ENVIRONMENTAL MANAGEMENT PLAN (EMP)

FOR THE PROPOSED

INSTALLATION AND OPERATION OF SEAPLANE PLATFORM AT AMILLA FUSHI

BAA ATOLL

July 2020

Prepared for

Manta Air

Male', Maldives

Consultant

CDE Consulting, Maldives

Lead Consultant's Declaration

I certify that statements made in this Environmental and Management Plan (EMP) are true, complete and correct to the best of my knowledge and available information at time of writing this report.

Mariyam Hana Saeed

Letter of Commitment

Manta Air has provided the commitment letter.

(Please refer to next page)

MANTA AVIATION PRIVATE LIMITED | C-0811/2016
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Date: 08th July 2020
Ref: LTCO-20/025

Mr. Ibrahim Naeem
Director General,
Environmental Protection Agency,
Male', Republic of Maldives.

Dear Sir,

Sub: Environmental Management Plans for the proposed installation and operation of a seaplane platforms at Amilla Fushi, Baa Atoll.

As the proponent of the above mentioned project, we guarantee that we have read the report and to the best of our knowledge all non-technical information provided here is accurate and complete.

We also hereby confirm our commitment to carry out and bear costs of environmental mitigation measures and monitoring outlined in the EMP report.

Thanking you.

Yours Sincerely,

MANTA AVIATION PRIVATE LIMITED C-0811/2016

Capt. Hassan Haneef
Director, Flight Operations
Manta Aviation Pvt Ltd

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ABBREVIATIONS

BOQ	Bill of Quantities
CAA	Civil Aviation Authority
CAPEX	Capital Expenditure
CAR	Civil Aviation Regulation
IFC	International Finance Corporation
ICAO	International Civil Aviation Organisation
INDC	Intended Nationally Determined Contributions
ERP	Emergency Response Plan
EMP	Environmental Management Plan
EPA	Environmental Protection Agency
ESA	Environmentally Sensitive Areas
EIA	Environmental Impact Assessment
GHG	Greenhouse Gas
GPS	Global Positioning System
ILO	International Labour Organisation
IOM	International Organisation for Migration
ISO	International Organisation for Standardisation
IUCN	International Union for Conservation of Nature
LRA	Labour Relations Authority
MACL	Maldives Airport Company Limited
MCAR	Maldives Civil Aviation Regulation
MPA	Marine Protected Areas
MNDF	Maldives National Defense Force

MOFA	Ministry of Fisheries and Agriculture
MOT	Ministry of Tourism
NGO	Non-Governmental Organisation
SEP	Stakeholder Engagement Plan
UNDP	United National Development Program
UNFCCC	United Nations Framework Convention on Climate Change

1 INTRODUCTION

1.1 PURPOSE AND OBJECTIVES OF THE EMP

This Environmental Management Plan (EMP) has been prepared as a tool to assist Manta Air in the management of seaplane platforms in accordance with national laws and international best practices. The EMP will examine the likely social and environmental impacts associated with the construction and operation of seaplane docking platforms at Amilla Fushi and proposes a management framework to address those impacts.

The EMP contains location specific actions that Amilla Fushi can implement to ensure the seaplane platform is managed in a sustainable manner. The EMP also provides direction for Manta Air employees on operational procedures to address environmental and social impacts associated with day-to-day activities of the platform.

1.2 TITLE

The title of the report is the Environmental Management Plan for the installation and operation of seaplane platform at Amilla Fushi, Baa Atoll.

1.3 PROPONENT

The proponent of this project is Manta Aviation Private Limited. It is a private airline operator founded in 2015 and headquartered in Thuniya Building. Manta Air currently has only domestic flights and is expanding to seaplanes. The address and contact details of the proponent are as follows;

Manta Air

H.Thuniya Building, 4th Floor

Boduthakurufaanu Magu, Male'

Contact: 331 9911

1.4 RATIONALE AND NEED

The nearest airport to Amilla Fushi is B.Dharavandhoo Domestic Airport located approximately 9 km from the resort. Transfer of guests from this airport would require a speed boat journey from Dharavandhoo, which would increase the travel journey (approximately 20 minutes). The installation of seaplane platforms allows a convenient and direct transfer of guest clientele to the resort to and from Velana International Airport.

1.5 SCOPE

The scope of the EMP includes the installationand operation phase of seaplane platform and supporting facility at Amilla Fushi.

1.6 LOCATION

The proposed project site, Amilla Fushi is a resort located on a medium sized island in north Baa Atoll. The aerial image and location of the island is shown in Figure 1. Table 1.1 below provides the details of the project site location.

Table 1.1 Key details about the project site

Island Name	**Amilla Fushi**
Location	5°14'03"N, 73°6'49"E
Island length	0.91 Km
Island width at widest point	0. 28 Km
Distance to nearest Airport	About 9 km to Dharavandhoo Domestic Airport
Distance to nearest inhabited island	About 3 km to Kihaadhoo
Distance to nearest resort	About 4 km to Milaidhoo Island

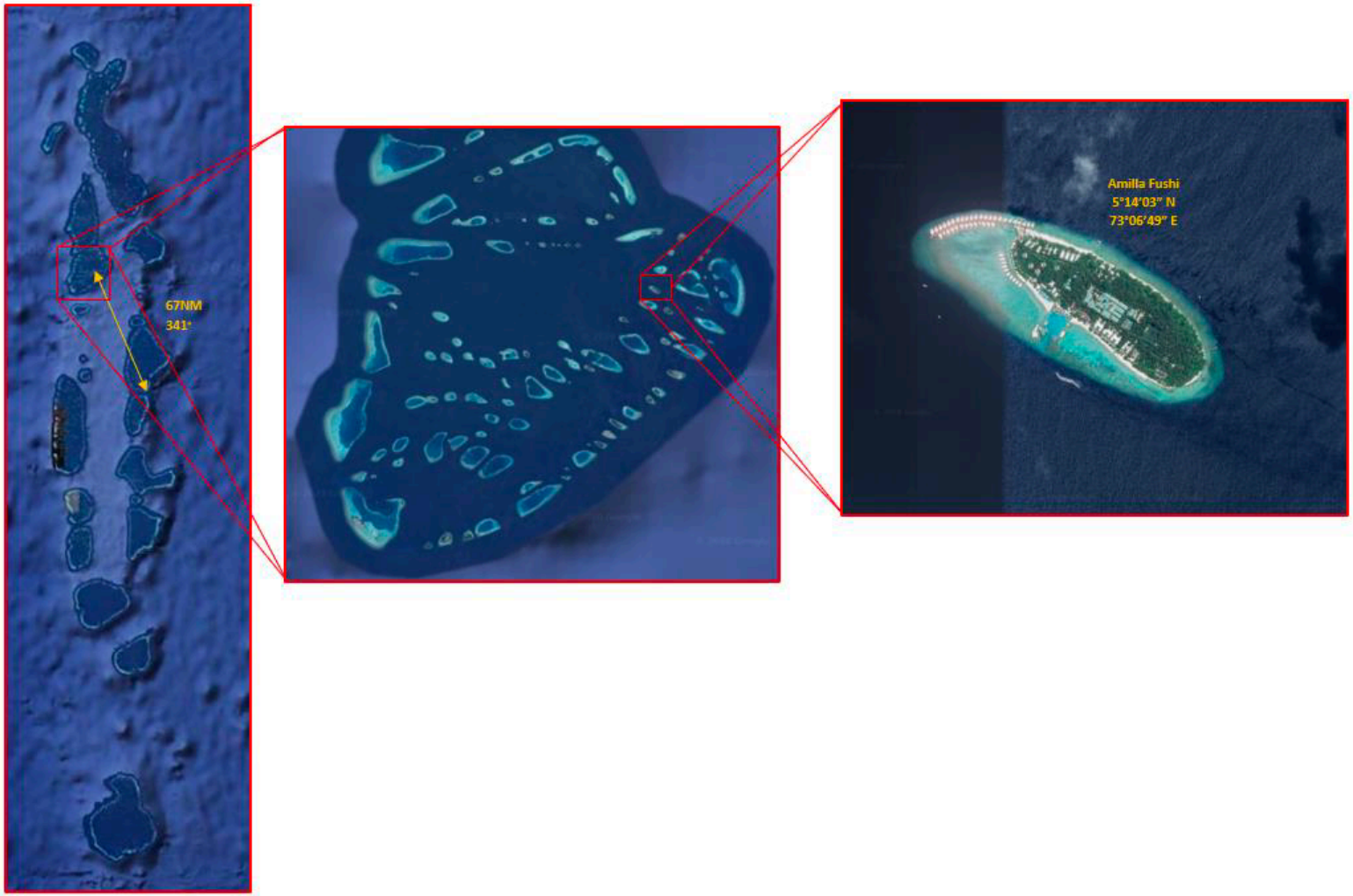

Figure 1.1 Location of the resort

1.7 CONSULTANTS AND CONTRACTORS

The design criteria and project specifications were developed by Manta Air in consultation with the resort and in compliance with Civil Aviation Authority requirements.

CDE Consulting is the consultant for the preparation of the EMP.

1.8 PROJECT FINANCING

The project is financed by Manta Air.

1.9 STRUCTURE OF EMP

The EMP is structured in the following order;

1. Legislative and regulatory requirements
2. Description of the seaplane platform
3. Identification of risks and impacts
4. Impact management programme
5. Organizational capacity and competency
6. Emergency preparedness and response
7. Stakeholder engagement
8. External communication
9. Grievance mechanism
10. Monitoring and review

1.10 DOCUMENT CONTROL

A copy of the EPA Decision Note for seaplane operation and this EMP will be kept at Manta Air as well at the resort at all times. Manta Air will ensure that all of their staff and where relevant the sub-contractors are familiar and informed about the relevant requirements described in this EMP.

1.11 REVIEW AND UPDATES

Manta Air has the responsibility to review and update the EMP if the need be to ensure that it reflects the facilities and operations at the seaplane platform and any changes regulatory requirements. Manta Air will include in the EMP any changes or updates in the platform.

2 POLICY AND LEGAL COMPLIANCE

The constitution of the Maldives adopted in 2008 has several provisions to protect the rights of citizens to environment, health, and private property that are relevant to the establishment of the seaplane platform. Activities carried out at seaplane docking platform must comply with relevant provisions of all legislation relating operation of seaplane docking platform and water aerodromes in the Maldives. This includes but is not limited to the following:

2.1 ENVIRONMENTAL AND SOCIAL ASSESSMENT

2.1.1 Environmental Protection and Preservation Act

The Environmental Protection and Preservation Act (EPPA, Act No: 4/93) enacted on 19 March 1993 is the framework law related to environment protection in the Maldives. Articles 2, 4, 5, 6, 7, and 8 of the law are relevant to the seaplane platform Project.

Article 2: concerned government authorities shall provide necessary guidelines and advise on environmental protection in accordance with prevailing conditions and needs of country.

Article 5 (a): An Environmental Impact Assessment study shall be submitted to the Ministry of Environment before implementing any development project that may have a potential impact on the environment.

5 (b): The Ministry of Environment shall formulate the guidelines for EIA and shall determine the projects that need such assessment as mentioned in paragraph (a) of this clause.

Article 6: The Ministry of Environment has the authority to terminate any project that has any undesirable impact on the environment. A project so terminated shall not receive any compensation.

The authority responsible for the Environmental Protection and Preservation Act is the Ministry of Environment (ME).

2.1.2 EMP Regulations

Environmental Impact Assessment regulations were issued by MEE on 8 May 2012. The first step in environmental assessment process involves screening of the project to be classified as one that requires an EIA or not. Based on this decision, the Ministry then decides the scope of the EIA which is discussed with the proponent and the EIA consultants in a "scoping meeting". The consultants then undertake the EIA starting with baseline studies, impact prediction and finally reporting the findings with impact mitigation and monitoring programme. This report follows the principles and procedures for EIA outlined in the EIA regulations.

The EIA report is reviewed by MEE following which an EIA Decision Note is given to the proponent who will have to implement the Decision Note accordingly. As a condition of approval, appropriate environmental monitoring may be required and the proponent shall have to report monitoring data at required intervals to the Ministry. The project proponent is committed to implement all impact mitigation measures that are specified in this EMP. Furthermore, the proponent is committed to environmental monitoring and shall fulfil environmental monitoring requirements that may be specified in the decision note as a condition for project approval. The processes specified in this EMP are based on the EIA regulations.

2.1.3 Environmental Liability Regulation (Regulation 2011/R-9)

The regulation is aimed at maintaining equal standards for reprimanding and enforcing environmental liabilities, fines for those who violate the rules and regulations and give guidance to those who are involved in the implementation process of the regulations pursuant to Preservation Act of Maldives (4/93). One of the key objectives of the environmental liability regulation is also to practice polluter-pay-principles in the Maldives.

This law is pursuant to Article 22 of national constitution that states that protection, preservation and maintenance of the Maldivian natural environment, the richness of the living species, the natural resources and the beauty of the Maldives for the present generations as well as for the future generations is a basic obligation of the Maldivian government. The government shall enforce that the activities conducted in order to gain economic and social development should be

of sustainable nature that protect the environment and such activities shall not deteriorate the environment, endanger any species, damage the environment, and shall not waste any natural resources.

This regulation is also pursuant to Environment Protection and Preservation Act of Maldives (4/93). The regulation is aimed at maintaining equal standards for reprimanding and enforcing environmental liabilities, fines for those who violate the rules and regulations and give guidance to those who are involved in the implementation process of the regulations pursuant to Preservation Act of Maldives (4/93). One of the key objectives of the environmental liability regulation is also to practice polluter-pay-principles in the Maldives.

2.2 AVIATION

2.2.1 Maldives Civil Aviation Regulation (MCAR)

Maldives Civil Aviation Regulation (MCAR), introduced in July 2007, is aimed at complying with ICAO requirements and harmonisation with international standards, e.g. EASA. This regulation has replaced the previous CAR's and MARs and has unified civil aviation regulations in the Maldives.

Regulatory requirements related to the certification of water aerodromes, general requirements of platforms, runways and visual aids, transfer of passengers, communication, emergency response and training are prescribed in CAA ASC 14-2

2.2.2 Air Safety Circular ASC 14-2

ASC 14-2 lays down the minimum requirements for site selection, floating platform fabrication and installation, rescue and firefighting equipment and facilitation at floating platform in order to meet licensing requirements.

Article 6 defines the considerations to look at when selecting a suitable site for the water aerodrome and installation of the floating platform. Compliance is mandatory for all Maldivian water aerodrome operators and floating platform operators.

Locations will be such that cross-wind operations are kept to a minimum and downwind operations shall be avoided. Landing and take-off areas should be oriented to permit operations into the wind. Nature reserved designated marine areas and fishing grounds shall not be used for water aerodromes. The strip of water shall be free from large obstructing coral rubbles to a definite depth and located inside protected waters which is safe to use during landing/takeoff by a definite aircraft.

Article 7 determines the floating platform dimensions and safety equipment. Adequate support and buoyancy, inspection at regular intervals, equipped with minimum equipment in the interest of passenger safety, life buoys easily accessible, emergency box provided with minimum safety equipment, location of emergency boxes.

Article 8 determines the size of the water runway. Dimensions of the runway will be based on the size of the aircraft in operation, the performance characteristics of the aircraft, clearance of approach path from obstacles.

Article 9 determines the operational requirements.

Article 19 talks about the removal of the floating platform. The floating platform and the anchoring blocks shall be removed from the location within three months after revocation of the license

2.3 WASTE MANAGEMENT AND POLLUTION PREVENTION

2.3.1 Environmental Protection and Preservation Act

According to **Article 7:** any type of waste, oil, poisonous gases or any substances that may have harmful effects on the environment shall not be disposed within the territory of the Maldives. In cases where the disposal of the substances becomes absolutely necessary, they shall be disposed only within the areas designated for the purpose by the government. If such waste is to be incinerated, appropriate precaution should be taken to avoid any harm to the health of the population.

Article 8 of the EPPA (4/93) states that Hazardous/ Toxic or Nuclear Wastes that is harmful to human health and the environment shall not be disposed anywhere within the territory of the country.

2.3.2 Waste Management Policy

The aim of the waste management policy is to formulate and implement guidelines and means for solid waste management in order to maintain a healthy environment. The key elements of the policy include:

- Ensure safe disposal of solid waste and encourage recycling and reduction of waste generated;
- Develop guidelines on waste management and disposal and advocate to enforce such guidelines through inter-sectoral collaboration;
- Ensure safe disposal of chemical, hazardous and industrial waste.

2.3.3 Waste Management Regulation

The Waste Management Regulation (WMR) put on gazette in August 2013 came into force in February 2014. EPA implements the WMR. The aim of WMR is to implement the national waste policy which contains specific provisions to (a) implement measures to minimize impacts on human health; (b) formulate and implement waste management standards; (c) implement an integrated framework for sustainable waste management (d) encourage waste minimization, reuse and recycling (e) implement Polluter Pays Principle; (f) introduce Extended Producer Responsibility.

WMR contains four main sections: (1) waste management standards; defines standards for waste collection, transfer, treatment, storage, waste site management, landfills and managing hazardous waste (2) waste management permits; defines approval procedures for waste sites (iii) waste transfer. Standards and permits required for waste transport on land and sea, including transboundary movements, (iv) reporting requirements: defines reporting and monitoring

requirements and procedures (v) enforcement: defines procedures to implement WMR and penalties for non-compliance.

If any hazardous waste including electronic waste is to be disposed in the Maldives, waste sites specifically approved to manage hazardous and Special Category waste should handle it. Transportation and handling shall also conform to the standards specified in WMR. If the waste is to be exported for reuse or disposal in another country, an application needs to be submitted to EPA 03 months prior to the shipping date. EPA will issue an approval based on compliance with WMR clauses and international conventions.

2.4 LAND ACQUISITION

2.4.1 Regulation on determining the lagoon boundary of islands leased for the development of tourist resorts, tourist hotels, tourist guesthouses and yacht marinas (2016/R-94)

This regulation specifies that if an island leased for tourism has a distance greater than 500 m extending from the vegetation line till the outer edge of the reef, the lagoon boundary allocated for that island will be 500m. Some exceptions to this include islands which already have a set lagoon boundary specified in the agreement, and islands which have another island or sandbank within their lagoon. If the island has a distance less than 500 m extending from the vegetation line till the outer edge of the reef, the lagoon boundary allocated for that island will be the distance between the vegetation line of the island and the edge of the reef. The lagoon boundary can also be extended to a maximum distance of 2000m under special circumstances. The regulation also specifies certain areas as 'no development zones'. The construction of any tourism related structures or land reclamation in these zones is not allowed. Areas that are classified as 'no development zones' include:

- A distance specified by the Tourism Ministry, if the island leased for the development of a tourist resort does not have a distance of 300m between the vegetation line and the outer edge of the reef, or if the distance between the vegetation line of the leased island and the vegetation line of another island in the same lagoon is less than 300m. In the latter case the 'no development zone' will be a distance between the two islands.

