

Chapter 21 - Non-Technical Summary (English and Tetum)

21.1 - Non-Technical Summary (English Version)

21.1.1 What are we proposing?

Dili Municipal Authority (DMA) is the Government entity responsible for collection, transportation and treatment of urban solid waste, management of public spaces to ensure hygiene and cleanliness, as well as cleaning and maintenance of landfills within its territorial jurisdiction. Dili Municipality Administration (DMA), on behalf of the Ministry of State Administration, intends to rehabilitate and operate the Tibar Dumpsite Rehabilitation Upgrading Project (TDRUP).

The Dili Municipality Administration is the project proponent representative and ADB, as the financier, engaged the Finnish Consulting Group Asia Pte (FCG) to provide Transaction Advisory Services (TAS)¹ for the preparation of long-term service contracts to implement the Dili Solid Waste Management Project (DSWMP) who in turn contracted the consultants OASIS-Sustainable Projects, together with JGP Consultancy-Portugal (OASIS/JGP or the EIS team) to provide said services.

This non-technical resume is a simple and summarized way for the most relevant information contained in that environmental impact study regarding the proposed TDRUP project, to present the analysis and minimization measures. Wherever there is doubt regarding the content of the Summary, please consult the Environmental Impact Statement (EIS) and the Environmental Management Plan (EMP) for clarification.

21.1.2 Project Description and of the affected environment

The Government of Timor-Leste, through the Dili Municipal Authority (DMA), under the Ministry of State Administration (MSA), proposes the Tibar Dumpsite Rehabilitation and Upgrading Project (TDRUP).

In summary, the Government wants to invest in design, construction works and specialized equipment to rehabilitate the current waste disposal site and upgrade it to a sanitary landfill operated and managed to modern international standards.

Why? To enhance the conditions of the current Tibar open dumpsite, that has negative effects on public health and the environment of the surrounding area. Its rehabilitation is highly recommendable to improve the environmental quality and the level of public health of the surrounding population and the general public health, safety and environment amenity of Dili.

The TDRUP is part of the Dili Solid Waste Management Project (DSWMP), an Investment Strategy that the Government of Timor-Leste has developed with ADB since 2015, which is legally defined in the Government Resolution no. 32/2016 - Dili Urban Solid Waste Management Investment Strategy. The project is planned to be developed during 10 years (2021 to 2030), with a total investment estimated at close to 10 million US dollars.

The project follows the environmental laws in effect in Timor-Leste, namely DL24/2012 called the base law for environment and Decree-Law no. 5/2011, on environmental licensing, as well as the World Health Organization

¹ TA-9292 REG: Strengthening Project Preparation Capacity in Asia and the Pacific. Supporting Preparation of Infrastructure Projects with Private Sector Participation in Asia Pacific (Subproject 4) - #1 TIM: Project Preparation for Dili SWM (49407-005).

(WHO) and International Finance Corporation (IFC) standards given Timor does not have environmental technical standards yet.

The DSWMP has gone through several steps since its beginning in 2014, with the preparation of an Initial Environmental Examination (IEE) for Tibar Landfill, carried out in 2015, and now the more recent steps to guarantee the implementation of the DSWMP strategy with support from an ADB Transaction Advisory (TA) Support team, composed of the Finishing Consulting Group (FCG, REBEL and OASIS Sustainable Projects, to assist the DMA in the necessary Due Diligence and carry out the Technical Studies for the effective implementation of the DSWMP.

Now, the project is at a phase where a tender process has been opened for Contractors to bid for a Design-Build-Operate (DBO) Contract, meaning that they will improve on the current Concept Design, also based on the results of this EIA assessment and carry out the implementation and operation of the project on behalf of the Dili Municipality, for a period of 10 years.

21.1.3 Why do we need the project? Benefits of the Project...

The population of Dili has grown rapidly over the past decades, currently estimated at 345,620 people (Census 2015), which has led to a significant increase in the waste mass generated by city dwellers.

The existing waste collection system is not enough and so solid waste ends up in the beaches and drainage system, frequently leading to flooding.

Government is in the process of implementing an appropriate and sustainable urban solid waste management system for the long-term, modernizing the collection fleet and rehabilitating Tibar Dumpsite for safe depositing of urban solid waste, while waiting for recycling to establish itself and become commercially feasible in Dili.

However, today, Tibar Dumpsite is an open dump with air (waste burning) and water pollution (leachate) and health risks associated with waste pickers and insects and animal pests in the operational area.

The redesign and rehabilitation of the Tibar landfill is expected to solve these issues, resulting in improved air, water and noise environment quality and community safety at the landfill site and surrounding areas and cater for any residual waste materials that are not treated or processed.

Together with the waste collection improvement, it will also have the indirect positive impact of improving the quality of life and urban amenity of the population of the city of Dili.

21.1.4 Why an Environmental Impact Assessment of the TDRUP?

This TDRUP Project requires Government environmental licensing and approval under Timorese Law, where it has been classified as a Category A (Environmental Impact Assessment) [EIA] under Decree-Law no. 05/2011 – Environmental Licensing, because the dimension (area) of the proposed Landfill and the tonnage of waste received at the landfill (150 ton/day) surpassed the limits set in ANNEX I of the Decree-Law, specifically in item no. 1 of SECTOR VII – SANITATION SECTOR, of the above-mentioned DL (Landfills and disposals of Urban Solid Wastes, < 100 Ton / day, 1 to 100 CBM / day, 0.5 to 10 hectares).

21.1.5 What is the EIA process?

EIA is a regulatory process that is governed by Timor-Leste law. The Timorese Government set out laws for the Environmental Impact Assessment (EIA) process in 2011 through Decree-Law no. 05/2011 – Environmental Licensing, on the assessment of certain public and private projects on the environment. This has been subsequently reinforced and regulated by a series of Ministerial Diplomas that have organized and defined the contents for the EIA process documentation, Public Consultation process, etc.

The EIA follows a process with the following stages:

- a) **Screening** is the first stage of the EIA process where the Environmental Regulator (the National Authority for Environmental Licensing (ANLA) or the Secretary of State for Environment decide if an EIA is required.
- b) Once it has been agreed that EIA is required, **Scoping** is undertaken to define what should be assessed as part of the EIA and reported in the Environmental Impact Statement (EIS). This is done in partnership between the proponent and the Environmental Regulator and results in a Terms of Reference (TOR) Document for the EIA.
- c) With the scope set, relevant information on the **environmental baseline conditions is collected**. This information is then used initially to understand the potential environmental effects and inform the design of the proposed development to minimize the potential for significant adverse impacts.
- d) The **formal impact assessment process** is then undertaken of the proposed scheme parameters to define the significant impacts of the proposed development.
- e) Where significant adverse impacts cannot be minimized through alterations to the design itself, **mitigation or reduction measures are considered**. Monitoring may also be considered to measure the actual significance of the impact during and post-construction to allow management of mitigation where appropriate.
- f) Once the EIA is completed, the draft EIS is submitted to the Environmental Regulator for **Public Consultation**, which is the phase this project in at the moment;
- g) After Public Consultation, the Proponent revises and finishes the EIS/EMP documents and delivers a final version of the document for **decision on the environmental licensing**.

This process and its outcomes are then reported in the EIS to decision makers, the Environmental Regulator, and the public. The NTS is provided to allow a wider public understanding of the project and environmental effects of the project.

The EIS is set out in a structured manner to allow easier navigation:

- Volume 1 comprises the Main Environmental Statement (EIS) and the Non-Technical Summary (NTS);
- Volume 2 comprises the Appendixes;
- Volume 3 comprises the Environmental Management Plan.

21.1.6 Who is the Project Proponent?

The proponent of the project is the Municipality of Dili, in the person of its President, Mr. Gaspar Soares, supported by Ms. Emilianafsoares, Director for the Municipal Planning Agency, which can be contacted for any queries required by interested parties, through the following contact:

Contact: +670 77790002

Email Address: emilianafsoares@municipio.gov.tl

consulta_publica@oasis-sustainable.com

21.1.7 Who is the Assessment Team?

The Dili Municipality have requested and ADB have commissioned the environmental assessment to FCG-International and OASIS Sustainable Projects, a local Environmental Consultancy active in Timor-Leste since 2011, that has prepared the environmental application and the TOR and is providing technical inputs, environmental assessment and co-coordinating the EIA study with JGP NVIST, Consultoria Ambiental, S.A., a Portuguese consultancy company.

