



Concept Environmental and Social Review Summary

Concept Stage

(ESRS Concept Stage)

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BASIC INFORMATION

A. Basic Project Data

Country	Region	Project ID	Parent Project ID (if any)
Mauritius		P180266	
Project Name	Mauritius: Rodrigues Airport Project		
Practice Area (Lead)	Financing Instrument	Estimated Appraisal Date	Estimated Board Date
Transport	Investment Project Financing	4/24/2023	6/29/2023
Borrower(s)	Implementing Agency(ies)		
Ministry of Finance	Airport of Rodrigues Limited (ARL)		

Proposed Development Objective

To increase the connectivity of the island of Rodrigues through the development of a new runway and improvement of Plaine Corail airport's infrastructure safety and efficiency.

Financing (in USD Million)	Amount
Total Project Cost	140.00

B. Is the project being prepared in a Situation of Urgent Need of Assistance or Capacity Constraints, as per Bank IPF Policy, para. 12?

No

C. Summary Description of Proposed Project [including overview of Country, Sectoral & Institutional Contexts and Relationship to CPF]

The proposed project will finance the following components:

Component 1: Infrastructure Development (US\$130 million - indicative)

This component will finance works, equipment, and consultancy services for the construction of a new airport runway on the island of Rodrigues, and associated facilities, which consist of the design of a new 2,100m long runway with connecting taxiways and apron suitable for Airbus A321 Neo type jet aircrafts. This will represent the bulk of the project cost, and its final cost will be confirmed upon the completion of the ongoing detailed design studies.



In addition to the new runway, this component will finance the strengthening of the existing runway which will be used as a taxiway. It will also finance the construction of three new aircraft parking stands for A321 Neo type aircraft including the two connecting taxiways, the construction of an isolated apron including the connecting taxiway, and the provision of floodlighting and ground power units for apron. The component will also finance works to strengthen drainage and flood control infrastructure to strengthen the climate resilience of the airport. This component will also finance a new control tower and updated air navigation systems (provision of AGL and control systems for the new runway, provision of NavAids for the new rRunway). It will also finance ancillary buildings and facilities for safe and efficient airport operations. Such facilities include new rescue and firefighting station with all associated amenities, new meteo building, quarantine building, power center building, and cold storage .

The development of a new 2.1km runway will allow the operation of jet planes (such as A321 Neo or Boeing 737) and is a key connectivity project for Rodrigues which will cut travel costs and time, offer enhanced opportunities for cargo transport, and direct international routes to nearby countries (Reunion, Seychelles, Madagascar...) as currently most flights to Rodrigues have to connect and/or transfer to ATRs on Mauritius island.

Component 2: Technical Assistance (US\$10 million - indicative)

This component will finance i) necessary studies and technical assistance for the direct management of the project, such as the recruitment of a Project Implementation Unit, environmental and social studies, and audits; ii) studies for the development and modernization of the air transport sector in Mauritius ; and iii) assistance to the implementation of key pillars of the Rodrigues Development Plan such as in water and agriculture sectors, among others.

D. Environmental and Social Overview

D.1. Detailed project location(s) and salient physical characteristics relevant to the E&S assessment [geographic, environmental, social]

Rodrigues is a 108 km² autonomous outer island of the Republic of Mauritius. It is situated 560 km from the main island of Mauritius. The island is of volcanic origin with the southwestern dominated by a karst plain of coral sandstone. The karst shoreline is protected from extreme waves due to a large coral reef which surrounds the island. There is 38 major river basins and four nature reserves including marine protected areas on the island. Of relevance is the 34ha Anse Quitor biodiversity reserves and the South-East Marine Protected Area, covering 43km² along the south-east of the island. The vegetation types consists mostly of coastal grasslands dominated by secondary thickets with several tree species of conservation importance. Faunal species are mostly exotic, with one endangered endemic bat species occurring in Anse Quitor reserve and likely to be impacted. Five marine mammal species (four dolphin and one whale) are observed in the coastal waters of Rodrigues while hawksbill turtles are known to visit the island. There are no fish species of concern. Coral reefs are dominated by *Acropora formosa* a near threatened coral species which are likely to be impacted by the project activities. There are several interconnecting cave structures with potential cultural importance near the project area.

The population size in 2019 was estimated at 43,538 people. The local economy is largely dependent on Mauritius, with the main source of income being export of sea products, cattle and food crops and with a new focus on tourism.



Service delivery on the island is generally poor. Only 85% of households have waste collected. There are two existing waste facilities Roche-Bon-Dieu dump site and Ponte-au-Sel waste water treatment plant (WWTP) of which the status is unknown. Water resources are scarce with the main source being water abstraction, boreholes and springs. Wastewater is collected in septic tanks and transported to Ponte-au-Sel for disposal.

The project is located within the existing Plaine Corail Airport, in the municipal district and village of Plaine Corail, 15km from the capital Port Mathurin and main port. The estimated population of the village of Plaine Corail is approximately 40 people, consisting of 55% women and 45% men, with an average age of 40 and 26, respectively. Agriculture and fishing are mainly practiced in the villages close to the project. Construction materials will be imported and transported via road past several villages to the project site.

