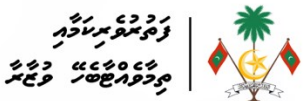


L. Gan Boda Fengan'du Protected Area Management Plan



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Prepared by the Enhancing National Development through Environmentally Resilient Islands (ENDhERI) Project for the Ministry of Tourism and Environment

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(Consultancy Service to Develop Management Plan for Six Protected Areas at Laamu Atoll)

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Executive Summary

L. Gan Boda Fengan'du Protected Area has been declared as a Protected Area (PA) on 23rd December 2021 under the Law no 4/93 (Environment Protection and Preservation Act). The total area of 15.03 hectares was declared as a PA under the Category 7: Protected Area with Sustainable Use. The PA is mainly protected for its significant biodiversity and historical significance for the local community. This management plan is developed in accordance with Clause 12 of the Regulation no 2018/R-78 (Protected Areas Regulation) to ensure sustainable use and management of the PA.

The vision of the Gan Boda Fengan'du PA is “to effectively manage Gan Boda Fengan'du Protected Area for maintaining a healthy ecosystem and maximizing its social, cultural and economic contribution to the local community”. The following 3 objectives are identified for the management plan to achieve this vision:

- Objective 1: By the end of 2025, an effective management plan will be implemented with a functioning management unit on-site.
- Objective 2: By the end of 2028, the current levels of flora and fauna within the PA are maintained or improved.
- Objective 3: By the end of 2028, appreciation of the cultural, social and economic value of the PA by local community and visitors has increased.

The Gan Boda Fengan'du PA is proposed to be managed under a co-management governance regime with roles and responsibilities distributed among the Ministry of Tourism and Environment (MoTE), the Environmental Protection Agency (EPA) and Laamu Gan Island Council (GIC). The GIC will establish a PA Management Unit within the Council to implement the management plan.

The management plan provides guidelines on the governance and management of the PA including establishment of the management unit and infrastructure, visitor management, compliance monitoring and enforcement, research and monitoring and management effectiveness monitoring.

Introduction

This management plan is developed in accordance with Clause 12 of the Regulation no 2018/R-78 (Protected Areas Regulation) to ensure sustainable use and management of the L. Gan Boda Fengan'du Protected Area. L. Gan *Boda Fengan'du*, popularly known as *Paree Fengan'du* (fairly pond) in the Maldives, and its surrounding areas has been declared as a Protected Area (PA) on 23rd December 2021 under the Law no 4/93 (Environment Protection and Preservation Act). The total area of 15.03 hectares was declared as a PA under the Category 7: Protected Area with Sustainable Use following the government announcement no: (IUIL)438-ENV/438/2021/371. The PA is mainly protected for its significant biodiversity and historical significance for the local community.

The Gan Boda Fengan'du PA is proposed to be managed under a co-management governance regime with roles and responsibilities distributed among the Ministry of Tourism and Environment (MoTE), the Environmental Protection Agency (EPA) and Laamu Gan Island Council (GIC). The GIC will establish a PA Management Unit within the Council to implement the management plan.

The PA management plan was developed through a combination of field visits, surveys, stakeholder consultations and review of PA management resources available from expert sources and other PAs. An initial field visit was conducted to understand current physical condition of the PA as well as management relevant components. A management concept was developed based on information collected. A second visit was also conducted to share the management concept with the Island Council and other local stakeholders. A market assessment and willingness to pay for improved management was also conducted.

Vision

Laamu Gan Boda Fengan'du is recognized as a PA due to its unique biodiversity and cultural significance. The area is home to many species of mangrove plants as well as key roosting and breeding area for birds. The rich red-tinted water body has high cultural value due to many folklores associated with it. The area also provides important ecosystem functions that have contributed to its importance as a PA. In addition to maintaining these ecosystem values, the area needs to be well managed. The purpose of this management plan is to effectively manage the area while sustainably using its resources for community benefit.

The Gan Boda Fengan'du PA is therefore guided by the following vision:

“To effectively manage Gan Boda Fengan'du Protected Area for maintaining a healthy ecosystem and maximizing its social, cultural and economic contribution to the local community”

Management objectives

The main objectives of this management plan are:

- Objective 1: By the end of 2025, an effective management plan will be implemented with a functioning management unit on-site.
- Objective 2: By the end of 2028, the current levels of flora and fauna within the PA are maintained or improved.
- Objective 3: By the end of 2028, appreciation of the cultural, social and economic value of the PA by the local community and visitors has increased.

Description of the Site

The Laamu Boda Fengan'du PA is a 15.03 ha area which consists of 4.91 ha of terrestrial area and 10.12 ha of marine area, as shown in Figure 1. Laamu Boda Fengan'du Protected Area The PA is declared as a Category 7: Protected Area with Sustainable Use under the local PA Regulation and it corresponds to IUCN Category VI which are areas protected for sustainable use of natural resources.

Figure 2 shows the PA categorization zones.

Physical features: The area is characterized by a terrestrial area consisting of mangrove vegetation and a water body (pond) which is located at Gan, Mukurimagu at 1.885762, 73533560, about 20m from the shoreline on the eastern side of the island. The water is brakish at the shallowest depth but increases in salinity with depth. Detailed bathymetry of the pond has not been done but an attempt to measure the depth by a local diving center, using fishing lines and measuring tapes, have recorded the deepest point reached as 28m. The beach, located on the eastern side of the pond has no prominent features and is eroding severely. The lagoon area is shallow extending up to 250 m from the shore where the reef is. Bathymetry data of the lagoon area needs to be taken.

Biological features: The terrestrial area has significant mangrove species such as *Rhizophora mucronata* (Red mangrove or locally known as *randoo*) and a large number of old *Barringtonia asiatica* trees (Fish poison tree or locally known as *kimbi*) are also found in the area. The mangrove areas are also ecologically significant for freshwater retention and mitigating flood impacts as well sequestering carbon. A species of Tilapia fish is found in the pond. As these are not native to the Maldives, these must have been introduced to the pond at some point in the past. The PA is known to be an important area for protected and migratory seabirds. It's a nesting and breeding area for the local bird *Phaethon lepturus* (white-tailed tropic bird or locally known as *dhandifulhu dhooni*). The lagoon area has a monospecific seagrass meadow of the species *Thalassia hemprichii*. Some of the meadow areas are subaerially exposed during the low tide.¹ Anecdotal reports of baby blacktip and lemon sharks suggests that these species may use the area as a nursery.

