REPORT

Central Térmica de Temane Project - Tourism Impact Assessment

Moz Power Invest, S.A. and Sasol New Energy Holdings (Pty) Ltd

Submitted to:

Ministry of Land, Environment and Rural Development (MITADER)

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Executive Summary

In order to address the growing electricity demand faced by Mozambique and to improve power quality, grid stability and flexibility in the system, Moz Power Invest, S.A. (MPI), in a joint development agreement is proposing the construction and operation of a gas to power facility, known as the Central Térmica de Temane (CTT) project. The joint development partners of MPI and SNE propose to develop the CTT, a 450 MW natural gas fired power plant.

The proposed CTT project will draw gas from the Sasol Exploration and Production International (SEPI) gas well field via the phase 1 development of the PSA License area, covering gas deposits in the Temane and Pande well fields in the Inhassoro District and the existing Central Processing Facility (CPF). Consequently, the CTT site is in close proximity to the CPF. The preferred location for the CTT is approximately 500 m south of the CPF. The CPF, and the proposed site of the CTT project, is located in the Temane/Mangugumete area, Inhassoro District, Inhambane Province, Mozambique; and approximately 40 km northwest of the town of Vilanculos. The Govuro River lies 8 km east of the proposed CTT site. The estimated footprint of the CTT power plant is approximately 20 ha.

As part of the CTT construction phase it was considered that large heavy equipment and materials would need to be brought in by a ship which would remain anchored at sea off the coast of Inhassoro. Equipment and materials would be transferred to a barge capable of moving on the high tide into very shallow water adjacent to the beach to discharge its cargo onto a temporary offloading jetty (typically containers filled with sand) near the town of Inhassoro. As the tide changes, the barge rests on the beach and offloading of the equipment commences.

Currently, the SETA beach landing site is the preferred beach landing site together with the road route option to be used in transporting equipment and materials along the R241 then the EN1 then via the existing CPF access road to the CTT site near the CPF. The alternative beach landing sites are still being evaluated as potential options, as well as the southern transport route, which would also require road upgrades and a temporary bridge construction across the Govuro at the position of the existing pipe bridge. As part of the transportation route, the Govuro River Bridge may need to be upgraded / strengthened to accommodate the abnormal vehicle loads. Alternatively, a temporary bypass bridge will be constructed adjacent to the existing bridge.

The associated infrastructure and facilities for the CTT project will *inter alia* include:

- The transhipment and barging of equipment to a temporary beach landing site and associated logistics camp and laydown area for the purposes of safe handling and delivery of large oversized and heavy equipment and infrastructure to build the CTT. There are three beach landing site options, namely SETA, Maritima and Briza Mar. The SETA site is considered to be the preferred beach landing site, and
- The construction of temporary bridges and access roads or the upgrading and reinforcement of existing bridges and roads across sections of the Govuro River where existing bridges are not able to bear the weight of the equipment loads that need to be transported from the beach landing site to the CTT site. Some new sections of road may need to be developed where existing roads are inaccessible or inadequate to allow for the safe transport of equipment to the CTT site. The northern transport route via R241 and EN1 is considered as the preferred transport route.

This study addresses the possible impact the transhipment and barging of equipment to a temporary beach landing site and associated logistics camp, laydown area and construction of temporary bridges and access roads or the upgrading and reinforcement of existing bridges and roads may have on the hospitality industry at Inhassoro and the Bazaruto Archipelago with Santa Carolina Island in clear view between Bazaruto Island and the main land.

The available studies and documents related to the CTT project were inspected by means of a literature study in addition to fieldwork that was done to provide and validate quantities and price ranges of the most recent available tourism accommodation and recreational activities.

An independent local consultant was tasked to do an on-site survey of the current hospitality and entertainment facilities, the extent of artisanal and recreational fishing activities and other tourist attractions. Internet searches and telephone were further done to augment the information collected.

It was decided to use a socio-economic approach considering the characteristics of the different tourist types and their leisure activities, instead of a purely economic approach. A socio-economic baseline was established by calculating the identified parameters generated by the current tourism activities should no negative impact be experienced during the coming tourist activities. The deviation from the parameters are then calculated and presented as the impact of the specific level of restriction.

The economic impact is measured in terms of the Gross Domestic Impact (GDP) and if necessary Capital Investment, while the social impacts are measured in terms of the impact on employment and the income of households. Specifically, the impact on the Low-Income Households and the possible increase in poverty in Inhassoro was estimated as the local economy of this rural population is to a large extend dependant of the regional and overseas visitors.

The risk analysis to determine the deviation due to the construction of the offloading infrastructure, the equipment offloading operation over the period and the presence of the transport ship off the coast on the tourists is uniquely adapted from the Plomp methodology used by environmentalist to determine quantitative results. The economic team goes one step further; they were then converted from the qualitative results to a quantitative result expressed in monetary values. This made it possible to use that monetary value result to be linked into the socio- and macro-economic model. This macro- and socio-economic model made then provision to determine the deviation of the risk in monetary terms from the baseline expressed in macro- and socio-economic indicators.

The socio- and macro-economic results of the baseline as well as the worst possible case scenario for Inhassoro shows a deviation percentage from the baseline impact to be 5.63% being identified as a moderate negative impact. This resulted in distinctive values that need to be reported showing a loss of 26 direct and 15 indirect and induced jobs in Inhassoro. Less GDP will be channelled through the economy while the low-income household earners will also have less disposable income due to interruption of fishing activities opportunities, less regional tourists to accommodate and the effect of the dependant economic activities from the direct impacts. These job losses can be substantially reduced by additional mitigation measures such as agreeing that CTT contractors and visiting consultants make use of the accommodation facilities at Inhassoro (further discussed below).

The deviation percentage from the baseline impact is also 5.63% for the Bazaruto Island which is a low negative impact in the worst possible scenario. The estimated projected loss in job opportunities is 47 direct and 35 indirect and induced. As with Inhassoro, less GDP will be channelled through the economy while the low-income household earners will also have less disposable income due to the job losses due to fewer international tourists to accommodate and the effect of the dependant economic activities will also reduce such as scuba diving trips.

The beach landing activities will only occur during a portion of the entire project construction phase i.e. only bringing in oversized and extremely heavy power plant components. General construction materials will be taken to site directly from Maputo or Beira and will not pass anywhere near Inhassoro. The Proponent has indicated that there is flexibility in scheduling delivery of components since these will occur very infrequently – only once every 3 or 4 months so scheduling these activities outside of peak tourist periods should be easily achieved, thereby reducing the impact.

No beach landing activities will take place during the CTT operational phase, as all temporary jetty infrastructure will be dismantled, and the area rehabilitated.

Two possible mitigation measures are identified that will minimise the impact on the Inhassoro beach:

- Restrict the offloading to the daytime periods and use local Inhassoro facilities to accommodate the staff involved in the beach landing and offloading project during the construction and operational period, and
- Only use the local Inhassoro facilities to accommodate the involved staff associated with beach landing activities and the CTT plant construction.

The possibility exists that a total of 173 employment opportunities can be lost on both beaches before mitigation with the total reduced to 85 after mitigation. These numbers show the importance of detailed planning of the activities on the beaches.

For the two mitigation scenarios proposed no interval change will take place between, the before and after mitigation. The “Out of Season” proposed activity will have the best effect with mitigation. The utilisation of local resources (accommodation) and the daytime option for offloading scenario has a positive effect with mitigation, specifically on the Inhassoro Beach.

In the final instance it is necessary to keep in mind that the construction and operation of the gas to power station will contribute to the long-term economic growth of Mozambique, which is also necessary to impact positively on the alleviation of poverty in the country.

It is accepted that tourism may be temporarily negatively impacted for an 18 to 24-month period, but we are of the opinion that on the medium term it will recover, especially if the jetty is donated to the Inhassoro Local Authority, if practical since it is temporary infrastructure.

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ACRONYMS

Acronym	Description
ESIA	Environmental and Social Impact Assessment
CPF	Central Processing Facility
CTT	Central Térmica de Temane
CTRG	Central Térmica de Ressano Garcia
GDP	Gross Domestic Product
MGtP	Mozambique Gas to Power
MT	Metical

1.0 INTRODUCTION

The Mozambican economy is one of the fastest growing economies on the African continent with electricity demand increasing by approximately 6-8% annually. In order to address the growing electricity demand faced by Mozambique and to improve power quality, grid stability and flexibility in the system, Moz Power Invest, S.A. (MPI), a company to be incorporated under the laws of Mozambique and Sasol New Energy Holdings (Pty) Ltd (SNE) in a joint development agreement is proposing the construction and operation of a gas to power facility, known as the Central Térmica de Temane (CTT) project. MPI's shareholding will be comprised of EDM and Temane Energy Consortium (Pty) Ltd (TEC). The joint development partners of MPI and SNE will hereafter be referred to as the Proponent. The Proponent propose to develop the CTT, a 450 MW natural gas fired power plant.

The proposed CTT project will draw gas from the Sasol Exploration and Production International (SEPI) gas well field via the phase 1 development of the PSA License area, covering gas deposits in the Temane and Pande well fields in the Inhassoro District and the existing Central Processing Facility (CPF). Consequently, the CTT site is in close proximity to the CPF. The preferred location for the CTT is approximately 500 m south of the CPF. The CPF, and the proposed site of the CTT project, is located in the Temane/Mangugumete area, Inhassoro District, Inhambane Province, Mozambique; and approximately 40 km northwest of the town of Vilanculos. The Govuro River lies 8 km east of the proposed CTT site. The estimated footprint of the CTT power plant is approximately 20 ha (see Figure 1).

Associated infrastructure and facilities for the CTT project will include:

1) Electricity transmission line (400 KV) and servitude; from the proposed power plant to the proposed Vilanculos substation over a total length of 25 km running generally south to a future Vilanculos substation. [Note: the development of the substation falls outside the battery limits of the project scope as it is part of an independent infrastructure authorised separately (although separately authorised, the transmission line will be covered by the Project ESMP, and the Vilanculos substation is covered under the Temane Transmission Project (TTP) Environmental and Social Management Plans). Environmental authorisation for this substation was obtained under the STE/CESUL project. (MICOA Ref: 75/MICOA/12 of 22nd May 2012)];

2) Piped water from one or more borehole(s) located either on site at the power plant or from a borehole located on the eastern bank of the Govuro River (this option will require a water pipeline approximately 11 km in length);

3) Access road; over a total length of 3 km, which will follow the proposed water pipeline to the northeast of the CTT to connect to the existing Temane CPF access road;

4) Gas pipeline and servitude; over a total length of 2 km, which will start from the CPF high pressure compressor and run south on the western side of the CPF to connect to the power plant;

5) Additional nominal widening of the servitude for vehicle turning points at points to be identified along these linear servitudes;

6) A construction camp and contractor laydown areas will be established adjacent to the CTT power plant footprint;

7) Transhipment and barging of equipment to a temporary beach landing site and associated logistics camp and laydown area for the purposes of safe handling and delivery of large oversized and heavy equipment and infrastructure to build the CTT. The transhipment consists of a vessel anchoring for only approximately 1-2 days with periods of up to 3-4 months between shipments over a maximum 15 month period early in the construction phase, in order to offload heavy materials to a barge for beach landing. There are three beach landing site options, namely SETA, Maritima and Briza Mar. The SETA site is considered to be the preferred beach landing site for environmental and other reasons; it therefore shall be selected unless it is found to be not feasible for any reason; and

8) Temporary bridges and access roads or upgrading and reinforcement of existing bridges and roads across sections of the Govuro River where existing bridges are not able to bear the weight of the equipment loads that need to be transported from the beach landing site to the CTT site. Some new sections of road may need to be developed where existing roads are inaccessible or inadequate to allow for the safe transport of equipment to the CTT site. The northern transport route via R241 and EN1 is considered as the preferred transport route) (**Error! Reference source not found.**) on terrestrial impacts; however, until the final anchor point is selected, and the barge route confirmed, the marine factors may still have an impact on which is deemed the overall preferable route.

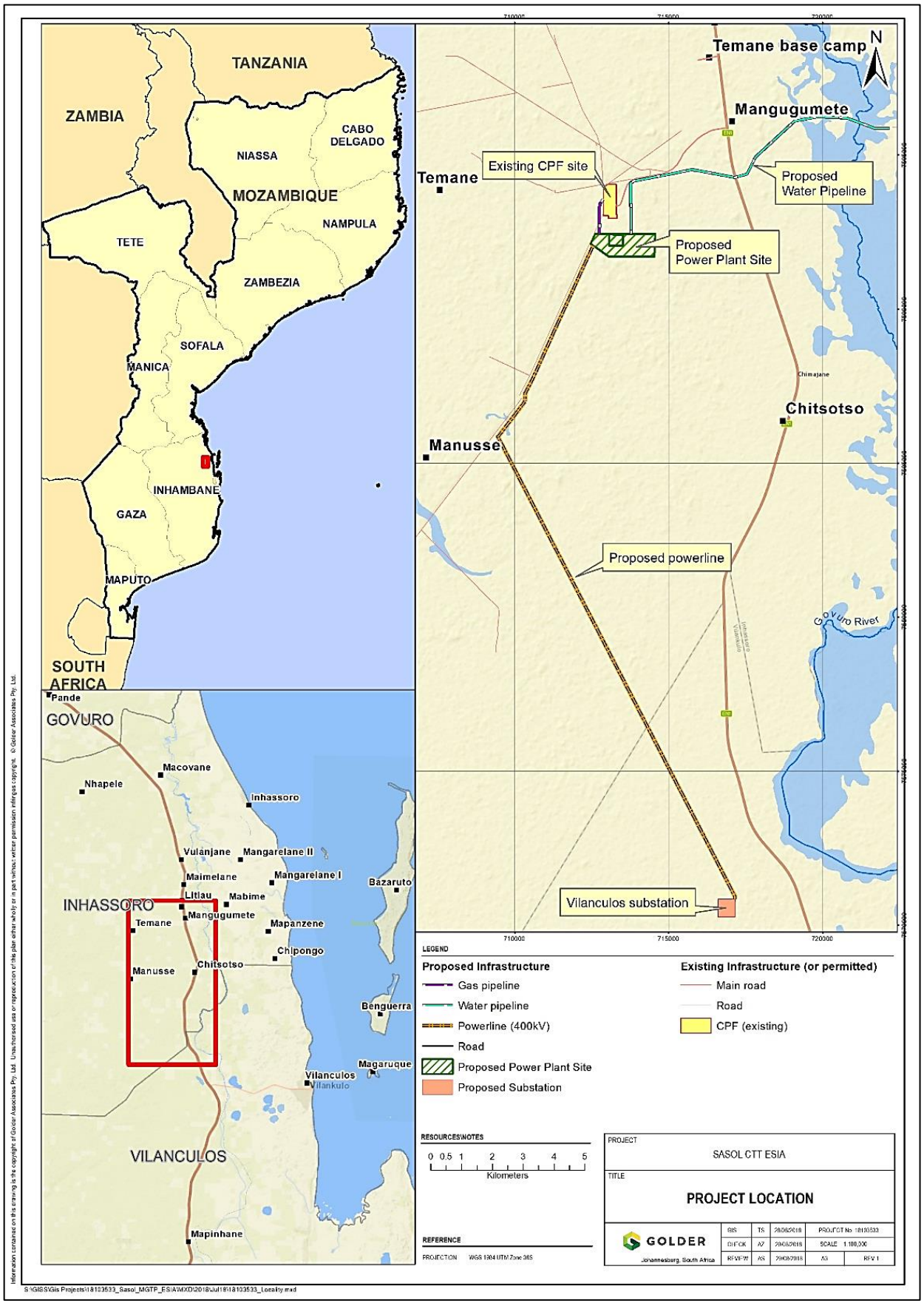

Figure 1: Project Location

2.0 DESCRIPTION OF THE KEY PROJECT COMPONENTS

The CTT project will produce electricity from natural gas in a power plant located 500 m south of the CPF. The project will consist of the construction and operation of the following main components:

- Gas to Power Plant with generation capacity of 450 MW;
- Gas pipeline (±2 km) that will feed the Power Plant with natural gas from the CPF or from an alternative gas source;
- 400 kV Electrical transmission line (± 25 km) with a servitude that will include a fire break (vegetation control) and a maintenance road to the Vilanculos sub-station. The transmission line will have a partial protection zone (PPZ) of 100 m width. The transmission line servitude will fall inside the PPZ;
- Water supply pipeline to one or more borehole(s) located either on site or at boreholes located east of the Govuro River;
- Surfaced access road to the CTT site and gravel maintenance roads within the transmission line and pipeline servitudes;
- Temporary beach landing structures at Inhassoro for the purposes of delivery of equipment and infrastructure to build the power plant. This will include transhipment and barging activities to bring equipment to the beach landing site for approximately 1-2 days with up to 3-4 months between shipments over a period of approximately 8-15 months;
- Construction camp and contractor laydown areas adjacent to the CTT power plant site; and
- Temporary bridge structures across Govuro River and tributaries, as well possible new roads and/or road upgrades to allow equipment to be safely transported to site during construction.

