<8%	<8%	<5%	<5%

<b>Qualitative Key<sup>62</sup>:</b>		Severe		Significant		Moderate		Minor
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<sup>62</sup> The link between the estimated impact and the qualitative key is described in Table 5.1. In the case of a range of estimated impacts, the qualitative category is based on the most severe estimate.



**Table 5.6: Detail of Putini fishers operational phase impacts by scenario and season**

Impact type	Affected group	Scenarios 1-4		Scenario 5	
		NE	SE	NE	SE
Exclusion	Short range fishers with vessels	17%	18%	17%	18%
Exclusion	Short range fishers without vessels	0%	71% <sup>1</sup>	0%	71% <sup>1</sup>
Impeded Access	Fishers with dhows	18%	77%	6%	16%
Impeded Access	Fishers with outrigger canoes	<12%	<4%	<5%	<6%

<sup>1</sup> Impact potentially distorted by purposeful changes in fishing patterns by fishers during enumeration in the SE monsoon period to exaggerate the role of the EZ as part of their normal fishing grounds

Details for each operational scenario are provided in the following sub-sections.

#### 5.4.1.2 Variable Exclusion Zone

The five operational scenarios and their associated impacts have been evaluated based on a persistent EZ - one which will continue to be enforced throughout the operational phase, under all conditions. If the EZ were to be occasional, and temporarily suspended under certain conditions, all the impacts associated with exclusion and impeded access would be reduced, roughly in proportion to the time that the EZ was suspended. If the EZ was suspended for 30% of the time, then the estimated impacts would be reduced by a factor of about 30%.

A variable exclusion zone could significantly reduce Project impacts on both fishers and gleaners of all categories but could be considered to increase both security risk and the complexity of management of the EZ. The suspension of the EZ could be considered based on factors such as reduced security context (such as periods when a ship is not present at the loading berth) or on a fixed periodic basis (such as the first two or three days of every quarter).

#### Benefits of Variable EZ

- Reduced exclusion impacts on short-range fishers and gleaners
- Reduced impeded access impacts on long- and short-range fishers
- Reduced risk to fishers from forced adoption of transit routes through more exposed waters, assuming that transit under the jetty would be permitted
- Easier for short range fishers to benefit from the stock accumulation that would occur within the EZ whilst it was closed
- Clear demonstration by the Project to all stakeholders of steps to minimise impacts.

#### Costs of Variable EZ

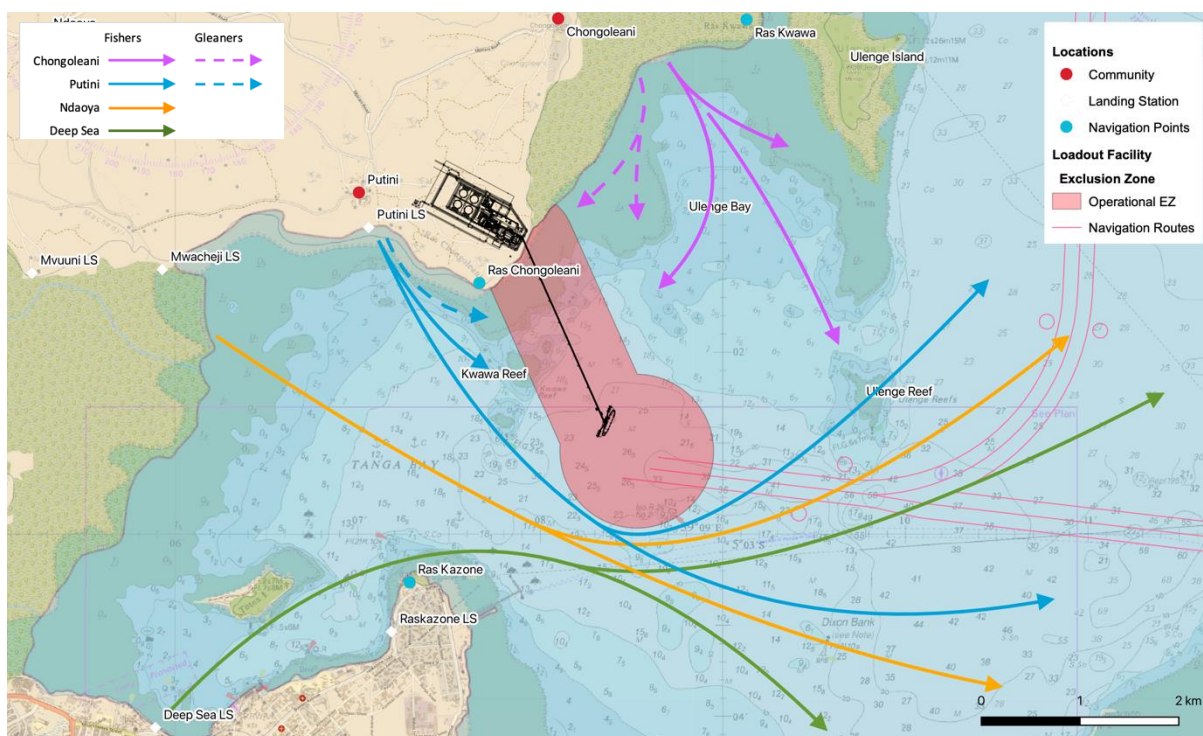
- Potentially increased security risk

- Increased EZ management complexity and cost
- Increased requirement for effective communication between the Project / Port management and the fishing communities

## 5.4.2 Operational Scenario 1

### 5.4.2.1 Description: neither gleaners nor fishers may enter the EZ for transit, gleaning or fishing.

Under operational scenario 1, neither gleaners nor fishers will be able to enter the 500m EZ, for transit, gleaning or fishing. Any restrictions placed upon divers during the construction phase due to underwater noise will no longer apply during all Operational Scenarios (including number 1) (see Figure 5.2).



**Figure 5.2: operational scenario 1**

### 5.4.2.2 Impacts under operational scenario 1

#### Fishers:

A summary of impacts on fishers during operational scenario 1 is shown in Table 5.9. As the table shows, impacts are significantly greater than during the construction phase except for divers who will not be subject to specific impacts from underwater noise. Affected groups include fishers from the PACs and fishers with dugout canoes leaving Deep Sea landing station to target Ulenge fishing ground.

**Table 5.7: Summary of operational impacts on fishers, scenario 1**

Community	Impact type	Affected group	Number of affected households <sup>1</sup>	Impact estimate	
				NE monsoon	SE monsoon
Chongoleani	Exclusion	Short range fishers with vessels	44	4%	13%
	Exclusion	Short range fishers without vessels	n/d <sup>3</sup>	11%	15%
	Impeded Access	Longer range dhows, landing at Deep Sea	18	8%	10%
Putini	Exclusion	Short range fishers with vessels	71	17%	18%
	Exclusion	Short range fishers without vessels	n/d	0%	71% <sup>2</sup>
	Impeded Access	Fishers with dhows	n/d	18%	77%
	Impeded Access	Fishers with outrigger canoes	83	<12%	<4%
Ndaoya	Impeded Access	Fishers with outrigger canoes	58	<8%	<8%
Deep Sea	Impeded Access	Fishers with dugout canoes targeting Ulenge Bay	Few	32%	32%

1 Number of affected HHs for Chongoleani is derived from extrapolation of the SEHS.

2 Impact potentially exaggerated by changes in fishing patterns to influence collected data.

3 No Data. The SEHS did not successfully capture data on the number of HHs with fishers without vessel, possibly due to it being an occasional activity, rather than a normal occupation.

Source: RSK (2022b)

#### Gleaners:

As the summary provided in Table 5.10 shows, gleaners from Putini are severely impacted due to exclusion under scenario 1. Gleaners from Chongoleani are also likely to be impacted during this scenario albeit to a lesser extent.

**Table 5.8: Summary of operational impacts on gleaners, scenario 1**

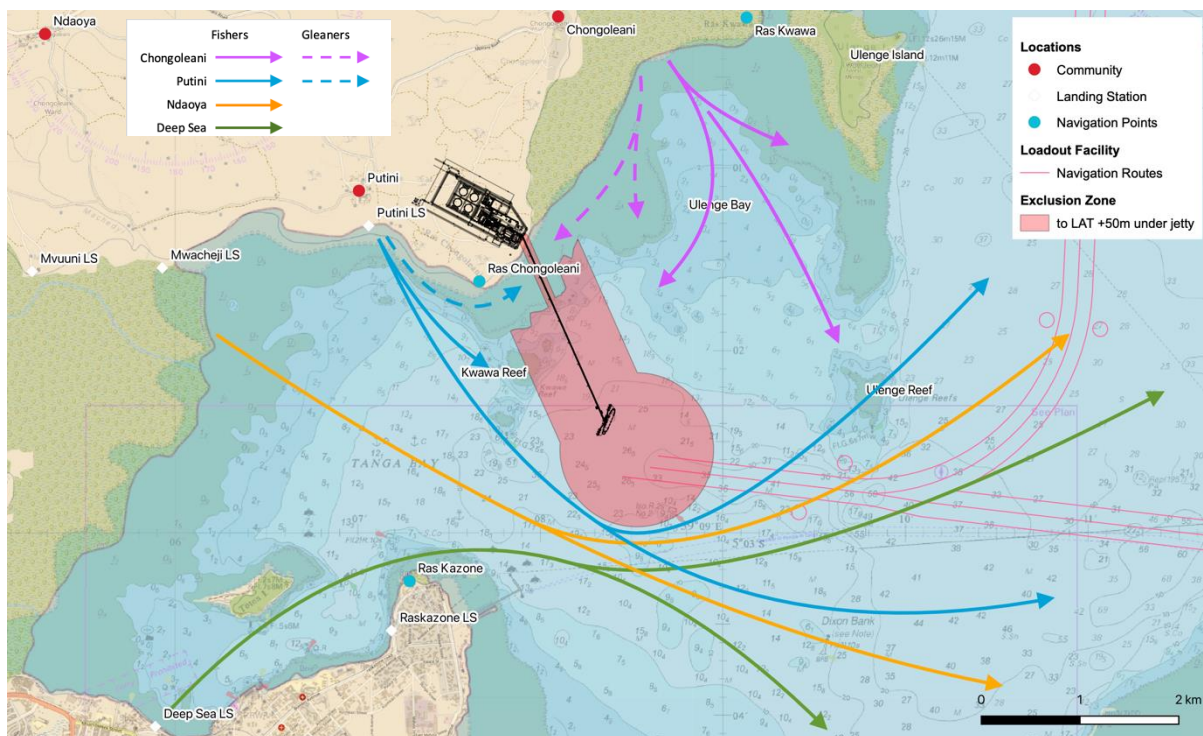
Community	Impact type	Affected group	Number of affected house holds	Impact estimate	
				NE monsoon	SE monsoon
Chongoleani	Exclusion	All gleaners	53	18%	22%
Putini	Exclusion	All gleaners	82	81%	87%
	Secondary	All gleaners	82	Severe	

Source: RSK (2022b)

### 5.4.3 Operational phase 2

#### 5.4.3.1 Description: gleaners can glean in the EZ, but not transit or glean under the jetty. No access for fishers.

Under scenario 2, gleaners would be permitted to glean within the 500 m EZ but would not be able to transit or glean under the jetty. The EZ in the intertidal zone would be reduced to 50 m (to be confirmed), applicable only to persons on foot. The reduced EZ in the intertidal zone could be accessed from either side but there would be no terrestrial transit of the pipeline route between the jetty and the MST. An EZ of 500 m would be applicable to all vessels and swimming fishers (see Figure 5.3).



**Figure 5.3: Operational scenario 2**

#### 5.4.3.2 Impacts under operational scenario 2

This section summarises the impacts to fishers and gleaners under operational scenario 2 shown in **Error! Reference source not found..**

##### Fishers:

Table 5.9 presents a summary of impacts on fishers under operational scenario 2. As the table shows, impacts on fishers would be like those under scenario 1.

**Table 5.9: Summary of operational impacts on fishers, scenario 2**

Community	Impact type	Affected group	Number of affected households <sup>1</sup>	Impact estimate	
				NE monsoon	SE monsoon
Chongoleani	Exclusion	Short range fishers with vessels	44	4%	13%
	Exclusion	Short range fishers without vessels	n/d	11%	15%
	Impeded Access	Longer range dhows, landing at Deep Sea	18	8%	10%
Putini	Exclusion	Short range fishers with vessels	71	17%	18%
	Exclusion	Short range fishers without vessels	n/d	0%	71% <sup>2</sup>
	Impeded Access	Fishers with dhows	n/d	18%	77%
	Impeded Access	Fishers with outrigger canoes	83	<12%	<4%
Ndaoya	Impeded Access	Fishers with outrigger canoes	58	<8%	<8%
Deep Sea	Impeded Access	Fishers with dugout canoes targeting Ulenge Bay	few	32%	32%

1 Number of affected HHs for Chongoleani is derived from extrapolation of the sample covered by the SEHS.

2 Impact potentially exaggerated by changes in fishing patterns to influence collected data.

Source: RSK (2022b)

### Gleaners:

Gleaners are likely to be affected by both exclusion and secondary impacts (for more details, see Appendix 7).

A summary of operational impacts on gleaners during scenario 2 is shown in Table 5.10. As the table shows, especially gleaners from Putini are affected albeit less so than under Scenario 1.

**Table 5.10: Summary of operational impacts on gleaners, scenario 2**

Community	Impact type	Affected group	Number of affected households	Impact estimate	
				NE monsoon	SE monsoon
Chongoleani	Exclusion	All gleaners	53	3%	0%
Putini	Exclusion	All gleaners	82	31%	52%
	Secondary	All gleaners	82	Moderate	







**Table 5.11: Summary of operational impacts on gleaners, scenario 3**

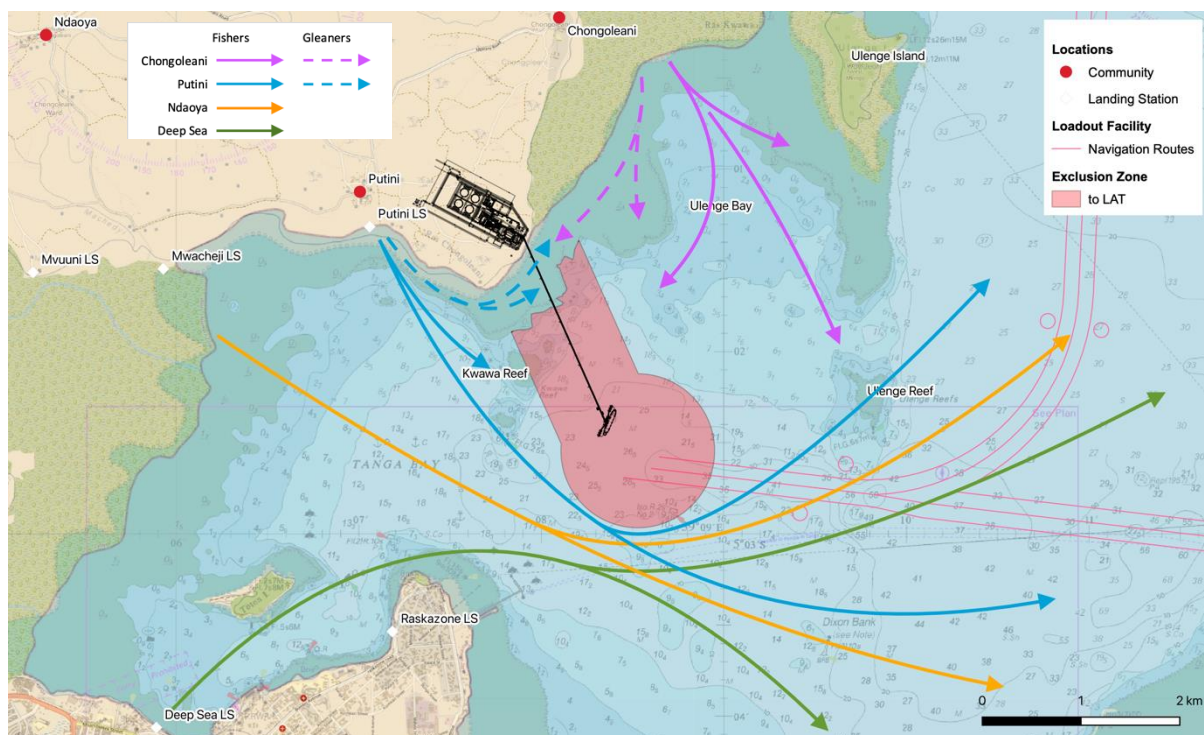
Community	Impact type	Affected group	Number of affected households	Impact estimate	
				NE monsoon	SE monsoon
Putini	Exclusion	All gleaners	82	20%	33%
	Secondary	All gleaners	82	Slight	

Source: RSK (2022b)

## 5.4.5 Operational scenario 4

### 5.4.5.1 Description: unrestricted access for gleaners for transit and gleaning. No access for fishers

Under scenario 4, there would be no EZ for persons on foot in the intertidal zone, and gleaners would be permitted passage under the jetty at any point. They would be allowed to glean in the vicinity of and under the jetty structure. An EZ of 500 m would be applicable to all vessels and swimming fishers (see Figure 5.5).



**Figure 5.5: operational scenario 4**

### 5.4.5.2 Impacts under operational scenario 4

#### Fishers:

Impacts on fishers under operational scenario 4 would be the same as those under Scenario 1 (see Table 5.7).

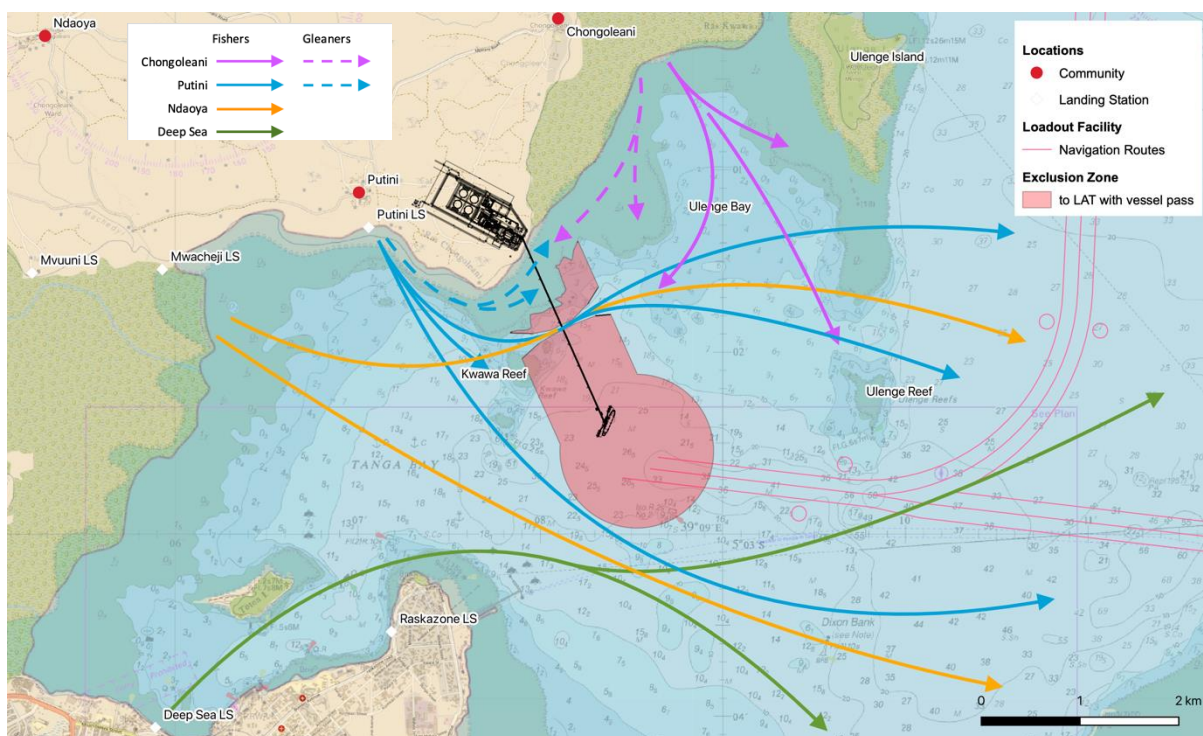
#### Gleaners:

Under operational scenario 4 there would be no impacts on gleaners from either Putini or Chongoleani.

## 5.4.6 Operational scenario 5

### 5.4.6.1 Scenario 5: unrestricted access for gleaners for transit and gleaning. Transit only for fishers

Under scenario 5, there would be no EZ for persons on foot in the intertidal zone, and gleaners would be permitted passage under the jetty at any point. They would be able to glean in the vicinity of and under the jetty structure. Transit would be permitted for fishers through the 500 m EZ at a specific point under the jetty structure. Fishers would only be permitted to pass under specific spans of the jetty, different spans being used for northbound and southbound transit. Passage would only be permitted for vessels under human power. Sailing vessels would be required to lower sail within 50 m of the jetty and paddle or punt 100 m whilst they passed under the structure. Motorised vessels would not be permitted passage and would be required to navigate around to the south of the EZ (see Figure 5.6).



**Figure 5.6: Operational scenario 5**

### 5.4.6.2 Impacts under operational scenario 5

#### Fishers:

Under operational scenario 5, fishers will be affected by various impacts of which an overview is presented in Table 5.12 (for more details, see Appendix 7).

As the table shows, short-range fishers from Putini are severely impacted under this scenario. This is followed by fishers from Chongoleani and to a minor extent fishers from Ndaoya and Deep Sea.

**Table 5.12: Summary of Operational Impacts on Fishers, Scenario 5**

Community	Impact type	Affected group	Number of affected households <sup>1</sup>	Impact estimate	
				NE monsoon	SE monsoon
Chongoleani	Exclusion	Short range fishers with vessels	44	4%	13%
	Exclusion	Short range fishers without vessels	n/d	11%	15%
	Impeded Access	Longer range dhows, landing at Deep Sea	18	10%	13%
Putini	Exclusion	Short range fishers with vessels	71	17%	18%
	Exclusion	Short range fishers without vessels	n/d	0%	71% <sup>1</sup>
	Impeded Access	Fishers with dhows	n/d	6%	16%
	Impeded Access	Fishers with outrigger canoes	83	<5%	<6%
Ndaoya	Impeded Access	Fishers with outrigger canoes	58	<5%	<5%
Deep Sea	Impeded Access	Fishers with dugout canoes targeting Ulenge Bay	few	2%	2%

<sup>1</sup> Number of affected HHs for Chongoleani is derived from extrapolation of the sample covered by the SEHS.

<sup>2</sup> Impact potentially exaggerated by changes in fishing patterns to influence collected data.

Source: RSK (2022b).

The benefit for fishers from having the ability to transit through the EZ is partially offset by the requirement to do so under human power. Time would be lost raising / lowering the sails as well as paddling under the jetty. The benefit from transit under the jetty could be maximized by minimizing the distance that fishers were required to paddle before raising sail again.

#### **Gleaners:**

Impacts on gleaners under Operational Scenario 5 there would be no impacts on gleaners from either Putini or Chongoleani.

## **5.5 Impacts on terrestrial livelihoods**

In contrast to the marine impacts, the majority of terrestrial impacts have already occurred. These impacts included the loss of land within EACOP ha (EACOP, 2022a; 2022b). Figure 5.7 shows a map of the affected land parcels within the MST site (~72 ha) and Figure 5.8 shows land parcels affected by the Project's pipeline corridor and access road to the MST site (within the TPA 200 ha).

As Figure 5.7 demonstrates, land parcels are either partially within or wholly within the EACOP ha. However, land parcels partially within EACOP ha are wholly within TPS 200

ha. This implies that during the 2017 land acquisition process land owners would have lost and been compensated for all their Project-affected land.

An overview of the terrestrial impacts is presented in Table 5.13. As can be seen from the Table, the total number of EACOP PAHs including unidentifiable owners of affected land plots is 123 (of which 10 land parcels have no identified owner). Ten of these PAHs were physically displaced during the 2017 land acquisition (i.e. loss of dwelling). Two PAHs are institutional (i.e. churches). Of the surveyed PAHs affected by EACOP ha, 31 households rely on fishing and are thus at risk of being double impacted (for more details, see section 8.7.1).

**Table 5.13: Summary of displacement impacts from the EACOP ha**

No.	Terrestrial displacement impacts:	MST site	Soil storage, PPL, and/or access road
<b>Land parcels affected:</b>			
1	EACOP PAPs including unidentified owners <sup>63</sup>	100 <sup>64</sup>	23
1a	Unidentified owners of affected land parcels	9	1
1b	Identified owners of affected land parcels	91	22
1c	Physically displaced PAPs	9 <sup>65</sup>	1
1d	Institutional PAPs	2	0
2	Land parcels affected including unidentified owners	107	55
2b	Land parcels affected within EACOP ha	66	n/a
2c	Land parcels affected partly within EACOP ha	41	n/a
3	Size of affected land acquisition	71.2 ha	8.89 ha for SS <sup>66</sup> 10.3 ha for PPL corridor
4	Graves affected	10	0
5	Complete residential dwelling	9	1
6	Incomplete residential dwelling	0	0
7	Other structures	2	0
8	Building foundation	0	0
9	School building	0	0

<sup>63</sup> This number excludes double entries and PAPs who lost land outside the TPA 200 ha boundary

<sup>64</sup> This includes nine land parcels/farms where the maps do not record the PAP name.

<sup>65</sup> Two physically displaced PAPs land is approximately half within and half outside the MST. Therefore, it is difficult to confirm whether their residential structures were within the 72 ha or not. If the Project Standards had been applied, during the MST land acquisition it is likely the land falling outside the MST would have been treated as orphaned land and these PAPs treated as physically displaced. A precautionary approach has been taken to assume these PAPs were physically displaced by the MST 72 ha area.

<sup>66</sup> The area of land for the soil storage site is located within the MST site, TPA 200 ha boundary, pipeline corridor, and access road. The Project may only use and lease ~5 ha of this land. However as any remaining land would likely be potentially orphaned, as a precaution the SRAP and LRP includes PAHs affected by the full 8.89ha.



No.	Terrestrial displacement impacts:	MST site	Soil storage, PPL, and/or access road
10	Church building	2	0
11	Mosque	0	0

Source: EACOP (2022a; 2022b)

### 5.5.1 Loss of dwelling (physically displaced)

As stated in Table 5.13 above, ten residential dwellings were affected. The dwellings belong to ten EACOP PAHs as follows:

- Six (6) EACOP PAHs whose land parcels fall wholly within the MST site
- One (1) EACOP PAH whose land parcel falls wholly within the soil storage area
- One (1) EACOP PAH whose land parcel falls almost (i.e., 95%) within the MST site
- Two (2) EACOP PAHs whose land parcels are partly within and partly outside the MST site.

### 5.5.2 Graves affected

Ten graves owned by five EACOP PAHs were located within the MST area. The details on the ten graves, which have been compensated and relocated as part of the TPA 2017 land acquisition<sup>67</sup>, are as follows:

- Four (4) graves were owned by one EACOP PAH whose land was wholly affected by the MST site
- Two (2) graves were owned by one EACOP PAH whose land was wholly affected by the MST site
- One (1) grave was owned by a physically displaced EACOP PAH whose land was wholly affected by the MST site
- Two (2) graves were owned by two EACOP PAHs (one grave each) whose land was partially affected by the MST
- One (1) grave was owned by one EACOP PAH whose land was partially affected by the MST.

### 5.5.3 Loss of crops and trees

In addition to land parcels and structures, various crops and trees were affected. All crops and trees have been compensated during the 2017 land acquisition process.

### 5.5.4 Loss of business structures

No business structures such as kiosks were affected by the EACOP ha.

<sup>67</sup> Funded by TPA, Tanga city council have relocated all ten graves that were located within EACOP ha.

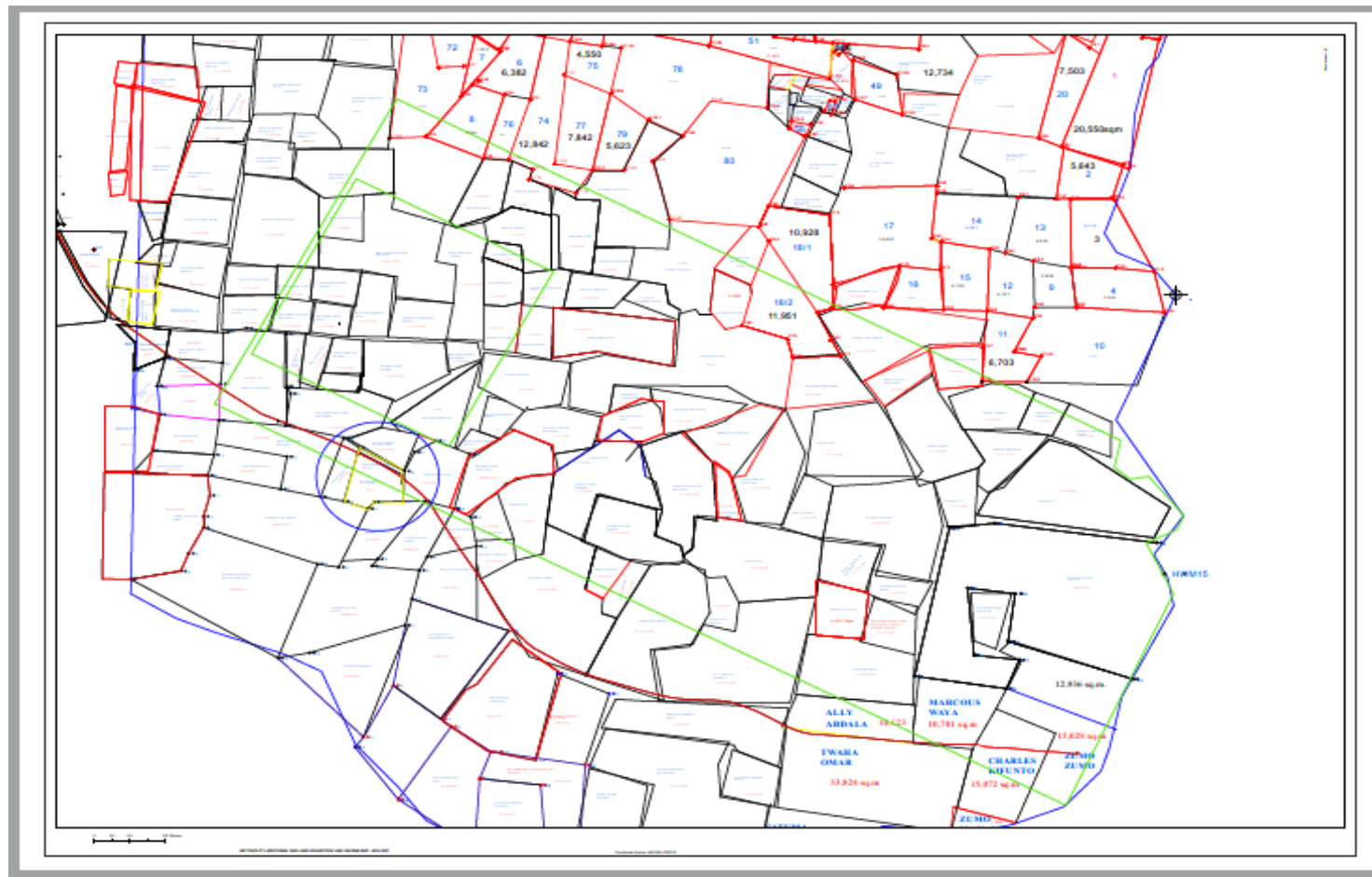


Figure 5.7: Land parcels within EACOP 72 ha MST site (green boundary = MST site, blue boundary = TPA 200)



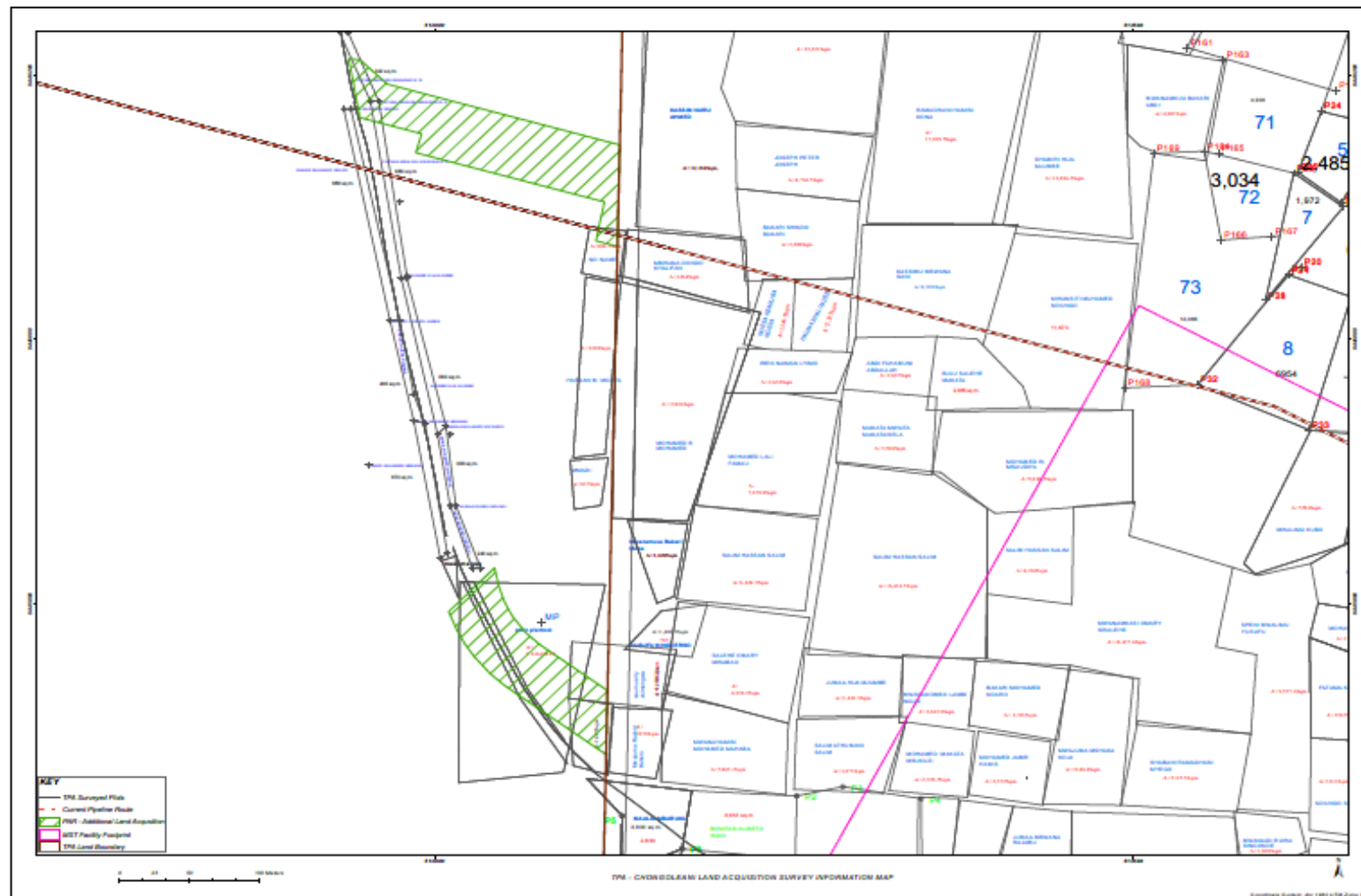


Figure 5.8: Land parcels affected by access road section to MST within TPA 200 ha

#### 5.5.5 Loss of other structures

Two other non-residential structures were affected (one animal shed and one kitchen). All structures have been compensated during the 2017 land acquisition process.

#### 5.5.6 Tenants

Tenants who grew crops/trees and/or had other assets on affected land were included in the landholders' valuation with the expectation that tenants would be paid by their landlords.<sup>68</sup> Similarly to other EACOP PAHs, tenants were allowed to harvest any crops prior to the 2017 land acquisition. To date the Project has not received any complaints or grievances from tenants suggesting that all tenants would have received their compensation from their landlords. Should the Project receive claims from tenants these will be reviewed and considered on a case-by-case basis.

#### 5.5.7 Loss of access to terrestrial natural resources

Of the 446 surveyed households (including households that did not lose land and are not affected by the marine EZ), 380 (85.2%) depend on one or more natural resource. For the surveyed households, the dominant resources include firewood, timber for construction, and leaves for weaving mats and baskets.

Table 5.14 presents an overview of the resources collected and the area where PAHs collect resources. As the table shows, 234 of the surveyed households depend on natural resources collected within the TPA 200 ha. In addition, an unknown number of households within the PACs are likely to collect resources within the area. The data collection for Chongoleani (and to some extent Ndaoya) was designed to be able to estimate the numbers by extrapolating the sample means to the wider mitaa (results are shown in Table 5.15).

Currently PAHs have access to a scheme where all remnants of the clean-up of the Project's MST site are provided free of charge to residents of the PACs. This scheme is likely to continue into Q2 2023. However, over time there will likely be no access to these natural resources within the EACOP ha (of the TPA 200 ha) and considerations on loss of access is considered in the SRAP and LRP. In addition, access within the wider TPA 200 ha may become restricted if land is leased out to other users/developers. This means that in time due to the cumulative impacts of the Project, households within the PACs may lose access to the natural resources. As a precaution, the SRAP and LRP have been designed to consider a scenario where all access to terrestrial natural resources within TPA 200 ha is lost.

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<sup>68</sup> In 2017, this procedure was in alignment with normal practice under the Tanzania legal process.

**Table 5.14: Terrestrial natural resources collected by households in the PACs**

Type of resource	PAHs who collect resource (number)	PAHs who collect resource in area (number)			Gender of household member who collects resource (number)			
	Number	TPA 200 ha	Beach/shore	Other	Male	Female	Jointly	N/a
Firewood	355	171	18	166	33	248	64	10
Plants for weaving (mats and baskets)	100	41	16	43	6	77	15	2
Wood for construction (timber)	7	3	1	3	7	0	0	0
Wood for making charcoal	7	1	1	5	2	1	4	0
Medicinal plants	5	2	1	2	0	2	3	0
Grass/reeds for thatching (roofing material)	36	13	0	23	1	28	7	0
Pastureland for grazing animals	1	1	0	0	0	0	1	0
Plants for brewing traditional alcohols	1	0	0	1	0	0	0	1
Other	4	2	0	2	1	3	0	0
PAHs who do not collect natural resources	66	n/a	n/a	n/a	n/a	n/a	n/a	

Source: SEHS, 2022

**Table 5.15: Number of households who depend on natural resources in wider PACs**

PAC	Collects natural resources	Collect natural resources within TPA 200 ha (estimated)
Chongoleani	276 households (estimated) <sup>69</sup>	66 households (estimated) <sup>70</sup>
Putini	323 households	205 households
Ndaoya	401 households (estimated) <sup>71</sup>	0 households <sup>72</sup> (estimated)

Source: SEHS, 2022

### 5.5.8 Terrestrial livelihood impacts

As the land acquisition by TPA took place in 2017, terrestrial impacts on livelihoods have already occurred. Assessment of these impacts is challenged by the lack of baseline data from before the 2017 TPA land acquisition. Incomes and food security status cannot easily be assessed before and after. To identify impacts on livelihoods that can *likely* be attributed to the 2017 land take several data sources have been triangulated. These are:

- Terrestrial livelihood assessment which included FGDs and SGDAs with questions on changes to livelihoods since 2017 (RSK, 2022d)
- Socio-economic baseline survey which included several questions related to living standards, time use, health, education, food security and changes since 2017 (RSK 2022b)
- KIs with stakeholders such as community development officers and mtaa chairpersons to understand livelihoods before and after land take
- FGDs with non-PAHs who reside within the PACs (in Bagamoyo in Chongoleani, which has not been impacted by the land acquisition) (RSK, 2022d)
- ESIA baseline for the Project (published in 2018).

The SEHS collected data on changes to key livelihood and standard of living indicators since 2017. As Table 5.16 demonstrates, the vast majority of PAHs (88.1%) state that their overall living standard has declined. The table shows that this is largely driven by the worsened conditions for crop farming.

As shown in Figure 5.9, 85 PAH (94.4%) of those who had experienced worsening conditions) stated that worsened condition for crop farming were caused by the TPA land

<sup>69</sup> The estimated number is based on the sample mean taken from the representative sample of households surveyed in Chongoleani.

<sup>70</sup> The sample mean from the representative sample of households in Chongoleani suggests that 20.2% of households collect resources within TPA 200 ha.

<sup>71</sup> The estimated number is based on the sample mean taken from the sample of community households surveyed surveyed in Ndaoya. It should be noted that the sample of fishing households was not representative of the entire community. The true values may be lower/higher fishing households use natural resources less/more.

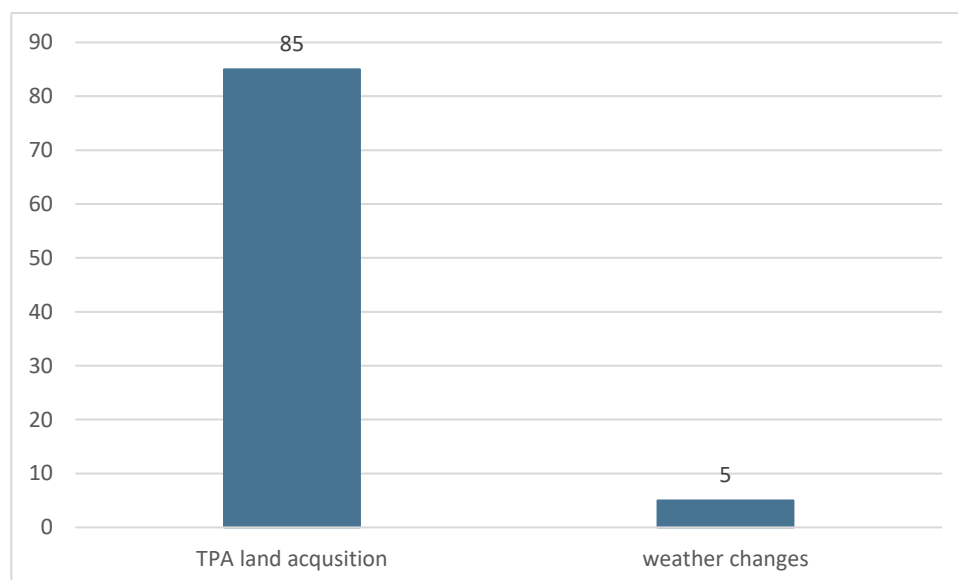
<sup>72</sup> The sample mean from the non-representative sample of households in Ndaoya suggest that no household collect natural resources within TPA 200 ha.

acquisition. The severity of the loss of land is likely intensified by the general land scarcity in the area. During consultations, many PAHs expressed that they could not use their compensation payments to acquire new land.

**Table 5.16: Changes in standard of living and livelihood indicators since 2017**

Changes in key indicators since 2017	Improved		Worsened		No change	
	Number	%	Number	%	Number	%
Living standard	6	5.5%	96	88.1%	7	6.4%
Conditions for farming	1	1.0%	90	86.5	13	12.5%
Conditions for livestock	1	1.1%	30	31.9%	63	67.0%
Food availability	4	3.7%	98	89.9%	7	6.4%
Education status	28	26.4%	13	12.3%	65	61.3%
Health services	13	12.1%	24	22.4%	70	65.4%

Source: RSK (2022c)



**Figure 5.9: Reported causes for worsened crop farming conditions, number of PAHs**

Source: RSK (2022c)

To further assess the role the 2017 land acquisition plays in PAHs current livelihood activities, data from the SEHS was triangulated with additional qualitative data and data from the ESIA baseline (EACOP, 2018). FGDs held with PAHs suggest that income diversification (combining fishery with some crop farming) ensured some food security and supplementary income.

Those dependent on land-based activities such as women, vulnerable, and elders have found it difficult to find a new supplementary income source. A few examples of the change's PAHs see to their livelihood resources and strategies are provided below.

*'A good thing is that people built new and modern houses, but life has become harder as people lost their farms and income from coconut and cassava. Someone has a good house but no food.'* (RSK, 2022d)

*'Our life in the past and now, it is totally different! In the past we had coconuts, and we could borrow maybe 200,000 [Tanzania Shillings (TZS)] and pay it back at the end of the month when we had harvested and sold our coconuts and bananas. Now we do not have coconuts and cassava. The past life was better than our current situation. You could just harvest your cassava and have a meal.'* (RSK, 2022d)

*'Now people live in 'ujanja' (hustling or smart, Kiswahili) ways. They might buy some vegetables in town and sell, or they will make few 'chapati' (flat bread, Kiswahili) or 'mandazi' (sweet cake, Kiswahili) to sell. We just continue to live but life is so hard. The youth fish and sometimes they help us, but they only get 5,000 [TZS] per day.'* (RSK, 2022d)

From the data available, it seems likely that food security has declined because of the 2017 land acquisition. However, the impact on households' incomes is harder to ascertain. To consider PAHs pre-2017 incomes from crop sale, data on crop sales collected from FGDs held with the non-PAHs within the PACs is used. FGDs held with non-PAHs suggest that most of the crop produce is used for own consumption. Some cash income is raised yet this is through the local sale of low-value crops such as cassava. High cash incomes are generally not achievable due to the lack of cultivation of higher value cash crops such as horticultural crops, Irish potatoes, or sunflower.<sup>73</sup> While most non-PAHs plant low-value crops and consequently earn low incomes from crops, FGDs showed that three successful farmers (non-PAHs) exist within the PACs.

Thus, the data of non-PAHs indicate that only a smaller number of PAHs who lost land would have been able to earn higher incomes from crop farming had they not lost land. In conclusion, although the impact of the land acquisition on incomes is harder to establish and might be smaller, all quantitative and qualitative evidence suggest that the loss of farming land has had negative impacts on food security (food availability). The lack of farmland has most likely caused the decline in living standards (especially among women and vulnerable PAH members). The immediate livelihood restoration packages suggested in the SRAP and LRP are designed to assist in restoring PAHs' food security.

## 5.6 Combined assessment of impacts at PAC-level

This section incorporates the identified marine and terrestrial Project impacts into a combined assessment of PACs' ability to cope with Project impacts (and by the wider land acquisition in the area). To do so, the vulnerability context of each community is assessed.

The vulnerability context frames the external environment in which people live. People's capital and livelihood strategies are heavily influenced by critical trends such as economic growth and land availability, shocks such as droughts and floods, and seasonality of e.g., prices and production – of which they have limited or no control (DFID, 2000). The key

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<sup>73</sup> In one FGD it was mentioned that higher value cash crops such as Irish potatoes, sunflower, sorghum, tomato, cabbage, and African eggplant had been planted as cash crops but failed (FGD Agriculture, Chongoleani, 02-02-22a).



aim of this section is to provide an overview of the trends, shocks and aspects of seasonality that are of relevance to the PACs.

A key trend affecting all PACs are the historical deindustrialization of Tanga region where a shrinking sisal industry has negatively impacted employment and economic growth. The migrant workers who came to the region in the 1950s and 60s to search for work in the sisal sector have since had to diversify their livelihoods towards other occupations such as crop farming, livestock, and small businesses (and to a lesser extent fishing). Moreover, the decline of the sisal production has slowed down activities at the harbour (for more details on the context of Tanga city, see RSK 2022d). This economic downward turn might change with the planned developments in Tanga region including the EACOP pipeline and the construction of a highway to Dar es Salaam.