- If more than one island is present in the same lagoon, 100m inwards from the lagoon boundary will be classified as a buffer area and a 'no development zone'.

2.4.2 General Laws Act (4/68)

2.5 CULTURAL AND HISTORICAL PLACES AND OBJECTS ACT

The Law on Cultural and Historical Places and Objects of the Maldives (27/79) prohibits destroying or damaging any historical and cultural places, sites, objects and artefacts belonging to the sovereign area of the Maldives. The historical and cultural objects are those that were used by or feature the life of locals or foreign ancestors who had resided in the Maldives. The historical and cultural places refer to religious monuments, idols or place of worship or residences used by locals or foreign ancestors who had resided in the Maldives.

2.6 BIODIVERSITY CONSERVATION

2.6.1 Environment Protection and Preservation Act

According to Article 4 Ministry of Environment shall be responsible for identifying protected areas and natural reserves and for drawing up the necessary rules and regulations for their protections and preservation.

2.6.2 Coral and sand mining regulation

Coral mining from house reef and atoll rim has been banned through a directive from President's Office dated 26 September 1990. Regulation on sand mining covers sand mining from uninhabited islands that have been leased; sand mining from the coastal zone of other uninhabited islands; and aggregate mining from uninhabited islands that have been leased and from the coastal zone of other uninhabited islands.

Sand should not be mined from any part of the existing island, beach or the newly reclaimed island beach. Sand should also not be mined from within 100 ft. of the shoreline. Please see regulation on dredging and reclamation for further controls.

2.7 GHG EMISSIONS AND RESOURCE EFFICIENCY

2.7.1 Maldives Energy Policy and Strategy

Maldives Energy Policy and Strategy (2016) consists of 5 key policy statements:

- Strengthen the institutional and regulatory framework for the energy sector
- Promote energy conservation and efficiency
- Increase the share of renewable energy in the national energy mix
- Improve the reliability and sustainability of electricity service and maintain universal access to electricity
- Increase national energy security

2.7.2 Maldives Intended Nationally Determined Contribution

Maldives aims to achieve low emission development future and ensure energy security. In the Maldives INDC, the government has committed for the following Unconditional Reduction: In accordance with Decisions 1/CP.19 and 1/CP.20, Maldives communicates that it intends to reduce unconditionally 10% of its Greenhouse Gases (below BAU) for the year 2030.

The Government has also communicated the following Conditional Reduction:

"The 10% reduction expressed above could be increased up to 24% in a conditional manner, in the context of sustainable development, supported and enabled by availability of financial resources, technology transfer and capacity building."

2.7.3 Second National Communication of Maldives to UNFCCC

According to the Second National Communication of Maldives to UNFCCC, the total GHG emission in 2011 was 1225.598 Gg CO2e, of which 1152.869 GgCO2e is from energy sector.

2.8 LABOUR AND WORKING CONDITIONS

2.8.1 Human Rights Act

In 2005, the Human Rights Commission Act was passed. The Act (6/2006) was subsequently amended in 2006 to ensure compliance with the Paris Principles on the status and functioning of national institutions for protection and promotion of human rights. The amended Human Rights Commission Act provides the HRCM independence and autonomy as a statutory body.

2.8.2 Employment Act

The legal framework to govern the rights and responsibilities of workers in the Maldives is included in the Employment Act (2/2008) that was ratified and signed into law in May 2008. The Employment Act provides for the creation of a Labour Relations Authority, an Employment Tribunal and an Advisory Board on wages. To date, four amendments have been brought to the Employment Act (2/2008). The amendments were made through the following Acts: 14/2008; 12/2010; 3/2014; 14/2015. Of these amendments, the third and fourth Amendments are directly relevant to foreign migrant workers in the Maldives.

The Amendment 3/2014 passed by Parliament on 03 December 2013 requires an Employment approval for foreign migrant worker to be issued prior to arrival in the Maldives. The Amendment also made a deposit mandatory for all foreign migrant workers to be paid by the Employer. The Amendment 14/2015 is on Ramazan allowance for Muslim workers. The Amendment makes it optional for Employers of Muslim foreign migrant workers to pay them a Ramazan allowance.

2.8.3 Pensions Act

Article 12 of the Maldives Pensions Act (8/2009) introduced the Maldives Retirement Pension Scheme. It is mandatory for the private and public sectors as well as the self-Employed to participate in the contributory Maldives Retirement Pension Scheme. The annual contribution each Employee and Employer has to make to the Employees retirement savings accounts set at seven per cent of pensionable wage for a total of 14 per cent.

2.8.4 Immigration Act

The Maldives Immigration Act (1/2007) lays down the rules for entry, departure and deportation of foreign nationals. Article 15 of the Act provides for work visa: the permit to remain in the Maldives for the duration of a work permit granted to a foreign national visiting the Maldives for the purpose of working, where a work permit has been obtained by that foreign national consistent with the regulations of the concerned Government authority.

2.8.5 Anti-Human Trafficking Act

The Anti-Human Trafficking Act (12/2013) passed by the parliament on 03December 2013 and ratified on 08 December 2013 makes trafficking in persons a criminal offence in the Maldives. The purposes of the Act are to: prevent trafficking of persons through and across the Maldives; establish the crimes of trafficking in persons and prescribe punishments; provide for prosecution of perpetrators of trafficking in persons; provide protection and assistance to victims of human trafficking; promote and protect the human rights of trafficked victims; and engage with local and international NGOs working against human trafficking.

The Act defines the crimes of trafficking, exploitation, and debt bondage. According to this Act, forced labour and fraudulent recruitment are considered human trafficking. The Act specifies the penalties for perpetrators of trafficking. The penalty for trafficking offence is a jail imprisonment up to 10 years that can be extended to 15 years if children are involved.

2.8.6 Work Visa Regulation

The Department of Immigration and Emigration has issued a Work Visa Regulation (2010/R-7) under the Maldives Immigration Act (1/2007). The Work Visa Regulation (2010/R-7) gazetted on 12 October 2010 requires foreign migrant workers who enter the Maldives for the purpose of work to have a valid work visa. The conditions for entry of work visa holders as specified in the regulation includes the following: a passport with minimum six months validity; security deposit paid to DoIE 48 hours before arrival; truthful answers to questions posed by Immigration Officers; not prohibited from entry to the Maldives under article 4 of the regulation; specification of the

purpose of entry; an Employment approval from the concerned authority with a copy transmitted to DoIE; and being over 18 years of age.

Documents and payments necessary for a work visa include: completed visa application form (IM25); passport standard photograph; original of the Employment contract or contract copy attested by a court or law firm; original of the Employment approval; passport with 6 months validity; MVR 250 for monthly visa fee; original of the medical report; MVR 50 for annual visa card fee; Employer's National Identity Card or Registration Certificate of Company; and medical insurance documentation.

2.8.7 Regulation on Employment of foreign workers in the Maldives

Employment of foreign migrant workers is regulated by the Regulation on Employment of foreign workers in the Maldives (2011/R-22) that was published on official gazette on 26 May 2011. This regulation is issued under Article 63 of Employment Act (2/2008) and Articles 32, 33 and 35 of the Maldives Immigration Act (1/2007).

The Regulation on Employment of foreign workers in the Maldives (2011/R-22) requires Employers to apply for a foreign worker quota; pay a security deposit for the foreign migrant worker; ensure that work permits are issued before a foreign migrant worker can commence work; apply for a work permit card within 15 days of arrival of the foreign migrant worker to the Maldives; apply for a work visa within 30 days of arrival of the foreign migrant worker to the Maldives; pay a work visa fee of MVR 250 per month; receive the foreign migrant worker at port of entry to the Maldives; register the foreign migrant worker at the registry maintained by the applicable island council or city council.

2.8.8 International labour related commitments

The Maldives is a party to major ILO conventions on fundamental labour rights. Maldives became the 183rd member state of the International Labour Organization (ILO) on 15 May 2009.

On 4 January 2013, the Government of the Maldives ratified the 8 core conventions on the ILO's fundamental labour rights: the Forced Labour Convention, 1930 (No. 29), the Abolition of Forced

Labour Convention, 1957 (No. 105), the Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87), the Right to Organise and Collective Bargaining Convention, 1949 (No. 98), the Equal Remuneration Convention, 1951 (No. 100), the Discrimination (EMPloyment and Occupation) Convention, 1958 (No. 111), the Minimum Age Convention, 1973 (No. 138), and the Worst Forms of Child Labour Convention, 1999 (No. 182).

There are three international standards that apply to foreign migrant workers. They are the ILO Migration for Employment Convention, 1949 (No. 97), the ILO Migrant Workers (Supplementary Provisions) Convention, 1975 (No. 143), and the 1990 UN International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families (CMW).

The ILO Convention 97 provides the foundation for equal treatment between nationals and regular migrants in areas such as recruitment procedures, living and working conditions, access to justice, tax and social security regulations. It sets out details for contract conditions, the participation of migrants in job training or promotion and offers provision for appeals against unjustified termination of employment or expulsion, and other measures to regulate the entire migration process.

ILO Convention 143 has two main objectives. First objective is to regulate migration flows, eliminate clandestine migration and combat trafficking and smuggling activities. The second objective is to facilitate integration of migrants in host societies. The convention contains minimum norms of protection applicable to migrants in irregular situation, or who were employed illegally, including in situations where they cannot be regularized. Article I established States to "respect the basic human rights of all migrant workers," independent of their migratory status or legal situation in the host State.

In 1990, UN Member States adopted the United Nations (UN) Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families (CMW). The CMW is recognized as the most comprehensive international instrument on the rights of migrant workers and it extended the legal framework for migration, treatment of migrants, and prevention of exploitation and irregular migration. The CMW reaffirms and re-establishes the basic human rights norms that it considers necessary for migrant workers to have free and equal enjoyment of rights and dignity

throughout all stages of labour migration. The above three Conventions (97, 143 and CMW) together provide a comprehensive basis for policy and practice regarding foreign migrant workers and their family members. The Maldives has not yet ratified these three conventions.

In 2002, the South Asian Association for Regional Cooperation (SAARC) adopted and signed the SAARC Convention on Prevention and Combating Trafficking in Women and Children. Under this Convention SAARC member states have established a regional taskforce to combat trafficking of women and children in South Asia.

2.9 HEALTH, SAFETY AND SECURITY

2.9.1 Public Health Protection Act (07/12)

The purpose of the public health protection act is to establish policies for protection of public health, identify persons responsible for protection of public health, define how public health protection policies will be implemented. The objectives of the Act also include: establishing policies to respond to public health emergencies; classify situations which may be harmful to health and establish methods to act in such a situation; establish roles and responsibilities of island, atoll, and city councils in protection of public health. Chapter 5 of the Public Health Protection Act covers identifying health hazards, eliminating risk, reporting health hazards, and orders on things to be done or not done in relation to a building.

2.9.2 Export Import Act (31/79)

Importing items into the Maldives, re-exporting, selling of imported goods, the exporting of items naturally formed and produced in the Maldives, and operation of such activity shall be carried out with the permission of the Ministry of Economic Development, and in accordance with the regulations made by the Ministry.

2.9.3 Substances Prohibited to be Brought into the Maldives Act (04/75)

The objective of Act (4/75) is to deal with substances that are prohibited to be imported unless for government purposes, or only to be imported with special permission, or materials which are

completely prohibited from being imported into the country. Chemical substances are under import, use and manufacture control unless accompanied with a special permission from the Ministry of Defense and National Security. These include hazardous chemicals and chemical based toxins that do not fall under the category of explosives, but may be used as substances for chemical weapons.

3 PROJECT DESCRIPTION

3.1 PROJECT COMPONENTS

The seaplane water aerodrome and platform work at remote stations begins with the engagement of the Civil Aviation Authority for the operation of the Seaplane service by Manta Air.

The following components are involved;

1. Resort inspection to prepare the safety assessment report by Manta Air
2. Submit an application for installation of floating platform and license for operation
3. Preparation of BOQ
4. Fabrication works to install the platform
5. Demobilising

3.2 ›GENERAL SITE CONDITIONS

One floating platform has already been installed by the previous operator (TMA) at Amilla Fushi.

This platform will be demobilized by TMA before the installation of new platforms by Manta Air.

3.2.1.1 Floating Platform

One floating platform will be operated in the resort by Manta Air. The location of this platform will be changed in every monsoon.

For North East Monsoon

The floating platform during North East monsoon will be installed at outside the reef edge of Amilla Fushi on the south western side at 5°14’0.5” N and 73°6’25” E. The mooring buoy will be attached at 5°14’4.6” N and 73°6’25” E.

For South West Monsoon

The location of the platform will be changed during South West monsoon to the north eastern side of the resort at 5°14’03” N and 73°7’1” E. The mooring buoy will be attached at 5°14’0.6” N and 73°7’2.9” E.

For this monsoon, the platform in NE monsoon will be demobilized by the crew in Manta Air and moved to the above location.

Figure 3.1 shows the site plan.

Figure 3.1 Site plan of the proposed platforms (platform 1: location for NE monsoon, Platform 2: location for SW monsoon)

3.3 DETAILED PROJECT OUTLINE

3.3.1 Seaplane Docking Platform

3.3.1.1 Resort Inspection

A resort inspection is conducted by the Flight Operations Department of Manta Air to carry out the inspection of the resort and determine the location of the platform and depth. The Safety and Security Department and the Quality and Compliance department ensures that the platform meets all the regulatory requirements.

3.3.1.2 Application to Civil Aviation Authority

An application is ready for submission to Maldives Civil Aviation Authority to get approval for the platforms in Amilla Fushi is subjected to the approval of this EMP by EPA. The application will be submitted along with an aerial map which outlines the boundaries of the proposed platforms and mooring positions.

3.3.1.3 Preparation of BOQ

Once the safety assessment report is generated, the Engineering and Maintenance Department of Manta Air prepares the BOQ and CAPEX forms for platform installation and commissioning.

3.3.1.4 Temporary Site Setup

There will not be a temporary setup as the platforms will be prefabricated and transported to the resort only for installation.

3.3.1.5 Fabrication Works

Once the CAPEX is approved and materials are procured, fabrication work begins for the following components. This is led by the Engineering and Maintenance Department.

1. Fabricating floating platforms along with the required elements such as hinges, bollards, signage and markings and handrail
2. Casting concrete blocks
3. Platform installation - floating platform
4. Mooring buoy installation

Figure 3.2 below shows an illustration of the proposed floating platforms to be installed at the resort.

3.3.1.6 Mooring Buoy Installation

Anchoring of the mooring is similar to that of a floating platform. A sample illustration is shown in Figure 3.2.

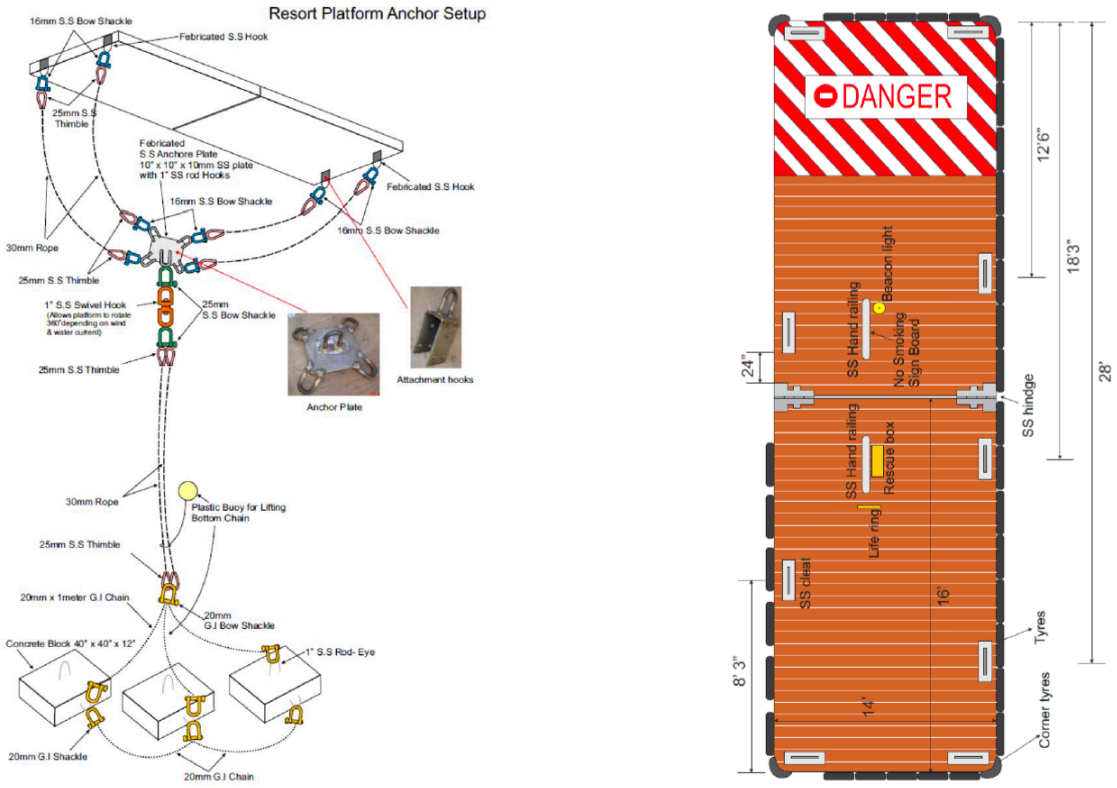

Figure 3.2 Illustration of the proposed floating platform

3.3.1.7 Design Details

As a standard safety guideline, the minimum depth of the sea bed on the water runway and taxiway is maintained at 1.8 meters during low tide. The length of the water runway is no less than 2500 feet, and the width of the runway is 100 feet and obstacle free. The taxiway has a minimum clearance of 35 feet between the aircraft wing tip and other obstacles that are in level with the aircraft. A minimum depth of 1.8 meters is also maintained for the floating platform and mooring buoy. The full list of minimum requirements followed for water runway, taxiway and platforms are summarized in the table below.