Cultural features: The Boda Fengandu is associated with many local folklores. It is popularly known as Paree fengandu (Fairy pond) as according to folklore fairies come to the pond at nighttime to bathe. One of the mysteries associated with the pond is that its depth is unknown and that any rope or material sunk to measure the depth comes out burnt. Perhaps this is why it is also known as Naraka fengandu (Hell pond). Another myth associated with the pond is that from the depth the pond is connected to *Huvadhu Kandu* located between Laamu and Gaafu Alif Atoll. According to folklore, anything that goes down the pond will come out from the *Huvadhu Kandu* (source: [twothousandisles](#)).

¹ Arnall, J. et al. (2024) 'Seagrass is an early responder to nitrogen enrichment in oligotrophic oceanic coral atoll environments', Marine Pollution Bulletin, 209, p. 117224. doi:10.1016/j.marpolbul.2024.117224.

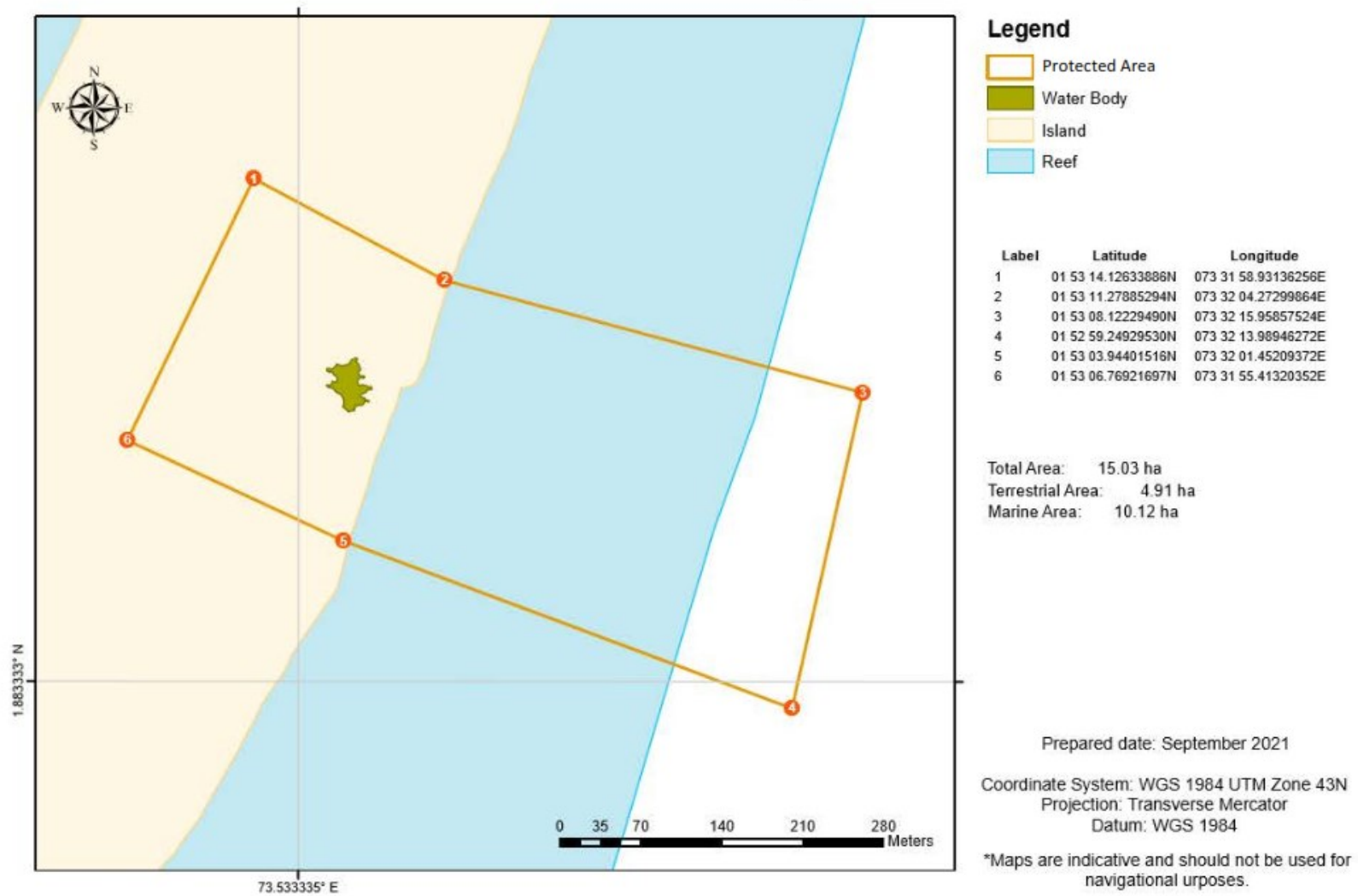


Figure 1. Laamu Boda Fengan'du Protected Area

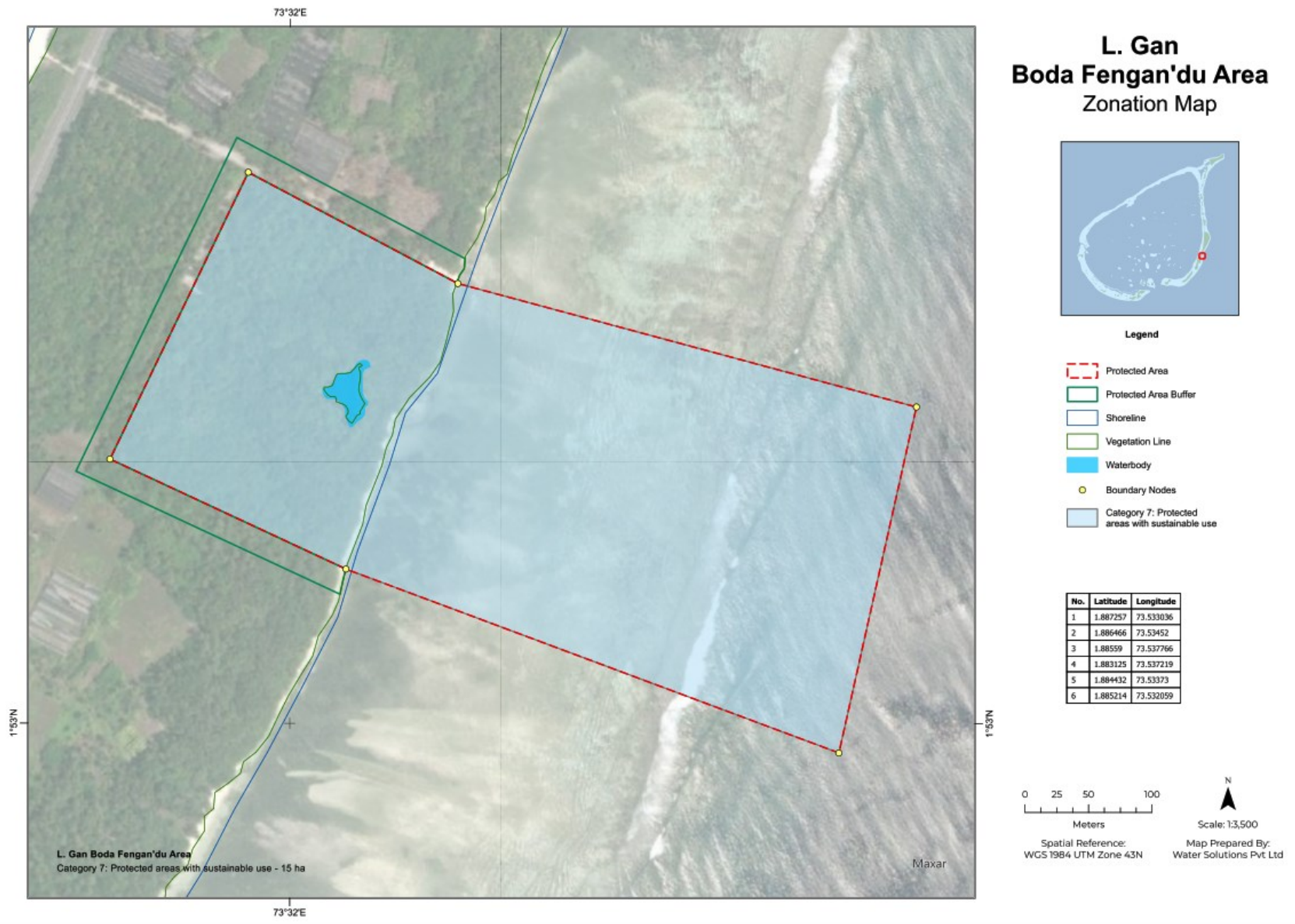


Figure 2. Gan Boda Fengan'du PA

Current Resource Use

Currently the PA is mainly used recreationally and for traditional uses. The current resource uses are given below and in Figure 3.