Other critical trends affecting residents in the PACs, are declining land availability caused by population growth, urban development planning, and government land acquisitions within Chongoleani ward. Moreover as already shown, marine dependent households in the PACs are likely to be affected by the Project's marine EZ.

Households' ability to cope with such stressors and shocks differ at PAC and household-level. Household-level vulnerabilities are discussed in Chapter 8 'VPP'.

To assess vulnerability at community-level, the likely future economic status of households is assessed based on known sources of resilience and critical trends including impacts from the Project. The critical trends have been identified using data from the livelihoods analysis (see Table 4.21) and from the identification of Project's impacts described above. While, the vulnerability context considers Project impacts, the assessment also considers impacts caused by the wider TPA 200 land acquisition.

The vulnerability context has been assessed combining community and household-level indicators:

- Households' ability to diversify livelihoods. Although livelihood diversification provides no guarantee for prosperity, there is consensus that the ability to diversify towards other activities serve as a protection against shocks and stresses (Ellis, 2000; Scoones, 1998)
- Share of households within the PAC that have sold assets to cope with shocks in the past five year. Having to sell assets during times of distress is usually a good indicator of vulnerability (Dercon, 2000).

To assess the vulnerability context, an indicative vulnerability status of a PAC is defined as follows:

- Severe – 80% or more of households in the PAC are at risk of not being able to retain their economic status in the event of well-known risks, negative shocks, and stresses to their livelihoods of which they have no or limited control
- Significant – 30-80% of households in the PAC are at risk of not being able to retain their economic status in the event of well-known risks, negative shocks, and stresses to their livelihoods of which they have no or limited control
- Minor – less than 30% of households in the PAC are at risk of not being able to retain their economic status in the event of well-known risks, negative shocks, and stresses to their livelihoods
- None – no households in the PAC are at risk.

A description of the vulnerability status of the PACs overview is presented in Table 5.17. The table shows that Putini mtaa is most vulnerable to known risks.

In general, a way to minimize the vulnerability context, is to support people in building up their assets by providing access to capital or skills development. These have been considered in the development of the proposed livelihood restoration packages presented in this SRAP and LRP. Moreover, a Cumulative Impact Assessment is underway to better understand the viability of livelihoods in Putini and propose mitigation measures.

**Table 5.17: Vulnerability context by community**

PAC	Dominant livelihood activities	Vulnerability factors at PAC-level			Vulnerabilities at HH-level	Overall assessment
		Critical trends	Shocks	Seasonality		
<b>Chongoleani</b>		80 households (24.2%) have lost land within TPA 200 ha.				
	High dependence on fishery and gleaning	Under all operational scenarios, fishers are at risk of being moderately impacted by the marine EZ. Under operational scenario 1, fish gleaners are at risk of being significantly impacted.				
	Crop farming and livestock (especially in Bagamoyo sub-mtaa)	Six EACOP PAHs also rely on fishing and are at risk of becoming double impacted.	Frequent droughts	Intense winds from September to November affect fishing activities.	2.7% <sup>74</sup> of households have had to sell assets in past five years to cope.	Significant
	Small businesses (close to the mtaa centre, less so in Bagamoyo)	At least 66 households are at risk of losing access to terrestrial natural resources collected within TPA 200. This will especially affect women who rely on collected firewood and wild grasses/leaves (for basketry).	Animal theft and diseases	Households experience food insecurity during the lean months from March to May.		
	Basketry	Lack of adequate fishing equipment.	Damage to crops by wildlife and grazing livestock			
	Salt mining	Water availability – during dry season depend on tap water from Tanga UWASA (only twice a week and at a cost).				
		Lack of grazing land for livestock.				

<sup>74</sup> Based on a statistically representative sample of households in Chongoleani mtaa.

PAC	Dominant livelihood activities	Vulnerability factors at PAC-level			Vulnerabilities at HH-level	Overall assessment
		Critical trends	Shocks	Seasonality		
		<u>Residents in Bagamoyo:</u> business activities affected by long distances to Tanga city and to services				
<b>Putini</b>	<p>Fishing and gleaning</p> <p>Small businesses</p> <p>Basketry</p> <p>Crop farming and livestock (yet decline in these activities due to loss of farmland).</p>	<p>The ability of households to diversify livelihoods will likely be severely constrained due to loss of farmland and the high dependence on marine activities.</p> <p>149 households (69.3%) have lost land within TPA 200 ha.</p> <p>During the SE monsoon, under all operational scenario, fishers are at risk of being severely impacted by the Project's marine EZ (see Chapter 5). Under operational scenario 1-3, fish gleaners are at risk of being either severely or significantly impacted.</p> <p>25 EACOP PAHs depend on fishery and are at risk of becoming double impacted. Moreover, around 66.0% of households in Putini fish or glean. Many of these households are at risk of becoming double impacted by loss of land to TPA 200 ha and restricted access to marine resources.</p> <p>Incomes from small businesses are low and volatile.</p>			2.3 % of households that have had to sell assets in past five years to cope.	Severe

PAC	Dominant livelihood activities	Vulnerability factors at PAC-level			Vulnerabilities at HH-level	Overall assessment
		Critical trends	Shocks	Seasonality		
		<p>205 households are at risk of losing access to terrestrial natural resources collected within TPA 200. This will especially impact women who rely on collected firewood and wild grasses/leaves (for basketry).</p> <p>Lack of health services (residents must use the dispensary in Chongoleani mtaa).</p> <p>Difficulties in accessing loans through VICOBA or other sources.</p> <p>Soils high in salinity hinders larger-scale crop production.</p> <p>Limited knowledge on agricultural best practices.</p>				
<b>Ndaoya</b>	<p>Micro-level crop farming and livestock.</p> <p>High dependence on fishery in Mvuuni and Helani sub-mtaa.</p> <p>Small businesses (less economic activity compared to Chongoleani mtaa).</p>	<p>Long-range fishers are likely to be affected by the Project's marine EZ.</p> <p>Limited crop farming and livestock in Helani and Mvuuni sub-mtaa make it difficult to diversify livelihoods in the event of declines in fish catch.</p> <p>Soils high in salinity hinders larger-scale crop production.</p> <p>Water scarcity during the dry season – depend on tap water delivered by Tanga Urban Water Supply (twice a week).</p>			<p>2.9 % of households have had to sell assets in past five years to cope.</p>	<p>Minor for non-fishery-based households.</p> <p>Significant for long-range fishers (located in Helani and Mvuuni sub-mtaa).</p>

PAC	Dominant livelihood activities	Vulnerability factors at PAC-level			Vulnerabilities at HH-level	Overall assessment
		Critical trends	Shocks	Seasonality		
	The ability to diversify livelihoods is likely to be reduced for long-range fishers.	<p>No health care facilities (residents must seek care at the dispensary in Chongoleani mtaa).</p> <p>Limited knowledge on agricultural best practices.</p>				

Source: RSK (2022b; 2022c; 2022d)



## 6 ELIGIBILITY AND ENTITLEMENT

### 6.1 Introduction

The eligibility and entitlements presented in this Chapter are based on the gaps between the TPA and the EACOP land acquisition identified in Table 3.1 and the livelihoods impacts identified in Chapter 5. As mentioned, PAHs' assets were compensated during the 2017 TPA land valuation process. Thus, the entitlements shown below consider the supplemental measures needed to adhere to international standards for Project Required Land. As agreed in the HGA, all supplementary measures will be delivered in-kind.

It is recognised that a PAH may fall into more than one eligibility category (e.g. for loss of agricultural land and access to marine resources). These livelihood restoration entitlements are linked to PAHs impacts and will be cumulative for PAHs with multiple affected land parcels and/or loss of access to marine resources. This chapter includes discussion on the following:

- **Eligibility:** which identifies and details 'who' is eligible to receive livelihood restoration
- **Livelihood restoration entitlements:** which defines entitlements for livelihood restoration and entitlements for vulnerable people in particular as this is a specific IFS requirement.

### 6.2 Eligibility

The eligibility and entitlement framework for this SRAP and its LRP is informed by the Project's Resettlement Policy Framework (EACOP, 2018)<sup>75</sup> and the entitlement framework developed for the regional RAPs for the Project (EACOP, 2020) which are based on the requirements of both IFC PS5 and national legislation. IFC defines eligibility as '*...entitlement to compensation and assistance granted to persons, groups of persons, families, or institutions due to subjection to displacement resulting from land acquisition, the revocation of rights, and/or the expropriation of property as a direct result of the Project*' (EACOP, 2020). The purpose of livelihood restoration is to ensure that people affected by the Project have their livelihoods returned to the same or better conditions than prior to the Project-related impact.

### 6.3 Livelihood restoration entitlement

The livelihood restoration entitlement groups are shown in Table 6.1. The options/packages each group is entitled to are shown in Table 7.8 in Chapter 7. The livelihood restoration is structured around group-level livelihood restoration (at the mtaa-level) and individually tailored support to the PAH. The definition of severity of loss of access to marine resources (e.g. severe impact, significant impact, and impact) was shown in Chapter 5 on Project impacts.

<sup>75</sup> The RPF has been disclosed on the EACOP Project website: <https://eacop.com/information-center/other-publications> (last accessed March 1st, 2022).

**Table 6.1: Livelihood restoration entitlement groups**

Groups	Criteria	Type of livelihood restoration and/or other in-kind support	Eligible PAHs
Groups impacted by the previous 2017 land acquisition (Project Required Land: MST, soil storage, access road and pipeline corridor within TPA 200 ha):			
<b>G1</b>	<p>PAHs who have permanently lost access to their residential dwelling(s).</p> <p>PAHs who have permanently lost access to land and crops or trees.</p> <p>PAHs who meet vulnerability criteria and loss of land.</p>	<ul style="list-style-type: none"> <li>Group-level land and non-land-based livelihood restoration programmes</li> <li>Individual-level livelihood restoration program</li> <li>Individual-level livelihood restoration programme(s) (as appropriate to vulnerability factors of PAH)</li> </ul>	<p>121 PAHs<sup>76</sup> who lost land (of these 10 are unidentified owners of land parcels within EACOP ha)</p> <ul style="list-style-type: none"> <li>10 of these are physically displaced PAHs</li> <li>30 of these are 'Category 1' vulnerable PAHs.<sup>77</sup></li> </ul>
<b>G2</b>	Households in PACs who permanently lose access to land used for communal purposes, particularly land used for collecting terrestrial natural resources.	<ul style="list-style-type: none"> <li>Livelihood restoration not applicable</li> <li>Provide/facilitate access to alternative resources with equivalent livelihood-earning potential and accessibility</li> </ul>	n/a
Groups impacted by the Project's marine activities and infrastructure:			
<b>G3</b>	<p>Fishers/gleaners who are <u>severely</u> impacted by the marine EZs or meet vulnerability criteria.</p> <p>PAPs who have <b>lost land to EACOP and are impacted by the loss of access to marine resources</b> will be placed on a list of 'potentially vulnerable' households. Further engagements will determine if they require additional support to restore their livelihoods.</p>	<ul style="list-style-type: none"> <li>Group-level land and non-land-based livelihood restoration programmes</li> <li>Individual-level livelihood restoration program</li> <li>Individual-level livelihood restoration programme(s) (as appropriate to vulnerability factors of PAP)</li> </ul>	Pending decision on operational scenario (likely to be fishing divers during construction and fish gleaner from Putini during operations)

<sup>76</sup> The entitlement framework excludes two (2) institutional PAPs.

<sup>77</sup> the vulnerability category is defined in the VPP presented in Chapter 8.

Groups	Criteria	Type of livelihood restoration and/or other in-kind support	Eligible PAHs
<b>G4</b>	Fishers/gleaners who are <u>significantly</u> impacted by the Project's marine EZs	<ul style="list-style-type: none"> <li>• Group-level land and non-land-based livelihood restoration programmes</li> <li>• Individual-level livelihood restoration programme</li> </ul>	Pending decision on operational scenario
<b>G5</b>	Fishers/gleaners who are <u>moderately</u> impacted by the Project's marine EZs	<ul style="list-style-type: none"> <li>• Group-level land and non-land-based livelihood restoration programmes</li> </ul>	Pending decision on operational scenario

### 6.3.1 Entitlements to vulnerable households

As shown in Table 6.1 additional livelihood restoration support will be offered to vulnerable households. The criteria for a household to be classified as vulnerable are outlined in section 8.4 in Chapter 8 'VPP'. The livelihood strategies of households classified as vulnerable will be considered in more detail to ensure access to and delivery of livelihood restoration packages are structured appropriately.

### 6.3.2 Transitional support entitlements

Transitional support in the form of food baskets will be provided to PAHs who lost land within EACOP ha and/or are severely or significantly affected by the Project's marine EZ. This is to ensure that households can meet their basic needs and maintain their standard of living once access to marine resources has been lost and until they have had opportunity to restore their food security to pre-Project levels.

The nature and extent of the transitional support will be tailored according to the severity of impacts and the vulnerability of the household. Transitional support will be structured to discourage food dependency. Transitional support entitlements are shown in Table 6.2.

**Table 6.2: Transitional support entitlements**

Entitlement group category	Period of support
<p>PAHs who lost land within EACOP ha, severely impacted community households surveyed and/or vulnerable households who rely on marine resources: <b>Group G1 and G3</b></p> <p>PAPs who have <b>lost land to EACOP and are impacted by the loss of access to marine resources</b> will be placed on a list of 'potentially vulnerable' households and may require additional transitional support.</p> <p>Households who depend on diving and are affected by underwater noise during construct will be provided with food baskets from the start of marine construction.</p>	Up to 12 months. Following assessment, the period may be extended (potentially at reduced quantities) if required.
<p>Significantly and moderately impacted households who rely on marine resources: <b>Group G4 and G5</b></p>	Up to 6 months. Following assessment, the period may be extended (potentially at reduced quantities) if required.

## 7 LIVELIHOOD RESTORATION PLAN

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### 7.1 Introduction

This chapter presents the livelihood restoration plan (LRP), which focuses on the restoration and potential enhancement of livelihoods of EACOP PAHs. The SRAP and LRP contains four (4) terrestrial livelihood restoration packages/activities (LRAs) and four (4) marine LRAs that will be offered to eligible PAHs.

The level of livelihood restoration support provided will be aligned with the level of impact experienced by a household as well as their potential vulnerability. The additional support to be provided to potentially vulnerable persons and groups is described in Chapter 8.

Although a logical framework-inspired outline is provided in Appendix 1, each livelihood activity/package will require further detailed planning as part of the LRP implementation (see section 10.4.1). This section incorporates an overview of the following:

- Key principles underpinning the LRP
- Design of the livelihood restoration activities/packages (LRAs)
- Brief summary of livelihood context
- Considerations/pre-conditions for livelihood restoration
- Phasing of the LRP implementation
- Outline of livelihood restoration packages
- Transitional support
- Community livelihood support
- Current livelihood improvement programmes in the area.

### 7.2 Key principles underpinning the LRP

The LRP for the Project is guided by national laws and IFC standards and in line with the Sustainable Livelihoods Framework. These are summarised below.

#### 7.2.1 Good practice principles

Principles, which relate to international and national requirements and good practices are summarised in Table 7.1.

**Table 7.1: Key principles and objectives underpinning the LRP**

Key principles	Description
<b>Additionality</b>	Livelihood restoration is provided for eligible households in addition to the monetary compensation they received during the TPA land acquisition process.
<b>Sustainability</b>	Sustainability principles must be applied throughout LRP planning and implementation to ensure the strategy is resilient without compromising the natural environment. Consequentially, interventions that result in increased pressure on resources will be avoided to the extent possible, especially in the absence of supporting research or data.
<b>Dependency</b>	The requirement for long term, recurrent, support will be minimised.
<b>Adapted locally</b>	Design considers context of the project area such as current livelihoods and land use systems, land capability and local capacities. Technologies should be appropriate to context, resources and returns. To this end, livelihood restoration will not be used to introduce or promote major technological transformation.
<b>Multi-faceted</b>	A range of different approaches to restore, and / or improve livelihood activities are incorporated.
<b>Participatory</b>	Sustainability requires household participation so they can make informed choices about their preferred livelihood options. Inclusive participation by women and potentially vulnerable and/or marginalised groups is necessary.
<b>Open-access</b>	Where impacts result in the loss of access to, or degradation of, open access resources (such as fisheries / gleaning) livelihood restoration will likewise focus on open access benefits
<b>Transparent</b>	Households will be provided with relevant information and support to enable fully informed decision-making.
<b>Vulnerability</b>	Focus and consideration will be given to vulnerable households/groups throughout the livelihood restoration process; relevant vulnerable households will receive additional, targeted support.
<b>Capacity building</b>	Local capacity building is a core principle; it needs to be inclusive and make provisions for the development of skills of diverse groups.
<b>Gender appropriate</b>	Both men and women will be given opportunities to benefit from the programs and household packages will include activities that women prefer, can benefit from or undertake traditionally.
<b>Transitional support</b>	Transitional support is required to support the income earning capacity and household food security of eligible households until their livelihood activities have been restored. Eligibility, start and end points for transitional support are clearly defined.
<b>Multi-sectoral partnerships</b>	Technical expertise and institutional support is utilised across multiple service providers to ensure successful delivery and outcomes.
<b>Monitoring and evaluation</b>	Ongoing monitoring and evaluation are key elements of an improved livelihoods strategy. Indicators need to be used to measure actual impacts, change, outputs and outcomes, as applicable.

## 7.2.2 Sustainable livelihoods approach (SLA)

Apart from national and international requirements, to ensure that livelihoods are sustainably restored, the design also draws on principles from the SLA (DFID, 2001). These are summarised below:

- Livelihoods should be sustainably restored meaning that they are:
  - able to cope with shocks and stresses (e.g., drought, floods)
  - can maintain or enhance their capital base/capabilities (without depriving critical natural resources such as trees or water sources)



- Livelihood interventions should build on existing assets/capital and livelihood strategies
- Livelihood interventions should minimise the 'vulnerability context' by for instance using drought-resistant varieties.

### 7.3 Design of livelihood restoration packages (LRAs)

The design of the LRAs is based on several iterative steps. These are shown in Figure 7.1 and summarised below:

- An initial identification of needs/areas for support was conducted as part of the livelihoods assessment shown in Chapter 4.
- Focus areas and key considerations were further identified through internal workshops with the SRAP consultant team's agricultural, marine, rural livelihoods, and gender specialists
- Detailed LRAs were designed in accordance with the SLF and with the use of a log frames inspired approach. Following DFID (2020), this approach entailed:
  - **Development of problem trees** based on the combined livelihood analysis, issues pertaining to each focus area were ordered into a hierarchy of cause and effect in the form of a problem (or opportunity). Problem trees were likewise presented and discussed in an internal workshop with senior staff members.
  - **Transforming problem trees in to detailed outlines of packages** from the identification of problems and causes a sub-set of development objectives were selected for each focus area and two to three immediate interventions were identified (see Appendix 5). These are turned into the objective, purpose, outcome and activities presented in the detailed outlines of the LRAs, presented in Appendix 1.
  - **Feedback from representatives of the affected communities (stakeholder consultations)** the livelihood restoration packages were disclosed to stakeholders including local government officials. Their feedback was used to finetune the design of the packages.

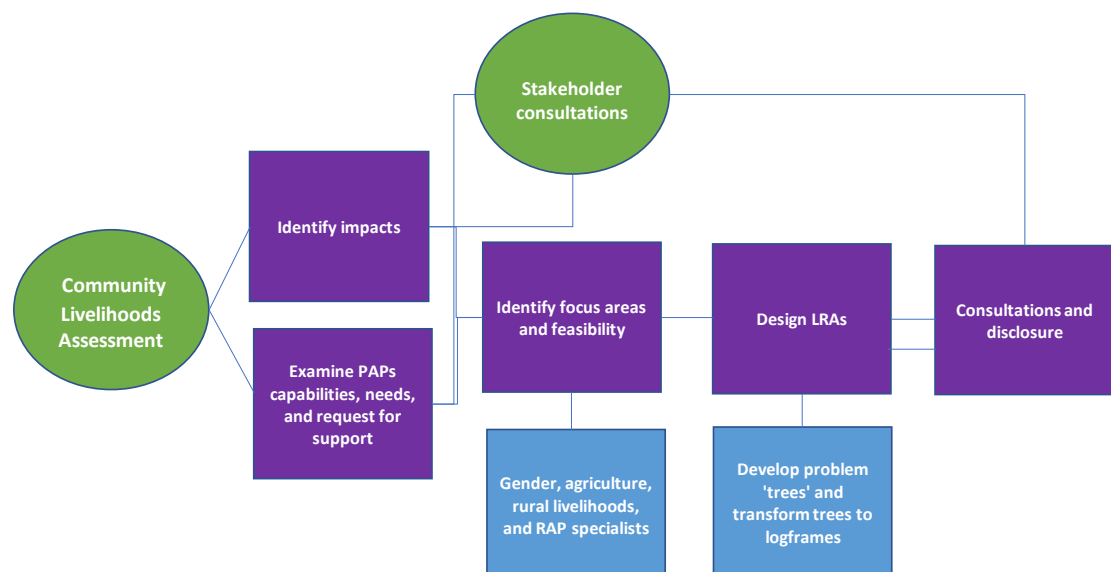


Figure 7.1: Process used to identify focus areas and design LRAs

## **7.4 Key considerations for the LRP**

The livelihood restoration packages have been developed taken into account a number of key considerations summarised in Table 7.2. Overarching considerations include the limited availability of farming land in the area (72 households do not have access to farming land), lack of access to water for farming, and restricted access to essential common property natural resources (terrestrial and marine).

**Table 7.2: Key considerations for LRP**

Key consideration	Approach
72 EACOP PAHs do <u>not</u> have access to farming land <sup>78</sup>	<p>Design interventions that are suitable for small residential land parcels of 0.25-0.5 acres.</p> <p>Focus on urban farming methods such as cone gardening, vertical bag farming, and others.</p> <p>Due to lack of land and the anticipated impacts on fishery-based livelihoods in the PACs, agricultural improvement packages alone may not restore food security. This is especially so as many PAHs currently rely on purchased foodstuff and/or marine resources for their food consumption. Thus, to restore food security, there is also a need to raise incomes. Therefore, enterprise development and vocational training packages are included in the first round of LRP implementation activities (which ensure immediate support to livelihoods) (see also section 7.6.2).</p>
Limited access to water for crop farming and livestock <sup>79</sup>	<p>Promote/facilitate improved access to water sources for PAHs and/or the wider PACs. This is a key consideration for the success of the agricultural improvement packages. Chongoleani ward has around 20 ha that are suitable for irrigation (yet not currently under irrigation).<sup>80</sup></p> <p>In addition to irrigation/improved water supply, the following approaches are suggested:</p> <ul style="list-style-type: none"> <li>• Introduce drought-resistant varieties and/or varieties suitable for local agro-ecological conditions</li> <li>• Enhance rainwater harvesting methods (i.e. by installing water tanks with large water holding capacity)</li> <li>• Other household or community-level water solutions (see Appendix 1)</li> </ul>
Women and vulnerable people have land-based livelihoods and were especially affected by the land acquisition	<ul style="list-style-type: none"> <li>• Design interventions that are suitable for women and vulnerable groups</li> <li>• Ensure activities can be conducted close to the homestead, require limited entry/start-up costs</li> </ul>

<sup>78</sup> Defined in the SEHS as arable land and land for livestock.

<sup>79</sup> The SEHS showed that 36 (40.9%) during the wet season and 59 (67.0%) during the dry season depend on water that they purchase through the City Council's urban water scheme. Because this water comes at a cost, it is predominantly used as a drinking water source. Water sources available for crop farming and livestock are boreholes or deep wells (six in Chongoleani mtaa and three in Putini mtaa). Apart from the boreholes, shallow wells are also present (four in Chongoleani and one in Putini). During rainy seasons, rainwater is collected from the roofs of buildings and from ponds where water settles for a considerable period. FGDs suggested that these water sources are insufficient for irrigated agriculture.

<sup>80</sup> United Republic of Tanzania. 2015. Tanga Region Socio-economic Profile Draft Report. Government Printer, Dar es Salaam, Tanzania.

Key consideration	Approach
<p>Level of intervention: due to the nature of identified terrestrial (and marine) livelihood impacts, where a number of non-EACOP PAHs within the PACs are likely to be affected, some LRAs should be provided as 'open access' to the PACs.</p> <p>Where severe/significant livelihood impacts have or will occur for individual groups of the PACs, livelihood restoration is best delivered in the form of group/individual-level packages.</p>	<ul style="list-style-type: none"> <li>• Where access to common property natural resources is restricted suggested mitigation measures will be open access</li> <li>• Where members of the PACs are severely impacted (due to land loss and/or restricted access to marine resources), individual and group-level livelihood restoration packages are designed and delivered as per the entitlement framework</li> <li>• Where members of the PACs are severely or significantly impacted by restricted access to marine resources, transitional support in the form of food baskets may be supplied, especially if the impacts are right at the start of construction.</li> </ul>
Members of the PACs (incl. EACOP PAHs) depend on terrestrial natural resources collected within TPA 200 ha	<ul style="list-style-type: none"> <li>• To address the Project's cumulative impacts on livelihoods, collaborate with local government officials to secure access to alternative site(s)</li> <li>• To ensure sustainable and continued use of resources, work with third-parties to implement community-based natural resource management (CBNR) project.</li> </ul>
Members of the PACs (incl. EACOP PAHs) depend on marine resources	<ul style="list-style-type: none"> <li>• To ensure better understanding and sustainable use of resources, work with third-parties to implement community-based marine resource management projects, including longer term participatory monitoring.</li> </ul>
Lack of access to main markets in Tanga City due to high transportation costs	<ul style="list-style-type: none"> <li>• Local procurement (i.e. prioritise local skilled and unskilled labour for the Project's activities during construction and where applicable source foodstuff and other services from members of the PACs)</li> <li>• Construct local food stalls</li> <li>• Introduce packages that can assist interested and eligible PAPs in diversifying businesses/activities (e.g. selling stationary, tailoring, hair and beauty services)</li> <li>• Provide training on marketability of products and suitable markets.</li> </ul>
Identify and work with local structures to take on the long-term management of livelihoods restoration	<ul style="list-style-type: none"> <li>• For LRP implementation, consult Tanga City council's community development office (and/or offices for agriculture and livestock).</li> </ul>
Avoid elite capture	<ul style="list-style-type: none"> <li>• Together with the Project, the implementing partner(s) will be responsible for recognising elites in communities that may try to 'grab' opportunities, and to ensure the people in need/PAPs have access to opportunities.</li> </ul>

## 7.5 PAHs' and other stakeholders' requests for livelihood support

### 7.5.1 Incorporating feedback on suggested LRAs from representatives of the PACs

Disclosure meetings of the terrestrial LRAs were held on 19-21 July 2022 (inclusive). The team consisted of the SRAP Consultant's stakeholder engagement team, the Project's Community Liaison Officer, and Tanga Municipal's Community Development Officer. The following stakeholders were engaged:

- Tanga City Council technical personnel from the departments of agriculture, livestock and fisheries, and business development
- Chongoleani ward executive office
- Chongoleani mtaa council
- Putini mtaa council
- Ndaoya mtaa council.

Five further disclosure meetings which included the marine LRAs were held between 28 November – 7 December 2022 with the following stakeholders:

- Local potential development partners (with EACOP team)
- Tanga municipal fisheries office
- Putini mtaa council
- Ndaoya mtaa council.
- Chongoleani mtaa council.

The feedback provided has been used to update the LRAs. For instance, due to findings from the SELI activities and the feedback received from the stakeholders that grazing land is scarce, LRA 6 on dairy cattle husbandry has been removed from the final SRAP and LRP.

To further identify and tailor options for livelihood restoration packages, the SEHS asked PAHs about desired livelihood activities and areas of support. The responses are summarised in Table 7.3 and Table 7.4. The majority of PAHs affected by EACOP ha and community households surveyed prefer employment or enterprise-based livelihoods.

**Table 7.3: PAHs affected by EACOP ha' desired livelihood activity**

Desired livelihood	Chongoleani		Putini		Other location	
	Number	%	Number	%	Number	%
Employment-based	4	33.3%	14	24.1%	7	17.1%
Enterprise-based	2	16.7%	20	34.5%	19	46.3%
Land-based	3	25%	17	29.3%	11	26.8%
Natural resource-based	2	16.7%	2	3.5%	1	2.4%
Other	1	8.3%	5	8.6%	3	7.3%
<b>Total</b>	<b>12</b>	<b>100%</b>	<b>58</b>	<b>100%</b>	<b>41</b>	<b>100%</b>

Source: SEHS, 2022

**Table 7.4: Community households surveyed' desired livelihood activity**

Desired livelihood	Chongoleani		Putini		Ndaoya	
	Number	%	Number	%	Number	%
Employment-based	18	40.9%	41	28.9%	21	36.2%
Enterprise-based	21	47.7%	80	56.3%	23	39.7%
Land-based	2	4.5%	11	7.7%	7	12.1%
Natural resource-based	3	6.8%	9	6.3%	5	8.6%
Other	0	0.0%	1	0.7%	1	1.7%
N/a	0	0.0%	0	0.0	1	1.7%
<b>Total</b>	<b>44</b>	<b>100%</b>	<b>142</b>	<b>100%</b>	<b>58</b>	<b>100%</b>

Source: SEHS, 2022

Note: Data on Chongoleani is based on a representative sample of households.

The SEHS further asked households what could be done to support current livelihoods. The replies are summarised in Table 7.5 and Table 7.6. The majority prefer support to entrepreneurship and grants.

**Table 7.5: PAHs affected by EACOP ha' request for support**

Type of support	Chongoleani		Putini		Other location	
	Number	%	Number	%	Number	%
Support to entrepreneurship	6	50%	18	31%	17	41.5%
Grants	6	50%	21	36.2%	17	41.5%
Land	0	0	6	10.3%	2	4.9%
Grazing area	0	0	8	13.8%	0	0
Livestock	0	0	1	1.7%	1	2.4%
Job placement	0	0	0	0	1	2.4%
Other	0	0	4	6.9%	3	7.3%
<b>Total</b>	<b>12</b>	<b>100%</b>	<b>58</b>	<b>100%</b>	<b>41</b>	<b>100%</b>

Source: SEHS, 2022

**Table 7.6: Community households surveyed' request for support**

Type of support	Chongoleani		Putini		Ndaoya	
	Number	%	Number	%	Number	%
Support to entrepreneurship	8	18.2%	36	24.6%	8	13.8%
Grants	21	47.7%	69	48.6%	26	44.8%
Farmer's group	0	0.0%	0	0.0%	1	1.7%
Land	1	2.3%	10	7.0%	7	12.1%
Grazing area	0	0.0%	5	3.5%	2	3.5%
Livestock	0	0.0%	0	0.0%	0	0.0%



Type of support	Chongoleani		Putini		Ndaoya	
	Number	%	Number	%	Number	%
Job placement	3	6.8%	8	5.6%	4	6.9%
Micro-credit	11	25.0%	13	9.2%	9	15.5%
Other	0	0.0%	2	1.4%	1	1.7%
<b>Total</b>	<b>44</b>	<b>100%</b>	<b>142</b>	<b>100%</b>	<b>58</b>	<b>100%</b>

Source: SEHS, 2022

Note: Data on Chongoleani is based on a representative sample of households.

During the marine and terrestrial baseline assessments, FGDs, KIs and other meetings were held with stakeholders. These revealed a number of suggested livelihood restoration initiatives and programmes for the Project to consider. The suggestions are summarised in Table 7.7, which shows that the provision of training and inputs to enhance current livelihood activities such as fishing and gleaning, crop farming, livestock, and small businesses were suggested.

In addition, there are separate recommendations for women, youth, and vulnerable people. Stakeholders (including women, youth, and vulnerable PAPs themselves) recommend that women and vulnerable people are trained in activities that do not require high start-up costs and can be conducted close to the homestead (such as basketry, detergent and liquid soap production, and semi-intensive poultry production). Some vulnerable people may struggle to sustain their livelihoods and it was recommended by key stakeholders, that these are provided access to basic social security/financial support. A number of vocational trainings were recommended for youth such as brick making, transport business, hair and beauty, food catering, and tailoring.

**Table 7.7: Livelihood themes and focus areas suggested by stakeholders**

Stakeholders' suggested themes and focus areas		
General	Marine-based activities	<ul style="list-style-type: none"> <li>• Improved fishing gear and equipment</li> <li>• Motorised boats</li> <li>• Artificial reefs</li> <li>• Improved storage</li> <li>• Trainings on food hygiene for women who depend on the sale of fried fish and better storage</li> </ul>
	Crop farming	<ul style="list-style-type: none"> <li>• Business management skills</li> <li>• Establish farmer cooperatives</li> <li>• Group formation and access to loans</li> <li>• Improved technologies: manure application, proper irrigation and other crop management practices</li> <li>• Improved access to water (deep wells and dams)</li> </ul> <p><b><u>Suitable crops:</u></b></p> <ul style="list-style-type: none"> <li>• Cassava</li> <li>• Maize</li> <li>• Sorghum and millet</li> <li>• Horticultural crops (eggplant, okra, spinach, amaranth, chili, African birds eye)</li> <li>• Legumes (pigeon peas, cowpeas, and green grams)</li> <li>• Pineapple, papaya, lemon, and lime</li> </ul>
	Livestock	<ul style="list-style-type: none"> <li>• Improved semi-intensive poultry production</li> <li>• Dairy cattle for milk</li> </ul>
	Enterprise development and vocational training	<ul style="list-style-type: none"> <li>• Vocational trainings in relevant area</li> <li>• Business management and financial literacy</li> <li>• Access to loans/capital</li> </ul>

Stakeholders' suggested themes and focus areas		
Women	Crop farming	<ul style="list-style-type: none"> <li>Irrigated agriculture/horticulture/kitchen gardens</li> </ul>
	Enterprise development and vocational training	<ul style="list-style-type: none"> <li>Detergent and soap production</li> <li>Cooking oil production</li> <li>Food catering</li> <li>Tailoring and cloth dyeing</li> <li>Hair salon and beauty</li> <li>Basketry (including colour application)</li> </ul>
Youth	Marine-based activities	<ul style="list-style-type: none"> <li>Improved fishing gear and equipment</li> <li>Motorised boats</li> <li>Improved storage (e.g. cooler boxes)</li> </ul>
	Livestock	<ul style="list-style-type: none"> <li>Semi-intensive poultry production</li> </ul>
	Enterprise development and vocational training	<ul style="list-style-type: none"> <li>Wholesale/retail shops and stationery</li> <li>Transport business ('boda boda' in Kiswahili)</li> <li>Brick making ('matofali' in Kiswahili)</li> <li>Welding</li> <li>Electrician</li> <li>Carpentry</li> <li>Driving (incl. truck driving)</li> <li>Plant operation</li> <li>Tailoring</li> <li>Hair and beauty</li> <li>Food catering</li> </ul>
Vulnerable people	Livestock	<ul style="list-style-type: none"> <li>Semi-intensive poultry production</li> </ul>
	Enterprise development and vocational training	<ul style="list-style-type: none"> <li>Basketry (including colour application)</li> <li>Detergent and soap production</li> <li>Food catering</li> </ul>
	Financial support	<ul style="list-style-type: none"> <li>Access to grants/cash transfers/basic social services</li> </ul>

Source: RSK (2022b; 2022c; 2022d)

## 7.6 Livelihood restoration strategy

### 7.6.1 Targeted beneficiaries and level of support

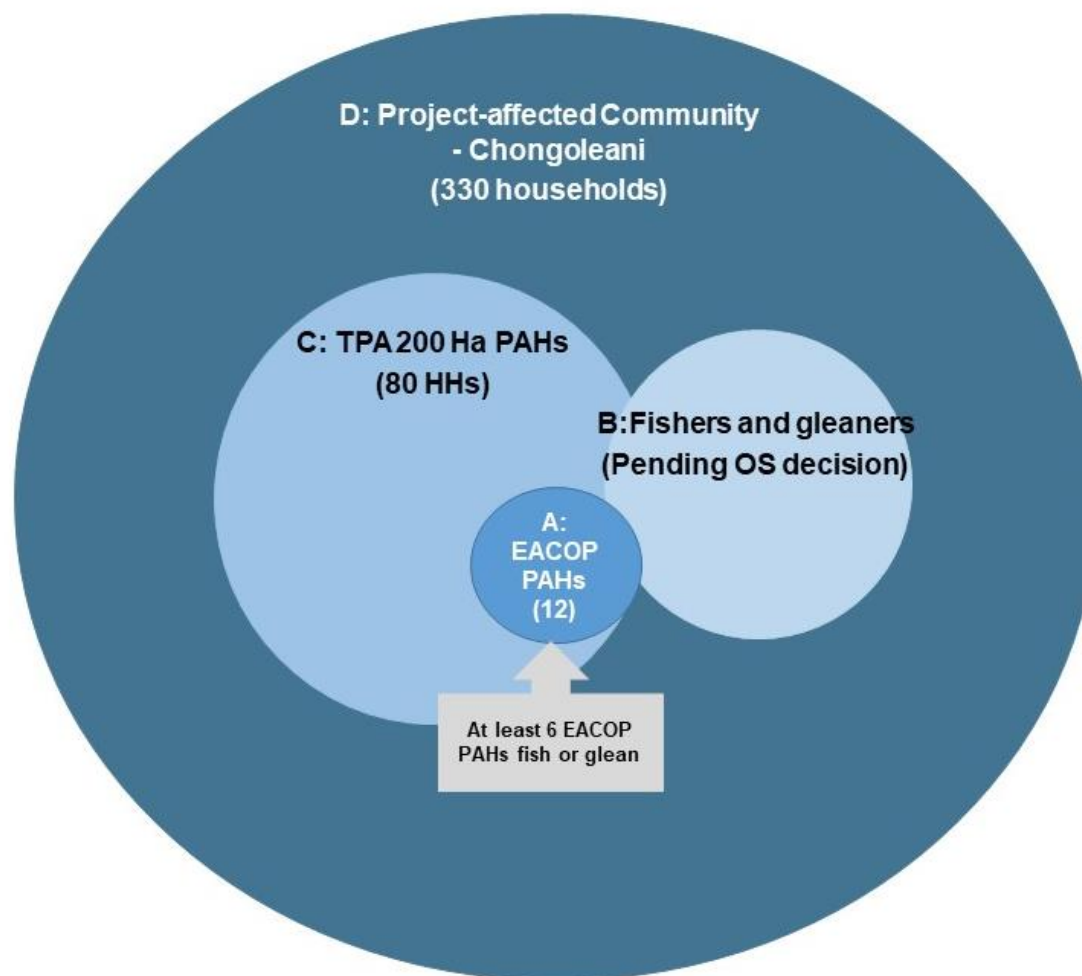
In order to fulfil the requirements of IFC PS5, the livelihood restoration must restore the livelihoods of PAHs. In addition to PAHs, there are other targeted beneficiaries that could be included in the LRP. The affected households and other targeted beneficiaries can be divided into the following types:

- EACOP PAHs who have lost land (wholly or partially) within the EACOP boundaries (i.e. entitlement group 1, see Chapter 6)
- PAHs who will be affected by access restrictions to marine resources due to the Project's marine exclusion zone (at least 31 of these are fishers/gleaners from Putini and Chongoleani who also lost land within EACOP ha) and underwater noise during construction (i.e. entitlement group 3, 4, and 5, see Chapter 6)
- Non-EACOP PAHs who reside within Putini and Chongoleani mitaa and who have lost land within the TPA 200 ha area
- PAHs and non-PAHs who may or may not have lost land within TPA 200 ha and reside in the PACs.

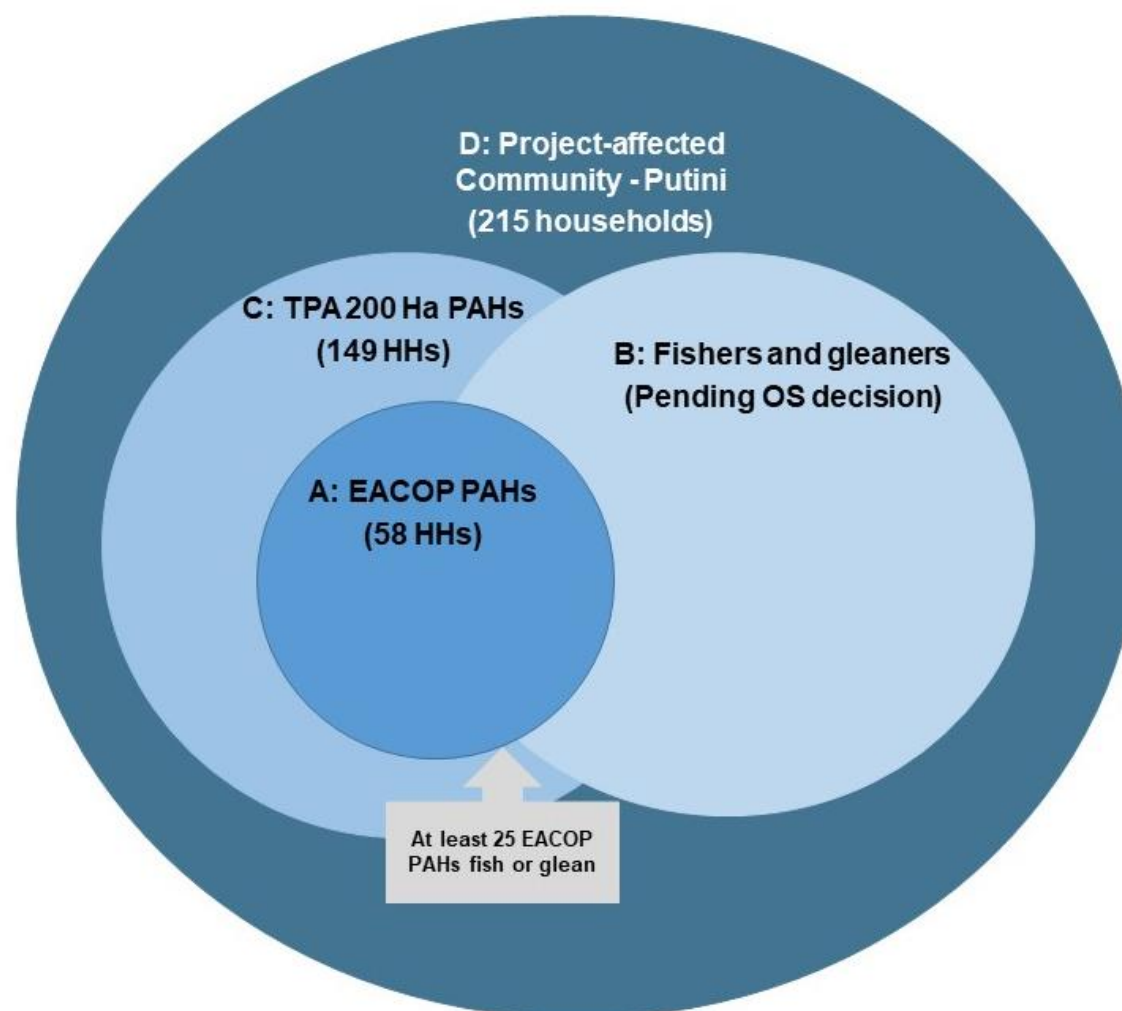
Figure 7.2, Figure 7.3 and **Error! Reference source not found.** illustrate the overlaps of impacts within each PAC. The purpose of the figures is to illustrate the potential targeted beneficiaries across the three PACs and the size of the circles within each figure should not be understood as a direct representation of impacts within a PAC.

The figures also shows the indicative number of fishers and gleaners that lose access to marine resources.<sup>81</sup> Because the representation is at PAC-level, the 39 EACOP PAHs (see Table 4.16) who reside in locations outside of the PACs are not shown in the figures. Moreover, an estimated 271 households within the PACs are likely to be affected by loss of access to terrestrial natural resources (not shown).

<sup>81</sup> The illustration is based on the 'worst case' scenario where there will be no access for fishers and gleaners under the jetty during construction and operations.

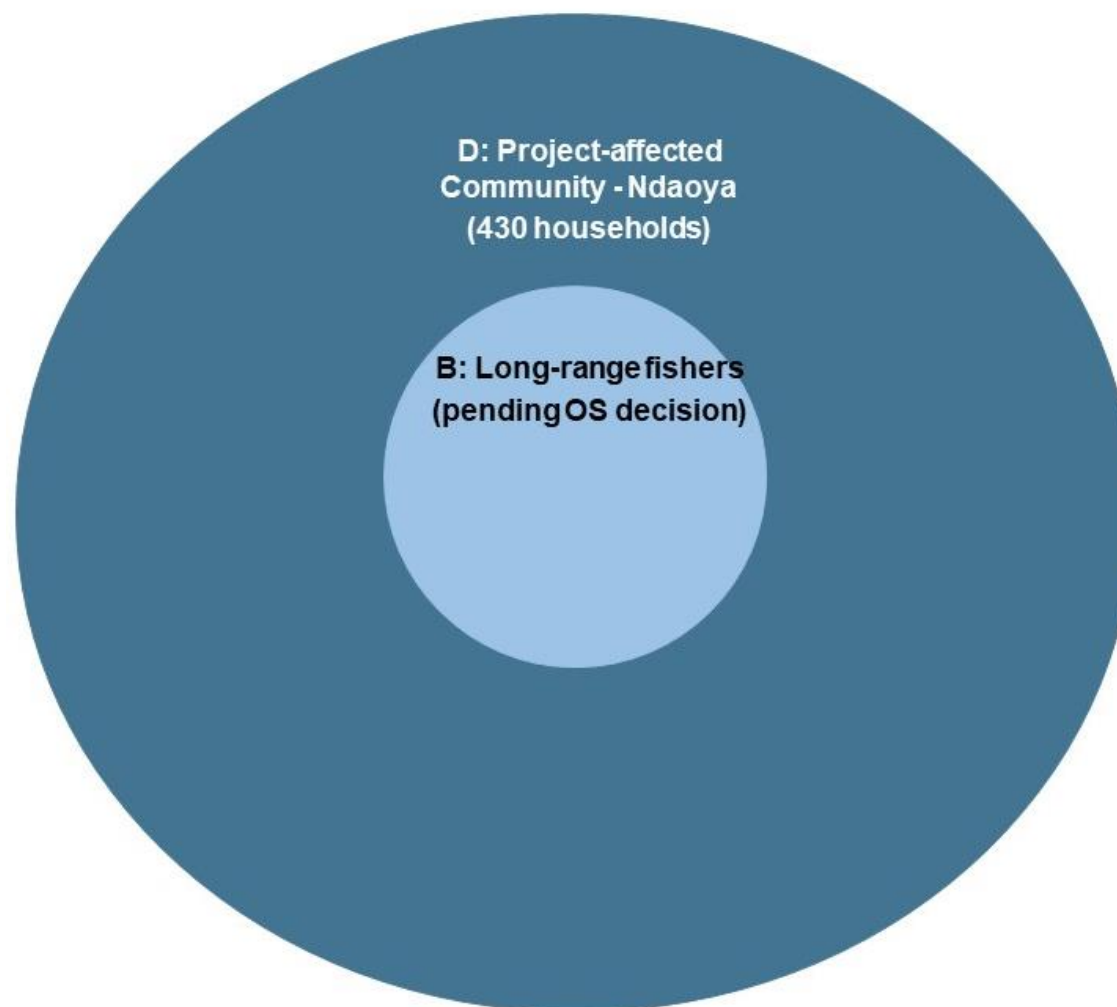


**Figure 7.2: Illustration of targeted beneficiaries – Chongoleani mtaa**



**Figure 7.3: Illustration of targeted beneficiaries – Putini mtaa**





**Figure 7.4: Illustration of targeted beneficiaries – Ndaoya mtaa**

To be compliant with international and national requirements, the LRP will target PAHs in the following way (see Table 7.8 for livelihood restoration options and entitlements):

- As discussed in Chapter 6, PAHs affected by EACOP ha are entitled to individual-and group-level livelihood restoration packages
- Affected community households surveyed will be targeted through:
  - open-access marine enhancement programme<sup>82</sup>
  - depending on the severity of impacts, access to group and individual-level livelihood restoration packages
  - depending on the timing of impact, direct support through the provision of transitional support
- Due to the loss of access to terrestrial natural resources such as firewood and natural grasses/leaves, other members of the PACs will be targeted through:
  - open-access terrestrial community-based natural resource management (CBNRM) programme (see section 7.7.2.1).