Table 3.1 Summary of minimum requirements for the platform components

Component	**Minimum requirement**
Water Runway	
Depth of water at low tide	1.8 meters
Width of the runway	100 feet
Length of the runway	2,500 feet
Clearance from seawall to runway	98.4 feet
Taxiway	
Depth of water at low tide	1.8 meters
Minimum width of the taxiway	65 feet
Clearance between aircraft wingtip and other obstacles in level with aircraft	35 feet

Channel markers/polls/seawall in line with path	Less than 5 feet above water on low tide
Floating platform	
Depth of water at low tide	4 feet
Floating platform	50 feet radius
Clearance between aircraft wingtip and other obstacles in level with aircraft	35 feet
Mooring Buoy	
Depth of water at low tide	4 feet
Clearance for aircraft maneuvering	98.4 feet radius

3.3.1.8 Demobilisation

Once the platforms (floating) are fabricated, they are installed for operation. The workforce and other equipment used are then demobilized.

3.4 PROJECT SCHEDULE AND LIFE SPAN

It will take 24-48 hours to complete the installation of the platforms at the site. Fabrication of the new platform has already begun and it is expected to finish by the end of 11th July 2020. Installation of the platform is expected to finish by the end 18th July 2020.

3.5 LABOUR REQUIREMENT AND SERVICES

3.5.1 Workforce during Installation

During the fabrication and installation process, a total of 10 people will be involved.

3.5.2 Workforce during Operation

A total of 12 employees will be involved during the operation of the seaplanes.

3.5.3 Services

The schedule of operations of the platform is based on bookings received for a particular date. In general, there will be daily flights with an average of 3-4 flights per day for each platform. The average turnaround time on the platform is 15 minutes. Passengers will be transferred by a speed boat if the sea plane lands at the floating platform.

3.6 WASTE MANAGEMENT, LOGISTICS AND SAFETY MEASURES

3.6.1 General Waste Management

There are no specific policies regarding waste management from the platform as general waste management is done by resorts daily and there is no specific waste generated by platforms at outstations. At Manta Air Seaplane Terminal, there is a waste disposal system as per MACL requirements. In addition, there is no waste generated inside the seaplane as there are no lavatories installed.

3.6.2 Safety Measures

To ensure the safety of the entire platform, maintenance inspections are conducted quarterly by Engineering and Maintenance Department and an annual inspection is carried out by the Safety and Security Department. The aircraft has two small fire extinguishers on board. Warning signs will also be repainted as often as required. In addition, pilots, crew and resort agents are required to report about the status of the platform on a continuous basis.

Life jackets are available under each seat of the aircraft. Both fixed and floating platforms have mooring buoy, safety markings and signage. The emergency box kept near the platform contains the following items;

- 1 axe
- 1 crowbar
- 1 tin snapper
- Rope (8mm)
- 1 life hammer

An emergency box is also on the dhoni or speedboat that transports passengers from the floating platform to the island.

Safety inspections are carried out periodically in various functions and areas of the organisation. A safety assessment report is also made for each platform following the assessment. Maintenance is carried out if required after the quarterly inspections of the platforms.

3.7 HEALTH AND SAFETY MEASURES

All staff members working on the platforms are required to adhere to company PPE policies as per the standard aviation safety norms. The average response time for incidents ranges from 3 to 7 minutes, depending on the location and time the incident takes place. All Resort Agents and Managers involved in seaplane operations receive Emergency Response training sessions once every 24 months. Department specific Safety Management Systems Trainings are also conducted for staff of all Operational Departments at Manta Air. All staff receive a basic induction training and department specific SMS trainings are refreshed once every 24 months.

3.8 SUMMARY OF PROJECT INPUTS AND OUTPUTS

The types of materials that will go into the project and from where and how this will be obtained are given in Table 3.4 and 3.5

Table 3.2 Major project inputs

Input resource(s)	Source/Type	How to obtain resources
Installationstage		
Construction workers	Local and foreign	Contractor's employees or recruited etc.
Engineers and Site supervisors	Local and foreign	Contractor's employees or by announcement
Construction material	Tyres, Plastic Barrels, Brackets, Ropes, Thimble, Concrete block, Chains, Balau Timber, Beacon light, Shackles, Hooks etc	Import and purchase where locally available at competitive prices – Main Contractor's responsibility.
Water supply (during construction)	Bottled water	Locally available sources, Purchased from local businesses;
Maintenance material	Maintenance parts and fluids required for the machinery and piping.	Import or purchase locally where available
Accommodation	In the resort	Resort

Fire Fighting equipment	Fire Extinguishers...etc.	Contractor's equipment
Fuel	Diesel, petrol	Local suppliers
Telecommunication	Mobile phones and internet facilities	Contractor's responsibility
Food and beverage bottles	PET bottles, glass bottles, packaging waste, plastic bags and various frozen, packaged and fresh food.	Contractor's responsibility
Operations stage		
Electricity supply	Diesel. From the resort grid	Local power supply system in the resort
Operational staff	Resort agents and staff in Manta Air office	Resort agent and department in Manta Air

Table 3.3 Major project outputs

Products and waste materials	**Anticipated quantities**	**Method of disposal**
Installation stage		

Construction waste	Small quantities	If the existing platforms are to be demobilized for installation of new platforms the exiting platforms will be reused by the previous operator or discarded at Thilafushi. Combustibles will be incinerated on the resort.
Food waste	Small quantities	Managed under existing waste management system in the resort.

4 BIOPHYSICAL ENVIRONMENT

4.1 EXISTING SITE CONDITION

One floating platform has already been installed at the resort by a previous operator (TMA). These platforms will be removed by TMA.

4.2 SENSITIVE AREAS

There are 26 Environmentally Sensitive Areas (ESAs) and 8 Marine Protected Area (MPA) in Baa Atoll.

The nearest MPA is *Anga Faru* within 5.6 km which is recognized as a site for White Tip Sharks and Grey Sharks. The nearest ESA is *Dhoogandu Finolhu* within 4.3km which is recognized as a roosting area for birds.

4.3 CLIMATE AND METEOROLOGY

The climate in the island is warm and humid, typical of the other islands in the Maldives. The average temperature ranges between 25°C to 30°C and relative humidity varies from 73 percent to 85 percent. The annual average rainfall is approximately 1,948 mm. The island receives plenty of sunshine throughout the year. On average the island is expected to receive 2704 hours of sunshine each year. Table 4.1 provides a summary of key meteorological findings for Maldives that is applicable for the project location.

Table 4.1 Key meteorological parameters for Maldives

Parameter	**Data**
Average Rainfall	9.1mm/day in May, November; 1.1mm/day in February
Maximum Rainfall	184.5 mm/day in October 1994

Average air temperature	30.0 C in November 1973; 31.7 C in April
Extreme Air Temperature	34.1 C in April 1973;17.2 C in April 1978
Average wind speed	3.7 m/s in March; 5.7 m/s in January, June
Maximum wind speed	W 31.9 m/s in November 1978
Average air pressure	1012 mb in December; 1010 mb in April

The climate of project location is characterised by two monsoon seasons: the Northeast (Iruvai) and the Southwest (Hulhangu) monsoon. The southwest monsoon is the rainy season while the northeast monsoon is the dry season. The southwest monsoon occurs from May to September and the northeast monsoon is from December to February. The transition period of southwest monsoon occurs between March and April while that of northeast monsoon occurs from October to November.

Besides the annual monsoonal wind variations there are occasional tropical storms or low intensity tropical cyclones in the central atolls which increases wind speeds up to 110 km/h, precipitation to 30 to 40 cm over a 24 hour period and storm surges up to 3 m in open ocean.

The Disaster Risk Profile of Maldives (UNDP, 2006) reports 11 cyclonic events over the Maldives in the last 128 years and only one event over the central Maldives. All of these events were of category 1 cyclones. There have been no cyclonic events since 1993. Amilla Fushi is located in a high risk cyclonic hazard zone with a probable average tide height of 0.93 m and storm tide of 1.97 m. (UNDP, 2006).

4.4 NATURAL HAZARDS AND RISKS

According to the UNDP Disaster Risk Assessment Report of Maldives in 2006, proposed site is located in an area exposed to tsunami, wind storms, storm surges and flooding. The following

parameters can be deduced for the island based on Disaster Assessment Report and the Detailed Island Risk Assessment Reports (UNDP, 2009).

Tsunami: Maximum probable wave height less than 3.2m – 4.5m

Cyclone or storm (wind): Probable maximum wind speed 84.2 knots

Storm surge: predicted storm surge height 0.99 m; predicted storm tide height 1.97 m

Rainfall: probable maximum daily rainfall for a 500-year return period 241.4 mm

4.5 CULTURAL AND HERITAGE VALUES

There are no areas of cultural and historic significance in the vicinity of the seaplane platform site.

5 IDENTIFICATION OF RISKS AND IMPACTS

5.1 INTRODUCTION

Potential adverse and beneficial impacts of installation and operation stage of the proposed of the seaplane platform are identified and evaluated in this section. Significant impacts are identified and evaluated in two stages. The impacts have been predicted based on the work sequence and the existing condition of the site

The first stage identifies the environmental and socio-economic components that may be impacted from key project activities. The second stage determines the significance of impacts of each component. The following sections provide details of the evaluation of impacts.

Nature of potential impacts is defined here as No Impact, Adverse Impact or Beneficial Impact. Table 5.1 below provides the nature of potential impacts from the proposed project on environmental and socio-economic aspects by the project components. Where impacts are not applicable to different components, this is indicated as 'X'. Some aspects may be affected both adversely (indicated as [-]) and beneficially (indicated as [+]) from the project.

5.2 IMPACT IDENTIFICATION AND EVALUATION

Environmental and socio-economic aspects that may be impacted by the project as identified in Table 5.1 are further evaluated to identify significant impacts. Assessments of the impacts are conducted using the four criteria of Magnitude, Reversibility, Duration and Distribution as described below. Evaluation of key impacts is provided in Table 5.2 and 5.3.

Magnitude: Refers to the quantum of change that will be experienced as a consequence of the impact.

Reversibility: Refers to the degree of reversibility of an impact (i.e. ease of reversing the conditions).

Duration: Refers to the temporal scale (i.e. duration, frequency) of the impact. It does not take into account the duration of the impact's effects.

Distribution: Refers to the spatial scale of the area impacted (e.g. a small portion of a reef or an entire lagoon)

Estimates for negative impacts represent a 'worst case scenario' based on the assumption that the project will undergo full-scale development with no consideration for its environmental and social consequences, i.e. significance is assessed prior to implementation of mitigation measures. Values are attributed by the EMP team on the basis of direct observation of surveyed sites, professional judgment and pre-existing experience in development projects of similar nature.

5.3 EVALUATION OF CUMULATIVE IMPACTS

While direct primary impacts are relatively easy to identify and evaluate, special consideration needs to be given to evaluate cumulative impacts. While it is relatively simple to identify and evaluate direct primary impacts, the complex nature of natural systems makes it difficult to accurately predict synergistic and interactive impacts of a particular development project. On the other hand, it is relatively simple to identify potential additive impacts. The following sources of cumulative impacts were considered in evaluating the potential impacts of the proposed project.

- Time crowding: overall impacts of many similar concurrent developments.
- Space crowding: high density of impacts on a single environmental medium.
- Indirect impacts: secondary and tertiary impacts resulting from an activity.
- Triggers and thresholds: ecological systems can undergo fundamental changes beyond certain thresholds. Standards and guidelines have been developed based on anticipated threshold
-

Table 5.1 Identification of impacts during installationand operation stage

Project Activity	Ambient noise level	Ambient air quality	GHG emissions	Marine water	Groundwater	Terrestrial Flora & Fauna	Marine Biodiversity	Soil	Landscape Integrity/ Scenery	Natural Hazard Risk	Health and Safety	Demand for Resources & Services	Local Economy	Social Cohesion
Installation Phase														
Demobilisation of existing infrastructure	-	-	-	-	X	X	-	X	-	X	-	X	X	X
Mobilization and Resort inspection	-	-	-	X	X	-	X	X	-	X	-	X	+	+
Workers transportation & accommodation	X	X	-	-	X	X	X	X	X	X	X	-	+	-
Equipment and material storage	X	X	X	X	X	X	X	X	-	X	X	+/-	X	X
Concrete & fabrication works	-	-	-	-	X	-	X	X	-	X	-	-	+	X
Installation of the platforms	-	-	X	-	X	X	X	X	-	X	-	X	X	X

Demobilization	-	-	-	X	X	X	X	X	X	X	X	X	X	X
Operation Phase														
Seaplane operation to and from resort	-	-	-	-	X	-	X	-	-	X	-/+	+/-	+	-
Maintenance works	-	-	-	-	X	X		X	-	X	X	+/-	+	X

Table 5.2 Evaluation of impacts during installationstage

Impact area	Direct Impacts	Indirect/ Cumulative Impacts and Impact Interactions	Magnitude	Reversibility	Duration	Distribution	Significance
Ambient noise level	***Noise Pollution:*** Operation of few machineries during mobilization, fabrication activities (e.g. casting concrete blocks, attaching SS items and demobilization is expected to generate some noise. However these will not be operated continuously for a long period of time.	The proposed project sites are away from the residential zones in the resort Hence, impact of noise generated during installation works will not be significant to the to resort operations.	Minor negative	Easily reversible	Short term	Vicinity of project sites	Insignificant (Limited hours of operation)
Ambient air quality	**Air quality degradation**: Negligible level of dust and air emissions during demobilisation and transport of equipment's to the project	Cumulative from different project activities	Minor negative	Easily Reversible	Short term	Site level	Insignificant (Negligible levels of dust and air emission)

Impact area	Direct Impacts	Indirect/ Cumulative Impacts and Impact Interactions	Magnitude	Reversibility	Duration	Distribution	Significance
	site. In addition, small amounts of emission are anticipated during operation of machineries and vessels during installation stage. However, this will be negligible.						
GHG emissions	**Increase in GHG in atmosphere** due to demobilisation, fabrication equipment, power generation for equipment	Cumulative from different project activities and over time	Minor negative	Reversible in the long term	Short term	Site level	Insignificant (Negligible amount of GHG emissions over short period)

Impact area	Direct Impacts	Indirect/ Cumulative Impacts and Impact Interactions	Magnitude	Reversibility	Duration	Distribution	Significance
Marine water	**Marine water contamination** due to accidental spillages during demobilisation, fabrication works and the installation of the platforms (floating).	Potential cumulative impacts from other resort infrastructure developments	Moderately negative	Easily reversible	Short term	Site level	Insignificant
Terrestrial Flora and Fauna	There will be no direct impact on terrestrial flora and fauna from this project.		Minor negative	Reversible in the long run	Short term	Site level	Low
Marine Biodiversity	**Loss of marine biodiversity** There will be minimal to zero impact on biodiversity loss		Minor negative	Reversible	Short term	Site level	Low

Impact area	Direct Impacts	Indirect/ Cumulative Impacts and Impact Interactions	Magnitude	Reversibility	Duration	Distribution	Significance
	from this project. Nearest MPA and is located within 5 km from the project site, Therefore, it does not pose any concern. However, during installation, marine biodiversity at the project site may be disturbed.						
Landscape Integrity/ Scenery	Loss of visual amenity due to fabrication works.	Cumulative from other development works in the area	Minor	Easily reversible	Short term	Site level	Low
Health and Safety	Accidents related to equipment handling and fabrication work		Moderate	Possibly irreversible	Long term	Site level	Moderate

Impact area	Direct Impacts	Indirect/ Cumulative Impacts and Impact Interactions	Magnitude	Reversibility	Duration	Distribution	Significance
Demand for Resources and Services	Demand for energy and water during installation	Cumulative impact on resort	Minor	Reversible	Short term	Site level	Insignificant

Table 5.3 Evaluation of impacts during operation stage

Impact area	Direct Impacts	Indirect/ Cumulative Impacts and Impact Interactions	Magnitude	Reversibility	Duration	Distribution	Significance
Ambient noise level	***Noise Pollution:*** During take-off and landing, seaplane operation will generate noise.	The proposed take-off, landing, taxi and manoeuvring areas are away from guest villas and staff areas	Minor negative	Reversible	Short intervals 2-5 minutes	Vicinity of the platform	Insignificant (located further away from the residential

Impact area	Direct Impacts	Indirect/ Cumulative Impacts and Impact Interactions	Magnitude	Reversibility	Duration	Distribution	Significance
							zone in the resort).
GHG emissions	**Moderate increase in GHG in atmosphere** due to seaplane operation with 2-3 departures/arrivals per day	Cumulative from other resort activities.	Minor negative	Reversible in the long term	Long term	Regional level	Insignificant
Terrestrial Flora and Fauna	Increased noise levels may cause disturbance to birds and seaplane operations pose a risk of bird collisions		Minor negative	Reversible in the long term	Long term	Site level	Low – Limited hours of seaplane operation every day.

Impact area	Direct Impacts	Indirect/ Cumulative Impacts and Impact Interactions	Magnitude	Reversibility	Duration	Distribution	Significance
Marine Water	Marine water contamination and degradation due to accidental spillage of waste	Potential cumulative impacts from other resort infrastructure developments	Moderate	Reversible in the short term	Short term	Site level	Low
Landscape Integrity/ Scenery	Loss of visual amenity during sea plane take-off and landing.	Cumulative from other development works in the area	Minor	Easily reversible	Short term	Site level	Low
Health and Safety	Risk of accidents for guests and employees while on the platform and while boarding the seaplane.		Moderate	Possibly irreversible	Long term	Island level	Moderate negative

Impact area	Direct Impacts	Indirect/ Cumulative Impacts and Impact Interactions	Magnitude	Reversibility	Duration	Distribution	Significance
	Risk of exposure to high noise levels for staff working at the platform for longer periods of time. Accidents due to malfunction of seaplanes and poor operation due to poor health of pilots and crew passengers.		Moderate	Possible irreversible	Long term	Site level	Moderate negative

Impact area	Direct Impacts	Indirect/ Cumulative Impacts and Impact Interactions	Magnitude	Reversibility	Duration	Distribution	Significance
	Accidents due to malfunction of seaplanes and poor operation due to poor health of pilots and crew passengers.		Moderate negative	Possibly irreversible	Long term	Site level	Moderate negative
	Risk of accidents due to movement of other vessels in the lagoon.		Moderate negative	Reversible	Short term	Site level	Moderate negative
	Injury to guests snorkelling, diving and undertaking water sports in the		Moderate negative	Possible irreversible	Long term	Site level	Moderate negative

Impact area	Direct Impacts	Indirect/ Cumulative Impacts and Impact Interactions	Magnitude	Reversibility	Duration	Distribution	Significance
	lagoon near the platforms						
Demand for Resources and Services	Demand for energy and water during operation	Cumulative impact on resort	Minor	Reversible	Short term	Site level	Insignificant
Local Economy	Increase in employment opportunities: workers will be employed for operation of seaplane platform	-	Minor positive	Reversible	Long term	Regional level	Minor positive
Social Cohesion	Negative impact and grievances due to resort prioritising	Indirect impact on the employees and their attitude	Minor negative	Reversible	Long term	Island level	Moderate negative

Impact area	Direct Impacts	Indirect/ Cumulative Impacts and Impact Interactions	Magnitude	Reversibility	Duration	Distribution	Significance
	guests over staff. Staff usually get bumped from seaplane at the last minute						

6 IMPACT MANAGEMENT PROGRAMS

6.1 ENVIRONMENTAL AND SOCIAL IMPACT MANAGEMENT PLAN

Mitigation measures for environmental and social impacts during both installation and operational stage are provided in Table 6.1 below. The mitigation measures proposed in the EMP is been already implemented by the proponent in other facilities. This has been consulted and confirmed during stakeholder consultations.