Figure 2: Examples of gas to power plant sites (source: www.industcards.com and www.wartsila.com)

The final selection of technology that will form part of the power generation component of the CTT project has not been determined at this stage. The two power generation technology options that are currently being evaluated are:

- Combined Cycle Gas Turbine (CCGT); and
- Open Cycle Gas Engines (OCGE).

Please refer to Chapter 4 of the main ESIA document for further details on the technology option.

At this early stage in the project a provisional layout of infrastructure footprints, including the proposed linear alignments is indicated in Figure 1. A conceptual layout of the CTT plant site is shown below in Figure 3.

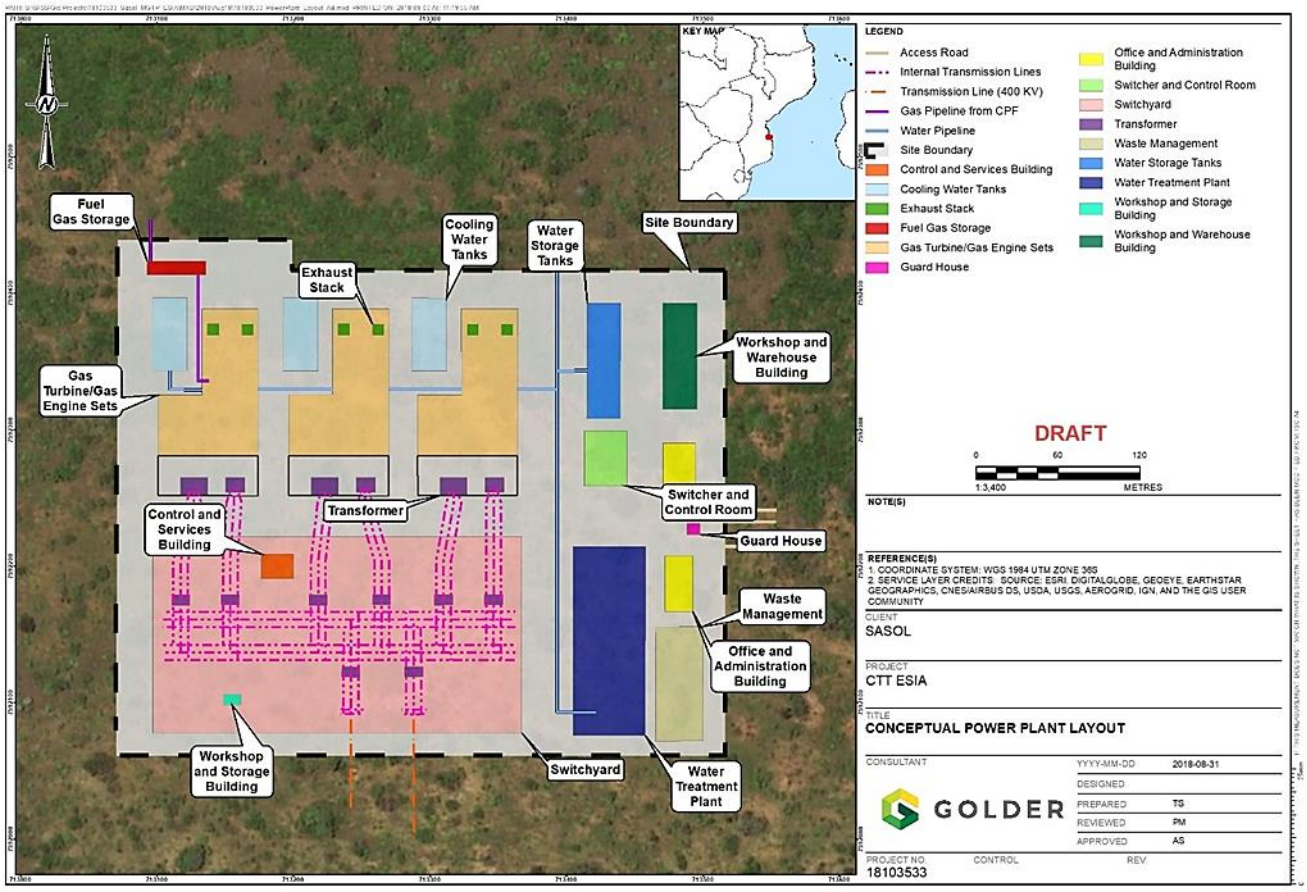

Figure 3: Conceptual layout of CTT plant site

Ancillary Infrastructure

The CTT project will also include the following infrastructure:

- Maintenance facilities, admin building and other buildings;
- Telecommunications and security;
- Waste (solid and effluent) treatment and/or handling and disposal by third party;
- Site preparation, civil works and infrastructure development for the complete plant;
- Construction camp (including housing/accommodation for construction workers); and
- Beach landing laydown area and logistics camp.

The heavy equipment and pre-fabricated components of the power plant will be brought in by ship and transferred by barge and landed on the beach near Inhassoro. The equipment and components will be brought to site by special heavy vehicles capable of handling abnormally heavy and large dimension loads. Figure 4, Figure 7 and Figure 8 show examples of the activities involved with a temporary beach landing site, offloading and transporting of large heavy equipment by road to site.

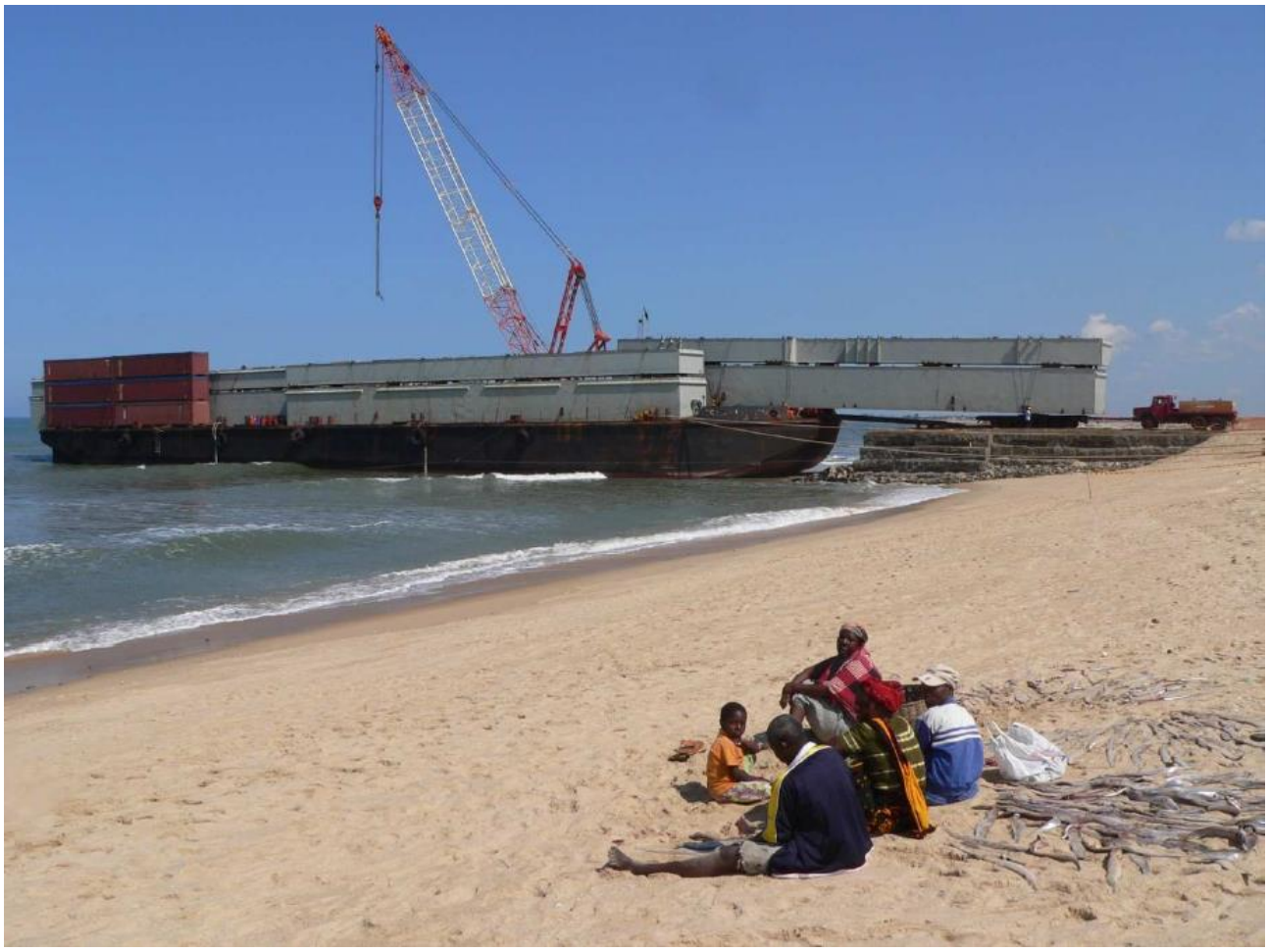

Figure 4: Typical beach landing site with barge offloading heavy equipment (source: Comarco)

Figure 5: Example of heavy equipment being moved from the barge onto the temporary jetty using a mobile surface crane (source: Comarco)

Figure 6: Example of trailer with load moving from temporary jetty onto land (source: SUBTECH)

Figure 7: Example of large equipment being offloaded from a barge. Note the levels of the ramp, the barge and the jetty (source: SUBTECH)

Figure 8: Heavy haulage truck with 16-axle hydraulic trailer transporting a 360 ton generator (source: ALE)

Water and electricity consumption

The type, origin and quantity of water and energy consumption are still to be determined based on the selected technology to construct and operate the CTT plant. At this stage it is known that water will be sourced from existing boreholes located on site or east of the Govuro River for either of the technology options below:

- Gas Engine: ± 12 m^3/day; or
- Gas Turbine (Dry-Cooling): ± 120 – 240 m^3/day.

Temporary Beach Landing Site and Transportation Route Alternative

As part of the CTT construction phase it was considered that large heavy equipment and materials would need to be brought in by a ship which would remain anchored at sea off the coast of Inhassoro. Equipment and materials would be transferred to a barge capable of moving on the high tide into very shallow water adjacent to the beach to discharge its cargo onto a temporary offloading jetty (typically containers filled with sand) near the town of Inhassoro. As the tide changes, the barge rests on the beach and offloading of the equipment commences.

Currently, the SETA beach landing site is the preferred beach landing site together with the road route option to be used in transporting equipment and materials along the R241 then the EN1 then via the existing CPF access road to the CTT site near the CPF. Figure 5 and Figure 6 indicate the beach landing site and route transportation option. The alternative beach landing sites of Maritima and Briza Mar are still being evaluated as potential options, as well as the southern transport route, which would also require road upgrades and a temporary bridge construction across the Govuro at the position of the existing pipe bridge. As part of the transportation route, the Govuro River Bridge may need to be upgraded/strengthened to accommodate the abnormal vehicle loads. Alternatively, a temporary bypass bridge will be constructed adjacent to the existing bridge.

The two anchorage points, where the transhipment vessel will be anchored for short periods while equipment is transferred to a barge and moved to the temporary jetty at the chosen beach landing site option is shown in Figure 9.

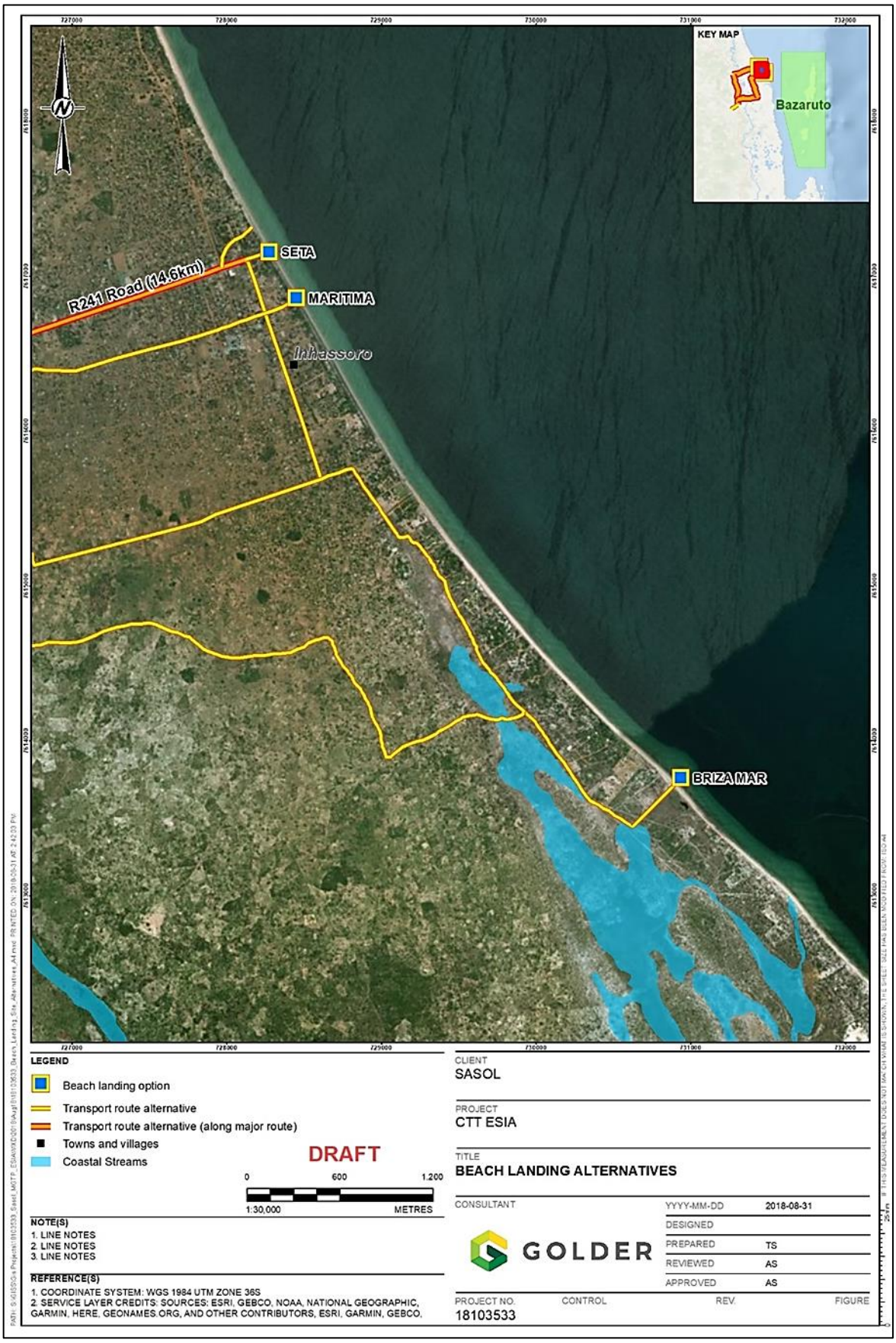

Figure 9: The three beach landing site options and route options at Inhassoro

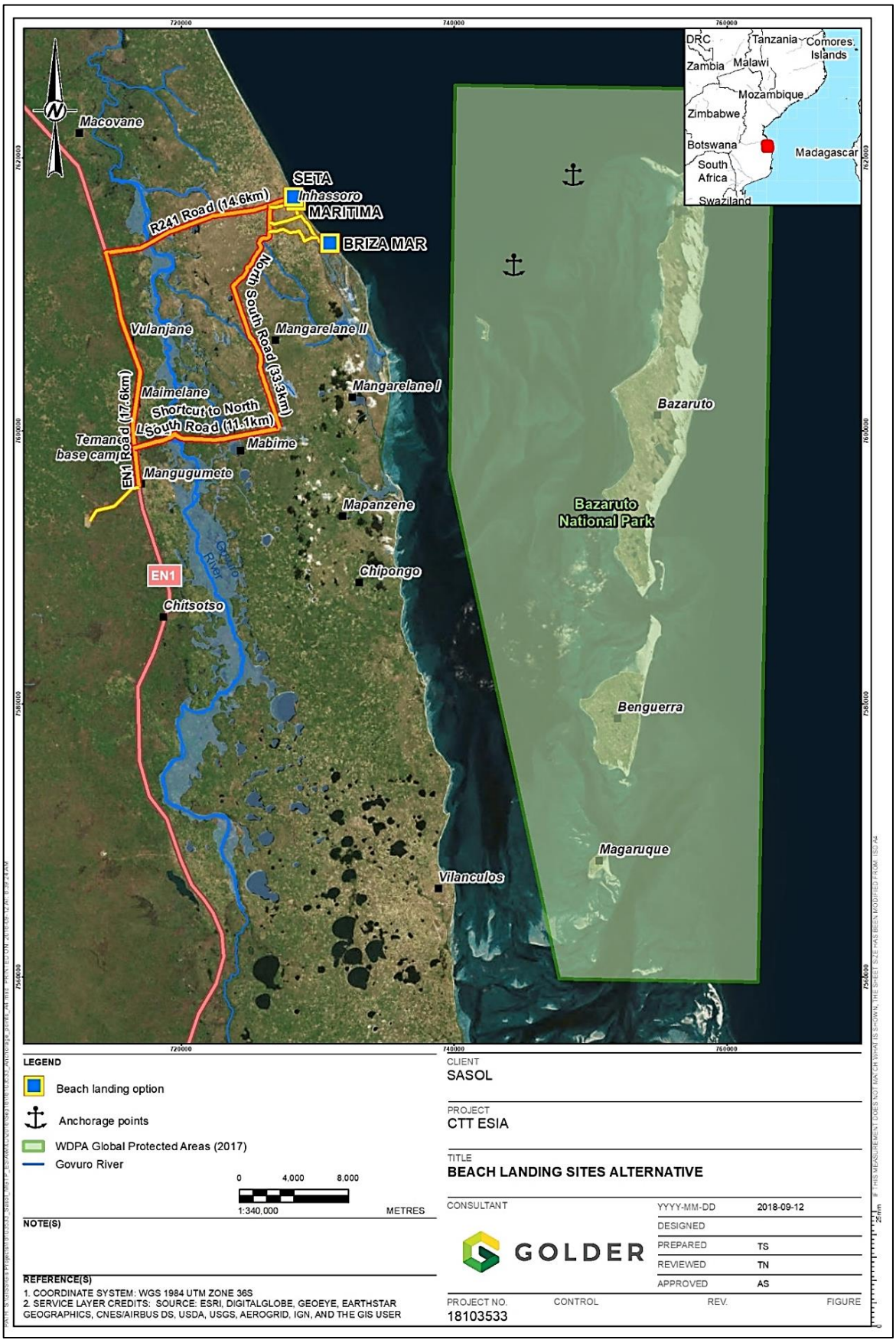

Figure 10: The two main transportation route alternatives from the beach landing sites to the CTT site

To facilitate the transportation of the heavy materials from the barge onto the heavy vehicles, a temporary jetty will be constructed. The jetty will be made up of 40 ft containers filled with sand. There are two options as to how the jetty can be orientated.