1. Visitor attraction: Local and international tourists that visit the island come to see the water body, as it is a unique site. Sometimes visitors bathe in the pond.
2. Picnicking: Locals come to the area for picnics. Open fire by picnic goers are visible inside the area.
3. Traditional resource collection: Traditional collection of fallen palm leaves and fallen mature coconut by locals is allowed in the area.
4. Surfing: According to the Island Council, surfing is carried out by youth in the eastern reef area within the PA and access to the area is from the path outside the PA. However, there are no physical demarcation of the PA.
5. Fishing and other marine harvesting: Low levels of reef fishing, sea cucumber, octopus and lobster harvesting takes place in the lagoon area.

There are a number of historic sites, ancient ruins from the Buddhist era (Gamu Haiytheli), in the areas north of the PA. The Island Council is developing the Haiytheli area as a visitor attraction for the island and is planning to develop a road connecting the Haiytheli and the PA. This is being done in partnership with the Island Council and a local heritage conservation NGO of the island.

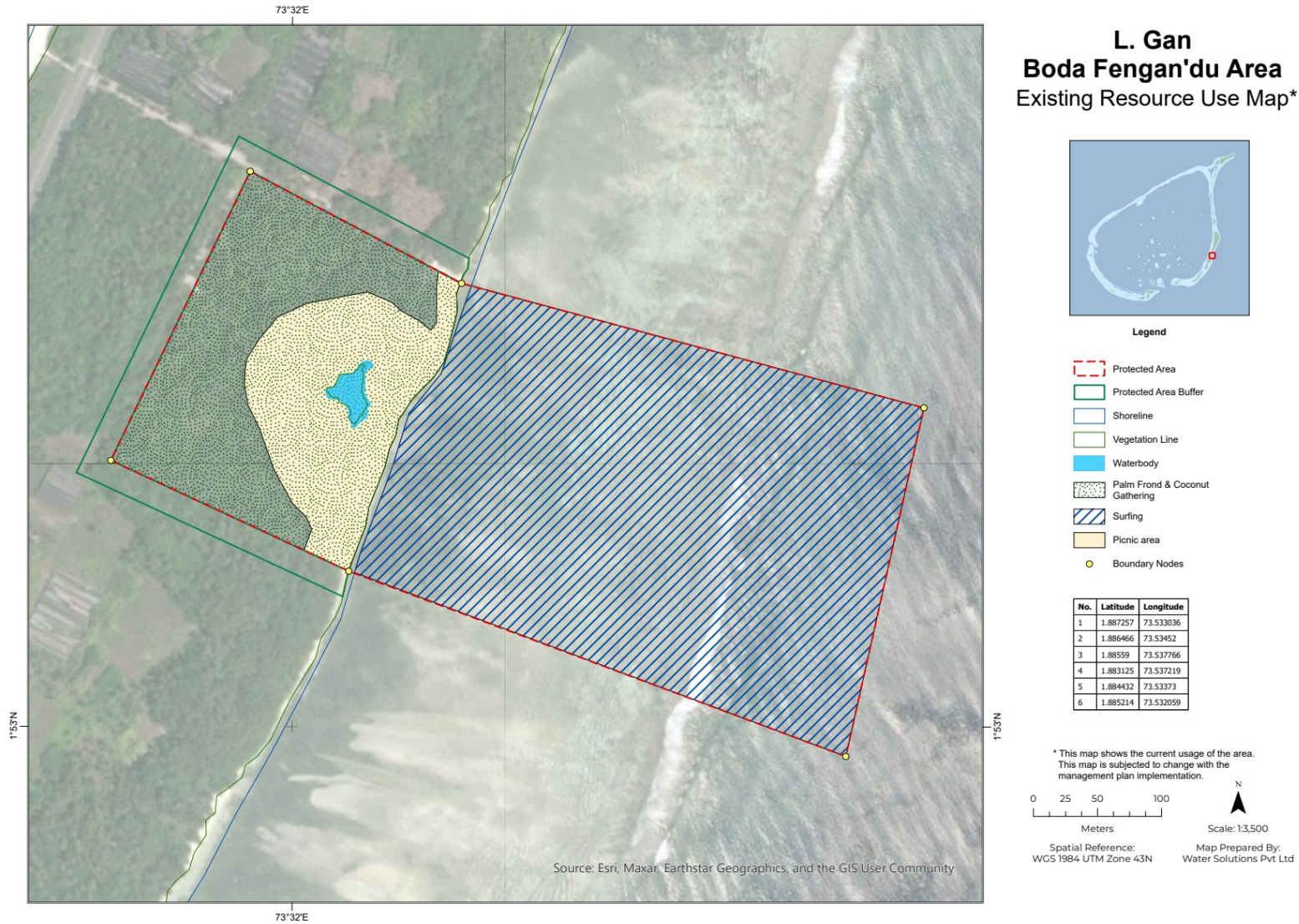


Figure 3. Existing resource uses at L. Gan Boda Fengan'du PA

Key values of the site

The key values of the site are its cultural and natural values and are as follows:

- i Mangrove area with a water body and has key mangrove species *Rhizophora mucronata* (Red Mangrove, Randoo) true mangroves, and associate mangroves of a *Barringtonia speciosa* (Sea Poison tree/ Kinbi) forest surrounding the area
- ii Key roosting and breeding site for *Phaethon lepturus* (White-tailed Tropicbird, Dhandifulhu Dhooni)
- iii Cultural value associated with historic folklore surrounding the area
- iv A healthy seagrass meadow with low levels of human impacts in the area.

Identification of constraints, opportunities and threats

Constraints

The main constraint is the lack of baseline information about the area. In order to monitor effectiveness of the PA, quantifiable numbers on the different species of plants, migratory birds and their patterns are needed. Further, information on the number of visitors to the area will also be needed to effectively manage the sustainable use of the area. Collection of such data will need to be incorporated into the initial activities of the management plan.

Currently, there is no specific management unit, resources or trained staff to manage the PA. The management plan should also include capacity building and training for management staff. Other resources like vehicles and equipment will also be required for the management unit. Capacity needs to be built for sustainable financing planning.

Threats

Figure 4 gives a threat prioritization matrix showing the likelihood and extent of threat impact. There is a high amount of littering in the area, and this is identified as a very high risk. It is mainly from picnic goers and the litter includes plastic water and drink bottles, snack wrappers, empty cans among others. There are also several remnants of outdoor cooking fires, presumably from picnic goers cooking in the area. The disappointment in the state of the area in terms of litter was also mentioned by some visitors to the island, during stakeholder consultations. Education and awareness on personal responsibility to look after the PA along with waste bins and encouraging its use is needed.

The prospects of ecotourism and attracting visitors is a hope of the community. Along with such hopes is the idea to build commercial infrastructure such as a café over the water body. This and other high impact structures are also ideas being discussed by local NGOs on how to develop the PA to attract more economic benefit. The size of the water body being quite small, such infrastructure development, especially a café, will have significant impacts from waste generation, among others. This will also impact the aesthetics and mystique aura of the pond which is associated with local historical folklore. The folklores are a part of the cultural value of the area and a reason why many visitors want to come and see the area.

In terms of other threats, the eastern beach of the PA is severely eroded. With the Maldives islands being very low lying, the threat of long-term sea-level rise should also be considered in developing and managing the PA. Currently the level of erosion is not monitored. Monitoring of the changes to the shoreline should be monitored as part of the management.

Likelihood						
Rare	Unlikely	Possible	Likely	Almost certain		
			- Beach erosion - Sea level rise		Catastrophic	Constraints
		- Development of café over pond		- Littering	Major	
			- Outdoor cooking fires		Moderate	
					Minor	
					Insignificant	

- Low risk
- medium risk
- high risk
- Very high risk

Figure 4. Threat identification and prioritisation matrix for L. Gan Boda Fengan'du

Opportunities

While the PA is protected under the law no 4/93 (Environment Protection and Preservation Act) and under Regulation no 2018/R-78 (Protected Areas Regulation) is applicable, recent changes to the Law no 7/2010 (Decentralization Act), via its 8th amendment law no 24/2019 clause 56 allows Island Councils to use areas within their jurisdiction for economic activities and income earning. Since, the PA is within the jurisdiction of the Gan Island Council (GIC), the management authority (EPA) can delegate the authority to GIC through an agreement between GIC and EPA. This ensures that PA management can be a collaborative process with local stakeholders involved.

The area is designated as a PA with sustainable use and given the current popularity of the water body among Maldivians, there is high opportunity for the PA to be an ecotourism attraction for both

Maldivians and foreigners. The market assessment survey identified that visitors were willing to visit this area but would like to see the area better taken care of and with more amenities. The development of a visitor information center and tours along with information on the local biodiversity, history and folklores of the area will add to the visitor experience and learning opportunities.

The Maldives Heritage Society, a local NGO is supporting the GIC in developing the historical Buddhist ruins further north from the PA as tourist attractions and they have plans to develop a bicycle road that can connect the heritage area and the PA. This provides an opportunity to offer visitors a wider experience in Gan and can complement the attractiveness of the PA to visitors.

Maldives Resilient Reefs' office is based in Laamu Gan. They have conducted baseline and monitoring surveys of seagrass meadows in Laamu Atoll, and has a citizen science programme to train Laamu community members on seagrass monitoring. They would be an ideal partner to conduct the baseline assessment and monitoring of the seagrass meadow within the PA.

Currently local women continue the traditional resource collection from the area which includes collecting fallen dried palm fronds and mature coconuts. The palm fronds are used in making thatch and coconuts are used for home consumption. This traditional collection method contributes to clearing the area of fallen palm fronds and coconuts. The making of thatch can be integrated into ecotourism as part of cultural learning.