Table 6.1 Environmental management plan

Impact	Mitigation Measure	Responsible Party	Justification	Total Cost (MVR) and other logistics
Installation Stage				
Marine Water Contamination	Handle paint in securely bunded containers and ensure they are properly closed when not in use. A supervisor from the installation team will ensure that all the activities of the construction are working in a sound manner. Any spillage of paint will be immediately taken note of and recorded. The accident should be informed to the resort management.	Contractor	To minimize impact on marine water contamination during installation phase.	Manpower: 1 supervisor Equipment: Log sheets Cost: ~ MVR 10,000

Impact	Mitigation Measure	Responsible Party	Justification	Total Cost (MVR) and other logistics
Groundwater contamination and Condition of Soil	High risk materials such as diesel shall be stored in appropriate containers and placed in paved surface Containers shall be inspected regularly for leakage Any spillage of paint will be immediately taken note of and recorded.	Contractor	To prevent contamination of groundwater lens in the island.	Manpower: 1 supervisor Equipment: Log sheets Cost: ~ MVR 10,000
Occupational Health and Safety	All workers should be provided with health and safety information appropriate to the work that they undertake. All workers should be provided with safety gear and personal protective equipment at all times. This includes: safety hats, boots, masks and gloves. Ear muffs shall be provided to workers if workers are to be exposed for high noise levels for extended periods of time.	Contractor	To avoid accidents and risks to health during platform installation process.	Manpower: 1 supervisor to oversee the process Equipment: Log sheets or inventory sheet Cost: ~ MVR 30,000

Impact	Mitigation Measure	Responsible Party	Justification	Total Cost (MVR) and other logistics
	Protective glass shall be used when undertaking welding work. Dive gear must be available and given to workers during the installation of the platform			
Waste management during installtion	Ensure waste from demobilization of the existing platforms is reused where possible and disposed of responsibly if it cannot be reused. Ensure installation waste generated is adequately segregated. Provide the segregated waste to the resort waste management system for disposal.	Contractor and previous operator	To ensue any waste generated during the installation process is handles and disposed responsibly.	Manpower: 1 supervisor and 2 workers Equipment: Bins, garbage bags Cost: ~ MVR 40,000 (included in the resort operation fees)
Operational Stage				

Impact	Mitigation Measure	Responsible Party	Justification	Total Cost (MVR) and other logistics
Marine water contamination	Measures should be taken to ensure that no waste spills into the ocean.	Manta Air and Amilla Fushi	To minimize impact on marine water contamination.	Manpower: 1 supervisor and 2 workers Equipment: Bins, garbage bags Cost: MVR 40,000
Fire risk	Implement the emergency response plan developed. Identify and engage staff from resort in emergency response trainings. An assembly point must be determined in the resort and all guests should be made aware of the point and ways of accessing the point.	Manta Air and Amilla Fushi	To ensure safety protocols during an event of fire and to ensure minimal impact from a fire accident.	Manpower: 2 supervisor and identified 7 agents at the resort who are trained Equipment: fire safety equipment (harness, fire extinguisher, fire hydrants)

Impact	Mitigation Measure	Responsible Party	Justification	Total Cost (MVR) and other logistics
	Assembly point signages must be placed in walkways of the resort and it must be visible Regular fire drills must be held to ensure the systems in place works efficiently. An Auto alarm system to alert the staff and management of the resort for efficient and quick response during a fire. MNDF recommends to use foam based fire extinguishers at the platform. A selected number of resort staff and all pilots should be trained to use fire extinguishers and to engage in emergency first response.			Cost: ~ MVR 250,000
Fatigue and General Health of Pilot and Crew	Duty hours must be limited to ensure pilots and crew receive the adequate rest to ensure safe operation of the plane.	CAA , Manta Air and Amilla Fushi	To ensure safety of the seaplane operation	Manpower: 1 Supervisor

Impact	Mitigation Measure	Responsible Party	Justification	Total Cost (MVR) and other logistics
	Regular monitoring and inspection must be carried out to ensure pilots work within the specified work hours and does not exceed the limit Adequate accommodation must be provided in resorts for pilots and crew during overnight stay. In case there are no rooms available in resort, the aircraft will be diverted to a nearby resort with possibility for crew accommodation. Regular health screening shall be conducted for all pilot and crew.		and safety of the passengers.	Equipment: log sheets for record keeping Cost: ~ MVR 200,000
Airworthiness of Seaplanes	The seaplanes must be serviced and maintained as per CAA approved manuals and program. Regular checks must be carried out to identify any operational impact to the aircraft. All maintenance	Manta Air	To ensure safety of the seaplane operation	Manpower: 2 Supervisor and 5 workers Equipment: log sheets for record keeping

Impact	Mitigation Measure	Responsible Party	Justification	Total Cost (MVR) and other logistics
	records and data must be stored as per approved manuals			Cost: ~ MVR 200,000
Risk of Accidents on the platform and while boarding the seaplane	Train and engage Pilots and Crew to guide passengers. Instruct and indicate safety measures while boarding the seaplane. A crew or pilot shall always be present at the boarding point to ensure passengers are boarded safely. A first aid kit shall be placed in the transfer vessel or on the platform.	Manta Air	To ensure safety of the seaplane operation and for safety of passengers.	Manpower: 1 Supervisor Equipment: First aid kit, log sheets to record engagement/training sessions Cost: ~ MVR 200,000
Risk of exposure to high noise levels to staff or to passengers.	Ear mufflers shall be provided to employees working at the platform for longer periods of time.	Manta Air	To ensure health and safety of passengers,	Manpower: 1 Supervisor

Impact	Mitigation Measure	Responsible Party	Justification	Total Cost (MVR) and other logistics
	Ear plugs shall be made available to passengers if needed.			Equipment: log sheets for record keeping, lighting beacons Cost: ~ MVR 200,000
Risk of accidents due to movement of other vessels in the lagoon.	Ensure the channel is kept free from vessels during flight operations.	Amilla Fushi	To minimize impacts to other vessels and avoid potential accidents	Manpower: 2 Supervisor Equipment: NA Cost: ~ MVR 50,000
Injury to guests snorkelling, diving and undertaking water sports in the	Avoid using the area near the platforms and takeoff and landing sites for any guest	Amilla Fushi	To ensure health and safety of tourists in the resort.	Manpower: 1 Supervisor

Impact	Mitigation Measure	Responsible Party	Justification	Total Cost (MVR) and other logistics
lagoon near the platforms	recreational activities during aircraft movement. Inform staff involved in handling guest recreational activities about seaplane arrival and departure hours and plan recreational activities accordingly.			Equipment: Ear mufflers/plugs Cost: ~ MVR 250,000
Complaints from local staff	Implement the external communication system and grievance mechanism developed in Manta Air to address the concerns raised by local staff in using sea planes.	Manta Air	To ensure grievances from local staff are resolved and attended and to ensure all passengers are dealt with equally.	Manpower: 1 Supervisor Equipment: log sheets to record grievances Cost: ~ MVR 200,000

7 ORGANISATIONAL CAPACITY AND COMPETENCY

7.1 EXISTING ORGANISATIONAL STRUCTURE

Manta Air is managed as a single organisation with 12 principle departments reporting to its Chief Executive Officer (CEO) and Board of Directors. The 12 departments are listed below;

1. Safety and Security
2. Quality and Compliance
3. Ground Operations
4. Flight Operations
5. Engineering and Maintenance
6. Training
7. Human Resources
8. Facilities and Maintenance
9. Procurement and Logistics
10. Accounts and Finance
11. Commercial
12. Information Technology

The organisational structure of Manta Air is provided in Figure 7.1 below;

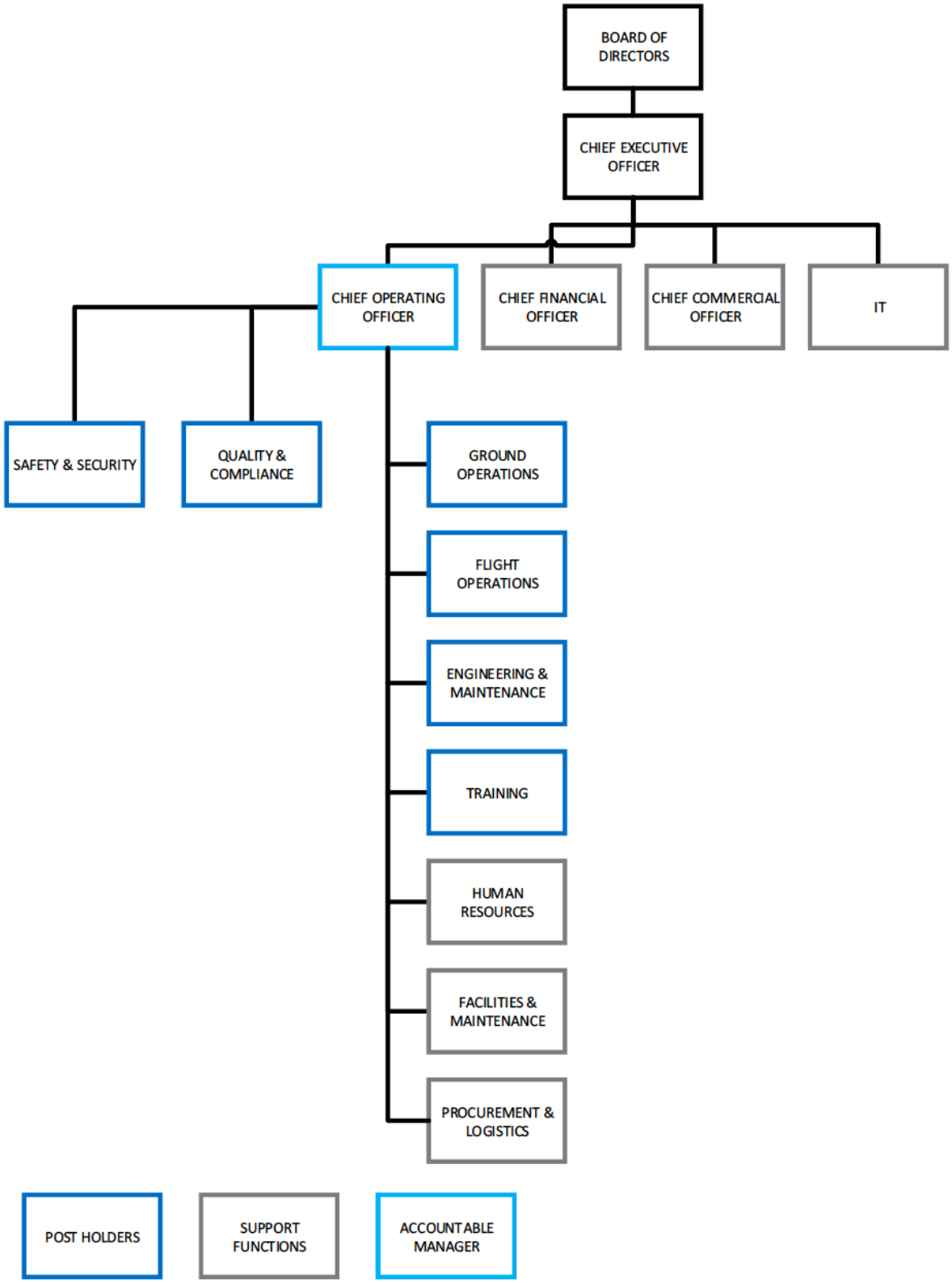

Figure 7.1 organizational structure of Manta Air

Each of the main departments within Manta Air has several sub departments with a wide range of roles. The departments which are most relevant to the EMP is provided in Table 7.1 below with their role in the EMP also highlighted.

Table 7.1 Manta Air sub-departments with roles relevant to EMP

Manta Air Department	Responsibilities	Role in EMP Team
Quality & Compliance Department	Liaise with regulatory bodies on aspect of audits, all maintenance of aircraft, licenses, approvals.	Team Leader; Safety and Security Team; Training Coordinators; Environment Officer; Health and Safety Officer; Social Officer
	Monitor technical literatures, company and conduct all internal audits when required.	
	Carry out Internal Audits and Inspections	
	Regulate and maintenance of Integrated Management System standards	
Safety and Security Department	Develop and implement safety management system and conduct trainings	Team Leader; Quality and Compliance Team; Training Coordinators, Health and Safety Officer; Social Officer, Environment Officer
	Management of the 'Emergency Response Plan' and all other processes related to safety of entire operation.	
	Regulate and maintenance of Integrated Management System standards	

	Identify best practices and lead continuous improvements	
	Conduct safety audits	
	Monitoring safety conditions	
	training on safety	
Flight Operations Department	Identify possible landing sites.	Team Leader; Quality and Compliance Team, Safety and Security Team; Health and Safety Officer
	Carry out safety assessments and risk management	
	Report any environment and social issues	
Engineering and Maintenance	Installation and maintenance of platforms in required locations, installation and maintenance of fuel systems and relocation of platforms as required in a timely manner.	Liaising with Environment Officer
Ground Operations	Management of water aerodromes	Liaising with Social Officer
	Delivery of services in accordance with established contracts within regulatory requirements.	
Commercial Team	Coordinate with Independent AMP Advisors	Social Officer Teal Leader
	Manage external grievances	

Human Resources	Distinguish existing and required competencies for each job role in the company and take actions to develop/acquire the same	Liaising with Communication and Trainings Manager and Social Officer
	Manage and conduct all trainings related to development of soft skills required for all job roles	

7.1.1 Roles, Responsibilities and Authorities to implement the EMP

The EMP Team will be established to take responsibility for implementing the EMP. The role and overall function of the EMP team is described below;

The EMP Team will fulfill the following functions:

1. Assure that Manta Air's policy and guidelines are followed
2. Develop procedures and action plan for implementing the EMP
3. Coordinate the implementation of procedures established in the EMP
4. Liaise with government organisations, the public, and non-governmental organisations on environmental and social issues.
5. Inform the relevant authorities of any incidents that occur during the operation of seaplane platforms.
6. Reporting on the progress of the implementation of the EMP

The EMP Team will consult with people from all levels of Manta Air, including supervisors and employees, who are key frontline identifiers of problems when identifying risks and impacts, developing improved procedures, and designing actions plans.

The EMP Team will also assist the Board of Directors of Manta Air in its oversight of:

1. Environmental and social risks

2. Manta Air's compliance with applicable national laws and regulations associated with environmental and social concerns;
3. Manta Air's performance in relation to environmental and social commitments specified in the EMP
4. The performance and leadership of the environmental and social function; and
5. Manta Air's external communication and annual reporting in relation to environmental and social commitments

7.1.2 The EMP Team

The EMP Team will be a cross-functional team with multiple members assigned to review different aspects of the environmental and social issues on a regular basis. The main deliverables will be reported to senior management team. The proposed organisation for the EMP Team is provided in Figure 7.2 below

Figure 7.2 Proposed organizational structure for EMP

The specific responsibilities associated with these units of the EMP Team are summarized as follows:

7.1.2.1 Senior Management Unit of EMP

Team Leader. The EMP Team will be led by the Outstations Manager, Ground Operations Department, who will act as the Team Leader to develop the EMP Team within Manta Air. The Team Leader holds overall accountability for compliance and responsibility for ensuring that the environmental and social commitments of the EMP are fulfilled. The Team Leader will report directly to the Manager Ground Operations of Manta Air will present environmental and social issues to the Chief Operating Officer and when required to Chief Executive Officer and Manta Air Board.

The Outstations Manager will be responsible for tracking compliance with all environmental, social and safety requirements, regular reporting, and oversight of social, environmental and training issues as required by national laws and international best practice. The Outstations Manager is responsible for the management and implementation of the compliance register and will manage the functions of Environment Officer, Social Officer and Safety Officer.

Policy Development. Manager Quality and Compliance and Manager Safety and Security will be responsible for developing policies for environmental and social safeguards and defining the roles of the officer that will be involved in the EMP Team. They will be responsible for consulting with people from all levels of the company, including supervisors and employers, who are key frontline identifiers of problems which will inform the development of improved procedures and design of actions plans. They will also partner with an external consultant to bring in the expert knowledge to develop policies, strategies and develop the EMP Team.

Communication and Trainings. Training Coordinators from all departments will hold the responsibility for organising trainings, identifying needs of employees and streamlining communication. It will be the objective of the Outstations Manager in the EMP Team to lead the effort and communicate to all employees at all levels, that this is a long-term commitment by Manta Air.

7.1.2.2 Environmental, Social and Safety Officers

Environment Officer. The Environment Officer will be all seaplane aircrew in Manta Air. The Environment Officer will be responsible for day-to-day environmental observation and reporting as required by the various management plans. The Environmental Officer will collaborate the Team Leader whom in turn will coordinate with third party environment consultant.

Social Officer. The Social Officer will be from Commercial and Human Resource Teams of Manta Air. HR Team will manage internal grievances, stakeholder engagements and community relations. Commercial Team will manage external grievances. They will implement social safeguard policies and action plans stated in the EMP.

Health and Safety Officer. The Health and Safety Officer will be from the Safety and Security department. The Officer will be responsible for periodic monitoring of project activities to ensure continuing compliance with the occupational health and safety aspects of the EMP. The Health and Safety Officer will provide input to the HSE monitoring report, and may also conduct focused inspections of specific health and safety or social/community relations issues at the request of the Outstation Manager.

7.1.2.3 Independent EMP Advisors

The independent EMP advisors are responsible for assisting and guiding in the implementation of the environmental and social components of the EMP on site, and particularly the monitoring of environmental and social impacts. The consultants will work closely with the Senior Management team to advice on strategies for implementing the components of the EMP with other business units.

7.1.2.4 Manta Air Employees

Beyond the EMP Team commitment, all Manta Air employees will be individually and collectively responsible for:

1. Working safely, within the guidelines and requirements established by this EMP;

2. Supporting the environmental, social, and OHS policies established for the management of seaplane platforms in the day to day performance of their work;
3. Notifying their supervisors, the Environmental Officer, the Social Officer, or the Safety Officer of any observed spills, equipment malfunctions, unsafe or unhealthy situations, improper environmental practices, worsening trends, or other issues that could represent non-conformance with the requirements this EMP.