The existing airport consists of an existing runway, terminal building, fire rescue and police station. Component 1 includes activities with particular relevance to the World Bank's Environmental and Social Standards (ESSs). Activities supported include construction of a new asphalt runway, control tower, taxiways, sea rescue firefighting station and boat house, which require relocation of critical endangered and endangered floral species which is currently underway. The new runway is proposed along the shoreline and will require land to be reclaimed and sea rescue will require dredging activities which will impact on marine environment. Cave structures with cultural heritage may be impacted during construction of the runway while bats, Anse Quito river and nature reserve, estuaries and marine environment may be impacted during operations due to additional lighting, poor management of stormwater and waste during operations. Approximately 15 households with 61 inhabitants and another 37 non-residents engaged in fishing, livestock raising and farming have been affected to date by the proposed project development. The project will facilitate socio-economic development on the island in line with the Rodrigues Development Plan, with an aim to increase tourism from 97,000 tourists per year in 2017 to 150,000 tourists per year in 2030.

D. 2. Borrower's Institutional Capacity

The Borrower is the Government of Mauritius (GoM), a middle income country, and implementing agency will be Airport of Mauritius Limited (AML). AML is a public company with GoM as majority shareholder, and owns and operates Mauritius International Airport SSRIA. AML is considered a sophisticated operator, with experience in implementing large airport construction projects including implementation of lender funded airport and infrastructure construction projects under the French Development Agency (AFD) and EU. This will be the first project prepared with the World Bank in Mauritius under the Bank's Environmental and Social Framework (ESF). AML has an established integrated environmental and safety management system (IESMS) in line with ISO45001, including a carbon reduction and energy efficiencies management plan for its operations. The IESMS makes provision for rigorous health and safety and environmental training and monitoring and review of system effectiveness. The existing IESMS systems will be assessed during appraisal to determine areas of strengthening to align with the ESF for implementation of existing facilities as part of the project. Experienced environmental and health and safety resources are established within the AML. Airport of Rodrigues (ARL) a public company and subsidiary of AML and owned by Airport Holding Limited (AHL). ARL is the owner and licensed operator of Plaine Corail Airport. ARL is 100% owned by AML which is 100% owned by AHL a publicly owned company consisting of 51% GoM and 49% Mauritius Investment Corporation.

A dedicated Project Implementing Unit (PIU) including expert environmental and social specialists, as well as a project coordinator, procurement, financial management and engineering/technical specialists will be established within the AML during project implementation to oversee the implementation of the project including preparation of bid documents and appointment of EPC contractor. The ESCP will make provision for the AML to prepare a Terms of



Reference (ToR) for the establishment of the PIU including recruitment of qualified and experienced environmental and social specialists as part of key members of the PIU. A Project Steering Committee consisting of representatives of the Ministry of Finance, AHL, Rodrigues Regional Authority and Ministry of External Communications will be established, in addition to the PIU, to coordinate flow of information between relevant key stakeholders.

The Mauritius National Assembly unanimously adopted two laws giving Rodrigues autonomy to create a decentralized government system, which led to establishment of the Rodrigues Regional Assembly (RRA). The RRA has powers to propose legislation applicable to the island, while matters related to security, foreign affairs, health and education remains the responsibility of the Parliament of Mauritius. The RRA consist of 18 members and an executive council headed by the Chief Commissioner who is tasked to inform the Mauritian Prime Minister on matters of the island. Environmental protection is governed under the Environmental Protection Act (2002) (EPA), under the Ministry of Social Security, National Solidarity and Environmental and Sustainable Development. The EPA provides for the application of the Act to the island of Rodrigues and the ability of RRA to make regulations applicable to the island under the Act. The EIA process under EPA and managed by the Environmental Assessment Department is considered to be well-established taking a multidisciplinary approach by working in close collaboration with technical line ministries and institutions.

The RRA was involved in preparation of social instruments during preparation of the existing Environmental and Social Impact Assessment prepared for AFD. Prior to the Bank becoming involved in the project, the RRA prepared and implemented a Resettlement Action Plan (RAP) for affected households on or near the project site, and is preparing a socioeconomic study.

II. SCREENING OF POTENTIAL ENVIRONMENTAL AND SOCIAL (ES) RISKS AND IMPACTS

A. Environmental and Social Risk Classification (ESRC)

High

Environmental Risk Rating

High

The environmental risk rating is considered high due to the anticipated long-term and permanent adverse direct, indirect and cumulative impacts associated with activities under Component 1 that may result from the expansion of the runway and airport operations. Adverse long-term and permanent environmental impacts during construction include i) impacts on terrestrial biodiversity, including critical endangered and endangered flora and fauna species located within the footprint of the runway; ii) impacts on marine biodiversity potentially including critical endangered marine species and loss of coral and sea coastal habitat; iii) increase in traffic due to transportation of construction equipment and materials from the Port in the North across the island to the project site; iv) impacts associated with noise and vibration from civil works including blasting; v) increase pressure on water resources; vi) impacts associated with generation of construction waste (general and hazardous); vii) soil and groundwater pollution due to poor materials handling; viii) impacts on worker health and safety; ix) community health and safety issues associated with the extraction and transportation of construction materials and x) impacts on cultural heritage (archaeology and paleontology) associated with the caves. Operational phase impacts includes; i) increase air emissions including greenhouse gasses, noise and light pollution, ii) increase in generation of solid waste; iii) increase pressure on limited water resources; iv) poor storm water management which may lead to soil and groundwater pollution; v) emergency situations which may lead fires and uncontrolled release of large quantities of hazardous material into the marine and protected terrestrial environment. It is further anticipated that the airport development may lead to downstream



economic development such as tourism and agricultural activities, which may increase pressure on already constraint natural resources and degradation of terrestrial and marine ecosystems. The cumulative impacts will require further investigation to determine adequate mitigation measures on a national scale that will need to be implemented to avoid or mitigate downstream impacts. The project will further support the preparation of various technical studies under a technical assistance (TA) (Type 3) under Component 2 of which the extent of the potential downstream environmental risks and impacts are currently not fully known. The Terms of References to be prepared for the TAs will incorporate environmentally sustainable considerations in line with national laws and those of good international industry practices to make provision for the consideration of adequate mitigation measures associated with downstream risks and impacts once the activities to be supported are known.