Governance

The Gan Boda Fengan’du PA is proposed to be managed under a co-management governance regime with roles and responsibilities distributed among the Ministry of Tourism and Environment (MoTE), the Environmental Protection Agency (EPA) and Laamu Gan Island Council (GIC). The GIC will be assigned management authority through an agreement with EPA as per PA regulations. The GIC will establish a PA Management Unit within the Council to implement the management plan. A PA Management Steering Committee on an island-level, comprising of the Island Council as well as local stakeholders, will be established to guide governance and management of the PA on a case-by-case basis. The GIC has signed an MoU with The Maldives Heritage Society (MHS), a local NGO to be involved in managing the PA. The GIC is working with MHS to develop the historic sites in Gan nearby to the PA as a cultural park. The GIC will engage support from NGOs and research groups to support research and monitoring of the PA. A proposed governance structure organogram is given in Appendix 1. The functions of the PA management unit are shown in Appendix 2. The roles and responsibilities of the parties are as follows:

Roles and responsibilities of the Ministry of Tourism and Environment (MoTE)

- A main regulatory authority for the PA through a tripartite agreement with MoTE, EPA and Gan Council
- Determine all policies related to the establishment and management of the protected area, including review and changes to PA decree and management plan.
- Supporting role for resource mobilization to establish the management unit and any infrastructure and capital costs related to implementing the management plan
- Support the council in establishing management unit
- Develop and establish a sustainable financing mechanism for overall national level PA management
- Provide necessary PA management training for the assigned management authority. A training needs matrix is presented in Appendix 3.
- Monitoring management effectiveness of the PA.
- Review management plans and related implementation plans as appropriate, with a minimum of five years as per the Protected areas management plan guidance framework based on the Management Effectiveness

Roles and responsibilities of the Environmental protection Agency (EPA)

- A main regulatory authority for the PA through a tripartite agreement with MoTE, EPA and Gan Council
- Approve the concept and management plan and related implementation plans for the PA
- Develop a Research and Monitoring Plan for the long-term monitoring of the key features and conditions of the Protected Area, under the National PCA Monitoring & Research Plan.
- Enforcement of fines and penalties for non-compliance
- Monitor management of the PA by the assigned management authority Provide the management authority with a mechanism to report non-compliance or violations of the PA rules.
- Investigate any reported violations of PA rules and take necessary action to enforce penalties.

- Provide support in training the management authority with a mechanism to monitor the biodiversity and physical health of the PA
- Provide a mechanism for approval to conduct research in the PA and issue research approvals/permits. Long-term partnerships for environmental monitoring and research can be developed with NGOs, universities and other capable research groups through the EPA's oneGov portal.
- Review annual monitoring reports submitted by the management authority.
- Annual review of monitoring reports submitted by the management authority.
- Recommend changes to PA decree and management plans and its related implementation plans based on review of monitoring reports.
- Provide trainings to the management authority to carry out monitoring as stated under the Monitoring & Research Plan.
- Provide trainings to the management authority to carry out enforcement activities as per the protocols and SOPs in place.
- Coordinate enforcement activities between the management authority and other institutions involved such as the Maldives Police Services.

Roles and responsibilities of Laamu Gan Island Council

- A main regulatory authority for the PA through a tripartite agreement with MoTE, EPA and Gan Council
- Implement the management plan for the PA through a management unit
- Establish the management unit, PA infrastructure and procure necessary equipment for managing the PA
- Administration of the management plan and office
- Repair and maintenance of the infrastructure and equipment as per a schedule appropriate
- Recruit required human resources to manage the PA and ensure staff undergo necessary training according to the training requirements provided in Appendix 3.
- Oversee and support the functioning of the PA Management Unit
- Establish and maintain a separate financial account for PA management.
- Oversee preparation of the annual program and budget for management of the PA according to guidelines provided in Appendix 4.
- Submit PA management monitoring reports annually to the EPA according to guidelines provided in Appendix 5.
- Collaborate with NGOs and research groups and sign MoUs to support research and ecological monitoring of the PA.

Roles and responsibilities of the PA Management Unit

- PA Management Unit will be responsible for implementing L. Gan Boda Fengan'du Area management plan.
- The main functions will include i) maintain the PA and monitor visitor activities, ii) education, awareness and outreach and iii) monitoring of the PA health (Appendix 2).
- In addition to overseeing the PA management unit's overall operations, the administrative role will include programmatic planning, budgeting and monitoring functions. This includes:
 - Developing an annual programme and budget for the management unit

- Preparing annual PA management reports to be submitted to the EPA according to guidelines in Appendix
- Preparing monthly data on the PA management according to guidelines in Appendix 6
- Provide secretariat support to the PA Steering Committee and organize the committee meetings
- Maintain infrastructure, equipment and visitor services
- Maintain the PA area and dispose of any waste generated in the area, minimum once a month, according to the Waste Management Regulation (R-58/2013).
- Maintain visitor booking and ticketing systems
- Issue access permits, photography and videography permits and collect related fees
- Maintain and monitor a log of visitors and visitor activities within the PA and report these in the PA management monitoring report.
- Conduct and analyze visitor surveys to inform management planning. The visitor survey questionnaire can be developed using the guidelines provided in Appendix 7.
- Monitor the PA for non-compliance or violations of PA rules and report incidences to the EPA. Guidelines for attending to non-compliance incidences are given in Appendix 8.
- Conduct baseline and periodic monitoring of the PA biodiversity and physical parameters according to the Environmental Monitoring Plan provided in Appendix 9.
- Generate information on the physical assessments of the PA and any changes
- Disseminate information on the health of the PA
- Develop data collection and research needs including citizen science-based data collection to support PA management
- Report any threats or negative impacts to the terrestrial and marine environment of the PA to the EPA.
- Prepare and implement an annual awareness, education and outreach program
- Develop and implement programs to engage with local community to create awareness of the PA and for effective PA management
- Disseminate information on the PA establishment purpose, benefits, and use guidelines to users and local community
- Maintain the L.Gan page in the [PA website](#) and other social media platforms
- Promote the PA to attract visitors

The PA Management Steering Committee

The Gan Boda Fengan'du Management Steering Committee (hereafter referred to as Steering Committee) will advise the PA Management Unit on implementing the PA management plan on an island-level.

1. The Steering Committee should comprise of members representing the following parties:
 - Laamu Gan Island Council
 - The Maldives Heritage Society (local NGO)
 - Representation from a national research NGO.
 - Representation from a local guesthouse operator
 - Representation from traditional resource users
 - Representation from women's groups
2. The roles and responsibilities of the Steering Committee are:

- Review annual programs and budgets of the PA management Unit
 - Providing advice on the implementation of the PA management plan
 - Provide advice on any issues relating to management of the PA on a case-by-case basis
 - Provide advice on services and fee structures relating to use of the PA
 - Review and resolve any complaints, disputes or grievances regarding governance or management of the PA
 - Approve management plan amendments
3. NGO representative, private sector, resource user can be selected from Call for Application.
 4. The Steering Committee members and their contact numbers shall be made publicly available on the PA webpage
 5. The Steering Committee will be chaired by GIC and should meet to resolve any complaints or grievances on a case-by-case basis.
 6. The meetings of the Steering Committee shall be organized by the GIC with secretariat services provided by the PA management Office.
 7. The Steering Committee will meet a minimum of two times an year.