- Option 1 will have nine containers arranged as four (4) containers on either side and one (1) in the front. This configuration allows the jetty to be narrow (+/- 14m) and long (+/- 100m); and
- Option 2 will be made up of six (6) containers arranged as two (2) containers on either side and two (2) next to each other in the front. This configuration allows the jetty to be shorter (+/- 80m) and wider (+/- 20 m).

Both options will use sandbags that are placed on the sides to reduce scouring with a row of sugar bags and final gravel surface will be placed on top of the containers to create a level road surface. The final design of the jetty will be dependent on the barge that is finally chosen for this project. Figure 14 below is a typical illustration of the temporary jetty.

When not in use the jetty will allow for pedestrian and vehicle crossings. Refer to 14 and15 below for conceptual illustrations of the jetty. In addition, in case of a phased construction approach whereby the CTT plant will be built in two distinct phases, then the temporary jetty may be required for a longer period to accommodate for the second phase of construction whereby more equipment will be beach landing as part of that construction phase. For purposes of this ESIA we have assessed one construction phase.

The three beach landing site options are illustrated in Figure 11, Figure 12 and Figure 13. The locations of these beach landing sites are shown in Figure 10, which also shows the location of the two anchorage points where the transhipment vessel may be anchored during periods of offloading equipment. The first anchorage point is located approximately 20 km east of SETA beach landing site (7 km from Bazaruto Island and 13 km from Santa Carolina Island) while the second one is nearer to the mainland shore, approximately 13 km east of Briza Mar beach landing site (5-6 km from Santa Carolina Island and 10 km from Bazaruto Island).

Technically it is feasible to moor the transhipment vessel at these locations; however they fall within the Bazaruto Archipelago National Park (BANP). It is understood that the vessel will not be anchored for extended periods of time and will most likely be anchored for a week or two at a time to offload the heavy equipment, although this will be defined once a technology option has been chosen as well as a preferred manufacturer of the various large and oversized power plant components.

These anchorage locations are further investigated within the ESIA and should an additional anchorage point need to be considered, the proponent will need to undertake the appropriate studies and apply for the relevant permits prior to construction and shipments arriving for offloading.

It should be noted that there will be a laydown area at the chosen beach landing site. This area will be used as a staging area to manage the large equipment and materials that will be off-loaded from the barges. This is only expected to be used during daylight hours and for temporary storage of limited materials, equipment and vehicles (likely to be a mobile surface crane, two trailers and trucks).

Beach landing activities

This section provides a summary of the likely activities involved with breach landing of heavy and over-sized equipment and especially the frequency of such activities occurring.

Temporary Jetty Construction and Removal

The duration for the construction and removal of the temporary jetty is anticipated to be 30 days.

The Seta beach landing site is the preferred beach landing site (see Figure 11 and Figure 15) and it is planned that the jetty will be constructed at Seta, although the other two options are still being evaluated as part of the ESIA. For purposes of this study, the Seta option is assessed and is representative of both of the other two options which are also inside Inhassoro town amongst various tourism facilities.

Duration of equipment offloading at Inhassoro

There are three cargo options that the Proponent is evaluating, consisting of different shipments: The duration of Option 1 (Gas Engines) is 6 months and that of Options 2 and 3 (Gas Turbines) is 8 months.

Number of vessels with equipment to Inhassoro

A cargo carrying ship (transhipment vessel) will transport the heavy equipment to an anchorage point off the coast of Inhassoro from where the equipment will be transhipped from vessel to barge and taken to the temporary jetty, (at this stage it is likely to be to be constructed on the beach at Seta Lodge) and off-loaded.

Equipment Arrival

The assumptions in the analysis as advised by the Proponent for the arrival of the equipment is as follows:

- ***Option 1***: Gas Engines: two Shipments (Gas Engines and Transformers) over 6 months where the Gas Engines are brought in on one shipment and the transformers are brought in on the other shipment; and
- ***Option 2***: Gas Turbines: three Shipments (Gas Turbines/Steam Turbines, Steam Generators and Transformers) over 8 months, where the Gas Turbines will be brought in in one shipment, the transformers in the other and the generators units (4 pieces x 6 units = 24 Pieces) in another shipment over this period.

It is therefore important to note that there will be periods of 3-4 months where there will be no activities taking place at the beach landing site and anchorage points. The mobile surface crane and trailers/trucks will be de-mobilised from site and parked at the laydown area after each operation and will be mobilized again for the next operation. Only the temporary jetty will be visible on the beach.

Anchorage Points

The transhipment vessel will be moored as close as possible to the site. There are two anchorage locations in the leeside of Bazaruto indicated on the nautical charts with depths around 15 to 20 m (see Figure 14).

Given the time between each shipment (4 or 6 months) the equipment at the jetty will demobilize after each operation and need to be mobilized again for each operation.

Figure 11: SETA Beach Landing Site Option

Figure 12: Maritima Beach Landing Site Option

Figure 13: Briza Mar Beach Landing Site Option

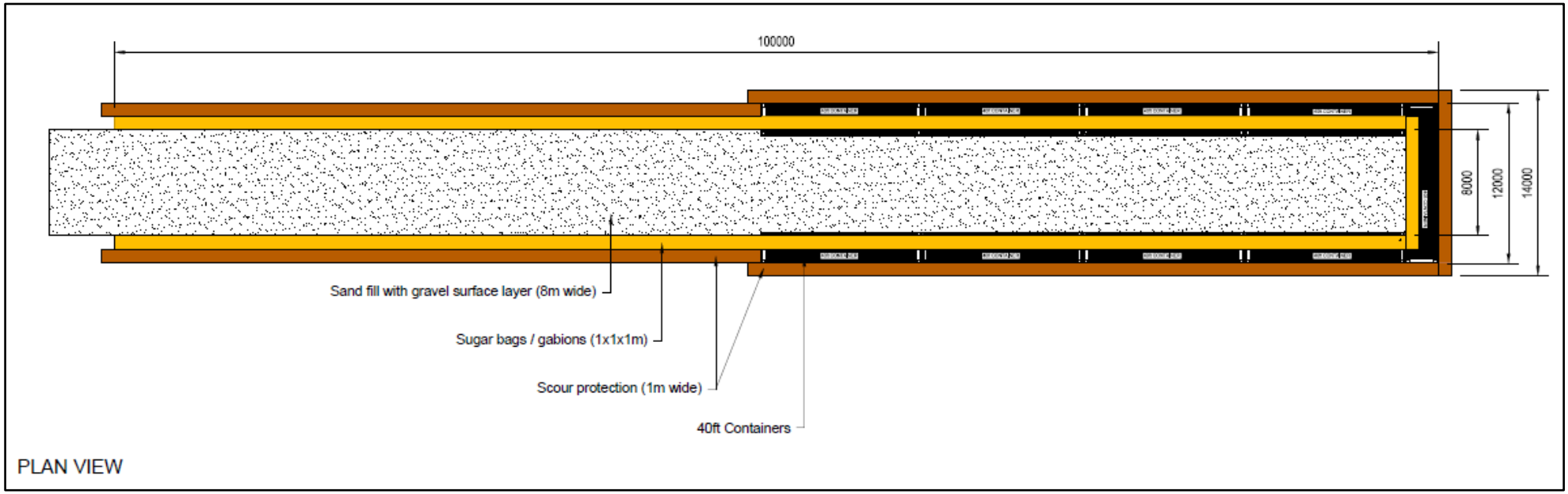

Figure 14: Conceptual layout of the jetty

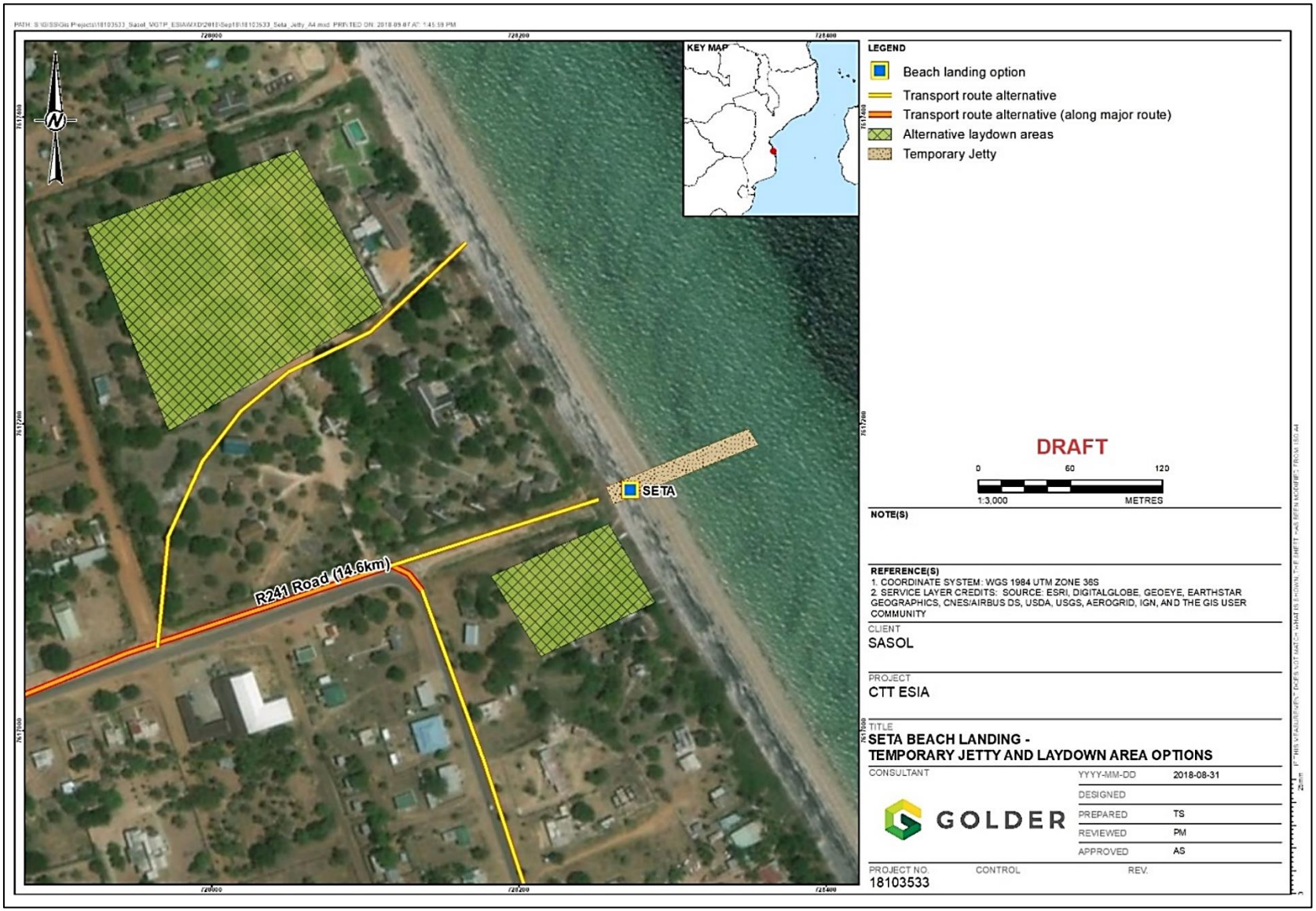

Figure 15: Conceptual illustration of the Jetty at SETA beach landing site

Figure 16: SETA beach landing site during equipment and material offloading (approximate visualisations)

3.0 POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

The proposed project has been determined as 'Category A' in terms of Mozambique's environmental law (Decree No. 54/2015 of 31 December, which has been in force since April 2016). For 'Category A' projects, an Environmental and Social Impact Assessment (ESIA) must be prepared by independent consultants as a basis for whether or not environmental authorisation of the project is to be granted, and if so, under what conditions. The final decision maker is the Ministry of Land, Environment and Rural Development (Ministério da Terra, Ambiente e Desenvolvimento Rural (MITADER) through the National Directorate of Environmental Impact Assessment (DNAIA). MITADER consults with other relevant government departments prior to making a decision.

This document represents the Tourism Impact Assessment undertaken to support the ESIA. This study is undertaken in terms of the Legal Framework for Tourism Licencing in Mozambique as well as the World Bank Group operational policies and general environmental health and safety guidelines, including the International Finance Corporation's Performance Standards (IFC PS) and Environmental and Health and Safety (EHS) Guidelines. In particular the World Bank Performance Standards (OP 4.03) has been considered and incorporated throughout this assessment.

4.0 INHASSORO TOURISM INTRODUCTION

4.1 Background

Inhassoro lies directly west of the northern point of the Bazaruto Archipelago with Santa Carolina Island in clear view between Bazaruto and the main land. The town Inhassoro has developed into a popular tourist venue for both holiday and fishing enthusiasts due to the scenic and tranquil environment, recreational and game fishing for amateurs, fishing competitions, snorkelling, scuba diving and wind surfing. The Bazaruto Archipelago, considered one of East Africa's best and certainly Mozambique's premier fishing destination, is in close proximity and tourism to this destination might be affected by the vessels transporting the heavy equipment to be offloaded in Inhassoro.

This small fishing village has a relaxed atmosphere, and many travellers now choose to base their holiday here, rather than in the bigger, busier town of Vilanculos, 80 km south. There are a number of restaurants, a lively beach bar serving ice cold beers, a few shops, banks, bakery, hardware store and fuel station.

The town also hosts the Central African Deep-Sea Angling Society (CADSAS) Mozambique fishing tournament and other fishing competitions.

Transfers are available from the international airport at Vilanculos to Inhassoro and from Inhassoro to Bazaruto Island.

Inhassoro town is located on the sea front stretched over a distance of approximately 6 km with the main tourist accommodation facilities in a band extending approximately 5 km south of the R241 (main road in Inhassoro) to 1 km north along the beach, facing east.

Along this stretch there are also several vacant plots.

The tourist accommodation on Bazaruto Island is located on the west coast of the island with Pestana Bazaruto Lodge Hotel on the northern end of the island and Anantara Bazaruto Island Resort and Spa approximately in the centre of the island, all facing west. The accommodation facilities on the island cater for upmarket tourists and both facilities overlook the sea channel between Inhassoro and the island. The island further hosts the Bazaruto Archipelago National Park.

Santa Carolina currently has no tourist accommodation, only an abandoned resort with coral reefs close to the shore. The island is a national park and tourists need a permit to visit.

It is clear that the Inhassoro hospitality industry is dependent on the scenic environment and recreational facilities related to the ocean. Some of the accommodation facilities have their own boats and experienced fishermen to accompany guests on fishing expeditions. The Bazaruto Archipelago is a well-established tourist destination.

Bazaruto Archipelago offers upmarket tourist accommodation and facilities such as fishing, scuba diving, snorkelling, saunas, etc. while Inhassoro caters, to a large extent, for the middle-class holidaymaker and fishermen.

The need for an assessment of the tourism industry specifically directed at Inhassoro Town and the Bazaruto Archipelago as a result of the selection of the heavy equipment offloading site at Inhassoro for the CTT Project arose.