It is recognised that EACOP PAHs and non-EACOP PAHs are part of the same communities, and in many cases have close relationships, and may share details of livelihood restoration support/benefits being offered by the Project. Non-EACOP PAHs, are likely to have lost farmland during the TPA 200 ha land acquisition for which they may not have received in-kind compensation such as livelihood restoration. Thus, there is the potential for tension and conflict to occur between EACOP PAHs and non-EACOP PAHs should the balance of Project impacts and benefits be inequitable, or perceived to be inequitable, and for this to affect livelihood restoration delivery and Project schedule as a result.

Apart from the suggested CBNRM, there are several advantages and disadvantages of further extending the livelihoods restoration programme to non-PAHs within the PACs. To balance the advantages and disadvantages of extending some programs, four suggestions to target non-PAHs, are proposed below.

- Ensure the Project's Social Investment Plan (SIP) has a visible and positive presence in the PACs, targeting all members of the community. Better efficiency and cost-effectiveness might also be achieved from leverage of synergies between the SIP and livelihoods restoration planning and delivery – for example use of the same design and implementing organisations in the PACs/affected districts
- Certain community-level livelihood restoration initiatives, especially those in response to natural resource access restrictions, will be 'open access.'
- Non-EACOP PAHs may be able to indirectly benefit from the delivery of livelihood restoration packages, e.g., non-EACOP PAHs participate in and learn from demonstrations of new crop varieties (e.g. the vegetable kitchen gardens)
- PAPs and non-PAPs may be able to directly benefit from the positive impacts of pipeline and MST site construction, e.g., employment or provision of services such as food catering.

## 7.6.2 Phasing of the LRP

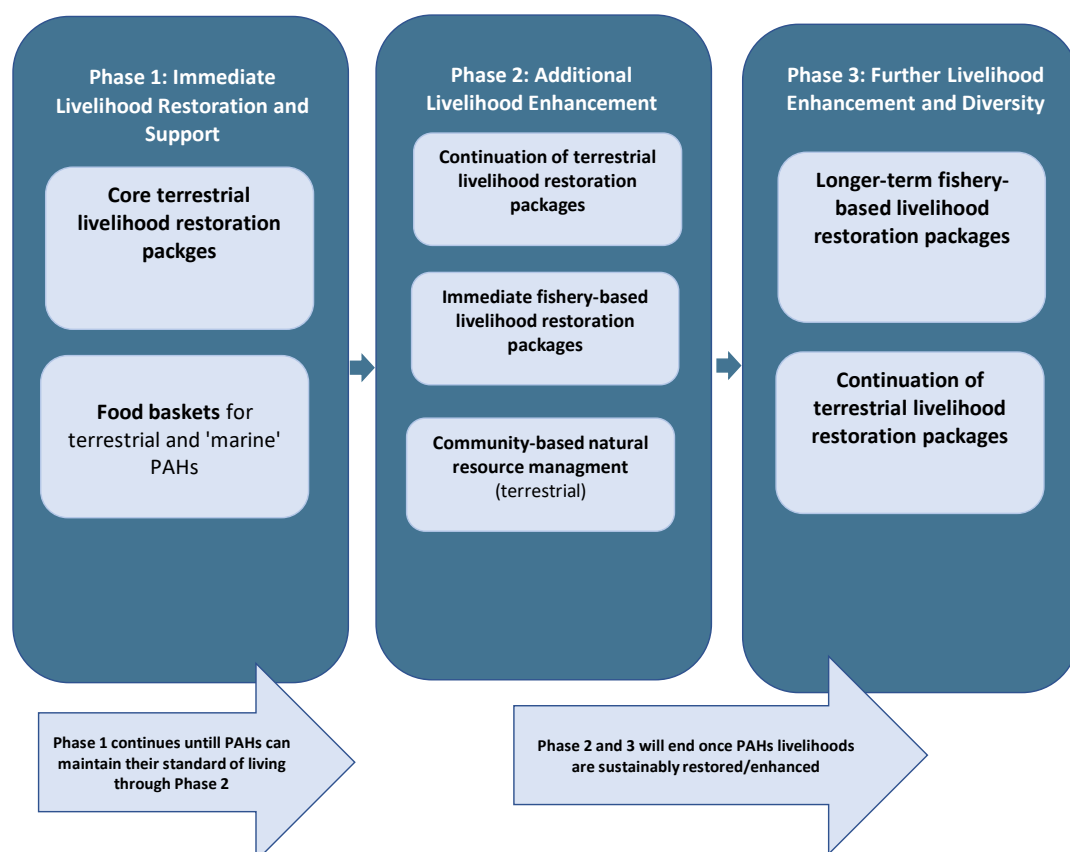
Due to the complexity associated with the implementation of the LRP where terrestrial impacts on livelihoods have already occurred and because of the high prevalence of food insecurity among PAHs, the programme will be implemented in three phases. Apart from

<sup>82</sup> TBC in the final SRAP and LRP.

defining clear focus areas and outcomes, the purpose of implementing the LRP across three phases is to allow for a more refined approach, efficient resourcing and to ensure delays in restoring livelihoods are minimised. Further to minimise the vulnerability context, the phasing also reflects the need to implement activities that can support PAHs in diversifying their livelihoods.

The LRP phases are shown in Figure 7.5 and summarised below. As the Figure shows, **Phase 1**, will focus predominantly on terrestrial activities (agriculture and small businesses). LRAs to be offered to the PAHs affected by loss of land (i.e. Group 1) may commence ahead of LRAs to be offered to PAHs affected by loss of access to marine resources (i.e. Groups 3, 4, and 5). Transitional support will also be provided during Phase 1 (including support to fishing divers who are impacted during construction).

Phase 1 will be followed by the implementation of **Phase 2** activities, which include support to fishery-based livelihoods, improved livestock keeping (poultry), and community-level natural resource management interventions. Phase 2 activities will continue through **Phase 3** (during Phase 3, Phase 2 activities may be further refined). Phase 2 and 3 LRAs, will continue for at least two seasons. Hereafter, a review will determine whether livelihoods have been restored.



**Figure 7.5: three phases of LRP Implementation**

### 7.6.3 Eligibility for livelihood restoration support

The Project will offer livelihood restoration assistance depending on the significance of impacts on the livelihood of a PAP and their resilience to restore livelihoods. Table 7.8

shows the options for each entitlement group (see Table 6.1 for a definition of group) is entitled to.

If Operational Scenario 1 is implemented and gleaners become severally impacted, as noted in LRA 4, they will receive increased and tailored access to terrestrial livelihood restoration packages.

**Table 7.8: Livelihood restoration options and entitlements**

Livelihood restoration options: groups will be given access to group-level and some individual-level targeted support	
<p>EACOP terrestrial PAHs and severely impacted community households surveyed:</p> <p><b>Groups G1 and G3</b> – all eligible households are entitled to:</p> <p><i>These LRAs will continue for at least two cropping seasons and will last through Phases 2/3 (as required for livelihoods to be restored)</i></p> <p><i>If gleaners become severely impacted during operations, they will receive increased and tailored access to terrestrial LRAs</i></p>	Improved agricultural methods A: cassava and maize
	Improved agricultural methods B: kitchen garden and crop diversity
	Vocational training and business support: existing livelihoods
	Improved livestock management: poultry
<p>Affected community households surveyed and EACOP terrestrial PAHs who rely on marine activities</p> <p><b>Groups G3, G4, and G5</b> (and community households surveyed from <b>G1</b>)</p>	Immediate and longer-term fishery-based livelihood restoration programmes (LRA 1, 2, 3 and 4 - depending on level of impact).

## 7.7 Summary of livelihood restoration packages (LRPs)

This section provides a summary of suggested LRAs. Detailed outlines of each package are listed in Appendix 1. An overview of each LRA is presented in Table 7.9.

**Table 7.9: Overview of LRA packages**

No.	LRA	Description
1	Resource management and enhancement	Support for community management of marine resources, including the use of artificial reefs for resource enhancement
2	Value chain support	Improvements to post-capture fish handling to maintain value and support improved food safety
3	Safety and visibility	Support for enhanced safety at sea for fishers and improved vessel control around critical infrastructure

No.	LRA	Description
4	Support to severely impacted gleaners (Putini)	Priority livelihood support to gleaners (only applicable in operational scenario 1)
5	Improved agricultural production A (maize and cassava)	Technical support to the production of key food crops
6	Improved agricultural production B ('kitchen' gardens and crop diversity)	Establishment of 'kitchen' gardens using peri-urban and urban farming methods and other agricultural support to crop diversification
7A and 7B	Enterprise development and vocational skills training	Support to the establishment and/or management of small businesses
8	Improved animal husbandry (poultry production)	Support semi-intensive poultry production

### 7.7.1 Outline of LRAs

#### LRA 1: Resource management and enhancement

LRA1 will be 'open-access' in nature and not directed at individual fishers or households.

The management and enhancement of accessible resources will be the foundation of longer-term sustainability of marine livelihoods across all affected communities. LRA 1 will build upon existing co-management frameworks that have been initiated by the Government of Tanzania. LRA 1 responds to the IFC guideline<sup>83</sup> that fisheries livelihood restoration should include co-management and relevant organisational development to assure sustainability of benefits. The initiative will include resource enhancement through the installation of artificial reefs.

The specific objectives of LRA 1 are to:

- Improve the local management of resources
- Enable communities to understand and monitor the status of local resources, especially in the light of Project impacts
- Support the productivity of specific fisheries through the enhancement of resources, and thus offset losses sustained through exclusion.

The beneficiaries of resource management will be the fishing and gleaning community from the both the PACs and the wider Mchomapunda<sup>84</sup> collaborative fisheries management area (CFMA).

Enhancement will target demersal resources both in the vicinity of the EZ and around Ulenge Bay and therefore benefit short range fishers from both Chongoleani and Putini.

Activities under LRA 1 will focus on the continued support for co-management in the Mchomapunda CFMA, building upon work carried out both by the Government of Tanzania and more recently by civil society partners. This will include, inter alia, support for organisational development at community level (beach management units) and the

<sup>83</sup> IFC 2015: Addressing Project Impacts on Fishing-Based Livelihoods – A Good Practise Handbook

<sup>84</sup> Name of the CFMA that covers the coastline between Sahare and Kwale (including all of the Chongoleani Peninsula), most of Tanga Bay and the seascape between Jambe and Mwamba Nyama

elaboration or improvement of local fisheries management plans and their implementation.

Data collection and monitoring will be a key element of co-management and LRA 1 will support this at a community level not only to support resource management but also to monitor Project impacts on fisheries and marine livelihoods.

LRA 1 will construct and install artificial reef modules<sup>85</sup> to create habitat suitable for fishing in order to offset fishing areas lost due to the operational EZ. The location and configuration of the reef modules will be subject to a specific study but should be chosen primarily to provide an enhanced fishing area on either side of the EZ. The exclusion of all fishers and fishing activity from the EZ will create a refuge area for fish, especially considering that the



**Figure 7.6: Installed artificial reef modules**

jetty configuration has been chosen specifically to minimise damage to existing habitat. The location of artificial habitat outside of the EZ will benefit from spill-over of resources from the protection of the EZ. Although Tanga Bay is an estuarine environment and therefore generally turbid, reef balls are known<sup>86</sup> to be effective in such environments and should provide favourable habitat for fish, algae, and crustaceans as well as support fisheries. Coral growth however would be expected to be slow.

Reef modules will also be installed under LRA 1 in other parts of Ulenge Bay, contributing the restoration of degraded ecosystems and subject to local management.

The study to determine the location of the reef modules will also identify the most appropriate construction and installation strategy, as well as the timing. In general however the modules should be installed as early as practicable (during the construction phase) so as to maximise the productivity of the artificial reefs by the time that fishers are excluded from their habitual grounds by the operational EZ.

## **LRA 2: Post-harvest value chain support**

LRA 2 will provide a combination of open access benefits to the post-harvest value chain through improved services and infrastructure, as well as directed assistance for specific affected fishers. The initiative will be of more benefit to those who are involved in small scale commercial operations, producing marketable excess, than those engaged in purely subsistence activity.

<sup>85</sup> Such as reef balls, <https://www.reefball.org>

<sup>86</sup> Such as <https://www.dpi.nsw.gov.au/fishing/recreational/resources/artificial-reef/estuarine-artificial-reefs>



The specific objectives of LRA 2 are to:

- Improve the maintenance of value of fish post-harvest
- Investigate the viability of small-scale ice production on the Chongoleani peninsula
- Develop new market linkages for fish from Chongoleani
- Improve fish landing sites at Deep Sea and Chongoleani.

The beneficiaries of LRA 2 will be fishers from the PACs but the intervention is aimed at those fishing higher value species for preferential markets, namely handline fishers using outrigger canoes, targeting demersal or large pelagic species. Specific benefits will be available only to this group, but improvements to services (ice production) and infrastructure (landing sites) will be open to all fishers.

Activities under LRA 2 will include targeted training in post-harvest fish handling for longer range fishers from the PACs using outrigger canoes. This will include the distribution of appropriate kits of basic equipment such as cold boxes for use on board. LRA 2 will research the viability of operation of a small-scale ice plant on the peninsula, aimed at supplying ice to fishers for use on board. This could include the installation of a small pilot unit (~ 1 ton per 24 hours) at a suitable location on the Chongoleani peninsula.

The Project and associated local industries will provide new markets for fish products, and likely with quality / food safety requirements beyond those currently required by the major market at Tanga / Deep Sea. LRA 2 will investigate these new opportunities and make the link to local suppliers from the PACs as well as provide any appropriate training.

The landing station at Deep Sea is the principal point of first sale for fisheries products from the PACs that enter commercial value chains. The site has a functioning auction, but it has generally poor hygienic conditions and few other facilities. Although well positioned to serve Tanga city, access to the site is not good and tending to become worse (from both land and sea) as the neighbouring commercial port expands.

The municipal council has plans to develop the landing site and LRA 2 will provide co-financing for this process. LRA 2 will also improve the landing site at Chongoleani, which is located at the community, inside the mangroves at the end of two access channels.

Although there is limited space for expansion of the site, the area could be upgraded by simple and cost-effective interventions to improve conditions for landing and first sale. Interventions at both Deep Sea and Chongoleani will require close coordination with municipal authorities as well as dialogue with fishers and traders.

### **LRA 3: Safety and visibility**

The benefits of LRA 3 will be both open access (thus available to all fishers) and targeted.

The safety and visibility of fishing vessels is already a concern not only for fishers themselves but also for fisheries and port administration. Although fishers do not report collisions or near misses with commercial shipping, the risk of such an event will increase as marine traffic associated with the Project increases. Fishers report swamping or capsizing of vessels at sea in severe weather (sometimes involving loss of the vessel or even loss of life), although this is not a frequent occurrence. In such cases the only effective recourse is assistance from nearby vessels.

Initiatives under LRA 3 are of interest to multiple stakeholders, including EACOP, and should contribute not only to improve safety at sea for fishers but also help with the management of the interaction between commercial shipping and small-scale fishers.

The specific objectives of LRA 3 are:

- Contribute to safety at sea through the distribution of safety equipment
- Improve the management of fishing vessels in Tanga Bay through registration and identification
- Support the establishment of a maritime/emergency communications system suitable for small scale fishers.

The distribution of safety equipment will be directed at vessel-based fishers in the PACs, whilst vessel identification and the marine communications system will be accessible to all local fishers.

Activities under LRA 3 will include the distribution of safety kits to vessel owners which should improve both the visibility of fishing vessels and increase the chance of survival in the case of an accident. Kits may include items such as life jackets, flares, sea markers, solar strobe lights, radar reflectors, high visibility/highly reflective jackets, and caps.

LRA 3 will work with the municipal authority and co-management groups to improve vessel registration around Tanga Bay, including the identification of vessels with their registration numbers. This will include the establishment of a small database that would help both municipal authorities control licensing and fees, and also port authorities to identify and contact owners whose vessels enter into exclusion zones.

A maritime communications system will be developed around an appropriate communications technology such as cellular phone simplified messaging system (SMS). The system will serve multiple purposes including emergency contact and accident response, communication of extreme weather alerts, notice of shipping movements. The initiative will include an extension phase, raising awareness of the system and collecting contact phone numbers for inclusion in regular transmission of local maritime information.

#### **LRA 4: Gleaning support (relevant to Putini gleaners)**

Under operational scenario 1, the marine exclusion zone would severely impact gleaners from Putini. The impact would be permanent but only start as the Project enters the operational phase and the operational marine exclusion zone is imposed. The target group for LRA 4 are gleaners from Putini.

LRA 4 will be a focussed initiative to ensure livelihood restoration for this particular group of highly affected PAHs, through the diversification of livelihood activities. The unique nature of gleaning and the extremely limited geographical distribution of the target resource makes the activity difficult to substitute with an activity that will bring similar benefits with the same level of commitment of time and effort.

The objectives of LRA 4 are:

- Ensure the priority integration of severely affected gleaners into terrestrial livelihoods programs (see Table 7.8)
- Consider support for the inclusion of gleaners into alternative livelihood activities which could include seaweed production.

Activities under LRA 4 will include targeted awareness raising amongst the beneficiary group of both the impacts under the operational scenario and the opportunities available under LRAs 5–8.

Other livelihood opportunities may emerge as the Project develops or as other activities (not related to the Project) develop. Amongst these, seaweed farming may be of interest and at the time of writing a pilot project<sup>87</sup> had recently been set up at Putini.

#### **LRA 5: Improved agricultural methods A: cassava and maize production**

To restore food security levels as fast as possible, LRA 5, focuses on improved cultivation methods for the core food security crops cassava and where applicable (i.e. households are already growing the crop) maize. Research has demonstrated<sup>88</sup> that yields of both cassava and maize can be improved significantly by improved farming practices such as better soil management, intercropping, and the use of agricultural inputs. The specific objectives of LRA 5 are to:

- Improve the existing dominant food crop production practices
- Improve the drought resilience of dominant food crops
- Increase the income generating capacity from the cultivation of dominant food crops.

To achieve this, the package will focus on the adoption of improved technologies and better farming practices. As the productivity of crop growing is raised through improved farming methods, it may be beneficial to food storage and processing of e.g. cassava and maize flour.

Feedback from stakeholders suggested that limited land availability may challenge the successful implementation of the package, this is especially so in Putini. Moreover, production of maize is hindered by the prevalence of sandy soils in Chongoleani and Putini mitaa, which leach out nutrients.

#### **LRA 6: Improved agricultural methods B: vegetable ‘kitchen’ gardens and crop diversity**

Stakeholder consultations revealed that ‘kitchen’ gardens are popular amongst women’s groups and elderly household members as they can provide supplementary household income and nutrition. LRA 6 will initially focus on foods that are typically consumed at home, however, as part of crop diversification efforts crops which are easy to manage and have a good market may also be introduced depending on the interest of the PAHs.

The specific objectives of LRA 6 are to:

- Contribute to enhanced food security of eligible PAHs
- Improve livelihood resilience of vulnerable households/household members, including women and youth
- Allow for agricultural intensification, ensuring better use of existing land, efficient use of water resources, and to reduce pressure on sensitive environmental areas
- Introduce sustainable community appropriate technology to support the expansion of horticulture

<sup>87</sup> A trail plot for seaweed culture was established in front of Putini’s landing station by a private investor in late 2022.

<sup>88</sup> See e.g. Brüssow, Faße, and Grote (2017) and Amare, Asfaw, and Shiferaw (2012).

- Once PAHs are food-secure, to provide opportunity to increase production for commercially marketable foodstuff, in response to growing demand from urban centres (and the Project).

**Kitchen gardens:** suggested peri-urban and urban farming methods suitable for smaller land parcels include cone kitchen gardening and vertical bag farming. Cone gardens (see Figure 7.7) are highly productive compared to traditional kitchen gardens, because there is a high concentration of nutrients. Once fenced, the gardens are easy to manage as they require minimal gardening time after planting.



**Figure 7.7: Example of leaf vegetables grown in 'cone garden'**

Vertical bag farming (see Figure 7.8) is a potentially high-yielding method that requires limited space. In large bags crops such as amaranth, spinach and other leaf vegetables and nightshades (such as potato and eggplant) can be grown.



**Figure 7.8: Bag farming and cone gardening**

To restore food security and enhance income-generating capacity, the 'kitchen' gardens can be used to grow African leaf vegetables, which can be grown with minimum inputs and management requirements. Some PAHs may be able to enhance crop diversity and incomes by growing popular crops such as watermelon, spinach, chili, African eggplant, Moringa, and amaranth leaves. Further, legumes such as bulrush millet and green grams, which are high in nutritional value and thus important for a good diet are also suitable for kitchen gardens. Legumes that grow well in the area include pigeon peas, and green grams.

**Other crop diversification:** to further enhance crop diversification, this package will also seek to introduce intercropping techniques and new crops that are easy to manage, have a good local market, and can grow well in the PACs. The suggested crops for enhanced crop diversity are:

- Fruit trees (mango, oranges, lemon, lime, and papaya)
- Coconut and cashew trees
- Crops for the production of edible oils (e.g. sunflower)
- Sisal
- Spices (cinnamon and clove).

Proposed activities include training in modern and improved farming methods. Once food security has been restored, to restore incomes, attention might be shifted towards better processing and marketing of crops.

Access to water is a major constraints to the implementation of LRA 6. Therefore, apart from training in vegetable gardening, the Project will also provide training in e.g. rainwater harvesting (for more details, see Appendix 1).

A large number of workers will be based at the MST site during construction, therefore, to enhance the income earning potential of crop production, the Project will seek to investigate whether food grown by PAHs can be sourced during construction activities.

If there is an interest in the area, communal 'kitchen' gardens could also be established thereby benefitting the wider PACs (see section 7.7.2 on community-level livelihoods support).

**Use of topsoil generated by the Project's activities:** The project will investigate whether topsoil which will be removed from the Project's construction sites and stockpiled may be used by PAHs. Topsoil is rich in organic matter and can be used to reclaim depleted areas of farming land or enrich existing fields. The topsoil can for instance be used in the vertical bag farming and in the establishment of garden cones described in this LRA 6.

#### **LRA 7: Enterprise development and vocational skills training A and B**

To restore livelihoods in the short-term, the aim of this package is to provide support to existing and new enterprise-based livelihoods. First suggested measures to enhance existing enterprise-based livelihoods are presented (A). This is followed by recommended activities for new livelihoods (B).

The objectives of LRA 7A and B are to:

- Support the enhancement of home-based cottage industries and self-employed business activities
- Increase and broaden PAPs' vocational skills, aimed at local employment opportunities or products and service gaps in the local market
- Provide easier access to markets.

There are five cross-cutting themes in this package which will be implemented across all focus areas (such as basketry or food catering):

- Business acumen/entrepreneurial skills (incl. financial literacy training)
- Tailored vocational trainings (described in the following sub-sections)
- Access to start-up capital



- Access to inputs
- Access to markets.

Suggested focus areas for interventions (existing livelihoods) are outlined below.

*Employment – use of PAPs labour services:* due to the Project's activities there is and will be an increased demand for unskilled labour. Currently, 83 unskilled workers from the PACs are employed by the Project. It is envisaged that the number of unskilled workers will continue to increase in 2023. The Project will continue to prioritise employment to members of the PACs whenever this is feasible.

In addition, close to 40% of PAH members have some secondary education. Those with good academic records could receive training on job search and preparedness.

*Improved basketry (weaving mats, baskets, and food covers):* stakeholder consultations suggested that the marketability can be raised by learning how to apply colour and print (see **Error! Reference source not found.**) and by being taught methods on product differentiation (e.g. producing laundry baskets, baskets for shopping). Although further value chain analysis is needed to determine the full potential of applying colour (see section 10.3.4), examples from other parts of East Africa show that encouraging women to form basketry collectives/groups and use colouring can increase marketability of their products.



**Figure 7.9: Examples of basketry using vibrant colour to increase marketability**

**As shown in**

Table 5.14, a large number of PAHs (and other households within the PACs) collect the grasses and leaves used for basketry within TPA 200 ha. Thus, it is a precondition that access to an alternative site is established for this sub-package to be successfully implemented.

*Food vendor/catering:* many female PAPs prepare and sell food such as friend fish, okra, and other snacks. According to female PAPs and other stakeholders, they need training



to improve processing and marketing. When the cassava, maize, and horticultural production increases, these activities could be combined with training in processing and marketing (i.e. processing cassava into chips and the production of edible oils). Due to the activities of the Project and other related companies in the PACs, the demand for prepared food is likely to increase. Currently, food hygiene standards are low and the food prepared is limited to fried fish and a few snacks such as chapatti and cake. To meet the future demand, eligible PAHs could receive training in:

- Food hygiene
- Processing
- Packaging and marketing
- New recipes.

It is generally more challenging to start a new livelihood than to enhance an existing activity, thus emphasis should be placed on existing livelihoods. However, care should be taken not to increase supply beyond demand and thereby reducing income-earning opportunities for the PAPs. To reduce the vulnerability context and further diversify livelihoods a number of eligible and interested PAHs could receive vocational training and enterprise development support in new business areas.

The below support *new business opportunities* with good potential:

*‘General’ vocational trainings and job preparedness:* provision of vocational skills training in areas that might be needed during construction and operation such as welding, plumbing, driving (incl. truck driving) and plant operation.

*Hair and beauty and barbershops:* according to stakeholders consulted, there are no hair and beauty salons or barbershops in the Project-affected area. A number of PAPs consulted expressed interest in learning such skills. Stakeholder consultations confirmed that such services are likely to have a good market within the PACs.

*Stationary and micro-retail shops:* youth consulted expressed an interest in operating stationery and retail shops. The latter is known as ‘duka’ in Kiswahili and usually stock popular goods for daily consumption such as flour, milk, and personal hygiene items. Apart from loans to access needed inputs, this is likely to require vocational training in business management and for stationary shops also PC and Microsoft Office software.

*Tailoring and cloth dyeing (known as ‘batiki’ in Kiswahili):* according to stakeholders consulted there are no tailoring shops in the Project-affected area. A number of female PAPs expressed an interest in learning tailoring and cloth dying techniques. Through vocational training, eligible PAPs can be trained in tailoring and fabric dying using the wax batik technique.

### **LRA 8: Improved small-scale poultry production**

This package seeks to increase small-scale livestock production through the provision of initial access to improved ‘hybrid’ chicken varieties and related equipment, training on better husbandry practices, facilitation of access to feed, support to improve processing and marketing channels and improved capacity of extension services. Many PAHs (42) keep poultry. As part of LRA 8, PAHs will be trained to raise improved hybrid varieties of poultry, in adequate housing (see **Error! Reference source not found.**).

The key objectives of LRA 8 are to:

- Improve small-scale poultry production of eligible PAHs
- Increase income from small-scale livestock production, especially for women and vulnerable members of the household.

Research<sup>89</sup> has shown that small-scale poultry production can provide a sustainable income and contribute significantly to the nutrition and livelihoods of rural households. Consequently, it is envisioned that the introduction of more intensive small-scale poultry production systems can become a vital component of the mix of livelihood activities, in particular for women.

To move away from the use of indigenous village chickens, a successful compromise has been the emergence of specialist hybrid chicken breeds. An example of this is the 'Kuroiler' or 'Sasso hybrid chicken,' which has indigenous traits but grows faster and lays more eggs than indigenous village chickens. Just like the local breeds, the hybrids are raised free-range, where the birds are left to scratch for food with no restrictions and extraordinarily little or no supplements.<sup>90</sup>



**Figure 7.10: Example of 'Sasso' poultry production**

It is acknowledged that it may be challenging for households to transition from traditional household poultry production to free range, semi-intensive or intensive poultry production. Transformation in the sector cannot simply be brought about through training and education and eligible PAPs/PAHs will most likely require the initial supply of poultry housing, feed, and medicines. Despite this, stakeholders consulted agreed that the package had a good potential to restore/enhance livelihoods. At the time of writing, the demand for poultry and eggs was higher than the supply.

Although, the purpose of this LRA is to further enhance and potentially diversify livelihoods of PAHs and not to develop large-scale poultry production an example from a larger-scale poultry project in Putini may be used to create interest in the package. At the time of writing, a group of youth based in Putini have formed the 'Makha Youth Group' where they have successfully invested in 'Sasso' hybrid variety chicks.

<sup>89</sup> See e.g. Alders and Pym (2009) and Guèye (2000).

<sup>90</sup> While indigenous village chicken lay just 30-40 eggs per year, the hybrids can produce five times more (150-200 eggs per year). They grow to about double the body weight of their native counterparts, providing more meat. Moreover, the Kuroiler/Sasso chicks are more resistant to diseases and can easily be treated by mixing vitamins, feeds, and water.

## 7.7.2 Additional livelihood restoration at community-level

This section presents livelihood restoration at PAC-level and suggestions for further community-level livelihoods support.

### 7.7.2.1 *Alternative access to natural resources and enhancement of resource base*

Where community access to natural resources cannot be continued, IFC PS 5 recommends (see e.g. Esteves, 2021) access to other areas of natural resources that will offset loss of such resources to a community and assistance to enhance productivity of remaining resources to which the community has access (e.g., improved resource management practices or inputs to boost productivity of the resource base)

Mitigation measures to offset the loss of access to community natural resources at the PACs-level are described below. A full participatory feasibility study is required to determine the viability of these ‘community livelihood initiatives.’ Each initiative should be assessed, with further detailed planning being undertaken as part of the livelihood restoration implementation.

#### **Terrestrial: Community-based natural resource management (CBNRM)**

Currently, a firewood distribution agreement has been signed with four mitaa in Chongoleani including the PACs.<sup>91</sup> under the agreement, firewood from the MST site is provided free of charge to community members. The firewood is delivered on a weekly schedule to predesignated areas within the communities. The arrangement is expected to continue well into Q2 2023. There is a need to ensure that a smooth transition from firewood delivery to sustainable firewood use. it is critical that the transition does not happen abrupt.

Adhering to IFC PS 5 and 6 requirements, the Project may work with local government authorities to secure access to an alternative site, which is accessible to households within the PACs. Moreover, to mitigate the future loss of access to terrestrial natural resources for residents in the PACs, a CBNRM may be implemented alongside initiatives (e.g. improved cooking stoves) to reduce the dependence on firewood. The overarching aim of the suggested mitigation measure/programme is to ensure households within the PACs access to an alternative site for collecting vital natural resources such as firewood, leaves for weaving, and thatching grass for roofing material for their subsistence purposes.

The proposed CBNRM programme would be implemented as ‘open access’ to interested members of the PACs. In combination with the supply of improved cooking stoves, this may ensure a more sustainable use of, especially firewood.

To design and implement a CBNRM project, the Project and/or implementing partner(s) could collaborate with relevant NGOs and local government authorities including Tanzania forest service agency (TFS). TFS establishes and manages natural forests and has distributed tree seedlings in Chongoleani ward.<sup>92</sup> In connection to this, a relatively

<sup>91</sup> The four mitaa are Putini, Chongoleani, Ndaoya and Mpirani.

<sup>92</sup> In 2021, TFS in Tanga City has established village natural resource committees, which are used to conserve mangroves in the coastal areas. The aim of the project is, among others, to make women depend less on firewood from mangroves. To do so, tree seedlings are provided to beneficiaries of which many are women to facilitate the planting of trees for timber.

simple add-on could be the establishment of a tree nursery, where trees can be propagated for sale.

In addition, to ensure long-term sustainability and reduce the pressure on natural resources such as firewood for cooking, the Project could introduce improved cooking stoves as part of the programme, as these use less fuel (firewood and charcoal) or rely on biomass for cooking.<sup>93</sup>

#### 7.7.2.2 *Suggested community development initiatives*

As mentioned in Section 7.6.1 on targeted beneficiaries there are advantages in opening up elements of the LRP to the wider PACs. This could be carried out while implementing the LRP or as part of the wider SIP. Suggested interventions that may require relatively little implementation support are shown below. Feasibility and value chain analysis (or similar research) is needed to finalise the design.

**Community vegetable ‘kitchen’ gardens:** as mentioned in Section 7.7.1, as part of the design and implementation of LRA 7, if a suitable site exists a separate community vegetable garden could be established to households within the PACs. The establishment of farmer groups/collectives should be encouraged where farmers share resources and benefits of farming and marketing. Topsoil generated by the Project may also be used for the communal vegetable gardens.

**Improved access to water at PACs-level:** improved access to water can enhance crop and livestock farming activities. There are several community-based schemes, which may increase water supply. Stored rainwater is not always sufficient for the needs of the household during the dry season. Therefore, there is an opportunity to improve livelihoods in the PACs by ensuring better access to community water sources. Prior to implementation, a rural water survey/feasibility study would need to be conducted. The following options may be suitable:

- **Micro-dams or small-scale irrigation dams:** water reservoirs with a sizeable capacity to hold water for irrigating a number of kitchen gardens and market gardens for an extended period of time
- **Renovation/establishment of natural spring wells:** natural springs occur when the water table meets ground level. The earth above the flow is shored up with rocks, sand, and piping, while the catchment area below is cemented to create a clean source of flowing water. This would need renovation from time to time (both downstream and upstream – removing of silt, re-shoring up, etc.)
- **Shallow-well digging:** this is an option that will help with hand-watering gardens where feasible and permitted.

**Improved access to credit:** access to savings and credit plays a critical role in the development of small businesses and enterprises. Members of the PACs could obtain access to financing in the following manner:

- Tanga city operates an entrepreneurial fund, through which women, youth, and vulnerable people (contingent on group formation and official loans requests) can access interest free loans. Consultations revealed that few PAPs and non-PAPs consulted had managed to setup groups. The Project could work with the City council to ensure that interested members of the PACs get access to the loans.

<sup>93</sup> SNV is currently implementing a large program, which seeks to increase access to and use of modern cooking technologies. To date, 226,000 rural and peri-urban Tanzanians have been reached by the programme (<https://snv.org/project/tanzania-improved-cookstoves-tics-programme>, last accessed 26 May 2022).

This implies assistance to group formation and the development of business plans and loan requests.

- To reach more members within the PACs, financial and/or management support could be provided to the two VICOBA's.

### 7.7.3 Additional Marine Livelihood Support Options

The analysis of the impact of the Project on fishers and gleaners presented in this document and the Community Livelihoods Assessment is based on field observations over a relatively short period (less than one complete year). Fisheries by nature are variable and fishing as a livelihood typically exhibits some considerable variability due to both human (knowledge and skill) and environmental (primarily weather) factors. There is therefore uncertainty in the data used in the estimates of impacts that cannot reasonably be removed without a very much longer period of data collection and analysis.

In addition to this, as described in Appendix 6, the estimate of the impact of impeded access on fishers does not include a detailed prediction of how vessels will perform whilst obliged to navigate around the EZ, especially in the very early hours of the morning. This will contribute further to the uncertainty of the accuracy of estimated impacts.

Should impacts prove to be significantly greater than estimated, it may be necessary to consider additional livelihood options for fishers beyond those described in section 7.7.1 above. These could include logistic support to get help vessels navigate around the EZ by towing and / or wider support for the motorisation of vessels.

#### 7.7.3.1 Tow-Around

A tow-around initiative would be targeted at affected fishers from Putini and Ndaoya and comprise a Project supported small, motorised vessel that would be available at the LOF to tow vessels around the EZ.

##### Benefits of Tow Around

- Impeded access impacts would be significantly reduced or even eliminated
- Potentially available to all vessel based fishers, irrespective of vessel size
- No cost to fishers
- Open to anyone.

##### Challenges of Tow Around

- Only helps offset impeded access, and will not reduce impacts due to exclusion from habitual grounds
- There would be complete dependence on the Project for the duration of the initiative, contrary to the key principles set out in Table 7.1.
- Requires care with execution in order to be safe and not endanger fishers and vessels
- The service would need to be available from very early hours (2am) which may present health and safety challenges to the operator.



#### 7.7.3.2 Motorisation

An initiative to support the motorisation of vessels from affected communities would comprise the distribution of suitable outboard motors to vessel owners to help vessels navigate around the EZ. The technical package would need to include the fabrication, supply and fitting of special mounting brackets as outrigger canoes (the most common longer range vessel used in the PACs) do not have the shape of structure that would easily accommodate an outboard motor.

##### **Benefits of Motorisation**

- Impeded access impacts would be significantly reduced or even eliminated
- Could potentially increase vessel range and reduce pressure on nearshore resources.

##### **Challenges of Motorisation**

- Only suitable for larger vessels (longer range fishers). Would not benefit short range fishers with small dugout canoes
- Motorisation would only benefit identified affected persons. Visiting fishers for example would not benefit
- Increased operating costs to fishers (fuel, maintenance)
- Either increased investment cost to vessel owners or long-term dependence on the Project for re-investment
- Gasoline outboard motors would require both fuel supply and engine maintenance in the PACs
- The most accessible outboard motors are not environmentally friendly (2-stroke gasoline engines). More environmentally appropriate electric outboard motors could be sourced but a significantly increased (about 2x) investment. Additional investment would be required in a charging station, which could potentially be solar. Electric outboard motors would require trial / demonstration.

#### 7.7.4 Overview of potential partners for implementation

Where possible and practical, the Project will manage livelihood restoration packages with the assistance of implementing partner(s) such as NGOs, service providers, farmer groups and relevant government departments, village councils and ward councils (jointly referred to as 'organisations' in this section). Some of these currently operate livelihood support programmes in the area.

To learn about their activities, capacity, and partnership potential NGOs and other community organisations were consulted during the SELI (for more details, see Chapter 9), see Table 7.10 for an overview and Appendix 3 for more details. Partnering will eliminate the duplication of efforts and will strengthen current interventions. The suitability of these organisations to address Project-induced livelihood impacts will have to be assessed in consultation with the PACs.



**Table 7.10: Organisations potentially suitable for livelihood restoration information sharing, collaboration, and partnership**

Organisation	Key activity
<b>Government department and organisations with a government mandate:</b>	
The national council for technical and vocational training (NACTVET)	Vocational trainings include plumbing, pipe fit, welding, electrical, carpentry, auto electrical, motor-based mechanics, auto body repair, filter mechanics, tailoring, painting and sign writing, secretary, food production, food and beverage, sales and services, and masonry and brick layering.
Mabokweni AMCOS (cashew nut farming)	Mabokweni AMCOS is a governmental cooperative for cashew nut farmers. The AMCOS collects cashew nuts produce and markets it, and supplies inputs and sprayers (at a cost). In 2022, the AMCOS entered an out-grower scheme pilot project facilitated by Care International.
Small industry development organization (SIDO)	SIDO is a non-profit governmental organisation which supports the development of small-and medium sized businesses. SIDO provides four types of services: 1) modern technologies, 2) vocational training, 3) advice/support to small businesses in finding a good market, and 4) support on money management. Support/trainings include food processing, batik/clothes dying, and production leather goods. After training in food processing, labelling, and marketing, they collaborate with Tanzania Bureau of Standards to inspect the processing floor and issue a quality approval certificate, which is free and valid for three years.
Tanzania livestock research institute (TLRI)	TLRI is a government agency mandated to conduct research for the livestock sector in Tanzania. Activities include research and development in livestock in the eastern zone which include Tanga Region. At the time of writing, TLRI does not have a specific intervention/project within Chongoleani Ward but they have a number of research projects in Tanga Region including the coastline with similar environment such as Chongoleani
Tanzania agricultural research institute (TARI)	TARI (located in Muheza District) has specialised in cassava and has recommendations for varieties that can grow well in Coastal areas (early maturing and drought resistant).
Tanga city council	Current projects include construction of secondary school laboratories, latrines, and classrooms. Future development plans are aimed at allocating plots for industrial development, strengthen a block making Project owned by the City Council, capacity building for chicken breeders through renting incubators, and construction of modern markets.
Tanga city council – agriculture, irrigation, and cooperatives officers (DAICO)	Technical department within the City Council devoted to improved agriculture and water access.
Tanga city council – community development officer	Technical department within the City Council devoted to community development. Tanga City Council's Community Development Office operates an entrepreneurship fund targeted women, youth, and people living with disabilities. Groups of targeted beneficiaries can officially apply for an interest-free loan.
Tanga city council – livestock and fishery officer	Technical department within the City Council devoted to improved livestock and fishery.

Organisation	Key activity
Ward veterinary officer (WEC)	Responsible for the dissemination of research and technologies related to improved animal husbandry within the ward. Performs diagnostic services.
Ward agricultural extension officer (WAE0)	Responsible for the dissemination of research and technologies related to improved crop farming within the ward
Tanzania sisal board	Government marketing board, which supports sisal growing, and marketing. The Government has listed sisal as a priority crop for small-scale farmers.
Tanzania social action fund (TASAF)	TASAF in Tanga provides conditional and unconditional cash transfers to households living in extreme poverty. To do so, TASAF keeps a register of extreme poor households who are entitled to the basic cash transfers. TASAF will soon start to identify vulnerable households who will also become eligible for assistance. In 2022, TASAF is planning to roll out a Livelihood Enhancement program consisting of various training, group formation, and loans.
Vocational education and training authority (VETA)	VETA offers vocational trainings. VETA has 14 long-term courses which run for 2-years. <sup>94</sup> The government sponsors the long-course and therefore payment is just 120,000 shilling. Around 700 applied and they picked 400 students for the long course. Then they have short courses (see attached schedule) with higher prices. They also do tailored courses such as driving (5 weeks) and 'boda boda'. All courses have elements of life skills and entrepreneurship. At the time of writing, no agricultural courses were offered.
<b>NGOs and CBOs:</b>	
BRAC finance and maendeleo	BRAC Maendeleo focuses on education and livelihood training. BRAC Finance provide financial literacy training and give loans. Support is provided to children from poorer areas focusing on young children and adolescents. For the youngest children (3-5 years) BRAC provides programmes to 'learn through playing'. For the adolescent girls, BRAC runs a programme where Form 1-4 can be taken in two years. Successful candidates can continue to Form 5-6 elsewhere. Those who do not pass are offered livelihood training in tailoring, salon, baskets, agriculture, poultry, and food processing.
Care international	In 2022, Care International launched an out-grower scheme/project in Tanga Region to help cashew nut farmers. The key objective is to increase the yield and productivity of cashew nut farming in the area. The scheme seeks to link cashew nut farmers to the Mabokweni AMCOS and a large-scale private buyer. The company/out grower has established a factory.

<sup>94</sup> In 2022 courses included plumbing, pipe fit, welding, electrical, carpentry, auto electrical, motor-based mechanics, auto body repair, fitter mechanics, tailoring, painting and sign writing, secretary, food production, food and beverage, sales and services, and masonry and brick layering.

Organisation	Key activity
	CARE will train both farmers on agricultural practices and the AMCOS on good management. The NGO plans to reach 3,000 farmers of which at least 1,000 farmers should join AMCOS. Female farmers should constitute 70% of all. Gender and environment are crosscutting themes and work to use by-products from cashew to reduce environmental impacts (for charcoal and fertiliser).
Northern coalition for extractive industries and environment (NCEE)	<p>NCEE was established in 2019 when they received support from OXFAM Tanzania. NCEE is an umbrella organisation of 11 members.</p> <p>NCEE are largely rights-based. Support and trainings provided include empowerment to communities on laws and regulations involving local content related to the extractives industries.</p> <p>Work with Local Government Authorities to build skills. NCEE have trained around 300 individuals from the affected areas across the pipeline corridor in Tanzania on community participation, preparedness and awareness, and the environment. They also train and advice on the opportunities the project may offer and on the challenges that might come.</p>
Mwambao coastal community network	<p>Mwambao network has activities in the entire coast of Tanzania, including Tanga Region. The Network's aim are to build local networks around key coastal village members who face familiar challenges. Currently, these are located on the islands of Unguja and Pemba and Tanga, Bagamoyo, and Kigamboni on the mainland.</p> <p>Activities along the coast include artificial reef ball projects, octopus and co-management capacity project, and community blast fishing monitoring.</p>
RA lab	<p>In partnership with Botner Foundation, RA LAB works to build capacity of the youth on how to get involved in entrepreneurship to generate income activities.</p> <p>RA Lab provides trainings on sexual and reproductive health, nutrition, and entrepreneurship. Entrepreneurship trainings last for 5 days (3 hours a day) and after training, RA Lab supports youth to form savings and loans groups. Groups receive supervision and mentorship group for one year.</p>
SHINYAWATU	SHINYAWATU is an umbrella organisation for various organisations for people with disabilities. SHINYAWATU engages in advocacy to the Government on issues on equality, laws, and rights of people with disabilities. They have an office in Tanga City but at the moment no projects.
TAYOTA	TAYOTA specialises in youth empowerment. Activities include trainings and capacity building on topics such as business acumen, gender-based violence, use of digital business platforms, and youth and police cooperation.
Wildlife conservation society (WCS) – marine programme	Provides support to BMUs on development of a financial sustainability plan that promote public private partnerships (PPPs). WCS works closely with TFS and the local government authorities.

Organisation	Key activity
World vision	World Vision implements socio-economic development projects in the areas of health, nutrition, water and sanitation, environmental protection, education, livelihood. The overall objective is to ensure the welfare and protection of children in communities. Pertaining to this, World Vision (in Mkinga) run various livelihood improvement programmes including poultry production, fish farming, vegetable kitchen gardens, and potato processing. World Vision collaborates with Tanga City Council to enable beneficiaries to access loans and both the Ward Veterinarian and private agro-vet shops to provide beneficiaries with access to supplies.
Youth with disabilities community programme (YDCP)	The organisation offers numerous services to children below 5 years who are disabled and youth who live with mental disabilities. Pertaining to the latter, the NGO runs a program where youth with such disabilities are trained on soap making, cloth dying/batik, music, and handicraft making such as earrings.
<b>Private-sector and others:</b>	
Tanga Fresh	Tanga Fresh is a private milk cooperative (owned by smallholders and a private investor). Through their collection centres, the cooperative sources fresh milk from smallholders.
Village community banking (VICOBA)	At the time of the survey, there were two active VICOBA, 'Tafkari' in Putini Mtaa and 'Chada chema' in Chongoleani Mtaa. Established in 2010, the VICOBA in Chongoleani is the oldest. The group currently has 60 members all of which are women. The VICOBA in Putini was established in 2017 and has 30 members (of which three are men). The VICOBA in Putini also runs a communal project where the women in the group collaborate to buy and sell soap.

## 7.8 Transitional support

This section summarises the content of transitional support to eligible PAHs. Entitlements to transitional support are shown in Table 6.2.