Social Risk Rating

Substantial

The Social risk rating for this project is considered Substantial, due primarily to the potential adverse and irreversible impacts of physical and/or economic dislocation that may be caused by the project to households, businesses, a primary school and a health care center located in or near the project footprint. These include people with farming, livestock herding and fishing interests, but the number of affected PAPs is considered to be relatively small, including 61 members of 15 households and 37 non-residents involved in fishing, livestock herding or farming identified to date. However, the relocation of people to nearby communities and the need to share community land for farming and herding activities may cause some localized tensions or competition for scarce resources including water. The resettlement activities were already planned and implemented prior to the World Bank involvement in the project, so there is a need to audit the status and outcomes of the resettlement process to ensure it meets ESS 5 standards. The airport expansion, especially as it relates to national and island government plans for expansion of tourism and related economic activities could have downstream social impacts on the communities surrounding the airport but also more broadly across the island, which has limits on land availability, water resources or ability to manage waste products. Some stakeholders, including women and other vulnerable groups may be excluded from accessing benefits provide by the project and related economic opportunities.

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B. Environment and Social Standards (ESSs) that Apply to the Activities Being Considered

B.1. General Assessment

ESS1 Assessment and Management of Environmental and Social Risks and Impacts

Overview of the relevance of the Standard for the Project:

The project was screened based on information received during discussions with the ARL and the review of available documentation including a preliminary environmental and social impact assessment (ESIA), Protection and Preservation Plan and Strategy for the protected trees, and resettlement action plan previously prepared for the project and the sustainable integrated development plan for Rodrigues. Feasibility study prepared by GIBB took into consideration seven proposed runway alignments and assessed it from a technical and environmental view. The current alignment was found to be most feasible to mitigate environmental impacts.

The activities supported under the Component 1 are anticipated to result in adverse environmental and social risks and impacts that must be managed in accordance with the ESSs. The preliminary ESIA and specialist studies prepared in 2019 for AFD and EU in line with the World Bank Environmental and Social Framework (ESF) and World Bank Group Environmental Health and Safety Guidelines (EHSG), assessed the potential environmental and social risks and



impacts based on the preliminary design information available at that time, and did not include an assessment of possible downstream impacts of airport improvements beyond the construction work itself. Studies as part of the preliminary ESIA included an assessment of the terrestrial and marine biodiversity and preparation of a Protection and Preservation Plan and Strategy for the protected trees, an assessment of the noise and air emissions, cultural heritage assessment and socio-economic studies. The preliminary ESIA further identified the need for additional studies and preparation of various environmental and social management plans including among others, marine environment monitoring plan, surface, storm water and waste water management plan, biodiversity management plan, waste and hazardous material management plan, traffic management plan, community and occupational health and safety management plan and workforce management and training plan.

The preliminary ESIA will be updated and a draft ESIA will be prepared, and consulted and disclosed. The draft ESIA will provide updated project information and will address the information and assessment gaps identified by the Bank in line with the relevant ESSs. It will provide information on additional specialist studies and management plans and their relevant scope of works to be undertaken as part of the finalization of the ESIA to meet the requirements of the relevant ESSs. The draft ESIA will be finalized once the final design and a final ESIA will be consulted and disclosed prior to Appraisal. Additional geotechnical and geophysical studies which will inform the final design and work plan is currently under preparation. Since the airport development is located close to the coast, it will potentially be affected by climate change factors such as rise in sea levels, more frequent storms etc. To address this a requirement for identifying and considering both climate risk and sustainable airport design aspects in line with ICAO guidelines have been included in the scope of the design engineers work. The final ESIA study is expected to address, in particular but not limited to, the following aspects of the ESSs namely assessment of water balance, assessment of groundwater resource due to potential pollution risks, noise assessments associated with the increase in air traffic and land support activities and climate considerations (ESS 3), community health and safety including traffic assessment due to the potential increase in traffic (ESS 4), any additional needs identified for land acquisition or resettlement to be addressed in a future RAP (ESS 5), marine (turtle and coral) and terrestrial fauna (bats) biodiversity assessment including ecosystem services (ESS 6). A Strategic Development Plan (SDP) for Rodrigues is currently under development. The SDP focus on eight development areas including eco-tourism. The airport development will contribute to increase in tourist visiting the island with an estimated increase from 97,000 in 2017 to 150,000 tourists in 2030. Increase in tourist and associated downstream developments needs are likely to have adverse impacts on water availability, biodiversity and social aspects such as security. A robust cumulative impact assessment in line with ESS1, will be carried out as part of the final ESIA to identify and assess potential downstream impacts as a result of the expansion of the airport. Further studies to confirm the carrying capacity of the island, and for assessing and addressing issues such as water supply may need to be considered as part of the technical assistance under Component 2. The final ESIA will further set out the requirements for the preparation of an updated terrestrial and marine biodiversity management plan, water balance management plan and groundwater management and monitoring plan in addition to those already identified in the preliminary and draft ESIA. The final ESIA will be consulted and disclosed prior to Board approval. The timing of preparing these management plans will be stipulated in the ESMP and ESCP.

A RAP Completion Audit will be conducted of the RAP outcomes to ensure compliance with ESS 5 guidelines on involuntary resettlement and livelihood replacement including livelihood replacement for fisherman under (ESS 6), as well as proper stakeholder engagement and information disclosure requirements. The Audit will be disclosed by



Appraisal, and the existing RAP will be updated, or if needed a Remedial RAP be prepared subsequently, to be completed during implementation.