21.1.8 What is our project?

21.1.8.1 Where do we want to implement the Project?

The TDRUP study area is located in suco Tibar, Bazartete administrative post, Liquiça municipality, adjacent to the Tibar Bay area and approximately 14 km west of Dili centre (see Figure 21-1). It is an existing open dump used for dumping of municipal solid waste since Indonesian times and extends over a total area of approximately 12 hectares. There are no controls over access to the site and there are a large number of scavengers (waste pickers) who set fire to the waste to recover metals, which produces continuous fires and large volumes of potentially toxic fumes.

21.1.9 What do we want to do?

We want to re-develop the whole waste disposal area, subdivided into 4 principal areas:

1. The Waste Disposal Area with the construction of three sanitary landfill cells, defined engineered areas for the receipt and disposal of residual waste. The three cells cover 11,07 hectares of the present filled area. Each cell will be developed progressively and in a phased manner, whilst the construction of the support infrastructure will be completed in the first 3 years of site re- development;
2. Reserve Area, a buffer zone around the southern, eastern and northern margins of the landfill area. It is for the temporary lay down and storage of materials and equipment during construction (if required), and protection of the investment area during the operational phase. There will be no waste disposal in this area; and
3. The Operational Support Area, the remaining parts of the site on the west margin of the Waste Disposal Area and in which the required support infrastructure to upgrade the disposal facility will be developed.
4. The Depot Area, for overnight parking and cleaning of the Dili waste collection vehicles and fuel storage and dispensing station for the landfill operator and the collection contractors.

21.1.10 When do we propose to do it?

The project will have four phases: Pre-Construction/Detailed Design is scheduled from Q1 to Q3 2021 (6 months), the bulk of construction preparatory works from Q3 2021 to Q3 2023 (3 years) and from commissioning in mid-2023, run parallel with the operational phase up to 4Q 2030 (7 years). A summary of the potential impacts during each phase are presented in Table 21-1. Of these, key impacts have been identified as either a 'Moderate' or 'High' risk, and mitigation measures have been identified for each of them (see EIS Section 9) to manage and reduce the impacts.

Figure 21-1 Location of the TDRUP Project

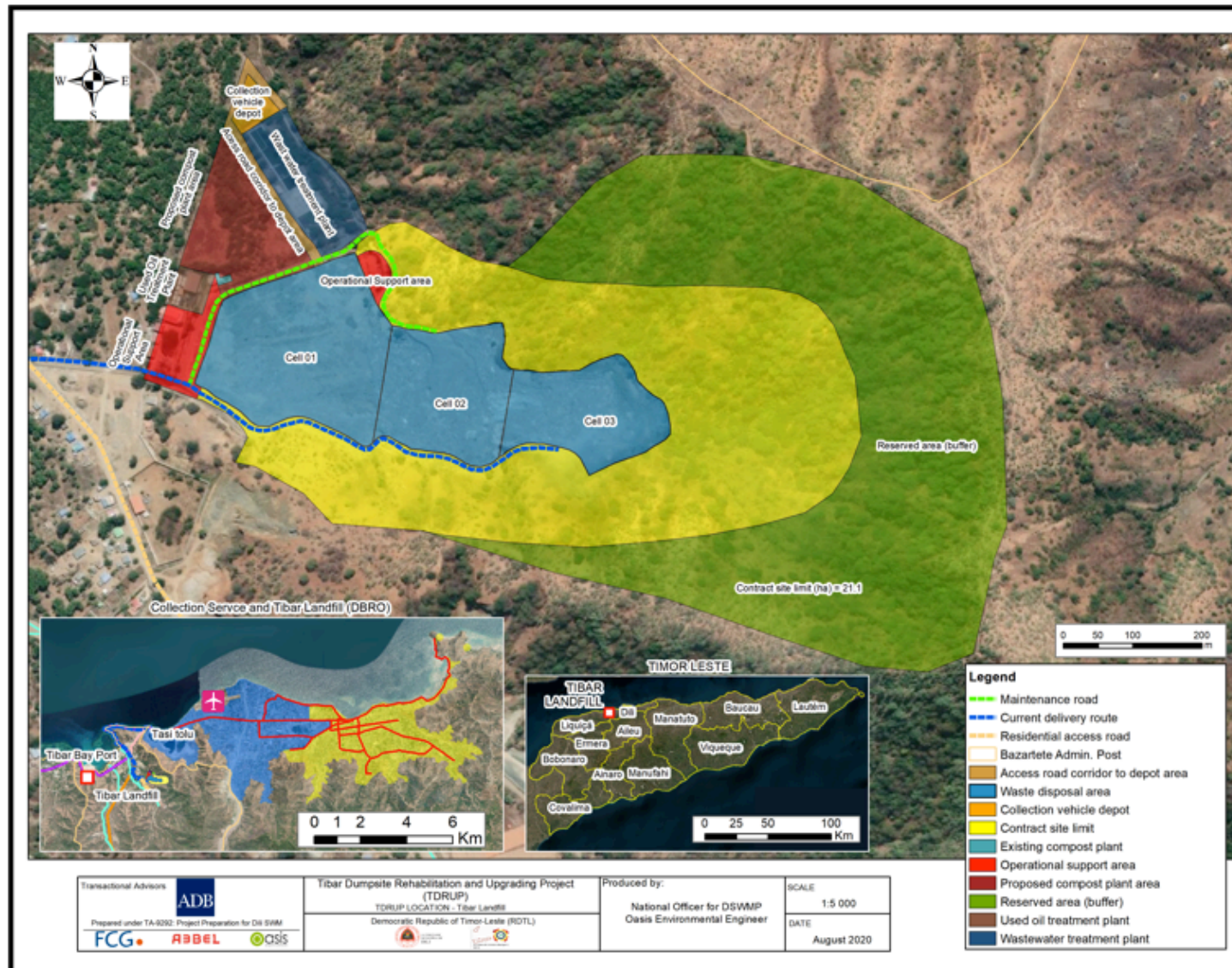


Table 21-1 Potential Environmental and Social Impacts of the TDRUP project

Phase	Types components	Potential impacts	Nature	Incidence	Time scale	Significance	
Pre - Construction and Design	General Contract Management	Definition of a dedicated PMU Director and team to manage the TDRUP Project	Positive	Direct	Long term	Medium	
	General Contract Management	Inclusion of Final approved EIS/EMP specifications and standards in DBO contractual documents and obligation of Contractor to draft his/her EMP based on final Detailed Engineering Designs	Positive	Direct	Long term	Medium	
	General Contract Management	Preparation of a Site Environmental Management and Supervision Plan	Positive	Direct	Medium term	Medium	
	Economic	Site choice on existing dumpsite location, as a “brownfield” project	Positive	Direct	Long term	High	
	Water Resources	Introduction of impermeable basal liner to collect and treat leachate	Positive	Direct	Long term	High	
	Air Quality	Introduction of operational rules to cover waste immediately and avoid waste fire and air pollution	Positive	Direct	Medium term	High	
	Climate Change		Reduction of GHG emissions by reinforcing and supporting Recycling policies and programs	Positive	Indirect	Long term	Medium
			Drainage design upgraded to extreme events and water velocity reduction devices and retention basins for water reuse	Positive	Indirect	Long term	Medium
			Landslide prevention and protection of Landfill infrastructure by establishing a Reserve area for protection and reforestation	Positive	Direct	Long term	Medium
	Social		Potential conflicts with populations and waste pickers and risk of social cohesion	Negative	Direct	Long term	High
			Loss or reduction of sources of livelihood (100 waste pickers)	Negative	Direct	Long term	High

Phase	Types components	Potential impacts	Nature	Incidence	Time scale	Significance
Construction	Topography and Geology	Change in terrain morphology / Soil Lost	Negative	Direct	Long term	Low
	Geology	Increase the erosion risk	Negative	Direct	Long term	Medium
	Water Resources	Increased concentration of suspended solids and pollutants in watercourses – decreased of water quality (surface and groundwater)	Negative	Direct	Medium term	Moderate
		Increased water consumption and wastewater production at construction sites by workers	Negative	Direct	Short term	Low
	Air	Decreased air quality parameters resulting from increased emissions to air (PM10 and other pollutants)	Negative	Direct	Short term	Medium
	Soil	Soil lost (contamination until leachate system is implemented)	Negative	Direct	Long term	Low
	Noise	Increase in noise levels	Negative	Direct	Short term	Medium
	Ecological	Vegetation Loss at Depot Composting	Negative	Direct	Long Term	Low
	Cultural	Impacts on local sacred site (“Fahiduma” or “Tasu Oron”)	Negative	Direct	Long term	Low
	Social	Job creation and procurement of opportunities for goods and services related to construction	Positive	Direct	Medium term	High
		Health and safety in work areas	Negative	Direct	Medium term	Medium
		Temporary allocation of infrastructures	Negative	Direct	Medium term	Medium
		Demobilization of labour hired	Negative	Direct	Long term	Medium/high
Operation	Climate Change	Reduction of GHG emissions (gas combustion)	Positive	Indirect	Long term	Medium
	Topography and Ecological (habitat)	Reforestation in the Reserve Area (decrease landslide risk)	Positive	Direct	Long term	High
	Geology	Decrease the erosion risk	Positive	Direct	Long term	Medium
	Water Resources	Stormwater system - Flood risk reduction in downstream areas	Positive	Direct	Long term	High