### 7.8.1 Food baskets

Transitional support will consist primarily of ‘food baskets,’ based on a typical United Nations World Food Program food basket providing cereal, rice, pulses, oil, and salt. Since all households still have some livelihood capacity, assistance will commence with 50% of the quantities issued under the World Food Programme (WFP) (approximately 5 kg each of maize, rice, pulses; 0.5 oil and 150 g salt per person per month). This will be determined on a case-by-case basis. Items provided to each household of six (6) people under a provision of 50% of WFP requirements, per month could include:

- Maize/cassava (20kg)
- beans (20kg)
- rice (20kg)
- salt (1kg)
- oil (5l).

Households who have lost land for the Project and are severely impacted by the loss of access to marine resources may qualify for a larger percentage of the quantities issued under the WFP.

### 7.8.2 Monitoring and evaluation of transitional support

Households will be assessed for their eligibility for continued supply of food baskets. An assessment will be undertaken at six (6) months, 12 months, and 18 months and, if required, 24 months to determine which households may still need transitional support. There will be flexibility to continue transitional support for as long as is necessary until households have had enough opportunity to restore livelihoods. Additional support options will be considered for those struggling beyond 24 months.

Households will no longer be eligible for transitional support if:

- A member of the household has achieved gainful employment or self-employment, or the household is benefiting from another income source
- The household does not demonstrate willingness to undertake activities to restore their livelihoods. Each household benefiting from transitional support will be required to demonstrate that they are taking steps, either through the LRP or another means, to restore their livelihood.

### 7.8.3 Vulnerable people and households

Vulnerable and highly impacted households will be monitored closely to ascertain whether the support provided is adequate and to consider any adjustments to the basket of goods. Those eligible for transitional support may also be eligible for specific medical support while on the program. This may include payment of costs associated with

improved Community Health Fund (iCHF).<sup>95</sup> The annual contribution from each household in rural areas is between T.Shs. 10,000–30,000 (4.29 to 12.9 USD) with the latter being for a household of six, the government matches the contribution (Torm et al. 2021). Fees would be paid directly to the authority.

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<sup>95</sup> In 2001, the government passed the CHF Act (supported by the World Bank), formally institutionalizing it as a voluntary insurance-based hybrid scheme, administered at the district level and co-financed by the community (household) and the government. The CHF has encountered challenges including poor enrolment and poor health services offered to members. Since 2014, the CHF has been under replacement by an improved CHF system (iCHF), permitting members to access health services outside of their districts and providing a more comprehensive package of services. The iCHF health insurance scheme, built on a strong partnership between the NHIF, the district councils, public and private health care facilities, and PharmAccess (Torm et al. 2021).



## 8 VULNERABLE PEOPLES PLAN

### 8.1 Introduction

Vulnerable people<sup>96</sup> were identified to assess potential requirements for additional livelihood restoration support and monitoring.

A vulnerable peoples plan (VPP) was developed to address the needs of vulnerable PAHs and PAPs and is presented in this chapter. The VPP is aligned with the Project's regional RAPs VPP (EACOP, 2020) and demonstrates how the vulnerability status of PAHs has been confirmed using data collected during the first and second rounds of the SEHS (RSK, 2022c).

The VPP recognises that vulnerable people and households might have reduced ability to access and benefit from livelihood restoration packages and hence, will require additional support, assistance, and monitoring throughout the process. Support to vulnerable people will be assessed on a case-by-case basis and additional measures may be proposed by the implementation partner(s).

In the remainder of the chapter, the following is discussed:

- Objectives and definitions
- Vulnerability criteria and identification
- Confirming vulnerability status
- Implementation support
- Roles and responsibilities.

### 8.2 Objectives of the VPP

The overall objectives of the VPP are to ensure vulnerable people/households receive the support needed for them to benefit from the livelihood restoration packages. Sub-objectives are as follows:

- **Identify vulnerable people:** ensure that actual and potentially vulnerable people and households are identified and monitored during and after the resettlement process, so as to track their standard of living and effectiveness of livelihood restoration
- **Provide appropriate assistance:** provide appropriate assistance to people and households identified as vulnerable to re-establish their livelihoods. Members of vulnerable households may require special or supplementary assistance beyond livelihood restoration because they are less able to cope with the displacement effects than the general population. This will be determined on a case-by-case basis
- **Identify suitable support packages:** ensure that livelihood restoration packages have been designed to consider the needs of vulnerable people.

<sup>96</sup> As per IFC Performance Standard 1, a disadvantaged or vulnerable status can stem from a number of factors including individual demographic characteristics such as age, gender, literacy, poverty and economic disadvantage, illness and disability, and ethnicity. Other characteristics that can cause vulnerability and often affects groups of people are culture, language, religion, political or other opinions, and national or social origin/status, and dependence on unique natural resources.

Further consultations will ensure that additional forms of support are included where necessary

- **Assist with understanding support:** assist persons identified as vulnerable to fully understand their support options for livelihood restoration and encourage them to choose the option(s) with the lowest risk for them.

### 8.3 Definition of vulnerable people

Within the context of resettlement, land acquisition, and livelihood restoration, the term 'vulnerable groups' includes individuals, households, or groups of people that may be disproportionately affected by the resettlement process. For the purposes of this SRAP and LRP, vulnerability is defined as:

- Lack of capacity of a person or group to anticipate, cope with, resist and recover from impacts
- People who by virtue of gender, ethnicity, age, physical or mental disability<sup>97</sup>, economic disadvantage, or social status may be more adversely affected by resettlement than others
- People with limited ability to claim or take advantage of resettlement assistance and related development benefits.

### 8.4 Coverage

The vulnerability analysis considers all surveyed EACOP PAHs including the 109 surveyed during the first phase of the SEHS and community households surveyed during the follow-up. It thereby excludes unidentified owners of land parcels within EACOP ha. In addition, diving fishers from Chongoleani were not enumerated during the SEHS. A follow-up registration and assessment of vulnerability of affected community households surveyed in Chongoleani will be conducted during implementation.

### 8.5 Vulnerability criteria

Based on the definition of vulnerability and in accordance with the Project's regional RAPs, to be able to identify households/persons that are currently<sup>98</sup> actually or potentially vulnerable based on pre-existing characteristics, specific socio-economic and demographic criteria<sup>99</sup> have been developed.

The identification of vulnerable people acknowledges that no single factor automatically renders a person or household vulnerable. For instance, research has shown that while female-headed households may be vulnerable due to restricted access to land and labour in other contexts they earn higher incomes than male heads (Chant, 1997). Thus, a

<sup>97</sup> Disability is the loss or limitation of opportunities to take part in the normal life of the community on an equal level with others due to physical, mental or social factors. It is an umbrella term, covering impairments, activity limitation, and participation restrictions (EACOP; 2020).

<sup>98</sup> Due to the lack of a socio-economic baseline of PAHs before the 2017 land acquisition, the assessment of vulnerability is based on the socio-economic baseline data collected in March 2022.

<sup>99</sup> These criteria have been developed by the Project's RAP Consultants and are in accordance with the Government of Tanzania's vulnerable groups planning framework and the requirements of IFC Performance Standard 5. Different from the regional RAPs, the LRP considers food shortages in the past 12 months and not food expenditure as a contributing factor. In a context where a large share of households rely on subsistence activities, using perceived food insecurity as a measure is regarded as superior to the use of food expenditure.

number of contributing factors, such as gender of the household head, have been identified to jointly define vulnerability. Common for these factors is that they often impede the resilience of people/households to withstand external shocks, hence making them potentially vulnerable to impacts of the historical land acquisition associated with the Project.<sup>100</sup>

Selected contributing factors are<sup>101</sup>:

- Age of household head (either over 60 years of age or child-headed households)
- The household is female headed
- Education level of household head
- The household has one or more physically and / or mentally disabled household member
- Household has experienced food shortages within the past 12 months and has per capita incomes below sample-average incomes
- Number of household income earners and resources available to support dependents
- Number of children between 6-14 years not attending school.

To identify potentially vulnerable Project-affected individuals and households, the criteria were included in the household questionnaire for the full socio-economic baseline census.

In addition to the mentioned pre-existing vulnerability, households who lost land to EACOP and are at risk of losing access to marine resources (double impacted households) are classified as potentially vulnerable.

## 8.6 Vulnerability analysis – pre-existing characteristics

Vulnerability is measured on a graded scale where people/households can experience vulnerability ranging from 'at-risk to vulnerable. Based on the pre-existing vulnerability criteria mentioned in the previous section, households have been sub-divided into categories one (1) to three (3). The categories are defined as follows:

- **Category 1 (vulnerable):** households who fall under category 1 will immediately be placed on the vulnerable households register (VHR). The households will qualify for individual level livelihood support as discussed in section 8.8. Additional support may be necessary, commensurate to the household's level of vulnerability
- **Category 2 (potentially vulnerable):** potentially vulnerable households will qualify for livelihood restoration support. The households will be monitored closely to assess whether they should be placed on the VHR
- **Category 3 (at-risk):** at-risk households will be placed on a 'watch list' and must be included in ongoing review/surveys to monitor potential vulnerability.

<sup>100</sup> For more details on the methods used to identify contributing factors, see EACOP (2020).

<sup>101</sup> Potentially vulnerable ethnic groups have not been explicitly included in the vulnerability criteria. During SELI activities it was established that there are no ethnic vulnerable groups in the area affected by the Project's MST site.

To identify households that are vulnerable or potentially vulnerable due to their pre-existing conditions, several data queries were run on the Project's database.<sup>102</sup> Table 8.1 shows the queries A-G that were used to identify and categorise potentially vulnerable people. After administering data queries A-F, the final query G assessed whether any households identified as potentially vulnerable appeared in multiple queries (i.e. a cumulative impact) increasing their overall level of vulnerability.

**Table 8.1: Vulnerability analysis used to identify actual and potentially vulnerable households**

Query	Classification into Categories
Query A	<ul style="list-style-type: none"> <li>Category 1: Elderly (&gt;60yrs) male headed household with less than two (2) income earners.</li> <li>Category 2: Elderly (&gt;60yrs) male headed household with two income earners.</li> <li>Category 3: Male (≤60yrs) with one (1) or no income earners.</li> </ul>
Query B	<ul style="list-style-type: none"> <li>Category 1: Has experienced food shortages all year (12 months) and has per capita incomes 50% below mean.</li> <li>Category 2: Has experienced food shortages for 4-11 months and has per capita incomes ≥ 50% and &lt; 20% below mean.</li> <li>Category 3: Has experienced food shortages for 1-3 months and has per capita incomes ≥ 20% below mean.</li> </ul>
Query C	<ul style="list-style-type: none"> <li>Category 1: Child headed households, household head (&lt; 18yrs).</li> </ul>
Query D	<ul style="list-style-type: none"> <li>Category 1: Female headed (≤ 60yrs) household – household head has no education.</li> <li>Category 2: Male headed (≤ 60yrs) household – household head has no education.</li> <li>Category 3: Household head (&gt; 60yrs) has no education.</li> </ul>
Query E	<ul style="list-style-type: none"> <li>Category 1: Percentage of children (≥ 5 and ≤18yrs) in household not attending school ≥ 75%</li> <li>Category 2: Percentage of children (≥ 5 and ≤18yrs) in household not attending school ≥ 50% to &lt; 75%</li> <li>Category 3: Percentage of children (≥ 5 and ≤18yrs) in household not attending school ≥25% to &lt; 50%</li> </ul>
Query F	<ul style="list-style-type: none"> <li>Category 1: Household head is female and household has two or more disabled people (under 60 years)</li> <li>Category 2: Household head is male and household had two or more disabled people (under 60 years)</li> <li>Category 3: Household head is female or male and household has one disabled person (under 60 years)</li> </ul>
Query G	<p>Cumulative Analysis of households who were categorised in more than one query above.</p> <ul style="list-style-type: none"> <li>Category 1: Household has one (1) or more classifications in category 1.</li> <li>Category 1: Household has three (3) or more classifications in category 2.</li> </ul>

<sup>102</sup> The Project will maintain a database of PAHs' profiles which will include collected socio-economic baseline data, information on the severity of impacts on the household, and vulnerability information. The database will be expanded for use in storing information against output and outcome indicators to be used in the M&E of the Livelihood Restoration Programme, using a system of unique identification numbers for each PAH. All personal data on PAHs will be kept confidential and will be general data protection regulation (GDPR) compliant.

Query	Classification into Categories
	<ul style="list-style-type: none"> <li>Category 2: Household has one (1) or more classifications in both categories 2 and 3.</li> <li>Category 2: Household has three (3) or more classifications in category 3.</li> <li>Category 3: Household has one (1) or two (2) classifications in category 3.</li> </ul>

Note: Adapted from the database analysis presented in the Project's regional RAPs (EACOP, 2020)

In addition, PAHs who were severely affected by the historical land acquisition and/or will be severely impacted by the Project's restrictions on access to marine resources are entitled to additional livelihood restoration assistance. For more details, see Table 6.1.

### 8.6.1 Potentially vulnerable ethnic groups

Membership of a vulnerable ethnic group or self-identification as an Indigenous person was not included in the vulnerability criteria employed in Section 8.4. This exclusion is motivated by the fact that based on available evidence; Indigenous status does not automatically translate into household vulnerability, despite the potential for group vulnerability. The RAP for Tanga Region and data collected during SELI activities<sup>103</sup> did not identify any ethnically vulnerable groups within the Project's area of influence.

## 8.7 Categorising vulnerability status

**Based on the vulnerability analysis described in the previous section, the number of vulnerable and potentially vulnerable households per category has been assessed (see Table 8.2 and**

Table 8.3). For more details on the actual and potentially vulnerable households identified, see Appendix 4.

To monitor the households, a VHR has been developed and will be used throughout the resettlement process to plan and implement the specific activities that have been designed to support potentially vulnerable groups.

**Table 8.2: PAHs affected by EACOP ha vulnerability status**

Current location	Category 1	Category 2	Category 3
Chongoleani	3	0	3
Putini	16	0	6
Other locations	11	1	3
<b>Total</b>	<b>30</b>	<b>1</b>	<b>12</b>

<sup>103</sup> KILs with Tanga City Council DAICO (07-02-22), Chongoleani Ward Agricultural Executive Officer (01-02-22), Tanga City Council - City Livestock and Fishery Officer (31-01-22), and Tanga City Council Community Development Officer (08-02-22).

**Table 8.3: Community households surveyed vulnerability status**

Current location	Category 1	Category 2	Category 3
Putini	10	21	22
Ndaoya	4	13	6
<b>Total</b>	<b>14</b>	<b>34</b>	<b>28</b>

Source: SEHS

Note: Vulnerable community households surveyed in Chongoleani will be assessed during SRAP implementation

### 8.7.1 Doubly impacted households

In addition to the households classified as vulnerable based on pre-existing characteristics, a number of households who lost land to EACOP and depend on marine resources are recorded as potentially vulnerable. As described in Chapter 6 and 7, these households will be closely monitored to see whether they need additional support to restore their livelihoods.

**Table 8.4: Potentially vulnerable households (PAHs affected by EACOP ha only)**

Location	Number
Chongoleani	6
Putini	25
Ndaoya	0

Source: SEHS

Level of vulnerability has been considered in the livelihood restoration entitlements and options (see Table 7.8). The exact set of potential additional assistance/activities that will be provided to each confirmed vulnerable individual and household will be assessed on a case-by-case basis and will therefore vary according to their specific needs.

During the entitlement briefing process (see Chapter 9) and through ongoing engagements with vulnerable PAHs more information on their specific circumstances will be gathered. This will be considered alongside their specific displacement impacts to confirm whether they require additional livelihood restoration support and discuss with them (if relevant) support options available.

Lastly, it may be confirmed during further engagement with these pre-identified PAHs that the contributing factors on which their vulnerability has been based, may not affect their ability to restore or improve their livelihoods.



## 8.8 Livelihoods support to vulnerable people

To ensure that vulnerable PAPs can re-establish their livelihoods, eligible vulnerable PAPs will have access to additional individual-level livelihood restoration packages as appropriate to their relevant vulnerability factors and level of Project-induced impacts.

To be able to identify suitable livelihood support measures, PAH members who live with varying types of disability, were consulted during the SELI activities. The consultations suggested that suitable livelihood activities for persons living with disabilities are predominantly the ones that can be conducted close to the homestead. Therefore, the livelihood restoration packages presented in section 7.7 have been designed to ensure that vulnerable people can, based on their level of disability, participate in manners that allow them to restore their livelihoods.

To further ensure that vulnerable people can benefit equally from livelihood restoration support and other positive benefits arising from the Project's activities the following will be ensured:

- Vulnerable individuals have priority access to LRAs
- Vulnerable individuals can access needed labour assistance to activities such as the establishment of 'kitchen' gardens, constructing poultry housing, and/or labour inputs to agricultural production (e.g. tasks such as weeding and pruning)
- Access to financial support for vulnerable people who may not be able to reinstate their livelihoods solely through the livelihood restoration packages
- Strengthening the participation of vulnerable groups in decision making processes by providing support such as training, access, and safe conditions to encourage participation
- Promoting equal opportunities for employment on the Project by ensuring that employment opportunities are advertised and open to all groups.

## 8.9 Responsibilities and monitoring

The VPP will be implemented in parallel to the wider LRP implementation and conclude only when the livelihoods of vulnerable people have been restored to at least pre-Project levels (as determined by a completion audit). The specific monitoring that will be conducted of vulnerable people is shown in section 11.3 in Chapter 11.

## 9 CONSULTATION AND DISCLOSURE

This chapter presents past and future stakeholder engagement activities for the Project's marine facilities. Future consultations and disclosures related to the loss of marine access will be detailed in the final SRAP and LRP.

### 9.1 Purpose and objectives of SRAP and LRP stakeholder consultations

The stakeholder engagement objectives for the SRAP and LRP are as follows:

- Gather data that allow for a detailed analysis of EACOP PAHs and PACs livelihoods including suggested areas of livelihood support
- Consult members of the PACs and key stakeholders on livelihood restoration options/packages
- Disclose the draft and final SRAP and LRP to the PACs.

### 9.2 Key principles for consultation and public disclosure

Adhering to the IFC handbook on public disclosure (IFC, 2007), the key principles underpinning the consultation and public disclosure of the SRAP and LRP are as follows:

- **Disclose early:** the right to information requires that affected people must have sufficient time to process the information
- **Inclusive:** the information must be inclusive and understandable by all groups including the vulnerable, and affected people need to have access to independent advice. Engagements including the disclosure of the SRAP and LRP should be inclusive implying that women, the elderly, youth, and the disabled, are encouraged and supported to participate
- **Use meaningful information:** provide information on the SRAP and LRP that is readily understandable and meaningful. The objective is to ensure that PAHs can make informed livelihood restoration choices. All information shared will take into language (i.e. the use of Kiswahili), gender, literacy levels, and cultural sensitivities
- **Ensure the accessibility of information:** information on the SRAP and LRP and associated livelihood restoration packages will be disseminated in culturally appropriate ways (e.g. smaller group and individual meetings with PAHs).

### 9.3 Stakeholder engagement to date

The overall engagement structure for the Project is presented in EACOP (2020). In general, the Project's engagement, particularly at the local level, is designed and undertaken by Project engagement teams, in consultation with key government and community stakeholders. These teams use a variety of structures and processes to ensure accurate and effective communication is tailored to the needs of different stakeholder groups.

All activities are guided by the Project's stakeholder engagement framework and coordinated in alignment with this.

For the marine facilities at Chongoleani peninsula, the Project has and continues to engage with the affected communities and central government authorities.<sup>104</sup> These engagements include households within the PACs who have been affected by the Project's pipeline corridor. These PAHs have been consulted as part of the development and implementation of the Project's regional RAP for Tanga (EACOP, 2020).

Some of the Project's past and ongoing engagements are listed in the below sub-sections. The methods used by the Project to consult stakeholders are summarised in EACOP (2020).

### **9.3.1 Government consultations**

The Project is in regular contact with Tanga region and CC government staff and departments. Quarterly meetings are held where Project progress is presented and potential issues are discussed and resolved in a timely manner. The community relations coordinator and district focal point are in regular contact so that project progress is reported at district and municipal management meetings.

As mentioned in Chapter 4, the Project will continue to engage with relevant local authorities on land availability issues being experienced by the PACs and enquire further as to whether the authorities have future allocations of land for farming for these communities in their development planning.

### **9.3.2 Community consultations**

To ensure that any concern or issue is addressed, the Project has close engagement with members of the PACs and neighbouring Mpirani mtaa, the chairpersons, and the community relations coordinator and focal points.

### **9.3.3 Civil society organisations and the private sector**

To engage with NGOs who operate in Tanga region, the Project consults with Tanga CC. NGOs are invited to quarterly meetings.

### **9.3.4 Engagements for the development of the SRAP and LRP**

During the development of the SRAP and its LRP, the SRAP Consultant's specialists have engaged with local and other stakeholders as part of their field studies. Stakeholder identification and mapping methods were used to identify the stakeholders to be consulted for the draft SRAP and LRP. These methods are described below.

#### **9.3.4.1 Identification**

Stakeholders were defined as persons or groups external to the core operations of the Project who may be affected by the project or have an interest in it or may have influence over it. Appendix 8 shows a list of identified stakeholders.

To design SELI activities stakeholders were identified based on:

- EACOP staff and SRAP consultant's general knowledge of the area

<sup>104</sup> Including the Tanzania Roads Agency (TANROADS), the Surface and Marine Transport Authority (SUMATRA), and Tanzania Telecom Company Limited (TTCL). At the regional level, Tanga Region Commission, Tanga City Municipal, Tanzania Port Authority (TPA) and the Chongoleani ward

- Project's RAP for Tanga Region (EACOP, 2020)
- Project's ESIA (EACOP, 2018)
- Snowballing technique, where encountered stakeholders identify additional stakeholders.

#### 9.3.4.2 Mapping

All identified stakeholders were mapped according to category and priority for the Project. For a full list of identified stakeholders (see Appendix 8). Categories included:

- Interested stakeholders:
  - Regional, council, ward, and mtaa-level local government authorities (including technical departments)
  - Elders, traditional, and religious leaders
  - International NGOs (including civil society and faith-based organisations)
  - National and regional NGOs (including civil society and faith-based organisations)
  - Other representatives of women, youth, and people living with disabilities
  - Agricultural input suppliers
  - Financial institutions
  - Health and education providers
  - Media concerns
  - Research institutions.
- Affected stakeholders:
  - PAPs
  - PAPs with vulnerabilities
  - Non-PAPs residing in Project-affected community.

Next to prioritise stakeholder engagements, stakeholders were further grouped based on their level of influence on the Project (low, medium, important, critical; see Figure 9.1).

		Level of project impact on stakeholders			
		Low	Medium	Important	Critical
Level of influence from stakeholders on project	Critical				
	Important		1	4	
	Medium		2	3	
	Low				

**Figure 9.1: Stakeholder analysis tool used to prioritise stakeholder engagements**

In summary the engagements for the development of the draft SRAP and LRP have included:

- Meetings with specific regional government departments
- Meetings with community leaders at ward and mtaa-level
- Key informant interviews with NGOs and other civil society groups
- Focus group and small group discussions with PAPs and non-PAPs including vulnerable people, youth, and women
- In-depth interviews with PAH members
- Household survey with PAHs
- Disclosure of the terrestrial LRAs.

Vulnerable groups were consulted during the baseline study. Separate focus and small group discussions were held with potentially affected vulnerable groups. Vulnerable groups were met in appropriate locations (usually their homestead) and at times convenient to them. Similar to other PAHs, their confidentiality was ensured. A summary of engagement methods, their application, tools/materials, and process is provided in Table 9.1.

**Table 9.1: Summary of engagements for LRP development**

No.	Stakeholder	Topic
1	Meetings/interviews with regional officers and officers at Tanga City Council	Discuss government livelihood support strategies and focus areas
2	Meetings/interviews with community leaders at ward and mtaa-level	Discuss local livelihood activities, challenges, and coping strategies
3	Interviews with NGOs and other civil society organisations	Discuss current livelihood improvement programmes and focus areas
4	FGDs/ SGDs with PAPs and non-PAPs including vulnerable people, youth, and women	Obtain detailed information on livelihood activities, challenges, and coping strategies of various sub-groups
5	In-depth interviews with PAPs	Discussion on sensitive issues and to collect data on specific issues of interest to the design of LRAs
6	Socio-economic household survey	Collect data on all aspects of the PAPs livelihoods
7	Meetings with officers at Tanga CC, Chongoleani ward executive office, and Chongoleani, Putini, and Ndaoya mitaa councils.	Disclosure of the terrestrial LRAs. Feedback on appropriateness and feasibility of the suggested LRAs.

## 9.4 Engagements for SRAP and LRP disclosure

There are two levels of planned public disclosure of the SRAP and its LRP:

- During the public disclosure of the draft SRAP and LRP, terrestrial and marine impacts and the associated livelihood restoration entitlements and options were presented and discussed with community representatives. The disclosure was completed in December 2022
- During the public disclosure of the final SRAP and LRP, terrestrial and marine-related impacts and livelihood restoration entitlements and options (terrestrial and marine) will be presented to community representatives and PAHs and discussed.

The engagement processes and methods for disclosing the SRAP and LRP are listed in the following sections. For a full list of stakeholders engaged see Appendix 2.

### 9.4.1 SRAP and LRP disclosure meetings

International requirements stipulate that a Project's SRAP is publicly disclosed. The SRAP and LRP will be provided to the Government of Tanzania (GoT) for a 30-day comments period.

In addition, key points of the SRAP and LRP will be summarised in a non-technical summary and translated into Kiswahili and provided to appropriate local government officials. Posters will be displayed at key meeting points at the local level (e.g. regional, city council, and mtaa offices).

A simplified version of the updated livelihood restoration entitlements included in the SRAP and LRP will also be translated into Kiswahili. This documentation will be provided to each PAC. Copies of the SRAP and LRP (in English) will be available at the Project's



head office in Dar es Salaam, the CRC/CLOs in Tanga and on the Project website. A pamphlet outlining the process going forward will be distributed in Swahili in the PACs.

#### **9.4.2 Engagement process for the terrestrial livelihood restoration packages**

In general, consultation with PAHs on the proposed livelihood restoration packages consist of the following steps:

- Meetings with relevant local government authorities to present and receive feedback on the proposed livelihood restoration packages (complete)
- Individual entitlement meetings with each PAH head and their spouse(s) to confirm the PAH's eligibility criteria, present their livelihood restoration options (if any) based on their eligibility criteria, impacts and vulnerability status
- PAHs will be given a period to consider their options. This approach allows the PAHs to make an informed decision prior to selecting their livelihood restoration options.

#### **9.4.3 Engagement approach for households affected by the marine EZ**

Because marine impacts largely occur at community-level, the engagement approach for community households surveyed differs from the terrestrial livelihood package approach. Consultations take place as follows:

- Meetings with relevant local government authorities to present and receive feedback on the proposed livelihood restoration packages (complete)
- Community-level meetings on the Project's marine impacts and open-access marine programmes. Special attention will be placed on early disclosure of the impacts on divers during construction
- For community households surveyed who classify for individual support (i.e. food baskets), individual entitlement meetings with each PAH head and their spouse(s) to confirm the PAH's eligibility criteria, present their livelihood restoration options (if any) based on their eligibility criteria, impacts and vulnerability status
- PAHs will be given a period to consider their options. This approach allows the PAHs to make an informed decision prior to selecting their livelihood restoration options.

#### **9.4.4 Engagement process for transitional support (food baskets)**

PAHs who lost land within EACOP ha and/or are severely or significantly affected by restricted access to marine resources will be entitled to food baskets (see the transitional support entitlements in section 6.3.1). Eligible PAHs will be informed during the final SRAP and LRP engagement meetings regarding the provision of transitional support.

Specific engagement consideration and approaches for sub-groups of the PACs are listed in the following sections.

#### **9.4.5 Engagement approach for PAHs affected by EACOP ha residing outside of the PAC**

As shown in Table 4.16, 39 PAHs affected by EACOP ha have resettled in areas outside of the PACs, their whereabouts and contact details are known to the Project. These PAHs will receive the public disclosure steps and information described in the previous sections in a way that is convenient to them.

To reduce tensions caused by misunderstandings/lack of communication, PAHs who have resettled outside of the PAC will be consulted in parallel to consultations occurring within the PACs. A combination of in-person and telephone consultations will be used to inform the PAHs about the Project and their entitlements to livelihood restoration. Further, PAHs who reside outside of the PAC, will be notified of any public consultations/meetings taking place within the PACs. Those who wish to attend will be supported where feasible to attend. PAHs who may not wish or be able to attend any public meetings within the PACs will receive all planned consultation and public disclosure information in a convenient and readily understandable manner.

Section 10.4.1.1 explains the implementation of livelihood restoration to these PAHs. In general, livelihood restoration packages/programmes will be delivered at mtaa-level in the PACs. PAHs who have resettled will be allowed to access support and inputs in the PAC or nominate a close family member who may receive livelihood restoration entitlements on their behalf. These requests will be considered on a case-by-case basis.

#### **9.4.6 Engagement approach for vulnerable people**

The engagement approach for vulnerable people who have been affected by the Project will ensure that:

- They are provided with sufficient information about the Project, including the potential impacts and opportunities relevant to them
- They are consulted in a manner that is convenient for them taking into account their varying types of disabilities. This may involve e.g. the use of a sign language interpreter, home visits, and/or assisted transport to meetings at public venues
- They can respond and provide feedback to help shape the design and implementation of livelihood restoration packages to ensure that people with vulnerabilities are able to benefit equally of the support received.

#### **9.4.7 Engagement with women**

The Project aims to provide women (e.g. spouses) with meaningful engagement and access to information on livelihood restoration. Methods that will continue to be used to engage women include:

- Individual or small women-only group discussions to allow participants time and space to share their views
- Intra-household meetings, including male and female household members
- Time given to spouses to finish any activities they are involved in to enable them to attend meetings
- Respect for cultural sensitivities and not appearing to support a view that men should not partake in livelihood and family support activities
- Spouses being encouraged to attend all meetings including disclosure of the SRAP and LRP
- Spouses being provided with access to the LRP.

## 9.5 SRAP and LRP stakeholder engagement schedule

A preliminary stakeholder engagement schedule covering the period of livelihoods restoration implementation is shown in Table 9.2. This schedule will be regularly updated based on effectiveness and efficiency and adapted according to project needs and stages of development.

**Table 9.2: SRAP and LRP stakeholder engagement schedule**

Task	Month											
	1	2	3	4	5	6	7	8	9	10	11	12
<b>Public disclosure of draft SRAP and LRP</b>												
Meetings with key stakeholders (incl. local government authorities) on suggested terrestrial livelihood restoration packages.												
<b>Public disclosure of final and SRAP and LRP</b>												
Identification of PAHs likely to be affected by loss of access to marine resources and extended marine baseline survey.												
Meetings with key stakeholders (incl. local government authorities and members from the PACs) on suggested marine livelihood restoration packages and options.												
Disclosure of anticipated terrestrial and marine access restrictions and mitigation measures. These meetings will include disclosure on loss of access to terrestrial natural resources (e.g. firewood and leaves/grasses) within EACOP ha and mitigation measures.												
Entitlement meetings with PAH head and their spouse(s) to confirm the PAH's eligibility criteria, present their livelihood restoration options (marine and terrestrial). Separate meetings will be conducted with (potentially) vulnerable and at-risk PAHs, as required.												
<b>Ongoing SRAP and LRP implementation consultations:</b>												
During trialling and implementation of the LRP, key stakeholders and members of the PACs will be consulted regularly. As part of adaptive management, their feedback will be used to improve the design and delivery of the packages.												

## 9.6 Grievance management

### 9.6.1 Good international industry practice

The Project has developed a grievance mechanism (GM) (also translated into Kiswahili) to receive and address complaints and grievances. The description below is largely drawn from the GM process reflected in the Tanga RAP (EACOP, 2020).

### 9.6.2 Grievances and grievance mechanism

To ensure consistency and coherence across the Project, a standard project grievance management procedure and associated documentation have been developed and implemented. The Project grievance management procedure will be adapted if found to be necessary to ensure accessibility and effectiveness for vulnerable groups including vulnerable ethnic groups.

### 9.6.3 Overview of the Project's grievance management procedure

Grievances/complaints can be reported through the following channels:

- Project CRCs/CLOs
- Toll free line: 0800 780 068
- The Project offices
- Project staff and contractors in the field and
- Local leaders.

The Project grievance management procedure is open to all stakeholders who regard themselves as affected by the Project's activities, whether received by the Project directly or via one of its contractors. Occasionally, regional and district officials receive Project-related grievances directly. In such cases, these are communicated to the Project to act on.

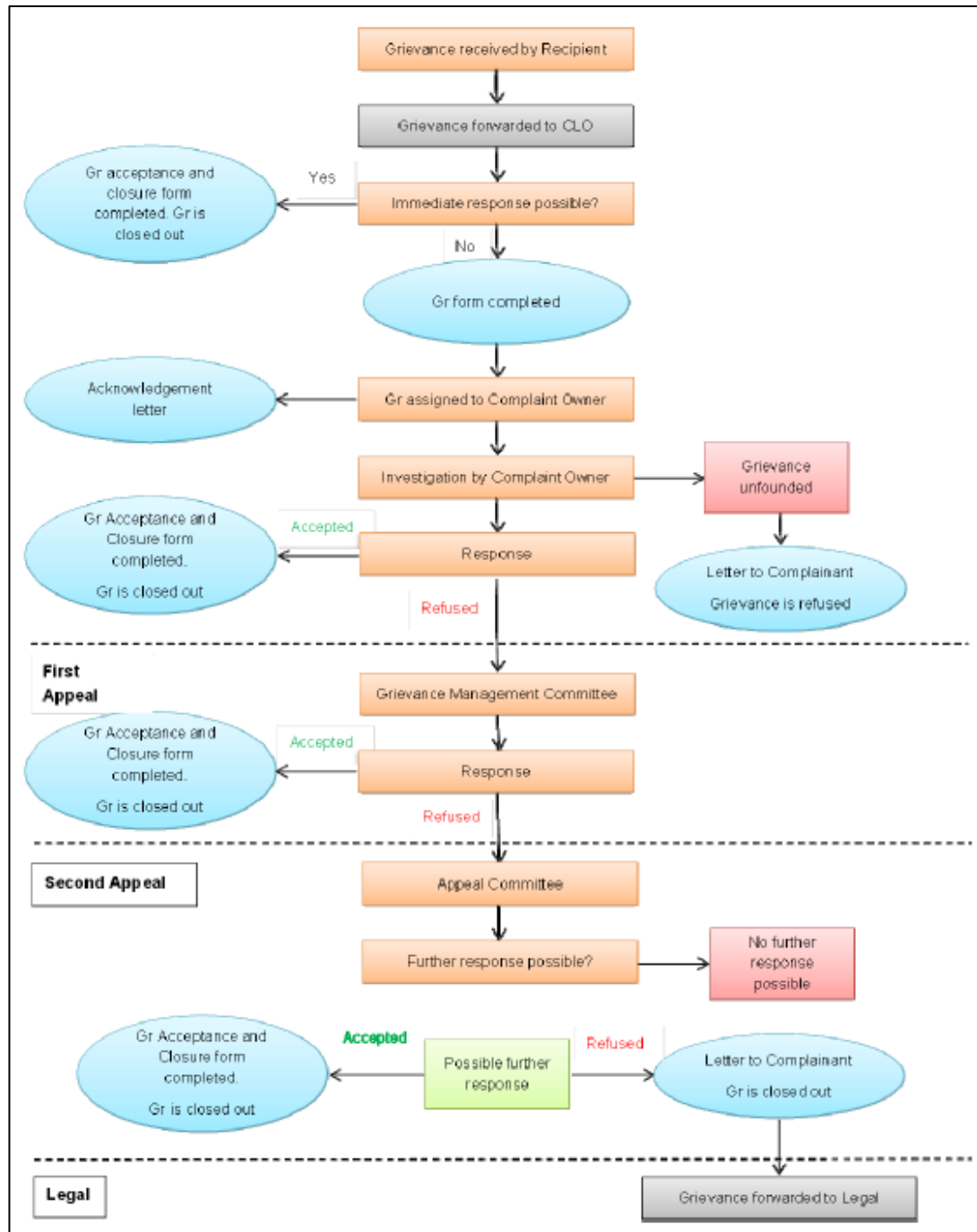
Within the Project grievance management procedure, resettlement related grievances are managed as follows:

- Grievances received by a district officer or contractor are forwarded to the Project CRCs / CLOs for recording in the Project grievance book.
- Recorded grievances are categorised so that those related to resettlement / land acquisition / compensation are identified.
- During the land acquisition process including RAP implementation, the Project will address any grievances related to land acquisition
- The Project grievance management procedure is used for addressing and resolving these grievances.

Where the Project and a complainant cannot agree on the resolution of a grievance, the complainant is advised of alternative channels they may take to seek redress. This grievance mechanism process is summarised in Figure 9.2.

### 9.6.4 Ongoing SRAP and LRP-related grievance management

The current Project GM procedure will continue throughout the land acquisition and livelihood restoration process including during SRAP and LRP implementation.



**Figure 9.2 Grievance management flowchart (EACOP 2020)**

### 9.6.5 Monitoring and reporting the GM

The EACOP Grievance Management Procedure is monitored against the effectiveness criteria for company grievance mechanisms set out in the UNGPs. They include Key performance Indicators (KPIs) including:

- Number of grievances registered
- Percentage of grievances managed within the period set in the procedure
  - Percentage of complainants satisfied with the grievance process.



## 10 IMPLEMENTATION FRAMEWORK

### 10.1 Introduction

This chapter presents considerations and steps in the implementation and management of the SRAP and LRP.

### 10.2 Organisational arrangement

#### 10.2.1 LRP implementation

The Project's livelihoods restoration team will be responsible for overseeing the implementation of the LRP. To implement the livelihoods restoration packages/programmes, the Project will contract implementing partner(s). The implementing partner(s) will be responsible for delivering some or all of the components of livelihood restoration packages/programmes. However, depending on the capacity and interest of the implementing partner, the Project's livelihood restoration team might also undertake some of the LRP implementation activities.

#### 10.2.2 Roles and responsibilities

The roles and responsibilities for the LRP implementation phase are summarised in Table 10.1. To ensure the Project maintains ownership and accountability of the overall process, the LRP activities will be managed by the Project's livelihoods restoration team. The Project will be responsible for contracting the lead implementing partners who will implement and deliver the livelihood restoration packages. Regional and Tanga CC authorities will provide strategic input and support.

**Table 10.1: Roles and responsibilities for LRP implementation**

Activity/role	Project	Implementing partner(s) / contractors	Government of Tanzania
Transitional support	<ul style="list-style-type: none"> <li>Provision of transitional support (where required)</li> </ul>	<ul style="list-style-type: none"> <li>Deliver transitional support as per SRAP/LRP</li> </ul>	
Implementation of livelihood restoration and assistance programmes	<ul style="list-style-type: none"> <li>Discussions and liaison with regional and district officials and technical staff, NGOs, and CBOs</li> <li>Assess and appoint service providers/implementing partners for delivery of livelihood restoration and separate LRP M&amp;E</li> <li>Refinement of livelihood restoration programmes</li> <li>Mobilisation of the necessary human,</li> </ul>	<ul style="list-style-type: none"> <li>Refinement of livelihood restoration packages and support to PAHs including additional research</li> <li>Develop detailed implementation programmes</li> <li>Conduct participatory trial phase of livelihood restoration packages</li> <li>Deliver livelihood restoration packages as per LRP</li> </ul>	<ul style="list-style-type: none"> <li>Provide strategic input and support</li> <li>Project to liaise with regional and City Council official and technical staff</li> </ul>

Activity/role	Project	Implementing partner(s) / contractors	Government of Tanzania
	financial and material resources		

## 10.3 LRP design stage

### 10.3.1 Introduction

LRP implementation is divided into two stages design and implementation. The design stage is summarised in this section. This is followed by considerations for the LRP implementation stage.

A variety of technical expertise, local level experience and relationships, logistical and staff capacity will be required to deliver the wide variety of livelihood restoration packages identified in Chapter 7. An initial task will be to engage implementing partners.

### 10.3.2 Process to appoint implementing partner(s)

The process to appoint suitable service providers includes the following steps:

- Develop overall contracting strategy to identify the number of service providers and implementing partners required
- Identify and shortlist candidates
- Invite potential candidates to submit expressions of interest (EOIs)
- Shortlist a select number of candidates and invite these to submit a full technical and financial proposal (based on requests for proposals (RfPs))
- Conduct due diligence of selected service providers and implementing partners
- Contract approved service providers and implementing partners (inclusive of a clear outline of roles and responsibilities, timeframes and payment structures).

### 10.3.3 Procurement of lead implementing partner(s)

Incorporating feedback from consultations with members of the PACs, lead implementing partner(s) will be procured on the basis of their capacity, experience in one or more of the core focus areas, and ability to comply with Project requirements. The contracting will ensure that enough time is allowed for:

- Final design of livelihood restoration packages (in collaboration with the Project)
- Implementing partner(s) to set up their field staff and logistics in time for prompt commencement of package trialling as soon after the Project acquires the lease of land as possible
- Lessons learnt during Phase 1 to inform/strengthen package delivery in Phases 2 and 3
- M&E systems to be designed and put in place from the start.

### 10.3.4 Finalise livelihood restoration package design

The SRAP and LRP provide detailed outlines of proposed livelihood restoration packages (see Appendix 1). However, to ensure highest effectiveness at restoring the livelihoods of PAHs, additional research, data, analysis, and design will likely be required to determine whether the selected sub-focus areas in each package are the most valuable to PAHs, whether the activities are viable in the context of each PAH, and to ensure each

package is designed to be of equal value to PAHs (so that a PAH's choice of one package over another does not result in increased inequality or conflict). Thus to finalise the design of the suggested livelihood restoration packages, additional research will be conducted such as:

- **Delivery of food packages:** as part of the Project's overall transitional support programme for the pipeline and priority areas, food baskets will be delivered to eligible households within the PACs. Food baskets will be tailored to reflect local food habits
- **Feasibility/scoping studies:** to include assessment of PAHs' access to land (especially for PAHs who only have access to residential plots) and the quality and availability of water sources within the PACs. This could also include an assessment of suitable water capture equipment (e.g. rainwater tanks, water pumps, irrigation). If applicable, a mapping of available water sites in the PACs suitable for communal kitchen gardens
- **Value chain<sup>105</sup> and market systems analysis:** this may include analysis of the key agricultural, livestock, fisheries, and small businesses sub-sectors, which are the primary current livelihood activities of PAPs. The value/market systems analysis will help to further determine whether a proposed activity/package can sustainably restore/improve livelihoods. For each package, such value chain and markets research could include:
  - Collecting primary data on price and market information of selected crops and/or marine resources intended for sale (e.g. sea products, horticultural crops, sisal, sunflower, and economic trees)
  - Producing value chain maps and market analysis
  - Identifying key constraints and opportunities for, creating additional value for PAHs.

## 10.4 LRP implementation stage

The implementation stage of the LRP is divided into the following steps: participatory trial phase and livelihood restoration implementation. First a number of general considerations are presented.

### 10.4.1 General considerations

The livelihood restoration packages will be implemented according to the LRP phasing schedule presented in section 7.6.2 in Chapter 7. Activities will be implemented at mttaa-level. Activities in Chongoleani, Putini, and Ndaoya mitaa can be implemented in parallel.

#### 10.4.1.1 EACOP PAHs who have resettled to new locations

As shown in section 9.4.5, PAHs who have resettled will be consulted on their entitlements to livelihood restoration. The eligible PAHs, implementing partner(s) and the Project will determine the most appropriate way to ensure access to livelihood restoration for PAHs who have resettled. Such measures could include access to transportation to PAHs who still reside within Tanga Region who may be interested in attending training

<sup>105</sup> The term 'value chain' refers to the principle that at each business activity or transaction value will be added. This includes tools, manpower, knowledge and skills, raw material and semi-finished products and final products, salaries and profits, etc. Considering these value adding elements, the value of the final product increases. If the market price for the final product is lower or similar to the costs added along the value chain (e.g. through cheap imports or mass products), the upgrading of the specific value chain may not be useful or sustainable.

sessions in the PACs. PAHs who live elsewhere who are not interested in participating in trainings can still receive inputs such as improved seeds and fertiliser. Finally, PAHs who reside outside the PACs may nominate a close relative (e.g. daughter or son) who lives within the PACs and who can receive livelihood restoration entitlements on their behalf.

#### *10.4.1.2 Fishing divers*

As discussed in Chapter 5 and throughout the document, fishing divers in Putini and Chongoleani are at risk of being severely affected during construction. To register fishing divers and assess their level of vulnerability, during SRAP implementation a follow-up household survey is needed.

### **10.4.2 Participatory trial phase**

During a trial phase selected core packages will be tested for relevance, applicability, viability, and success levels. During this period, the Project's team will liaise with PAHs on a regular basis, and capture data on M&E indicators (see Section 11.2.4). The findings from the trial phase will be discussed with PAHs and other key stakeholders.

### **10.4.3 Livelihood restoration implementation**

This phase will focus on the implementation of livelihood restoration (as per the LRP phasing) and delivery of transitional support. A schedule of the implementation activities is shown in Table 12.1 in chapter 12.

# 11 MONITORING AND EVALUATION

## 11.1 Key objectives and principles

The objectives of the monitoring and evaluation (M&E) of the SRAP and LRP are to monitor the performance of the livelihood restoration activities.

The M&E framework, designed to monitor the LRP, is aligned with principles of the mentioned sustainable livelihoods framework (see DFID, 2000), which emphasise the importance of learning throughout implementation and M&E is a key step in the learning process.

To make the M&E framework people-centred the following will apply:

- Indicators/livelihood outcomes will be selected and developed in close partnership with representatives of the PACs
- In addition to physical measures of changes (such as household incomes), indicators will also include PAHs' subjective welfare measures
- Representatives from the PACs will play an active role in judging the performance of the livelihood restoration activities.

To assess livelihood outcomes, the M&E framework's sub-objectives are as follows:

- Monitor delivery of livelihood restoration entitlements to PAHs
- Based on selected livelihood outcomes, assess how PAH livelihoods are restored or improved relative to pre-Project levels and verify that livelihood restoration programmes are effective
- Monitor and evaluate the VPP (as pertaining to restoration of livelihoods)
- Apply adaptive and dynamic management principles. Use M&E to improve ongoing management of LRP implementation by identifying any corrective actions which are necessary to build into the programme
- Gather information on implementation progress to communicate to Project-affected communities, households, and persons, Project staff, investors, and other stakeholders.

This chapter therefore sets out:

- How the delivery of livelihood restoration packages will be monitored
- How PAHs' livelihoods (in particular those of vulnerable PAHs) and the extent to which PAHs' livelihoods have been restored will be monitored
- How livelihood restoration activities will be continuously evaluated so that they can be adapted and improved as the programme is delivered.

## 11.2 SRAP and LRP M&E process

The Project's regional RAPs (EACOP, 2020) define three levels of M&E: process M&E, compliance M&E, and a completion audit. These are explained in the following sub-sections.

### 11.2.1 Process monitoring

Process M&E of the LRP is linked to the performance management of the delivery contractors and some contractor KPIs focussed on delivery of outputs may be the same as LRP output indicators.

Process M&E will track the progress of implementation of the livelihood restoration packages, or the delivery of outputs by the lead implementing partner(s) and food basket delivery contractors. This will include:

- Reporting of activities delivered
- Verification of activities delivered by the M&E contractor/implementing partner
- Identification of challenges to delivery as per the LRP and corrective actions to be taken
- Evaluation of strengths, weaknesses, and potential improvements to activity delivery.