4.2 Scope of the Inhassoro tourism study

The Inhassoro Tourism Impact Assessment Study addresses:

- The current tourist facilities and activities in the town Inhassoro where the proposed beach landing site together with the laydown area will be located and the islands of the Bazaruto Archipelago overlooking the proposed shipping anchorage sites may be affected. The effect that the presence of the shipping will have on the islands of Benguera, Magarruque, Bangue and Pansy Shell Islands as well as Vilanculos were excluded due to the distance from the proposed activities at Inhassoro;
- The fishing activities, artisanal, commercial and sport fishing, based in Inhassoro;
- The effect on the tourism in Inhassoro due to the construction and dismantling of the temporary jetty at the beach landing and offloading site in Inhassoro, the offloading of the heavy equipment required for the CTT project and the shipping presence off the coast; and
- The effect on tourist road traffic on the R241 and the EN1 of the abnormal load transport of the landed equipment.

4.3 Approach and methodology

4.3.1 Approach

The available studies and documents related to the CTT project were consulted by means of a literature study; see APPENDIX A. The current available tourism accommodation and recreational activities was determined by means of fieldwork and internet research to augment the information collected. The onsite survey was done over the period 20 August to 29 August 2018. The results of the field work are attached as APPENDIX C. A total of 15 establishments were visited and the information as per questionnaire was obtained from 12 of the establishments. During the period of the site visit an internet search was done and the necessary information of the two establishments which did not co-operate by completing the questionnaire was found. The required information of a further 18 establishments in Inhassoro was taken from the internet. From the official Inhassoro District list of establishments, see APPENDIX B, it was estimated that there are 54 establishments in Inhassoro, which translates into 59% of establishments being sampled.

The information collection was directed at the current commercial activities dependent on tourism to determine the current commercial value of tourism in and around Inhassoro and the Bazaruto Archipelago, located approximately 25 km to the east and south east of Inhassoro. See Figure 1. Santa Carolina Island which is the closest to Inhassoro, approximately 15 km to the south east was not included in the study due to the fact that there is no tourist accommodation on the island and one of the possible shipping anchorage sites, which is approximately 4.5 km to the north of the island, should have no impact on the few visitors to the island. Since 1974 this island has been abandoned and is now a marine conservation area, permits are needed to visit the island. Also, the Benguera, Magarruque, Bangue and Pansy Shell Islands were excluded from the study as they were considered to be outside of the visual impact radius of the operational area activities at Inhassoro.

The task was to collate the available baseline information for the tourism industry at Inhassoro and the Bazaruto Island relating to tourist facilities (i.e. accommodation, scuba diving/snorkelling and recreational fishing operators, restaurants, and other service providers); occupancy and revenues generated. This was done by conducting a questionnaire survey of the tourism facilities (lodges and other service providers) in Inhassoro to establish the services offered, occupancy, revenues, seasonality; trends in, and perceived threats to, tourism, and perceptions of tourism. The tourism data collected was subsequently analysed and processed in order to determine the impact on the tourism activities that might be affected by the offloading activities of heavy equipment destined for the inland gas plant.

The basic approach is to establish the level of current tourism activities in Inhassoro and Bazaruto Island expressed in terms of macro- and socio-economic parameters:

- Gross Domestic Product;
- Employment Opportunities,
- Capital Investment; and
- Salaries and wages paid to households.

This is referred to as the economic baseline and the projected impact will then be measured in terms of the projected deviation from the baseline and again presented in terms of socio-economic parameters.

The tourism study is broken down into two sub-areas as the characteristics of Inhassoro and Bazaruto Island differs of the tourist interests and type of accommodation and price ranges thereof as explained in later paragraph.

Thus, there will be two sets of macro impact analyses and two sets of risk analyses each for Inhassoro and Bazaruto.

The risk analysis will consist of a number of economic activities that was identified with the help of the literature study sources as well as the experience as economists and a previous visit to Mozambique by one of the team.

A scenario that will demonstrate the worst possible case due to the offloading process will be created and incorporated into the socio- and macro-economic impact model.

4.3.2 Methodology

Baseline Econometric Model

It was decided to use a Socio-Economic approach considering the characteristics of the different tourist types and their leisure activities, instead of a purely economic approach. A socio-economic baseline was established by calculating the identified parameters generated by the current tourism activities should no negative impact be experienced during the coming tourist activities. The deviation from the parameters were then calculated and presented as the impact of the specific level of restriction.

For this specific tourism study, the economic indicators are expressed in terms of Gross Domestic Product (GDP) impact while the social impacts are measured in terms of the impact on employment and the income of households.

Specifically, the impact on the Low-Income Households and the possible increase in poverty in Inhassoro was estimated as the local economy of this rural population is to a large extend dependant of the regional and overseas visitors.

In the following paragraphs a brief analysis is made of the different macro- and socio-economic parameters used in the assessment.

Gross Domestic Product

A country's Gross Domestic Product (GDP) is the total value of all 'final' goods and services that are produced within the borders of the country, during a year. Therefore, the GDP is a good instrument to measure the size or strength of an economy. Lately it is also being applied on a regional basis and there is a movement to rather refer to it as “Value Added” when applied to a relatively smaller area.

In using the GDP as an indicator, it is necessary to make some comments on the composition of the Gross Domestic Product parameter. The indicator consists of the following elements:

GDP = consumption + gross investment + government spending + (exports – imports)

Consumption is normally the largest GDP component in the economy, consisting of private household final expenditure in the economy. These personal expenditures fall under one of the following categories: durable goods, non-durable goods and services. The result of this is that salaries and wages are included in the GDP value as part of the “consumption” element.

The direct GDP value represents the value obtained of the above equation. The total GDP consists of the added value of indirect and induced GDP. These values are obtained by applying multipliers obtained from the National Accounts as published by relevant Government organizations. The total GDP is therefore an indicator that represents the impact on the total economy of the specific activity.

A breakdown of the different type of impacts and subsequent indicators, to be estimated, used in this study is as follows:

Economic Impacts:

Gross Domestic Impact (GDP)

- Direct Impacts: the effects occurring directly in the sector;
- Indirect Impacts: those effects occurring in the different economic sectors that link backwards, to for instance tourism, due to the supply of intermediate inputs, e.g., food, etc.;
- Induced Impacts: the chain reaction triggered by the salaries and profits (less retained earnings) that are ploughed back into the economy in the form of private consumption expenditure; and
- Total Impacts: Represents the direct, indirect and induced summed effect.

Capital Utilisation

Capital formation is a necessary tool for economic growth and a decline in available capital investment and utilisation is a good indication of negative impacts of current conditions on future growth.

The following are the Social Parameters:

Employment

The projected number of employment opportunities that is lost is also presented in Direct, Indirect and Induced numbers. This provides an indication of an increase in unemployment in a certain area.

Households

The impact on the income of households is presented in High Income, Medium Income and Low-Income Households.

The impact on Low-Income Households is also a very good indicator of the impact on poverty levels in an area. In this specific analysis it is very important as the employees are mainly dependant on the tourism industry and are mostly from the low-income group.

The following figure shows the framework of the process from where data is incorporated into the modelling system until the macro- and socio-economic impacts are determined by means of so-called economic multipliers. Although, in this study, the impact of tourism and thus the production value is the core element to be taken up in the economic mechanism process, it can also be applied to other economic sectors such as mining and manufacturing. The framework shows three economic sectors, but only one, tourism, was used in the calculations.

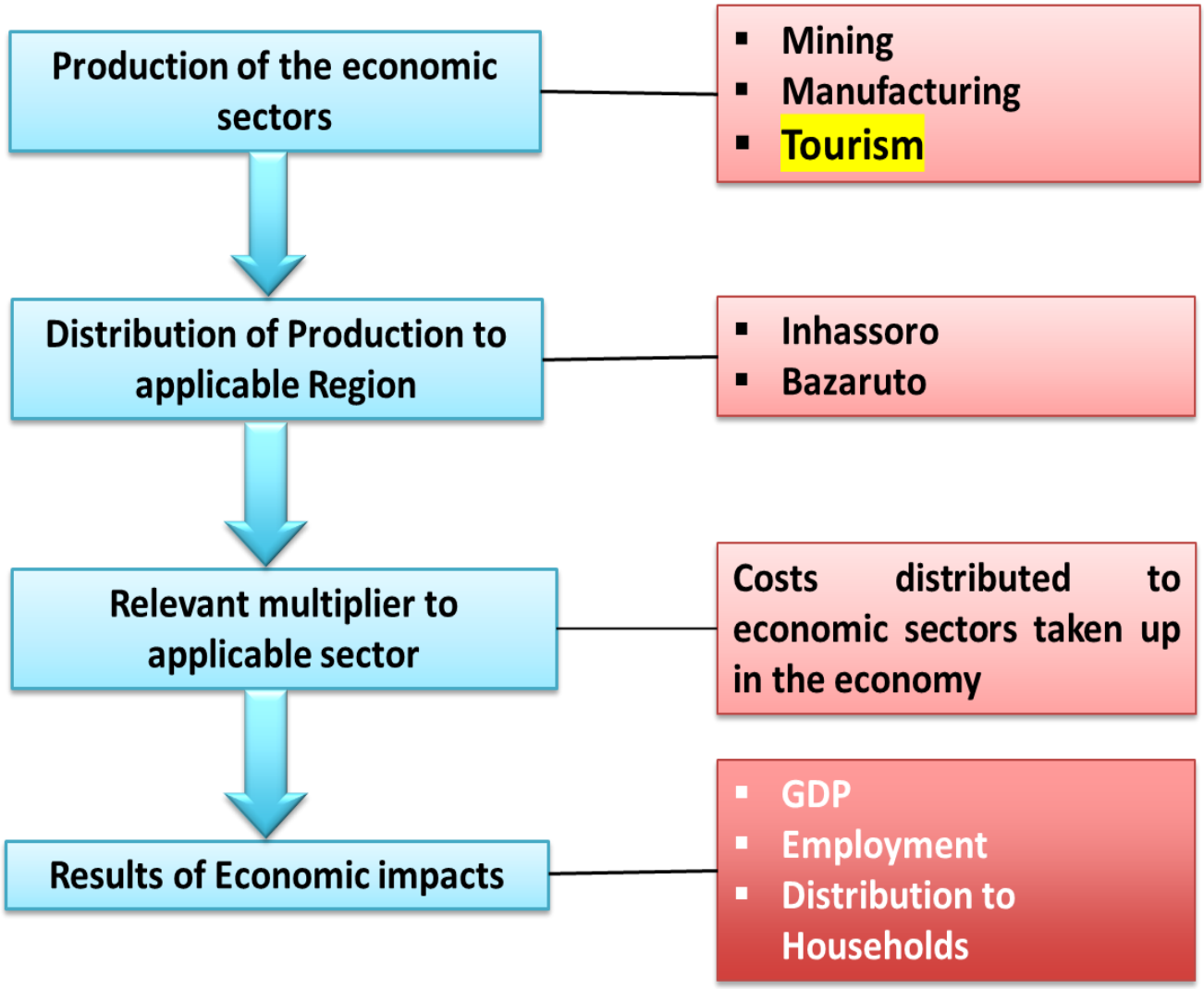

Figure 17: Framework of the Socio-Economic Baseline Study

Risk Assessment Methodology for Scenario Impacts

In this section a detailed discussion is provided about the methodology used to determine the possible risk to the tourism activity in identified areas.

As it is required, for an ESIA, to include the socio-economic effects of the different project activities, Conningarth Economists was appointed to determine the monetary and other social values of what the deviation of the baseline situation will be.

This deviation was done by providing, for each scenario, an impact of “before mitigation” and after mitigation”. The baseline in this tourism study is defined as the current situation, namely:

- Before the construction of the temporary offloading infrastructure in the coastal town of Inhassoro.

The risk analysis to determine the deviation, due to the construction of the offloading infrastructure and associated barging activities, on the tourists was uniquely adapted from the Plomp methodology used by environmentalists to determine quantitative results. The economic team went one step further; the qualitative results were converted to quantitative results expressed in monetary values in the case of the impact on GDP, on capital and on households and in the case of employment, the number of employment opportunities. This made it possible to use the monetary value result to be linked into the socio- and macro-economic model. This macro- and socio-economic model was extended to determine the deviation of the risk due to effects on the current situation.

To explain the practical execution of the risk assessment model, the following concepts were applied:

- The components below are used for the determination of an “impact percentage” to change the baseline impact to the scenario impact that will be ultimately converted into a new production value. This will be used on each sub-study area, namely Inhassoro where most of the family tourists stay and Bazaruto Island which caters more for the up-market tourists.

The risk analysis methodology was applied in a matrix structure as indicated below, identified as the risk analysis framework and acts as an example in the process for the determination of the impact percentage.

	Severity (Magnitude)		Duration		Extent (Scale)		Probability		Significance		Significance
Potential Risk Impact to affect the tourism economy: Income, jobs	Description	Weight	Description	Weight	Description	Weight	Description	Weight	Description	Sum (Severity, Duration and Extent) x Probability	WEIGHT (Description)
Destination Image (Sense of Place)	Moderate	6	Transient – less than 1 year	1	Local	2	Medium probability	3	Low	27	
Quality of Beach Experience	Moderate	6	Transient – less than 1 year	1	Site	1	Highly Probable	4	Low	32	
Tourist service delivery disruptions	Low	4	Transient – less than 1 year	1	Site	1	Improbable	1	Negligible	6	
Scuba Diving, Snorkel Trips and Fishing Trips	Moderate	6	Transient – less than 1 year	1	Local	2	Medium probability	3	Low	27	
Tourism Safety and Security concerns	Low	4	Transient – less than 1 year	1	Regional	3	Medium probability	3	Low	24	
Total (Average)										23.20	Low

Figure 18: Risk analysis framework

The table below shows the measurements applied in accordance with the main consultants’ use of the different potential risk impacts by other specialists:

Table 1: Economic Risk Analysis Rating Table

Severity		Duration		Extent		Probability	
Very high/ don’t know	10	Permanent	5	International	5	Definite/don’t know	5
High	8	Long-term – longer than 15 years and impact ceases after closure of activity	4	National	4	Highly Probable	4
Moderate	6	Medium-term- 6 to 15 years	3	Regional	3	Medium probability	3

Severity		Duration		Extent		Probability	
Low	4	Short-term - 1 to 5 years	2	Local	2	Low probability	2
Minor	2	Transient – less than 1 year	1	Site	1	Improbable	1
None	1					None	0

Source: Golder

Potential impacts were assessed according to the severity, duration, extent and probability of occurrence of the impact on the economic activity with the different rating intervals used as shown above. The terminology of the rating criteria is discussed in more detail below:

- **Direction of an impact** may be positive, neutral or negative with respect to the particular impact. A positive impact is one which is considered to represent an improvement on the baseline or introduces a positive change. A negative impact is an impact that is considered to represent an adverse change from the baseline or introduces a new undesirable factor;
- **Intensity/Severity** are a measure of the degree of change in a measurement or analysis, and are classified as none, negligible, low, moderate or high. The categorisation of the impact intensity may be based on a set of criteria (e.g. health risk levels, ecological concepts and/or professional judgment). The specialist study must attempt to quantify the intensity and outline the rationale used. Appropriate, widely-recognised standards are used as a measure of the level of impact;
- **Duration** refers to the length of time over which an environmental impact may occur: i.e. transient (less than 1 year), short-term (1 to 5 years), medium term (6 to 15 years), long-term (greater than 15 years with impact ceasing after closure of the project) or permanent;
- **Scale/Geographic extent** refers to the area that could be affected by the impact and is classified as site, local, regional, national, or international. The reference is not only to physical extent but may include extent in a more abstract sense, such as an impact with regional policy implications which occurs at local level; and
- **Probability of occurrence** is a description of the probability of the impact occurring as improbable (less than 5% chance), low probability (5% to 40% chance), medium probability (40% to 60% chance), highly probable (most likely, 60% to 90% chance) or definite (impact will definitely occur).

The potential impacts that are elements of the risk analysis also used by specialists are Severity, Duration, Extent and Probability. The difference of the description of the impact effects do however vary from the other specialists. Below is an extract of economic risks identified for this study.

Table 2: Potential Risk Impact Items

Potential Risk Impact to affect the tourism economy: Income, jobs
Destination Image (Sense of Place)
Quality of Beach Experience
Unpopular with tourists
Inhassoro Town goods and services
Access Road improvements (Inhassoro)

When all the different Potential Risk indicators for the Potential Risk items are completed, a significance value (or points) is estimated. This was applied to each scenario for final risk factor evaluation expressed into high, moderate, low, negligible and positive:

SP (significance points) = (severity + duration + extent) x probability

Table 3: Significance Final Quantitative Rating

Significance Value		Comment
SP >70	High	Where an accepted limit or standard may be exceeded, or large magnitude impacts occur to highly valued/sensitive resource/receptors. Impacts of high significance would typically influence the decision to proceed with the project.
SP 40 - 70	Moderate	Where an effect will be experienced, but the impact magnitude is sufficiently small and well within accepted standards, and/or the receptor is of low sensitivity/value. Such an impact is unlikely to have an influence on the decision. Impacts may justify significant modification of the project design or alternative mitigation.
SP 15 - 40	Low	Where an effect will be experienced, but the impact magnitude is small and is within accepted standards, and/or the receptor is of low sensitivity/value or the probability of impact is extremely low. Such an impact is unlikely to have an influence on the decision although impact should still be reduced as low as possible, particularly when approaching moderate significance.
SP < 15	Negligible	Where a resource or receptor will not be affected in any material way by a particular activity or the predicted effect is deemed to be imperceptible or is indistinguishable from natural background levels. No mitigation is required.
+	**Positive**	Where positive consequences/effects are likely.