Phase	Types components	Potential impacts	Nature	Incidence	Time scale	Significance
		Leachate system (water treatment) and impact in the quality of the water resources (surface and groundwater)	Positive	Direct	Long term	High
	Air	Improvement of air quality (No waste burning lower emissions by vehicles and machines)	Positive	Direct	Long term	High
		Methane and carbon dioxide emissions	Negative	Direct	Medium term	Medium
	Noise	Increased noise levels from operation of landfill	Negative	Direct	Long term	Low
	Waste Management	Improvement of the waste management	Positive	Direct	Long term	High
		Improvement of public health, safety and environmental amenity of Dili	Positive	Direct	Long term	High
	Social	Job creation related to landfill operation	Positive	Direct	Long term	Medium
		Health and safety in work areas	Negative	Direct	Long term	Medium
		Demobilization of labour hired	Negative	Direct	Long term	Medium/high
Decommissioning	Climate Change	Air pollutant emissions (Methane, GHG) from final stages of digestion	Positive	Indirect	Long term	Medium
	Topography and Ecological (habitat)	Reforestation in the Reserve Area (decrease landslide risk)	Positive	Direct	Long term	High
	Geology	Decrease the erosion risk	Positive	Direct	Long term	Medium
	Water Resources	Remaining Leachate after closure, evaporation in collection ponds	Negative	Direct	Medium term	Medium
	Air	Methane and carbon dioxide emissions	Negative	Direct	Medium term	Medium
	Waste management	Improvement of the waste management	Positive	Direct	Long term	High
	Social	Landfill employment over	Negative	Direct	Long term	High

21.1.11 How do we propose to do it?

21.1.11.1 Remediation of the Waste Disposal Area

1. **Extinguish Fires** and cool the waste;
2. **Planned rehabilitation – will be done in order, from Cell 1 to Cell 3**, with the following steps:
 - i) **Excavate existing waste in each cell** (down to the natural soil) **and Temporarily re-locate it** within the Waste Disposal Area;
 - ii) **Removed Natural soil (to a depth of around 20 cm)** to ensure any contaminated soil is removed. If contaminated soil is deeper than 20cm then **remove all contaminated soil** and replace with clean soil;
3. **Shape, grade and compact the base of the cell** to achieve the required slopes and elevations **to promote drainage** (from the top to the bottom and along the middle of the Waste Disposal Area); and
4. **Install a Basal Lining System to collect the Leachate, composed of** (bottom-to-top):
 - i) **Compacted natural soils, enriched with bentonite** cement to reduce permeability;
 - ii) Sodium-bentonite Geocomposite Clay Liner (GCL) [**1 layer of bentonite clay in the middle of two layers of geotextile**]; and
 - iii) **Primary liner of HDPE flexible geomembrane** (2 mm thick)
5. **Collect and Treat the Leachate**
 - i) Install a network of Feeder and Collection HDPE pipes on a layer of porous, highly permeable gravel;
 - ii) Direct Leachate to be stored temporarily in a lined pond and re-circulate it back to the landfill to provide additional moisture for waste decomposition.
 - iii) A small package treatment plant may be installed to improve the quality the remaining leachate effluent to comply with IFC Environmental, Health, and Safety Guidelines for Waste Management Facilities (Emissions and Effluents)
6. **Collect and Treat the produced Gas**

Waste decomposition produces landfill gas (methane (40-60%) and carbon dioxide (most of the rest), with trace amounts of other volatile organic compounds [VOCs]) that needs to be collected and treated for Climate Change and Lanfill Safety issues.

A series of gas collection wells will be distributed throughout each cell and installed as waste deposition proceeds in the cell. The collection wells will penetrate the full depth of the waste mass and is extended vertically as the waste thickness increases and will direct the gas to a central gas treatment plant with a flare stack in which collected gases will be combusted.

21.1.11.2 Rehabilitate Operational Infrastructure

1. **Improve access roads around Cells 1 to 3;**
2. **Improve drainage in the landfill area where:**
 - a) **Stormwater will be directed to a first stormwater retention pond and overflow** from this pond **will be drained to a second lined stormwater pond**, adjacent to the compost plant, in the Operational Support Area.
 - b) The retained stormwater will be used in:

- compost plant operations;
 - circulated back to the landfill to assist in increasing waste compaction and expediting waste decomposition;
 - discharged off-site near to the existing DNSB waste water treatment plant.
3. **Access control and security access to the site (security gates, fencing and security personnel)**
 4. **Waste Reception with a weighbridge for waste weighing;**
 5. **New administration buildings and covered parking areas;**
 6. **Operational areas: storage and workshop**
 7. **Composting** – Green waste will be collected separately from the other municipal waste and composted so that:
 - a) more space available in the landfill;
 - b) reduce leachate and gas in the landfill;
 - c) produce a safe compost (end product) for Municipality parks and open spaces.
 8. **Depot area** – two depot sites for the secure overnight parking of waste collection vehicles, an access road and a fully-bunded steel fuel storage tank [50,000L] and dispensing station.

21.1.12 How did we assess the Environmental Impacts?

21.1.12.1 Collected information on the Project Site

The EIS provides an overview and detailed description of the nature of the various impacts (on physical, biological and social components) that may occur during the implementation of each component of the TDRUP project. To do that, we have collected baseline information (primary and secondary data collection and literature review) that described the conditions of the site today and compared/estimated them with possible impacts of the proposed future situation and actions from the project implementation. To have more detailed information from the field, we interviewed and discussed the project in the Tibar area, involving consultation with people who may be affected by the project and other project stakeholders, as well as having carried out a Public Consultation for the Terms of Reference (TOR) of the Project on the 29th July 2020.

The environment and Social data collection that the EIA consultants carried out in the field (Primary data) were the following:

- a) **Water Resources (surface and ground):** Collected water samples at 8 points (2 surface, 5 ground and 1 drinking water).
- b) **Soil:** Collected original soil samples at 9 points under the landfill waste to verify level of contamination.
- c) **Noise:** Carried out noise level samples at 6 points (industrial and residential).
- d) **Social Components:** Interviewed the communities affected by the project in the villages of Fatunia and Libaulelo and also Municipal, local leaders and other important stakeholders in Tibar. We also applied a census questionnaire of affected persons i.e Waste pickers and asset register, to identify persons who will be economically displaced by the Project and to determine who will be eligible for support.
- e) **Cultural Components:** Field inspection by collecting the photos of the Tibar archaeological, historic and sacred sites based on local leader knowledge, as well as the Centro Nacional CHEGA (CNC) and Secretary State for Culture (SEC) data.

21.1.12.2 We used that information to estimate the project impacts...

The assessment of the impacts of a project is the result of the comparison between the foreseeable future environmental and social situations with the project and in its absence (“Zero Alternative”). We have an idea on the general impacts attributed to a landfill rehabilitation project, such as the ones in Table 21-1. For this project, in order to identify and assess all relevant impacts, the characteristics of each environmental and social factor was examined, followed by the assessment and prediction of the SIGNIFICANT impacts based on a description of their effects and a qualitative characterisation.

21.1.13 What are the project's greatest impacts?

The project predicts that the highest negative impacts may be from the economic resettlement i.e. loss of income of an estimate 100 waste pickers and their 700 family members, as well as those impacts that come from the civil construction and operation of the landfill rehabilitation, such as noise, dust, earthworks, leachate production, traffic management, etc. However, the most important and positive impact will be the improvement of the environmental conditions in the Landfill i.e. no more smoke, which impacts daily the surrounding community of Tibar, or higher health risk activities i.e. Waste pickers, and, indirectly the improvement of the overall conditions in Dili city, regarding waste collection and cleanliness, for the benefit of its citizens.

21.1.14 How will we manage the significant impacts?

We have assessed the significant impacts and defined mitigation measures and put them into an Environmental Management Plan (EMP) (see Volume 3 – Environmental Management Plan), which is the document that manages the potential environmental impacts from the construction, development and decommissioning phases. The objective of the EMP is to communicate the key environmental obligations that apply to all contractors, their sub-contractors and employees while carrying out any form of construction activity as part of the TDRUP. It is to become the main obligation reference for contractors to follow during the design, construction and operation phases, and address the conditions precluded in the EMP that will be attached to the Contract Documents.