The outcome of process M&E may be provided to relevant stakeholders in the form of presentations.

### 11.2.2 Compliance monitoring

As specified in the Project's regional RAP (EACOP, 2020), compliance M&E is aimed at establishing whether resettlement implementation is meeting the key objectives as defined in the LRP i.e. that PAHs were able to restore their livelihoods upon resettlement.

An external party usually conducts compliance monitoring at regular intervals during the implementation process. The community livelihoods assessment forms a point of reference in terms of the current livelihoods and social dynamics of PAHs and will thus form the basis for monitoring re-establishment or improvement of livelihoods. This will include:

- Ongoing regular gathering of quantitative and qualitative data on all PAHs by the lead implementing partner(s)
- External quantitative and qualitative socio-economic data collection on a sample of PAHs, and consultation with affected communities and stakeholders to elicit their views, by the M&E contractor
- Timely (e.g. quarterly) analysis of data by the M&E contractor to determine:
  - update on PAHs' livelihood situations (in particular those of vulnerable PAHs).
  - progress of achievement of outcomes
  - extent to which PAHs' livelihoods are restored
  - effectiveness of the livelihood restoration activities in restoring livelihoods
- Evaluation of strengths, weaknesses, and potential improvements to activity delivery to improve achievement of outcomes
- Identification of challenges to achievement of outcomes, and corrective actions to be taken to improve achievement of outcomes.

Progress will be measured against planned outcome targets for a set of livelihood outcome indicators to be developed by the M&E contractor (in close collaboration with representatives from the PACs, see section 11.2.4 for more details).



### 11.2.3 Completion audit and ex-post evaluation

A completion audit will be conducted upon completion of LRP implementation by an external party. The main purpose of the completion audit is to verify whether PAHs have been able to restore their livelihoods or whether there are corrective measures to be taken.

In addition, an ex-post evaluation will be undertaken three to five years after implementation of the final LRP. The objective of this audit is to assess the long-term impact that resettlement has had on PAPs, and whether livelihood restoration initiatives had achieved the intended benefits in a sustainable manner. The evaluation framework will include:

- **Achievement of LRP objectives** – whether the livelihood restoration objectives were met (including protection of vulnerable persons/households)
- **Efficiency** – were LRP implementation resources (finance, human, materials, time) used in the most cost-effective manner in achieving the LRP objectives?
- **Effectiveness** – did the LRP activities achieve satisfactory results (outputs and outcome), in terms of restored and enhanced livelihoods and living standards or are the affected people worse off?
- **Impact** – what are the results of the resettlement intervention – intended and unintended, positive, and negative – including the social, economic, environmental effects on individuals and institutions?
- **Sustainability** – are the outcomes arising from the livelihood restoration activities likely to continue and be sustainable over the longer term? Are there any actions required to promote sustainability of positive outcomes?
- **Lessons** – what are the lessons for the Project and other resettlement projects?

### 11.2.4 Developing livelihood outcomes and KPIs

In practice, M&E systems cannot ‘assess’ livelihoods in their entirety and relatively simple KPIs for livelihood restoration needs to be identified. Through participatory enquiry with representative from the PACs (including a sub-sample of PAHs) NGOs, and relevant government offices, the Project’s third-party M&E contractor will in collaboration with the Project define relevant livelihood outcomes/indicators.

These livelihood outcomes/indicators (which will be assessed against the baseline conditions presented in the community livelihoods assessment) could include:

- **Restored/enhanced household income:** although income measures of poverty have been much criticised, people do seek to increase the net returns to the activities they undertake and overall increases in the amount of money coming into the household. Thus a critical livelihood outcome is PAHs’ income (total household income and incomes from sub-activities such as crop sale and fishery)
- **Subjective economic well-being:** apart from more ‘objective’ measures such as income and poverty, it is recommended that livelihood outcomes/indicators also include aspects of PAHs’ subjective economic well-being (i.e. living standards)
- **Restored/improved food security:** food insecurity is a core dimension of vulnerability and participatory poverty assessments have shown hunger and dietary inadequacy to be a distinct dimension of deprivation. Thus, livelihood outcome indicators could include food security status.

From the identification of suitable livelihood outcomes, livelihood restoration key performance indicators (KPIs) will be developed. A few examples of indicative KPIs for livelihood restoration are shown in Table 11.1.

#### 11.2.5 Data collection, management, and reporting

**Database:** the Project will maintain a census database of PAHs who lost land and/or access to marine resources and the livelihood restoration measures they are entitled to. In addition, this database will contain household information gathered during the socio-economic surveys undertaken, vulnerability status, and the entitlement group the household belongs to. Any additional household information gathered during LRP implementation will be added to the database. To the extent possible, non-EACOP PAHs will also be monitored. Their data will be useful to establish the overall trajectory of livelihoods in the PACs.

The database will use a system of unique identification numbers for each PAH so that socio-economic data on the restoration of each person's livelihood can be digitally captured and uploaded against their individual numbers. It will also enable output/outcome indicators to be tracked at the level of households. Data will be used to update the assessment of PAH vulnerability (Category 2 and 3) and to identify any specific issues regarding their circumstances and support requirements. The database will be expanded for use in storing information against output and outcome indicators to be used in the M&E of the LRP. All personal data on PAHs will be kept confidential.

**Continuous data collection and reporting:** the M&E contractor will further develop the M&E system including further detail of the data collection and management system described above in order to report against agreed indicators.

The M&E contractor will be responsible for compiling timely reports on livelihood restoration progress from the lead implementing partner(s) progress reports as well as continuous verification of data uploaded to the database.

These livelihood restoration reports will form part of quarterly SRAP and LRP implementation reports that will consolidate information on livelihood restoration and transitional support (if applicable), consultations, disclosure, information on negotiations and results, provision of assistance to vulnerable groups, and grievance management. The livelihood restoration reports will be shared with key stakeholders and the lead implementing partner(s) to ensure continuous improvement.

**Table 11.1: Indicative Livelihood Restoration KPIs**

Level of indicator	Indicator	How measured	Frequency	Key Performance Target
<b>Output</b>	No. and percentage of PAHs entitled to livelihood restoration support who have received this support, broken - down by support type: - marine livelihoods packages (LRA 1, 2, 3, 4,) agricultural improvement packages (LRA 5,6) enterprise development and vocational training (LRA 7A and 7B) livestock improvement package (LRA 8)	Measured against PAHs census database	Quarterly	100% of eligible PAHs have received the livelihood restoration support they are entitled to and agreed to.
<b>Livelihood outcome 1</b>	PAHs who have participated in trainings/LRAs have increased their household income	Measured against PAHs socio-economic baseline survey data on household incomes	Quarterly	100% of economically displaced PAHs who agreed to livelihood restoration support have had their livelihoods restored to at least pre-Project levels.
<b>Livelihood outcome 2</b>	PAHs who have participated in trainings/LRAs have increased subjective experience of standard of living	Measured against PAHs socio-economic baseline survey data on perceived living standards	Quarterly	
<b>Livelihood outcome 3</b>	PAHs who have participated in trainings/LRAs have increased food security status  Zero cases of acute malnutrition among children  Decline in cases of chronic malnutrition among children	Measured against PAHs socio-economic baseline survey data on perceived food insecurity  Measured against, for instance, collected data on anthropometric measures (i.e. children's height-for-age, weight-for-age, and arm circumference-for-age)	Quarterly	

### 11.3 Monitoring of vulnerable people/households

All activities to support vulnerable groups are documented and tracked in the VHR. Tracking activities may include:

- Ongoing engagement with the mtaa leaders, community development officers, and/or other stakeholders who represent vulnerable groups
- Ongoing monitoring and evaluation to ensure any emerging vulnerability issues are picked up and actioned appropriately
- Ongoing consultations with vulnerable PAHs. The Project's community relations team will be responsible for ensuring that additional engagement methods are used to facilitate the participation of vulnerable groups
- Monitoring all measures developed to support vulnerable individuals and households through the LRAs
- Ongoing updating of information on vulnerable individuals and households in the VHR.

### 11.4 Fisheries monitoring

As part of the SRAP monitoring outlined above, specific initiatives will be required related to marine livelihoods. Specifically, longer term monitoring of fish landings will be necessary in order to assess both incomes (livelihood outcome 1) and food security status (livelihood outcome 3).

In addition, the eligibility and focus of livelihood packages is based upon current estimates of impacts that the project will have on fisheries productivity. Longer term monitoring should confirm the validity of the estimates and hence the appropriateness of the associates LRAs.

The monitoring of catches should refer to the baseline data established in 2022 and described in the Marine Baseline Report and Appendix (RSK 2022b). It will be important that similar data collection techniques are used during the longer-term monitoring of catches as were used in the baseline phase so as to assure comparability of data. It may also be necessary to ensure that the databases built up during the baseline phase are accessible during longer term monitoring to facilitate comparative analysis.

It is important to note that the variable nature of fishing may make a quantitative analysis of both outcomes and impacts challenging, especially in the short term. The baseline data itself spans under one year and will therefore not capture any longer term (year on year) variability.

The monitoring of landings should focus on the landing sites used by PAHs, and could be either long term, continuous and low intensity, or based on shorter more intense data collection campaigns similar to those carried out in the marine baseline. Monitoring of landings would be necessary for the whole of the construction phase and at least one and a half years of normal operations.

## 12 SCHEDULE AND BUDGET

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### 12.1 Schedule

An indicative time plan for SRAP and livelihood restoration activities is presented in Table 12.1.

**Table 12.1 SRAP and LRP implementation schedule**

Task	2022				2023				Notes:
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
<b>Development of draft SRAP and LRP:</b>									
Preparation of draft SRAP and LRP									
<b>Development of final SRAP and LRP:</b>									
Extension of marine and socio-economic household baseline surveys									
Stakeholder engagements									
Preparation of final SRAP and LRP									
Submission of final SRAP and LRP to GoT for 30-day comments period									
Finalisation of final SRAP and LRP									
Entitlement meetings									
Procurement of service providers									
Refinement of LRP									
<b>Ongoing LRP implementation:</b>									
Finalise design and implementation of Phase 1 LRAs									
Phase 1 – food baskets									Approx. 6-12 months
Phase 1 – core terrestrial LRAs									Ongoing till PAHs' livelihoods have been restored/enhanced. Phase 2 and 3 activities may be implemented in parallel.
Phase 2 - terrestrial and marine LRAs									
Phase 3 – additional livelihood restoration support									Ongoing till PAHs' livelihoods have been restored/enhanced. Phase 2 and 3 activities may be implemented in parallel.
Ongoing M&E (incl. completion and ex-post audits)									
Commencement of construction of marine facilities									Scheduled to start during 2023



## 12.2 Budget

A budget for SRAP and LRP implementation has been developed on the basis of the livelihood restoration entitlements reported in Chapter 6 and the livelihood restoration packages/programmes described in Chapter 7. All in-kind livelihood restoration and transitional support entitlements have been monetarised and included in the budget. A summary of budget items are shown in Table 12.2.

**Table 12.2 Livelihood restoration budget estimate**

Budget main component	Summary description
<b>Livelihood restoration and transitional support</b>	<p>The budget for livelihood restoration measures includes three main components:</p> <ul style="list-style-type: none"> <li>• Costs associated with, transitional support and / or food security measures to accommodate the PAHs who lose access to marine resources</li> <li>• Costs associated with individual, and household-level livelihood restoration measures: budget based on the number of PAHs and PAPs multiplied by a standard amount per household that incorporates the cost of typical elements of livelihood restoration programs (e.g. agricultural improvement training, food packages, seed capital for alternative enterprises, skills training). This standard cost per household will consider normal estimates from service providers typically involved in the provision of such programs. Livelihood restoration programmes are scaled in terms of the intensity of livelihood impacts that affected households will experience; where a household will lose only a small proportion of its land, the impact on the livelihoods of its members is unlikely to be significant</li> <li>• Costs associated with open-access marine livelihood support programmes</li> <li>• Costs associated with community or village-level livelihood restoration measures: budget allowance will be based on the number of mtaa affected by the Project and impacts on communal land.</li> </ul>
<b>Vulnerable persons and households</b>	<p>Additional assistance required by vulnerable persons or households will be assessed on a case-by-case basis during resettlement implementation, building from a list of potentially vulnerable PAHs developed during the SRAP planning phase. An allowance will be made in the SRAP implementation budget for this additional assistance and will be monitored closely.</p>
<b>SRAP and LRP implementation</b>	<p>Implementation resources will be required to undertake especially the LRP implementation activities but also few SRAP activities. EACOP has committed to maximising national content in the composition of these teams. Budget for the implementation resources is based on the estimated level of effort associated with each task (in terms of man-days) multiplied by the average daily cost of the resources required to perform those tasks. The level of effort involved in each task is in turn based on the number of affected households and villages that the implementation will need to cover.</p>

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# APPENDIX 1: DETAILED OUTLINE OF LIVELIHOOD RESTORATION PACKAGES AND OTHER LIVELIHOOD SUPPORT

## A1.1 Community-level livelihoods support ('open access')

Table A1.1: Enhances access to terrestrial natural resources ('open access')

Terrestrial natural resource access and management (community-based)	
<b>Development objective</b>	Ensure ongoing and sustainable access to communal natural resources in the PACs.
<b>Immediate objective(s)</b>	<ol style="list-style-type: none"> <li>1. Users within the PACs can regularly collect natural resources such as firewood, leaves for weaving, and thatching grass for roofing material to meet their livelihood needs.</li> <li>2. Establish a community-based natural resources access and management project with EACOP ha PAHs and other households within the PACs who depend on natural resources collected in the TPA 200 ha.</li> <li>3. To the extent possible, identify and secure suitable alternative land within a 2 km radius for propagation of natural resources used by communities.</li> </ol>
<b>Context</b>	<p>Households in Putini and Chongoleani depend on terrestrial natural resources (predominantly firewood and palms/leaves for weaving mats and baskets) which they collect within the TPS 200 ha. In addition an unknown number of households within the PACs are likely to depend on access to the same resources.</p> <p>Currently, households have access to a free-of-charge firewood delivery scheme where all remnants of the clean-up of the Project site is delivered to the PACs. This access will likely continue in Q1 and Q2 2023. A transition phase is needed to ensure households do not lose access overnight.</p> <p>No access will be allowed within EACOP Ha and over time, due to the cumulative impacts of the Project, PAHs will likely lose access to the entire TPA 200 ha area. As per IFC PS5 and 6, when communities lose access to natural resources which they depend on for their livelihoods, they are entitled to continued access to the site or access to alternative resources/sites. Generally cash compensation for loss of access to resources are not preferred. Moreover, compensation should where appropriate be collective in nature. Typically, community-level assistance to enhance productivity of remaining resources to which the community has access (e.g., improved resource management practices or inputs to boost productivity of the resource base) is also recommended (see Esteves, 2021).</p> <p>Pertaining to this the Project may work with local government authorities to secure access to an alternative site which is reachable for households within the PACs.</p>

Terrestrial natural resource access and management (community-based)	
	<p>Depending on the outcome of further consultations and feasibility studies, to ensure sustainable use of the natural resources, the Project (and/or implementing partner(s)) may also establish a community-based natural resource management (CBNRM) programme. CBNRM schemes are used in Tanzania to manage forest. In 2002, Tanzania passed the Forest Act, which provided a basis for participatory forest management in which communities, groups or individuals manage or co-manage forests. The law recognises two types of schemes:</p> <ul style="list-style-type: none"> <li>• Community Based Forest Management (CBFM); and</li> <li>• Joint Forest Management (JFM).</li> </ul> <p>The main difference between the two types is that CBFM takes place on a village or privately owned land and all the associated costs and benefits in managing the land are carried by the owner. The land where JFM takes place however is 'reserved land' that is owned by the government (USAID 2009).</p> <p>If a CBNRM programme is decided upon, there is an opportunity for the Project to collaborate with TFS, which establishes and manages natural forest. In 2021, TFS established village natural resource committees (VNRC), which are used to conserve mangroves in the coastal areas. The aim is, among others, to make women depend less on firewood from mangroves. To do so, tree seedlings are provided to beneficiaries of which many are women to facilitate the planting of trees for timber. Tree seedlings have also been distributed within the PACs.</p>
<b>Participants</b>	Users within the PACs who rely on natural resource collection within the TPA 200 ha for their livelihoods.
<b>Locality</b>	Suitable and secure alternative land (located within a 2 km radius of the PACs)
<b>Outcomes</b>	<ul style="list-style-type: none"> <li>• Working with relevant local government authorities, the Project (and/or implementing partner(s)) will secure a suitable alternative site for natural resource collection.</li> <li>• If deemed feasible, the sustainable use of natural resources within the PACs is ensured through a CBNRM programme</li> </ul>
<b>Preliminary activities</b>	<ul style="list-style-type: none"> <li>• Identify suitable site</li> <li>• Secure rights to site</li> <li>• Conduct feasibility study to examine the possibilities of implementing a CBNRM programme</li> <li>• If deemed feasible, appoint an implementing partner who may conduct activities such as:</li> <li>• Identify interested natural resource users</li> <li>• Establish CBNRM organisational structure</li> <li>• Conduct technical studies (e.g. soil suitability, water sources)</li> </ul>

Terrestrial natural resource access and management (community-based)	
	<ul style="list-style-type: none"> <li>Establish nurseries and/or distribute seedlings for tree and other plants (e.g. wild grasses and leaves) planting</li> </ul>
<b>Initial outcome indicators</b>	<ul style="list-style-type: none"> <li>Firewood, leaves, and grasses readily accessible and used to make sellable products and household items.</li> <li>Firewood, leaves, and grasses managed and harvested regularly and regenerated</li> <li>Participating households control and manage their natural resources.</li> </ul>
<b>Potential partners</b>	<ul style="list-style-type: none"> <li>Natural conservancy NGOs/CBOs</li> <li>TFS</li> <li>Tanzania National Resource Forum (TNRF)</li> </ul>
<b>Existing programmes</b>	<ul style="list-style-type: none"> <li>TFS mangrove protection project</li> </ul>

## A1.2 Open-access, group, or individual-level support

**Table A1.2: Transitional support (food baskets)**

Transitional support (food baskets)	
<b>Objective</b>	Ensure short-term food security of eligible PAHs during transition period
<b>Context</b>	<p>To ensure food security in the shorter run (i.e. Phase 1 of LRP implementation), households who are affected by the Project's marine exclusion zone will be provided transitional support in the form of food baskets.</p> <p>To avoid dependency, food baskets will be delivered within a given time frame (the exact time frame will be individual and determined by consultations with the household).</p> <p>Food basket contents will be tailored to ensure provision of 50% of a household's nutritional requirements for the full transition period (approximately 6-12 months). Baskets will be delivered until such time as other livelihood restoration packages yield sufficient livelihoods support for food baskets to be reduced and eventually discontinued.</p> <p>Items provided to each household of six (6) people under a provision of 50% of WFP requirements, per month could include:</p> <ul style="list-style-type: none"> <li>Maize/cassava (20kg)</li> <li>Beans (20kg)</li> <li>Rice (20kg)</li> <li>Salt (1kg)</li> <li>Oil (5l).</li> </ul> <p>Households who have lost land for the Project and are severely impacted by the loss of access to marine resources may qualify for a larger percentage of the quantities issued under the WFP.</p>



Transitional support (food baskets)	
	The amount of food provided to each eligible PAH will be dependent on the numbers and ages of members in each PAH.
<b>Beneficiaries</b>	Eligible PAHs who lost land within EACOP ha and/or are impacted by the loss of access to marine resources collected within the marine exclusion zone (Groups G1, G3, G4 and G5). <sup>106</sup>
<b>Locality</b>	Areas affected by the land acquisition for the MST and Project's marine exclusion zone
<b>Outcomes</b>	<ul style="list-style-type: none"> <li>Transitional support in the form of food baskets will be provided to eligible PAHs to ensure households who depend on marine resources collected within the Project's marine exclusion zone are food secure in the transition period.<sup>107</sup></li> <li>Sustained household food security by eligible PAHs.</li> </ul>
<b>Preliminary activities</b>	<p><b>Food basket design:</b></p> <p>The Project will be responsible for finalising the design of the food baskets. The food baskets will meet international nutritional requirements standards set by the World Health Organisation (WHO) and the United Nations World Food Programme (WFP) and provide 50% of household nutritional requirements.</p> <p><b>Procurement and delivery:</b></p> <ul style="list-style-type: none"> <li>The Project will engage contractors to procure and deliver food baskets to eligible PAHs</li> <li>Procurement and logistics plans will be developed ahead of engagement of contractors, and detailed weekly/monthly delivery plans will be finalised by contractors ahead of procurement and delivery rounds.</li> </ul>
<b>Initial outcome indicators</b>	<ul style="list-style-type: none"> <li>Zero cases of acute malnutrition (wasting) among adults and children during transition period</li> </ul>
<b>Existing projects and programmes</b>	<ul style="list-style-type: none"> <li>NGO food aid programmes</li> </ul>
<b>Potential partners</b>	<ul style="list-style-type: none"> <li>Local NGOs/CBOs</li> <li>Food distributors and logistics companies</li> </ul>

<sup>106</sup> If future consultations determine that terrestrial PAHs are in immediate need of food supplies (e.g. due to signs of acute malnutrition, 'wasting,' among children or adult household members) these will also be entitled to additional and immediate support in the form of food baskets. The same principles are also applied to households who are little impacted by loss of access to marine resources within the Project's exclusion zone.

<sup>107</sup> The transition period is the time it will take for PAHs to access to alternative marine resources and/or enhance the volume and value of existing marine resources and/or restore their food security through participation in the terrestrial LRA packages

**Table A1.3: LRA 1 - Resource management and enhancement**

Resource management and enhancement	
<b>Development objective</b>	PAHs' food security is ensured, restored, and improved in the short term (1-2 years)
<b>Immediate objective(s)</b>	<ul style="list-style-type: none"> <li>• Improve the local management of resources</li> <li>• Enable communities to understand and participate in the monitoring of the status of local resources, especially in the light of Project impacts</li> <li>• Support the productivity of specific fisheries through the enhancement of resources using appropriately positioned artificial reef modules, and thus offset losses sustained through exclusion.</li> </ul>
<b>Context</b>	<p>Local marine resources are under pressure from both normal fishing effort and illegal practises including dynamite fishing, beach seining and spear guns. Pressure on accessible resources will be changed by the Project due to both alteration of access and displacement from some fishing areas. This may be partially offset by benefits from the creation of what will effectively be a no-take fishing area by the jetty EZ.</p> <p>The involvement of communities in the management of their own resources was initiated in Tanzania in the late 1990s including the support for the creation of local Beach Management Units (BMUs). This system has developed over the years and now has national coverage. BMUs' mandate includes the control of illegal fishing and local initiatives for resource management including closed areas and local fisheries management plans. There are three BMUs on the Chongoleani peninsula which are part of the Mchomapunda collaborative fisheries management area but they have low levels of activity and require support. The BMUs are an opportunity for improved resource management including better understanding in the community of the status of accessible resources and any changes, including those influenced by the Project.</p> <p>The EZ around project marine infrastructure will create a no-fishing zone and protect both habitat and fauna. The area therefore has potential to act as a bio-diversity radiator which could support productive fisheries in the immediate vicinity but outside the EZ, without risk to the capital stock.</p>
<b>Participants</b>	Participation in LRA 1 would be focussed on BMU members but the benefits would be accessible to the wider fishing communities of Chongoleani and Putini, and of particular relevance to short range fishers.
<b>Locality</b>	Support for fisheries management through the BMUs would not be area specific and should benefit all fishing areas. The location of the artificial reefs will focus on the areas to the immediate northeast and southwest of the jetty, but also include wider Ulenge Bay
<b>Outcomes</b>	<p>Improved fisheries management through:</p> <ul style="list-style-type: none"> <li>• Strengthened and more active BMUs</li> <li>• Updated fisheries management plans for the Mchomapunda CFMA, agreed and under implementation</li> <li>• Greater understanding in communities of resource status including the relevance of fishing effort and practises, and changes in access.</li> </ul> <p>Accessible resources enhanced through:</p>

Resource management and enhancement	
	<ul style="list-style-type: none"> <li>• The installation of artificial reefs in the proximity of the operational EZ, and accessible to short range fishers</li> <li>• The installation of other artificial reefs units as managed resources in Ulenge Bay</li> </ul>
<b>Preliminary activities</b>	<ul style="list-style-type: none"> <li>• Reef design and location study: Definition of the location of the artificial reef(s), layout, and structure. This process should include significant beneficiary participation; Selection of the most appropriate module designs bearing in mind the multi-species nature of the fishery that they should support; Selection of the most appropriate construction and installation methodology</li> <li>• Artificial reef construction and Installation: Selection and procurement of moulds; Construction and installation as per Reef design and location study</li> <li>• Assessment of training requirements for the three BMUs in the Project area</li> <li>• Procurement and supply of required equipment and/or infrastructure to support BMUs' capacity and remit</li> <li>• Delivery of training for BMUs</li> <li>• Support for operationalisation of the BMUs. This should include: the ability to participate in the monitoring and assessment of local fisheries; the development / updating of local fisheries management plan; the management of artificial reefs</li> </ul>
<b>Initial outcome indicators</b>	<ul style="list-style-type: none"> <li>• Reef modules constructed and installed</li> <li>• BMU training designed and delivered</li> <li>• Local fisheries management plan updated</li> <li>• Artificial reef management plans developed and under implementation</li> </ul>
<b>Existing projects and programmes</b>	The local NGO Mwambao is implementing programmes to support BMUs in the region, as well as a program design construct and install an artificial reef based on reef ball modules supported by the Fish Eagle Point Hotel
<b>Potential partners</b>	Mwambao Network

**Table A1.4: LRA 2 - Value chain support**

Value chain support	
<b>Development objective</b>	PAHs' food security is ensured, restored, and improved in the short term (1-2 years)
<b>Immediate objective(s)</b>	<ul style="list-style-type: none"> <li>• Improve the maintenance of value of fish post-harvest</li> <li>• Investigate the viability of small-scale ice production on the Chongoleani peninsula</li> <li>• Develop new market linkages for fish from the Chongoleani Peninsula</li> <li>• Improve fish landing sites at Deep Sea and Chongoleani</li> </ul>
<b>Context</b>	<p>The post-harvest value chain for fish from the longer-range handline fisheries in the PACs is both short and with limited value addition. Fish is caught and then sold whole fresh without measures to either add or conserve value either on board or at the landing station. After first sale there may be some value addition under certain circumstances before sale to the final consumer. The nature of the target market is such that there are very few obvious opportunities for value addition through post-harvest processing – the urban consumer in Tanga is looking for whole fresh fish. There are however opportunities to support the <i>maintenance</i> of value post-harvest through improved conditions at the point of disembark, as well as improved handling and storage of catch on board, principally through the use of ice. The maintenance of value on board is of particular relevance to fishers who target more distant grounds and spend a significant amount of time in transit between the fishing grounds and the point of first sale. There is currently no ice available at any of the landing stations used by PAHs or in the home communities.</p> <p>Ice use implies increased operating costs for fishers, and needs to be associated with premium markets, whether they be existing ones in Tanga (hotels, more discriminating consumers) or new markets that may develop related to the Project and associated service providers.</p> <p>Basic sanitary conditions at landing sites will contribute to not only improved food safety for consumers but also, indirectly, the maintenance of product value post-harvest. The landing station at Deep Sea is the principal point of first sale for fisheries products from the PACs that enter commercial value chains. The site has a functioning auction, but it has generally poor hygienic conditions and few other facilities. Although well positioned to serve Tanga city, access to the site is not good and tending to become worse (from both land and sea) as the neighbouring commercial port expands. The landing site at Chongoleani, which is located at the community, inside the mangroves at the end of two access channels also could be improved. Although there is limited space for expansion of the site, the area could be upgraded by simple and cost-effective interventions to improve conditions for landing and first sale. Interventions at both Deep Sea and Chongoleani will require close coordination with municipal authorities as well as dialogue with fishers and traders.</p>
<b>Participants</b>	The beneficiaries of LRA 2 will be fishers from the PACs but the intervention is aimed at those fishing higher value species for preferential markets, namely handline fishers using outrigger canoes, targeting demersal or large pelagic species. Specific benefits will be available only to this group, but improvements to services (ice production) and infrastructure (landing sites) will be open to all fishers.

Value chain support	
<b>Locality</b>	Interventions directed at individual fishers under LRA 2 will be focussed on the three PACs, whilst improvements to infrastructure will be limited to Deep Sea and Chongoleani landing stations
<b>Outcomes</b>	<p>Improved maintenance of post-harvest value through:</p> <ul style="list-style-type: none"> <li>• Pilot provision of ice for fishers</li> <li>• Training of fishers</li> <li>• Provision of kits of appropriate tools and equipment</li> </ul> <p>Established linkages to markets for higher value fish products, some of which may be associated with the Project.</p> <p>Improved conditions at Deep Sea and Chongoleani landing stations.</p>
<b>Preliminary activities</b>	<ul style="list-style-type: none"> <li>• Specification, selection, and procurement of an appropriate small ice making machine (≈1 tonne per 24hrs)</li> <li>• Installation in one of the PACs on the Chongoleani Peninsula</li> <li>• Trial operations</li> <li>• Specification, procurement, and distribution of kits of appropriate tools and equipment to longer range fishers from PACs</li> <li>• Design and delivery of training to longer range fishers from PACs on post harvest fish handling and storage, with specific focus on the use of ice</li> <li>• Planning and implementation of outreach activities to identify and establish links between fishers or primary traders and appropriate markets including (but not necessarily limited to) Tanga city and service providers linked to the Project.</li> <li>• Development of a coordinated plan with municipal authority for the improvement of Deep-Sea landing station. This is already part of the municipal development objectives and input may be limited to the co-financing of an already planned initiative.</li> <li>• Assessment and design of simple, low-cost improvements to Chongoleani landing station. This could be a raised fixed wooden deck or similar, providing improved conditions for offloading and first sale. The planning would require both coordination with local authority and beneficiary fishers/trader community.</li> <li>• Subcontracting of construction of approved landing site improvement for Chongoleani.</li> </ul>
<b>Initial outcome indicators</b>	<p>Ice machine procured, installed and operational</p> <p>Number of post-harvest kits procured and distributed</p> <p>Number of fishers trained in improved post harvest handling</p> <p>Quantity of fish landed on ice</p> <p>Deep Sea landing site coordination plan developed</p> <p>Chongoleani landing site plan design developed and approved</p>

Value chain support	
<b>Existing projects and programmes</b>	Municipal authority already plans to develop Deep Sea landing station. Technical plans are not complete and financing is not yet in place.
<b>Potential partners</b>	Mwambao network

**Table A1.5: LRA 3 – Safety and visibility**

Safety and visibility	
<b>Development objective</b>	PAHs' food security is ensured, restored, and improved in the short term (1-2 years)
<b>Immediate objective(s)</b>	<ul style="list-style-type: none"> <li>• Contribute to safety at sea through the distribution of safety equipment</li> <li>• Improve the management of fishing vessels in Tanga Bay through registration and identification</li> <li>• Support the establishment of a maritime/emergency communications system suitable for small scale fishers.</li> </ul>
<b>Context</b>	<p>The safety and visibility of fishing vessels is already a concern not only for fishers themselves but also for fisheries and port administration. Although fishers do not report collisions or near misses with commercial shipping, the risk of such an event will increase as marine traffic associated with the Project increases. Fishers report swamping or capsizing of vessels at sea in severe weather (sometimes involving loss of the vessel or even loss of life), although this is not a frequent occurrence. In such cases the only effective recourse is to assistance from nearby vessels. Fishers currently carry no safety equipment at all that could help them in the case of swamping or capsize or be a useful warning in order to divert an accident. Almost all fishers carry a mobile phone whilst at sea and this is their only recourse in the case of an accident. Basic safety kits could help with the visibility of vessels, spotting of fishers in distress as well as survival at sea in the case of an accident.</p> <p>The establishment of a system capable of receiving communications about marine emergencies and responding to such an event will be a useful contribution to safety at sea. The system could be linked to port safety, fisheries management or even BMUs (should they have the ability to respond).</p> <p>The management of the movement of small fishing vessels in Tanga Bay will be an important part of both vessel and infrastructure safety. Vessels around Tanga Bay are either unmarked (and possibly unregistered) or marked in a way that is only visible at close range. The clear identification of vessels will help to direct correct or improved messages to appropriate communities or even households in order to assure compliance with exclusion zones and minimise the risk of accidents involving commercial shipping and local fishing vessels. Information regarding vessel registration, including the contact for vessel owners will need to be accessible to both fisheries and port management.</p>
<b>Participants</b>	The benefits of LRA 3 will be both open access (thus available to all fishers) and targeted. The distribution of safety equipment will be directed at vessel-based fishers in the PACs, whilst vessel identification and the marine communications system will be accessible to all local fishers.



Safety and visibility	
<b>Locality</b>	Part of the benefits of LRA 3 (distribution of kits) will be directed to PACs on the Chongoleani Peninsula. Other initiatives will have wider influence and cover the whole of Tanga Bay and out towards offshore fishing grounds.
<b>Outcomes</b>	<p>Improved safety at sea through:</p> <ul style="list-style-type: none"> <li>• The carrying and use of appropriate marine safety equipment by vessel-based fishers</li> <li>• The establishment of a system capable of receiving information about and responding to emergencies at sea</li> <li>• The establishment of a means to communicate relevant information to fishers including commercial shipping movements and weather warnings</li> </ul> <p>Improved management of fishing vessel movement in Tanga Bay through:</p> <ul style="list-style-type: none"> <li>• Widespread registration and marking of vessels around Tanga Bay</li> <li>• Establishment of a database of registered vessels, accessible to both fisheries and port operations managers</li> </ul>
<b>Preliminary activities</b>	<ul style="list-style-type: none"> <li>• Work with fisheries managers and BMUs to support extended vessel registration and the painting of vessel registration numbers.</li> <li>• Development of an appropriate database of registered vessels, with sharing protocols</li> <li>• Specification, procurement, and distribution of safety kits for vessel owners and crew. These should be according to vessel type and size, and could include life jackets, flares, sea markers, solar strobe lights, radar reflectors, high visibility/highly reflective jackets, and caps.</li> <li>• Develop proposals for the design and operation of an appropriate marine communications system covering both emergency response and the communication of port and weather information.</li> <li>• Establish the marine communications system as per the approved proposal</li> </ul>
<b>Initial outcome indicators</b>	<ul style="list-style-type: none"> <li>• Number of vessel and crew safety kits procured and distributed</li> <li>• Registration database established</li> <li>• Number of vessels registered and entered in the database</li> <li>• Number of vessels with registration marks painted</li> <li>• Communication system design approved</li> <li>• Communication system established and functional</li> <li>• Number of communication system operational days</li> </ul>
<b>Existing projects and programmes</b>	
<b>Potential partners</b>	

**Table A1.6: LRA 5 – Support to gleaners in Putini**

<b>Support to gleaners in Putini</b>	
<b>Development objective</b>	PAHs' food security is ensured, restored, and improved in the short term (1-2 years)
<b>Immediate objective(s)</b>	<ul style="list-style-type: none"> <li>• Ensure the priority integration of severely affected gleaners into terrestrial livelihoods programs</li> <li>• Consider the support for the inclusion of gleaners into alternative livelihood activities which could include seaweed production.</li> </ul>
<b>Context</b>	<p>Under operational scenario 1, the marine exclusion zone would severely impact gleaners from Putini. The impact would be permanent but only start as the Project enters the operational phase and the operational marine exclusion zone is imposed. LRA 5 will not be a stand-alone program, but a focussed initiative to ensure livelihood restoration for this particular group of highly affected PAHs. The unique nature of gleaning and the very limited geographical distribution of the target resource makes the activity difficult to substitute with an activity that will bring similar benefits with the same level of commitment of time and effort. The strategy therefore is to ensure engagement in the terrestrial livelihood programs.</p> <p>Towards the end of 2022 a private pilot program looking at seaweed culture was set up immediately in front of Putini's landing site. The pilot has not produced any results to date and it is unclear as to whether this may develop into a commercial operation. Historical efforts at seaweed farming in Tanga Bay were beset by environmental challenges including low salinity (resulting in ice-ice disease) and turbidity, both associated with the estuarine setting and resulting in low growth rates. Should the pilot be successful it could provide a very appropriate and timely opportunity for Putini gleaners.</p>
<b>Participants</b>	PAHs from Putini with members who participate in gleaning
<b>Locality</b>	Beneficiaries will be strictly Putini residents
<b>Outcomes</b>	Beneficiaries maintain or improve livelihood through engagement in alternative (non-gleaning) activities
<b>Preliminary activities</b>	<ul style="list-style-type: none"> <li>• Specific outreach to PAHs with gleaners to encourage enrolment in LRAs 6, 7 &amp; 8</li> <li>• Contact with the promoter of the Putini seaweed pilot to understand and promote any opportunities for PAHs</li> </ul>
<b>Initial outcome indicators</b>	<ul style="list-style-type: none"> <li>• Number of PAHs from Putini with members who participate in gleaning engaged in new diversified livelihoods</li> <li>• Number of PAHs from Putini with members who participate in gleaning engaged in seaweed farming</li> </ul>
<b>Existing projects and programmes</b>	<p>LRAs 6,7 &amp; 8</p> <p>Putini seaweed pilot (private sector)</p>
<b>Potential partners</b>	

**Table A1.7: LRA 5 - Improved agricultural production (cassava, maize, and other cereals)**

Improved production of cassava and maize (and other cereals)	
<b>Development objective(s)</b>	PAHs' food security is ensured, restored, and improved in the short-term (1-2 years)
<b>Immediate objective(s)</b>	<ol style="list-style-type: none"> <li>1. Improve staple food crop production practices, yield, and quality</li> <li>2. Improve livelihood resilience of vulnerable households/household members, including women and youth</li> <li>3. Allow for agricultural intensification, ensuring better use of existing land, efficient use of water resources, and to reduce pressure on sensitive environmental areas such as coastal forests</li> <li>4. Increase the income generated from staple food crops</li> <li>5. Enhance water supply</li> </ol>
<b>Context</b>	<p>56.9% of PAHs stated during the SEHS that they have suffered from food shortages (especially in the lean months from March to May). Moreover, pertaining to subjective welfare, 89.9% stated that their amount of food had declined since the 2017 land acquisition. The dominant crops grown for food are cassava and maize, these are described below. In addition, to these crops, using similar techniques, other cereals such as sorghum and millet could be included as part of the same package.</p> <p><b><u>Cassava</u></b></p> <p>Due to the limited agro-ecological potential in the area, cassava serves as a critical crop for the PACs ensuring food security and some supplementary cash income. Cassava can be boiled or cooked, deep fried, roasted, or mashed into 'futari' (often eaten during the holy month of Ramadan). Moreover, the leaves of cassava plants are a popular vegetable often used as a side dish. Cassava can also be sundried and turned into cassava chips or turned into flour for 'ugali' (stiff porridge, Kiswahili) through being pounded in village hammer mills or in household mortars. Despite its importance as a food security crop, only 19 PAHs currently surveyed plant cassava.</p> <p><b><u>Maize</u></b></p> <p>Compared to other parts of Tanzania maize plays a smaller role in food security in the project area and stakeholder feedback suggested that maize does not grow well in the PACs due to sandy soils. Still, maize is an important crop in the area and is used to make 'ugali,' which is consumed daily. Maize is also sold as a street food as a green cob either roasted or boiled. Despite its importance as a food security crop, only 11 PAHs currently surveyed plant maize.</p>

Improved production of cassava and maize (and other cereals)	
	<p><b><u>Cultivation techniques</u></b></p> <p>Like other crops grown in the area, cassava and maize are farmed on small pieces of land intercropped with legumes. Although improved varieties have been developed and recommended for lowland coastal areas by Tanzania Agricultural Research Institute (TARI) Mlingano in Muheza District, few in the PACs have adopted these varieties.</p> <p>Traditionally in the area there is a strong orientation towards fishery and cassava and maize are both produced with very few productivity-enhancing inputs such as improved seed, fertiliser, and crop protection chemicals. Most farmers plant home-saved seed and low-quality grain from local shops and the yield is generally low. Yields are also restricted by poor soils, lack of irrigation water, and by the prevalence of pests and diseases.</p> <p>Limited knowledge of productivity-enhancing technologies, high post-harvest losses, inadequate storage facilities, and lack of information on market requirements are major challenges for subsistence farmers in the PACs. Almost no post-harvest production or value addition takes place.</p>
Preliminary programme	<p><b><u>Apply peri urban and urban farming techniques:</u></b></p> <p>Research has demonstrated that household yields can be improved by soil management, intercropping, and the use of agricultural inputs. Many (72) PAHs do currently not have access to land for farming and/or livestock and depend on smaller residential plots for crop farming. Moreover, land for agriculture, livestock, and other uses will remain scarce in the PACs due to the future land use plans which include development of oil sites. Thus, intensive, and sustainable use of inputs is vital because households rely on crop production on very small pieces of land (in the region of 0.25-0.5 acres).</p> <p>To raise the yield of crops grown on small land parcels, intensification and best management practices need to be in place. These include:</p> <ul style="list-style-type: none"> <li>• Use of improved varieties</li> <li>• Land preparation</li> <li>• Spacing for optimum plant population</li> <li>• Timely planting, weed, pest and disease management</li> <li>• Timely harvesting and proper post-harvest handling.</li> </ul> <p>These cultivation techniques are detailed below.</p> <p><b><u>Use of improved varieties:</u></b></p>

Improved production of cassava and maize (and other cereals)	
	<p>To increase the production/productivity of cassava, improved varieties such as 'Kiroba,' 'Mkuranga one,' 'Kipusa,' 'Chereko,' 'Kizimbani,' and 'Mkumba' are recommended. These high yielding and disease resistant varieties have been developed and approved by TARI and Tanzania Official Seed Certification (TOSCI).<sup>108</sup></p> <p>For maize, research has shown that suitable varieties for coastal Tanga including the PACs are 'Stuka M-1', 'TAN 250', 'TAN 254', and 'TAN H 600'.</p> <p><b><u>Suggested crop cultivation techniques:</u></b></p> <p><b>Cassava:</b> despite cassava being drought tolerant it is critical to apply both organic (poultry manure, compost, cattle, and goat manure) and chemical fertilisers as well as supporting the crop with additional water through irrigation practices as this will guarantee a significant increase in both quantity and quality of the yield. The same is true for maize.</p> <p>Under rain-fed agriculture planting should be conducted in March (using fertiliser). Use of integrated pest management is necessary – here a combination of cultural and biological control of pests and diseases is ensured.</p> <p>Supplementary irrigation during dry spells within the rainy season and full-scale irrigation during the dry season is also necessary to make sure water stress is kept at the bay.</p> <p><b>Maize:</b> it is recommended to grow maize in rotation or interplanted with legumes such as cowpea, chickpea or pigeon pea as this can help to maintain soil fertility. Legumes can also act as cover crop to minimize invasion of weeds in the farming plots.</p> <p><b><u>Improved access to water for crop farming will be reviewed by the Project, this will consider community-based water sources.</u></b></p> <p><b><u>Topsoil generated by the Project:</u></b></p> <p>Depending on the quality of the soil, topsoil which will be removed from the Project's construction sites and stockpiled can also make a positive contribution to farming as it is rich in organic matter such as decomposed plants, grass, and roots. The soil can be used to reclaim depleted lands or added to existing pieces of agricultural lands.</p> <p>The organic matter rich soil can be used in vertical bag farming and in the establishment of garden cones. Garden cones are artificial or man-made hills of fertile soil with support of stiff materials such as plastic, wood, or metal. They take a form of circular terraces, biggest at the base whereby at each level vegetables are grown. Vertical gardening innovation has shown positive results in many parts where land is scarce as it increases productivity per unit area of cultivated land by extending production into vertical dimension.</p>

<sup>108</sup> The planting materials can be obtained from authorised suppliers such as 'Aminata Quality Seed Ltd' in Tanga and 'Kilimoorgano' in Dar es Salaam.

Improved production of cassava and maize (and other cereals)	
	<p><b><u>Other suggestions:</u></b></p> <p>In order for this package to be sustainable, it is crucial for farmers to understand the importance of utilising the various farm inputs recommended, and their costs.</p> <p>Demonstration farms with extended support, designed to showcase modern farming techniques and their results, are key to providing the proof subsistence farmers need in order to affect a change in practices. The Tanga City DAICO suggested the establishment of demonstration plots where people starting with students and youths can learn and develop a passion for intensive farming.</p> <p><b><u>Inclusion of vulnerable and female PAH members:</u></b></p> <p>Women and vulnerable people depend heavily on land-based livelihood activities yet may lack the capital and labour inputs needed to benefit from the package. To include women and vulnerable members, targeted engagements with these groups may be needed (e.g. through the VICOPA and/or representatives of the vulnerable PAHs (e.g. mtaa chairperson or Tanga City Council Community Development Officer).</p> <p>If interested, vulnerable people and women can get access to interest-free loans through Tanga City Council provided that they form groups.</p> <p>Informal labour pooling schemes (e.g. for land preparations and weeding) exist within the affected mitaa. Such schemes could be used to provide labour inputs to vulnerable PAH members and/or single-headed households who might lack access to labour).</p>
<b>Participants</b>	<p>All PAHs who lost land and eligible PAHs who lose access to marine resources (entitlement groups G1, G3, and G4).</p> <p>This package is more sustainable if improved access to water is also provided as part of the package.</p>
<b>Locality</b>	Residential plots within PACs and PAHs' remaining non-affected farming land.
<b>Outcomes</b>	<ul style="list-style-type: none"> <li>• Enhanced food security and access to food year-round by PAHs</li> <li>• Improvement in staple food crop yields</li> <li>• Increased income from staple food crop yields</li> <li>• Adoption of improved farming techniques</li> </ul>
<b>Preliminary activities</b>	<ul style="list-style-type: none"> <li>• Conduct scoping study (e.g. minimum land requirements and access to water sources)</li> <li>• Draft package design and delivery plan</li> <li>• Use demonstration units and other methods to engage and register interested PAHs</li> </ul>



Improved production of cassava and maize (and other cereals)	
	<ul style="list-style-type: none"> <li>• There might be a need to conduct separate engagements with women and vulnerable PAH members</li> <li>• Trial package and finalise design and delivery plan</li> <li>• Encourage the establishment of farmer/women's groups</li> <li>• Conduct specialised training in cassava and/or maize and other cereals cultivation including:             <ul style="list-style-type: none"> <li>○ land preparation</li> <li>○ planting techniques</li> <li>○ fertiliser application</li> <li>○ weed and pest management</li> <li>○ harvesting and post-harvest management techniques</li> <li>○ water supply and management</li> <li>○ For PAHs who have attended trainings, provide suitable inputs such as:                 <ul style="list-style-type: none"> <li>○ improved cassava cuttings and maize varieties<sup>109</sup></li> <li>○ fertiliser</li> <li>○ herbicide and pesticides</li> <li>○ knapsack sprayer</li> <li>○ maize sheller</li> <li>○ drying tarpaulins and storage bags.</li> </ul> </li> </ul> </li> <li>• Support innovations in processing and post-harvest storage</li> <li>• Provide instruction on the importance of utilising farm inputs and budgeting for future purchasing costs of improved seeds and cuttings, fertilisers, and chemicals</li> <li>• Train PAHs in post-harvest packaging, preservation, value addition. During annual dry seasons, food stocks dwindle or disappear (especially in areas with severe periods of seasonal hunger). This poses a danger to household food security, yet there are periods of considerable surplus.</li> <li>• Introduction of locally-appropriate technologies to assist post-harvest value addition (e.g. simple solar dryers are made from wood, nails, and plastic sheeting – drying leads to the opportunity for cash crop sales and increased income).</li> <li>• Provide information on marketability of produce, processing, and prices</li> </ul>

<sup>109</sup> TARI in collaboration with specialised seed dealers produce and supply a number of early maturing, high yield, and disease resistant varieties.