Associated facilities includes the existing terminal building, fuel depot and desalination plant. The relevance of associated facilities will be further assessed as part of the project preparation as part of the Banks due diligence. An audit will be undertaken for relevant associated facilities and existing management protocols will be assessed to determine compliance with the requirements of the ESSs. Where required, recommendations will be made to strengthen existing protocols and operations of these facilities in alignment with the ESS and WB EHS as stipulated in the ESCP. Impacts associated with ancillary activities, including among other the establishment of a construction camp, establishment of a temporary desalination plant for construction and an asphalt plant will be assessed as part of the ESIA and mitigation measures included in the ESMP and further defined in the Construction ESMP to be prepared by the contractor during implementation. The ESMP to be prepared as part of the ESMP will also include Labor Management Procedures (LMP) for all project workers, as well as SEA/SH Prevention and Response Guidelines. The timing and preparation of the additional management plans will be captured in the ESCP. The ESCP shall include a requirement to ensure all relevant environmental approvals for project activities as required will be obtained prior to commencing with the respective activity for which approval is required.

Component 2 will support the preparation of technical studies and capacity strengthening through technical assistance (TA) (Type 3). Studies to be supported under the TA includes studies for the development and modernization of the airport sector in Mauritius and assistance for the implementation of key pillars of the Rodrigues Development Plan (TA Types 1, 2 and 3). The downstream environmental and social impacts associated with the TAs were not included in the original ESIA and cannot be determined at this stage as the details of the technical support is currently not fully known. The ESCP will include a requirement for the PIU to prepare a Terms of References for the studies, which incorporates E&S sustainability considerations to fulfill the requirements of national laws and international good practices as exemplified in the relevant World Bank ESSs.

Areas where “Use of Borrower Framework” is being considered:

The use of a Borrower framework is not being considered for this project

ESS10 Stakeholder Engagement and Information Disclosure

ESS 10 is relevant for this project. A robust and ongoing effort to engage stakeholder and disseminate information about the project as it proceeds is needed to meet ESS 10 requirements. While there have been some consultations held in connection with project preparation, including meeting with nearby communities to explain the details of the project, and ongoing interactions between RRA and AML and households and businesses being displaced by the project, there is no Stakeholder Engagement Plan (SEP) nor any other formal mechanism in place for regularly communicating with project stakeholders. It is unclear if women or other potential vulnerable groups or individuals have been consulted as to their particular concerns about the project and its impacts. Despite having already carried out resettlement activities, there is no grievance mechanism (GM) in place for the project, for those being resettled or for other stakeholders who may have other grievances or concerns they wish to express about the project. The outcome of the Resettlement Audit will provide more information on the extent to which vulnerable groups have been consulted and whether there are currently any grievances from the already relocated communities which will need to be captured and resolved. A project SEP, including a GM, will be prepared and disclosed prior to Appraisal. The SEP will outline the characteristics and project-related interests and concerns of the relevant stakeholder groups,

Public Disclosure



and the proposed timing and methods of engagement throughout the life of the project. Particular stakeholders of interest include the directly affected communities, Anse Quitor Nature reserve, NGOs and development partners with a focus of biodiversity conservation including marine protection, community agricultural and fishery organizations, environmental and conservation authorities and municipalities among others. The project will in particular ensure that the needs and voices of vulnerable people (female-headed households, elderly, youth, people with disabilities, or any other disadvantaged communities or individuals) are heard through inclusive consultation and participation to ensure that they can equally participate and benefit from the Project. The Project will also ensure that respective provisions on gender equality and the mitigation of gender-based violence will be implemented while also ensuring strong participation of women and other vulnerable groups in the project activities.

B.2. Specific Risks and Impacts

A brief description of the potential environmental and social risks and impacts relevant to the Project.

ESS2 Labor and Working Conditions

The standard is relevant as the project will involve direct workers, contracted workers and primary suppliers under Component 1. Since AML is a publicly owned, the relevance of civil servants under Component 1 will be further assessed during project appraisal preparation. Activities under Component 1 will support large scale construction activities which will require large number of laborer's to be brought to the island. The preliminary estimates of the labor force (contracted workers) needed for construction activities is around 450 workers, of which around 30% are expected to be expatriates, and the other 70% will be a mix of local workers from Rodrigues Island as well as from Mauritius Island. Construction activities are likely to impact health and safety of workers due to i) interaction with moving machinery, ii) working at heights, iii) accidental drowning due to marine works, iv) exposure to hazardous substances v) exposure to noise and vi) exposure to communicable diseases. All requirements of ESS2 will apply to project direct and contract workers. For government civil servants, if found relevant, the application of ESS2 will be limited to the child labor and forced labor and OHS requirements. To ensure fair labor practices and health and safety of workers during the construction and operations of the airport, AML needs to ensure international good practices concerning labor and working conditions, Occupational Health and Safety, GBV/SEA-SH as well as conformity with applicable legal framework of Mauritius and Rodrigues are included as part of all bidding documents. The project duration is estimated at 27 months with a 24-month defects liability period. It is likely that worker camps will be needed to house some or all the workers, especially those not already resident on Rodrigues Island. Bringing workers in from outside, even from Mauritius Island, could cause some economic, social or cultural tensions with local communities, including a risk of GBV/SEA incidents. Labor Management Procedures (LMP) will be developed for the project workforce, including a worker grievance mechanism (GM) and SEA/SH provisions as part of the ESMP included in the ESIA and disclosed prior to appraisal.