After the process significant value is determined, a weight factor process ultimately determines the deviation of the baseline impacts e.g. if the significance value is between SP 40-70, which is a moderate impact it converts to an approximate 30 percent negative impact on the baseline.

The Scenario Annual Production value is then determined and incorporated into the socio- and macro-economic model.

4.3.3 Data Collection

An independent consultant was appointed by Golder Associates to personally visit as many of the tourist facilities as possible in Inhassoro and on the Bazaruto Archipelago within the time available, to capture the information required to establish the extent of the tourism business, which includes accommodation, fishing expeditions, pleasure cruises, scuba diving and snorkelling charters, bathing, shopping, dining, etc. A questionnaire in respect of the information required was compiled and forwarded to the consultant. It was not possible for the consultant to also visit Bazaruto Island in the time available and the information of these tourist establishments was obtained by means of the internet.

The information required in respect of the accommodation facilities included; the name of establishment, type of accommodation (hotel, lodge, bed and breakfast, camping, etc., number of beds, bed occupancy rate per annum, high and low tourist seasons, number of employees per facility, rates per person per night -sharing and single, main and secondary country of origin of visitors and the average duration of stay of guests.

The information required in respect of the fishing facilities included; for commercial fishing, the number of boats utilised for commercial fishing and number of fishermen involved in commercial fishing and for pleasure cruises

or recreational fishing, the number of boats utilised for pleasure cruises or recreational fishing and approximate number of people employed as boat crews for pleasure cruises or recreational fishing.

Entertainment (bars, restaurants, disco, etc.) and shopping facilities aimed at tourists in Inhassoro and neighbouring area. A further request was to establish what the main attractions are for the tourists visiting Inhassoro. Information of establishments not collected by the consultant in the time allowed was searched on the internet and followed-up with telephonic enquiries.

The current commercial value of the tourist activities is required to establish the economic baseline which in turn will serve to measure the impact in terms of the projected deviation from this baseline.

With the help of satellite images on Google Earth it was established that from the northern beaches of Bazaruto (Pestana Bazaruto Lodge) the equipment landing site would not be in view (distance 29 km), also the tops of the cranes and possibly other high equipment should not be visible over that distance given the small scale of the equipment. From the highest point inland, the landing site and the cranes are too small and far away to be visible. From the accommodation lodges further south on the island and on the west coast Bazaruto Lodge (distance 29.5 km) the equipment landing site and cranes will be in direct line of sight from Anantara Bazaruto Island Resort and Spa (distance 31.6 km), however the landing site and the cranes will not be visible over this distance. The two mooring areas of the ships will however be in full sight of the lodges, over distances of approximately 9.75 km and 14.4 km to the nearest lodges, which will result in visual impact over these distances when a transhipment vessel is anchored, presumably for a 1-2 week period. The visual impact assessment (VIA) report, prepared as part of this ESIA has evaluated these impacts (see Table 2).

4.3.4 Data Analysis

The purpose of this section of the study is to estimate the possible impact of the beach landing activities on the tourism and accompanying socio-economic parameters. As previously explained it is necessary to establish a socio-economic baseline of the current tourism activities before the actual beach landing and then estimate what impact it will have on tourist numbers and eventually the socio-economic impact.

Basic data was there for collected to estimate the annual number of tourists visiting Inhassoro and the total turnover of the spending by the tourists.

Twelve accommodation facilities in Inhassoro was visited by the consultant and the results, together with an additional 10 facilities identified with a google search, was used to determine the financial contribution of tourism to the local Inhassoro economy. This was then converted to socio-economic parameters.

During the data collection phase, it became clear that the majority of the establishments in Inhassoro cater for the middle-income group tourists and the Bazaruto Island resorts for the upmarket tourists. This reflected in the tariff structures, as the tariffs on the island include full accommodation including a number of pleasure cruises, fishing and diving excursions. In our approach it was there for necessary to treat the two areas separately to arrive at a total economic baseline.

The following table presents the summarised estimated occupation rate of the survey expanded to include the 22 identified facilities in Inhassoro and the two on Bazaruto Island. It appears from the survey data that in peak season the facilities operate at a rate of between 80% and nearly 100% occupancy, where after it declines sharply, in some cases to as low as 17%. Our analysis indicates an average occupation rate for Inhassoro of 38.08% and Bazaruto Island 40%. The 38.08% is considerably higher than the numbers quoted in official government publications which varies between 11% and 17%, the figures used were based on the survey results.

The calculation of an occupancy rate per facility, can be approached in two ways – either to be expressed in a “per room” or a per “bed approach”. For this economic study, both were used depending of which was the most suitable for a realistic measurement. When Inhassoro was surveyed, facilities with more than two beds per room were identified, where the “per bed” as well was used. The “per room” - approach were applied where facilities cater for youth groups with six to eight beds.

The number of permanent employees in Bazaruto appears to be higher than what would be expected for the number of rooms of the accommodation, but it must be kept in mind that they are very luxurious units offering a very detailed service that includes also staff to facilitate pleasure cruises, diving and fishing excursions.

Table 4: Physical data of the tourist focused facilities

Town or Island	Number of Facilities	Number of Beds	Average Annual Occupation Rate	Average Annual Bed Nights	Permanent Employees
Inhassoro	22	782	38%	103 492	213
Bazaruto Island	2	274	40%	50 005	628
Total	**24**	**1 056**		**153 497**	**841**

Source: Conningarth Calculations and deduced from data gathered material

Note: The facilities on Bazaruto Island are "full accommodation" facilities, and that the majority of the facilities in Inhassoro are bed and breakfast and self-catering. Official sources list 54 accommodation facilities located in Inhassoro, however, when analysing the actual location of these we believe only the 32 selected would provide for the majority of the tourists visiting Inhassoro beach and might be affected by the equipment landing process. A rule of thumb can be made that one owner manages one facility. An exception was detected on Bazaruto Island where one owner manages two facilities due to a recent change of ownership. Therefore, although three facilities are seen from Google Earth, it was treated as two for purposes of this study.

The average self-catering facility fee is estimated at US$56.80 per person sharing and the full-service catering at about US$314.30 per person sharing. It also appears that a very large percentage of tourists using the self-catering units are from South Africa and Zimbabwe and tend to bring large quantities of food and other supplies with them.

The sea excursions are divided in to three categories:

- Mainly pleasure excursions;
- Mainly fishing charters, and
- Mainly snorkelling/diving excursions.

There are approximately 69 boats based in Inhassoro which offer pleasure cruises or recreational fishing excursions, each boat has one operator per boat.

The average number of trips per day varies considerably from the peak season to the off-season; it is not only the number of trips that vary, but also the number of boats involved.

The possible impact of the heavy transport trucks using the R241 and EN1 on the tourists will be minimal as the number and frequency of trips will be negligible. The trucks will travel at very low speeds and have the required abnormal load traffic safety measures in place, such as signage, light truck with lights travelling ahead of heavy trucks, police department involvement at busy intersections, flag men cautioning other road users etc.

The following table provides an estimation of the estimated annual financial turnover for accommodation spending of the tourists visiting Inhassoro beach and Bazaruto Island plus the possible spending on recreational fishing and snorkelling sea excursions.

Table 5: estimated annual financial turnover on accommodation, food and extras and sea excursion spending

	Accommodation		Food & Additional Spending		Boat Trips		
	Daily	***Annual***	***Daily***	***Annual***	***Fee/Day***	***Number/ Year***	***Annual Income***
Inhassoro	$56.80	$5 878 131	$12.00	$1 241 905	$66.58	855	$56 921
Bazaruto Island	$314.30	$12,573,114	$4.00	$160,016	$0.00	0	$0
Total		$18,451,245		$1,401,921		855	$56 921

Source: Conningarth Calculations and deduced from data gathered material

The table shows that the total estimated annual tourist spending on both the Inhassoro Beach and Bazaruto Island is $19 910 087, expressed in South African Rand and using the average 2017 exchange rate of 13.02 it is R259 229 329 and expressed in Meticais it is MT 1 087 090 736.

To eventually determine the risk associated with the beach landing process it is necessary to determine the duration of the operation and the safety measures introduced to safeguard the tourists and locals on the beach. A second issue that might impact on tourism is the upgrading and duration of the maintenance of the roads.

4.4 Tourist characteristics

In determining the possible risk to the tourist industry at Inhassoro and Bazaruto Island it is necessary to do a desktop analysis of the category of tourist visiting the two tourist venues as well as the make-up of the majority of the tourists.

According to the survey done between 60% and 80% of the tourists using the Inhassoro facilities are from South Africa or Zimbabwe with another 10% to 20% from Mozambique itself. The structure of the fees indicate that they are mostly family groups, youth groups or fishing enthusiasts coming to enjoy the scenic beaches, diving and fishing experience, targeting mainly the bed and breakfast or self-catering facilities. It is also clear that high occupation numbers are experienced over the peak holiday season from November to January and during the Easter holiday period.

The fee structure of the Bazaruto Island accommodation facilities together with the accompanying services offered and the numbers of employees per facility indicate that the average guests are from the higher income group who will tend to be more easily upset should the experience not be of the expected standard. Though these facilities also experience a high occupancy during the summer months they experience a less dramatic drop in occupancy during the winter months.

It therefore appears as if it is not only the actual offloading of the heavy equipment on the beach at Inhassoro that will impact, but also the type of tourist/visitor and the perception of the value for money that is received.

The impact of the project at Inhassoro (specifically at Seta and Maritima area) and along the route to the CTT site will be quite severe if it was used frequently, and hardly any interval period without on- and off-shore activities. The assumption made of the category of the tourists visiting Inhassoro, and the relative short period of the interruption, is that only a temporary reduction in visitor numbers will be experienced. This in part defines the worst-case scenario/the base scenario/scenario before mitigation. It can therefore characterise extreme negative situations that might increase the significance value of risk.

The visitors to Bazaruto Island will experience a much lower risk from the offloading activities due to the distance, but the activities at Inhassoro and the presence of a ship anchored off the Bazaruto coast can impact on the guests' sense of place and overall holiday experience.

5.0 RISK FACTOR ASSESSMENT RESULTS

The “worst” possible case will represent the point of deviation for the after-mitigation scenarios. These are defined below according to the mitigation phase:

- Worst case scenario: Shipments and offloading periods will be during day time. It will be offloaded outside the peak season period from the middle of November till the middle of January and during the Easter holiday period. The Easter holiday period does not have fixed dates; however, the time period will always be 2 weeks. Some staff involved in the jetty construction and offloading is accommodated in local accommodation.

Two possible mitigation measures are identified that will minimise the impact on the Inhassoro beach:

- Mitigation Scenario 1 (Jetty on Inhassoro beach front): No specific mitigation, but individual risk rating done; and
- Mitigation Scenario 2 (Contractors presence): Benefits identified of the role of the contractors in Inhassoro.

By taking these mitigation measures into account, each “after mitigation scenario” was evaluated using the risk analysis model to determine what the percentage deviation from the baseline will be.

Table 6: Risk analysis scenario results of pre- and post-mitigation

	Worst case scenario	Mitigation Scenario 1	Mitigation Scenario 2	Average of post-mitigation scenarios
Inhassoro	5.63%	3.9%	0.6%	2.2%
Bazaruto Island	5.63%	0.0%	0.0%	0.0%

To observe the two effects of the scenarios separately, the contractor’s presence will to some extent have a positive influence on the larger economic situation compared to the negative impact on the tourism industry in Inhassoro due to the direct and indirect support to the town community.

There is some doubt that the occurrence of the jetty and its activities may have some negative influence on the tourist’s holiday experience, on a very limited and negligible manner. Likewise, the seine fishing will only be interrupted for short periods during the day over a week or during the time barge movements ferrying equipment to shore take place, however, via a narrow route. This will only take place every 3 or 4 months with very little impact overall.

The significance of the values in the two sub-areas is shown in Table 7 and Table 8.

Table 7: Risk analysis scenario results of pre- and post-mitigation: Inhassoro

Indicator of potential impact	Pre-mitigation					Post-mitigation				
	Severity (Magnitude)	Duration	Extent (Scale)	Probability	Significance	Severity (Magnitude)	Duration	Extent (Scale)	Probability	Significance *
Destination Image (Sense of Place)	2	1	2	2	**10**	1	1	1	0	**1**
Quality of Beach Experience	2	1	1	2	**8**	1	1	1	1	**2**
Unpopular with tourists	2	1	1	1	**4**	1	1	1	1	**2**
Inhassoro Town goods and services	1	1	2	1	**4**	1	1	1	-	**-**
Access Road improvements (Inhassoro)	1	1	1	1	**3**	1	1	1	-	**-**
Average					6					1

** (Where significance >75 = High/don't know; 41 – 75 = Moderate; 15 – 40 = Low and below< 15 = Negligible)*

Table 8: Risk analysis scenario results of pre- and post-mitigation: Bazaruto Islands

Indicator of potential impact	Pre-mitigation					Post-mitigation				
	Severity (Magnitude)	Duration	Extent (Scale)	Probability	Significance	Severity (Magnitude)	Duration	Extent (Scale)	Probability	Significance *
Destination Image (Sense of Place)	1	1	1	1	3	1	1	1	-	-
Quality of Beach Experience	1	1	1	-	-	1	1	1	-	-
Unpopular with tourists	2	1	1	1	4	1	1	1	-	-
Inhassoro Town goods and services	1	1	1	-	-	1	1	1	-	-
Access Road improvements (Inhassoro)	1	1	1	-	-	1	1	1	-	-
Average					1					0

** (Where significance >75 = High/don't know; 41 – 75 = Moderate; 15 – 40 = Low and below< 15 = Negligible)*

To conclude, a first round of mitigation was applied. The positive outcomes of the construction and operation of the CTT power plant on the general economy and industry is beneficial to the town over the longer term as opposed to the temporary negative impact on the local tourism industry.

6.0 ECONOMIC IMPACT ASSESSMENT RESULTS

As already highlighted, the purpose of this section is to determine the possible impact of the beach landing of the heavy equipment and the overland transport of same to the proposed site of the CTT site. As the beach and associated tourism activities could be impacted by the activities it was necessary to do a risk analysis of the possible impact on Inhassoro town and the Bazaruto Island respectively.

A tourism based econometric model was constructed using multipliers deduced from the Input-Output tables of the Mozambique Government which converts the monetary income values and direct employment to the economic and social values. The model was used to determine separate economic levels of impact for Inhassoro and Bazaruto.

The Plomp Risk model was then used to determine before mitigation level determine the “worst” possible and after mitigation values. Each scenario was expressed as a value, which was then converted to a percentage applied to the multipliers to determine the economic and social impacts.

A current situation using the data collected and processed for the inputs to the model have firstly been prepared. Those inputs which are the turnover/production and direct job opportunities were modelled to determine economic impacts. This “invisible” baseline determined was then applied for the before- and after mitigation scenarios incorporating the risk analysis model. The socio- and macro-economic results of the economic baseline, the “worst” case scenario and after mitigation, the level of the socio-economic impacts are tabled below. The worst impact deviation percentage from the baseline impact for the Inhassoro beach is 5.63% and was identified as a low negative impact.

This resulted in distinctive values that need to be reported on showing a loss of 26 direct and 15 indirect and induced jobs in Inhassoro. Less GDP will be channelled through the economy while the low-income household earners will also have less disposable income due to the job losses due to less fishing opportunities, less regional tourists to accommodate and the effect of the dependant economic activities from the direct impacts. The final result is a negative impact on the low-income households in the community.

Table 9: Socio-economic Results of Inhassoro (US$ Millions, 2017 Prices)

	GDP (US$ Mil)			Employment (Numbers)			Household Income (US$ Mil)		
	Direct	Indirect and Induced	Total	Direct	Indirect and Induced	Total	Total	Medium	Low
Baseline	3.53	3.78	7.31	372	213	585	7.77	5.54	2.23
Worst Case Scenario	2.99	3.19	6.18	314	180	494	6.57	4.68	1.89
Worst Case Deviation	*0.54*	*0.59*	*1.13*	*58*	*33*	*91*	*1.20*	*0.86*	*0.34*
After mitigation	3.23	3.45	6.68	340	195	535	7.11	5.07	2.04
Mitigation Deviation from Baseline	0.30	0.33	0.63	32	18	50	0.60	0.47	0.19
Improvement after Mitigation from	**0.24**	**0.23**	**0.57**	**26**	**15**	**41**	**0.60**	**0.39**	**0.15**

The table show that the defined mitigation improved the projected total GDP loss from US$1.13 million per annum to US$ 0.57 million per annum. The direct job losses improve by 26 and only an estimated 32 jobs could be in danger of being lost with a total of 50 compared to a possible 91 before mitigation measures are applied. The mitigation measures can therefore reduce the estimated job losses to 41 jobs in total. The same situation is observed in the case of the household income segment.