Roles and responsibilities of Maldives Heritage Society

(To be discussed with MoTE, EPA GIC and MHS on how to go about this)

Key Regulations, Policies, Codes of Conduct and Guidance

The Protected Areas Regulation (2018/R-78) is the main guiding regulation for this management plan. Clause 9 of the PA Regulation allows management authority to be assigned to a state institution or other entity by the EPA by mutual agreement.

The Gan Boda Fengan'du PA is designated as a Category 7 PA with Sustainable Use. Hence, the main activities allowed in the area are those relating to recreational, nature-based and traditional resource gathering. Appendix 10 provides a list of activities that are prohibited and allowed within the PA. Guidelines for access and use of the PA are given below:

1. The PA will be open for use by visitors from 6am to 6pm daily.
2. The following recreational and other services will be available for visitors within the PA
 - Information center
 - Security post
 - Vendor stands
 - Souvenirs for purchase
 - Guided tours (can be incorporated with nearby heritage areas)
 - Bicycles for hire
 - Picnic area
 - Barbeque equipment hire
 - Open outdoor shower
 - Public toilets with lockers
 - Waste disposal points
 - Insta spots

3. All visitors will need to purchase a ticket from the visitor center to access the PA. Appendix 11 provides fee guidelines for entry and other services available for visitors.
4. PA opening hours, available services and facilities and their fees and prices of items sold within the PA shall be made available to the public.
5. Any items sold in the vendor stalls or in exhibits in the PA should give emphasis to locally made and environmentally friendly products and follow the guidelines provided in Appendix 12.
6. Use of motorized vehicles will not be permitted inside the PA. Bicycles can be hired by visitors as per the fees provided in Appendix 11.
7. Open fires are not allowed inside the PA. Visitors can bring their own food for picnics, purchase from the vendor stall or hire barbeque equipment. Fees for equipment hire are given in Appendix 11.
8. Littering is prohibited inside the PA. All visitors should dispose of their trash in bins provided near the visitor center.
9. Photography and videography for commercial purposes can be carried out under a special permit. Appendix 13 gives guidelines for commercial photography and videography inside the PA.
10. Surfing is allowed in the marine area and surfers can access the surf area using the access road outside the PA boundary.
11. Traditional resource use to collect fallen palm fronds, mature coconuts and dry wood is allowed. A guideline for traditional resource use is given in Appendix 14.
12. Removal of soil is prohibited.
13. A permit is required for conducting research in the PA. Appendix 15 provides guidelines for conducting research inside the PA.
14. The following measures are taken within the PA for visitor safety
 - A lifeguard post with a life ring and first aid kits and a megaphone near the water body
 - Surveillance cameras
 - Fire extinguishers

Boundary and zonation

This section describes the zoning of different activities that are allowed within the PA. The zones are developed based on existing resource uses (Figure 3. Existing resource uses at L. Gan Boda Fengan'du PA) and permissible activities in the PA (Appendix 10). There are 3 main use types identified and are shown in Figure 5. The 3 zones with the coordinates and descriptions of activities that are permitted are given in Table 1.

Table 1. Resource Use Zonation for Gan Bodu Fengan'du PA

Use zone	Allowed uses
Traditional use zone - Terrestrial	<ul style="list-style-type: none"> • Collection of dried palm fronts, mature coconuts, dry wood and sea almonds for traditional use. This can be monitored by rangers and through security cameras. • Collection of these resources will be weekly at specific days and times determined by the GIC
Picnic zone	<ul style="list-style-type: none"> • Recreational use by visitors for sightseeing, bathing in pond and picnicking. • Visitors can enter the site from 6am to 6pm daily. • Lighting of fires for picnic cooking or barbeques will now be allowed in specific locations that have proper preventative measures.
Surfing zone	<ul style="list-style-type: none"> • Local surfers can use the reef area within the PA at all times • Access to the area will be from road outside the PA boundary



Figure 5. Proposed Resource Use Map

Management strategies/Action plans

Table 2 provides a list of activities that will be implemented under the management plan to achieve the objectives outlined in Section 4.

Objective 1: Governance

The activities under the project focus on first establishing a PA management unit at site. This includes approval of the management plan and assigning the management authority to GIC as well as establishing required human resources, equipment and infrastructure for management. The first year will also be used to develop management related protocols and standard operating procedures (SOPs). Further, general trainings and ranger trainings will also be included so that effective management can be established. Once the management structure is established ongoing visitor management and monitoring activities will be continued.

Objective 2: Ecological

There is a need for detailed baseline data on the flora, fauna and health of the PA. Hence initial activities focus on understanding current levels of biodiversity of the area. Periodic monitoring will be conducted to monitor current levels so that it can be maintained or improved. Activities for this include developing detailed monitoring protocols and trainings for staff.

Objective 3: Social, Cultural and Economic

The Boda Fengan'du is a culturally and socially significant area for the local community due to many folklores associated with the PA. Since many of these are in oral traditions, it is important to preserve these folklores and ensure they are passed down through the generations so locals and visitors can appreciate the rich local history. These oral stories have also been a reason why the PA is well-known locally and hence it is a way to increase visitors, thereby contributing to improve the local economy. Activities under this objective includes creating knowledge products and promoting the PA to increase visitors.

Table 2. Management Actions for Gan Boda Fengan'du

Objective	Actions	Indicators
Objective 1: By the end of 2025, an effective management plan will be implemented with a functioning management unit on-site.	Approve a management plan and sustainable financing plan for the PA	<ul style="list-style-type: none"> Management plan approval by EPA/ MoTE Sustainable financing plan approval by EPA/ MoTE
	Delegate management responsibility to GIC	<ul style="list-style-type: none"> Agreement between GIC and EPA
	Establish PA management Steering Committee	<ul style="list-style-type: none"> Member appointment documents Minutes of committee meetings
	Develop infrastructure inside PA	<ul style="list-style-type: none"> Infrastructure design Contract with developer Completion certificates
	Establish management unit and hire staff	<ul style="list-style-type: none"> Office building Staff contracts
	Develop Standard Operating Procedures (SOP) for PA	<ul style="list-style-type: none"> Approved SOPs
	Conduct general capacity building trainings for staff	<ul style="list-style-type: none"> Training completion certificates