21.1.15 How can you participate in the next EIA phases?

- a) During the draft EIS/EMP Public Consultation: we will have another Public Consultation Meeting to collect comments and opinions regarding the contents of this draft EIS/EMP from interested stakeholders and the public;
- b) From NOW until the end of the 2nd Public Consultation: anyone who has a legitimate interest related specifically to the TOR and/or the EIS/EMP contents (when these documents are officially published) can have their opinion registered only when it is in WRITTEN FORM and sent to the following contacts:

Mr. António Lelo Taci, M.Sc, Interim Executive Secretary for ANLA

Address: Secretariat of State for Environment, Edifício Fomento, Mandarim, Dili Timor-Leste

email: infonael2019@gmail.com / Telephone: 77115444)

with copy (c.c.) to:

Ms. Emiliana Soares, Director for Dili Municipality Urban Planning

Address: Dili Municipal Authority (AMD) – Avenida Mártires da Pátria, Vila Verde, Dili, Timor-Leste

Email: **emilianafsoares@municipio.gov.tl** / Telephone:

Also copy to: **consulta_publica@oasis-sustainable.com**

21.2 - Resumo Naun Tekniku (versaun Tetum)

21.2.1 Saida mak ita propoin?

Autoridade Munispál Díli (AMD) mak entidade Governu nian ne'ebé mak responsável ba rekolla, transportasaun no tratamentu hosi lixu sólidu urbanu, jestaun ba espasu públiku sira atu asegura ijiene no aseiu, nune'e mós limpeza no manutensaun lixeira nian iha ninia jurisdisaun teritoriál. Administrasaun Munispál Díli (AMD), Díli Municipality Administration (DMA), lori Ministériu Administrasaun Estatál (MAE) nia naran, hakarak rehabilita no hala'o servisu Projetu Rehabilitasaun no Melloramentu Aterru Tibar (TDRUP) nian.

Administrasaun Munispál Díli nu'udar representante hosi proponente no ADB, nu'udar financiador, kontrata Finnish Consulting Group Asia Pte (FCG) atu fornese servisu asesoria tranzasaun (TAS) ba preparasaun kontratu servisu tempu naruk nian hodi implementa Projetu Jestaun Lixu Sólidu Díli nian (DSWMP) ne'ebé mak depois kontrata tutan fali empreza konsultora OASIS-Sustainable Projects, hamutuk ho JGP Consultancy-Portugal (OASIS/JGP ka ekipa EIA nian) hodi fornese servisu refere.

Sumáriu Naun Tékniku ida ne'e hanesan dalan simples no badak ida ba informasaun sira ne'ebé relevante liu iha Estudu Impaktu Ambientál (EIA) konabá projetu TDRUP propostu, hodi apresenta análizes no medidas minimizasaun. Karik iha dúvida ruma konabá konteúdu hosi rezumu ida ne'e, halo favor bele konsulta dokumentu Deklarasaun Impaktu Ambientál (DIA) no Planu Jestaun Ambientál (PJA) nian hodi hetan klarifikasaun.

21.2.2 Deskrisaun Projetu no Ambiente Afetadu nian

Governu Timor-Leste, liu hosi Autoridade Munispál Díli (AMD), iha Ministériu Administrasaun Estatál (MAE) nia okos, propoin Projetu Rehabilitasaun no Melloramentu Aterru Tibar (TDRUP).

Hanesan rezumu ida, Governu hakarak investe iha design, servisu konstrusaun no ekipamentu espesializadu sira hodi rehabilita fatin soe lixu nian agora dadauk ne'e, hadi'ak no transforma ba iha ateru sanitáriu ida ne'ebé mak refleto operasaun (funsionamentu) no jestaun ida ne'ebé tuir padraun internasionál modernu.

Tamba saida? Atu hadi'ak kondisaun atuál hosi lixeira Tibar, ne'ebé mak iha efeitu negativu ba iha saúde públiku no ba meu ambiente iha ninia sorsorin. Ninia rehabilitasaun rekomendável teb-tebes atu bele hadi'ak qualidade ambientál no nível saúde públiku hosi populasau sira ne'ebé besik no saúde públiku jerál, seguransa no amenidade ambientál Díli nian.

TDRUP nu'udar parte hosi Projetu Jestaun Lixu Sólidu Díli nian (DSWMP), Estratejia Investimentu ida ne'ebé mak Governu Timor-Leste dezenvolve tiha ona hamutuk ho ADB dezde 2015, ne'ebé mak legalmente define iha Rezolusaun Governu no. 32/2016 – Estratejia Investimentu ba Jestaun Lixu Sólidu Urbanu Díli nian. Tuir planu, sei dezenvolve projetu ne'e durante tinan 10 (2021 to'o 2030), ho total investimentu estimadu besik tokon 10 dolar Amerikanu.

Projetu ne'e la'o tuir Lei ambientál sira ne'ebé iha efeitu hela iha Timor-Leste, liliu DL24/2012 hanaran Lei Baze ba Ambiente no DL no. 5/2011, konabá Lisensiamentu Ambientál, nune'e mós padraun sira hosi Organizasaun Saúde Mundiál (WHO) no Kooperasaun Finanseira Internasionál (IFC) nian, tamba Timor-Leste sidauk iha padraun tékniku sira ambiente nian.

DSWMP atravessa faze lubuk ida ona dezde ninia inisiu kedas iha 2014, ho preparasaun Exame Ambientál Inisiál (EAI) ida ba ateru Tibar, ne'ebé realiza iha 2015, no agora ho pasu/faze resente sira, hodi garante implementasaun estratejia DSWMP nian ho apoiu hosi ekipa Asesoria Tranzasau (TA) ida ADB nian, ne'ebé kompostu hosi Finishing Consulting Group (FCG, REBEL and OASIS Sustainable Projects), hodi fó assisténsia ba AMD halo Due Diligence no realiza Estudu Tékniku sira ne'ebé importante ba implementasaun efikaz DSWMP nian.

Agora, projetu ida ne'e tama iha faze ida tan, iha ne'ebé mak prosesu tenderizasaun nian mós loke tiha ona ba empreiteiru sira atu konkore ba kontratu Design-Build-Operate (DBO) nian ida, ne'ebé signifika katak, sira sei hadi'ak Dezeñu Konsetuál atuál, nomós bazeia ba rezultadu sira hosi avaliasaun AIA ida ne'e nian no realiza implementasaun no operasaun hosi projetu ida ne'e, lori AMD nia fatin, ba períodu tinan 10 nian.

21.2.3 Tamba saida mak ita presiza projetu ida ne'e? Benefísiu saida de'it hosi projetu ne'e...

Iha tinan sanulu-resin ninia laran, Díli hatudu kresimentu populasionál ida ne'ebé lais tebes no agora dadauk, ho número aproximadu 345,620 (Census 2015), ne'ebé mak kontribui ona ba iha aumentu significativu hosi produsaun lixu sidade ida ne'e nian.

Sistema rekolla lixu existente la suficiente no tamba ne'e mak lixu, dala barak, namkari iha tasi-ibun no valeta sira, ne'ebé dala barak kauza inundasaun.

Governu iha hela prosesu implementasaun hosi sistema jestaun lixu sólidu urbanu ida, ne'ebé mak apropiadu no sustentável ba tempu naruk, hodi moderniza frota rekolla nian no rehabilita ateru Tibar hodi sai hanesan fatin depóziitu lixu sólidu urbanu ida seguru, ekuantu hein sistema resiklajen atu estabese no sai komersialmente viável ba Díli.

Entretantu, agora dadauk, Ateru Tibar nu'udar "ateru-nakloke" ida ho poluisaun ár (tamba sunu), bee (lixiviadu), rísku ba saúde asociadu ho ema sira ne'ebé hili fo'er, insetu (lalar) no moras animál nian iha ateru laran.

Esperansa hosi redezeñu no rehabilitasaun ateru Tibar nian mak, atu rezolve problema hirak ne'e, ne'ebé sei rezulta ba iha qualidade ár, bee no ruídu ida ne'ebé di'ak liu, qualidade ambientál no seguransa comunidade nian iha ateru laran no área sira iha ninia sorsorin no supre materiál reziduál balun ne'ebé mak la hetan tratamentu ka prosesamentu.