To mitigate the anticipated OHS risks during the construction activities under Component 1, an OHS plan will be prepared as part of the ESMP; in line with the WBG General EHS guidelines and sector specific EHS guidelines prior to project implementation and within the timeline specified in the ESCP. The contractors will be required to prepare site and activity specific risk assessments, Construction OHS Plan and Emergency Preparedness and Response Plan upon appointment and prior to commencing with the activities associated with Component 1. AML has an existing integrated safety management system prepared inline with ISO 45001 and the Occupational Safety and Health act of Mauritius. The system is currently not certified but is applicable to all AMLs' operations including those of its



contractors and service providers. The Bank will review the existing operations at the Plaine Corail Airport in line with the AML integrated safety management system to determine consistency with the ESS 2 requirements for operations. Where gaps are identified, provisions will be made to strengthen the existing systems. The project will be utilizing the Bank procurement documents and will therefore ensure that all bidding documents adequately addresses occupational health and safety, labor management and SEA/SH requirements.

The execution of the TA activities under Component 2 is likely to be overseen by civil servants, therefore aspects of child and forced labor and occupational health and safety as stipulated in ESS 2 will apply. For consultants executing the studies under the TAs all requirements of the ESS 2 will apply. The provisions for labor requirements including occupational health and safety for downstream projects will be included as part of the ToRs to be developed.

ESS3 Resource Efficiency and Pollution Prevention and Management

Construction activities under Component 1 is likely to, i) require large quantities of construction materials; ii) utilize large volumes of water; iii) lead to ground and surface water contamination; iv) generate hazardous and non-hazardous waste, v) require handling and storage of hazardous material and vii) use energy, while operational activities are likely to i) increase air emissions, ii) contribute to GHG emissions, iii) management and storage of hazardous materials and iv) increase energy demand.

There is limited availability of potable water on the island of Rodrigues. According to the preliminary ESIA an estimated 40m³ of water per day will be needed during construction. A temporary desalination plant has been proposed for construction phase to reduce pressure on available water sources. Desalination plants could lead to increase seawater temperature, salinity, turbidity and algae bloom which negatively impact marine ecosystems. The details, location and energy source for the plant have not been finalized. The final ESIA will need to assess the impacts associated with the desalination plan, including brine management, energy needs and point of water abstraction and require the relevant mitigation measures to be included in the ESMPs. During operations the water needs is anticipated to increase from a daily average of 12.5m³ per day during peak season to 21m³ per day due to the projected increase in passengers. Water is currently supplied from an existing desalination plant, which also supplies surrounding communities. Capacity of the existing reverse osmosis desalination plant, and impacts on additional water needs during operations are not known. An integrated water management is being proposed, during which rainwater will be harvested and waste water treated and recycled for re-use which will be further assessed in the final ESIA. The final ESIA will include a water balance assessment and water management and monitoring plan in line with ESS3 and the WBG EHS guidelines (general and airports) will be included in the final ESIA.

There is no piped domestic waste water system on the island. Domestic waste water generated during construction and operational phase is likely to be pumped and disposed of at municipal Ponte-au-Sel WWTP. The capacity and status of the WWTP is not known and will be further assessed as part of the Bank due diligence. The final ESIA will need to assess the available capacity to treat and dispose waste water generated and options to reuse waste water as part of the integrated water management plan proposed in the Preliminary ESIA. Increase in hard-standing surfaces will increase storm water run-off, which may lead to release of toxic concentrations of pollutants into the sea which will have a adverse impact on marine ecosystems. Component 1 will support the strengthening of drainage and flood control infrastructure to allow for climate resilience. Green airport design, climate risk and resilient considerations; in line with ICAO guidelines; will be considered as part of the final design. The design in the



preliminary ESIA made provision of runway runoff to drain into oil and grease separators for pretreatment prior to the released into the adjacent environment and ocean, if not considered for re-use as part of the integrated water management system. Marine ecosystems are considered sensitive. The final ESIA will determine the assimilative capacity of the receiving body and related impacts to aquatic biota and assess the impacts on marine ecosystems at potential discharge locations to inform the design. The ESMP shall stipulate stringent discharged limits for storm and waste water to be adhered to during construction and operations.

The geology in the project area consists of a Karst calcarenites formation, which is porous and therefore hydrocarbon spills are more likely to lead to groundwater pollution. Information on groundwater patterns and quality are limited and not fully assessed in the preliminary ESIA and will require further assessment in the final ESIA. Geotechnical investigations are currently underway to inform design on Karst characteristics. The final design will inform the final ESIA. A Karst monitoring plan during construction was proposed in the preliminary ESIA, will be prepared prior to construction as per the ESCP. Possibility of existing soil contamination at the airports is currently not known. The final ESIA will need to assess potential soil contamination at high probability areas and propose mitigation measures either in-situ remediation prior to construction, or stipulate disposal methods and location or incineration as part of the ESMP.

The current design considers optimizing, a cut-and-fill to reduce need for additional fill material. If material is not suitable large quantities of rock will need to be disposed and material imported. Two sites for sourcing of fill material namely, Mount Topaze and Mount Coupier, have been identified as potential quarry areas. Geotechnical studies on material suitability is currently underway and the need for additional material will only be known at final designs. The final ESIA should assess impacts of the quarry areas in addition to potential spoil sites if needed. An alternative proposed in the preliminary ESIA, is for construction materials to be imported from mainland Mauritius via sea and transported via road from Port Mathurin which will contribute to GHG emissions. The impacts associated with transportation of materials will be assessed as part of the traffic assessment under ESS4.