	Conduct ranger training	<ul style="list-style-type: none"> • Training completion certificates
	Develop PA website and social media platforms	<ul style="list-style-type: none"> • Website launched • Facebook, Instagram and Twitter accounts activated
	Implement visitor activities management and monitoring	<ul style="list-style-type: none"> • Issued permits • Revenue collected • Non-compliance and illegal activity reports • Monthly monitoring reports
	Develop management effectiveness monitoring protocols (METT-4)	<ul style="list-style-type: none"> • Approved management effectiveness monitoring protocols
	Train staff on management effectiveness monitoring	<ul style="list-style-type: none"> • Training completion certificates
	Conduct periodic management effectiveness monitoring	<ul style="list-style-type: none"> • Monitoring reports
	Review management plan	<ul style="list-style-type: none"> • Approved revised management plan
Objective 2: By the end of 2028, the current levels of flora and fauna within the PA are maintained or improved.	Develop monitoring parameters and protocols	<ul style="list-style-type: none"> • PA Monitoring Manual
	Procure equipment for ecological monitoring	<ul style="list-style-type: none"> • Equipment inventory • Procurement invoices
	Conduct a training on ecological monitoring for relevant staff	<ul style="list-style-type: none"> • Training completion certificates
	Conduct a baseline ecological assessment of the PA	<ul style="list-style-type: none"> • Collected data • Baseline assessment report
	Continue periodic ecological monitoring of the PA	<ul style="list-style-type: none"> • Collected data • Baseline assessment report
	Disseminate information on health of the PA	<ul style="list-style-type: none"> • Published quarterly reports • Presentations to public and stakeholders
Objective 3: By the end of 2028, appreciation of the cultural, social and economic value of the PA by local community and visitors are increased.	Measure baseline level of community understanding of PA values	<ul style="list-style-type: none"> • KAP survey data • KAP baseline assessment report
	Continue periodic KAP assessment	<ul style="list-style-type: none"> • KAP survey data • KAP assessment report
	Develop a community engagement and awareness strategy	<ul style="list-style-type: none"> • Number of knowledge products prepared
	Prepare and disseminate on the cultural and historical aspects of the PA and Gan island	<ul style="list-style-type: none"> • Number of knowledge sharing events • Number of people receiving information
	Prepare and disseminate information on social, cultural, ecological and economic benefits of PAs to local community and visitors	<ul style="list-style-type: none"> • Visitor survey feedback and reports
	Promote the PA to generate interest to visit the PA	<ul style="list-style-type: none"> • Number of promotional materials • Social media statistics • Visitor numbers

Compliance and enforcement

- Activities prohibited and allowed in the PA are given in Appendix 10.
- The PA Management Unit should have PA rules available at site and also include this in visitor briefings and tour.
- The PA Management Unit should also have this information available on the PA website and conduct awareness programs to inform public. Local stakeholders such as schools and NGOs can be engaged in awareness programs.
- Monitoring of visitor activities will be carried out by rangers in the PA Management Unit. Rangers will patrol the area and in addition use video surveillance.
- Rangers can consider the engagement of local stakeholders such as civil society organizations to assist in compliance monitoring and enforcement activities.
- Individuals or parties in violation of the PA rules, regulations or permit conditions will be penalized under the Environment Protection and Preservation Act (4/93) and according to penalties in Appendix 16.
- The PA Management Unit should record and report non-compliance incidences according to guidelines provided in Appendix 8.
- Littering is seen as a visible threat that will need to be monitored and enforced for compliance. It is initially proposed to have rangers patrol and advise visitors to encourage voluntary compliance and take waste to designated bins, however remote monitoring and surveillance is encouraged. Penalties can be enforced gradually as given in Appendix 16.

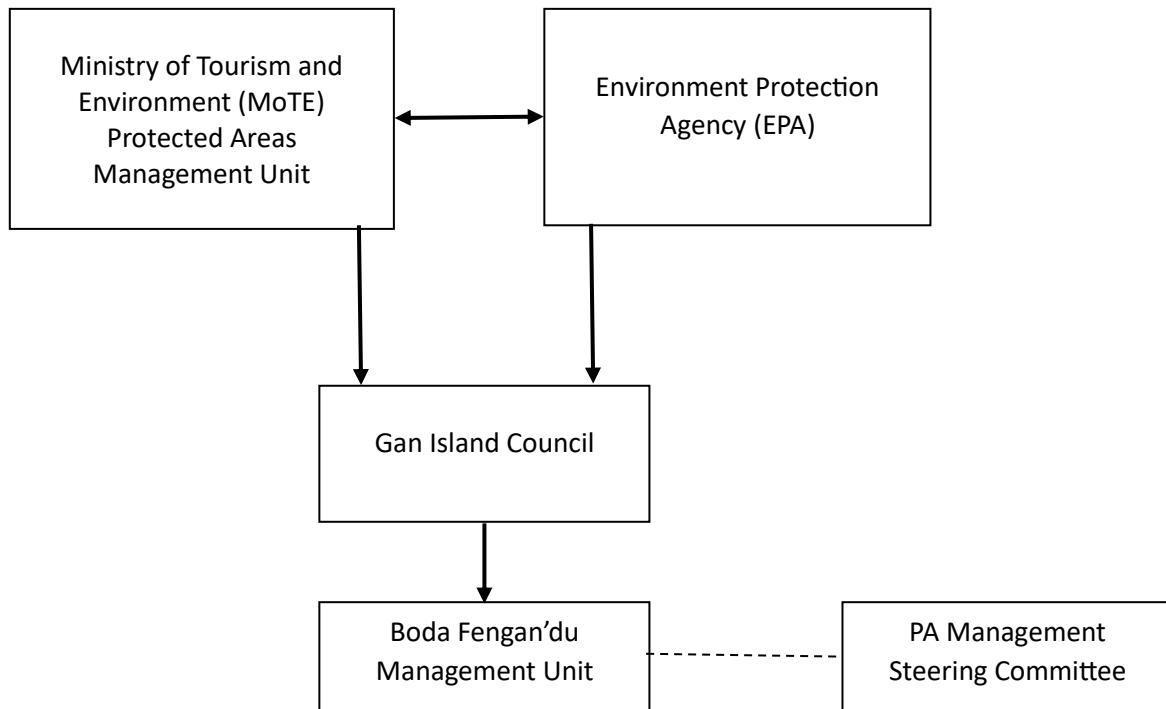
Monitoring and evaluation

A work plan with a timeline for implementing the management plan is given in Appendix 16. A periodic review of the implementation plan shall be undertaken, every 2 years, to monitor implementation of the management plan and revise the management plan based on findings of the PA monitoring. One of the key constraints in monitoring the performance of PA management is the lack of baseline ecological as well as visitor data. Therefore, initial activities under the management objectives will focus on conducting baseline assessments followed by periodic monitoring.