Table 10: Socio-Economic Results of Bazaruto Island [US$ millions, 2017 Prices]

	GDP (US$ Mil)			Employment (Numbers)			Household Income (US$ Mil)		
	Direct	Indirect and Induced	Total	Direct	Indirect and Induced	Total	Total	Medium	Low
Baseline	7.84	8.38	16.22	825	628	1 453	17.24	12.29	4.95
Worst Case Scenario	7.40	7.91	15.30	778	593	1 371	16.27	11.60	4.67
Worst Case Deviation	*0.44*	*0.47*	*0.91*	*47*	*35*	*82*	*0.97*	*0.69*	*0.28*
After mitigation	7.65	8.18	15.83	805	613	1 418	16.83	12.00	4.83
Mitigation Deviation from Baseline	0.19	0.20	0.39	20	15	35	0.41	0.29	0.12
Improvement after Mitigation from Worst Case	**0.25**	**0.27**	**0.51**	**27**	**20**	**47**	**0.56**	**0.40**	**0.16**

The table show that the defined mitigation improves the projected total GDP loss from US$ 0.91 million per annum to US$ 0.38 million per annum. The direct job losses improve by 27 and only an estimated 20 jobs could be in danger of being lost with a total of 47 compared to a possible 82 before mitigation. The mitigation measures can therefore reduce potential job losses to an estimated 39 jobs in total. The same situation is observed in the case of the household income segment.

Table 11: Socio-Economic Impact Results of the total study area [US$ millions, 2017 Prices]

	Total		
	After mitigation	**Worst Case Scenario**	***Improved Situation***
Impact on total GDP [US$ mil]	1.02	2.04	*0.52*
Impact on total employment [numbers]	85	173	*88*
Impact on low-income households [US$ mil]	0.31	0.62	*0.31*
Impact on all households [US$ mil]	1.01	2.17	*1.17*

The table shows that the maximum total reduction in GDP after mitigation is US$1.02 million and before mitigation US$2.04 million. The possibility exists that 173 employment opportunities can be lost before mitigation with the total reduced to 88 after mitigation.

As most of the jetty construction activities and other CTT plant construction activities will have a possible positive impact in terms of stimulating the local economy , the possibility exists that some of the negative impacts on the economy of Inhassoro can be offset and that the total impact on the local economy will be less than anticipated if only the negative impact on the tourist activities is taken into consideration.

7.0 CONCLUSION

The available studies and documents related to the CTT project were inspected by means of a literature study in addition to fieldwork that was done to provide and validate quantities and price ranges of the most recent available tourism accommodation and recreational activities. An independent local consultant was tasked to do an on-site survey of the current hospitality and entertainment facilities, the extent of artisanal and recreational fishing activities and other tourist attractions. Internet searches were further done to augment the information collected.

It was decided to use a Socio-Economic approach considering the characteristics of the different tourist types and their leisure activities, instead of a purely economic approach. A socio-economic baseline was established by calculating the identified parameters generated by the current tourism activities should no negative impact be experienced during the coming tourist activities. The deviation from the parameters are then calculated and presented as the impact of the specific level of restriction.

The economic impact is measured in terms of the Gross Domestic Impact (GDP) and if necessary Capital Investment, while the social impacts are measured in terms of the impact on employment and the income of households. Specifically, the impact on the Low-Income Households and the possible increase in poverty in Inhassoro was estimated as the local economy of this rural population is to a large extend dependant of the regional and overseas visitors.

The risk analysis to determine the deviation due to the construction of the offloading infrastructure on the tourists is uniquely adapted from the Plomp methodology used by environmentalists to determine quantitative results. The economic team went one step further; the qualitative results were then converted to quantitative results expressed in monetary values. This made it possible to use that monetary value result to be linked into the socio- and macro-economic model. This macro- and socio-economic model made then provision to determine the deviation of the risk in monetary terms from the baseline expressed in macro- and socio-economic indicators.

The socio- and macro-economic results of the baseline as well as the worst possible case scenario for Inhassoro shows a deviation percentage from the baseline impact to be 5.63% being identified as a moderate negative

impact. This resulted in distinctive values that need to be reported showing a loss of 58 direct and 33 indirect and induced jobs in Inhassoro (pre-mitigation) and 26 and 15 job losses respectively (post-mitigation). Lower GDP values will be channelled through the economy while the low-income household earners will also have less disposable income due to the job losses due to less fishing opportunities, less regional tourists to accommodate and the effect of the dependant economic activities from the direct impacts.

These job losses can be substantially reduced should the contractors and visiting consultants make use of the accommodation facilities at Inhassoro.

The deviation percentage from the baseline impact is also 5.63% for the Bazaruto Island which is a low negative impact in the worst possible scenario. The employment loss will then be 47 direct and 35 indirect and induced (pre-mitigation) and 27 and 20 job losses respectively (post-mitigation). As with Inhassoro, lower GDP will be channelled through the economy while the low-income household earners will also have less disposable income due to the job losses due fewer international tourists to accommodate and the effect of the dependant economic activities will also reduce such as scuba diving trips.

Two mitigation options were defined and analysed with the preferable option the one where offloading activity will be minimised during the peak holiday season and restricted to only day time activities.

The possibility exists that a total of 173 employment opportunities can be lost on both beaches before mitigation with the total reduced to 88 after mitigation. These numbers show the importance of detailed planning of the beach landing and associated activities.

In the final instance it is necessary to keep in mind that the construction and operation of the CTT power plant will contribute to the long-term economic growth of Mozambique, which is also necessary to impact positively on the poverty in the country.

It is accepted that tourism will be temporarily and intermittently negatively impacted over an 18 to 24 month period, but we are of the opinion that on the medium term it will recover. Local fishing activities will only be interrupted for a few hours a day over a week or two at a time during barge movements bringing equipment to shore, via a narrow route. This will only take place every 3 or 4 months with very little impact.

8.0 REFERENCES

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PPENDIX A

Extracts Literature Studies

The following extracts of information were sourced from the Environmental Impact Assessment Study, June 2017, the Socio-Economic Baseline Study, July 2018 and the Sasol Beach Landing Assessment for the Mozambique Gas to Power Project, November 2014. These studies covered the socio-economic circumstances of communities, as well as tourism and fisheries in the wider area.

Environmental Impact Assessment Study (Golder, June 2017)

The Inhassoro and Vilankulos Districts are tourism destinations at an early stage of development, with linear expansion along the coast in a largely unplanned way, dominated by small investors operating in adverse conditions. Nevertheless, expectations of future performance are high. A portion of the study area has been reserved for future tourism development under a Zone of Tourism Interest (ZIT).

Inhassoro town is the gateway to the northern-most islands of the Bazaruto Archipelago National Park, a popular tourist destination for deep-sea angling on virtually unexplored reefs. The Bazaruto Archipelago is regarded as one of the best destinations in the world for catching black marlin. Two airfields in the towns of Inhambane and Vilankulo receive regular and charter flights from Maputo, Beira and South Africa and also transfer passengers to the Bazaruto Archipelago islands.

South African and Zimbabwean tourists make up almost 80% of all tourists. Most accommodation establishments are owned by South Africans or Zimbabweans. Thirty-five of these have a two-star classification, and 14 have only a one-star classification, requiring considerable investment for upgrading.

Socio-Economic Baseline Study (Golder, July 2018)

Interviews were held with lodge, hotel and restaurant owners situated near each of the proposed beach landing sites. All establishments have peak times over Easter (April) and summer (December and January) seasons. Their occupancy is 100% during these peak times, and most average 50% occupancy during the off-peak season. These business owners anticipate more business should the project commence in Inhassoro, due to the influx of job seekers or contractors who would need accommodation in the area during the project activities (construction and operation).

Subsistence agriculture was indicated as the principal livelihood activity, followed by livestock (mainly poultry) breeding as the other activity. Small-scale fishing was the third most cited category of activities. Activities that are least practised include tourism, sea product collection and commercial agriculture. The artisanal fishermen in Inhassoro depend solely on fishing as their livelihood, whereas the other members of communities combined fishing with other “inland” activities.

The Inhassoro District health facilities comprise six existing facilities and two recently constructed facilities, bringing the total to eight facilities in the district. About half of the population of the district reside within favourable (0-5 km) distance from a health facility, 35% travel more than 10 km to the nearest health facility, and the rest travels 15 km or more. The population of the 12 communities are served by four of these district health facilities: Inhassoro, Mangungumete, Temane (Maimalane) and Macovane and a reported health facility in Pambara (falls under Vilanculos District).

The Mozambique Anchor Tourism Investment Programme’s overall goal is to stimulate growth and investment in the country’s tourism sector by selecting, developing and promoting specific tourism investment opportunities. The Inhassoro Anchor Site is situated approximately 30 km south of Inhassoro (the main village) and 25 kilometres north of Vilanculos, in line with the bottom end of Bazaruto Island and slightly south of Santa Carolina. The site is approximately 2 500 ha in size with some 5 km of white sand beachfront.

Interviews were held with lodge, hotel and restaurant owners situated near each of the proposed beach landing sites. All establishments have peak times over Easter (April) and summer (December and January) seasons. Their occupancy is 100% during these peak times, and most average 50% occupancy during the off-peak season. These business owners anticipate more business should the project commence in Inhassoro, due to the influx of job seekers or contractors who would need accommodation in the area during the project activities (construction and operation).

Fishing from the sea provides food and income to a large proportion of economically active people in the coastal villages around the project area, where most men are fishermen and where fishing is the main source of family income either in cash or bartered goods.

When beach seine fishing is not practised in the closed season, most fishermen and women pursue other forms of income generation and in good years cultivate and benefit from the winter agricultural harvest.

EIA for the proposed pipeline from the Temane Liquids Processing Facility to a floating, storage, and offloading unit in Inhambane Province, Mozambique, July 2016

The economic activities in Inhassoro District, amongst others, are that fishing is the predominant activity in the coastal areas, fish processing and resale is also an important economic activity, industrial and semi industrial line fishing is practised east of Bazaruto Archipelago for the supply of fish to national and international markets. Tourism is the largest formal sector employer in the coastal region of Inhassoro District has been defined as "the greatest asset for the development of the province's economy".

Tourism is highly seasonal with the peak periods over Christmas and Easter given its distance from the main tourist source areas in South Africa and Zimbabwe.

The main attractions are diving and snorkelling with the most popular dive sites being the north-western side of Magaruque including Two Mile Reef, Five Mile Reef, the Potholes, the Greek Temple, and reefs along the eastern side of Bazaruto Island and the Coral Gardens in the north.

The best diving period is April to December, while the peak times for deep sea and recreational fishing are the peak seasons of April, December and January, especially in areas to the north of Bazaruto Island, sometimes up to 20 km from shore.

Sasol Exploration and Production International Off-shore Compensation Procedure

The document was studied in order to determine what fishing activities are included in the Compensation Procedure.

Definitions applied for fisheries:

- Artisanal fisheries - fishing operations using small vessels (less than 10 m in length) or no vessels, with much of the catch used for subsistence consumption, although some is processed, sold or traded;
- First order fishmonger, trader or processor - Individuals or groups to whom artisanal fisheries directly sell their catch.
- Industrial fisheries - Fishing operations carried out in Mozambican waters or beyond, using motor-driven vessels (motors up to 1,500 horse power) and more than 20 m long. and
- Semi-industrial fisheries - Semi-industrial fisheries operate in coastal areas using motor-driven vessels (motors up to 350 horse power) with vessels 10 to 20 m in length.

Sasol Beach Landing Assessment for the Mozambique Gas to Power Project, (AECOM, November 2014)

For the beach landing of the heavy equipment required for the CTT Project other landing sites were also considered, however, it was decided to pursue the Inhassoro location for various reasons (see para. 2.3). It is anticipated that the duration of the offloading of the heavy equipment will take 8 months with 3 shipments. The duration for the construction and removal of the temporary jetty is anticipated to be 30 days for construction.

One of the disadvantages mentioned in the report is that the landing site is in the direct access to all lodges in the area. With large volumes of trucks and cranes expected the beach landing area will attract the most inconvenience to local fishermen, tourists and locals. Safety could be a concern with respect to fishermen who want to cross the beach access, local curiosity and tourist traffic, also with construction vehicles and operational vehicles close to local vehicles and pedestrians.

Jetty Construction

The Seta beach landing site is the preferred beach landing site (see Figure 7) and it is planned that the jetty will be constructed at Seta, although the other two options are still being evaluated as part of the ESIA. For purposes of this study, the Seta option is assessed and is representative of both of the other two options which are also inside Inhassoro town amongst various tourism facilities. The jetty construction time is planned to be 30 days for Option 1 and 25 days for Option 2 (Option 1 is a more tide dependent construction).

Duration of equipment offloading at Inhassoro

There are three cargo options that the Proponent is evaluating, consisting of different shipments: The duration of Option 1 is 6 months and that of Options 2 and 3 is 8 months.

Number of vessels with equipment to Inhassoro

Three cargo carrying ships will transport the heavy equipment to an anchorage point off the coast of Inhassoro from where the equipment will be transhipped from vessel to barge and taken to the temporary jetty, to be constructed on the beach at Seta Lodge, and off-loaded.

Equipment Arrival

The assumptions in the analysis as advised by the Proponent for the arrival of the equipment is as follows:

- *Option 1*: Gas Engines: two Shipments (Gas Engines and Transformer) over 6 months where the Gas Engines are brought in in one shipment (2 ships) and the transformers are brought in on the other shipment; and
- *Option 2*: Gas Turbines: three Shipments (Gas Turbines/Steam Turbines, HRSG and Transformers) over 8 months, where the Gas Turbines will be brought in in one shipment, the transformers in the other and the HRSG units (4 pieces x 6 units = 24 Pieces) in another shipment.

The transhipment vessel will be moored as close as possible to the site. There are two anchorage locations in the leeside of Bazaruto indicated on the nautical charts with depths around 15 to 20 m. The mooring depends on the environmental impact assessment if the transhipment is not in an environmentally sensitive area it will be approved, and the license can be obtained.

The off-loaded equipment will be land transported from Inhassoro to the CTT Project site. The transport of jetty containers by road is included in the 30 days construction time for Option 1 and 25 days for Option 2. Option 1 is a more tide dependent construction.

Given the time between each shipment (4 or 6 months) the equipment at the jetty will demobilize after each operation and need to be mobilized again for each operation.

Road Upgrading and Maintenance

The preferred route for transporting the heavy equipment from the jetty at Seta Lodge and the staging or layover area is along the R241, the EN1 to the CTT site (see Figure 8). Powerlines along the route will be extended or re-routed as required. The road will be upgraded to accommodate the abnormal load transport and allowance is made for an 8-month maintenance contract on the roads and beach landing.

It is expected that the transport route will disrupt Inhassoro Village life, the local population crossing the work area, tourist movement and civilian and tourist traffic. This route will also take the loads past the Maimelane Village, with an increased safety risk to the local population there.

Fisheries Co-management in Inhassoro - A license Limitation Programme (Abdul Cawio A. Amade, Institute for Small Scale Fisheries Maputo, Mozambique

Although not mentioned much in the literature, it is well known that most people live in the coastal area and on the islands of the Bazaruto archipelago and depend on fisheries. As Falcao (1993) and Lopes (1995) observed, the fishery was the principal economic activity in terms of cash income. Agriculture is mostly subsistence with a small surplus for commercialisation. Between 1980 and 1990, war and drought were singled out as the major development constraints in the region. Falcao (1993) concluded that the income level of most households, in general, was low. There was a considerable difference in income between, permanent employees (skipper and crewmembers) and individual fishermen.

Presently, the consensus for development in the region in the medium-term indicates fisheries and tourism as key sectors, mainly on the coastline. The District of Inhassoro has a considerable potential for tourism. There is the Bazaruto archipelago that has appeal for tourists from South Africa and from Zimbabwe. The Inhassoro Village is closer to Bazaruto archipelago than Vilanculos, but presently the tourists have preferred the latter since it has infrastructure such as an airport, hotel accommodation and other services.

Most of the seines are 50 - 100 m long and are pulled by 9 - 12 persons. The largest seines can be up to 180 m long and require about 24 persons to operate.

Inhassoro is the only area in Mozambique where mechanised seines are used for fishing (so-called semi-industrial fishing). The nets are connected to cables, which are pulled by a tractor with a winch. There are five such mechanised seines active in the fishery.

The hand line boats between 6 to 9 m in length employ at least five fishermen while the smallest boats (2 to 4 m) employ 1 or 2 fishermen.

In general, the boats are made of wood and the main means of propulsion are oars and sails. There are only 18 motorised boats and most of them are equipped with hand line.

The region has a long tradition of salted sun-dried fish as means of preservation. Until the end of the 1950's the means of communication with the outside world was through a transport boat running through the cities of Vilanculos and Beira and all the dried fish was marketed in the cities. In the early 1960's, Inhassoro became connected to the national road system and thus markets for fresh fish become accessible (Kristiansen *et al*. 1995).