Domestic and hazardous waste management on the island is limited. Regulations are in place for dumping and transportation of domestic and hazardous waste on Rodrigues. Poor waste management could lead to environmental degradation, marine pollution and community health issues. Transporters and landfill sites required licenses on the island. To reduce waste to landfill, the preliminary ESIA proposed that inert construction waste should be considered for backfill, while recyclable waste will be sent to recycling facilities either on the island or Mauritius. Exporting of waste to Mauritius may cause marine pollution or land degradation, if not adequately managed and due diligence on disposal sites performed. Under Component 1 a new incinerator will be constructed to deal with domestic and hazardous waste generated. The design during the operational phase. The incinerator are likely have an adverse impact on air quality. The technology and capacity of the incinerator is currently not known. The incinerator emissions and impacts associated with the waste management will be assessed as part of the final ESIA in line with the WBG EHS standards. A waste management plan will be prepared in line with ESS3 for both the construction and operational phases as provided for in the ESMP.

Construction equipment, combustion from aircraft take-off and landing, ground support, waste incineration, diesel generators and cold storage will impact on air quality and increase GHG emissions. AML has an existing Carbon management plan to reduce its carbon footprint, which will be assessed as part of the ongoing Bank due diligence. There is no air quality monitoring information available for the existing airport, the Preliminary ESIA, therefore



recommended an extended data collection to obtain a proper baseline. A detailed assessment considering emissions including determination of the its contribution to GHGs for both construction activities and all aspects of operations, including increased flights, ground support, waste incineration and emission sources from power generation will be included as part of the final ESIA. Component 1 will support the installation of power generation capacity. The design and capacity is currently not known and will be assessed in the final ESIA.

ESS4 Community Health and Safety

Many of the estimated 450 workers to be engaged during the construction phase will not be from Rodrigues, including 30 percent expatriates and some portion of the 70 percent who will include Rodrigues Islanders as well as other workers from Mauritius Island, which could include a mix of Mauritian nationals and locally-based foreign workers from Madagascar, India or elsewhere. Due to the limited travel opportunities between Mauritius Island and Rodrigues, y the construction phase will require one or more worker camps, which potentially could put a strain on local resources, including water supply and sanitation facilities and waste management services near the airport and surrounding communities. Worker influx may also put additional strain on health services. The airport will remain operational as to not overly negatively impact community accessibility to urgent medical care or essential supplies from Mauritius. Keeping the airport operational may pose a public and air safety risk, which will need to be considered and mitigated as part of the ESIA and ESMP. If there are periods of time when airport operations and flights will need to be halted temporarily, they will need to be well managed and communicated in advance to all stakeholders. The presence of workers from outside the community also creates a risk for SEA/SH. A more complete SEA/SH risk assessment will be carried out during project preparation and measures identified to raise awareness of SEA/SH risks within the community and with project workers, as well as establishing worker codes of conduct and incident reporting mechanisms, and identifying on or off-island referral paths for survivors of SEA/SH incidents.

Activities under Component 1 which may have a potential impact on community health and safety include i) increase in traffic, ii) accidental release of hazardous substances, iii) fire, iv) poor building construction and v) increase in noise disturbances and v) air plane accidents. Activities supported under Component 1 will lead to an increase marine and road traffic as a result of construction equipment and materials that will be transported from Mauritius to Port Mathurin and project site. The need for existing road to be upgrade will be assessed during project implementation. Both the increase in marine and road traffic and potential road upgrade are likely to pose a traffic safety and community health and safety risk to both on and offshore community traffic. A traffic assessment will be included in the final ESIA and the preparation of a traffic management plan and community health and safety plan prior to construction as stipulated in the ESMP.

There is an existing terminal building and the construction of a new air traffic control tower, fire fighting station and fire training facility are being proposed under Component 1. Poor design of buildings could pose a serious community and worker health and safety risk. The design of the new air traffic control tower, fire fighting station and fire training facility have not yet been finalized and should ensure compliance with local building requirements including aspects of universal access and life and fire safety as set out in the WBG EHS guidelines. For existing infrastructure such as the terminal building and fuel storage, the ESCP will make provision for an audit to be undertaken, during project implementation, to assessing compliance with universal access and life and fire safety and emergency response and preparedness and measures identified to strengthen current operations in alignment with the requirements of the ESSs will be proposed. Both construction and operations of the airport are likely to contribute to noise within the



immediate airport area. An additional noise assessment will be undertaken as part of the final ESIA and mitigations measures based on the International Civil Aviation Organization (ICAO) requirements will be proposed as part of the final design and long term noise monitoring plan. The preliminary ESIA addresses potential emergencies that may result from airports operations and includes the preparation of Emergency Preparedness and response plan for fire and accidental release of hazardous substances only. Emergency Preparedness and Response plans which addresses all likely emergency situations, including security issues, associated with the construction and operational phases, respectively, need to be prepared in accordance with ESS4 as part of the final ESIA and ESMP as stipulated in the ESCP. The ToRs to be developed for the TA studies under Component 2 will make provision of assess potential impacts of downstream investments on community health and safety and where required will incorporate mitigation measures.

ESS5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement

ESS 5 is relevant to this project. The construction of the new runway and other associated facilities requires acquisition of some land and temporary or permanent physical or economic displacement of some households and businesses, much of which already occurred prior to Bank involvement in the project. A Resettlement Action Plan (RAP) was previously prepared by the Rodrigues Regional Assembly, and implemented, including construction of replacement houses and relocation of the project-affected persons (PAPs). Those affected by displacement included 15 households totaling 61 residents, as well as an additional 37 non-residents using land required by the project, including 25 fishers, a tour boat operator, nine persons raising livestock and two farmers.