Improved production of cassava and maize (and other cereals)	
	<ul style="list-style-type: none"> <li>Facilitate access to microfinancing/savings schemes (e.g. mtaa VICOBA or Tanga City Council's entrepreneurial fund).</li> </ul>
<b>Initial outcome indicators</b>	<ul style="list-style-type: none"> <li>Increase in average yield of cassava and maize (across PAHs who participate in LRA 7)</li> <li>Number of PAHs who adopt improved agricultural practices (including planting, irrigation, harvesting, post-harvest, and seedling management)</li> <li>Number of PAH members who suffer from acute malnutrition (wasting)</li> <li>Number of PAH members who suffer from chronic malnutrition (stunting)</li> <li>Increase in PAHs' sales of food crops.</li> </ul>
<b>Existing projects and programmes</b>	<ul style="list-style-type: none"> <li>TARI Mlingano conducts research on various crops in the agricultural zone, which include Tanga region and disseminates modern technologies to farmers</li> <li>World Vision runs livelihood programmes which have agricultural components.</li> </ul>
<b>Potential partners</b>	<p>These will be further identified. The types of organisations:</p> <ul style="list-style-type: none"> <li>Tanga City Council DAICO and Community Development Office</li> <li>Collaborate with TARI Mlingano to ensure that farmers are able to access the best quality planting material and are provided with training and support for improved cropping practice.</li> <li>TOSCI</li> <li>Rural water supply NGOs (e.g. Water Aid)</li> <li>Agricultural-based NGOs/CBOs</li> <li>VICOBA and other micro-finance suppliers</li> <li>Private sector grain/input suppliers.</li> </ul>

**Table A1.8: LRA 6 - Development of vegetable 'kitchen' gardens and crop diversity**

Development of vegetable 'kitchen' gardens and crop diversity	
<b>Development objective</b>	PAHs' food security is ensured, restored, and improved in the short term (1-2 years)
<b>Immediate objective(s)</b>	<ol style="list-style-type: none"> <li>1. Improve livelihood resilience of vulnerable households/household members, including women and youth</li> <li>2. Allow for agricultural intensification, ensuring better use of existing land, efficient use of water resources, and to reduce pressure on sensitive environmental areas such as coastal forests</li> <li>3. Once PAHs are food-secure, to provide opportunity to increase production for commercially marketable foodstuff for sale, in response to growing demand from urban centres</li> </ol>
<b>Context</b>	<p>A small number of households within the PACs grow horticultural crops such as okra and watermelon. Amongst PAHs, one grows green vegetables. In addition households within the PACs (including PAHs) grow leguminous crops such as cowpeas, pigeon peas, green grams, and 'bamburi' nuts.</p> <p>According to many stakeholders, there is a good market for irrigated higher-value horticultural crops planted on 'kitchen' gardens. Household 'kitchen' gardens and small-scale community gardens can contribute significantly to household food security. They are particularly popular amongst women's groups and elderly household members and can provide supplementary household income. Recommended horticultural crops are okra, cucumber watermelon, spinach, chili, African leaf vegetables and eggplant, Moringa, sweet potato (tembele) and amaranth leaves. Recommended legumes include bulrush millet and green grams. In addition, sunflower and sesame can grow well in the PACs.</p> <p>It should be noted that due to the low level of farming skills in the area, crops that are easy to manage should have preference. If more difficult crops are introduced, trainings and follow-up visits should be ensured. In neighbouring settlement Bagamoyo (in Chongoleani mtaa) several crops such as potato, tomato, and spinach were introduced yet failed due most likely to lack of skills and inadequate trainings/extension services.</p>
<b>Preliminary programme</b>	<p>Kitchen gardens will be established on individual PAHs' home gardens/residential plots or on communal plots for farming. The size of the gardens will depend on factors such as manpower and availability of inputs and water resources. The gardens can range from small to medium size: i.e. 400 square meter (m<sup>2</sup>) to 1,000 m<sup>2</sup> (equivalent to 0.25 acre). Using urban farming methods, crops can be grown in pots/containers, raised beds, cones, or on the flat ground.</p> <p>It is important that soil used for gardening is rich in organic matter, this can be achieved by supplying topsoil from the sites and/or constant use of animal manure, green manure and compost. Other key inputs which are needed by farmers include seeds, seedling and cuttings for assorted plants, mulching material, containers (pots, sacks), wood/timber to support raised beds, and fertilisers and pesticides (organic and if deemed applicable also chemical).</p>

Development of vegetable 'kitchen' gardens and crop diversity	
	<p>It is important to encourage the cultivation of small-scale traditional food crops alongside cash crops to ensure that both income and food security needs are met.</p> <p>Apart from daily consumed food crops such as cassava, maize, and legumes, fast growing garden crops such as African leaf vegetables and other horticultural crops can contribute to restoring livelihoods rapidly.</p> <p>Major constraints on the expansion of horticulture are access to water, gardening tools, and facilities for year-round production. Water is a concern in the affected areas and potential solutions for adequate water supply are provided in LRA 7.</p> <p><b><u>Suggested crops:</u></b></p> <p>Many of the crops that can be grown in kitchen gardens also have a good market value. Crops suitable for the Project-affected area are summarised below.</p> <p><b>Legumes:</b> crops such as pigeon peas, green grams, bulrush millet, and sorghum can grow well in the area. Legumes are high in nutritional value and thus important for food security. They can grow on small areas of land (1/4 acre). Being rich in protein, carbohydrates, minerals, and fibres, legumes have a high nutritional value. Moreover, a smaller portion of the harvest is sold to purchase essential livelihood goods. Finally, legumes also play a critical role in fertilisation of soils.</p> <p><b>Horticultural crops:</b> crops that are easy to manage such as African leaf vegetables, okra, African eggplant, Moringa, sweet potato (tembele) - and amaranth leaves will be prioritised. For some PAHs it may be possible to introduce higher-value crops (that require more management) such as cucumber watermelon, spinach, and chili.</p> <p>It is expected that, the gardening projects will generate a lot of by-products which can serve as animal feed to further contribute to livelihood development.</p> <p><b><u>Further crop diversification:</u></b></p> <p>To further reduce the vulnerability context it is important to consider means to enhance crop diversity for food security and income generation. To restore food security, the immediate focus should be on the crops mentioned in LRA 6 and the kitchen gardens. However, to enhance crop diversification and income earning potential, the agricultural production of the following crops can be improved.</p> <p><b>Fruit trees:</b> at least 24 PAPs have mango trees, 15 PAPs have lemon/orange and seven have papaya trees. Suitable agricultural practices for fruit trees are not followed. The package could increase the income earning potential of fruit trees by introducing improved agricultural methods, train on processing and marketing, and provide access to markets.</p>

Development of vegetable 'kitchen' gardens and crop diversity	
	<p><b>Coconuts:</b> coconuts are popular at the coast and 15 PAPs grow coconut. The majority of PAHs have aged and low yielding trees New and shorter varieties may be introduced that can yield more.</p> <p><b>Cashew:</b> cashew nuts are grown in the affected area and eight PAHs have such trees already. These trees are usually old and have limited productivity.</p> <p>In addition, the cash crops below will be new to most PAHs, yet have the potential to do well in the area.</p> <p><b>Spices:</b> currently, according to the SEHS only one PAH grows spices (cinnamon). According to TARI Mlingano, spices such as cloves, cardamom, lemon grass, black pepper and cinnamon grow well in the PACs and they have a good market. The average production of cinnamon per tree ranges from 0.25-10 kg of dried barks (depending on the size and age of the tree). At peak maturity rate, potential yields are as high as 34 kg of dried bark. The current price for one kg of cinnamon dry bark is 8,000 T.Shs. (3.44 USD). Potential earnings are thus in the range of 2,000 to 80,000 T.Shs. per tree (0.86 to 34.9 USD) and 272,000 T.Shs (116.9 USD) at peak performance.</p> <p><b>Sunflower:</b> sunflower is a priority crop in Tanzania and can grow in the Project areas. Sunflower has a good market as it can be used to produce edible oil and it provides seedcake as a by-product which provides feed for livestock.</p> <p><b>Sesame:</b> stakeholder consultations with agricultural officers suggested that sesame may grow well in the PACs.</p> <p><b>Sisal:</b> small-scale sisal planting is being introduced by the Government of Tanzania. The crop is drought resistant, can grow well in the Project area and has a good market. Currently the national and international demand for sisal is high and sisal can be sold locally to larger sisal farmers (out grower schemes) for T.Shs. 30 (0.01 USD) per leaf (EACOP, 2020).</p> <p>Similar to LRA 6 the focus is on introducing improved agricultural techniques for key crops that are already grown by PAHs or crops that agricultural specialists recommend for the area.</p> <p><b><u>Suggested farming methods/techniques:</u></b></p> <p>Intensive farming of appropriate cash crops is recommended in order to generate income beyond subsistence levels. Access to land access to water, appropriate training and inputs, and changes in attitudes towards cultivation are needed in order to transition subsistence farming into commercial farming. Moreover, it is crucial to ensure that farmers continue to cultivate staple crops alongside commercial crops to ensure household food security. Thus, the crops listed below are more suitable for medium-longer term livelihood restoration and the immediate focus should be on LRA 1 and 2 crops. The suggested crops for enhanced crop diversity include:</p>

Development of vegetable 'kitchen' gardens and crop diversity	
	<p><b>Fruit trees (mango, oranges, lime, lemon, and papaya):</b> fruit trees are low yielding and by introducing improved varieties (such as 'Sinta F1', 'Malkia F1', 'Red Royale F1', 'and Calina F1') incomes may increase as these varieties are more productive and have fruits with a longer shelf-life.</p> <p>Papaya was recommended by the SRAP Consultant's agricultural specialists. Improved papaya only needs seven to nine months to mature and once trees are planted, they can yield for up to five years. The fruits are low in calories and rich in vitamins A, B1, B2 and C, Iron and Potassium and as such they can make a significant contribution to the health of the local people. One tree usually yields 80 fruits per year and the current selling price is 500 T.Shs. (0.22 USD) per fruit.</p> <p><b>Coconut and cashew trees:</b> pending findings from feasibility studies, hybrid varieties could be introduced (a cross of East African Tall variety and Malaysian Yellow Dwarf). These are early maturing, resilient, and can produce high quality coconuts. TARI Naliendele has released about 54 varieties of cashew which can be interplanted for better results. TARI's newly introduced varieties are more resilient to diseases and climatic shocks and their productivity is higher (up to 35 kg) as compared to old types with a yield of 11 kg per tree. Cashew nuts can be grown on as little as 0.25-1 acre which can hold seven to 27 plants (with an annual yield between 245 kg and 945 kg if best practices are adhered to).</p> <p><b>Sisal:</b> due to the local market for sisal, the crop could be introduced as part of the package. Sisal can be planted as green-fences or as demarcation of boundaries on residential plots whilst still being harvested for income to the households.</p> <p>Spices (cinnamon and clove)</p> <p><b>Cinnamon:</b> is a suitable cash crop in the PACs as it can be grown in small pieces of land (it needs to be closely planted (2m by 2m)). Other advantages include its low production cost and resistance to crop pest and diseases.</p> <p><b>Crops for edible oils – e.g. sunflower:</b> if deemed feasible, sunflower could also be introduced as part of the package. The crops can be used to produce edible oils. However it should be noted that sunflower was tried in neighbouring Bagamoyo settlement (in Chongoleani mtaa) but failed however due to lack of training and follow-up visits.</p> <p><b><u>Water sources</u></b></p> <p>Similar to the cultivation of maize and cassava using improved methods, water availability is critical to the success of kitchen gardens. Access to water will be reviewed by the Project.</p> <p><b><u>Inclusion of vulnerable and female PAH members</u></b></p>



Development of vegetable 'kitchen' gardens and crop diversity	
	<p>This package is especially suitable for women and vulnerable PAH members. Especially women, are often active in horticultural crop cultivation and the development of kitchen gardens.</p> <p>Similarly to LRA 7, it is suggested to collaborate with representatives of these groups to ensure their participation, supply labour inputs where needed (e.g. during establishment of the 'kitchen' gardens) and facilitate access to savings and credit schemes.</p> <p><b><u>Allow access for other members of the PACs</u></b></p> <p>Elements of this package may be opened up to benefit the PACs (demonstration plots and the encouragement of farmer's groups/collectives).</p> <p>As an add-on or alternative, provided there is sufficient land (close to water sources) available within the PACs, communal 'kitchen' gardens could be established and farmers'/women's groups could be established. This would potentially benefit non-PAHs who reside within the PACs and thereby reduce potential tension between the two groups.</p> <p>If a considerable number of participants and suitable gardening areas exist in one mtaa - a farming cooperative could be established and training provided in organisational development, vegetable production, business management and marketing.</p> <p><b><u>Topsoil generated by the Project:</u></b></p> <p>Similar to maize and cassava planting, topsoil which will be removed from construction site and stockpiled can make a positive contribution to kitchen gardens development. This will be further investigated by the Project.</p> <p><b><u>Group formation:</u></b></p> <p>Communal kitchen gardens could be established and women could be encouraged to form farmers'/women's groups. There are several advantages to forming groups:</p> <ul style="list-style-type: none"> <li>• Promote social learning</li> <li>• Access entrepreneurship loans through Tanga City Council</li> <li>• Selling and marketing purposes</li> </ul> <p><b><u>Access to markets</u></b></p> <p>Many goods are sold locally and the price PAHs receive is low. To enhance the success of the LRP consider methods to increase market access:</p>

Development of vegetable 'kitchen' gardens and crop diversity	
	<ul style="list-style-type: none"> <li>• Establish local food stalls</li> <li>• Facilitate access to major markets in Tanga City</li> <li>• Procure goods from the PACs for the Project's activities (for instance during construction)</li> </ul> <p><b><u>Other suggestions</u></b></p> <p>One successful farmer in Putini has embarked on intensified agricultural production growing okra and watermelon, among others. If interested, the site of the farmer could serve as a demonstration plot.</p>
<b>Participants</b>	<p>All PAHs who lost land and eligible PAHs who lose access to marine resources (entitlement groups G1, G3, and G4). This package is more sustainable if improved access to water is also provided as part of the package.</p>
<b>Locality</b>	<p>Residential plots within PACs and PAHs' remaining non-affected farming land. If deemed feasible, communal land plots.</p>
<b>Outcomes</b>	<ul style="list-style-type: none"> <li>• Improved household food security and access to food year-round by PAHs</li> <li>• Increased income from sale of surplus vegetables</li> <li>• Adoption of improved gardening practices, including irrigation systems, composting and seedling management</li> <li>• Improved access to water at the household and community level</li> </ul>
<b>Preliminary activities</b>	<ul style="list-style-type: none"> <li>• Conduct scoping study (e.g. minimum land requirements and access to water sources)</li> <li>• Conduct value chain analysis and/or markets systems analysis (to identify key constraints to, and analyse key opportunities for, creating additional value for PAPs)</li> <li>• Draft package design and delivery plan</li> <li>• Trial package and finalise design and delivery plan</li> <li>• Establish demonstration gardens (in consultation with Tanga City Council Agriculture and Community Development Officers - this would benefit communities beyond the PAHs))</li> <li>• Encourage the establishment of farmer/women's groups</li> <li>• To ensure their participation, there might be a need for separate engagements with women and/or vulnerable PAH members</li> <li>• Establish a garden group/cooperative:</li> </ul>

Development of vegetable 'kitchen' gardens and crop diversity	
	<ul style="list-style-type: none"> <li>• Individuals work together to buy necessary supplies and services, as well as distribute, market, and sell their products. Farmers save costs and access goods and services otherwise unavailable to them (this also has benefits for communities beyond the PAHs).</li> <li>• Train PAHs in: <ul style="list-style-type: none"> <li>○ site preparation (e.g. cone gardening or vertical bag farming)</li> <li>○ soil improvement</li> <li>○ weed control</li> <li>○ sowing and propagation</li> <li>○ watering and irrigation</li> <li>○ pest control</li> <li>○ mulching</li> <li>○ harvesting</li> <li>○ post-harvest packaging, preservation, and value addition.</li> </ul> </li> <li>• Introduce locally-appropriate technologies to assist post-harvest value addition (e.g. simple solar dryers are made from wood, nails, and plastic sheeting – drying leads to the opportunity for cash crop sales and increased income).</li> </ul>
<b>Initial outcome indicators</b>	<ul style="list-style-type: none"> <li>• Number of PAH members who suffer from acute malnutrition (wasting)</li> <li>• Number of PAH members who suffer from chronic malnutrition (stunting)</li> <li>• Increase in PAHs' sales of food crops</li> </ul>
<b>Existing projects and programmes</b>	<ul style="list-style-type: none"> <li>• World Vision (in Mkinga District)</li> <li>• Care International</li> <li>• Local government is promoting cashew farming (in partnership with CARE International) and orange and mango cultivation</li> </ul>
<b>Potential partners</b>	<ul style="list-style-type: none"> <li>• Tanga City Agricultural and Community Development Officers.</li> <li>• World Vision Mkinga have livelihood projects that establish kitchen gardens (combined with fish farming)</li> <li>• Other local GOs/CBOs</li> <li>• VICOBA (one in Putini and one in Chongoleani)</li> <li>• For crop suitability and methods: Tanzania Agriculture Research Institute (TARI).</li> </ul>

Development of vegetable 'kitchen' gardens and crop diversity	
	<ul style="list-style-type: none"> <li>• For packaging and marketing training: Small Industry Development Organisation (SIDO)</li> <li>• For economic management/access to capital: VICOBA and Tanga City Council entrepreneurship loans</li> <li>• Local land preparation and development contractors (tractor operators, water tank and small dam builders, well diggers, borehole drillers, irrigation suppliers and specialists)</li> <li>• Local/community labourers</li> </ul>

**Table A1.9: LRA 7 - Enterprise development and vocational skills training**

Enterprise development and vocational skills training	
<b>Development objective</b>	Through livelihood diversification, PAHs' income earning potential is restored and improved in the short to medium term (1-3 years)
<b>Immediate objective(s)</b>	<ol style="list-style-type: none"> <li>1. Support the enhancement of existing home-based cottage industries and self-employed business activities</li> <li>2. Minimise PAHs' vulnerability context by introducing new livelihood activities aimed at local employment opportunities (for instance generated by the Project) or at filling products and service gaps in the local market</li> <li>3. Provide time-bound business support to existing and new enterprises, growing them into more viable and sustainable businesses</li> <li>4. Ensure women and vulnerable PAH members have supplementary income sources</li> </ol>
<b>Context</b>	<p>To cope with the loss of farming land following the 2017 land acquisition, PAHs (especially female and vulnerable PAPs) have diversified their livelihoods towards small businesses. The businesses ensure cash incomes for food and other essential items. However, the terrestrial baseline livelihoods analysis confirmed that the income generated from these micro-enterprises is low. This is largely caused by a combination of: a) lack of business skills, b) lack of capital, c) limited market access, and d) low diversity in business activities.</p> <p><b><u>Business acumen:</u></b></p> <p>Business and economic management skills are needed to improve current businesses and to start new ventures. According to stakeholders consulted (incl. PAPs themselves) lack of business skills is a key obstacle in the area. Many businesses are run with basic skills, which have been passed down generations, and few PAPs have financial or other technical/professional skills.</p> <p><b><u>Lack of capital:</u></b></p> <p>Limited financial means to invest in inputs was a crosscutting theme mentioned by several stakeholders incl. PAPs themselves. Although two large VICOBAs exist in the PACs, PAPs are generally not organised into groups. This makes it difficult to access micro-finance credit (which often requires group membership).</p> <p><b><u>Access to main markets:</u></b></p> <p>The main markets for handicrafts and other goods are located in Tanga City. According to PAPs consulted (especially women) they lack the means to access transport to town. Consequently, they sell their goods to local intermediaries at exceptionally low prices (compared to prices realised in town). As there may be an influx of people to the affected areas, the Project could consider establishing local food stalls/marketplaces.</p> <p><b><u>Low diversity:</u></b></p>

Enterprise development and vocational skills training	
	<p>Few PAPs run businesses based on vocational skills and many goods and services in the PACs depend on informal skills that have been passed down generations. Therefore, the products and services produced resemble each other. Due to the homogeneity of the goods and services supply, prices are low.</p> <p>The following small-scale businesses are common within the PACs (existing livelihoods):</p> <ul style="list-style-type: none"> <li>• Weaving mats, baskets, and food covers (women)</li> <li>• Food vendor activities (prepare and sell fried fish, okra, cakes, and other snacks) (women)</li> <li>• Selling small packages of peanuts, cashew nuts or vegetables (women)</li> <li>• Processing coconut oil (mainly for home use/local market) (women)</li> <li>• Transport/'boda boda' business (male youth)</li> <li>• Buying and selling coconuts (male youth)</li> <li>• Selling eggs and other livestock produce</li> <li>• Trading fish (male youth)</li> <li>• Operating small retail shops/'duka' (often men and male youth)</li> </ul>
Preliminary programme	<p>Because many PAHs rely on small businesses for their livelihoods (using the cash incomes earned to purchase foodstuff) a critical opportunity is to increase the income generated through existing small businesses. This can be done through a combination of enterprise development and vocational trainings support. There are four cross-cutting themes in this package which should be included in all sub-packages/activities:</p> <ul style="list-style-type: none"> <li>• Business acumen/entrepreneurial skills (incl. financial literacy training)</li> <li>• Tailored vocational trainings</li> <li>• Access to start-up capital</li> <li>• Access to inputs</li> </ul> <p>Apart from the core themes described above, there are four suggested focus areas for interventions.</p> <p><b><u>Enhance existing livelihood sources:</u></b></p> <p><b>Unskilled labour</b></p>



Enterprise development and vocational skills training	
	<p>Due to the Project's activities there will be increased demand for unskilled labour. Many youth PAPs expressed an interest in casual labour such as slashing. The Project could keep a database registrar with names, skills, and contact details of PAPs interested in casual/unskilled/manual labour.</p> <p><b>Basketry - weaving mats, baskets, and food covers</b></p> <p>Currently baskets and other weaved products are produced with no value addition lowering their value. In addition, they are sold locally to intermediaries who offer prices much below the market price, which can be realised in town. To increase the marketability of products, vocational trainings can focus on increasing the 'marketability' of weaved products by applying natural and/or commercial dyes to achieve vibrant colours on baskets and mats. In additions, participants could be taught how to increase the range of products to include laundry baskets, doormats, coasters, table mats, shopping baskets, and lampshades. Finally, the programme should seek to facilitate market access (local and international markets – i.e. through e-commerce platforms).</p> <p>A number of PAHs use leaves collected at the beach shore or within the TPA 200 Ha. Therefore to succeed, it is critical that this sub-package is integrated with any schemes used to ensure alternative access to these resources.</p> <p><b>Food vendor (known as 'mama lishe' in Kiswahili)</b></p> <p>Due to the Project's and other related company activities in the PACs, the demand for prepared food is likely to increase. Currently, food hygiene standards are low and the food prepared is limited to fried fish and few snacks. To meet the future demand, female PAHs could receive training in improved food hygiene, packaging and marketing, and new recipes.</p> <p>Moreover, many, especially women within the PACs, sell vegetables and other related products. As the kitchen gardens start to produce, a major focus area is linking this production to operating small agricultural business (es). Suggested trainings include processing (i.e. crisps and edible oils) and packaging and marketing.</p> <p><b><u>Diversify towards new livelihood sources:</u></b></p> <p>Too much of the same business in one area can raise supply beyond demand and thereby lead to low income-earning. Therefore, to reduce the vulnerability context and further diversify livelihoods of a number of eligible PAHs – this package will introduce new livelihoods (enterprise development and vocational trainings) which have a good market potential. Focus areas are summarised below:</p> <p><b>CV and job preparedness trainings</b></p>

Enterprise development and vocational skills training	
	<p>Currently, close to 40% of PAH members have some secondary education. Those with good academic records could receive a training programme in CV writing, job seeking and interview processes, and general job preparedness skills.</p> <p><b>Vocational trainings</b></p> <p>Key stakeholders consulted (incl. PAPs) suggested that useful vocational skills are welding, driving, and truck driving and plant operation. In addition, female PAPs expressed a specific interest in certain skills/trainings. These are summarised below:</p> <p><i>Soap and detergent production:</i> several stakeholders mentioned soap and detergent production as a suitable activity (especially for women and vulnerable people).</p> <p>The VICOPA in Putini has a joint project whereby members buy soap in bulk for sale locally. To increase profits of such a project, interested and eligible PAPs could be taught how to prepare and market soap and detergents (such as laundry soap).</p> <p><i>Tailoring and cloth dyeing (known as 'batiki' in Kiswahili):</i> according to stakeholders consulted there are no tailoring shops in the Project-affected area. A number of female PAPs expressed an interest in tailoring and cloth dying techniques. Through vocational trainings, eligible PAPs will be trained in tailoring and the dye of fabrics by using wax batik technique.</p> <p><i>Hair and beauty and barbershops:</i> similar to tailoring, according to stakeholders consulted, there are no hair and beauty and barber salons in the Project-affected area. A number of female PAPs expressed an interest in learning such skills.</p> <p><i>Stationery and retail shops:</i> youth expressed an interest in operating stationary shops. Apart from loans to access needed inputs, this is likely to require vocational training in PC and Microsoft Office software.</p> <p><i>Food catering:</i> Many female PAPs prepare and sell food such as fried fish, okra, and breads and cakes. According to women consulted and other stakeholders, they need training on processing and marketing.</p> <p>In addition to tailored vocational trainings, the package will also include sessions on financial literacy/business management, information on marketing/market access, and the supply of inputs such as start-up capital.</p>
<b>Participants</b>	<p>All PAHs who lost land, agricultural tenants, and eligible PAHs who lose access to marine resources (entitlement groups G1, G3, G4, and G5).</p> <p>This package is particularly suited to:</p>

Enterprise development and vocational skills training	
	<ul style="list-style-type: none"> <li>• PAHs who have little or no farming land left</li> <li>• Vulnerable PAH members</li> <li>• Female PAH members who depend on small businesses for subsistence</li> <li>• Female PAH members who depend on gleaning within the marine exclusion zone</li> </ul>
<b>Locality</b>	Trainings will take place within the PACs.
<b>Outcome</b>	<ul style="list-style-type: none"> <li>• Increased household incomes (compared against the socio-economic baseline data)</li> <li>• Livelihoods diversified</li> <li>• Sustainability of small businesses/enterprises established and/or supported.</li> </ul>
<b>Preliminary activities</b>	<ul style="list-style-type: none"> <li>• Conduct needs assessment to identify suitable vocational training activities</li> <li>• Conduct value chain analysis and/or market systems analysis (to identify key constraints to, and analyse key opportunities for, creating additional value for PAPs)</li> <li>• Identify providers of vocational and entrepreneurial trainings</li> <li>• Engage eligible and interested PAPs (pay special attention to women, vulnerable, and youth PAPs)</li> <li>• Provide tailor made short-term (3-6 months) vocational training courses/course scholarships to eligible and interested PAPs</li> <li>• Provide short-term entrepreneurial trainings (e.g. market potential, development of business plans, financial literacy, and management)</li> <li>• Provide necessary inputs to PAPs who have participated in trainings (e.g. hair and beauty supplies, wax for cloth dying)</li> <li>• Review business plans and provide mentoring to eligible PAPs/groups of PAPs</li> <li>• Provide seed-capital to selected eligible PAPs/groups of PAPs who wish to start a business (contingent on business plans and/or loan requests)</li> <li>• Facilitate access to microfinance schemes (e.g. through Tanga City's entrepreneurial fund, VICOBA, and community-oriented banks (e.g. CRDB Bank)</li> </ul>
<b>Initial outcome indicators</b>	<ul style="list-style-type: none"> <li>• Number of PAPs employed following completion of training</li> <li>• Number of PAPs self-employed/running businesses following completion of training</li> </ul>

Enterprise development and vocational skills training	
	<ul style="list-style-type: none"> <li>• Turnover and staff of PAP-owned businesses have expanded since owner completed training</li> <li>• Average income from self-employment/small businesses has increased since owner completed training</li> </ul>
<b>Existing projects and programmes</b>	<ul style="list-style-type: none"> <li>• RA Lab runs a youth entrepreneurship project which offers trainings and mentorship to youth</li> <li>• BRAC Maendeleo runs a programme where Form 1-4 can be taken in two years. Successful candidates can continue to Form 5-6 elsewhere. Those who do not pass are offered livelihood training in tailoring, salon, baskets, agriculture, poultry, and food processing</li> <li>• VICOBA in Putini runs a joint soap selling project</li> <li>• Tanga City Council provides 'entrepreneurship' interest-free loans to women, youth, and people living with disabilities (contingent on group formation)</li> <li>• VETA has 14 long-term courses which run for 2-years and a similar number of short-term vocational trainings</li> <li>• SIDO provides different services: 1) modern technologies, 2) vocational training, 3) advice/support to small businesses in finding a good market, and 4) support on money management. The goal is to develop more factories and small industries. The short-term training lasts between 1 week to 1 month</li> <li>• YCDP runs a program where youth with mental disabilities are trained in soap making, cloth dying/batik, music, and handicraft such as earrings.</li> </ul>
<b>Potential partners</b>	<ul style="list-style-type: none"> <li>• Tanga City Community Development Office</li> <li>• VETA</li> <li>• SIDO</li> <li>• SNV</li> <li>• BRAC Maendeleo</li> <li>• RA Lab</li> <li>• Local NGOs/ CBOs.</li> <li>• Mentors and demonstrators (e.g. successful established enterprises); and</li> <li>• Contractors and subcontractors for internships and work experience.</li> </ul>

**Table A1.10: LRA 8 - Improved animal husbandry (small-scale poultry production)**

Improved animal husbandry (small-scale poultry production)	
<b>Development objective</b>	PAHs' food security and income-earning potential is ensured, restored, and improved in the short to medium- term (1-3 years)
<b>Immediate objective(s)</b>	<ol style="list-style-type: none"> <li>1. Provide year-round household food security</li> <li>2. Increase the income generation from poultry production</li> <li>3. Provide a supplementary income source to vulnerable PAPs and women</li> </ol>
<b>Context</b>	<p><b>Poultry:</b> many PAHs (48) keep poultry. Predominantly the responsibility of women, poultry are generally kept uncaged around the homestead, foraging for their food from household scraps and the surrounding environment. Almost no additional resources except for some vaccinations are used for animal care and productivity is typically low.</p> <p>The free-range system using indigenous village chicken kept free-range is subject to a number of challenges. For instance, free-range animals are prone to diseases, theft, and predators. Moreover, a free-range system may lead to crop damage as the chicken feed on vegetables and grains intended for human consumption. This can also lead to tension/conflicts between neighbours. Finally, their production is typically lower compared to improved varieties (free-range chicken produce fewer eggs and chances of egg loss and wastage of chicken manure is also higher in free-range chicken).</p> <p>Pertaining to this, the suggested package will introduce trainings and provide supplies to support PAHs who are interested in switching to small-scale semi-intensive poultry production which can increase production of eggs and quality of chicken.</p> <p>Constraints to sustainability:</p> <ul style="list-style-type: none"> <li>• Resource constraints, including access to and availability of land, especially for women, capital to fund poultry project (buying chicks, poultry feeds, supplements and drugs, feeders, and drinkers etc)</li> <li>• It can be difficult culturally to shift from traditional to improved poultry production - likely to require more labour time and inputs. Besides training, there is a need to supply/secure access to inputs such as vaccines, housing, and fodder</li> <li>• Theft and predators– increased livestock numbers will require secure housing</li> </ul>
<b>Preliminary programme</b>	<p>The proposed package aims to improve small-scale livestock production through providing initial access to inputs and practical training in livestock management. The programme is intended to be delivered at the homestead level and of a scale which can be accommodated within a homestead, building on, and improving for some PAHs their current poultry activities.</p> <p>The scale of such a program would be formed around provision of one (1) hybrid variety chick/cockerel with four (4) pullets per household delivered with related equipment, training on better husbandry practices, facilitation of access to feed,</p>

Improved animal husbandry (small-scale poultry production)	
	<p>facilitation of to improve processing and marketing channels and improved capacity of extension services support with relevant linkages.</p> <p><b><u>Inclusion of women, youth, and vulnerable PAH members:</u></b></p> <p>This package is especially suitable for women, vulnerable, and youth PAH members as the activities can be conducted close to the homestead and it provides food security and a supplementary income source. During consultations vulnerable PAHs expressed an interest in this activity (see e.g. FGD Vulnerability, Chongoleani 10-02-22). Access to finances, labour, and separate engagements might be needed to ensure their participation.</p> <p>As mentioned, one youth group in Putini can be used as an example/demonstration unit. The youth have formed the ‘Makha Youth Group.’ The project has been provided a loan from the Community Development Office’s local authority empowerment fund and has also been supported by the Ward Veterinarian.</p> <p><b><u>Setting-up small-scale poultry business:</u></b></p> <p>To encourage the setup of small-scale poultry businesses, consider integrating the package with LRP 5 on enterprise development and vocational training. Moreover, there might be an opportunity to encourage women and or youth to form groups, to enable access to loans through the existing channels (i.e. Tanga City Council, VICOBAs, and microfinance institutions and banks.).</p>
<b>Participants</b>	<p>All PAHs who lost land and eligible PAHs who lose access to marine resources (entitlement groups G1, G3, G4, and G5). This package is particularly important for providing support to vulnerable and female PAH members.</p>
<b>Locality</b>	Residential plots within PACs.
<b>Outcomes</b>	<ul style="list-style-type: none"> <li>• Successful establishment of semi-intensive and intensive household livestock rearing</li> <li>• Improvement in poultry production and increased income from sale of eggs and meat surplus</li> <li>• Vulnerable and female PAH members have a supplementary income source</li> </ul>
<b>Preliminary activities</b>	<p>The package distinguishes between activities to improve a) free-range poultry production and b) broiler chicken production. The suggested activities under each system are similar. The options are briefly described below. Next, suggested activities applicable to each option are shown.</p> <p>All sub-packages will be tried and a final delivery plan will be produced. A key activity for the package to be successful is appropriate engagements with women in PAHs, local women’s groups, and PAH members with vulnerabilities. Group formation should be encouraged.</p>



Improved animal husbandry (small-scale poultry production)	
	<p><b>Improved free-range poultry or broiler chicken production</b></p> <p><i>Improved free-range:</i> hybrid (Kuroiler/ Sasso and Tanbro) chicken, for laying hens and meat, are hardy, free-range, and lay up to five times more eggs and grow to twice the size of local chickens. They are natural scavengers and do not need to be contained. They benefit from a secure shelter for night-time roosting, egg laying, and shelter from rain. They start laying at three months and continue for two years.</p> <p><i>Improved broiler chicken:</i> broiler chickens (<i>gallus domesticus</i>) are bred and raised specifically for meat production and reach slaughter weight at five to seven weeks of age. At a household level, broiler chickens in Tanzania are normally kept successfully under the semi-intensive system of poultry management in which a small number of birds are produced in confinement. When bred in numbers, poultry in Tanzania are routinely housed in (aerated) permanent brick and/or wood structures that can be padlocked. Keeping the flock remarkably close to their homestead helps farmers feel their assets are safe and easier to follow up and manage.</p> <p>For both types of poultry production, suggested activities include:</p> <ul style="list-style-type: none"> <li>• Scoping study</li> <li>• Conduct value chain analysis and/or markets systems analysis (to identify key constraints to, and analyse key opportunities for, creating additional value for PAPs)</li> <li>• Provision of an agreed-upon number of hens (e.g. one (1) mature hybrid variety chick/cockerel with four (4) pullets), proper housing, a watering and feeding system, a start-up kit of vaccines and initial access to veterinary services</li> <li>• Provision of appropriate training in: <ul style="list-style-type: none"> <li>○ feeding/watering</li> <li>○ cleaning/fumigation</li> <li>○ vaccines/medicines needed to raise the flock</li> <li>○ the function and costs of all inputs, in order to budget for future expenses to maintain the flock</li> <li>○ the value of poultry products in the local market</li> <li>○ collecting poultry litter (droppings, feed remains and bedding material) and converting manure / fertilise for use in crop production<sup>110</sup></li> <li>○ collecting and converting manure into crop fertiliser for domestic use</li> </ul> </li> </ul>

<sup>110</sup> Chicken manure can easily be collected and converted for use in crop production. The manure is of high quality as it contains excessive amounts of nitrogen, potassium, phosphorus, calcium, zinc and organic matter which are crucial for crop growth and development.

Improved animal husbandry (small-scale poultry production)	
	<ul style="list-style-type: none"> <li>• Establishment of demonstration sites within the PACs</li> </ul>
<b>Initial outcome indicators</b>	<ul style="list-style-type: none"> <li>• Number of PAHs who establish targeted type of poultry</li> <li>• Average yield of animals for sale, eggs, and meat across benefitting PAHs</li> <li>• Average income from poultry production increase across PAHs who participate in the package</li> </ul>
<b>Existing projects and programmes</b>	<ul style="list-style-type: none"> <li>• World Vision (in Mkinga District) runs a livelihood support project which includes semi-intensive poultry</li> <li>• Tanzania Livestock Research Institute (TLRI) provide tailor-made training and advisory services in livestock including poultry management</li> <li>• Tanga City Municipal is planning to establish a nursery to enhance the production of poultry. The nursery will be accessible to all who are interested. Services to be offered under the programme will include access to quality breeds, business management training, and information on market access.</li> </ul>
<b>Potential Partners</b>	<ul style="list-style-type: none"> <li>• Tanga City Agriculture, Livestock, and Community Development Officers</li> <li>• TLRI</li> <li>• NGOs that target women and/or youth such as RA Lab, Tayota, and BRAC</li> <li>• Local NGOs/CBOs.</li> <li>• Poultry interest groups.</li> <li>• Private sector (e.g. traders, hospitality industry-caterers, hotels, cafes and restaurants, training institutions); and</li> <li>• Farmers Associations.</li> </ul>

## APPENDIX 2: STAKEHOLDERS ENGAGED BY THE SRAP CONSULTANT

**Table A2.1: Overview of stakeholders engaged as part of SRAP and LRP design and planning**

No.	Stakeholder	Tool	Date	Place
1	TPA officer	KII	29-01-22	Tanga City
2	District Fisheries Officer	KII	29-01-22	Tanga City
3	District Fisheries & Livestock Officer	KII	29-01-22	Tanga City
4	AMREF NGO	KII	31-01-22	Tanga City
5	Tanga City Council - Trade Officer	KII	31-01-22	Tanga City
6	Tanga City Council - City Livestock and Fishery Officer	KII	31-01-22	Tanga City
7	Tanga City Council - Head of Environment and Sanitation	KII	31-01-22	Tanga City
8	Tree of Hope	KII	31-01-22	Tanga City
9	Botner Foundation	KII	01-02-22	Tanga City
10	Pastoral Activities and Services for HIV/AIDS in the Diocese of Tanga (PASADIT)	KII	01-02-22	Tanga City
11	Tanga City Council Land Officer	KII	01-02-22	Tanga City
12	Chongoleani observational walk with community leaders	Observational walk	01-02-22	Chongoleani mtaa
13	Ward Agricultural Executive Officer - Chongoleani Ward	KII	01-02-22	Chongoleani mtaa
14	Ward Executive Officer and Chairpersons - Putini and Chongoleani Mitaa	KII	01-02-22	Chongoleani mtaa
15	FGD Agriculture - PAPs	FGD	02-02-22	Chongoleani mtaa
16	FGD Gender - non-PAPs	FGD	02-02-22	Chongoleani mtaa
17	FGD Gender - non-PAPs	FGD	02-02-22	Chongoleani mtaa
18	FGD Livelihoods - PAPs	FGD	02-02-22	Chongoleani mtaa
19	Bangladesh Rural Advancement Committee (BRAC) Maendeleo	KII	03-02-22	Tanga City

No.	Stakeholder	Tool	Date	Place
20	Putini observational walk with community leaders	Observational walk	03-02-22	Putini mtaa
21	FGD Agriculture - PAPs	FGD	03-02-22	Putini mtaa
22	FGD Youth - PAPs	FGD	03-02-22	Putini mtaa
23	TAYOTA NGO	KII	03-02-22	Tanga City
24	FGD Gleaners	FGD	04-02-22	Putini mtaa
25	FGD Small Business - PAPs	FGD	04-02-22	Putini mtaa
26	FGD Youth - PAPs	FGD	04-02-22	Putini mtaa
29	Vocational Education and Training Authority (VETA)	KII	04-02-22	Tanga City
30	FGD Fishers	FGD	05-02-22	Chongoleani mtaa
32	FGD Gleaners	FGD	07-02-22	Chongoleani mtaa
33	FGD Gleaners	FGD	07-02-22	Chongoleani mtaa
34	FGD Fishers	FGD	07-02-22	Ndaoya mtaa
35	FGD Gender - PAPs	FGD	07-02-22	Putini mtaa
36	FGD Livelihoods - PAPs	FGD	07-02-22	Putini mtaa
37	FGD Vulnerable - PAPs	FGD	07-02-22	Putini mtaa
38	ODO UMMY Foundation	KII	07-02-22	Tanga City
39	Putini Primary School	KII	07-02-22	Putini mtaa
40	Tanga City Council - District Agriculture Irrigation and Cooperatives Officer	KII	07-02-22	Tanga City
41	TAWODE NGO	KII	07-02-22	Tanga City
42	TOJE NGO	KII	07-02-22	Tanga City
43	FGD Community services – PAPs and non-PAPs	FGD	08-02-22	Chongoleani mtaa
44	FGD Livelihoods - PAPs	FGD	08-02-22	Putini mtaa
45	Small Industries Development Organisation (SIDO)	KII	08-02-22	Tanga City
46	Successful farmer and PAP - Putini	KII	08-02-22	Putini mtaa
47	Tanga City Council - Community Development Officer (and EACOP focal person)	KII	08-02-22	Tanga City

No.	Stakeholder	Tool	Date	Place
48	Tanzania Livestock Research Institute (TLRI)	KII	08-02-22	Tanga City
49	TAWLA NGO	KII	08-02-22	Tanga City
50	VICOBA in Putini	FGD	08-02-22	Putini mtaa
51	Village elders	FGD	09-02-22	Putini mtaa
52	Village elders	FGD	09-02-22	Chongoleani mtaa
53	Chongoleani Dispensary	KII	09-02-22	Chongoleani mtaa
54	FGD Community services – PAPs and non-PAPs	FGD	09-02-22	Chongoleani mtaa
55	FGD Youth - PAPs	FGD	09-02-22	Chongoleani mtaa
56	FGD Youth - PAPs	FGD	09-02-22	Chongoleani mtaa
57	Preliminary replacement land identification in Bagamoyo (in Chongoleani Mtaa)	KII and observational walk	09-02-22	Chongoleani mtaa
58	MWAMBAO Network	KII	09-02-22	Tanga City
59	SHINYAWATU (umbrella organisation for people with disabilities)	KII	09-02-22	Tanga City
60	Tanzania Sisal Board	KII	09-02-22	Tanga City
61	VICOBA in Chongoleani	FGD	09-02-22	Chongoleani mtaa
62	Youth with Disabilities Community Development (YDCD) NGO	KII	09-02-22	Tanga City
63	FGD Vulnerabilities - PAPs	FGD	09-02-22	Chongoleani mtaa
64	Chongoleani Primary School	KII	10-02-22	Chongoleani mtaa
65	Chongoleani Secondary School	KII	10-02-22	Chongoleani mtaa
66	City Council - Office for Urban Land Planning	KII	10-02-22	Tanga City
67	FGD Elderly - PAPs	FGD	10-02-22	Chongoleani mtaa
68	FGD Small Businesses - PAPs	FGD	10-02-22	Chongoleani mtaa
69	Tanga Regional Officers - Agriculture, Trade, Fisheries.	KII	10-02-22	Tanga Regional Office
70	Tanzania Forest Services	KII	10-02-22	Tanga City
71	World Vision	KII	10-02-22	Mkinga District
72	Mabokweni Agricultural Marketing Primary Cooperative Society (AMCOS)	KII	11-02-22	Tanga City
73	Care International	KII	11-02-22	Tanga City

No.	Stakeholder	Tool	Date	Place
74	RA LAB NGO	KII	11-02-22	Tanga City
75	Tanzania Agricultural Research Institute (TARI) Mlingano	KII	11-02-22	Muheza District
76	Tanzania Social Action Fund (TASAF)	KII	11-02-22	Tanga City
77	TEWOREC NGO	KII	11-02-22	Tanga City
78	111 PAHs surveyed for the SEBS	Survey	February-June 2022	Within PACs and tracer study
79	Putini fisher	In-depth interview	13-02-22	Putini mtaa



## APPENDIX 3: OVERVIEW OF CURRENT LIVELIHOOD RESTORATION PROGRAMMES

Table A3.1: Summary of livelihood improvement and related programmes

Organisation	Description	Targeted beneficiaries	Services provided	Areas covered	Staff
<b>Organisations consulted during SELI activities</b>					
PARSADIT NGO	The NGO started its activities in 2000. The NGO supports vulnerable groups including children and adolescents.	Adolescent Children-Vulnerable	Services in areas of health, education, economy, security, and nutrition are provided. Services include health insurance, treatment, and escorted referral where the sick person can be escorted from a dispensary to referral hospital. In addition, trainings on livelihoods are provided to adolescents.	26 wards including Chongoleani (out of 27 wards in Tanga Region)	10 staff and 5 volunteers
BRAC manedeleo NGO	BRAC maendeleo focuses on education and livelihood training. BRAC microfinance provide financial literacy training and give loans.	Poorer girls	Support is provided to children from poorer areas focusing on young children and adolescents. Projects are funded by NORAD. For the youngest children (3-5 years) provide programmes to 'learn through playing'. For the adolescent girls, BRAC runs a programme where Form 1-4 can be taken in two years. Successful candidates can continue to Form 5-6 elsewhere. Those who do not pass are offered livelihood training in tailoring, salon, baskets, agriculture, poultry, and food processing. Offer early education to 3-5 years old and adolescents.	20 wards in Tanga Region including Chongoleani ward (Ndaoya mtaa).	7 office staff
AMREF NGO	AMREF has activities related to HIV/AIDS.	Drug addict HIV Victims	Diagnose and monitor HIV/AIDS, administer anti-virus treatments. Provide adolescent girls with sanitary kits and trainings on income generation activities. Train girls on how to generate income. The NGO works closely with the RAS office in Tanga region and District officers.	All districts in Tanga Region.	Unknown
TAYOTA NGO	The NGO is active in youth empowerment.	Youth, girls who drop out from schools,	Youth Empowerment including trainings and capacity building on topics such as business acumen, gender-based Violence	All district in Tanga Region.	9