Presently, both dried and fresh fish products are marketed and the main domestic markets for fresh fish include the cities of Maputo (about 800 km from Inhassoro), Inhambane (about 350 km from Inhassoro) and Beira (about 400 km from Inhassoro). In these markets, the prices are two or three times higher than the production cost. At least two owners of mechanised seines have infrastructures for preservation of the product and they also buy surplus production from others commercial fishermen.

As a result of reduced competitiveness between buyers, the ex-vessel price has remained low. Nevertheless, there are numerous small buyers of dried fish but their presence in Inhassoro is not regular and consequently fishermen are sometimes forced to keep their product for a long time.

More generally, the fishery sector has interactions with other sectors. There is evidence that tourism plays an important role in the region. The Bazaruto archipelago has been declared a National Park and measures have been taken for its conservation. At the same time the tourism authorities have declared their intention of infrastructure development in the coastal area. The nature of the links between the tourism and fisheries sectors needs to be clarified. For instance, the employment opportunities for local people, recreational and sport fisheries for tourists could be estimated.

PPENDIX B

Official Accommodation Data

Official tourist accommodation data for the Inhassoro District

REPÚBLICA DE MOÇAMBIQUE

PROVÍNCIA DE INHAMBANE

GOVERNO DO DISTRITO DE INHASSORO

SERVIÇOS DISTRITAIS DE ACTIVIDADES ECONÓMICAS

	Designation	Location	Proponents	B/rooms	Beds	Tables	Chairs	Classe		Contacto	Investment Volume	Note
No	**Designação**	**Localização**	**Proponente**	**Quartos**	**Camas**	**Mesas**	**Cadeiras**	**Classe**	**PE**	**Contacto**	**Volume de Investimento**	**Observação**
1	Complexo Turistico SETA	Inhassoro Sede	Vctoriano Jorge Cabrita	34	78	80	200	**	15	845103546		Funcionamento
2	Casa Cabana	Inhassoro Sede	Soc. Casa Cabana, Lda.	15	30	0	0	*	15		350 000.00	Funcionamento
3	Casa Pocunut	Inhassoro Sede	Soc. Casa Pocunut	32	64	0	0		11		870 000.00	
4	Club Inhassoro	Inhassoro Sede		20	20	0	0		0			*
5	Complexo Machiquechique	Inhassoro Sede	Domingos Machiquechique	8	8	0	0	Única	21	824330024	255 000.00	
6	Sociedadae Dungongo Limitada	Inhassoro Sede	Soc. Dungongo Investimento	18	54	30	120	**	15		4 600 000.00	
7	EL Acienda Beach Lodge	Inhassoro Sede	Robert	14	24	0	0	**	8			
8	Estrela de Mananisse	Inhassoro Sede	Estrela de Mananisse Lda	9	15	0	0	*	14		1 000 000.00	
9	Games Fishing Bay	Inhassoro Sede	Blue Water Beach Lda	48	96	0	0	*	12		375 000.00	
10	Good Villas	Inhassoro Sede	Sociedade Good Villas	12	24	0	0	*	0	842344434	800 000.00	
11	Hotel Inhassoro	Inhassoro Sede	BPB e Banco Austral	32	85	0	0	**	13		980 000.00	
12	Indica Property	Inhassoro Sede	Indica Property Lda	11	22	0	0	**	15		155 000.00	
13	Inhassoro Beach Lodge	Inhassoro Sede	Soc. Inhassoro beach	15	72	0	0	**	6	825250365	1 000.00	

14	Jappy Empriendimento	Inhassoro Sede	Jappy Empriendimento	25	50	10	48	*	1		950 000.00	
15	Complexo Sonia	Inhassoro Sede	Joao Lopes J. Antonio	13	26	0	0	Única	20	828829450	1 490.00	
16	Pensão Inhassoro	Inhassoro Sede	Hendry V. Tonder	15	30	10	60	**	13	848637458	2 200.00	
17	Ponta I'ssoro	Inhassoro Sede	Ponta I'ssoro	10	20	0	0	**	3		150 000.00	
18	Rede Clifil Estates e mi Casa Estate	Inhassoro Sede	Rede Clifff Estates, Lda	40	80	0	0	*	24		2 510 000.00	
19	Vista Oriente	Inhassoro Sede	Vista Oriente, Lda	18	36	0	0		15			
20	Estrela do Mar / Hotel Escola	Inhassoro Sede	Diocese de I'Bane	19	29	20	70	**	23	29391011/821	2 333 333.00	
21	Jorge Ringane Zefanias	Sede	Jorge Ringane Zefanias	6	6	0	0		0	843897517		*
22	Beach Lodge	Mucocuene	Soc. Beach Lodge, Lda	4	9	0	0	**	4		970 000.00	
23	Gwala Gwala	Mucocuene	Andries Stephanus Du Piessis	6	9	4	16		29		800 000.00	Encerrado
24	Costa Brava Limitada	Mucocuene	Sociedade	4	7	0	0	Única	3			
25	Pensão Mucocuene	Mucocuene	Sociedade Pensão moc	4	9	0	0	**	12		255 000.00	
26	Soc Vila Rosa	Mucocuene	Soc. Vila Rosa	5	6	0	0	Única	5			
27	Vila da Praia Lda	Mucocuene	Ernesto Ferreira da Cruz	4	6	0	0	Única	0			*
28	Yellow Fin	Mucocuene	Antony	15	30	0	0		5	827819321		
29	Bon Espor, Lda	Mucocuene		10	15	0	0		0		1,200,00	*
30	Briza Mar	Mucocuene		10	14	10	40	**	5	845103546		
31	Brezes Lodge	Mucocuene		6	12	0	0		0		11 850 000.00	*
32	So. Inhassoro Mini-Lodge	Mucocuene	Sociedade	5	11	0	0		0			
33	So. Baia de Carangueijo	Mucocuene	Sociedade	9	12	0	0		4			
34	Satellite Technologiies Services	Mucocuene	Alberto R Litho	10	16				10		2,800,00	
35	Sociedade Caslew Bay	Mucocuene	Sociedade	12	18	0	0		0	843868782		*
36	Casa Vista	Tsondzo	Soc. Casa Vista	6	18	0	0		6			
37	Balvista Lda	Tsondzo	Sociedade	8	12	6	24		0	844126340	650 000.00	*
38	Vista Santa Carolina	Tsondzo	Soc. Santa Carolina	6	12				0			*
39	Singa"B" lela	Tsondzo	Sociedade	8	12	0	0		0	844126340		*
40	So. Mango Tsondzo Lda	Tsondzo	Sociedade	4	5	0	0		0			*

41	Van Blerk Brothers Lda	Tsondzo	Sociedade	4	4	0	0	Única	3			
42	Lulas Paradise	Nhamabwe	Hugo Boshoff	10	18	0	0	Única	7	1 100 000.00		
43	Sociedade Rio Azul	Nhamabwe	Soc. Rio Azul, Lda	20	32	0	0	*	0	1 000 000.00		*
44	BD Seta	Nhamabwe	Jorge Cabrita	15	30	15	60	**	15			
45	Club 15	Nhamabwe		8	20	0	0		0			*
46	Algerian Lda	Nhamabwe	Hans	12	12	4	16		2	27833363061		
47	Casa Jambolyala Lda	Nhamabwe	Sociedade	8	8	0	0		0	849361340/84		*
48	Sociedade B.D. ENTERPRISES LDA	Nhamabwe	Sociedade	4	7	0	0	Única	3			
49	Bill Fish Lodge	Petane 1	Philippus Manaman	40	120	15	60		5	842387866		
50	Canta Libre lda	Petane 1	Breedf	6	12	0	0	*	4	842600475		
51	Captain Lee	Petane 1	Ryan Dhooge	5	10	0	0	*	9	848644857		
52	Sable Fishing	Petane 1	Sable Fishing, Safaris, Lda	6	9	0	0	Única	7	843215000		
53	Sociedade Seafood	Petane 1	Sociedade	4	8	0	0	Única	3			
54	Sociedade Empreendimento Paco	Petane 1	Sociedade	4	6	0	0	Única	3		20 000.00	
55	Sociedade Blue Water Lodge Sociedade Areia de Inhassoro	Manaisse	Ryan Dhooge	8	8	0	0	Única	5			
56	Catalina Investments	Manaisse	Johan	5	7	0	0	Única	6		600 000.00	
57	Inhassoro Pescas	Manaisse	J. Botha	10	38	0	0	Única	6	827898162		
58	Island Feries	Faquete	Jerie B. Mark	14	34							
59	Johson Bar	Faquete		6	8	11	42	*	12	8252034657/8	950 000.00	
60	Casa Luna	Faquete	F. Subtil e J. Rodrigues	26	65	40	160	**	13	8246266780		Funcionamento
61	Ilala Beach Lodge	Mahoche	Sociedade Ilala	43	86	0	0	**	10	829361340	2 280 000.00	
62	Sociedade Agua Azul	Mahoche	Sociedade	9	10	0	0	Única	5			
63	Sociedade Vila Verdinha	Mahoche	Sociedade	3	3	0	0	Única	3			
64	Tsikani Gelasi	Maimelane	Mateus Lucas Nhancale	8	8	0	0	Única	0			*
65	Zacarias Antonio Huo	Maimelane	Zacarias Antonio Huo	8	8	0	0	Única	3			
66	Estância T. Bazaruto Lda	Ilha Bazaruto	Salvador Hoteis	52	60	0	0	***	78		6 300 000.00	
67	Estância T. Lda	Ilha Bazaruto	Sociedade Sapal	46	55	0	0	***	22			

68	Soc. Unipessoal Res. Ni	Vulanjane	Maria de Lurdes Freitas	21	50	20	80	**	13			
69	Mi Casa Estantes Limitada	Chibo	Sociedade	10	20	10	40	Única	5			
70	Temane Lodge Limitada	Maimelane	Manuel Jaime	8	16	0	0	Única	6	842250560	1,000.00.00	
	Total			**939**	**1796**	**205**	**836**		**560**			

PPENDIX C

Survey Questionnaires

Tourist accommodation survey results of the current hospitality and entertainment facilities, the extent of artisanal and recreational fishing activities and other tourist attractions

Name of Facility / Establishment: AGUA AZUL

Owner/ Manager:Sharon Cooke

Cell:84 8394966

Geographical Coordinates: S EO

Type of Facility:

Hotel	**Lodges / Bed & Breakfast**	**Backpackers**	**Camping**	**Self-Catering**

Number of Beds: Number	14
Capacity: Number of people sleeping	28
Bed occupancy rate: Percentage per annum	30%
Difference between Winter and Summer Time?	N/A
Number of Employees: at the Facility: Number	4
Rates per person per night: **Sharing – Mozambican Metical**	5.000,00
Rates per person per night: **Sharing – South African Rand (if available)**	N/A
Rates per person per night: **Sharing – US $ (if available)**	N/A
Rates per person per night: **Single – Mozambican Metical**	N/A
Rates per person per night: **Single – South African Rand (if available)**	N/A
Rates per person per night: **Single – US $ (if Available)**	N/A
Main Country of Origin of Visitors: Name and Percentage	Zimbabweans 80%
Second source of visitors : Name and Percentage	SA 20%
Average Duration of Stay of Guests: days	5 days

What are the main and secondary attractions for tourists to Inhassoro?

Leisure	**Environment and Tropical Climate**	**Bird watching**	**Fishing (shore, beach, Seine or deep sea) or other (specify)**	**Other (specify)**
Yes	Yes		Yes	Business

Notes:

1) Rates are per room including breakfast;

2) Currency is metical by law at day exchange rate;

3) They give discounts based on number of nights and number of people. There is no difference between summer or winter in terms of price/rate per room

****

Name of Facility / Establishment: BILLFISH LODGE

Owner/ Manager: Gildo Ngomane

Cell: 84 2392598

Geographical Coordinates: S21°30'08.5" EO35°11'06.0"

Type of Facility:

Hotel	Lodges / Bed & Breakfast	Backpackers	Camping	Self-Catering

Number of Beds: Number	48
Capacity: Number of people sleeping	62
Bed occupancy rate: Percentage per annum	40%
Difference between Winter and Summer Time?	N/A
Number of Employees: at the Facility: Number	12
Rates per person per night: **Sharing – Mozambican Metical**	1.450,00
Rates per person per night: **Sharing – South African Rand (if available)**	N/A
Rates per person per night: **Sharing – US $ (if available)**	N/A
Rates per person per night: **Single – Mozambican Metical**	N/A
Rates per person per night: **Single – South African Rand (if available)**	N/A
Rates per person per night: **Single – US $ (if Available)**	N/A
Main Country of Origin of Visitors: Name and Percentage	SA 60%
Second source of visitors : Name and Percentage	Zim 30%; Moz 10%
Average Duration of Stay of Guests: days	5 days

What are the main and secondary attractions for tourists to Inhassoro?

Leisure	Environment and Tropical Climate	Bird watching	Fishing (shore, beach, Seine or deep sea) or other (specify)	Other (specify)
Yes	Yes		Yes	Business

Notes:

1) Rates are per room including breakfast;

2) Currency is metical by law at day exchange rate; and

3) They give discounts based on number of nights and number of people. There is no difference between summer or winter in terms of price/ rate per room

***

Name of Facility / Establishment: BRIZA MAR

Owner/Manager:Sergio Damião

Cell: 84 7632307 / 843331000

Geographical Coordinates: S21 33 48.1 EO35 13 37.1

Type of Facility:

Hotel	**Lodges / Bed & Breakfast**	**Backpackers**	**Camping**	**Self-Catering**

Number of Beds: Number	45
Capacity: Number of people sleeping	55
Bed occupancy rate: Percentage per annum	30%
Difference between Winter and Summer Time?	N/A
Number of Employees: at the Facility: Number	20
Rates per person per night: **Sharing – Mozambican Metical**	5.300,00
Rates per person per night: **Sharing – South African Rand (if available)**	N/A
Rates per person per night: **Sharing – US $ (if available)**	N/A
Rates per person per night: **Single – Mozambican Metical**	N/A
Rates per person per night: **Single – South African Rand (if available)**	N/A
Rates per person per night: **Single – US $ (if Available)**	N/A
Main Country of Origin of Visitors: Name and Percentage	Mozambicans 80%
Second source of visitors : Name and Percentage	Zim & SA 20%
Average Duration of Stay of Guests: days	5 days

What are the main and secondary attractions for tourists to Inhassoro?

Leisure	**Environment and Tropical Climate**	**Bird watching**	**Fishing (shore, beach, Seine or deep sea) or other (specify)**	**Other (specify)**
Yes	Yes		Yes	Business

Notes:

1) Rates are per room including breakfast;

2) Currency is metical by law at day exchange rate;

3) They give discounts based on number of nights and number of people. There is no difference between summer or winter in terms of price/ rate per room

***

Name of Facility / Establishment: CANTA LIBRE

Owner/ Manager:

Cell:

Geographical Coordinates: S21°30'08.5" EO35°11'06.0"

Type of Facility:

Hotel	Lodges / Bed & Breakfast	Backpackers	Camping	Self-Catering

Number of Beds: Number	
Capacity: Number of people sleeping	
Bed occupancy rate: Percentage per annum	
Difference between Winter and Summer Time?	N/A
Number of Employees: at the Facility: Number	
Rates per person per night: **Sharing – Mozambican Metical**	
Rates per person per night: **Sharing – South African Rand (if available)**	N/A
Rates per person per night: **Sharing – US $ (if available)**	N/A
Rates per person per night: **Single – Mozambican Metical**	N/A
Rates per person per night: **Single – South African Rand (if available)**	N/A
Rates per person per night: **Single – US $ (if Available)**	N/A
Main Country of Origin of Visitors: Name and Percentage	
Second source of visitors : Name and Percentage	
Average Duration of Stay of Guests: days	

What are the main and secondary attractions for tourists to Inhassoro?

Leisure	Environment and Tropical Climate	Bird watching	Fishing (shore, beach, Seine or deep sea) or other (specify)	Other (specify)

Notes:

1. They did not replay

Name of Facility / Establishment: CASA LUNA

Manager:Paulo Sousa

Cell:84 0609609

Geographical Coordinates: S26 01 15.6 EO322507.1

Type of Facility:

Hotel	Lodges / Bed & Breakfast	Backpackers	Camping	Self-Catering

Number of Beds: Number	22
Bed occupancy rate: Percentage per annum	40%
Difference between Winter and Summer Time?	S 80% & W 40%
Number of Employees: at the Facility: Number	24
Rates per person per night: **Sharing – Mozambican Metical**	3.500,00
Rates per person per night: **Sharing – South African Rand (if available)**	N/A
Rates per person per night: **Sharing – US $ (if available)**	N/A
Rates per person per night: **Single – Mozambican Metical**	N/A
Rates per person per night: **Single – South African Rand (if available)**	N/A
Rates per person per night: **Single – US $ (if Available)**	N/A
Main Country of Origin of Visitors: Name and Percentage	Mozambique 80%
Second source of visitors : Name and Percentage	Zim & SA 20%
Average Duration of Stay of Guests: days	3 days

What are the main and secondary attractions for tourists to Inhassoro?