A RAP Completion Audit will be conducted of the RAP outcomes to ensure compliance with ESS 5 guidelines on involuntary resettlement and livelihood replacement, as well as proper stakeholder engagement and information disclosure requirements. Existing information indicates that while RRA workers charged with implementing the resettlement maintained contact with the displaced persons before during and after the resettlement process, no formal grievance redress mechanism was set up during the resettlement process or more generally for project activities, and it is unclear to what extent vulnerable groups have been consulted. The outcome of the Resettlement Audit will provide more information at this level. The Audit will be disclosed by Appraisal, and the existing RAP will be updated, and if needed, a Remedial RAP be prepared subsequently, to be completed during implementation. At least one other household located within the project footprint near the site of the new control tower will need to be resettled, and there may be additional land acquisition and resettlement needed due to ancillary activities, including upgrading and heavy use of community roads by project vehicles during construction phase, as well as other land acquisition or resettlement that may be needed near borrow pits or other new project facilities that may be located outside the current airport footprint.

Component 2 activities linking the airport to larger tourism and other economic development plans for the island may also create downstream needs for land acquisition and temporary or permanent physical or economic displacement. The ESMP prepared with the ESIA will require the contractor to screen ancillary activities and identify any need for land acquisitions and prepare a RAP if necessary. Furthermore the ToR to be prepared for activities under Component 2 will make provision for a RAP where necessary. As part of airport operational safety requirements, an exclusion zone may be proposed, including on or offshore coastal locations near the site of the new runway, for which access may be blocked by airport security enclosures or other restrictions. The exclusion zone, if applicable, may have an adverse negative impact on community livelihood of artisanal fisherman. Already, new



fishing posts (seasonal housing for non-resident fishers), as well as storage facilities for nets and other fishing equipment, and a boathouse for a tour boat operator were constructed outside the project perimeter to replace four existing fishing posts and tour operator's boathouse that needed to be relocated. The full relevance of the exclusion zone and potential impact on artisanal fisherman will only be known once the design has been finalized and will therefore be assessed as part of the final ESIA.

ESS6 Biodiversity Conservation and Sustainable Management of Living Natural Resources

This standard is relevant as construction activities associated with Component 1 is likely to have an impact on both terrestrial and marine biodiversity, including critical habitat under ESS6. Activities under this Component with relevance to this standard include, i) clearing of vegetation which will directly impact critical endangered and endangered tree species, ii) marine works including reclamation of land along the shoreline and dredging, iii) impact on fisherman livelihoods and iv) importing of construction materials which may lead to spread of alien invasive species on the greater island and nearby nature reserve.

A terrestrial and marine biodiversity assessments was undertaken between April and June 2019 as part of the preliminary ESIA that was prepared. There are three critical endangered and four endangered trees species within the project area of which four individual trees will be directly impacted by the runway alignment. A Strategy and Action plan was prepared in collaboration with the Mauritian Wildlife Foundation as part of the preliminary ESIA for the conservation and translocation of the impacted tree species. The Action plan sets out the methodology and budget for conserving these species with an aim to obtain a net gain in accordance with ESS6. The preliminary ESIA indicated a total of 80 propagated specimens of the critical endangered and endangered tree species will be aimed to be re-planted. Mature specimens of the directly impacted species are in the process of being transplanted in suitable protected areas. A biodiversity management and monitoring plan for the relocated trees will be developed as part of the Final ESIA and ESMP. The importing and transportation of construction materials and equipment to site and clearing of vegetation may lead to the establishment and spread of alien invasive species, which may negatively impact on the biodiversity of the island. To mitigate the potential impacts an Alien Invasive Management Plan will be prepared as part of the ESMP as stipulated in the ESCP.

Anse Quitor nature reserve, a critical habitat, is located adjacent to the airport development. It is an important bird and biodiversity site according to iBat and contains viable populations of several of Rodrigues's most important endemic plant species and host endemic bird and endangered bats species. The terrestrial biodiversity assessment identified the presence of the endangered flying fox bat and evidence of an endangered mollusk species within the project footprint. No evidence of live specimens of the mollusk was found. Habitat destruction, pollution of groundwater, poor storm water management, excessive air emissions and spread of alien invasive species, during construction and accidental release of polluted stormwater and large quantities of hydrocarbons during airport operations may negatively impact on the Anse Quitor nature reserve and sensitives species, if not adequately mitigated. Polluted runoff may further impact cave systems, marine ecosystems including the South-East Marine Protected Area (SEMPA) and marine species such as turtles and dolphins. Noise, radar and light disturbances and vibrations during construction and airport operations may further interfere with the foraging patterns of the endangered flying fox bats. As part of the finalization of the ESIA, an updated assessment of the potential impacts of the project on the endangered flying-fox bat feeding and roosting range and confirmation of the presence of the



endangered mollusk species will be undertaken in accordance with ESS 6. The preparation and implementation of a biodiversity management plan as part of ESMP, pending outcome of additional studies will be included in the ESCP.