Hamutuk ho melloria ba rekolla lixu nian, rehabilitasaun ateru Tibar sei iha impaktu pozitivu indiretu ida mak, hadi'ak qualidade moris no amenidade urbanu hosi populaasaun sidade Díli nian.

21.2.4 Tamba saida mak presiza halo Avaliasaun Impaktu Ambientál ida ba TDRUP?

Projetu TDRUP ida ne'e nesedita Governu ninia lisenasiamentu ambientál no aprovasaun tuir Lei Timo-Leste nian, iha ne'ebé hetan ona klasifikasaun nu'udar kategoria A (Avaliasaun Impaktu Ambientál) [AIA] tuir Dekretu-Lei no. 05/2011 – lisenasiamentu ambientál, tamba dimensaun (area) hosi ateru propostu no tonelajen lixu ne'ebé mak tama iha ateru (150 ton/loron) ultrapasa limite ne'ebé mak estabese iha ANEXU I, liliu iha íten no. 1 SECTOR VII nian – SETÓR SANEAMENTU, hosi DL refere (Ateru no Depóziitu Lixu Sólidu Urbanu, < 100 ton/loron, 1 to'o 100 CBM/loron, 0.5 to'o 10 ha)

21.2.5 Saida mak prosesu AIA?

AIA mak prosesu regulatóriu ida reguladu hosi Lei Timor-Leste nian. Governu Timor-Leste nia estabesele tiha ona Lei sira ba prosesu Avaliasaun Impaktu Ambientál nia (AIA) iha 2011 liu hosi Dekretu-Lei no. 05/2011 – Lisensiamentu Ambientál, ba avaliasaun ambientál hosi determinadu pojetu Governu no privadu nian. Ida ne'e subsekuentemente hetan ona reforsu hosi Diploma Ministeriál lubuk ida ne'ebé mak organiza no define konteúdu ba dokumentasaun prosesu AIA nian, prosesu Konsulta Públika, nst.

AIA la'o tuir prosesu ida ho pasu sira hanesan tuirmai ne'e:

- a) **Triajen** mak faze dahuluk hosi prosesu AIA iha ne'ebé Reguladór Ambientál (Autoridade Nasionál ba Lisensiamentu Ambientál [ANLA]) ka Sekretáriu Estadu ba Meiu Ambiente) decide karik presiza halo AIA;
- b) Bainhira konkorda ona katak presiza halo AIA, Definisau Ámbitu mós tuir kedas hodi define saida mak atu avalia nu'udar parte ida hosi AIA no relata iha Deklarasaun Impaktu Ambientál (DIA). Proponente no Reguladór Ambientál mak sei servisu hamutuk hodi halo ida ne'e no sei rezulta ba iha Dokumentu Termus Referénsia ida (TOR) ba AIA ne'e rasik;
- c) Ho Definisau Ámbitu ne'ebé prantu ona, komesa rekolla ona informasaun relevante sira konabá **kondisoins baseline ambientál** nian. Informasaun ida ne'e depois sei uza hodi kompriende uluk efeitu ambientál potenciál sira no hato'o ba *design* konabá servisu propostu hodi minimiza potenciál ba impaktu adversu signifikatívu sira;
- d) **Prosesu formál ba avaliasaun impaktu** mós la'o tuir planu parámetru sira ne'ebé propostu hodi define impaktu signifikatívu sira hosi servisu propostu;
- e) Karik impaktu adversu signifikatívu sira labele minimiza liu hosi alterasoin ba *design* ne'e rasik, maka komesa **konsidera ona mitigasaun ka medidas redusan**. Bele konsidera mós monitorizasaun hodi avalia signifikánsia loloos hosi impaktu durante no depoizde konstrusaun hodi permite jestaun ba mitigasaun karik presiza;
- f) Bainhira AIA kompletu ona, esbosu DIA nia mós submete ba Reguladór Ambientál hodi prepara ba **Konsulta Públika**, faze ida, iha ne'ebé projetu ida ne'e agora dadauk iha ba;
- g) Depoizde Konsulta Publika, Proponente mós sei halo revizaun no kompleta dokumentu sira EIS/EMP nian no entrega versaun finál ida hosi dokumentu refere ba **desizaun konabá lisensiamentu ambientál**.

Prosesu ida ne'e ho ninia rezultadu sira depois sei relata iha DIA ba sira ne'ebé mak atu foti desizaun, ba Reguladór Ambientál, no ba públiku. SNT ida ne'e fornesidu atu permite koñesimentu públiku ne'ebé luan liu konabá projetu ho ninia efeitu ambientál sira.

DIA ida ne'e forma tuir ninia estrutura atu permite asesu ne'ebé fásil liu:

- Volume 1 kompostu hosi Deklarasaun Ambientál Prinsipál (EIS) no Sumáriu Naun Téknikucomprises (SNT);
- Volume 2 kompostu hosi Aneksu sira;
- Volume 3 kompostu hosi Planu Jestaun Ambientál.

21.2.6 Who is the Project Proponent?

Proponente projetu nian mak Autoridade Munispál Díli, ho ninia Prezidente rasik mak, Sr. Gaspar Soares, ne'ebé mak hetan apoiu hosi Sra. Emiliana Soares, Diretora Ajénsia Planeamentu Urbanu Munisípiu Díli nian, ne'ebé mak kontaktável liu hosi kontaktu sira tuirmai ne'e, karik iha kestaun ruma ne'ebé mak parte iteresada sira presiza koloka:

Kontaktu: +670 77790002
Enderesu Email: emilianafsoares@municipio.gov.tl
consulta_publica@oasis-sustainable.com

21.2.7 Sé mak Ekipa Avaliasaun?

Ho pedidu Autoridade Munispál Dili nian mak ADB kontrata ona ba avaliasaun ambientál, FCG-International ho OASIS Sustainable Projects, Konsultoria Ambientál lokál ida, ativu iha Timor-Leste dezde 2011, ne'ebé mak prepara tiha ona aplikasaun ambientál ho ToR no agora dadauk halo hela inputs tékniku, avaliasaun ambientál no ko-koordena hela estudu AIA ida ne'e ho JGP NVIST, Consultoria Ambiental, S.A., empreza konsultoria Portugés ida.

21.2.8 Ita nia projetu ne'e saida?

21.2.8.1 Ita hakarak implementa projetu ne'e iha ne'ebé?

Área estudu TDRUP nian lokalizadu iha suku Tibar, Postu Administrativu Bazartete, Munisípiu Liquiça, adjasente ba baía área Tibar, aprosimadamente 14 km iha Oeste hosi sentru Dili (haree Figure 21-1). Fatin ne'e nu'udar ateru-nakloke ida ne'ebé mak uza atu depozita lixu munispál dezde tempu Indonézia nian kedas no ninia luan maizumenu 12 ha. Agora dadauk, laiha kontrolu ba asesu no eziste grupu boot (sira ne'ebé hili fo'er) ne'ebé mak sunu lixu hodi rekopera besi-aat, no ida ne'e halo ahi nunka mate iha ateru laran hodi produz ahi-suar ne'ebé maka'as no tóksiku

21.2.8.2 Saida mak ita hakarak halo?

Ita hakarak dezenvolve fila-fali área ba depóziitu lixu nian, hodi fahe ba área prinsipál 4:

1. Área ba Depóziitu Lixu nian, ho konstrusaun sélula tolu (3) ateru sanitáriu nian, área projetadu sira definidu ba resesaun no depóziitu lixu nian. Sélula tolu ne'e kobre área 11,07 ha hosi área depóziitu atuál. Sei dezenvolve sélula 3 ne'e ida-idak progresivamente no pur sélula, entretantu konstrusaun infraestrutara apoiu nian sei kompleta iha tinan 3 dahuluk nia laran hosi re-dezenvolvimentu ateru nian;
2. Área Reserva, zona tampaun ida ne'ebé hale'u marjen sul, leste no norte hosi área ateru nian. Karik presiza, maka área ida ne'e sei uza hodi tau temporariamente materiál no ekipamentu durante konstrusaun, nomós nu'udar protesau ba iha área investimentu nian durante faze operasionál nian. Sei la iha depóziitu lixu iha área ida ne'e;
3. Área ba Apoiu Operasionál, parte restante sira iha marjen Oeste hosi Área ba Depóziitu Lixu nian, iha ne'ebé sei dezenvolve infraestrutara ba apoiu, ne'ebé presiza ba melloramentu (hadi'ak) fasilidade depóziitu nian;
4. Área ba Depot, ba estasionamentu noturnu no limpeza hosi veíkulus rekolla lixu nian no instalasaun estasaun no abastesimentu kombustível ba operadór/empreiteiru ateru no rekolla nian..