7.2 COMMUNICATION AND TRAINING

Training modules will be designed and conducted by the Head of Departments for relevant teams and departments of Manta Air to gain commitment and provide the knowledge and skills they need to implement the EMP. In addition to the detailed training of the team, all Manta Air employees will need to receive awareness training so there is a shared understanding of the goals of the EMP. Refresher training shall be provided to all staff involved in EMP as needed.

Specific training modules should be selected for each of the target groups based on the specific risks and the potential improvement opportunities. Focused trainings will be provided to EMP Team for the proper implementation of EMP. A sample list of some of the relevant topics/items for the above specific group is presented in the table below.

Table 7.2 Topics for trainings in each department

Department	Relevant Topics for Training
Senior Management	Introduction to EMP; Environmental and social awareness program; IFC Performance Standards; Stakeholder engagement
EMP Team	EMP elements; Competency program; Identification and evaluation of risks and impacts; Monitoring and measurement of performance indicators; Stakeholder engagement; Internal and external communication; Environmental and social reporting; EMP

	documentation; Internal auditing; Root cause analysis; Implementation of corrective and preventive actions
HR Department	Introduction to EMP; Complaint management and resolution procedure; Social and labor policies; Employee interaction; EMP related trainings required for crew
All Employees	Introduction to EMP; EMP policies; Operational procedures; OHS and emergency response procedures; Controlled and banned substances; Complaint management procedure, Customer requirements; Notifying procedure; Environmental and social awareness program

7.3 REPORTING REQUIREMENTS

The EMP Team will be required to report on the progress of the implementation of the EMP according to the framework outlined in the Management Plan.

The EMP Team will report their activities to the Team Leader quarterly. The Team Leader will report directly to the Manager Ground Operations of Manta Air and will present environmental and social issues to the Chief Operating Officer of Manta Air annually. The COO will present environmental and social matters to CEO and Manta Air Board upon their request.

Annual reports on environment and social monitoring activities, stakeholder engagement and grievances will be prepared and submitted to Chief Operating Officer. The COO will share the report to CEO and Manta Air Board of Directors upon tbeir request..

8 EMERGENCY PREPAREDNESS AND RESPONSE

Emergency preparedness and response planning is a critical component of the management system. This chapter presents a summary of main components that should be in an emergency response plan (ERP). An Emergency Response Plan has already been prepared by Manta Air for Amilla Fushi. The ERP will need to be periodically reviewed and updated.

The Sample Regulations for Water Aerodromes (International Civil Aviation Organisation, 2015) and the IFC Performance Standards (International Finance Corporation, 2012) has been used as a basis for some of the suggestions in this chapter.

8.1 OBJECTIVE

Emergency Response Plans serve as a guiding document for Manta Air in preparing and responding effectively to emergency situations during seaplane operations at Amilla Fushi. It is not possible to prevent every emergency situation, however, advance preparation for potential emergencies will be effective in preventing and mitigating harm to passengers, crew, community and the environment.

MNDF Coast Guard and the resort will be responsible for responding to aircraft accidents that occur in the vicinity of the resort. All persons involved in emergency planning and response at Manta Air and Amilla Fushi have a role in the successful implementation and maintenance of the ERPs.

8.2 KEY FACTORS

According to The Sample Regulations for Water Aerodromes (International Civil Aviation Organisation, 2015) an emergency plan must address the following points:

- Activities commensurate with the operation of seaplanes and other activities at the aerodrome
- Procedures for coordinating emergency responses in the event of an emergency on or near the aerodrome

- If the aerodrome is located in a difficult environment and a significant proportion of operations takes place over these areas, coordination with readily available appropriate specialist rescue services and
- Human factor principles to ensure optimum response

The Sample Regulations also notes that the certified water aerodrome should establish an aerodrome emergency committee as in the MOS- Water Aerodrome Standards. A Safety Management System should also be established according to the framework provided by ICAO. Rescue and firefighting equipment should also be provided at the aerodrome in accordance with the MOS- Water Aerodrome Standards.

8.3 HAZARD IDENTIFICATION AND EMERGENCY SCENARIO MAPPING

Some of the potential hazards and emergency scenarios for seaplane operations include:

- Boat capsizing
- Passenger evacuation in sea
- Wildlife collusion on water
- Drowning
- Drifting
- Fire and explosions
- Medical emergencies during flight
- Maritime accidents
- Engine failure
- Failure of information and communication systems
- Terrorism
- Fuel shortage
- Storms
- Chemical exposure
- Emergency landing
- Plane crash

8.4 EMERGENCIES COVERED IN THE ERP

- Aircraft Accident
- Bomb threat associated with aircraft
- Unlawful interference
- Missing aircraft and
- Any other aircraft- related emergency situation as decided by Manta Air EMC chair

8.5 EMERGENCY MANAGEMENT TEAM (EMT)

The resort EMT shall be decided by the General Manager of the resort and shall consist of the following members:

- General Manager
- Resort Manager
- Front Office Manager
- Housekeeping Manager
- Security Manager
- Chief Engineer and
- Doctor

Further details of the roles of the EMT members is provided in the Emergency Response Plan attached in Appendix C.

8.6 EMERGENCY RESPONSE TEAM (ERT)

The ERT shall consist of the following:

- Response Team: Life Guard & Rescue, Water Sports Team
- Welfare Team: GRO Team and
- Medical Team- Doctor and Personnel Trained in Advanced First Aid

8.7 EMERGENGY RESPONSE TRAININGS

All Resort Agents and Managers involved in the seaplane operations are required to complete an emergency response training prior to Manta Air starting seaplane operations to the resort. This training will be conducted once every two years. Emergency exercises shall also be conducted at the resort every two years.

8.8 EMERGENCY RESPONSE FACILITIES

In emergency situations the Resort Emergency Management Team (EMT) and Manta Air's EMC shall identify a location as Triage & Casualty Clearing Station, Uninjured Holding Area and a Crew Holding Area. Descriptions of each area is provided below. The Resort EMT in coordination with Manta Air's EMC and the Resort Doctor will determine which hospitals to transport those affected.

Triage & Casualty Clearing Station: This area will be used to treat, classify and dispatch those affected in the emergency for further treatment.

Uninjured Holding Area: Area where uninjured passengers will be taken.

Crew Holding Area: Area where uninjured crew members will be taken.

8.9 RESPONDING TO EMERGENCIES

In the event of an emergency the staff who witnesses the aircraft accident shall inform the Front Office. The Front Office shall then activate the Emergency Response Procedures for the resort by creating a WhatsApp Group and calling all relevant parties. A checklist for emergency situations shall be kept at the Front Office of the resort at all times.

The Emergency Response Plan, attached in Appendix C, includes further details on how relevant parties should act in the event of an emergency. The plan also includes specific actions for the type of emergency.

9 STAKEHOLDER ENGAGEMENT

Stakeholder engagement is a critical element of responsible environment and social management. It is important to establish fluent and inclusive communications that involves regularly listening to our stakeholders and keeping them informed for the successful assessment, evaluation, and management of the project.

The stakeholder engagement process is designed to establish an effective platform for productive interaction with key stakeholders during the operation of seaplane platform at Amilla Fushi.

It involves:

1. the identification of all stakeholders with an interest in the project and those who can be affected by its implementation or can influence the course of the management of the seaplane platform at Amilla Fushi.
2. the establishment of mechanisms enabling Manta Air to proactively, effectively and continuously engage with these stakeholders throughout the project lifecycle.

9.1 STAKEHOLDER IDENTIFICATION

Prior to the start of the consultations, stakeholders who would be directly or indirectly impacted were identified according to the nature of the impacts, and the ability to influence the project. The stakeholders were mapped based on this assessment into internal, external primary and external secondary stakeholders.

The stakeholder map for the EMP is presented 9.1 below.

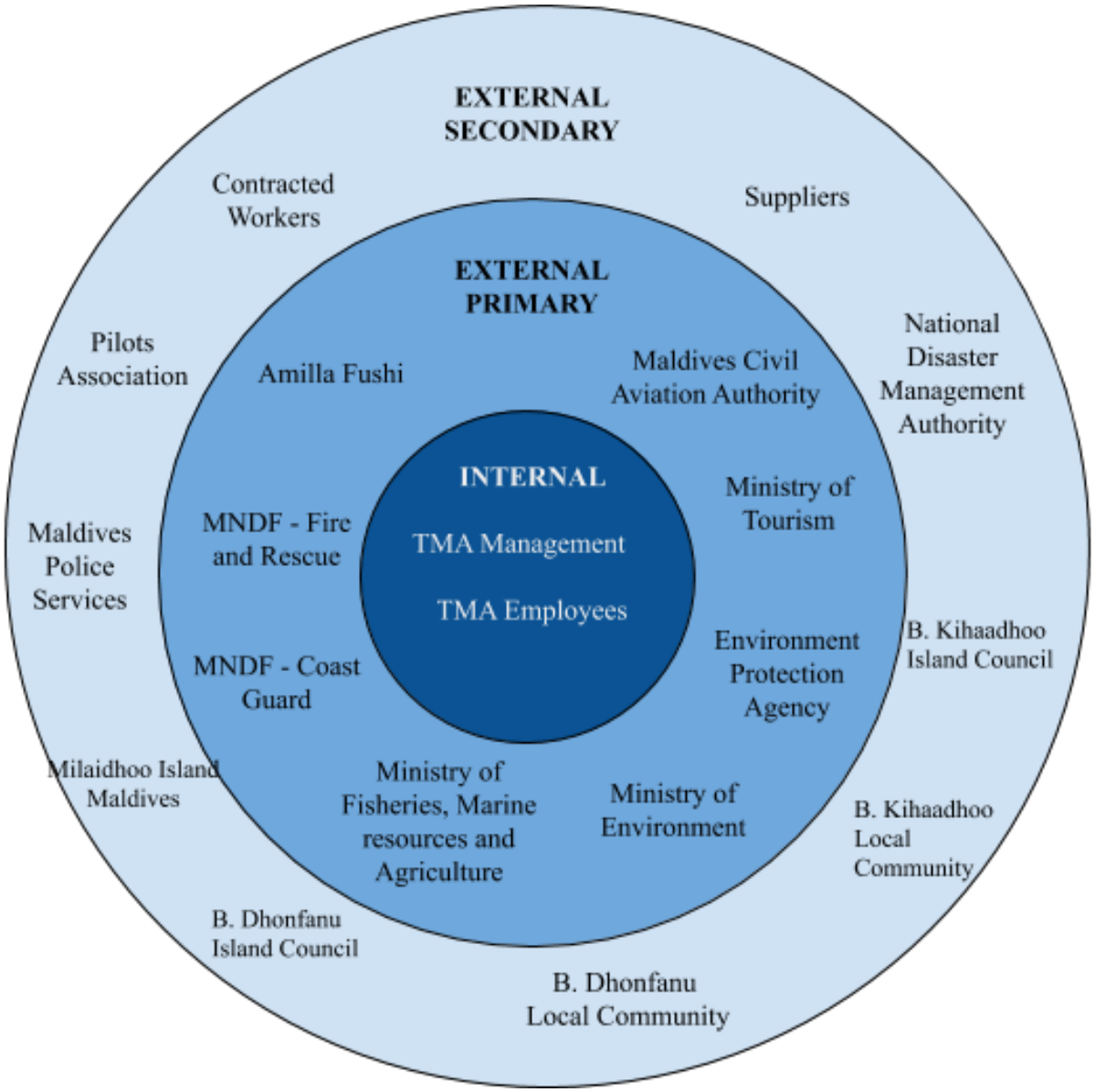

Figure 9.1 Stakeholder Map for the seaplane platform Amilla Fushi

Table 9.1 Stakeholder identification framework

Stakeholder Level	Stakeholder Category	Stakeholder Type	Stakeholder
Primary Stakeholders	Owner	Aviation	Manta Air Management
	Employees	Aviation	Pilots/Crew
	User	Tourism	Amilla Fushi
	Regulator	Aviation	Maldives Civil Aviation Authority
		Tourism	Ministry of Tourism
		Environment	Environment Protection Agency
	Policy	Environment	Ministry of Environment
		Fisheries	Ministry of Fisheries, Marine Resources and Agriculture
	Service Provider	Fire Safety	Fire & Safety, MNDF
		Marine Safety	Coast Guard, MNDF
	International	Aviation	International Civil Aviation Organization

Secondary Stakeholders	Contractors	Aviation, Installation	Contracted Workers
			Suppliers
	Service Provider	Public Safety	Maldives Police Service
		Disaster	National Disaster Management Center
	Governance	Local Governance	B. Kihaadhoo Island Council
			B. Dhonfanu Island Council
	Society	Public	B. Kihaadhoo Local Community
			B. Dhonfanu Local Community
	Society	NGO's	Pilots Association
	Businesses	Tourism	Milaidhoo Island Maldives

9.1.1 List of Key Stakeholders

The main stakeholders that have roles and responsibilities relevant to this project are summarized below:

9.1.1.1 Civil Aviation Authority

Civil Aviation Authority develops and administers policies and regulations to ensure safe, secure, orderly and economic development of aviation in the Maldives. The Maldives Civil Aviation Regulation, MCAR-139 Aerodrome Rules regulation published in May 2012 consists of general standards and practices of aerodromes, and aerodrome certification.

9.1.1.2 Ministry of Tourism

The Ministry of Tourism is mandated to develop the tourism industry at a national level, and carry out long-term planning, development, monitoring, and regulatory functions to ensure a sustainable tourism industry for the benefit of the people of the Maldives. Any construction within the boundary of a tourist resort has to be approved by the Ministry of Tourism.

9.1.1.3 Ministry of Environment

The Ministry of Environment is mandated for the effective implementation of the Environmental Protection Act of the country and has the statutory power over issues related to the environment. It has the central control over the environment protection, management, conservation and environmental emergencies. The Ministry operates mainly at a policy level and the more regulatory and technical assessment activities are mandated to the Environmental Protection Agency (EPA). In this respect EPA has now been mandated to manage all issues relating to Environmental Impact Assessment of individual projects.

The Ministry of Environment also seeks the advice of National Commission for the Protection of Environment (NCPE) on all significant environmental matters. The commission is appointed by the president and is mandated to advice the Minister of Environment on environmental matters such as environment assessment, planning and management, and political decisions with regard to the protection of environment.

9.1.1.4 Ministry of Fisheries, Marine Resources and Agriculture

Ministry of Fisheries, Marine Resources and Agriculture is responsible for the development and sustainable management of marine and agricultural resources of the country. The Ministry is responsible for policy formulation and regulation of fisheries and fisheries management and development in the Maldives.

9.1.1.5 MNDF Fire and Rescue Services

Maldives National Defence Force (MNDF) Fire and Rescue Services has the mandate to implement all necessary regulations to prevent fire incidents and carryout steps to mitigate fire incidents and carry out firefighting and rescue operations in order to save lives and minimize damage to property.

9.1.1.6 MNDF Coast Guard

Maldives National Defence Force (MNDF) Coast Guard has the mandate to protect the territorial waters, safeguard the marine environment, enforce the Maritime Law, respond to national emergencies and crises and conduct search and rescue missions.

9.1.1.7 International Civil Aviation Organization

The International Civil Aviation Organization is a specialized agency of the United Nations. It codifies the principles and techniques of international air navigation and fosters the planning and development of international air transport to ensure safe and orderly growth. Maldives Civil Aviation Authority adheres by ICAO principles in regulating and implementing Maldives Aviation Safety Programme. It includes Global Aviation Safety Plan (GASP), which fosters an advanced safety oversight system including predictive risk management.

9.2 STAKEHOLDER ENGAGEMENT PLAN

After the identification of the most important stakeholders, a plan was developed for how to engage with the groups identified. Engagement will be stronger and more frequent with those groups that

are most affected and those that have a greater ability to influence the project (primary stakeholders).

The Stakeholder Engagement Plan (SEP) prepared includes but is not limited to:

1. Post EMP disclosure consultation
2. Project information meetings
3. Project technical workshops
4. Postings on the Manta Air website and social media platforms
5. Message Boards and Newsletter
6. Media Advertisements and Press Releases
7. Complaints and Grievances from stakeholders

The SEP will be updated periodically and in accordance with major project changes to reflect engagement activities that may be required during the life of the project. Any major changes to the Project activities and to its schedule will be duly reflected in the SEP.

The SEP will address the concerns, information to disclose to the relevant stakeholder to the extent necessary and useful information to obtain from the stakeholder as given in the SEP below.

9.2.1 Consultations during Assessment and Evaluation for EMP

Initial consultations were held with the primary stakeholders during the assessment and evaluation phase of the project. Primary stakeholders were consulted at this stage to understand the regulatory requirements of relevant regulating authorities and existing frameworks by government authorities. See Appendix D for details of stakeholder consultations during assessment and evaluation for EMP. Consultations findings from previous EMPs for similar projects were utilized for this EMP given its similarity.