The Topaze Bay fishing reserve and the SEMPA is located near the project site and small islands, namely Desiree, Fregate and Crab Island located within the Project area. There are existing management organizations and plans for Topaze and SEMPA. The authority responsible for the marine reserves have been consulted on the proposed project. The preliminary ESIA identify endangered hawksbill and green turtle and near threatened coral species (*Acropora formosa*) to be impacted by the land reclamation and dredging. Breeding areas in the project site for turtles are not known and not likely due to the nature of the beaches (rocky). Possible nesting and forage sites which may be impacted by the project activities will be identified and assessed as part of the final ESIA. Activities under Component 1 which impact on the marine environment include (i) marine construction including noise, turbidity, disturbance to spawning grounds and turtle breeding and grazing areas, and destruction of the near threatened coral species and (ii) release of polluted storm water and poorly treated wastewater outfall which may impact marine ecosystems and SEMPA. The marine biodiversity study will be updated to assess impacts of dredging and reclamation on the marine ecosystems including intertidal zones and turtle breeding and coral species. NGOs and SEMPA organizations will be further consulted on the proposed mitigation measures and management plans for the marine ecosystems and potential propagation of lost NT coral impacted by marine works. A marine biodiversity management plan and dredging and reclamation management plan will be included in the ESMP. The location of the the sea rescue may negatively impact on small scale artisanal fisherman due to exclusion. The RAP audit will assess whether these individuals were considered and livelihoods restored.

The impacts on biodiversity associated with downstream activities supported by TA under Component 2 will be assessed as part of the environmental and social assessments.

ESS7 Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities

This standard is not considered relevant for this project.

ESS8 Cultural Heritage

The standard is relevant as activities under Component 1 with particular relevance includes bulk earthworks, blasting and vibration which may negatively impact on fossil finds located within the karst formation and nearby cave structures. The preliminary ESIA identified several areas of paleontological interest within the greater airport footprint, these include several cavities of paleoclimate importance and caves. Areas of particular interest according to the preliminary ESIA includes the Grotte Fougere which contains sediments with fossils in excellent conservation status. The ESCP will include a requirement for a Chance Finds Procedure to be prepared as part of the ESMP to address any potential finds during construction. The ESMP will further require the Contractor to screen and assess any areas for ancillary works for any cultural and heritage significance prior to commencing with such activities. The ToRs to be developed for the TA studies under Component 2 will make provisions to assess potential impacts of downstream investments on cultural heritage, and where required will incorporate the relevant mitigation measures as part of the environmental and social assessments.



ESS9 Financial Intermediaries

This standard is not considered relevant.

C. Legal Operational Policies that Apply

OP 7.50 Projects on International Waterways

No

OP 7.60 Projects in Disputed Areas

No

III. WORLD BANK ENVIRONMENTAL AND SOCIAL DUE DILIGENCE

A. Is a common approach being considered?

No

Financing Partners

As part of the loan, grant funding will be provided by the European Union (EU) which will support the TA activities under Component 2.

B. Proposed Measures, Actions and Timing (Borrower’s commitments)

Actions to be completed prior to Bank Board Approval:

- 1) Finalize, consult and disclose a final Environmental and Social Impact Assessment (ESIA), inclusive of a chapter on cumulative impacts, and ESMP with a Labor Management Plan prior to Appraisal.
- 2) Prepare and submit the Stakeholder Engagement Plan (SEP) inclusive of a GRM with dedicated channel to address SEA/SH grievances for approval by Appraisal .
- 3) Prepare and conduct a Resettlement Completion Audit of previous resettlement activities and impacts on fisherman livelihoods carried out under a RAP initiated prior to Bank involvement in the project, by Appraisal. The existing RAP will be revised, and if a Remedial RAP is needed, it will be prepared subsequently and completed during implementation.

Possible issues to be addressed in the Borrower Environmental and Social Commitment Plan (ESCP):

- 1) Prepare and submit of review and approval the Terms of Reference for the recruitment of the Environmental and Social Specialists as part of the PIU.
- 2) Prepare and submit for approval the Terms of References for the TA activities supported under Component 2.
- 3) Prepare a ToR for the associated facility compliance audit to assess compliance with the requirements of the relevant ESSs and undertake and submit the audit report for Bank review and approval.
- 4) Prepare an OHS Plan in line with ESS2 and WBG EHSG as part of the ESMP to be prepared during the final ESIA.
- 5) Prepare a Dredging and Reclamation Management Plan, prior to commencing with land reclamation and jetty construction.
- 6) Prepare and submit a traffic management plan and community health and safety plan as part of the ESMP prior to construction

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- 7) Prepare a Emergency Preparedness and Response plan in line with ESS 4, as part of the ESMP, prior to construction and operations, respectively.
- 8) Update the marine and terrestrial biodiversity studies to assess impacts on turtle, coral and bat species and prepare a terrestrial and marine biodiversity management plan in line with ESS 6.
- 9) Prepare an alien invasive management plan in line with ESS6 as part of the ESMP for construction phase.
- 10) Prepare a water balance assessment including groundwater management plan, waste management plan for both construction and operational phases in line with ESS 3 as part of the EMSP.
- 11) Prepare a karst monitoring plan as part of the ESMP prior to construction.
- 12) Prepare a chance finds procedure as part of the ESMP.
- 13) Prepare and submit for Bank review the ESHS specifications prepared for the bidding documents, which take into consideration the recommendations of the final ESIA.
- 14) Preparation of additional ESIA's, ESMPs and RAPs, as needed, during implementation for yet to be defined activities.

C. Timing

Tentative target date for preparing the Appraisal Stage ESRS

12-Apr-2023

IV. CONTACT POINTS

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Borrower/Client/Recipient

Borrower: Ministry of Finance

Implementing Agency(ies)

Implementing Agency: Airport of Rodrigues Limited (ARL)

V. FOR MORE INFORMATION CONTACT

Public Disclosure



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VI. APPROVAL

Task Team Leader(s):	Ziad Salim EL Nakat, Edward Andrew Beukes
Practice Manager (ENR/Social)	Africa Eshogba Olojoba Recommended on 20-Dec-2022 at 07:06:32 GMT-05:00
Safeguards Advisor ESSA	Peter Leonard (SAESSA) Cleared on 29-Dec-2022 at 09:13:25 GMT-05:00