21.2.8.3 Bainhira mak ita propoin atu halo ida ne'e?

Projetu ida ne'e sei iha faze haat (4): Pre-konstrusaun/Dezeñu Detalladu ajendadu hosi Q1 to'o Q3 2021 (fulan 6), maior parte hosi serbisu preparatóriu konstrusaun nian hosi Q3 2021 to'o Q3 2023 (tinan 3) no hosi komisionamentu iha meadus 2023, la'o paralelu ho faze operasionál nian to'o iha 4Q 2030 (tinan 7). Sumáriu ida hosi impaktu potensíal sira durante kada faze apresentadu iha Table 21-1. Hosi hirak ne'e, impaktu xave sira identifikadu hotu ona hanesan 'Moderadu' ka 'Risku aas', no medidas mitigasaun nian mós identifikadu ona ba kada impaktu (haree DIA Sesaun 9) atu jere no hamenus impaktu sira ne'e.

Figura 21-2 Lokalizaun hosi Projeto TDRUP

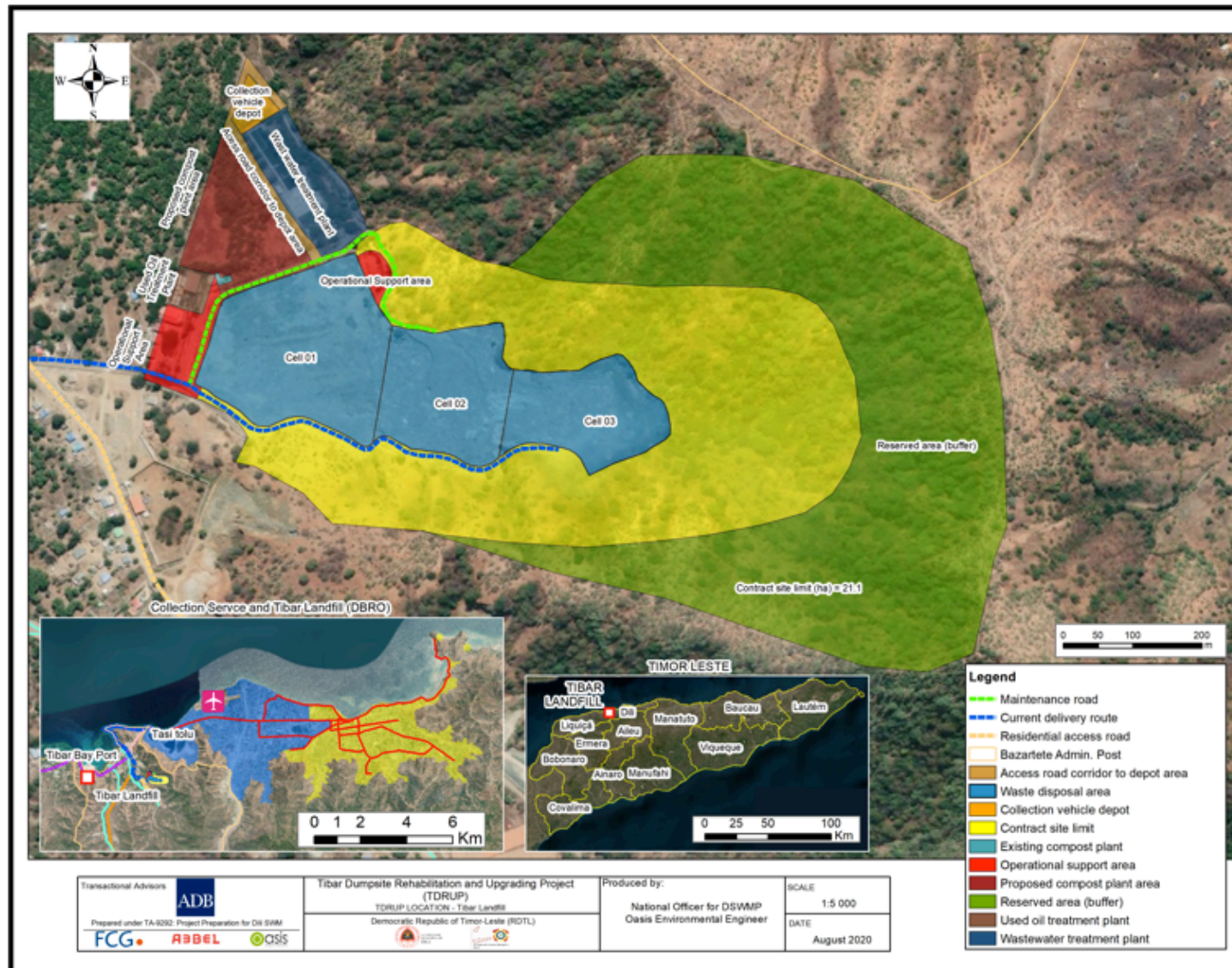


Tabela 21-2 Impaktu Potensiál ambiental no Sosiál hosi projetu TDRUP

Faze	Tipu hosi componente sira	Impaktu Potensiál sira	Natureza	Insidénsia	Eskala Temporal	Signifikánsia	
Pre – Konstrusaun no <i>Design</i>	Jestaun Jerál Kontratu nian	Definisaun no formasaun hosi ekipa PMU ida ho ninia Diretór dedikadu ida atu jere projetu TDRUP	Pozitivu	Diretu	Tempu Naruk	Médiu	
	Jestaun Jerál Kontratu nian	Incluzaun hosi espezifikaosins no padroins finais aprovaus EIS/EMP nian ba dokumentu kontratuál DBO nian no obrigasaun empreiteiru nian atu halo esbosu ba ninia PJA bazeia ba DED finál (<i>Detailed Engineering Designs</i>)	Pozitivu	Diretu	Tempu Naruk	Médiu	
	Jestaun Jerál Kontratu nian	Preparasaun hosi Planu ida ba Jestaun Ambientál Fatin nian no ba Supervizaun	Pozitivu	Diretu	Médiu-Prazu	Médiu	
	Ekonomiku	Eskolla (hili) ba fatin ezistente Ateru nian, nu'udar projetu "brownfield" ida	Pozitivu	Diretu	Tempu Naruk	Aas	
	Rekursu Bee nian	Introdusaun hosi revestimentu impermeável ida atu rekolla no halo tratamentu ba lixiviadu	Pozitivu	Diretu	Tempu Naruk	Aas	
	Ár	Introdusaun regras operasionais nian atu imediatamente falun lixu (taka ho rai) no evita sunu no poluisaun ár	Pozitivu	Diretu	Médiu-Prazu	Aas	
	Mudansa Klimátika		Redusaun ba emisaun GHG liu hosi haforsa no apoia polítikas no programas Resiklajen	Pozitivu	Indiretu	Tempu Naruk	Médiu
			Dezeñu drenajen ne'ebé preparadu ba eventos/kondisoins estremas no aparelu ba redusaun velocidade bee nian no basias retensaun ba reutilizasaun bee nian	Pozitivu	Indiretu	Tempu Naruk	Médiu
			Prevensaun ba deslizamentu (rai-halai) no protesaun ba infraestrutura ateru nian liu hosi estabesimentu área Reserva ida ba protesaun no reflorestasaun	Pozitivu	Diretu	Tempu Naruk	Médiu

Faze	Tipu hosi komponente sira	Impaktu Potensiál sira	Natureza	Insidénsia	Eskala Temporal	Signifikánsia
	Sosiál	Konflitus potenciáis ho populasaun no ema sira ne'ebé hili fo'er (katadór lixu) no risku hosi koezaun sosiál	Negativu	Diretu	Tempu Naruk	Aas
		Perda ka redusaun ba rekursus subsisténsia nian (katadór 100)	Negativu	Diretu	Tempu Naruk	Aas
Konstrusaun	Topografia no Jeolojia	Alterasaun iha morfolojia rai nian / <i>Soil Lost</i>	Negativu	Diretu	Tempu Naruk	Baixo
	Jeolojia	Aumenta risku erozaun	Negativu	Diretu	Tempu Naruk	Médiu
	Rekursu Bee nian	Konsentrasaun hosi materiál/sólidu suspensu aumenta no poluentes iha kursu bee nian – kualidade bee nian menus (Bee rai leten no okos nian)	Negativu	Diretu	Tempu Badak	Baixo
		Aumentu ba konsumu bee nian no produsaun bee fo'er iha fatin konstrusaun hosi traballadór sira	Negativu	Diretu	Médu-Prazu	Baixo
	Ár	Kualidade parámetrus ár nian menus rezulta hosi emisoins ba admosfera ne'ebé aumenta (PM10 no poluente sira seluk)	Negativu	Diretu	Tempu Badak	Médiu
	Rai/Solu	<i>Soil lost</i> (Kontaminasaun até sistema lixiviadu nian mós instala ona)	Negativu	Diretu	Tempu Naruk	Baixo
	Ruídu	Aumentu ba iha nível ruídu nian	Negativu	Diretu	Tempu Badak	Médiu
	Ekolójiku	Lakon vejetasaun iha fatin estasionamentu (<i>Depot</i>) no kompostajen	Negativu	Diretu	Tempu Naruk	baixo
	Kulturál	Impaktu ba fatin sagradu lokál (“Fahiduma” or “Tasu Oron”)	Negativu	Diretu	Tempu Naruk	baixo
	Sosiál	Kriasaun servisu no aprovizionamentu ba oportunitades bens no servisu nian relasiona ho konstrusaun	Pozitivu	Diretu	Médu-Prazu	Aas
Saúde no Seguransa iha área servisu nian		Negativu	Diretu	Médu-Prazu	Médiu	