Table 9.2 Stakeholder Engagement Plan

STAKEHOLDER ENGAGEMENT PLAN					
Stakeholder		Concerns (What is the stakeholder's concern regarding Amilla Fushi seaplane platform)	Engagement Method (method of communication And frequency of engagement)	Information to disclose (What should the stakeholder know)	Information to obtain (What does Manta Air need to know from the stakeholder)
Internal	Management	Current system; identification of issues; required trainings; fatigue management for pilots/crew; maintenance of safety; Amilla Fushi agent training	Meeting, email	-	-
	Employees	Grievance management; fatigue management;	Meeting, email	ESMP policies; Operational procedures;	Issues that might come up with operating the

		training requirements		OHS and emergency response procedures; Complaint management procedures; Environmental and social awareness	sea plane platforms; pain points in the system
External Primary	Amilla Fushi	Capacity to aid in safety/emergency; training; impacts to tourist activities - water sports; operational concerns	Meeting; monthly	ESMP procedures that is relevant to the resort	Resort's capacity in aiding with emergencies; concerns regarding seaplane operations
	Maldives Civil Aviation Authority	Requirements for emergency response; aviation emergency protocols; safety trainings;	Meeting; as required	ESMP policies; Safety standards put in place	Requirements by CAA

		safety briefing; duty limitations for flying			
	Ministry of Tourism	Operational requirements	Meeting; as required	ESMP policies	Concerns regarding activities in a tourist resort
	Environment Protection Agency	Environmental requirements; impacts to protected areas; impacts to biodiversity in the area; marine litter	Meeting; as required	Procedures put in place to protect the environment	Concerns regarding activities that may affect the environment; Regulatory requirements
	Ministry of Environment	Environmental requirements; impacts to protected areas; impacts to biodiversity in the area; marine litter	Meeting; as required	Procedures put in place to protect the environment	Concerns regarding activities that may affect the environment

	Ministry of Fisheries, Marine Resources and Agriculture	Fishing points in the area; impacts to fisheries	Meeting; as required	Location and operational pathways	Concerns regarding activities that may affect fishing in the area; Regulatory requirements
	MNDF Fire & Safety	Fire & safety requirements; emergency response protocol; fire safety training	Meeting; twice a year	Safety standards put in place	Concerns regarding fire safety; regulatory requirements
	MNDF Coast Guard	Safety requirements; emergency response protocol; training	Meeting; twice a year	Safety standards put in place	Concerns regarding marine safety; regulatory requirements
External Secondary	Contractors	Managing the E&S performance in terms of subcontracting	Meeting; as required	Environment, social and safety requirements of ESMP	Concerns / road blocks regarding compliance with requirements

		and procurement			
	Suppliers	Managing the E&S performance in terms of subcontracting and procurement	Meeting; as required	Environment, social and safety requirements of ESMP	Concerns / road blocks regarding compliance with requirements
	Maldives Police Service	Theft; safety	Meeting; as required	Safety standards put in place	Concerns regarding safety
	National Disaster Management Center	Disaster management; requirements for disaster preparedness	Meeting; as required	Safety standards put in place	Concerns regarding preparedness for national disasters
	B. Kihaadhoo Island Council	Capacity to aid in emergencies; Use of services	Meeting; as required	To inform them of the parameters of the project and assure	Concerns related to public use of services or livelihood being affected

				them that their livelihood will not be detrimentally affected	
	B. Dhonfanu Island Council	Capacity to aid in emergencies; Use of services	Meeting; as required	To inform them of the parameters of the project and assure them that their livelihood will not be detrimentally affected	Concerns related to public use of services or livelihood being affected

	Milaidhoo Island Maldives	Capacity to aid in safety/emergency; training; impacts to tourist activities - water sports; ride sharing	Meeting; as required	Safety standards put in place; Seat allocations	Concerns regarding number seats/seaplane transfers and operations
	B. Kihaadhoo Local Community	Resorts prioritising tourists over locals; getting bumped from seaplane flights at the last minute; seaplane fares being expensive	Public Meeting; as required	To inform them of the parameters of the project and assure them that their livelihood will not be detrimentally affected	Concerns related to use and price of seaplane services
	B. Dhonfanu Local Community	Resorts prioritising tourists over	Public Meeting; as required	To inform them of the	Concerns related to use and price of

		locals; getting bumped from seaplane flights at the last minute; seaplane fares being expensive		parameters of the project and assure them that their livelihood will not be detrimentally affected	seaplane services
	Pilots Association	Issues and concerns of pilots	Meeting; as required	To make sure they are these groups are properly informed of the relevant issues	Concerns related to the way seaplane platforms are operated; issues experienced by pilots

9.2.2

9.2.3 Implementation of the SEP

Implementation of the SEP will include the following:

1. Advising the EMP Team Leader on issues and/or risks to stakeholder relationships as soon as they arise to ensure that the risks are mitigated or managed properly.
2. Taking an active role in carrying out the stakeholder engagement activities in partnership with concerned departments within Manta Air (i.e., facilitating forums or consultative events and liaising with appropriate stakeholder concerned).
3. Ensuring that the management and staff of Manta Air understand the value of and are committed to – the genuine participation of stakeholders in the identification and implementation of reclamation projects.
4. Developing a system for monitoring and evaluating the effectiveness of the SEP.
5. Coming up with indicators to evaluate the effectiveness of SEP strategies and revise them accordingly.
6. Preparing and submitting quarterly and annual reports on stakeholder engagement activities.
7. Assisting in resolving the concerns and grievances that a stakeholder may bring to Manta Air.
8. Keeping a record of questions, comments and suggestions that should be used to adapt the action plans and improve the EMP.

10 EXTERNAL COMMUNICATIONS

Effective communication with external sources will be a priority when handling seaplane operations at Amilla Fushi. External communications will include addressing enquiries and concerns of the community as well as collaboration with media sources. This chapter recommends the external communication standards of the IFC Performance Standards (International Finance Corporation, 2012).

10.1 OBJECTIVE

Having an external communications strategy in place will help strengthen relations with both the media and public. Members of the community can provide valuable information during critical situations and provide feedback regarding operations. This information can be used to improve current procedures. An external communication strategy will also help in ensuring that the information published in the media is accurate and can help in preserving the company image.

10.2 KEY FACTORS

The key factors of external communications procedures suggested in the IFC Performance Standards include:

Table 10.1 Key factors of external communication in IFC Standard

Key aspects of effective external communication procedures	Method used by Manta Air
Methods to receive and register external communications received from the public	Direct hotline Social media Website General email

Screen and assess the issues and determine how they should be addressed	All communications with the media will be handled by the COO, CEO or a member of the senior management. The Commercial department will be responsible for dealing with queries shared through Social Media and the website. The Commercial department will be responsible for sharing and resolving the concerns that are received with the relevant departments and respond to customers. Communications with any regulatory bodies will be handled by the respective department head.
Provide, track and document the responses provided	Response times are dependent on the level of urgency
Periodically review and adjust the external communications procedures	The Quality and Compliance Department is in charge of maintaining the standard of external communication procedures

It is also encouraged to make publicly available periodic reports on environmental and social sustainability (IFC, 2012).

10.3 PROCESS FOR PUBLIC COMMUNICATION DURING AN EMERGENCY

Having a process for external communication in the event of an emergency can help limit the spread of misinformation and lessen the chaos caused within the society and the organisation. The six step process for communicating with the public during an emergency has been listed below (World Health Organisation, 1998).

1. Develop a communication strategy

- The strategy should designate a person to decide what information to collect
- A designated person who will collect information
- A designated person who will prepare messages
- A designated person to authorize messages
- A designated person to contact the media

2. Identify critical information

- The information coordinator should identify and prioritise issues
- Conduct an analysis of the target audience

3. Detailed, clear messages

- Who (is affected)
- What (is the problem and the next step)
- When (did the situation happen, when to act)
- Where (is the place that was affected, where is the place to go)
- Why (it is important to follow this message)
- How (to respond and take the necessary steps)
- Avoid technical language
- Reassure the community
- Clear and short messages

4. Select mechanisms for communication

- Press release
- Public service announcement
- Advertisements
- Flyers
- Local community, local emergency committee, Voluntary organisations, MNDF officers

5. Send message

- Select the optimal time for sending the message
- Messages should be tested on a similar audience before being sent

6. Monitor and evaluate

- Evaluate how effective, efficient and appropriate the message was. This can be done using exercises, questionnaires and reviews post- emergency

10.4 RECOMMENDATIONS

- Develop an external communication plan including procedures to follow during an emergency. This should include a method to screen, assess and classify any form of external communication by the level of urgency. The plan can also include a communication structure showing who is responsible for dealing with external communications.
- Regular training of staff who will be dealing with external communications.

11 GRIEVANCE MECHANISMS

11.1 OBJECTIVE

A grievance mechanism has been established to create a way for those affected by the seaplane base operation at Amilla Fushi to contact Manta Air and lodge a complaint, concern or enquiry. All Manta Air staff and resorts are given access to Centrik through which any safety and non-safety reports can be filed. Reports are attended within 24 hours by Safety and Security Department. The reports are classified, risk assessed and investigated and forwarded to relevant departments for actions. Manta Air has Just Culture Policy which is displayed along with Quality and Safety Policy in all working areas of Manta Air staff. Under Just Culture Policy no staff will be penalized unless deliberate violation is determined after investigation. All staff are given trainings on these two policies and how to use Centrik, file reports and view status.

12 MONITORING AND REVIEW

Monitoring must be undertaken as required under the decision note by EPA to ensure legislative and regulatory requirements are met. Environmental monitoring is essential because, although with proper mitigation measures, the overall environmental damage can be significantly minimized, an unforeseen impact may still occur. Furthermore, some of the impacts predicted may turn out to be far greater than predicted, making mitigation measures ineffective. Therefore, in order to avoid or reduce the chances of such events, regular and frequent environmental monitoring is vital. All monitoring costs for this project are included in the contractor fees.

12.1 OBJECTIVES

The main objectives of the monitoring plan are:

- To identify whether the predicted impacts are accurate and mitigation measures taken are effective
- To identify any unforeseen impacts so that appropriate mitigation measures can be taken at the earliest
- To identify and resolve any issues of social unrest at the earliest
- To eliminate or reduce environmental costs

12.2 MONITORING DURING OPERATIONAL PHASE

With the completion of the seaplane platform installation, monitoring will be undertaken during the operational phase of the platform. The table below shows the details of different monitoring attributes, objective of monitoring the particular attribute and parameters, which must be monitored during this phase.

Table 12.1 Monitoring during operational phase

Monitoring attribute	Objective	Indicator	Methodology	Evidence	Locations & samples	Frequency	Reference Guideline / Standard	Est. Total Costs /USD
Marine Water Quality	To assess the impact on the condition of marine water around the platform	Physical appearance, Temperature, pH, Salinity, Electrical conductivity, Total Petroleum Hydrocarbon and Turbidity.	Laboratory analysis Refer to procedures as specified in EPA guidelines Marine water quality near the platform will be compared with the marine water quality from a control site	Water quality test reports	MW1, MW2 Sample 1 & 2 from project site and a control site	Quarterly during the operation phase for five years	Maldives EPA standards	USD 2,280 Included in Manta Air operation fees

Accidents and injuries	To monitor accidents and injuries so that preventative measures can be taken and the resort can be better prepared	Type and number of accidents and injuries	Maintain accident and injury logs	Accident and injury logs	At or near the seaplane platforms	Quarterly during the operation phase for five years	Air Safety Circular 14-2	Included in Manta Air operation fees
Health screening of pilot and crew	To ensure that the pilot and crew are fit to handle the seaplane operations	Medical check-up, fatigue reports	Results of regular medical check-ups of crew and pilots and fatigue reports	Results of medical check-ups and fatigue reports	-	Quarterly during the operation phase for five years	NA	Included in Manta Air operation fees
Fire safety	To ensure that the resort is	Equipment availability	Equipment maintenance logs	Equipment maintenance	At the resort	Twice a year during	MNDF regulation	Included in Manta Air

	prepared in the event of a fire	and maintenance and training of staff	and staff training logs	logs and staff training logs		the operation phase for five years	regarding storage of fuel in resorts	operation fees
Grievance mechanism	To ensure that workers are able to communicate their grievances and are able to find effective solutions for their grievances	Number of grievances reported, response timings and response satisfaction	Review records of grievances submitted and interview employees	Grievance reports and employee feedback	-	Quarterly during the operation phase for five years	Air Safety Circular 002	Included in Manta Air operation fees

13 CONCLUSION

The proposed project involves the installation and operation of seaplane platforms in Amilla Fushi, Baa Atoll. One floating platform will be operating in the resort at any one time. The platform will be used to dock seaplanes carrying resort guests and staff to the resort. One floating platform has already been installed at the resort by the previous operator. These will be removed by Manta Air.

The assessment shows that the fabrication and installation of the platform can be done with minimal impact on the environment. The assessment of the existing environment reveals the area where proposed platforms will be installed are in the ocean where the depth also conforms to the required 2 m depth by the Civil Aviation Authority. Disposal of the existing platforms during demobilization should be done responsibly to prevent marine litter.

One of the main concerns raised by stakeholders are that the platforms must comply with the regulations by the CAA. Adequate fire safety measures such as identification of an emergency assembly point, training of resort personnel, pilot and crew for emergency response, installation of fire extinguishers and establishing an auto alert system has been proposed as mitigation measures in this plan to prevent fire incident and minimize impacts from such an incident. To ensure the safety of the seaplane operation, it is recommended to assure pilots and crew are in good health and fatigue is avoided by limiting duty hours and providing adequate space for resting during layover at resorts. The mitigation measures recommended in this EMP will be implemented by the proponent.

Stakeholder consultations were held with Manta Air, Ministry of Tourism, EPA and Civil Aviation Authority specifically for this EMP. Previous consultations held with Ministry of Environment, Fire and Safety Department of Maldives National Defense Force, Ministry of Fisheries, Marine Resources and Agriculture, and MNDF Coast Guard regarding seaplane platforms were included in this EMP.

In conclusion, this project has been designed in conformance to the relevant laws and regulations of Maldives. Installation stage impacts are considered insignificant. Operational stage impacts can be mitigated through this EMP. Overall, the project will have positive impacts to the resort and

Manta Air. The EMP recommends to go ahead with the project and to construct and operate the seaplane platform and to implement all the mitigation measures to avoid significant impacts.

14 REFERENCES

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International Finance Corporation, 2012, *Performance Standards on Environmental and Social Sustainability,* World Bank Group, accessed 14 April 2019,<https://www.ifc.org/wps/wcm/connect/115482804a0255db96fbffd1a5d13d27/PS_English_2012_Full-Document.pdf?MOD=AJPERES>.

World Health Organisation, 1998, Health Sector Emergency Preparedness Guide

APPENDIX A: DESIGN OF THE SEAPLANE PLATFORM

RISK ASSESSMENT REPORT

Work/Project Title	Assessment Number
Commencing Seaplane Operations at Amilla Fushi	**RPFO-SA-20/013**

Location	Assessment Dates	Report Compiled Date
Amilla Fushi Baa Atoll	9th Feb 2020	18th March 2020

Assessing Inspectors
Nahid Nizar (Fleet Training Captain – DCH-6) Izman Ahmed (First Officer – DHC-6)

1. Executive Summary

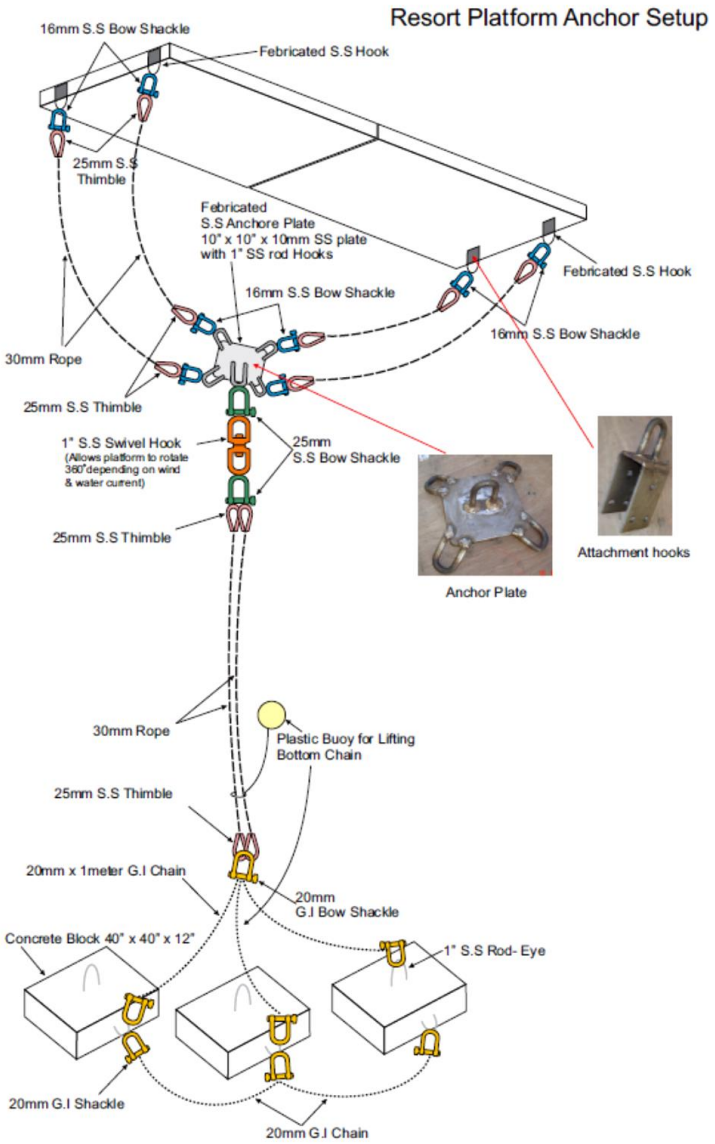
The purpose of this risk assessment report is to identify any inherent risks associated with commencing operation at Amilla Fushi aerodrome for seaplane operations, and to propose mitigation actions for any identified risks to ensure that the severity of these are reduced to as low as reasonably practical.

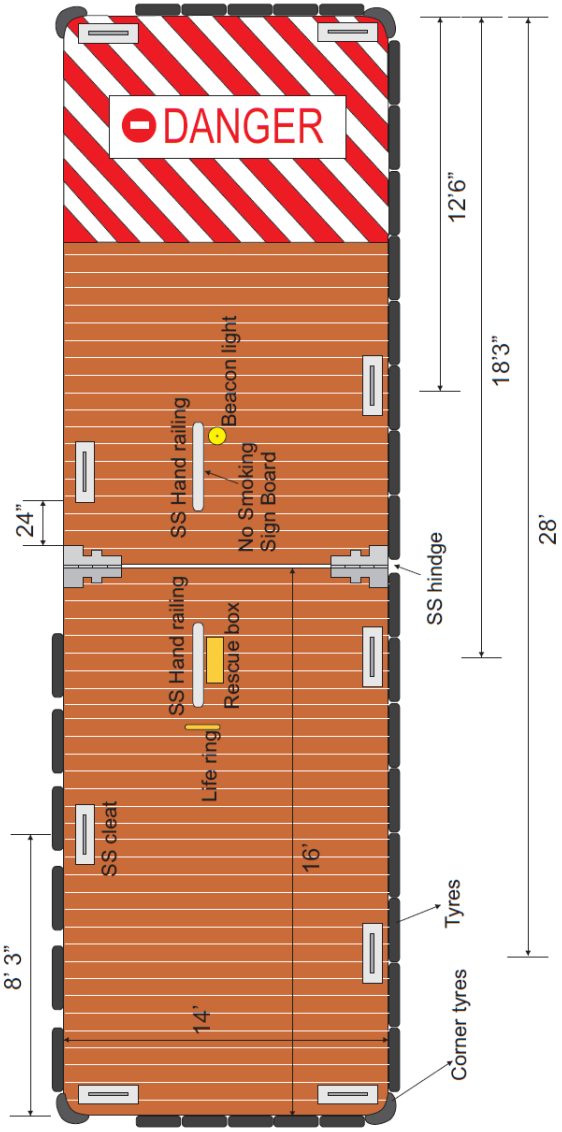
The description of the work done is given in Section 2 of this report. The risk assessment based on the work done is given Section 3. The resort specific risks are in Section 3.1 and a list of general risks associated with seaplane operations to resort are given in Section 3.2 for the consideration of the resort management.