Organisation	Description	Targeted beneficiaries	Services provided	Areas covered	Staff
			(GBV), use of digital business platforms, youth, and police cooperation.		
TOJE NGO	Tanga Organization for Justice and Equality(TOJE) deals with: assistance in legal issues to the community; entrepreneur skill development, and training on HIV	Women, female youth, and children	The NGO provides capacity building to the community on HIV/AIDS, entrepreneurship skills, and legal issues including land disputes, gender, GBV, and human rights.	In all districts	10
TAWODE NGO	Tanga Women Development Initiative (TAWODE) work to improve women's income generation capacity	Women	Currently, the NGO has no active projects due to lack of funding. Used to be active in education.	All districts	4
SIDO	Small Industries Development Organization (SIDA) is a non-profit governmental organisation established in 1973 and active in all Districts in Tanzania. They work to support small and medium-sized businesses.	Small and medium sized enterprises and those looking to start a business.	SIDO provide different services: 1) modern technologies, 2) vocational training, 3) advice/support to small businesses in finding a good market, and 4) support on money management. The goal is having more factories and small industries. The training offered is short-term lasting 1 week to 1 month. SIDO supports both those who have a small business and those who are starting a business from scratch. Support/trainings include food processing, batik/clothes dying, and production leather goods. After training in food processing, labelling, and marketing, they collaborate with Tanzania Bureau of Standards to inspect the processing floor and issue a quality approval certificate, which is free and last for 3 years.	SIDO have worked a little in Chongoleani but are more active in town.	SIDO in Tanga town has 4 staff but can get project staff from all over Tanzania depending on the skills needed.
NCEE	Nordic Coalition for Extractive Industries and Environment	Affected communities	NCEE are largely rights-based. Support and trainings provided include empowerment to communities on laws and	In Chongoleani and Putini and	4 staff

Organisation	Description	Targeted beneficiaries	Services provided	Areas covered	Staff
	(NCEE) was established in 2019 when they received support from OXFAM Tanzania. NCEE is an umbrella organisation of 11 members. Their first work was in active citizenship and accountability.		regulations involving local content related to the extractives industries. Work with Local Government Authorities to build skills. NCEE have trained around 300 individuals from the affected areas across the pipeline corridor in Tanzania on community participation, preparedness and awareness, and the environment. They also train and advice on the opportunities the project may offer and on the challenges that might come.	other affected areas.	
Tanzania Livestock Research Institute (TLRI)	TLRI is a government agency mandated to conduct research for the livestock sector in Tanzania	Livestock farmers	Activities include research and development in livestock in the eastern zone which include Tanga Region. Currently, TLRI do not have a specific intervention in Chongoleani Ward but they have a number of research projects in Tanga Region including the coastline with similar environment such as Chongoleani.	Tanga Region.	Unknown
SHINYAWATU	SHINYAWATU is an umbrella organisation for various organisations for people with disabilities.	People living with disabilities.	SHINYAWATU engages in advocacy to the Government on issues on equality, laws, and rights of people with disabilities. They have an office in Tanga City but at the moment no projects.	Tanga City	10 Staff members and chairpersons.
ODO UMMY Foundation	ODO UMMY is a rights-based NGO working on defending women and girls rights.	Mainly young girls: a recent COVID campaign was targeting the entire community	Conducted COVID awareness campaigns including provision of handwashing facilities, hand sanitizers and masks in 2020. Distribution of sanitary towels to 8 secondary schools in Tanga city including Ndaoya and Chongoleani. Improving water and sanitation facilities whereby 16 latrines were built at Mapambano Primary school including 2 for disabled pupils.	27 wards in Tanga City including Chongoleani Ward	5 staff
TAWLA NGO	TAWLA is a human rights NGO that offers legal services to women and children	Women and children	Legal aid and community sensitisation mainly legal aid for civil cases and in some instances GBV cases. In exceptional circumstances, men are also offered legal aid.	Tanga urban and areas within Tanga region	2 staff
MWAMBABO Network	The NGO is active conservation activities.	all coastal communities in Tanzania	Mwambao's concern is the entire coast of Tanzania, including the islands of Zanzibar and Mafia. They are building local networks around key coastal village members who face	Along the Tanga coastline from	5 staff and interns and volunteers

Organisation	Description	Targeted beneficiaries	Services provided	Areas covered	Staff
			familiar challenges. Currently, these are located on the islands of Unguja and Pemba and Tanga, Bagamoyo, and Kigamboni on the mainland.	the north to south including Chongoleani Ward.	
Tanga Elderly Women Resource Centre (TEWOREC) NGO	TEWOREC NGO conducts activities in community development. Collaborates with TOJE.	Elderly women	Train other stakeholders on laws and rights of women so they can train others. Support elderly women to form self-help groups. Support women in poor households and those affected with HIV/AIDS providing them with porridge/nutrition. TOJE is responsible for actives in Putini and Chongoleani Mitaa.	Active in all wards of Tanga City	6 staff
RA LAB NGO	RA LAB works to build capacity of the youth on how to get involved in entrepreneurship to generate income activities.	Youth girls and boys (aged 14-30 years).	Provide trainings on sexual and reproductive health, nutrition, and entrepreneurship. Entrepreneurship trainings last for 5 days (3 hours a day) and after training, RA Lab supports youth to form savings and loans groups. Groups receive supervision and mentorship group for one year.	27 wards in Tanga City (completed training of 200 youth in 5 Wards)	7 staff
VETA	VETA offers vocational trainings	Youth	VETA has 14 long-term courses which run for 2-years. They are: plumbing, pipe fit, welding, electrical, carpentry, auto electrical, motor-based mechanics, auto body repair, fitter mechanics, tailoring, painting and sign writing, secretary, food production, food and beverage, sales and services, and masonry and brick layering. The long-course is sponsored by the Govt and therefore payment is just 120,000 shilling. Around 700 applied and they picked 400 students for the long course. Then they have short courses (see attached schedule) with higher prices. They also do tailored courses such as driving (5 weeks) and boda boda. All courses have elements of life skills and entrepreneurship. No agricultural courses.	Tanga Region	N/a
YCDP	Youth with Disabilities Community Programme (YDCP)	Youth with disabilities	The organization offers numerous services to children below 5 years who are disabled. They do physiotherapeutic services and offer equipment such as wheelchairs. Assist so children can be able to go to school. Have had funding from the EU but lost it - now has funding from Finland. Has had		14 staff

Organisation	Description	Targeted beneficiaries	Services provided	Areas covered	Staff
			<p>around 2,700 beneficiaries in the country - also work outside Tanga. Have some clients/beneficiaries from the affected areas.</p> <p>Also, run a program where youth with mental disabilities are trained on soap making, cloth dying/batik, music, and handicraft making such as earrings.</p>		
Mabokweni AMCOS (cashew nut farming)	The AMCOS at Mabokweni is a governmental cooperative for cashew nut farmers. Facilitate inputs and marketing.	Cashew nut farmers	AMCOS collects cashew nuts produce and markets it, supplies inputs at a cost and sprayers. From the AMCOS as the collection centre the cashew is taken in the main warehouse in Tanga town where cutting is done and here the auction is also carried out.	4 wards including Chongoleani	
Tanzania Sisal Board	Government marketing board	Sisal Farmers	Support sisal growing and marketing. Farmers are urged to produce sisal because there is ready market and the crop is drought tolerant and disease resistance. Farmers can even grow sisal at the edge of their fields and earn some money out of the sisal fence.		
TASAF	Tanzania Social Action Fund (TASAF) is a government scheme to provide basic welfare to the poorest of the poor	Extreme poor (and soon also vulnerable)	<p>Tanzania Social Action Fund (TASAF) was established in 2000 but only started to operate in Tanga in 2006. TASAF offers numerous services within health, education, and water. For instance, they build dispensaries and improved infrastructure and secondary schools such as the one in Chongoleani. They also support livelihoods through e.g., training, supply of cows, and salt pans.</p> <p>There is now a Phase III where cash transfers play a significant role. In Tanga, City households have been surveyed to identify extremely poor households who are then registered and who are entitled to cash transfers. In Tanga two types of support are offered: 1) conditional cash transfer (conditional on school attendance and health clinic visits) and 2) unconditional/basic cash transfers.</p>		

Organisation	Description	Targeted beneficiaries	Services provided	Areas covered	Staff
			The lowest transfer - the basic transfer is 24,000 T.Shs. every two months. The highest (depending on the number of children) is 110,000 T.Shs. every two months. TASAF in Tanga is looking to roll out a Public Work program where poor households during the lean seasons can get pay in return for public work and also a Livelihood Enhancement program consisting of various training, group formation, and loans.		
<b>Consulted but not active in Chongoleani Ward</b>					
World vision	World Vision's project activities in Mkinga	Entire communities	Implementation of socio-economic development projects in the areas of health, nutrition, water and sanitation, environmental protection, education, livelihood. The overall objective being paving for the welfare and protection of children in communities.	Handeni, Korogwe, Muheza, Mkinga and Kilindi DCs	Mkinga World Vision has 5 staff
Care international	Care International is a large service-providing NGO. Their offices and projects in Tanga Region are new (started operating in 2022).	Cashew nut farmers	Care International has just launched an out-grower scheme/project to help cashew nut farmers. It is a scheme where cashew nut farmers are linked with AMCOS which is then linked to a buyer/big company. The objective is to increase the yield and productivity of cashew nut farming in the area. The company/out grower has established a factory. CARE will train both farmers on agricultural practices and the AMCOS on good management. Plan to reach 3,000 farmers of which at least 1,000 farmers should join AMCOS. Female farmers should constitute 70% of all. Gender and environment are crosscutting themes and work to use by-products from cashew to reduce environmental impacts (for charcoal and fertiliser).	5 wards in Mkinga District	New office and project in Tanga. Has 5 staff at the office in Tanga City.
Tanzania agricultural research institute (TARI)	Crop Research and Development	Farmers	Conducting research on various crops in the agricultural zone, which include Tanga region. Collaborate on other agricultural research centres. Dissemination of innovative technologies to farmers	Tanga Region	N/a
<b>Active in Tanga City but not consulted</b>					



Organisation	Description	Targeted beneficiaries	Services provided	Areas covered	Staff
Tanga youth environmental association	Youth participation	Youth	Capacity building and entrepreneurship promotion	Tanga City	N/a
Gift of hope foundation (GHF)	Support to women with cancer	Women with breast cancer	Financial support	Tanga City	N/a
Women and children legal aid (WOLEA)	Women's rights	Women	Rights-based, advocating, lobbying on behalf of women's rights	Tanga City	N/a
Tanga youth working group (TAWG)	Youth	Youth	Providing care and support to people living with HIV	Tanga City	N/a

Source: SELI consultations.

Note: Information on organisations not consulted is taken from EACOP (2022).

## APPENDIX 4: VULNERABILITY ANALYSIS

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### Objective

To identify or confirm vulnerable people and households. Ensure that actual and potentially vulnerable people and households are identified and monitored during and after the resettlement process, so as to track their standard of living and effectiveness of resettlement compensation, assistance, and livelihood restoration.

### Definition of vulnerability

For the purposes of this SRAP and LRP, vulnerability is defined as:

- Lack of capacity of a person or group to anticipate, cope with, resist and recover from impacts
- People who by virtue of gender, ethnicity, age, physical or mental disability, economic disadvantage, or social status may be more adversely affected by resettlement than others
- Reduced ability to cope with the change and, if not provided with additional assistance, may be disproportionately affected by displacement
- Limited ability to claim or take advantage of resettlement assistance and related development benefits and

### Coverage

The vulnerability analysis considers all surveyed EACOP PAHs (111). It thereby excludes unidentified owners and households that did not lose land within EACOP ha but are affected by the Project's marine exclusion zone.

### Criteria

Acknowledging that no single criterion automatically renders a household vulnerable, in line with the Project's regional RAP, contributing factors have been identified. These are:

- Age of household head (either over 60 years of age or child-headed households)
- The household is female headed
- Education level of household head
- The household has one or more physically and/or mentally disabled household member
- Household has experienced food shortages
- Number of household income earners and resources available to support dependents
- Number of children between 6-14 years not attending school.

Using a multi-factor vulnerability analysis which runs data queries A-F on the socio-economic baseline data collected, Category 1-3 households have been identified. The table below presents an overview. In the following sub-sections, the outcome of each data query is presented in more detail. As Table A4-1 shows, in total 43 households belong to one of the three categories.

**Table A4.1: Overview of vulnerability analysis**

Query	Description used in SRAP and LRP	Description used in regional RAPs	EACOP PAHs	Marine-based HHs
Query A	Category 1: Elderly (>60yrs) male headed household with less than two (2) income earners.	Category 1: Elderly (>60yrs) male headed household with less than two (2) income earners.	10	2
	Category 2: Elderly (>60yrs) male headed household with two income earners.	Category 2: Elderly (>60yrs) male headed household with two income earners.	8	18
	Category 3: Elderly (≤60yrs) Male headed households with one (1) or no income earners.	Category 3: Elderly (≤60yrs) Male headed households with one (1) or no income earners.	10	6
<b>Total (Query A)</b>			<b>28</b>	<b>26</b>
Query B	Category 1: Has experienced hunger in all 12 months and has per capita incomes 50% below mean.	Category 1: Has experienced food shortages and has per capita incomes 50% below mean.	17	3
	Category 2: Has experienced hunger in all 4-11 months and has per capita incomes ≥ 50% and < 20% below mean.	Category 2: Has experienced food shortages and has per capita incomes ≥ 50% and < 20% below mean	3	7
	Category 3: Has experienced hunger in all 1-3 months and has per capita incomes ≥ 20% below mean.	Category 3: Has experienced food shortages and has per capita incomes ≥ 20% below mean.	5	15
<b>Total (Query B)</b>			<b>25</b>	<b>25</b>
Query C	Child headed households, household head (< 18yrs)	Category 1: Child headed households, household head (< 18yrs).	0	1
<b>Total (Query C)</b>			<b>0</b>	<b>1</b>
Query D	Category 1: Female headed (≤ 60yrs) household – household head has no education.	Category 1: Female headed (≤ 60yrs) household – household head has no education.	3	11
	Category 2: Male headed (≤ 60yrs) household – household head has no education.	Category 2: Male headed (≤ 60yrs) household – household head has no education.	2	22
	Category 3: Male or female headed (> 60yrs) household – household has no education.	Category 3: Household head (> 60yrs) has no education.	9	16
<b>Total (Query D)</b>			<b>14</b>	<b>49</b>
Query E	Category 1: Percentage of children (≥ 5 and ≤18yrs) in household not attending school ≥ 75%.	Category 1: Percentage of children in household (≥ 6 and ≤14yrs) not attending school ≥ 75%.	2	11
	Category 2: Percentage of children (≥ 5 and ≤18yrs) in household not attending school ≥ 50% to < 75%.	Category 2: Percentage of children in household (≥ 6 and ≤ 14yrs) not attending school ≥ 50% to < 75%.	3	0

Query	Description used in SRAP and LRP	Description used in regional RAPs	EACOP PAHs	Marine-based HHs
	Category 3: Percentage of children ( $\geq 5$ and $\leq 18$ yrs) in household not attending school $\geq 25\%$ to $< 50\%$	Category 3: Percentage of children in household ( $\geq 6$ and $\leq 14$ yrs) not attending school $\geq 25\%$ to $< 50\%$ .	3	3
<b>Total (Query E)</b>			<b>8</b>	<b>14</b>
Query F	Category 1: Household head is Female and two or more disabled people under 60 in the household.	Category 1: Household head is Female and two or more disabled people under 60 in the household.	0	0
	Category 2: Household head is Male and two or more disabled people under 60 in the household.	Category 2: Household head is Male and two or more disabled people under 60 in the household.	0	3
	Category 3: Household head is Female or Male and one disabled person under 60 in the household	Category 3: Household head is Female or Male and one disabled person under 60 in the household	7	24
<b>Total (Query F)</b>			<b>7</b>	<b>27</b>
Query G (cumulative analysis)	Category 1: Household has one (1) or more classifications in category 1. Category 1: Household has three (3) or more classifications in category 2.	Category 1: Household has one (1) or more classifications in category 1. Category 1: Household has three (3) or more classifications in category 2.	30	14
	Category 2: Household has one (1) or more classifications in both categories 2 and 3. Category 2: Household has three (3) or more classifications in category 3	Category 2: Household has one (1) or more classifications in both categories 2 and 3. Category 2: Household has three (3) or more classifications in category 3	1	34
	Category 3: Household has one (1) or two (2) classifications in category 3.	Category 3: Household has one (1) or two (2) classifications in category 3.	10	28
<b>Total households in Category 1, Category 2, or Category 3</b>			<b>41</b>	<b>76</b>

## APPENDIX 5: PROBLEM TREES

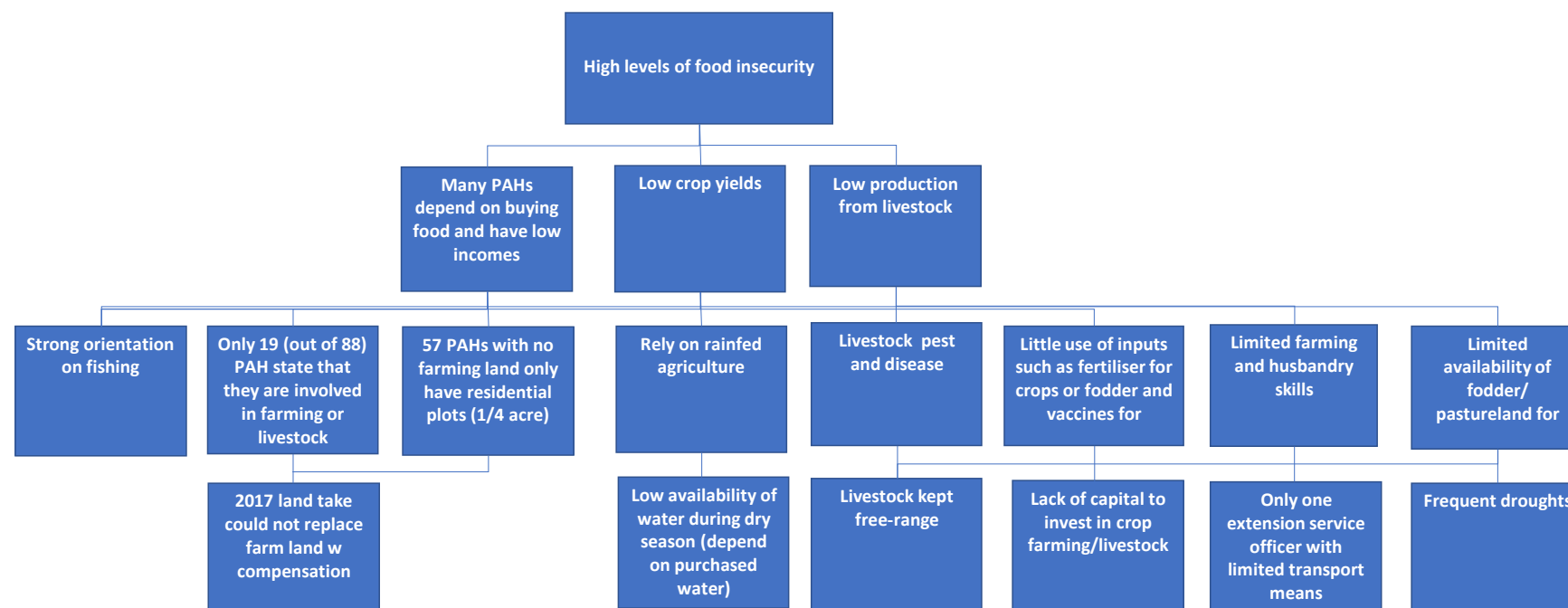
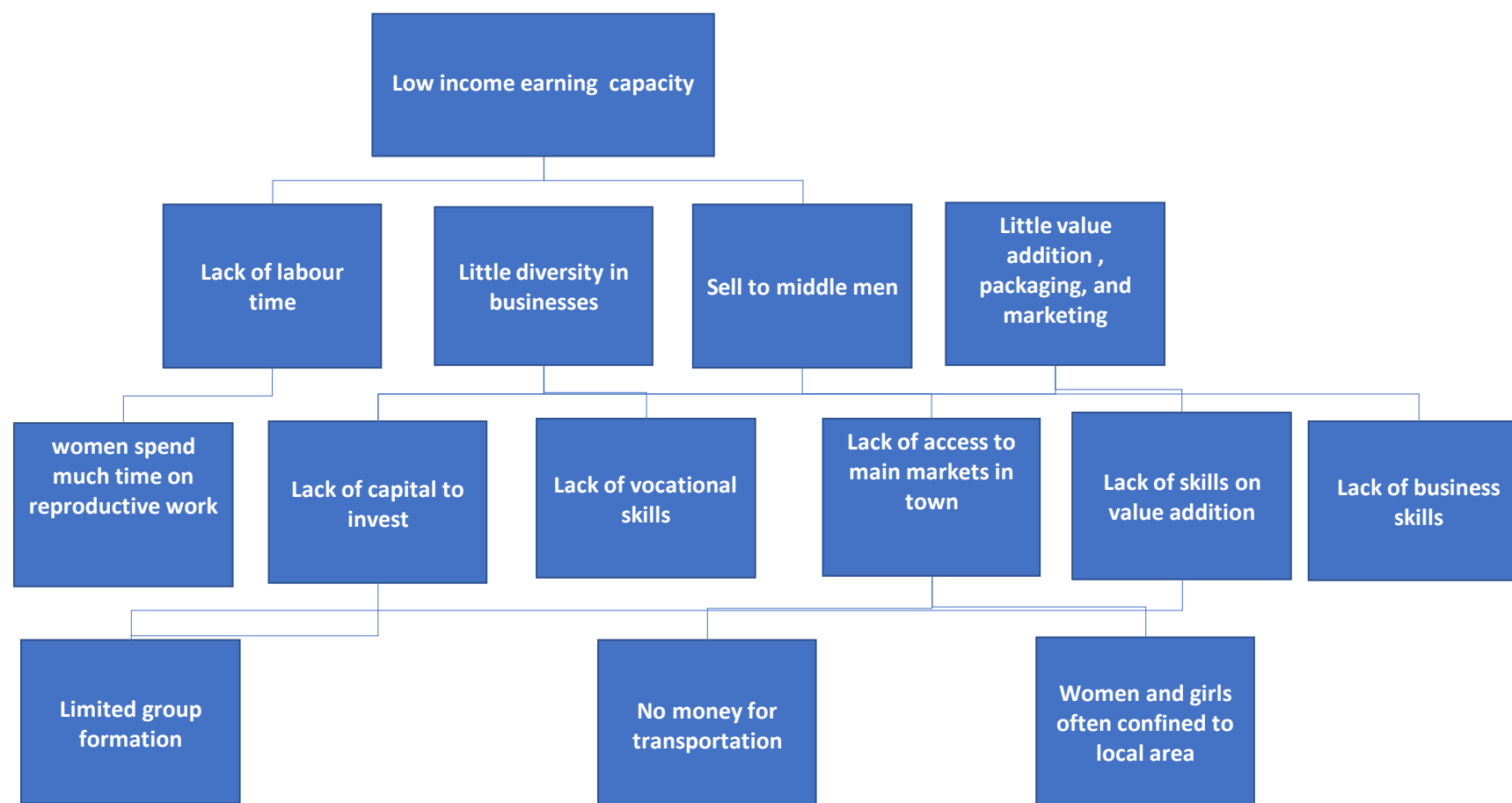


Figure A5.1: Example of problem tree used to develop livelihood restoration packages



**Figure A5.2: Example of problem three used to develop livelihood restoration packages**



## APPENDIX 6: MARINE IMPACT ESTIMATION METHODOLOGY

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Tables included in the main text of this document show estimates of the impact of specific aspects of the project on the operations of both fishers and gleaners. The main impacts are due to **exclusion** from habitual fishing grounds and/or **impeded access** to habitual fishing grounds. The tables present quantitative estimates in percent for these impacts on fishers / gleaners and it is important to understand not only how these figures are derived but also what they mean.

### Exclusion Impacts

For both the data enumeration phases (north-east and south-east monsoon) fishers and gleaners were tracked and from this heatmaps of activity were developed. These maps show where cumulative fishing/gleaning time was spent – the longer persons spent at a particular site, or the more frequently that site was visited, the more concentrated the mapping of activity. The estimate of the degree of impact of exclusion looked at the amount of cumulative fish/gleaning time that fell within an excluded zone, as a percentage the total amount of cumulative fish/gleaning time recorded. In this way the impact estimate takes account of not only the area that is excluded but also how intensively it was exploited.

The estimate could be made following either of two GIS workflows, both of which produced remarkably comparable results. The raw data for both workflows was tracks from fishers / gleaners recorded using small GPS trackers, which registered a position every 10 minutes.

#### Raster heatmap

- Calculate the distance between successive positions along the track
- Filter out those points which are widely spaced, and corresponded to (faster) transit rather than (slower) fishing / gleaning activity
- Remove points that although closely spaced obviously do not correspond to fishing / gleaning activity such as at the landing station.
- With the remaining points generate a heatmap (kernel density estimation) as a raster layer
- Calculate the sum of the raster using zonal statistics for i) the whole extent of the raster, and ii) the area inside the exclusion zone.
- The estimate of impact is the value inside the exclusion zone as a percentage of the value for the entire raster.

#### Point count

- Calculate the distance between successive positions along the track
- Filter out those points which are widely spaced, and corresponded to (faster) transit rather than (slower) fishing / gleaning activity
- Remove points that although closely spaced obviously do not correspond to fishing / gleaning activity such as at the landing station.
- Count the total remaining points via the attribute table
- Select those points within the exclusion zone using 'select by location.' Count these points via the attribute table.

- The impact estimate is the number of points inside the exclusion zone as a percentage of the total number of points.

The method gives a valid estimate of the 'value' of the area that is lost to exclusion, which can then be used as a reasonable proxy for impact on production. There are however some shortcomings:

- There is an underlying assumption that each point (each 10 minutes of fishing/gleaning) is of equal value. Although this may be valid in the absence of more extensive data and a more sophisticated processing routine that considers the market prices of fish and catch rates at each site, it is unlikely to be true. In practise some sites will generate revenue at a faster rate than others.
- The method does not effectively capture impacts on fisheries where fishing requires the vessel or fisher to be moving at speeds while fishing similar to transit speeds (such as trolling).
- The use of the percentage of lost fishing / gleaning time as a proxy for actual impact due to exclusion assumes that, when displaced, the fisher/gleaner will not resume activity at another location. It is therefore pessimistic and will tend to overestimate actual impacts on catch. The degree of overestimation will depend completely on the productivity of alternative fishing / gleaning grounds that are still accessible.

## Impeded Access

Estimation of the impact of impeded access is based on the increased distance that fishers must travel to access fishing grounds (or landing stations). This is turned into an incremental time using vessel performance data from tracking, which is then deducted from measured fishing times. The impact is estimated as the loss of fishing time as a percentage of normal fishing times.

- Times and distances spent in transit are deduced from the analysis of fisher and gleaner tracks, using the same criteria as in the development of the exclusion impact estimates.
- The transit and working phases are then separated based on vessel / gleaner speed, and durations of each extracted. Median values for transit distance, transit time and fishing time were presented in the Marine Livelihoods Baseline report (Tables 4-9 and 5-1) and the Appendix to the baseline report (Tables 2-3 and 3-1).
- Routes for the specific fisher / gleaner groups were sketched out for both typical transit (without any exclusion zone) and transit including any necessary diversion around the excluded zone. The difference incremental time for transit was estimated using the speed implied in the baseline tables
- In the case of scenario 5 (vessel transit under the jetty) additional time was added to any journey that passed through the exclusion zone to allow for the fact that passage would only be permitted under human power (paddle or punt), and sail or engine powered vessels would therefore lose some journey time.
- The impact estimate was calculated by summing the incremental transit time and the time to pass under the jetty and expressing this as a percentage of the normal time spent fishing as set out in the baseline report and appendix.

The impeded access impact estimate is quite close to real impacts, but it should be noted that:

- The method assumes that the fishers' day is "fixed," and he will not leave any earlier or come back any later that he does under normal circumstances. Departure times are dictated by diurnal winds and the timing of tides, and this is therefore considered a reasonable assumption.
- The method assumes that vessels will transit at the same speed whilst navigating around the EZ as they would during normal transit. This is highly unlikely to be the case. However, the complexities of changes in sailing vessel performance with true wind angle and the



unknown details of early morning wind directions make any more detailed estimate impossible.



vessel, and in the case of Putini this activity is focussed on intertidal and subtidal areas inside the EZ.

**Table A7.1: Construction exclusion impacts on diving fishers**

Community	Affected group	Impact estimate	
		NE	SE
Chongoleani	Short range fishers with vessels	0%	3%
	Short range fishers without vessels	2%	0%
Putini	Short range fishers with vessels	2%	1%
	Short range fishers without vessels	0%	3%

*Fishers: exclusion from the diving EZ*

As described in RSK (2022b), artisanal fishers in Tanga Bay use both vessel-based and diving based fishing techniques. Percussive installation of piles as part of the structure of the jetty and berth will result in underwater noise levels that impact on not only marine fauna but also human divers. Acoustic propagation was modelled (Award Environmental Consultants, 2022) to examine the extent to which bare-headed free divers (without the use of SCUBA) might be affected. The output from the model was used to project contours of minimum distance from the piling sources for safe human diving activity. These contours are based upon projected worst-case scenario namely: concurrent piling in deep and shallow water; peak piling energy at frequencies of higher human sensitivity (141dB SEL threshold) and repeated 200 second dive duration.

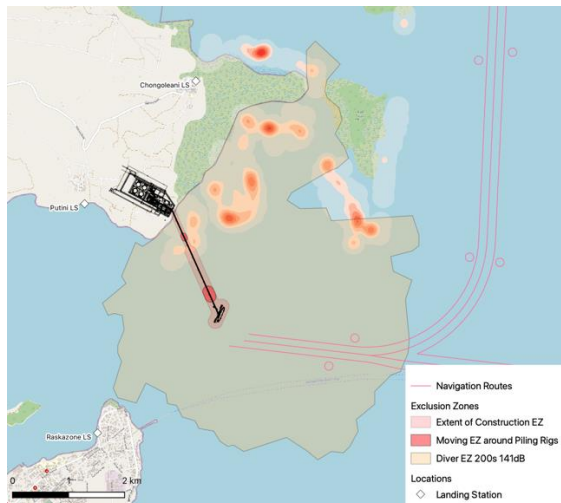
Predicted sound pressure levels are high enough that humans diving at distances less than the minimum range from the piling source would at best suffer discomfort and terminate the dive, and at worse soft tissue injuries including hearing damage.

Without any mitigation of piling noise, divers would be excluded from an area up to 7km in radius, which would include most of Tanga Bay, as well as the seas space out to towards *Jambe* and *Mwamba Wamba*. With mitigation, the size of the diver exclusion zone is predicted to be up to 5.1km radius and therefore considerably larger than the construction exclusion zone.

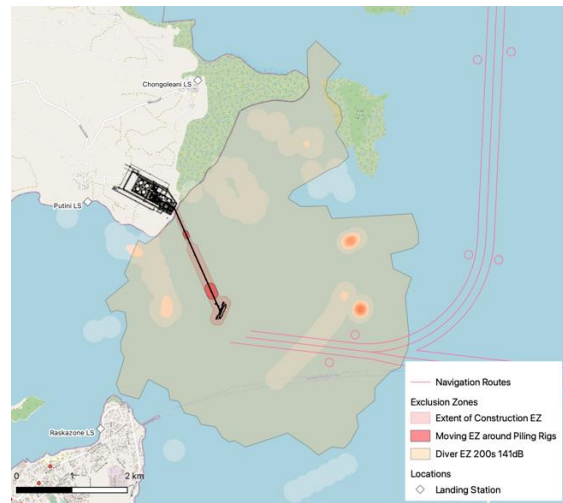
The fishing activities that would be affected include:

- Fishers using spears and harpoon guns, with or without a vessel
- Fishers using small traps set in shallower water (such as the eastern side of Ulenge Bay)
- Fishers using seine nets which require diver assistance to close the net or clear snags if set in shallower water
- Some fishers using handlines without a vessel.

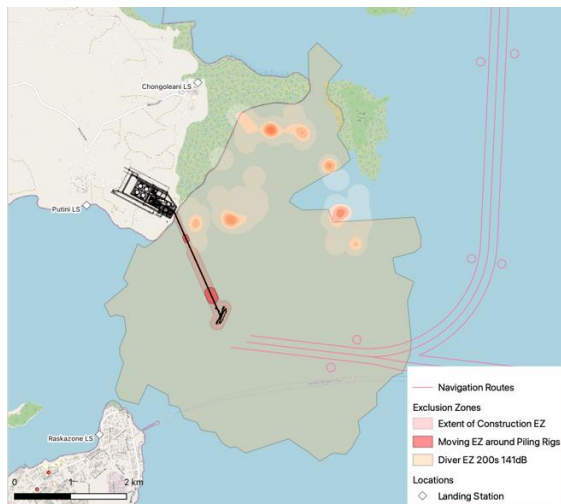
**PACs:** Diving based fishing is practised in both Chongoleani and Putini but is more commonplace in Chongoleani. Figure A7.2 shows heatmaps of diving activity for fishers from Putini and Chongoleani, for both the north-east and south-east monsoon periods.



Chongoleani NE monsoon



Putini NE monsoon



Chongoleani SE monsoon



Putini SE monsoon

Source: Marine livelihoods baseline fieldwork 2022 – Activity monitoring dataset, NE & SE phases. Acoustic Modelling Report (Award Environmental Consultants, 2022)

### Figure A7.2: Construction noise exclusion impacts on diving fishers

**Affected Grounds:** To the south-west of the EZ, the affected grounds will include *Kwawa Reef*, *Nganyawani* and *Kipwani*. On the north-eastern side of the EZ, affected grounds will include *Kimo*, *Kwamchodo*, *Magomeni*, *Kwamchodo*, *Ufuma Ulenge*, and *Vilangoni*.

**Highly impacted groups:** Only short-range diving fishers will be affected, and the most severely affected group will be those from Putini in the south-east monsoon period (see Table A7.2). During this part of the year, divers from Putini gravitate inshore, specifically in areas closer to Ras Chongoleani and the jetty construction zone.



**Table A7.2: Construction noise exclusion impacts on diving fishers**

Community	Affected group	Grounds	Impact estimate	
			NE	SE
<b>Chongoleani</b>	Short range diving fishers	Kimio, Kwamchodo and Ufuma	93%	82%
<b>Putini</b>	Short range diving fishers	Kwaka, Nganyawani, Kipwani and Vilangoni	81%	89%

Source: RSK (2022b)

It should be noted that, at the time of writing, the strategy for the management of diving fishers had not been determined. It is possible that diver exclusion will be transitory and only enforced around the time of actual pile driving.

#### *Fishers: Interrupted Activity*

The limited overlap of fishing areas and shipping access routes indicates that there should be very low levels of interrupted fishing activity due to vessel transit. In addition, it should be noted that large commercial vessels already access Tanga Port and the fuel loading site on the east of the Ras Kazone peninsula, by way of the channel between *Nyuli* and *Mwamba Nyama*. Those fishing near to the channel are already accustomed to making way for ships, as necessary.

#### *Fishers: degraded productivity of the resource*

It is known that fish will exhibit changes in behaviour in response to underwater noise, and it would be expected that this would lead to associated changes in productivity of an affected fishery. Some investigation was conducted under Total's Mozambique LNG project (Vallarta, J & Croft, B 2020) which indicated that qualitative changes in catchability could be deduced from known, predictable changes in behaviour in response to piling noise. These include:

- Avoidance
- Deeper diving by pelagic species
- Seeking of shelter by reef dwelling species
- Reduced fitness, growth rates and reproduction (see e.g., Hawkins, A. D., & Popper, A. N, 2017).

Changes in behaviour are specific to certain species, primarily differentiated by their sensitivity to sound and particle motion and the presence of a swim bladder. Research<sup>111</sup> has indicated that some species may become accustomed to underwater noise with time, a factor that may be truly relevant given that the piling campaign for the construction of the jetty should last 12 months.

Overall, the combination of avoidance and reduced fitness of the fish due to long term masking or behavioural disturbance would be expected to contribute to a reduced population within a given area, thus reducing the fish catch rates<sup>112</sup>. The underwater noise study (Award Environmental Consultants, 2022) indicates that fish behaviour should be affected up to 120m from the piling site, i.e. affecting an area only marginally larger than the EZ around the piling rig itself.

<sup>111</sup> Nedwell J.R., A.W.H. Turnpenny, J. Lovell, S.J. Parvin, R. Workman, J.A.L. Spinks & D. Howell (2007) A validation of the dBht as a measure of the behavioural and auditory effects of underwater noise. Subacoustech Report No. 534R1231

<sup>112</sup> Carroll, A. G., Przeslawski, R., Duncan, A., Gunning, M., & Bruce, B., 2017. 'A critical review of the potential impacts of marine seismic surveys on fish & invertebrates. Marine pollution bulletin, 114(1), 9-24.

Should this be the case, the affected area would present no incremental impacts on the catchability of accessible resources during the construction phase.

#### *Fishers: Secondary impacts*

The displacement of effort due to exclusion of fishers under the construction phase should not be severe and there are no anticipated secondary impacts.

#### *Gleaners: Exclusion*

**Affected Communities:** The exclusion zone will displace gleaners from both Chongoleani and Putini from their habitual grounds, as illustrated in the Figure A7.3 below, which shows heatmaps of gleaning activity from the two communities for the north-east and south-east monsoon periods, together with the construction EZ.

Gleaning practise from Putini does not seem to vary significantly between the monsoon periods, but activity from Chongoleani is much more diverse and widespread during the south-east monsoon. In this period gleaners will not only go into the north-eastern extremity of the intertidal zone in the EZ, but also further north-east and right around to the western side of Ulenge Island.

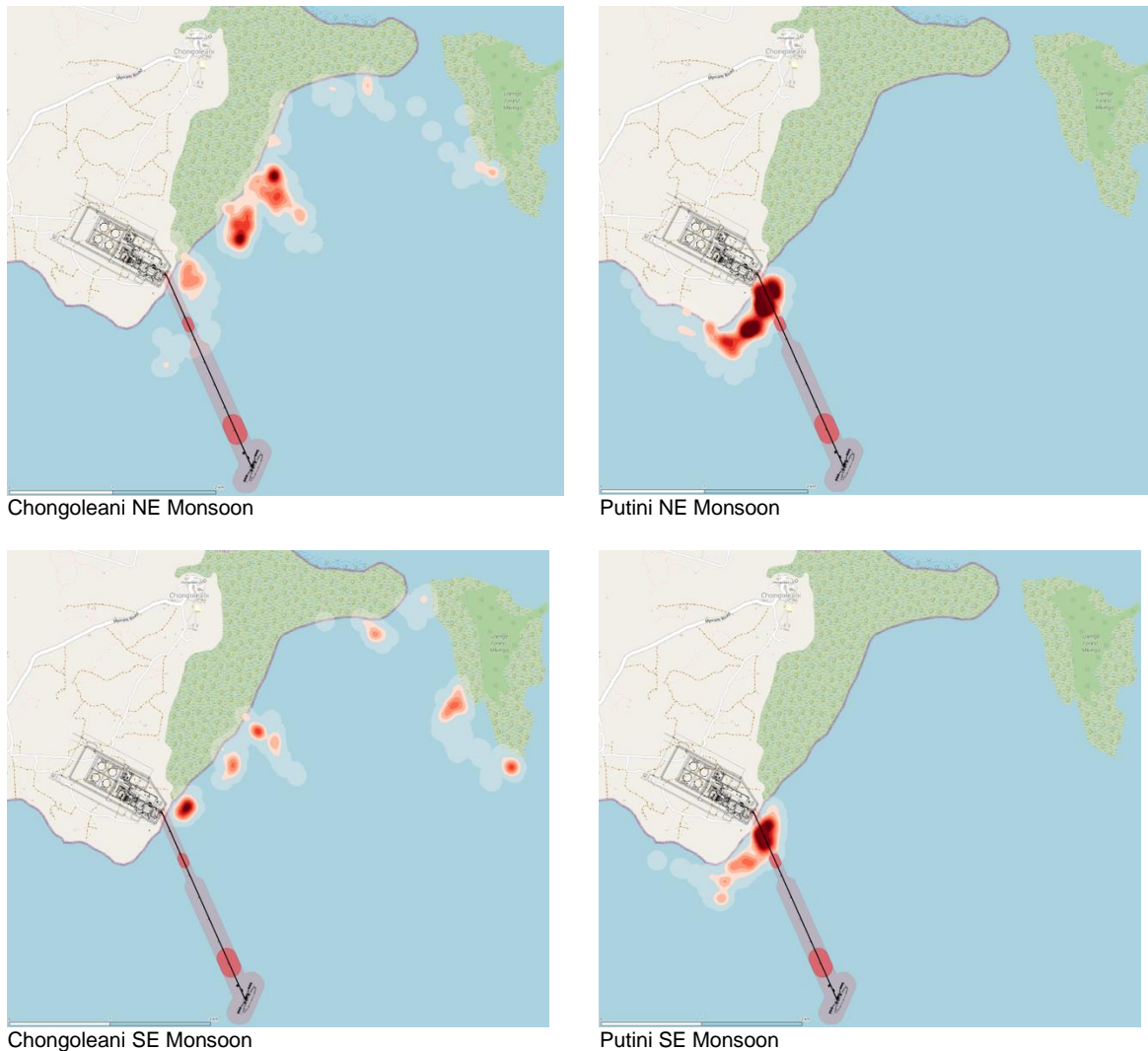
**Affected Grounds:** Gleaners from Chongoleani will be unaffected. Gleaners from Putini will be excluded from a small part of their main gleaning ground, *Mtambwe*.

**Seasonal Variations:** The degree of impact on exclusion will not vary with the seasons as they are not accompanied by a meaningful change in gleaning grounds. However, it may be that the impact of the loss of revenue from gleaning will have greater impact on livelihoods at certain times of the year, when there is less benefit coming from other sources.

**Table A7.3: Construction Exclusion Impacts on Gleaners**

Community	Affected group	Grounds	Impact estimate	
			NE	SE
Chongoleani	Gleaners	-	0%	0%
Putini	Gleaners	Mtambwe	8%	16%

Source: Marine livelihoods baseline fieldwork 2022 – Activity monitoring dataset, NE & SE phases.



Source: Marine livelihoods baseline fieldwork 2022 – Activity monitoring dataset, NE & SE phases.

**Figure A7.3: Construction Exclusion Impacts on Gleaners**

#### *Gleaners: Impeded Access*

There will be no impacts on gleaning activities from either Chongoleani or Putini during the construction phase due to impeded access. Access to the parts of the resource that are not subject to exclusion would not be hindered by project activities.

#### *Interrupted Activity*

There will be no interruption impacts on gleaning activities from either Chongoleani or Putini during the construction phase.

#### *Degraded Productivity of the Resource*

The productivity of the areas of the gleaning resource that are not subject to exclusion should not be affected during the construction phase, but it should be noted that extraordinarily little research has been done on the effect of piling noise on gastropods in general and even less so on cowries, the main target species for gleaners.

### Gleaners: Secondary Impacts

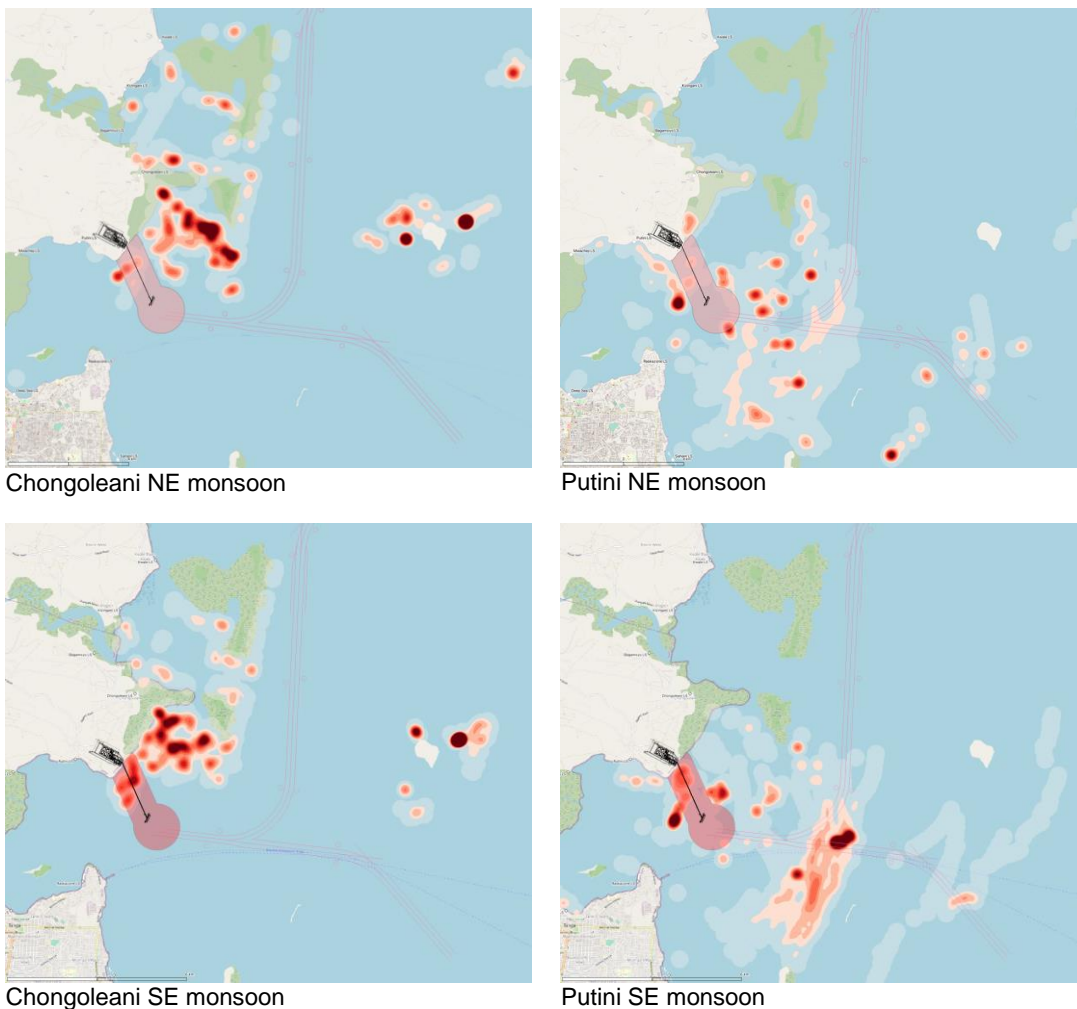
The exclusion zone will displace a significant amount of gleaning effort and no secondary impacts are expected.

## Impacts during operations – by typology

### Operational Scenario 1: neither gleaners nor fishers may enter the 500m EZ for transit, gleaning or fishing

#### Fishers' exclusion from the 500m EZ:

**PACs:** The exclusion zone will impinge upon grounds used by fishers from both Chongoleani and Putini, as illustrated in Figure A7.4 below which shows heatmaps of fishing activity from the two communities and the 500m EZ.



Source: Marine livelihoods baseline fieldwork 2022 – Activity monitoring dataset, NE & SE phases

**Figure A7.4: Operational Scenario 1 exclusion impacts on fishers**

**Affected grounds:** Fishers from Chongoleani would be partially excluded from *Kimio*, *Kwamchodo* and *Kipwani*. Fishers from Putini would be partially excluded from *Roma*, *Nganyawani*, *Kipwani* and *Vilangoni*.