Faze	Tipu hosi komponente sira	Impaktu Potensiál sira	Natureza	Insidénsia	Eskala Temporal	Signifikánsia
		Alokasaun temporáriu ba infraestruturas	Negativu	Diretu	Médu-Prazu	Médu
		Demobilizasaun hosi traballu rekrutadu	Negativu	Diretu	Tempu Naruk	Médu/Aas
Operasaun	Mudansa Klimátika	Redusaun ba emisaun GHG (kombustaun gás)	Pozitivu	Indiretu	Tempu Naruk	Médu
	Topografia no Ekolójiku (<i>habitat</i>)	Reflorestasaun iha Área Reserva nian (diminuisaun ba risku rai halai)	Pozitivu	Diretu	Tempu Naruk	Aas
	Jeolojia	Hamenus risku erozaun	Pozitivu	Diretu	Tempu Naruk	Médu
	Rekursu Bee nian	Sistema drenajen ba udan-been – redusaun ba risku inundasaun iha área juzante sira	Pozitivu	Diretu	Tempu Naruk	Aas
		Sistema lixiviadu (tratamentu bee nian) no impaktu ba kualidade rekursu bee nian (rai leten no okos)	Pozitivu	Diretu	Tempu Naruk	Aas
	Ár	Melloramentu ba kualidade ár nian (Laiha tan sunu fo'er noa emisaun baixu hosi kareta no mákina sira)	Pozitivu	Diretu	Tempu Naruk	Aas
		Emisaun metanu no dióxidu-karbonu	Negativu	Diretu	Médu-Prazu	Médu
	Ruídu	Aumentu ba iha nível ruídu nian hosi hosi operasaun ateru nian	Negativu	Diretu	Tempu Naruk	Baixo
	Jestaun Lixu	Melloramentu ba jestaun lixu	Pozitivu	Diretu	Tempu Naruk	Aas
		Melloramentu ba saúde públiku, seguransa no amenidade ambiental sidade Dili nian	Pozitivu	Diretu	Tempu Naruk	Aas
	Sosiál	Kriasaun servisu relasiona ho operasaun ateru nian	Pozitivu	Diretu	Tempu Naruk	Médu
		Saúde no seguransa iha área servisu nian	Negativu	Diretu	Tempu Naruk	Médu
		Demobilizasaun hosi traballu rekrutadu	Negativu	Diretu	Tempu Naruk	Médu/Aas

Faze	Tipu hosi komponente sira	Impaktu Potensiál sira	Natureza	Insidénsia	Eskala Temporal	Signifikánsia
Enseramentu	Mudansa Klimátika	Emisoins poluente ár nian (Metanu GHG) hosi fazes finais dijestaun nian	Pozitivu	Indiretu	Tempu Naruk	Médiu
	Topografia no Ekolójiku (<i>habitat</i>)	Reflorestasaun iha Área Reserva nian (diminuisaun ba risku rai halai)	Pozitivu	Diretu	Tempu Naruk	Aas
	Jeolojia	Hamenus risku erozaun	Pozitivu	Diretu	Tempu Naruk	Médiu
	Rekursu Bee nian	Lixiviadu ne'ebé permanese (hela) depoizde enseramentu, evaporasaun iha tanke rekolla nian	Negativu	Diretu	Médiu-Prazu	Médiu
	Ár	Emisaun metanu no dióksidu-karbonu	Negativu	Diretu	Médiu-Prazu	Médiu
	Jestaun Lixu	Melloramentu ba jestaun lixu	Pozitivu	Diretu	Tempu Naruk	Aas
	Sosiál	Servisu ateru nian hotu	Negativu	Diretu	Tempu Naruk	Aas

21.2.8.4 Oinsá mak ami propoin atu halo ida ne'e?

21.2.8.4.1 Remediasaun ba Área Depóztu Lixu nian

1. **Halo-mate Ahi** no husik lixu arefese;
2. **Planu rehabilitasaun – sei halo tuir orden, hosi sélula 1 to'o sélula 3**, ho pasu sira tuirmai ne'e:
 - i) **Ke'e-sai tiha lixu ezistente iha kada sélula** (to'o iha solu [rai] intaktu/naturál) **no Temporariamente realoka fali** iha área ba depóztu lixu nian;
 - ii) **Ke'e-sai tiha rai naturál (ho profundidade maizumenu to'o 20cm)** atu asegura katak hasai duni rai kontaminadu. Karik mak rai kontaminadu ne'e mahar liu 20cm, maka **sei hasai hotu kedas no** substitui fali ho rai moos (deskontaminadu);
3. **Halo moldajen, nivelamentu no kompaktasaun ba baze/rai hosi sélula** atu hetan deklive no elevasaun ne'ebé presiza **hodi promove drenajen/eskoamentu** (hosi leten ba kraik no tuir área depóztu lixu nia klaran)
4. **Instala Sistema Revestimentu Bazál hodi rekolla lixiviadu, kompostu hosi** (hosi okos ba leten) :
 - i) **Rai naturál kompaktadu, enrikesidu ho simentu bentonite** atu reduz permeabilidade;
 - ii) Revestimentu Jeokompostu arjilozu Bentonite-Sódiu (GCL) [**kamada bentonite arjilozu ida iha kamada jeotéstil rua nia klaran**]; no
 - iii) **Revestimentu Prinsipál hosi jeomembrana fleksível HDPE nian** (nia mahar 2mm)
5. **Halo Rekolla no Tratamentu ba Lixiviadu**
 - i) **Instala Feeder** no rede tubajen HDPE ba rekolla lixiviadu iha kamada porozu ida ninia leten, fatuk britas altamente permeável;
 - ii) **Kanaliza Lixiviadu** ba rezervatóriu/tanke revestidu ida hodi akumulá temporariamente iha ne'eba, no sei resirkula fali ba ateru laran hodi fornese umidade adisionál ne'ebé promove dekompozisaun lixu nian.
 - iii) **Bele mós instala unidade ki'ik** ida hodi hadi'ak kualidade hosi efluente lixiviadu nian ne'ebé resta atu nune'e bele kumpri rekeztus/normas Ambientál, Saúde no Seguransa IFC nian ba Fasilidade sira Jestaun Lixu nian (Emisoins no Efluentes)

6. **Halo Rekolla no Tratamentu ba Gás produzidu**

Dekompozisaun lixu nian produz gás (metano [40-60%] no dióksidu-karbonu [maioria hosi % ida ne'ebé sei falta], ho vestíjius hosi kompostu orgániku volátil sira seluk [VOCs]) ne'ebé mak presiza rekolla no halo tratamentu tamba kestaun Mudansa Klimátika no seguransa Ateru nian.

Posu rekolla gás nian lubuk ida mak sei distribui no instala iha sélula ida-idak ninia laran, enkuantu depozisaun lixu kontinua la'o. Posu rekolla gás nian ne'e sei penetra tama to'o iha lixu ninia okos kedas no estende vertikalmente enkuantu lixu nia mahar aumenta no sei kanaliza gás rekollidu ba to'o iha unidade tratamentu gás nian ida, iha ne'ebé gás rekollidu ne'e sei elimina tiha (sunu).