The appendix is given in Section 5, which details key information relating to this assessment.

5.4 Water Aerodrome Layout

5.5 Connecting Details of Floating Platform





APPENDIX C: EMERGENCY RESPONSE PLAN

1. TEMPLATE FOR RESORT EMERGENCY RESPONSE PLAN

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1.1. Letter of Commitment

This is to certify that this Emergency Response Plan, is in full text applicable to Manta Air and [RESORT] relating to aircraft operation.

The owners, board of directors and senior management of Manta Air and [RESORT] hereby pledge our commitment to the implementation, sustenance and improvement of the Emergency Response Plan of [RESORT].

All the costs associated with the activation of the Emergency Response Plan will be borne by Manta Air.

On behalf of Manta Air:	**On behalf of Resort:**
Name: Edward Alsford	Name:
Designation: Chief Operating Officer	Designation:
Date:	Date:
Signature:	Signature:

1.2. Foreword

When reference is made to resort in this ERP, it shall be referred to [RESORT] (RESORT CODE).

The ERP provides recommended guidelines and procedures for handling an emergency, but it is understood that it is not practical to include all the emergency response procedures that may be required for any given incident and procedures must be modified as required by the situation. Staff involved in or witnessing such a situation must apply the knowledge and skills learnt from trainings and their best judgement to ensure that the situation is handled in the best possible manner.

All departments of the resort must be familiar with the contents of this manual. Particular attention should be addressed to train the staff on their responsibilities and procedures for the respective departments mentioned in this manual.

Every staff is expected to know what their responsibilities are in the event of an emergency situation.

1.3. Document Review and Amendment

1.3.1. Review Frequency

The Emergency Response Plan of [RESORT] is a living document, and thus revisions may be brought from time to time to ensure that it remains current. Such revisions may be addressed in whole or in part and will replace obsolete material at the time of issuing the revised manual. The details of the procedure is included in the Resort ERP

1.4. Scope of ERP

ERP is intended to respond to and recover from the following types of emergency situations:

1 Aircraft Accident;
2 Bomb Threat Associated with Aircraft;
3 Unlawful interference; and
4 Missing Aircraft
5 Any other aircraft-related emergency situation as decided by Manta Air EMC Chair.

The ERP is formulated to achieve a response time of no more than three minutes for aircraft emergencies inside the house reef and no more than six minutes for aircraft emergencies outside the house reef of the resort.

This ERP does not consider consequences of following situations:

1 Natural Disaster;
2 War or Warfare Danger;
3 Emergency Situations Endangering Democracy or State System;
4 Fire or Conflagration; and
5 Act of illegal interference.

Should one of the above situations occur, all staff are advised to proceed according to the relevant response plan of the resort as and when required.

As there are no dedicated staff of Manta Air stationed at the resort to monitor and direct the emergency response at the resort, the emergency response actions are to be taken by the resort staff. Hence the resort staff must be trained adequately to respond to such situations. Refer to Chapter 4 for more details.

1.5. Emergency Levels

Manta Air ERP refers to three levels of emergency:

1 Local Standby,
2 Full Emergency and
3 Aircraft Accident.

However, unlike landplane operation, there is no control tower or air traffic control in seaplane operation around the resorts. Hence declaring Local Standby or Full Emergency by resorts will be practically impossible. Moreover, in the case of seaplane operation, flight phase will be very short, hence, escalation from Local Standby to Full Emergency is highly unlikely.

Hence, for the purpose of activating resort emergency response plan, Aircraft Accident and Other Emergency are used within the scope of this ERP to define the emergency level.

1.5.2. Aircraft Accident

Aircraft Accident is a situation where aircraft with an intention of flight sustained a major damage or a person on board or on ground suffered a fatal injury as result of collision with part of the aircraft which has intention of flight.

1.5.3. Other Emergency

Other Emergency is any emergency situation involving bomb threat, unlawful interference, missing aircraft or any other emergency declared by Manta Air EMC that could lead to an aircraft accident within 2 nautical miles from the resort shoreline.

1.6. Responsibility for Business Continuity

Immediately following notification of a major accident involving a Manta Air aircraft, resort staff must respond quickly with the appropriate action while simultaneously maintaining normal operations to ensure business continuity. Manta Air acknowledges that this will place a varying burden on all staff of the resort, but this is a time when teamwork, patience and cooperation are extremely important for the benefit of the industry.

1.7. Disclosure of Information

The release of premature and or erroneous information, inadvertent comments taken out of context, inability or slowness to comply with reasonable request, loss of patience in dealing with others and similar (seemingly minor) matters can result in the development of attitudes or the creation of animosity which will adversely affect the interest of Manta Air or Resort, or may result in legal exposure.

Making statements or giving information about the emergency to the news media or public officials by any employee other than the Central Command Centre or those delegated to do so is STRICTLY PROHIBITED. This includes such information as the names and/or condition of crew or passengers, details of company equipment (whether directly involved in the accident/incident or not), company liability, company insurance, or any other accident/incident related information.

It is Manta Air's policy that only designated employees have authority to provide comments to the media. Other employees may speak to the media only with the approval of the ACM.

1.8. Resort Emergency Management Centre

The Resort EMC will coordinate with Manta Air EMC to manage overall control, support and co-ordination of emergencies and will be headed by the senior most manager of the resort and in his absence by an appointed deputy. If any event that is covered in the scope of ERP as per Chapter 1.4 occurs, the Resort EMC will be activated.

The Resort EMC will be an area nominated and agreed by the Resort GM. All key departments of the resort will be represented in the Resort EMC which will be equipped with facilities and equipment appropriate for coordinating of emergency.

1.9. Accident Site

For the purpose of Resort ERP, the landing and take-off area licensed for the resort and 700m radius around the platform is considered as resort. Aircraft Accidents away from the 700m but within two nautical mile (2NM) is considered as in the vicinity of the resort.

MNDF Coast Guard will be responsible for aircraft accidents in the vicinity area. However, it is generally understood that the Resort will be asked to respond within this area, as the resort is the closest facility to the accident site and the response would be expediated.

A Crisis Response Team should be established based on the accident scenario to respond to the accident site. Following is the composition of the Crisis Response Team:

1 Rescue Team: Recreation and Water Sports Team
2 Passenger and Crew Welfare Team (PCWT): Front Office Team
3 Medical Team: Resort Doctor and Medical Team

Refer to Chapter 3.2.4 for more information.

1.10. Triage and Casualty Clearing Station (CCS)

The Medical Team will take lead of triage in prioritizing the casualties. Persons are identified in accordance with following categories:

- **Priority I:** Critical (life threatening) injuries - immediate hospitalisation required
- **Priority II:** Seriously injured - hospitalisation required quickly but not immediately
- **Priority III:** Uninjured or minor injuries only - no hospitalization required
- **Priority 0:** Deceased (Dead) - not expected to survive in the very short term

The Resort EMC in coordination with Manta Air EMC shall identify an appropriate location as CCS. This is an area in the resort where casualties from Triage will be treated and classified and dispatched for further treatment.

The Resort EMC will appoint a CCS Leader (usually the Doctor) who will coordinate with others, including Resort CC and Resort Passenger and Crew Welfare Team (PCWT) Leader.

Every effort must be made to identify each occupant, as soon they arrive to CCS and Causality Clearance Status Form (refer to Appendix 5.4) must be filled and passed to the Resort EMC. Refer to Chapter 3.2.5 for more information.

1.11. Uninjured Holding Area (UHA)

The Resort EMC in coordination with Manta Air EMC shall identify an appropriate location(s) as UHA. This is a location at the resort where uninjured passengers will be taken. This can be guest rooms, lounges or any other appropriate location.

Resort PCWT Leader will send a Resort PCWT Member to UHA to coordinate and manage UHA. Resort staff will assist Resort PCWT Member in managing the uninjured passengers. Refer to Chapter 3.2.5 for more information.

1.12. Crew Holding Area (CHA)

The Resort EMC in coordination with Manta Air EMC shall identify an appropriate location(s) as CHA. This is a location at the resort where uninjured crew members will be taken. This can be guest rooms, lounges or any other appropriate location.

Resort PCWT Leader will send a Resort PCWT Member to CHA to coordinate and manage CHA. Resort staff will assist Resort PCWT Member in managing the uninjured crew. Refer to Chapter 3.2.5 for more information.

1.13. Hospitals

Hospitals are medical service institutes that provide medical services to injured passengers, persons and crew members. Resort EMC in coordination with Manta Air EMC will decide to which hospitals are to be utilised for injured passengers and crew. Medical Team will assist Resort EMC to in determining appropriate hospitals.

1.14. Activation of Resort Emergency Response Procedures

Front Office is the designated point of contact to activate the ERP. Any staff witnessing or involved in an aircraft accident shall inform Front Office with adequate details. Front Office may activate the ERP by sending an SMS Alert or phone calls or any other means.

Flowchart showing notification flow is provided in Resort ERP. The checklists of each person or group of persons involved in emergency response management are also provided in the Resort ERP that reflects the communication flow as documented in the notification flowchart. The checklists include appropriate actions and tasks to ensure important items necessary for emergency management is not overlooked or missed.

1.15. Other Emergencies

For all other emergencies stated in Manta Air ERP, Resort will provide support as requested by Manta Air EMC. If resort becomes aware of these emergencies before Manta Air, Resort will inform Manta Air OCC and standby for information from Manta Air EMC. These emergencies include:

1 Bomb threat associated with aircraft;

2 Single Engine Landing or Both Engine Failures;

3 Serious Incidents;

4 Unlawful Interferences;
   a. Hijack or Attempting to Hijack of Aircraft
   b. Hijacker on Flight Deck of Aircraft
   c. Hostage-taking On-Board Aircraft
   d. Forcible Intrusion On-Board an Aircraft

e. Taking Weapons or Hazardous Material On-Board Aircraft
f. Communicating False Information that may Jeopardise Safety

5 Missing Aircraft.

1.15.2. Bomb Threat Associated with Aircraft

ANY BOMB THREAT AGAINST COMPANY AIRCRAFT MUST BE TREATED WITH UTMOST CARE.

If resort operator receives a bomb threat relating to Manta Air operations, the recipient should fill Threat Report Form FCSS-010 and pass the filled form to Manta Air OCC. Manta Air OCC Duty Manager shall coordinate with Director Flight Operations before notifying to MNDF.

Resort will standby for more information from Manta Air EMC.

1.15.3. Unlawful Interference

If the resort experiences any act of unlawful interference, the information should be passed to OCC Duty Manager and standby for more information and actions from Manta Air EMC or OCC. All unlawful Interferences will be informed to MNDF by Manta Air as soon as possible. Every unlawful interference is different; hence, depending on the situation and severity, MNDF will deploy the best possible mechanism to handle the situation. More information on Unlawful Interferences are given in below subparagraphs. Details of these events are given in Resort ERP.

1.15.3.1. Hijack or Attempting to Hijack of Aircraft
1.15.3.2. Hijacker on Flight Deck of Aircraft
1.15.3.3. Hostage-taking On-Board Aircraft
1.15.3.4. Forcible Intrusion On-Board an Aircraft
1.15.3.5. Taking Weapons or Hazardous Material On-Board Aircraft
1.15.3.6. Communicating False Information that may Jeopardise Safety

1.15.4. Missing Aircraft

An aircraft is considered to be missing when one of the following conditions is known to exist:

1 When an aircraft has failed to report position within 30 minutes of the time that it is estimated to report its position to Flight Follow or ATC; or
2 When fuel on board the aircraft is known to have exhausted.

1.15.4.1. If Declared Aircraft Accident

If missing aircraft is declared an aircraft accident within the vicinity of the resort, follow Chapter 3.2 and take appropriate actions.

1.15.5. Any Other Aircraft-Related Emergency Situation

Any other event that may occur in which the Manta Air EMC Chair decides to activate the ERP. In such cases, Manta Air OCC will call Front Office to inform about the emergency situation, and resort should standby for further instructions.

1.15.5.1. Single Engine Landing or Both Engine Failure

For single engine landings or both engine failures, resort is expected to provide support to tow the aircraft to safety by providing a small dinghy if aircraft lands successfully.

If there is an accident during landing, follow Chapter 3.2 and take appropriate actions.

1.16. Removal of Disabled Aircraft and Salvage Operation

Manta Air EMC will coordinate with Resort EMC and MNDF to find suitable arrangement for removal of disabled aircraft and salvage operation. Where applicable, support of local organisations will be utilised for removal of disabled aircraft and salvage operation.

1.17. Recovery

It is important to note that recovery and return to normal operation is a key business objective behind an effective ERP. After emergency is terminated, Manta Air EMC will coordinate with Resort EMC to determine appropriate actions that will be required for recovery depending on the type and seriousness of the emergency.

1.18. Training

Manta Air is committed to ensuring that all relevant resort staff are provided with appropriate level of training required in order to have an effective emergency response.

Manta Air has incorporated the Emergency Response Training as part of the SMS training for Resort Agents and Management after conducting a training-needs-analysis for seaplane outstations. This training will be conducted separately as to make resort management and other relevant resort staff competent on the responsibilities regarding emergency response.

The Manager Ground Operations is responsible for ensuring all staff are provided with the training required to enable them to perform responsibilities related to emergency response and for keeping accurate training records.

The participant's competence on ERP knowledge will be ensured in the classroom through open questions, discussions, case studies, research results and/or examples.

Name of the Course:	ERP Training for Resort Agents and Management
Requirement:	All Resort Agents and Managers involved in seaplane operation should complete this training before Manta Air starts commercial operation to resort.

Duration	1 hour 30 mins
Recurrence	Once every 2 years
Course Specifics	• Resort ERP Structure • How Manta Air ERP and Resort ERP work in coordination with each other • Types of Emergency and Emergency Levels • Key Responsibilities • Resort Responding Teams • Manta Air Responding Teams • Communication Channels

1.19. Emergency Exercise

The purpose of the emergency exercises is to test the effectiveness of emergency response plan and response activities. As per the regulations, the resort is required to conduct emergency exercises once every two years. Manager Safety and Security is responsible for ensuring appropriate emergency exercises are conducted at resorts. Manager Safety and Security, in collaboration with Ground Ops and Commercial Team, will coordinate with resort management to decide the type and extent of emergency exercise.

After every exercise a de-briefing should be organized to capture feedback from participants so that required improvements can be brought to the ERP. A report should be compiled comprising of key elements such as scenarios, response timings and effectiveness, weak areas and suggested improvements.

An implementation plan should be derived from the report to bring necessary changes to the Manta Air ERP and Resort ERP and training requirements and response activities.

1.19.1. Communication Exercise

Communication Exercises will be conducted as and when required to test the effectiveness of emergency notification. A mock emergency message will be passed from Front Office Duty Manager down the line to everyone in the communication flowchart of Resort ERP. Time will be checked with complete and fullness of the message.

1.19.2. Table-Top Exercise

Table-top Exercises will be conducted in classroom to simulate some parts or full scope of emergency response. Simulation will help to understand the response preparedness and effectives. This will also help to make more clarity on each other's role in an emergency. This is a cost-effective way of testing emergency response plan.

1.19.3. Partial Emergency Exercise

Partial Emergency Exercises will be conducted in the field in real time to simulate some areas of emergency response plan (e.g. passenger handling areas). This type of exercises will test resource mobilization and response preparedness more effectively.

1.19.4. Full Scale Emergency Exercise

Full Scale Emergency Exercises will be conducted in the field in real time to simulate full scope of emergency response plan and may be conducted once all areas are tested separately in partial emergency exercises.

APPENDIX D: STAKEHOLDER CONSULTATION

Manta Air **Date:** 20 October 2019 **Time:** 10:00 AM Participants: 1. Capt. Ismail Imthiyaz, Head of Training 2. Capt. Hassan Haneef, Director of Flight Operations	- Manta Air has few resorts in the pipeline which will require seaplane platforms. - RIU has been confirmed and Niyama and Kandinma is in the pipeline. - There are 9 pilots in Manta Air at the moment. - There are 2 aircrafts at the moment and 25 have been planned for the next 5 years. - The safety and compliance team of Manta Air will be responsible for dealing with external parties and ensuring compliance is achieved for their operations. - The Engineering department will be responsible for the installation of platforms, fabricating the structures.

	- Emergency Response Plans are prepared and implemented and resort agents are trained for firefighting as well. - Manta Air will have a resort agent working in coordination with them.
Civil Aviation Authority **Date:** 30 October 2019 **Time:** 10:00 AM Participants: 1. Fathimath Ramiza, Director 2. Aminath Shiznee, Senior Aerodrome Inspector.	- There has been no amendment to the regulation and guidelines in relation to the seaplane platforms. - The minimum depth of the area for seaplane landing is 2 m. - CAA requires the 'No Objection' letter from Ministry of Tourism to approve the platforms and this requires an Environmental Impact Assessment and Environmental Management Plan. - CAA recommends to consult with the Ministry of Tourism. - CAA conducts yearly monitoring of the seaplane platforms to check if the required buoyancy is maintained. In addition, operational aspects of the seaplane platforms

	are monitored including the adherence to Emergency Response Plan and resorts are trained. - Usually two platforms are proposed due to rough seas with strong currents. Due to high cost in installing two platforms, the floating platforms are moved when the monsoon changes. - Most of the accidents related occur due to rough weather conditions. However, there has been no fatal accidents to date.
Environmental Protection Agency **Date:** 4th November 2019 Time: 14:06 Participants: Consultation was carried out via email. EPA shared the email with the relevant departments and a response was provided by Aishath Samiyya, Administrative Officer	- No major concerns regarding sea plane platforms, however depending on location concerns may arise, especially if the areas are close to environmentally sensitive receptors. - No specific recommendations other than general mitigation measures.

Ministry of Tourism **Date:** 13h November 2019 Time: 12:48 **Participants:** Ibrahim Fikree, Assistant Director	- Ministry of Tourism will issue the 'No objection' letter after submission of the approved EMP to the Ministry of Tourism. Manta Air can continue with the seaplane platform construction and operation after this letter is issued. - Ministry of Tourism does not conduct any inspections of the platforms. - Previously the Ministry used to handle EIA related work for Tourist resorts. This is now under the mandate of EPA. - There is no specific regulation or guideline under the Ministry of Tourism regarding EMPs for seaplane platforms.

APPENDIX E: CVS OF CONSULTANTS

MARIYAM HANA SAEED

PRESENT ADDRESS

G.Quest, 8A, Alikilegefaanu Magu
Malé, Maldives

CONTACTS

+960 797 0022

mariyamhanas@gmail.com

NATIONALITY

Maldivian

EDUCATION

2017 - 2018

Masters in Sustainable Energy and Entrepreneurship
University of Nottingham, United Kingdom

Dissertation: Analysis of Decentralised Energy Systems to create value through innovative business models at community level.