**Highly impacted groups:** Short range fishers from Putini will tend to fish at the hotspot to the west of the EZ (Kwawa Reef, part of *Nganyawani*) and the area immediately to the north (*Kipwani*) which will be within the EZ. The short-range nature of their activity, and consequentially the lack of diversity in accessed grounds, implies that these fishers will be highly impacted.

**Seasonal variations:** Impacts on fishers are higher during the south-east monsoon as during this period fishers venture less far out of the bay and resort to fishing in more protected inshore waters. During the south-east monsoon period there is increased fishing activity with no vessel, and in the case of Putini this activity is focussed on intertidal and subtidal areas inside the EZ.

An overview of Scenario 1 exclusion impacts is shown in Table A7.4.

**Table A7.4: Operational Scenario 1 exclusion impacts on fishers**

Community	Affected group	Grounds	Impact estimate	
			NE	SE
<b>Chongoleani</b>	All fishers	Partial: Kimio, Kwamchodo and Kipwani	3%	8%
<b>Putini</b>	All fishers	Partial: Roma, Nganyawani, Kipwani and Vilangoni	2%	4%
<b>Putini</b>	Short range fishers with vessels	Partial: Nganyawani and Kipwani	17%	18%
<b>Putini</b>	Short range fishers without vessels	Partial: Kwamchodo, Nganyawani and Kipwani	0%	71% <sup>/1</sup>

<sup>/1</sup> impact potentially exaggerated by changes in fishing patterns to influence collected data

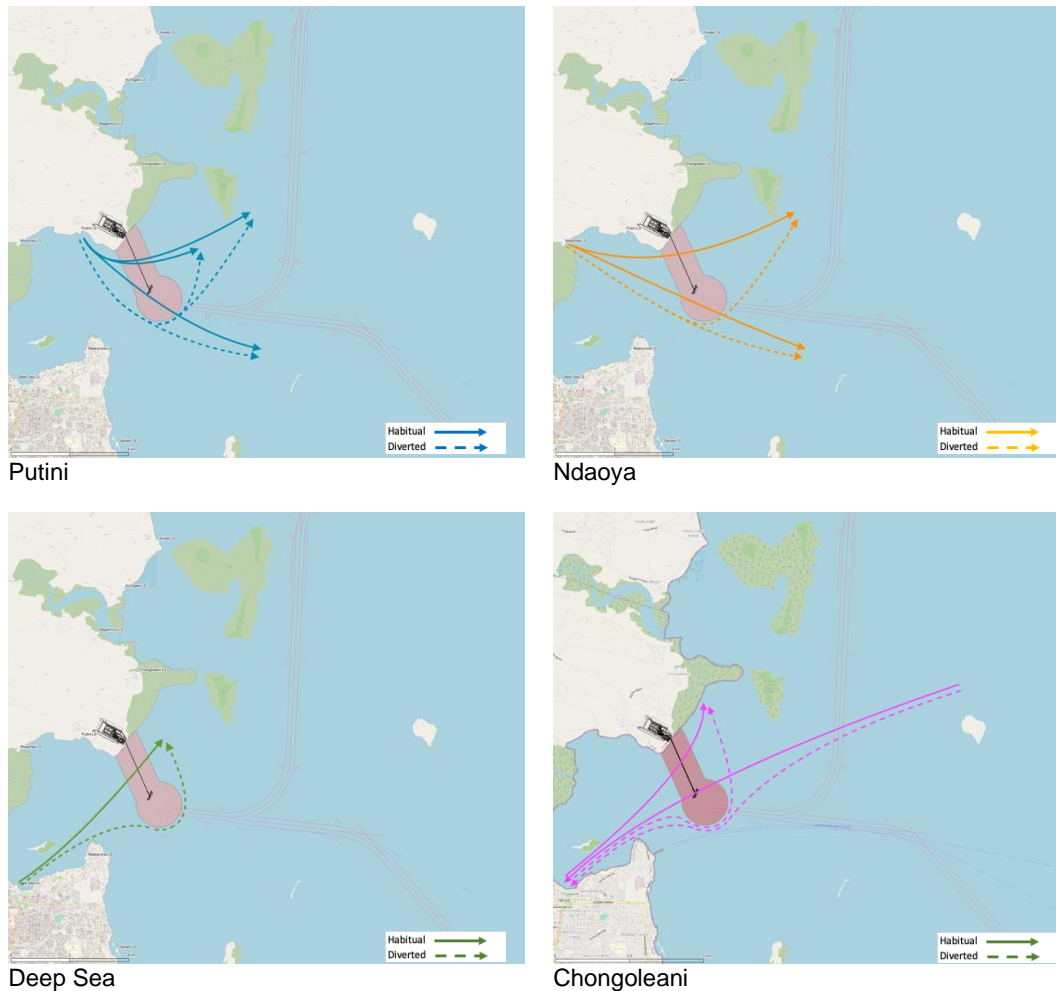
Source: Marine livelihoods baseline fieldwork 2022 – Activity monitoring dataset, NE & SE phases.

#### *Fishers: impeded access*

**PACs:** The exclusion zone under operational scenario 1 will impede the access of fishers from Putini and Helani to many of their habitual fishing grounds, as illustrated in Figure A7.5 below which shows the typical habitual and diverted tracks for fishers from these communities. In addition, there are a few fishers (identified through the At-Sea Monitoring program) who come from Deep Sea to fish in Ulenge Bay using dugout canoes who would also be impacted.

Should fishers from Chongoleani elect to take fish by boat to sell at Deep Sea, they would need to divert around the EZ on the return leg, increasing distance and journey time.





Source: RSK (2022b)

**Figure A7.5: Operational Scenario 1 impeded access impacts on fishers**

**Affected grounds:** Fishers from both Helani and Putini who are targeting grounds outside of the bay would be required to take a longer track on the outbound and/or return journeys. Typically, this would affect fishers going to/from *Jambe*, *Jutoni*, *Kijamba Hassani* and all the grounds around the reefs at *Nyuli*, *Mwamba Nyama* and *Mwamba Wamba*. Fishers from Deep Sea target grounds in the western part Ulenge bay, known as *Chongoleani*.

**Highly impacted groups:** Fishers coming across from Deep Sea to fish in Ulenge Bay will be the most impacted group and will have to make considerable diversions on both the outward and return legs to access their normal grounds.

**Seasonal variations:** impacts are summarised in Table A7.5. The impacts on outrigger canoe fishers from Putini and Ndaoya due to impeded access are broadly similar for both north-east and south-east seasons, although slightly higher during the north-east monsoon when fishers will target grounds to the north around *Mwamba Wamba*. Impeded access impacts on fishers from Putini using dhows from Putini will be much greater during the south-east period when these fishers are targeting grounds immediately to the northeast of the EZ, which will only be accessible under operational scenario 1 by sailing around the EZ. The southern leg of this journey would be directly to windward and therefore slow the journey, exacerbating the impact of the increased distance travelled. Smaller vessels will likely be more severely affected in this windier period, when they



would normally stay in shallower more protected waters. Navigating around the EZ will require passage through more exposed waters, increased risk, more days lost and/or more accidents.

**Table A7.5: Operational Scenario 1 impeded access impacts on fishers**

Community	Affected group	Grounds	Impact estimate	
			NE	SE
<b>Putini</b>	All fishers with dhows	Ulenge, Ufuma, Vilangoni	18%	77%
<b>Putini</b>	All fishers with outrigger canoes	Jambe, Jutoni, Kijamba Hassani, Nyuli, Mwamba Nyama, Mwamba Wamba.	Up to 12%	Up to 4%
<b>Ndaoya</b>	All fishers with outrigger canoes	Jambe, Jutoni, Kijamba Hassani, Nyuli, Mwamba Nyama, Mwamba Wamba.	Up to 8%	Up to 8%
<b>Deep Sea</b>	Some fishers with dugout canoes	Chongoleani	32%	32%
<b>Chongoleani</b>	Fishers taking fish to Deep Sea by boat	Nyama	8%	10%

Source: RSK (2022b)

It should be noted that, as described in Appendix 7, the impact estimates in the table above have been made based only on incremental distance travelled, and no account has been made for any change in journey speed when vessels are obliged to sail at a different angle to the wind when going around the EZ. There will be additional impacts due to lost fishing days where small vessels are unable to make the journey around the EZ safely due to the exposed route, especially in the windier south-east monsoon period.

#### *Fishers: interrupted activity*

The limited overlap of fishing areas and shipping access routes (Figure A7.1) indicates that there should be exceptionally low levels of interrupted fishing activity due to vessel transit. In addition, it should be noted that large commercial vessels already access Tanga Port and the fuel loading site on the east of the Ras Kazone peninsula, by way of the channel between *Nyuli* and *Mwamba Nyama*. Those fishing near to the channel are already accustomed to making way for ships, as necessary.

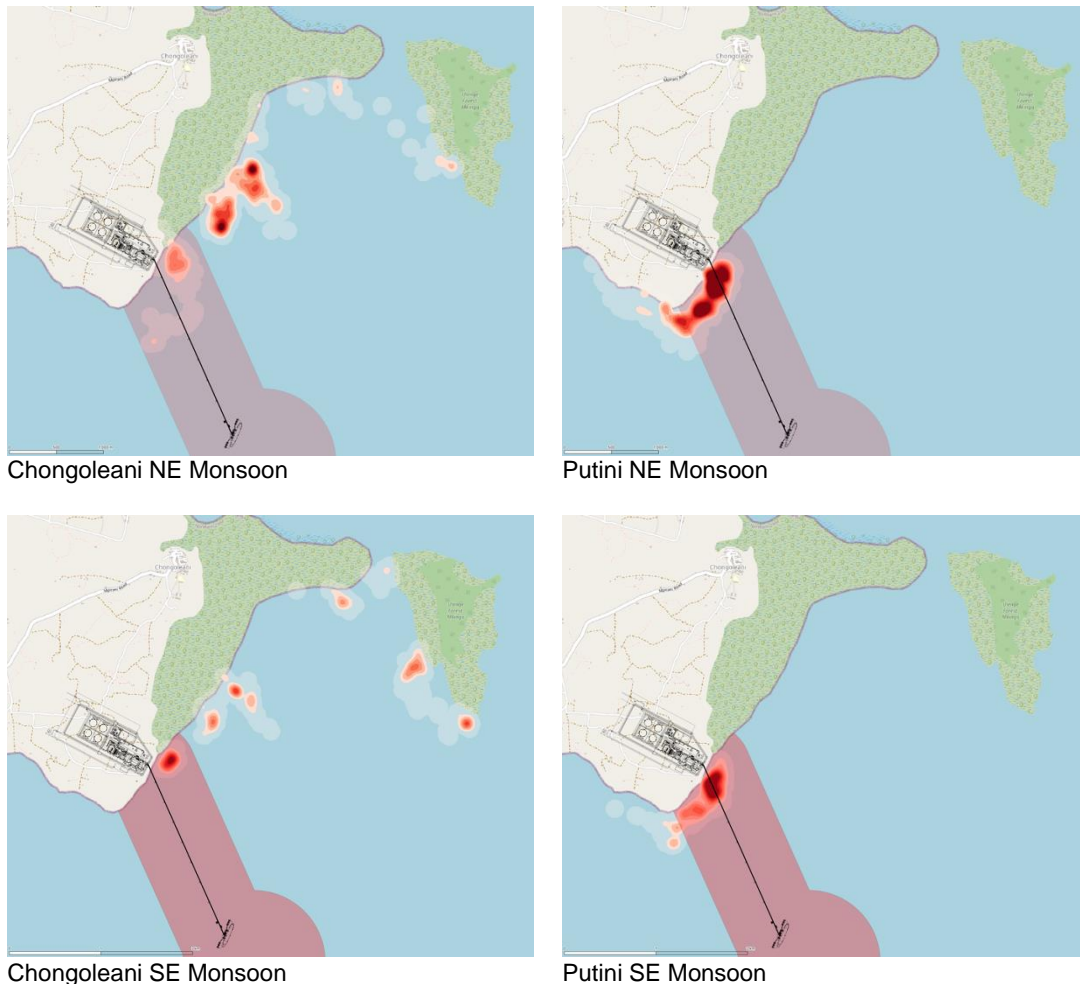
#### *Fishers: secondary impacts*

The displacement of effort due to exclusion of fishers under the operational scenario 1 should not be severe and there are no anticipated secondary impacts. Even in the case of short-range fishers from Putini and Chongoleani who will likely be displaced to Kwawa Reef and Ulenge Bay respectively, the incremental effort in these areas is not considered to be significant.

#### *Gleaners: exclusion*

**PACs:** The exclusion zone will displace gleaners from both Chongoleani and Putini from their habitual grounds, as illustrated in Figure A7.6 below, which shows heatmaps of gleaning activity from the two communities for the north-east and south-east monsoon periods, together with the 500m EZ of operational scenario 1.

Gleaning practise from Putini does not seem to vary significantly between the monsoon periods, but activity from Chongoleani is much more diverse and widespread during the south-east monsoon. In this period gleaners will not only go into the north-eastern extremity of the intertidal zone in the EZ, but also further north-east and right around to the western side of Ulenge Island.



Source: RSK (2022b)

**Figure A7.6: Operational Scenario 1 exclusion impacts on gleaners**

**Affected grounds:** Gleaners from Chongoleani will be excluded from the most southern part of their gleaning areas, which makes up part of the area known as *Kwamchodo*. Gleaners from Putini will be totally excluded from their main gleaning ground, *Mtambwe*.

**Highly impacted groups:** Gleaners from Putini would be very highly impacted, since almost all of their habitual gleaning grounds will be covered by the EZ.

**Seasonal variations:** The degree of impact on exclusion will not vary with the seasons as they are not accompanied by a notable change in gleaning grounds. However, it may be that the impact of the loss of revenue from gleaning will have greater impact on livelihoods at certain times of the year, when there is less benefit coming from other sources. See Table A7.6 for an overview of exclusion impacts on gleaners.

**Table A7.6: Operational Scenario 1 exclusion impacts on gleaners**

Community	Affected group	Grounds	Impact Estimate	
			NE	SE
<b>Chongoleani</b>	Gleaners	Kwamchodo (southern extremity)	18%	22%
<b>Putini</b>	Gleaners	Mtambwe	81%	87%

Source: RSK (2022b)

*Gleaners: impeded access*

There will be no impacts on gleaning activities from either Chongoleani or Putini under operational scenario 1 due to impeded access. Access to the parts of the resource that are not subject to exclusion would not be hindered by project activities.

*Gleaners: interrupted activity*

There will be no interruption impacts on gleaning activities from either Chongoleani or Putini under operational scenario 1.

*Gleaners: degraded productivity of the resource*

The productivity of the areas of the gleaning resource that are not subject to exclusion should not be affected under operational scenario 1, but it should be noted that truly little research has been done on the effect of piling noise on gastropods in general and even less so on cowries, the main target species for gleaners.

*Gleaners: secondary impacts*

**PACs:** The exclusion zone will displace gleaners from both Chongoleani and Putini from part of their normal grounds. In the case of Putini the available grounds to the west of the EZ are small and attract less than 20% of the gleaning effort. It is highly likely that at least part of the effort displaced from the EZ would focus on this small area, which would become quickly depleted. In the case of Chongoleani, gleaners from the community have a wider range, of which the resource that is excluded by the EZ is a small part, accounting for less than 20% of the effort. It is considered that secondary impacts due to displaced effort from gleaners from Chongoleani onto other parts of their normal range would be negligible.

**Affected grounds:** Secondary impacts would be at the southern extremity of *Mtambwe* that is located outside of the EZ.

**Highly impacted groups:** Secondary impacts would only affect gleaners from Putini (see Table 6). It should be noted that exclusion impacts described above, together with secondary impacts would be expected to eliminate gleaning for cowries as a livelihood activity for members of Putini community.

**Seasonal variations:** There will be no seasonal variation in secondary impacts.

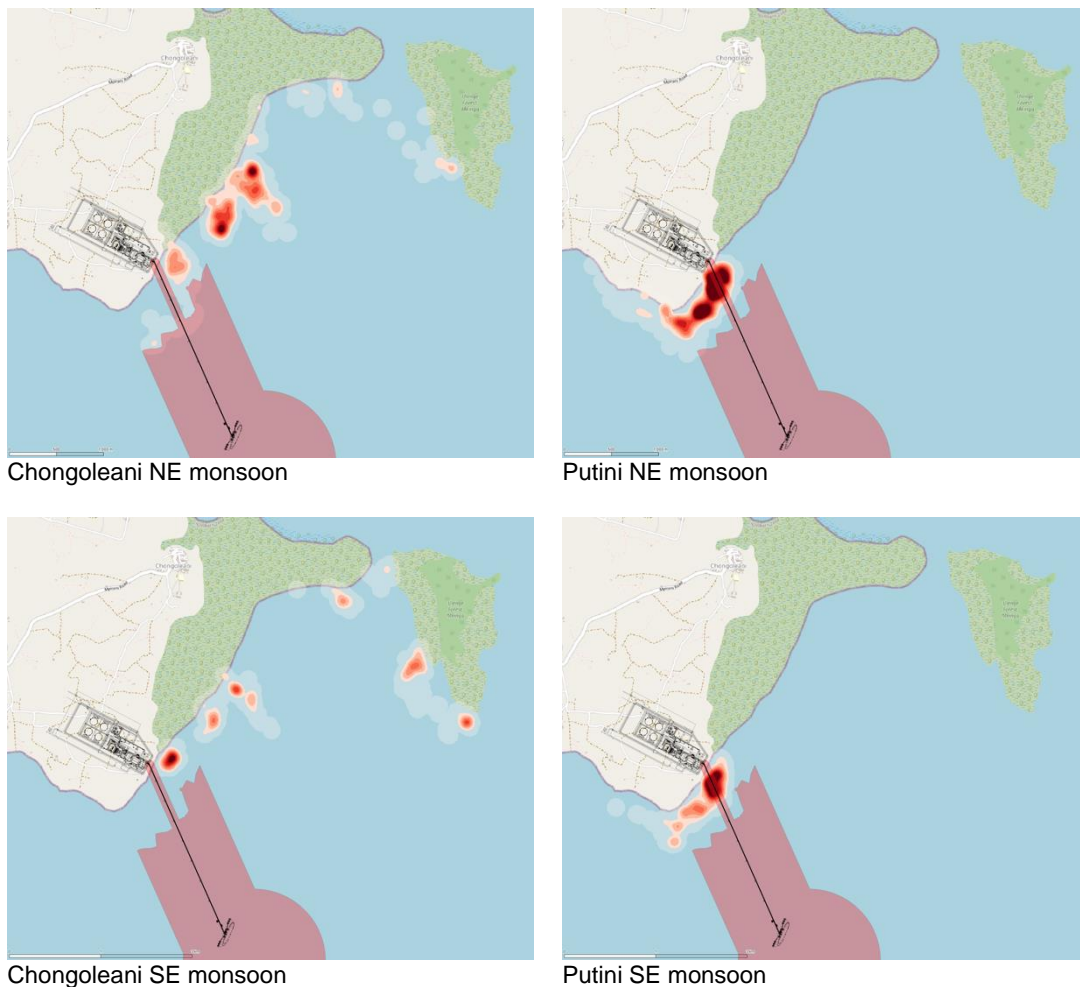
**Table A7.7: Operational Scenario 1 secondary impacts on gleaners**

Community	Affected group	Grounds	Impact Estimate
<b>Chongoleani</b>	All gleaners	Kwamchodo (northern section), Upande wa Tanga	Negligible
<b>Putini</b>	All gleaners	Mtambwe (southern extremity)	Severe

## Operational Scenario 2: gleaners can glean in the EZ, but not transit or glean under the jetty. No access for fishers

### *Gleaners: exclusion*

**PACs:** The exclusion zone will displace gleaners from Putini from part of their habitual grounds, as illustrated in Figure 8 below, which shows heatmaps of gleaning activity from the two communities and the operational EZ under scenario 2. Although the impacts on Chongoleani are very much reduced, Putini gleaners will continue to be affected by the fact that the narrow exclusion zone below the jetty goes directly through the most productive area of the resource and that the area to the north-east of the jetty would be effectively inaccessible to them.



Source: RSK (2022b)

**Figure A7.7: Operational exclusion impacts on gleaners, Scenario 2**

**Affected grounds:** Gleaners from Chongoleani would not be excluded from any significant grounds under scenario 2. Gleaners from Putini would be able to access most of their habitual grounds at *Mtambwe*, although a narrow but heavily exploited section directly under the jetty would remain inaccessible.

**Highly impacted groups:** Gleaners from Putini would be higher impacted.

**Seasonal variations:** There is some variation in the degree of impact according to the season although it may be that the impact of the loss of revenue from gleaning will have greater impact on

livelihoods at certain times of the year when there are less benefits from other sources. An overview of impacts is shown in Table A7.8.

**Table A7.8: Operational Exclusion Impacts on Gleaners, Scenario 2**

Community	Affected group	Grounds	Impact Estimate	
			NE	SE
<b>Chongoleani</b>	Gleaners	Kwamchodo (southern extremity)	3%	0%
<b>Putini</b>	Gleaners	Mtambwe	31%	52%

Source: RSK (2022b)

*Gleaners: impeded access*

There will be no additional impeded access impacts for gleaners under scenario 2, and those grounds which are accessible can be reached without travelling increased distances.

*Gleaners: interrupted activity*

There will be no interruption impacts on gleaning activities from either Chongoleani or Putini during the operational phase.

*Gleaners: degraded productivity of the resource*

The productivity of the areas of the gleaning resource that are not subject to exclusion should not be affected during the operational phase.

*Gleaners: secondary impacts*

**PACs:** The exclusion zone and inability to pass under the jetty will displace gleaners from Putini from part of their normal grounds. Effort in the accessible area would be expected to increase by 30-50% (reflecting the effort displaced by exclusion). This would contribute to localised depletion of the resource.

In the case of Chongoleani, gleaners from the community have a wider range, of which the resource that is excluded by the EZ under scenario 2 is a very small part. It is considered that secondary impacts due to displaced effort from gleaners from Chongoleani onto other parts of their normal range would be negligible. A summary is shown in Table A7.9.

**Affected grounds:** Secondary impacts would be likely at the southern extremity of *Mtambwe* that is located to the south-west of the EZ.

**Highly impacted groups:** Secondary impacts would only affect gleaners from Putini.

**Seasonal variations:** There will be no seasonal variation in secondary impacts.

**Table A7.9: Operational secondary impacts on gleaners, Scenario 2**

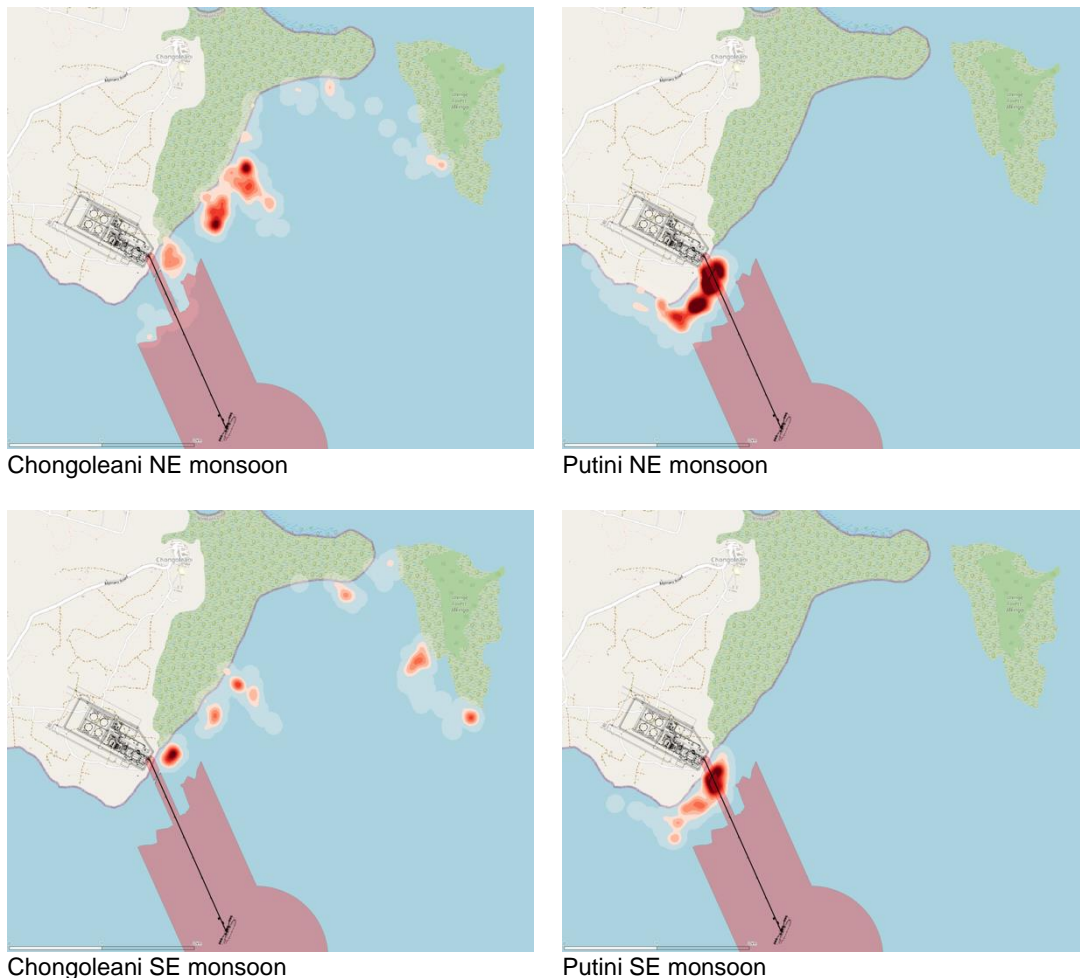
Community	Affected group	Grounds	Impact estimate
<b>Chongoleani</b>	All gleaners	Kwamchodo (northern section), Upande wa Tanga	Negligible
<b>Putini</b>	All gleaners	Mtambwe (Southern extremity)	Moderate

Source: RSK (2002b)

### Operational Scenario 3 - gleaners can transit under the jetty, glean in the EZ but not under the jetty. No access for fishers

#### Gleaners: exclusion

**PACs:** The exclusion zone will displace gleaners from Putini from only that part of their habitual grounds that lies directly under the jetty structure, and access would be permitted through the intertidal zone both to the south-west and the north-east of the jetty. Gleaners from Chongoleani will not be affected by exclusion under scenario 3 (see Figure A7.9).



Source: RSK (2022b)

**Figure A7.8: Operational Exclusion Impacts on Gleaners, Scenario 3**

**Affected grounds:** Gleaners from Chongoleani would not be excluded from any significant grounds under scenario 3. Gleaners from Putini would be able to access most of their habitual grounds at *Mtambwe*, although a narrow but heavily exploited section directly under the jetty would remain inaccessible.

**Highly impacted groups:** Gleaners from Putini would be higher impacted.

**Seasonal variations:** There is some variation in the degree of impact with the seasons although it may be that the impact of the loss of revenue from gleaning will have greater impact on livelihoods at certain times of the year, when there is less benefit coming from other sources. An overview is shown in Table A7.10.



**Table A7.10 Operational exclusion impacts on gleaners, Scenario 3**

Community	Affected group	Grounds	Impact Estimate	
			NE	SE
<b>Chongoleani</b>	Gleaners	Kwamchodo (southern extremity)	1%	0%
<b>Putini</b>	Gleaners	Mtambwe	20%	33%

Source: RSK (2022b)

*Gleaners: impeded access*

There will be no additional impeded access impacts for gleaners under scenario 2, and those grounds which are accessible can be reached without travelling increased distances.

*Gleaners: interrupted activity*

There will be no interruption impacts on gleaning activities from either Chongoleani or Putini during the operational phase.

*Gleaners: degraded productivity of the resource*

The productivity of the areas of the gleaning resource that are not subject to exclusion should not be affected during the operational phase.

*Gleaners: secondary impacts*

**PACs:** The exclusion zone under the jetty will displace gleaners from Putini from part of their normal grounds. Effort in the accessible area would be expected to increase by 20-30% (reflecting the effort displaced by exclusion). This would contribute some increased concentration of effort in the accessible areas, but it is not considered that this would contribute to accelerated localised depletion of the resource. An overview is shown in Table 10.

**Affected grounds:** Secondary impacts would be likely at the southern extremity of *Mtambwe* that is located to the south-west of the EZ.

**Highly impacted groups:** Secondary impacts would only affect gleaners from Putini.

**Seasonal variations:** There will be no seasonal variation in secondary impacts.

**Table A7.11: Operational Secondary Impacts on Gleaners, Scenario 3**

Community	Affected group	Grounds	Impact Estimate
<b>Putini</b>	All gleaners	Mtambwe (Southern extremity)	Slight

Source: RSK (2022b)

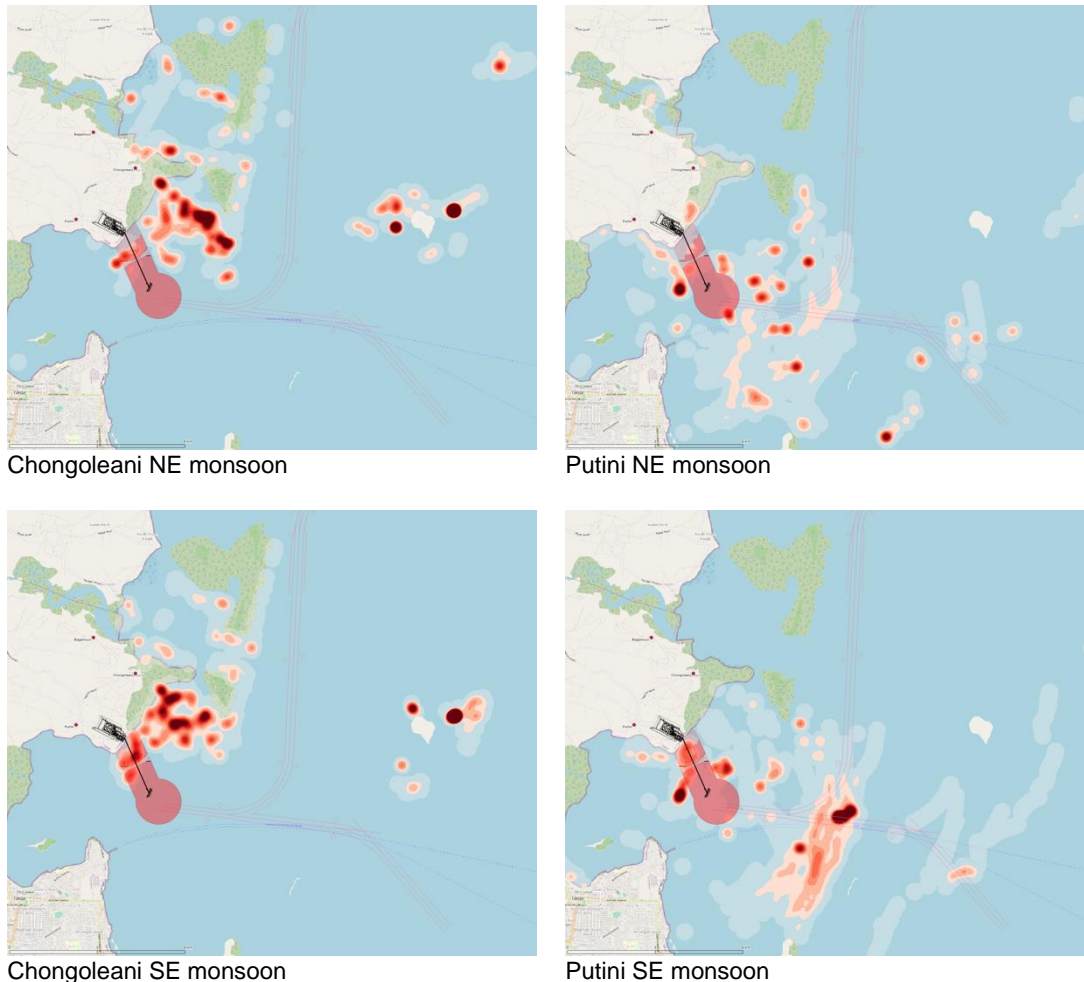
**Operational Scenario 4 - Description: unrestricted access for gleaners for transit and gleaning. No access for fishers**

Impacts on fishers under Operational Scenario 4 would be the same as those under Scenario 1. Under Operational Scenario 4 there would be no impacts on gleaners from either Putini or Chongoleani.

**Operational Scenario 5 - unrestricted access for gleaners for transit and gleaning. Transit only for fishers**

### Fishers: exclusion

**PACs:** The exclusion zone will impinge upon grounds used by fishers from both Chongoleani and Putini, as illustrated in Figure 9 below which shows heatmaps of fishing activity from the two communities for the northeast and southeast monsoon periods and the operational EZ.



Source: RSK (2022b)

**Figure A7.9: Operational Exclusion Impacts on Fishers, Scenario 5**

Note that although the EZ has a permitted passage, no fishing activity will be permitted in the passage or in the intertidal zone and it therefore remains an excluded zone.

**Affected grounds:** Fishers from Chongoleani would be partially excluded from *Kimio*, *Kwamchodo* and *Kipwani*. Fishers from Putini would be partially excluded from *Roma*, *Nganyawani*, *Kipwani* and *Vilangoni*.

**Highly impacted groups:** Short range fishers from Putini will tend to fish at the hotspot to the west of the EZ (Kwawa Reef, part of *Nganyawani*) and the area immediately to the north (*Kipwani*) which will be within the EZ. The short-range nature of their activity, and consequentially the lack of diversity in accessed grounds, implies that these fishers will be highly impacted.

**Seasonal variations:** Impacts on fishers are higher during the south-east monsoon as during this period fishers venture less far out of the bay and resort to fishing in more protected inshore waters. During the south-east monsoon period there is increased fishing activity without a vessel, and in

the case of Putini this activity is focussed on intertidal and subtidal areas inside the EZ. An overview is shown in Table 12.

**Table A7.12: Operational Exclusion Impacts on Fishers, Scenario 5**

Community	Affected group	Grounds	Impact estimate	
			NE	SE
<b>Chongoleani</b>	All fishers	Partial: Kimio, Kwamchodo and Kipwani	3%	8%
<b>Putini</b>	All fishers	Partial: Roma, Nganyawani, Kipwani and Vilangoni	2%	4%
<b>Putini</b>	Short range fishers with vessels	Partial: Nganyawani and Kipwani	17%	18%
<b>Putini</b>	Short range fishers without vessels	Partial: Kwamchodo, Nganyawani and Kipwani	0%	71% <sup>1</sup>

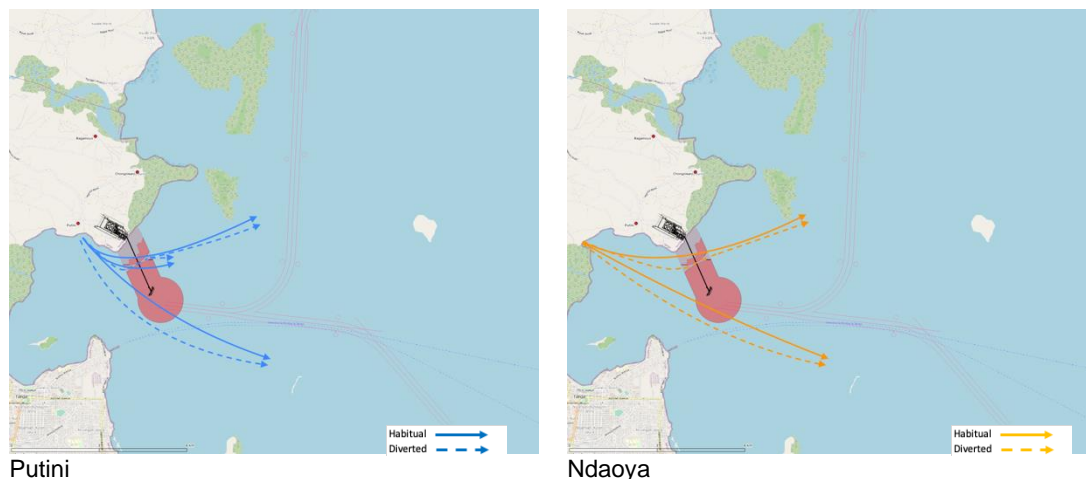
<sup>1</sup> impact potentially exaggerated by changes in fishing patterns to influence collected data.

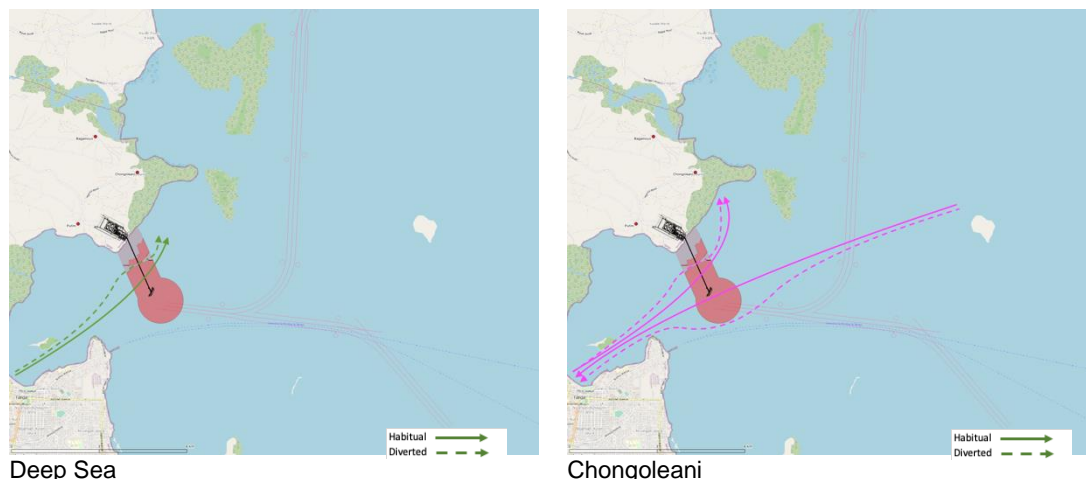
Source: RSK (2022b).

#### *Fishers: impeded access*

**PACs:** The passage through the exclusion zone under scenario 5 will facilitate access to grounds in the east of Tanga Bay and beyond for fishers based in Putini and Ndaoya. The passage will also enable the few fishers from Deep Sea who come across to Ulengi bay to access fishing grounds with reduced incremental travel. Figure A7.10 below shows the typical habitual and diverted tracks for fishers from these communities under scenario 5.

Should fishers from Chongoleani elect to take fish by boat to sell at Deep Sea, the passage would negate the need to divert around the EZ on the return leg.





Source: RSK (2022b)

**Figure A7.10: Operational Impeded Access Impacts on Fishers, Scenario 5**

It should be noted that the passage under the jetty would not be without delays. Transit conditions are likely to insist that all vessels passing under the jetty are under human power (paddled or punted), and sail boats would travel slower and therefore lose time. This incremental delay is accounted for in the estimates presented in Table A7.13 below.

**Affected grounds:** Fishers from both Helani and Putini who are targeting grounds outside of the bay would be required to take a longer or slower track on the outbound and/or return journeys. Typically, this would affect fishers going to/from *Jambe, Jutoni, Kijamba Hassani* and all the grounds around the reefs at *Nyuli, Mwamba Nyama* and *Mwamba Wamba*. Fishers from Deep Sea target grounds in the western part Ulenge bay, known as *Chongoleani*.

**Seasonal variations:** The impacts on outrigger canoe fishers from Putini and Ndaoya due to impeded access are broadly similar for both north-east and south-east seasons, although slightly higher during the north-east monsoon when fishers will target grounds to the north around *Mwamba Wamba*. Impeded access impacts of fishers using dhows from Putini is greater during the south-east period when these fishers are targeting grounds immediately to the northeast of the EZ, which will only be accessible under operational scenario 5 by sailing through the transit gap.

**Table A7.13: Operational Impeded Access Impacts on Fishers, Scenario 5**

Community	Affected group	Grounds	Impact Estimate	
			NE	SE
<b>Putini</b>	All fishers with dhows	Ulenge, Ufuma, Vilangoni	9%	16%
<b>Putini</b>	All fishers with outrigger canoes	Jambe, Jutoni, Kijamba Hassani, Nyuli, Mwamba Nyama, Mwamba Wamba.	Up to 5%	Up to 6%
<b>Ndaoya</b>	All fishers with outrigger canoes	Jambe, Jutoni, Kijamba Hassani, Nyuli, Mwamba Nyama, Mwamba Wamba.	Up to 5%	Up to 5%
<b>Deep Sea</b>	Some fishers with dugout canoes	Chongoleani	2%	2%

<b>Chongoleani</b>	Fishers taking fish to Deep Sea by boat	Nyama	10%	13%
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Source: RSK (2022b)

The increased impact on dhows from Putini in the south-east monsoon period is principally due to significantly shorter journey and fishing times in that period. Time lost going through the transit passage under human power ends up causing a more significant reduction in fishing time than during the north-east monsoon period when vessels go further and for longer. The same applies to impacts on fishers from Chongoleani landing fish at Deep Sea – the delay to paddle under the jetty offsets any benefit gained due to the shorter distance travelled, and the impact for this group is more under scenario 5 than scenarios 1-4 where vessels would travel around the EZ.

*Fishers: interrupted activity*

The extremely limited overlap of fishing areas and shipping access routes indicates that there should be extremely low levels of interrupted fishing activity due to **vessel transit**. In addition, it should be noted that large commercial vessels already access Tanga Port and the fuel loading site on the east of the Ras Ka zone peninsula, by way of the channel between *Nyuli* and *Mwamba Nyama*. Those fishing near to the channel are already accustomed to making way for ships, as necessary.

*Fishers: degraded productivity of the resource*

There should be no specific degradation of the productivity of fisheries resources due to operations under scenario 5.

*Fishers: secondary impacts*

The displacement of effort due to exclusion of fishers from the EZ under the operational phase should not be severe and there are no anticipated secondary impacts. Even in the case of short-range fishers from Putini and Chongoleani who will likely be displaced to Kwawa Reef and Ulenge Bay respectively, the incremental effort in these areas is not considered to be significant.

## APPENDIX 8: STAKEHOLDER IDENTIFICATION

**Table A8:1: Stakeholder identification and mapping**

Name of stakeholder	Contacts	Interview Method	Priority
Ministry of Lands, Housing, and Human Settlements (MLHHS)			<b>National level stakeholders not consulted for the SRAP and LRP design and planning</b>
Ministry of Energy (ME)			
The Vice President's Office			
National Environment Management Council (NEMC)			
Ministry of Regional Administration and Local Government (MRALG)			
Ministry of Agriculture, Food Security, and Cooperatives			
Ministry of Livestock and Fisheries Development			
Ministry of Education, Science, Technology and Vocational Training			
Ministry of Health, Community Development, Gender, Elders, and Children			
Ministry of Home Affairs			
Ministry of water and irrigation			
Ministry of Works, Transportation, and Communication			
Ministry of natural resources and tourism			
Ministry of minerals			
Regional Secretariat (Regional Commissionaire (RC), Regional	Acting Regional Land Commissionaire –  Representative of the Regional Administrative Secretary	Key informant interview (KII)	High



Name of stakeholder	Contacts	Interview Method	Priority
Administrative Secretary (RAS)			
Tanga City Council	City land surveyor	KII	High
District Commissionaire (DC)	District Commissioner	KII	High
District Administrative Secretary (DAS)		KII	High
District Executive Director		KII	High
District Land Officers		KII	High
District Agriculture and Livestock Officers		KII	High
District Community, Development and Social Welfare Officers		KII	High
District Planning and Finance Officers	Economic Strengthening Officer	KII	High
District Environmental Management Officers		KII	High
Tanzania Port Authorities (at Tanga Port)	TPA manager	KII	High
Tanzania Social Action Fund (TASAF)		KII	High
Tanzania Agricultural Research Institute (TARI) Mlingano	TARI Mlingano	KII	Lower
Chongoleani Ward Office		KII	High
Ward Executive Officers (WEO)	WEO Chongoleani Ward Executive Office	KII	High
Mtaa Executive Officers and Chairpersons (Chongoleani and Putini)	Chairperson Putini Chairperson Chongoleani	KII	High
EACOP CLO			
Beach Management Union (BMU)		KII	High
Elders and or traditional leaders			
Religious leaders			
Madiwani			
Community leaders			

Name of stakeholder	Contacts	Interview Method	Priority
Mixed PAPs	Mixed farmers Business owners Natural resource users Pastoralist Landless/'kibarua' workers	Focus Group Discussion (FGD) with farmers  Focus Group Discussion (FGD) with business owners  Focus Group Discussion (FGD) with community leaders  KII with selected knowledgeable representatives of each sub-groups	High
Female PAPs	Ensure a variety of women are included – widows, business owners, single mothers and women in polygamous marriages.	FDG and KII with selected representatives	High
Indigenous People/Vulnerable Ethnic Groups PAPs	No EVG identified within Project's marine facilities		
Vulnerable PAPs	People with physical or mental impairments  Child heads Female heads Elderly heads	FDG and KII with selected representatives	High
Physical displacement PAPs (names per TPA joint review, do not share)			High
Youth PAPs		FDG and KII with selected representatives	High
Elderly PAPs			
Putini Primary Schools (was affected by TPA 200 ha land acquisition, has now been replaced?)			
Relevant Non-PAPs		FDG and KII with selected representatives	Medium
Members of potential host communities of displaced PAPs (from		KIIs with village/ward officials	High

Name of stakeholder	Contacts	Interview Method	Priority
surrounding settlements)		Agricultural assessments through observation and walks  FGDs with selected farmers  FGDs with selected knowledgeable people/elders/traditional leaders	
World Wildlife Fund (WWF)		KII	Medium
Oxfam		KII	High
Norwegian Church Aid		KII	High
SNV		KII	High
Foundation Capital		KII	
Africare		KII	
Technoserve		KII	High
Plan International		KII	High
Heifer International		KII	High
World Vision		KII	High
Botnar Foundation		KII	
Mazingira Network (MANET)		KII	High
Haki Rasimili		KII	High
Tanzania Gender Network Programme (TGNP)		KII	High
Pastoralists Indigenous Non-Governmental Organizations (PINGO Forum)		KII	High
Tanzania Media Women Association		KII	High
Tanzania Human Rights Defenders Coalition (THRDC)		KII	High
Tanzania Land Alliance (TLA)		KII	High
Interfaith Standing Committee on Economic Justice and the Integrity of Creation (ISCJIC)		KII	

Name of stakeholder	Contacts	Interview Method	Priority
WAJIBU Institute of Public Accountability		KII	
Haki Ardhi		KII	High
Economic and Social Research Foundation		KII	
Legal and Human Rights Centre (LHRC)		KII	High
Legal Environment Action Team (LEAT)		KII	
SeaSense		KII	
Mwambao Coastal Community Network		KII	
PASADIT (faith based)			
Tanga Youth Environmental Association		KII	High
Shirikisho la Vyama vya Watu Wenye Ulemavu (SHIVYAWATU)		KII	High
Women and Children Legal Aid (WOLEA)		KII	High
Tanga Elderly Women Resource Center (TEWOREC)		KII	High
Agricultural input suppliers		KII	High
Banks/micro-finance organisations		KII	High
Farmer organisations			
Small business organisations			
VETA			
Private training institutions			
Chongoleani Primary School		KII	High
Chongoleani Dispensary		KII	High
Media concerns			
Religious organisations			
Tourism operators			
Research institutions			

Name of stakeholder	Contacts	Interview Method	Priority
Tanga Fresh			
Natural resource users			
Teachers			
Agricultural input suppliers			