Leisure	Environment and Tropical Climate	Bird watching	Fishing (shore, beach, Seine or deep sea) or other (specify)	Other (specify)
Yes	Yes		Yes	Business

Notes:

1. Rates are per room including breakfast;
2. Currency is metical by law at day exchange rate;
3. They give discounts based on number of nights and number of people. There is no difference between summer or winter in terms of price/ rate per room

Name of Facility / Establishment: DREAMCATCHER

Owner/ Manager:Sharon Cooke

Cell:84 8394966

Geographical Coordinates: S EO

Type of Facility:

Hotel	Lodges / Bed & Breakfast	Backpackers	Camping	Self-Catering

Number of Beds: Number	30
Capacity: Number of people sleeping	30
Bed occupancy rate: Percentage per annum	30%
Difference between Winter and Summer Time?	N/A
Number of Employees: at the Facility: Number	9
Rates per person per night: **Sharing – Mozambican Metical**	3.700,00
Rates per person per night: **Sharing – South African Rand (if available)**	N/A
Rates per person per night: **Sharing – US $ (if available)**	N/A
Rates per person per night: **Single – Mozambican Metical**	N/A
Rates per person per night: **Single – South African Rand (if available)**	N/A
Rates per person per night: **Single – US $ (if Available)**	N/A
Main Country of Origin of Visitors: Name and Percentage	Zim & SA 60%

Second source of visitors : Name and Percentage	European & Moz 40%
Average Duration of Stay of Guests: days	5 days

What are the main and secondary attractions for tourists to Inhassoro?

Leisure	**Environment and Tropical Climate**	**Bird watching**	**Fishing (shore, beach, Seine or deep sea) or other (specify)**	**Other (specify)**
Yes	Yes		Yes	Business

Notes:

1. Rooms including breakfast;
2. Currency is metical by law at day exchange rate;

Rates in summer increases to 4.500,00Mts per person sharing

Name of Facility / Establishment: DUGONGO LODGE

Owner/ Manager:Martin Oosthuizen

Cell:84 3891471

Geographical Coordinates: S21°33'10.3" EO35°12'58.9"

Type of Facility:

Hotel	Lodges / Bed & Breakfast	Backpackers	Camping	Self-Catering

Number of Beds: Number	54
Capacity: Number of people sleeping	62
Bed occupancy rate: Percentage per annum	30%
Difference between Winter and Summer Time?	N/A
Number of Employees: at the Facility: Number	9
Rates per person per night: **Sharing – Mozambican Metical**	1.755,00
Rates per person per night: **Sharing – South African Rand (if available)**	N/A
Rates per person per night: **Sharing – US $ (if available)**	N/A
Rates per person per night: **Single – Mozambican Metical**	N/A
Rates per person per night: **Single – South African Rand (if available)**	N/A

Rates per person per night: **Single – US $ (if Available)**	N/A
Main Country of Origin of Visitors: Name and Percentage	Zimbabweans 80%
Second source of visitors : Name and Percentage	Mozambicans 20%
Average Duration of Stay of Guests: days	5 days

What are the main and secondary attractions for tourists to Inhassoro?

Leisure	**Environment and Tropical Climate**	**Bird watching**	**Fishing (shore, beach, Seine or deep sea) or other (specify)**	**Other (specify)**
Yes	Yes	Yes	Yes	Business & Islands

Notes:

1. They have houses sleeping 5 to 8 people including breakfast;
2. Currency is metical by law at day exchange rate;
3. In summer they increase the price based on demand;
4. Summer is the high season with 100% occupancy and winter is between 20% and 30% occupancy.

Name of Facility / Establishment: FOGAO

Owner/ Manager:Fogao Matchimba

Cell:84 2518944

Geographical Coordinates: S21°31'44.2" EO35°11'56.2"

Type of Facility:

Hotel	Lodges / Bed & Breakfast	Backpackers	Camping	Self-Catering

Number of Beds: Number	10
Capacity: Number of people sleeping	20
Bed occupancy rate: Percentage per annum	30%
Difference between Winter and Summer Time?	N/A
Number of Employees: at the Facility: Number	4
Rates per person per night: **Sharing – Mozambican Metical**	1.000,00
Rates per person per night: **Sharing – South African Rand (if available)**	N/A

Rates per person per night: Sharing – US $ (if available)	N/A
Rates per person per night: Single – Mozambican Metical	N/A
Rates per person per night: Single – South African Rand (if available)	N/A
Rates per person per night: Single – US $ (if Available)	N/A
Main Country of Origin of Visitors: Name and Percentage	Mozambicans 100%
Second source of visitors : Name and Percentage	N/A
Average Duration of Stay of Guests: days	3 days

What are the main and secondary attractions for tourists to Inhassoro?

Leisure	**Environment and Tropical Climate**	**Bird watching**	**Fishing (shore, beach, Seine or deep sea) or other (specify)**	**Other (specify)**
Yes	Yes		Yes	Business

Notes:

1. Rates are per room;
2. Currency is metical;
3. There is no difference between summer or winter in terms of price/ rate per room

Name of Facility / Establishment: GOOD VILLAS

Owner/ Manager:

Cell:

Geographical Coordinates: S21°35'40.2" EO35°12'35.0"

Type of Facility:

Hotel	Lodges / Bed & Breakfast	Backpackers	Camping	Self-Catering

Number of Beds: Number	
Capacity: Number of people sleeping	
Bed occupancy rate: Percentage per annum	
Difference between Winter and Summer Time?	N/A
Number of Employees: at the Facility: Number	

Rates per person per night: Sharing – Mozambican Metical	
Rates per person per night: Sharing – South African Rand (if available)	N/A
Rates per person per night: Sharing – US $ (if available)	N/A
Rates per person per night: Single – Mozambican Metical	N/A
Rates per person per night: Single – South African Rand (if available)	N/A
Rates per person per night: Single – US $ (if Available)	N/A
Main Country of Origin of Visitors: Name and Percentage	
Second source of visitors : Name and Percentage	
Average Duration of Stay of Guests: days	

What are the main and secondary attractions for tourists to Inhassoro?

Leisure	**Environment and Tropical Climate**	**Bird watching**	**Fishing (shore, beach, Seine or deep sea) or other (specify)**	**Other (specify)**

Notes:

1. They did not respond;

Name of Facility / Establishment: HOTEL ESTRELA DO MAR

Owner/ Manager:Aziza / Carlos

Cell:84 0609609

Geographical Coordinates: S21 32 28.0 EO35 12 27.7

Type of Facility:

Hotel	Lodges / Bed & Breakfast	Backpackers	Camping	Self-Catering

Number of Beds: Number	29
Capacity: Number of people sleeping	47
Bed occupancy rate: Percentage per annum	28%
Difference between Winter and Summer Time?	N/A

Number of Employees: at the Facility: Number	26
Rates per person per night: Sharing – Mozambican Metical	4.000,00
Rates per person per night: Sharing – South African Rand (if available)	N/A
Rates per person per night: Sharing – US $ (if available)	N/A
Rates per person per night: Single – Mozambican Metical	N/A
Rates per person per night: Single – South African Rand (if available)	N/A
Rates per person per night: Single – US $ (if Available)	N/A
Main Country of Origin of Visitors: Name and Percentage	Mozambique 85%
Second source of visitors : Name and Percentage	Zim 15%
Average Duration of Stay of Guests: days	7 days

What are the main and secondary attractions for tourists to Inhassoro?

Leisure	**Environment and Tropical Climate**	**Bird watching**	**Fishing (shore, beach, Seine or deep sea) or other (specify)**	**Other (specify)**
Yes	Yes			

Notes:

1. Rates are per room including breakfast;
2. Currency is metical by law at day exchange rate;
3. They give discounts based on number of nights and number of people. There is no difference between summer or winter in terms of price/ rate per room

Name of Facility / Establishment: HOTEL INHASSORO

Owner/ Manager:

Cell:

Geographical Coordinates: S21º32'19.5" EO35º12'15.2"

Type of Facility:

Hotel	Lodges / Bed & Breakfast	Backpackers	Camping	Self-Catering

Number of Beds: Number	

Capacity: Number of people sleeping	
Bed occupancy rate: Percentage per annum	
Difference between Winter and Summer Time?	N/A
Number of Employees: at the Facility: Number	
Rates per person per night: Sharing – Mozambican Metical	
Rates per person per night: Sharing – South African Rand (if available)	N/A
Rates per person per night: Sharing – US $ (if available)	N/A
Rates per person per night: Single – Mozambican Metical	N/A
Rates per person per night: Single – South African Rand (if available)	N/A
Rates per person per night: Single – US $ (if Available)	N/A
Main Country of Origin of Visitors: Name and Percentage	
Second source of visitors : Name and Percentage	
Average Duration of Stay of Guests: days	

What are the main and secondary attractions for tourists to Inhassoro?

Leisure	**Environment and Tropical Climate**	**Bird watching**	**Fishing (shore, beach, Seine or deep sea) or other (specify)**	**Other (specify)**

Notes:

1. It is closed;
2. Currency is metical by law at day exchange rate;

Name of Facility / Establishment: COMPLEXO SETA

Owner/ Manager:Cabrita

Cell:84 5103546

Geographical Coordinates: S26 01 15.6 EO322507.1

Type of Facility:

Hotel	Lodges / Bed & Breakfast	Backpackers	Camping	Self-Catering

Number of Beds: Number	60
Bed occupancy rate: Percentage per annum	70%
Difference between Winter and Summer Time?	N/A
Number of Employees: at the Facility: Number	45
Rates per person per night: **Sharing – Mozambican Metical**	3.500,00
Rates per person per night: **Sharing – South African Rand (if available)**	N/A
Rates per person per night: **Sharing – US $ (if available)**	N/A
Rates per person per night: **Single – Mozambican Metical**	N/A
Rates per person per night: **Single – South African Rand (if available)**	N/A
Rates per person per night: **Single – US $ (if Available)**	N/A
Main Country of Origin of Visitors: Name and Percentage	Mozambique 80%
Second source of visitors : Name and Percentage	Zim & SA 20%
Average Duration of Stay of Guests: days	7 days

What are the main and secondary attractions for tourists to Inhassoro?

Leisure	**Environment and Tropical Climate**	**Bird watching**	**Fishing (shore, beach, Seine or deep sea) or other (specify)**	**Other (specify)**
Yes	Yes		Yes	Business

Notes:

1. Rates are per room including breakfast;
2. Currency is metical by law at day exchange rate;
3. They give discounts based on number of nights and number of people. There is no difference between summer or winter in terms of price/ rate per room

Name of Facility / Establishment: JOHSON BAR & ACCOMOTDION

Manager:Sheida

Cell:84 3806805

Geographical Coordinates: S21 31 50.0 EO35 12 04.1

Type of Facility:

Hotel	Lodges / Bed & Breakfast	Backpackers	Camping	Self-Catering

Number of Beds: Number	10
Capacity: Number of people sleeping	18
Bed occupancy rate: Percentage per annum	60%
Difference between Winter and Summer Time?	N/A
Number of Employees: at the Facility: Number	6
Rates per person per night: **Sharing – Mozambican Metical**	3.500,00
Rates per person per night: **Sharing – South African Rand (if available)**	N/A
Rates per person per night: **Sharing – US $ (if available)**	N/A
Rates per person per night: **Single – Mozambican Metical**	N/A
Rates per person per night: **Single – South African Rand (if available)**	N/A
Rates per person per night: **Single – US $ (if Available)**	N/A
Main Country of Origin of Visitors: Name and Percentage	Mozambique 80%
Second source of visitors : Name and Percentage	Zim 20%
Average Duration of Stay of Guests: days	7 days

What are the main and secondary attractions for tourists to Inhassoro?

Leisure	**Environment and Tropical Climate**	**Bird watching**	**Fishing (shore, beach, Seine or deep sea) or other (specify)**	**Other (specify)**
Yes	Yes			

Notes:

1. Rates are per room including breakfast;
2. Currency is metical by law at day exchange rate;
3. They give discounts based on number of nights and number of people. There is no difference between summer or winter in terms of price/ rate per room

Name of Facility / Establishment: MYSTIC BLUE BAY LODGE

Owner/ Manager:Gerhard Meyer

Cell:84

Geographical Coordinates: S21º30'08.5" EO35º11'06.0"

Type of Facility:

Hotel	Lodges / Bed & Breakfast	Backpackers	Camping	Self-Catering

Number of Beds: Number	41
Capacity: Number of people sleeping	53
Bed occupancy rate: Percentage per annum	20%
Difference between Winter and Summer Time?	N/A
Number of Employees: at the Facility: Number	8
Rates per person per night: **Sharing – Mozambican Metical**	1.250,00
Rates per person per night: **Sharing – South African Rand (if available)**	N/A
Rates per person per night: **Sharing – US $ (if available)**	N/A
Rates per person per night: **Single – Mozambican Metical**	N/A
Rates per person per night: **Single – South African Rand (if available)**	N/A
Rates per person per night: **Single – US $ (if Available)**	N/A
Main Country of Origin of Visitors: Name and Percentage	SA 80%
Second source of visitors : Name and Percentage	Mozambicans 20%
Average Duration of Stay of Guests: days	5 days

What are the main and secondary attractions for tourists to Inhassoro?

Leisure	**Environment and Tropical Climate**	**Bird watching**	**Fishing (shore, beach, Seine or deep sea) or other (specify)**	**Other (specify)**
Yes	Yes	Yes	Yes	Business

Notes:

1. Rates are per room including breakfast;
2. Currency is metical by law at day exchange rate;
3. They give discounts based on number of nights and number of people. There is no difference between summer or winter in terms of price/ rate per room

Name of Facility / Establishment: PENSAO INHASSORO

Owner/ Manager:Amilcar Timane

Cell:84 2742764

Geographical Coordinates: S21 32 47.7 EO35 12 40.6

Type of Facility:

Hotel	Lodges / Bed & Breakfast	Backpackers	Camping	Self-Catering

Number of Beds: Number	19
Capacity: Number of people sleeping	33
Bed occupancy rate: Percentage per annum	50%
Difference between Winter and Summer Time?	N/A
Number of Employees: at the Facility: Number	7
Rates per person per night: **Sharing – Mozambican Metical**	3.500,00
Rates per person per night: **Sharing – South African Rand (if available)**	N/A
Rates per person per night: **Sharing – US $ (if available)**	N/A
Rates per person per night: **Single – Mozambican Metical**	N/A
Rates per person per night: **Single – South African Rand (if available)**	N/A
Rates per person per night: **Single – US $ (if Available)**	N/A
Main Country of Origin of Visitors: Name and Percentage	South African 70%
Second source of visitors : Name and Percentage	Moz 30%
Average Duration of Stay of Guests: days	5 days

What are the main and secondary attractions for tourists to Inhassoro?

Leisure	**Environment and Tropical Climate**	**Bird watching**	**Fishing (shore, beach, Seine or deep sea) or other (specify)**	**Other (specify)**
Yes	Yes		Yes	Business

Notes:

1. Rates are per room including breakfast;
2. Currency is metical by law at day exchange rate;
3. They give discounts based on number of nights and number of people. There is no difference between summer or winter in terms of price/ rate per room

Available Entertainment and Shopping Facilities aimed at Tourists in Inhassoro and neighbouring area

Facility	Numbers
Fast food outlets	N/A
Restaurants/Bars	7
Grocery outlets/Supermarkets	3
Clothing shops	N/A
Local art & mementos	3
Casinos	N/A
Discos	N/A
Clubs	N/A
Gymnasiums	N/A
Golf Club	N/A
Other	

1. BANKS – BIM & BCI
2. Vodacom & Mcel shops
3. Bakery – 2
4. Primary School - 1
5. Technical School - 1
6. Kindergarten – 1
7. Associations – 2
8. Different services (accounting, consultation, etc) - 3
9. Bottle Store – 1
10. Car Spare Parts - 2
11. Petrol Station – 1
12. Rural Hospital – 1
13. Water supplier – 2

There is a market and many stoles (Barracas)

QUESTIONNAIRE: FISHING

Commercial Fishing (not artisanal or subsistence fishing)	
Number of boats utilised for commercial fishing.	50
Number of fisherman involved in commercial fishing.	
Pleasure Cruises or Recreational / Sport Fishing	
Number of boats utilised for pleasure cruises or recreational fishing.	69
Approximate number of people employed as boat crews in pleasure cruises or recreational fishing.	69

Note:

Mr. Amadeu Marcelino Nhassengo from MARITIMA in Inhassoro responded to the questionnaire.

As per the questionnaire the numbers presented respond to commercial fishing registered but to understand the all fishing industry in Inhassoro I did collect other information which it may be important.

MARITIMA is in a process of registering all fisherman boats and fisherman involved in Inhassoro and Bazaruto fishing industry, therefore:

1. 233 artisanal boats
2. 150 subsistence boats
3. 14 passenger boats
4. 67 boat crews which are employed in artisanal and commercial fishing
5. 69 boat crews mentioned for recreational boats is estimated because once the boat is registered with MARITIMA it must register also the crew member.
6. All accommodation has at least one recreational boat.

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