21.2.8.4.2 Rehabilita Infraestrutúra Operasionál

1. **Hadi'ak estrada asesu ba sélula sira (sélula 1 to'o 3);**
2. **Hadi'ak drenajen iha área ateru nian, iha ne'ebé:**

- a) **Sei rekolla no kanaliza udan-been ba iha debun revestidu dahuluk no karik nakonu ona, sei suli fali ba debun daruak nian** besik área kompostajen nian, iha área ba apoiu operasionál nia laran.
- b) Udan-been akumuladu sei uza ba iha :
 - operasaun unidade kompostajen nian;
 - sirkula fila-fali ba iha ateru laran hodi ajuda aumenta kompaktaun no aselera dekompozisaun lixu nian;
 - deskarega ba iha li'ur, ba fatin besik unidade ezistente ba tratamentu bee fo'er DNSB nian
3. **Kontrolu no seguransa ba asesu ba iha ateru (portaun seguransa, lutu no pesoál seguransa nian**
4. **Resesaun Lixu nian, kompletu ho ponte-báskula ida atu tetu lixu;**
5. **Edifisiu foun ba servisu administrativu no fatin estasionamentu;**
6. **Áreas operasionais: armajén no ofisina;**
7. **Kompostajen** – Sei rekolla lixu verde separadamente hosi lixu munispál sira seluk no sei halo kompostajen atu nune'e:
 - a) aumenta vida útil ateru nian;
 - b) reduz lixiviadu no gás iha ateru laran;
 - c) produz kompostu orgániku ida ne'ebé seguru (produutu finál) ba jardim no fatin públiku sira seluk Munisipiu nian.
8. **Área Depot nian** – sei prepara fatin depot nian rua ba estasionamentu noturnu hosi veikulus rekolla lixu nian, estrada asesu nian ida no estasaun ba abastesimentu kombustível nian ida ho kapasidade 50,000L.

21.2.9 Oinsá mak ami avalia Impaktu Ambientál sira?

21.2.9.1 Halibur informasaun konaba fatin projetu nian

Dokumentu DIA nian fornese rezumu no deskrisaun delladdu ida konaba natureza hosi impaktus oioin (ba komponente fiziku, biolójiku no sosiál) ne'ebé mak bele akontese durante implementasaun hosi kompenente ida-idak projetu TDRUP nian. Atu halo ida ne'e, ami rekolla tiha ona informasaun baseline nian (dadus primáriu no sekundáriu no revizaun bibliográfika) ne'ebé deskreve kondisaun atuál sira hosi área estudu nian no kompara (halo estimativa) ho impaktus posíveis hosi situasaun propostu no asoins hosi implementasaun projetu nian. Atu hetan liutan informasaun detalladu hosi terenu, ami halo entrevista no diskusaun konaba projetu ne'e iha área Tibar, involve mós konsulta ho ema sira ne'ebé dala ruma bele afetadu hosi projetu ne'e no partes interesadas seluk, nune'e mós hala'o ona konsulta pública ba Termus Referénsia (TOR) projetu nian iha fulan Jullu 2020.

Rekollamentu ba dadus ambientais no sosiais ne'ebé mak konsultór AIA nian halo iha terenu (dadus primáriu) mak hanesan tuirmai ne'e:

- a) **Rekursu Bee nia (superfisiál no subteráneo):** rekolla amostra bee nian hosi fatin/pontus 8 (superfisiál 2, subteráneo 5 no bee-hemu nian 1).
- b) **Solu (rai):** rekolla hosi lixu nia okos amostra rai orijinal nian iha fatin 9 atu verifika nível kontaminasaun.
- c) **Ruídu:** halo amostrajen iha pontus hamutuk 6 (industriál no residensial).
- d) **Komponente Sosiál:** halo entrevista ba comunidade sira iha Aldeia Fatunia no Libaulelo ne'ebé afetadu hosi projetu ida ne'e nune'e mós ho autoridades munispais no lokais no partes interesadas importantes seluk iha Tibar. Ami mós aplika kestionáriu sensus nian ba ema afetadu sira i.e. katadór lixu no rejistu ba

bens (asset), atu identifika ema sira ne'ebe mak sei ekonomikamente deslokadu hosi projetu ne'e no atu determina se mak elejivel ba apoiu.

- e) Komponente Kulturál: Inpesaun iha terenu liu hosi recolla fotografias konaba fatin arkeológjiku, istóriku no sagradu sira Tibar nian bazeia ba Autoridade Lokál sira nia koñesimentu, nune'e mós dadus hosi Sentru Nasionál CHEGA (SNC) no Sekretáriu Estadu ba Kultura (SEK).

21.2.9.2 Ami uza informasaun hirak ne'e hodi halo estimativa ba impaktus...

Avaliasaun ba impaktus hosi projetu ida nian mak rezultadu ida hosi komparaun entre situasaun ambientál no sosiál sira ne'ebe previzível ba futuru hosi implementasaun no auzénsia projetu nian ("Zero Alternative"). Ami iha koñesimentu (hatene) konaba impaktus jenérikus ne'ebe mak kualker projetu rehabilitasaun ateru ida bele kauza, hanesan apresenta iha Table 21-1. Ba projetu ida ne'e, atu bele identifika no avalia impaktu relevante sira hotu, maka ami halo ona análizes ba fatór ambientál no sosiál ida-idak, tuir kedas ho avaliasaun no previzaun ba impaktu SIGNIFIKATIVU sira bazeia ba deskrisaun hosi sira ninia efeitu no ba karaterizasaun kualitativa ida.

21.2.10 Projeitu ninia impaktu boot liu mak saida de'it?

Projeitu ne'e prevé katak impaktus negativus ne'ebe aas liu dala ruma mai hosi reasentamentu ekonómiku i.e. perda rendimentu hosi katadores besik 100 no sira ninia membru família besik 700, nune'e mós impaktu sira ne'ebe mak mai hosi konstrusaun sivil no operasaun hosi rehabilitasaun ateru nian hanesan, ruídu, rai-rahun, teraplenajens, produsan lixiviadu, jestaun tráfegu, nst. Maske nune'e, impaktu importante no pozitivu liu mak melloramentu ba kondisaun ambientál sira iha fatin ateru nian i.e. laiha tan ahi-su'ar, ne'ebe mak fó impaktu lorloron ba comunidade sira iha Tibar, ka atividade sira ne'ebe ho risku saúde ne'ebe aas liu i.e. katadores lixu, no indiretamente hadi'ak kondisoins jerais iha sidade Díli, relativamente ho rekolla lixu nian no aseiu/limpeza ba benefísiu hosi ninia sidadaun sira.

21.2.10.1 Oinsá mak ami sei jere impaktu signifikativu sira?

Ami avalia tiha ona impaktu signifikativu sira no define mós ona medidas mitigasaun no tau hamutuk iha iha Planu Jestaun Ambientál nian ida (PJA) (haree Volume 3 – Planu Jestaun Ambientál), ne'ebe mak sai hanesan dokumentu ida ne'ebe jere impaktu ambientál potenciál sira hosi faze konstrusaun, dezvoltamentu no enseramentu. Objétivu hosi PJA mak atu komunika obrigasaun ambientál xave sira ne'ebe mak aplika ba empreiteiru hotu-hotu, sira ninia sub-empreiteiru no funsióriu sira enkuantu halo hela atividade konstrusaun saida de'it nu'udar parte ida hosi TDRUP. Ida ne'e sei sai hanesan referénsia prinsipál obrigassaun nian ba empreiteiru sira atu tuir durante faze dezeñu, konstrusaun no operasaun, no hatan ba kondisaun sira ne'ebe mak inkluídu ba iha PJA ne'ebe sei aneksa hamutuk ho Dokumentus Kontratu nian.

21.2.11 Oinsá mak ita bele partisipa iha faze AIA sira tuirmai?

- a) Durante Konsulta Públika ba esbosu DIA/PJA: ami sei realiza Konsulta Públika seluk ida tan hodi halibur komentáriu no opiniaun sira konaba konteúdu DIA/PJA nian hosi parte interesada sira nomós hosi públiku;
- b) Hahú hosi AGORA to'o iha finál Konsulta Públika daruak nian: Sé de'it mak iha interese lejítimu espesifikamente konaba konteúdu ToR no/ka DIA/PJA nian (bainhira dokumentu hira ne'e ofisialmente publikadu ona) só bele hato'o sira ninia opiniaun ho FORMA ESKRITU DE'IT no haruka ba kontaktu sira tuirmai ne'e:

Sr. António Lelo Taci, M.Sc, Sekretáriu Ezekutivu Interinu hosi ANLA

Enderesu: Sekretaria Estadu ba Meiu Ambiente, Edifício Fomento, Mandarim, Díli Timor-Leste
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ho kópia (c.c.) ba:

Sra. Emiliana Soares, Diretora Ajénsia Planeamentu Urbanu Munisípiu Díli nian

Enderesu: Autoridade Munisípiu Díli (AMD) – Avenida Mártires da Pátria, Vila Verde, Díli, Timor-Leste

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