2012 - 2014

Bachelor of Environments
University of Melbourne, Australia

Major in Environmental Geographies, Politics and Culture

2008 - 2010

Higher Secondary Education, Edexcel A' Level
Centre for Higher Secondary Education, Male' Maldives

2005 - 2007

Secondary Education, GCE O' Level
Aminiya School, Male' Maldives

LANGUAGES

	Reading	Speaking	Writing
English	Excellent	Excellent	Excellent
Dhivehi	Excellent	Excellent	Excellent

TRAININGS & CONFERENCES

+ Endorsement Workshop on Maldives Intended Nationally Determined Contributions (INDCs) | 10 Sep 2015
+ Workshop on Maldives Nationally Determined Contribution (NDC) Implementation Plan | 30 Jan 2017
+ Conference of the Parties (COP21) | 2015, Paris, France

PROFESSIONAL ASSOCIATIONS

+ VESHI NGO | Volunteer and Consultant on Renewable Energy
+ University of Melbourne Alumni Association | Member
+ Maldives Australia Alumni | Member
+ Registered EIA Consultant | Environmental Protection Agency of the Maldives

COMMUNITY ENGAGEMENT AND VOLUNTEER WORK

- Guest speaker for radio program 'Climate Change' on Voice of Maldives | May 2016
- Guest speaker for radio on Environment Day | June 2016
- Guest Lecturer on 'Climate Change' for Year 2 Political Science Students | Maldives National University, April 2017
- Guest Lecturer on 'Climate Change' and 'Politics of Climate Change' for Year 1 Political Science Students | Maldives National University, May 2017

ACHIEVEMENTS

- Recipient of Chevening Awards Scholarship 2017
- Recipient of Australia Awards Scholarship 2012
- Achieved fourth place in National Top Ten in Higher Secondary Education
- Achieved first place in National Top Ten in Secondary Education

EMPLOYMENT HISTORY

March 2015 to Present

Senior Consultant, Sustainable Development | CDE Consulting, Malé, Maldives

Specialised Work Areas | Waste management, Renewable energy and Water

Led and managed projects for clients including Cheval Blanc Randheli, Conrad Maldives, Shangri-La's Villingili, Clubmed Finolhu Villas, UNDP, Ooredoo, Damac, Ministry of the Environment and Energy, Ministry of Tourism, China State Construction Engineering Cooporation Limited (CSCEC) to name a few.

Responsibilities

- Leading and managing projects
- Sustainable development planning and policy development
- Environmental and Social Impact assessments
- Development of environmental management systems and performance auditing including waste and energy audits
- Capacity building and training in the areas of renewable energy and sustainable waste management.

February 2011 to January 2012

Administrative Assistant | The President's Office, Malé, Maldives

Responsibilities

- Monitored the policies under governance section in the Policy Office
- Led administrative work to organise the 17th SAARC Summit in November 2011 and worked in coordination with other government bodies, private agencies and key decision makers.

EXPERIENCE

Waste Management

EIA/EMP for Waste Management Centre at Select Sites at Laamu Atoll

Year . 2017
Location . Laamu Atoll'
Client . UNDP LECReD
Position . Project Manager and Sustainability Consultant
Activities Performed
Site visit, stakeholder consultations, impact assessment and management plan report writing and compilation for all islands in Laamu Atoll.

Food Waste Audit

Year . 2019
Location . Paradise Island Resort
Client . Paradise Island Resort
Position . Project Manager and Sustainability Consultant
Activities Performed
Site visit and conducting an audit of the food waste generated in the guest and staff kitchen. Analysing results and presentation.

Food Waste Audit

Year . 2019
Location . Holiday Inn Kandooma
Client . Holiday Inn Kandooma
Position . Project Manager and Sustainability Consultant
Activities Performed
Site visit and conducting an audit of the food waste generated in the guest and staff kitchen. Analysing results and presentation.

Environmental Management Plan for Island Waste Management Centre

Year . 2019
Location . B.Dhonfanu
Client . Ministry of Environment
Position . Sustainability Consultant
Activities Performed
Reviewing of final report.

Environmental Management Plan for Island Waste Management Centre

Year . 2019
Location . B.Hithaadhoo
Client . Ministry of Environment
Position . Sustainability Consultant
Activities Performed
Reviewing of final report.

Energy

Finolhu Villas energy audit 2015

Year . 2015
Location . Kaafu Atoll
Client . Finolhu Villas
Position . Consultant for Energy
Activities Performed
Conducted an onsite comprehensive energy audit of the resort, quantified energy consumption and production patterns, data analysis and report writing.

Feasibility study for solar panel installation in F.Nilandhoo

Year . 2015
Location . Faafu Atoll
Client . F.Nilandhoo
Position . Consultant for Energy
Activities Performed
Conducted baseline surveys of potential buildings for solar panel installation, gathered baseline information about the existing power generation capacity, demand and expenditure for fuel and powerhouse maintenance, data analysis and contributed to report writing.

Understanding the risks to and vulnerability of energy sector to climate change in tourist resorts of the Maldives

Year . 2015 - 2016
Location . Maldives
Client . Tourism Adaptation Platform / UNDP
Position . Consultant for Energy
Activities Performed
Undertook baseline studies on dependency of the Maldives to fuel and its vulnerability; designed methodology and energy audit questionnaire; conducted a comprehensive energy audit in Vila-mendhoo Resort & Spa, Kurumba Maldives, Bandos Island Resort,The Sun Siyam Irufushi Maldives, Embudu Village; data analysis and presentation of audit findings. Conducted workshops with engineers in each of the 5 resorts on climate change awareness and vulnerability of tourist resorts to climate change. Conducted a workshop to present the findings of the project to stakeholders.

Power Plant Registration Environment Checklist for MWSC Power Plant

Year . 2017
Location . Male'
Client . Maldives Water and Sewerage Company Limited
Position . Project Manager and Sustainable Development Consultant
Activities Performed
Overall project management ensuring timely delivery of project components, visiting the site for assessment for to check if fuel handling and fire safety measures are in check.

Water

Desalination plant registration at Conrad Maldives Rangali Island

Year . 2015
Location . Alifu Dhaal Atoll
Client . Conrad Maldives Rangali Island
Position . Consultant for Water
Activities Performed
Undertook baseline studies and facilitated the registration process.

Desalination plant registration at Kudarah Island Resort

Year . 2016
Location . Alifu Dhaal Atoll
Client . Kudarah Island Resort
Position . Consultant for Water
Activities Performed
Undertook baseline studies and facilitated the registration process.

Desalination plant registration at Mirihi Island Resort

Year . 2015
Location . Alifu Dhaal Atoll
Client . Mirihi Island Resort
Position . Consultant for Water
Activities Performed
Undertook baseline studies and facilitated the registration process.

Terminal Evaluation for the project titled increasing climate resilience through an integrated water resource management programme in Ha.Ihavandhoo, Adh.Mahibadhoo Gdh.Gadhdhoo

Year . 2015
Location . Ha. Ihavandhoo, Adh. Mahibadhoo and Gdh.Gadhdhoo
Client . UNDP
Position . National consultant
Activities Performed
Reviewed project documents, conducted stakeholder consultations, logistics management, designed survey methodology and questionnaire for consultations in coordination with the international consultant, visited the three islands and conducted council meetings and public consultations with focused groups. Contributed to report writing and presented preliminary findings to stakeholders.

EIA for the proposed water supply system at Vilufushi, Thaa Atoll

Year . 2016
Location . Th. Vilufushi
Client . Ministry of Environment and Energy
Position . Team Leader
Activities Performed
Stakeholder consultations, Socio-economic impact assessment and report writing.

EIA for the proposed water supply system at Eydhafushi, Baa Atoll

Year . 2016
Location . B. Eydhafushi
Client . Ministry of Environment and Energy
Position . Project Manager
Activities Performed
Stakeholder consultations, Socio-economic impact assessment and report writing.

EIA for the proposed water supply system at Guraidhoo, Kaaufu Atoll

Year . 2016
Location . K.Guraidhoo
Client . State Electric Company Limited (STELCO)
Position . Project Manager
Activities Performed
Stakeholder consultations, Socio-economic impact assessment and report writing.

Desalination Plant Registration at Mirihi Island Resort

Year . 2019
Location . Mirihi Island Resort
Client . Mirihi Island Resort
Position . Sustainability Consultant
Activities Performed
Field visit, data analysis and application form compilation.

Desalination Plant Registration at Sun Aqua Iru Veli.

Year . 2019
Location . Sun Aqua Iru Veli
Client . Ocean Islands Private Limited
Position . Sustainability Consultant
Activities Performed
Field visit, data analysis and application form compilation.

Desalination Plant Registration at Ithaafushi Maldives

Year . 2019
Location . Ithaafushi Maldives
Client . Ithaafushi Investments Private Limited
Position . Sustainability Consultant
Activities Performed
Data analysis and application form compilation.

Environmental Impact Assessment (EIA)

EIA for the proposed development of a tertiary hospital

Year . 2015
Location . Hulhumalé
Client . Tree top Health Pvt Ltd
Position . Team leader
Activities Performed
Stakeholder consultations, socioeconomic impact assessment and contributed to report writing.

EIA for the proposed redevelopment of Nasandhura Palace Hotel

Year . 2015
Location . Malé
Client . NPH Investments Pvt Ltd
Position . Consultant for Water and Energy
Activities Performed
Stakeholder consultations, conducted baseline surveys and contributed to report writing.

EIA for the proposed construction of a 9-storey building at the compound of ADK Hospital

Year . 2015
Location . Malé
Client . ADK Hospital Pvt Ltd
Position . Consultant for Water and Energy
Activities Performed
Contributed to report writing.

EIA for the proposed land reclamation and resort development project at Ithaafushi Reef

Year . 2015
Location . South Malé Atoll
Client . Sumaiyya Holdings Pvt Ltd
Position . Team Leader
Activities Performed
Designed stakeholder consultations, socioeconomic assessment and contributed to report writing.

EIA for the proposed land reclamation and resort development project at Bodukaashihuraa

Year . 2015
Location . Adh. Atoll
Client . Millennium Capital Management Pvt Ltd
Position . Consultant for Water and Energy
Activities Performed
Undertook baseline surveys, Stakeholder consultations, and contributed to report writing.

EIA for the channel dredging and beach replenishment activities at Canareef Resort Maldives

Year . 2015
Location . Addu City
Client . Canareef Resort Pvt Ltd
Position . Consultant for Water and Energy
Activities Performed
Contributed to report writing.

EIA for the proposed resort development project at Kudadhoo Island

Year . 2015
Location . Lhaviyani Atoll
Client . Champalars Pvt Ltd
Position . Consultant for Water and Energy
Activities Performed
Contributed to report writing.

EIA for the proposed land reclamation and resort development project at Madivaru Island

Year . 2015
Location . Kaafu Atoll
Client . Shuaz Investments Pvt Ltd
Position . Consultant for Water and Energy
Activities Performed
Undertook baseline surveys, Stakeholder consultations, and contributed to report writing.

EIA for the proposed Hulhule' – Male' bridge project

Year . 2015
Location . Malé
Client . Ministry of Housing and Environment
Position . Consultant for Water and Energy
Activities Performed
Contributed to report writing.

EIA for the proposed test drilling for Hulhule' - Male' bridge construction project

Year . 2015
Location . Malé
Client . Ministry of Housing and Environment
Position . Consultant
Activities Performed
Stakeholder consultations and contributed to report writing.

Environmental and Social Monitoring and Performance Auditing

Foreign Migrant Workers Project at ADK Hospital, Malé

Year . 2016
Location . ADK Hospital, Malé
Client . ADK Hospitals Private Limited
Position . Consultant
Activities Performed
Contribution to the preparation of the questionnaire for migrant worker's survey, conducting the survey, data analysis and visiting worker's accommodation block in Hulhumale' for assessment. Meeting with HR team in ADK for further analysis.

Capacity Building Project at ADK Hospital, Malé

Year . 2017
Location . ADK Hospital, Malé
Client . ADK Hospitals Private Limited
Position . Consultant
Activities Performed
Working with an international consultant on fire and life safety, conducting fire audits of the hospital and delivering training sessions to ADK hospital staffs on fire and life safety measures. Meeting with Maldives National Defence Force team to understand overall context of fire and life safety system and challenges in the Maldives.

Environmental and social performance annual monitoring report of Shangri-La's Vilingili Resort & Spa 2014

Year . 2015
Location . Addu City
Client . Shangri-La's Vilingili Resorts & Spa
Position . Consultant for Water and Energy
Activities Performed
Quantifying energy production and consumption rate, water quality assessment and analysis advice and reporting.

Environmental and social performance annual monitoring report of Shangri-La's Vilingili Resort & Spa 2015

Year . 2016
Location . Addu City
Client . Shangri-La's Vilingili Resorts & Spa
Position . Consultant for Water and Energy
Activities Performed
Quantifying energy production and consumption rate, water quality assessment and analysis advice and reporting.

Environmental monitoring of Vilamendhoo Resort & Spa

Year . 2015
Location . Alifu Dhaal Atoll
Client . Vilamendhoo Resort & Spa
Position . Consultant for Water and Energy
Activities Performed
Water quality assessment, beach profiling, coastal area surveying, Energy audit.

Environmental Monitoring Report for China-Maldives Friendship Bridge for Quarter 1, Quarter 2 and Quarter3

Year . 2016 and 2017
Location . Malé and Hulhumalé
Client . CCCC Second Harbour Engineering Company Limited
Position . Consultant on Marine water and Groundwater quality
Activities Performed
Analysis of groundwater and marine water quality results and report writing.

Environmental Monitoring for the Construction of 7,000 Housing Units in Hulhumale' Phase II

Year . 2019
Location . Hulhumale'
Client . CSCEC
Position . Sustainability and Energy Consultant
Activities Performed
Assessment of resource use efficiency including energy, waste and water. Site visit, stakeholder consultations and report writing.

Environmental Monitoring for the Construction of 7,000 Housing Units in Hulhumale' Phase II

Year . 2019
Location . Hulhumale'
Client . HDC
Position . Sustainability and Energy Consultant
Activities Performed
Assessment of resource use efficiency including energy, waste and water. Site visit, stakeholder consultations and report writing.

Strategic Planning

Preparation of Addu Development Plan, Financial Plan and 'Vision Addu' Document

Year . 2016 and 2017
Location . Addu City
Client . Addu City Council
Position . Project Manager, Consultant on Infrastructure and Utilities
Activities Performed
Overall project management. Preparation of data collection matrix, baseline data collection, visited islands conducting public and stakeholder consultations, participation in the workshop held to present the vision and development plan, contribution to preparation development plan proposing objectives and goals for the development of infrastructure and utilities in Addu City

Introducing green healing hospital concept at Adh. Atoll Hospital

Year . 2016 - 2017
Location . Adh. Mahibadhoo
Client . Adh. Atoll Hospital
Position . Consultant for Energy and Water
Activities Performed
Conducted the energy and water audits of the hospital, consulted hospital engineers and utility providers of the island, conducted a feasibility assessment of the hospital roofs for solar panel installation, data analysis and presentation of findings with recommendations, conducted a workshop to present the findings of the baseline study to hospital staff and community member.

Research and Market Studies

Maldives Visitor Survey 2015

Year . 2015
Location . Hulhule
Client . Ministry of Tourism
Position . Team leader and Enumerator
Activities Performed
Supervised survey enumerators and conducted the survey.

Maldives Democracy Survey 2015

Year . 2015
Location . Maldives
Client . International Foundation for Electoral Systems (IFES) and Transparency Maldives
Position . Team leader and Enumerator
Activities Performed
Supervised survey enumerators and conducted the survey.

Maldives Visitor Survey, September 2016

Year . 2016
Location . Hulhumalé Phase II
Client . Ministry of Tourism
Position . Project Manager
Activities Performed
Overall project management including training the enumerators, ensuring the timely delivery of survey and data entry.

Technical Analysis of Market to Develop Energy Efficiency Labels and Standards Program in the Maldives

Year . 2017
Location . Male'
Client . Ministry of Environment and Energy
Position . Project Manager and Sustainable Development Consultant
Activities Performed
Overall project management ensuring timely delivery of project components, meeting with client on a timely basis, facilitating retailer survey, sorting and managing data, presenting preliminary findings to the client, writing final draft report and working on the contents of the final presentation.

REFEREES

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Mariyam Hana Saeed Date 1 July 2019

MAASA ALI

CONSULTANT - INFORMATION SYSTEMS, GIS, DATA ANALYTICS, TECHNOLOGY

CONTACT

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PROFILE

As a member of the data analytics team in CDE, I store, maintain and manage multiple data sets on a spatial system for internal use and provide mobile mapping solutions, to enable access of data internally and externally. As such I work with economic, social as well as environmental data, analyse data and provide solutions for data visualisation.

EXPERIENCE

DEVELOPING GIS MAPS FOR 6TH NATIONAL REPORT TO CBD
MINISTRY OF ENVIRONMENT | APRIL 2019 - PRESENT

- Enhancing existing GIS layers on Biodiversity
- Collect and analyse biodiversity data and demarcate to produce comprehensive GIS maps with boundaries.

MANAGING GIS
CDE CONSULTING | MARCH 2018 - PRESENT

- Digitise, create, maintain, display and update GIS database, coverages and linkages to other GIS databases
- Produce accurate maps and other representations of data for internal use
- Web mapping and mobile mapping
- Record and document details of map updates, additions or deletions

EDUCATION

BACHELOR OF ENVIRONMENTAL STUDIES
THE AUSTRALIAN NATIONAL UNIVERSITY | 2015 - 2017
AREAS OF EXPERTISE:
SUSTAINABLE DEVELOPMENT, HUMAN ECOLOGY

SKILLS

- GIS workflow
- Quantitative Data Analysis
- Qualitative Data Analysis
- Metadata creation and editing
- Cartography
- Able to apply expertise in multiple domains
- Detail oriented
- Familiar with AutoCAD
- Spatial data and algorithms
- Proficient in ESRI ArcGIS 10x with Network Analyst, Spatial Analyst

AWARDS

AUSTRALIA AWARDS RECIPIENT 2015

VOLUNTEER WORK

VESHI NGO | 2013 - PRESENT

APPENDIX F: EMP SHARING WITH ATOLL COUNCIL

EMP for installation and operation of seaplane platform at Amilla Fushi

Hana Saeed <hana@cde.com.mv>
to Secretariat

4:51 PM (4 minutes ago)

Dear Sir/Madam,

Kindly find attached the EMP for installation and operation of seaplane platform at Amilla Fushi for your reference.

Best regards,
Hana
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Hana Saeed
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