- A baseline ecological assessment with continued periodic monitoring will be used to monitor and evaluate if current ecological conditions are maintained or improved
 - Guidelines on ecological monitoring including parameters to be monitored, methods and frequency for continued monitoring are given in Appendix 9.
 - The environmental officer and rangers will be undertaking ecological monitoring. This will be conducted as per the Monitoring and Research plan developed by the EPA, and under the guidance from EPA.
 - The environment officer will be responsible for analyzing collected data and preparing reports to be used for management review and planning.
 - The communication officer will share information on ecological health of the area with public and stakeholders.
- Information on visitors, use and awareness and education engagements are monitored and reported monthly to guide improving management of the PA as well as increase appreciation of the value of the PA by visitors and other stakeholders.
 - Data on visitor numbers and behaviors including non-compliance as well as visitor engagement and education, awareness and outreach are collected monthly according to the template given in Appendix 6.
 - Data is collected through permits and fees paid, patrol by rangers, video surveillance, visitor surveys and reports or complaints made to the PA Management Unit.
 - The environment officer will be responsible for analyzing collected data and preparing reports to be used for management review and planning.
 - The communication officer will share information to public and stakeholders.
- PA management effectiveness will be conducted by MoTE. The PA Management Effectiveness Tracking Tool version 4 (METT-4) methodology is recommended to be used.
- Periodic review of the management plan should be undertaken.
 - An annual report of the PA management is prepared by the PA Management Unit and submitted to the EPA
 - METT-4 assessments should be conducted every 5 years
 - Review of the management plan should be done minimum every 2 years

Appendices

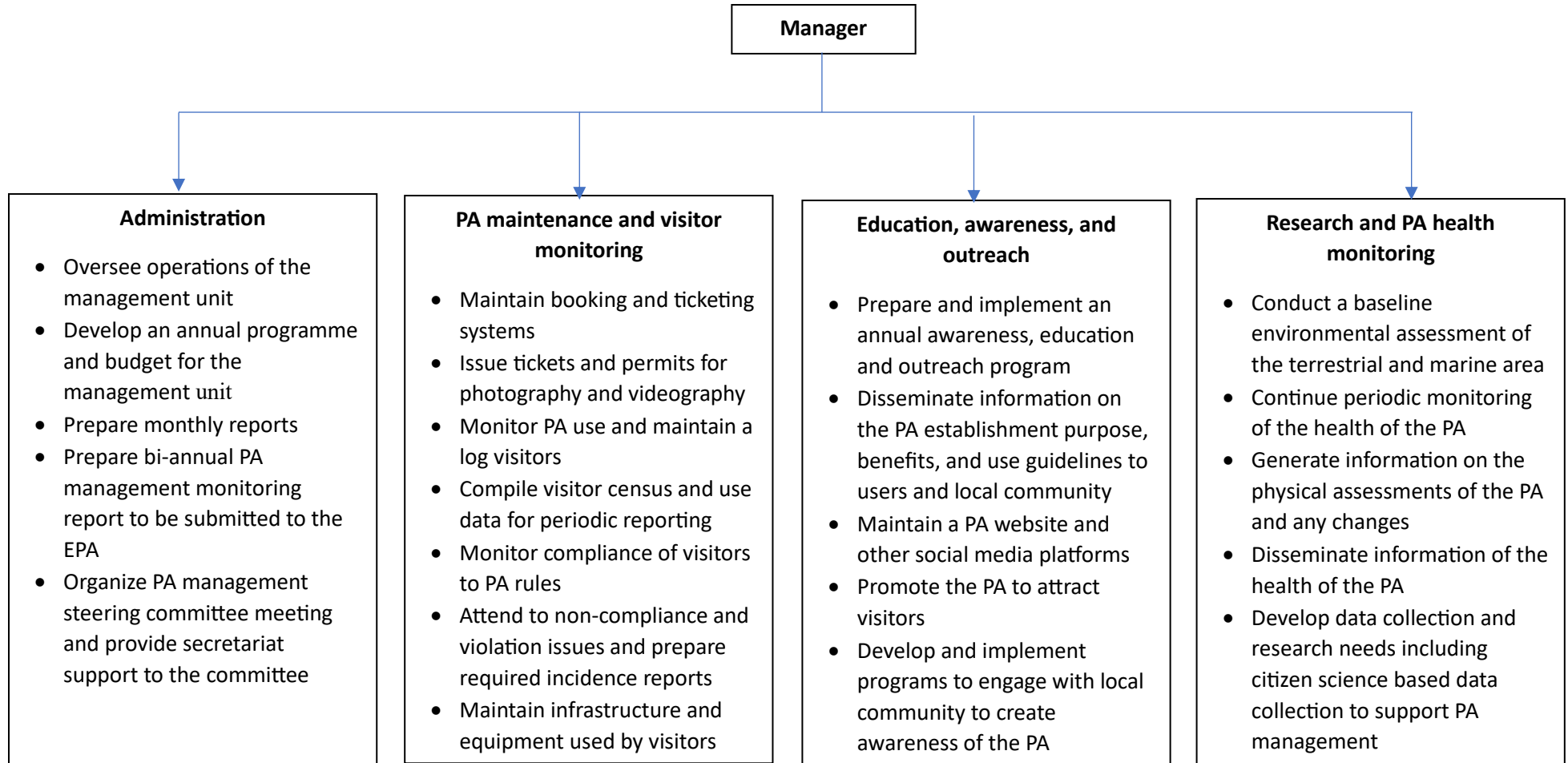
Appendix 1: Laamu Gan Boda Fengan'du Governance Structure



Boda Fengan'du Management Unit Staff:

- 1 Environment Officer
- 1 Ranger
- 2 Security

Appendix 2: Functions of the PA Management Unit



Appendix 3: Training Requirements for the PA Management Unit

Course/Topics	Staff						Training delivery method
	Council	Administrative staff	Environment Officers	Communication Officers	Rangers	Steering Committee	
PA Management							short course
Role of PAs in environmental conservation	x	x	x	x	x	x	
Legal frameworks and institutional setting for PA governance and management in the Maldives,	x	x	x	x	x	x	
General prescriptions rules for PAs in the Maldives,	x	x	x	x	x	x	
Adaptive management	x	x	x	x	x	x	
Limits of Acceptable Change	x	x	x	x	x	x	
PA financing and accounting							on the job training
Management of PA account	x	x					
Revenue generation and sustainable financing planning	x	x					
Education, awareness and outreach							on the job training
Participatory and rights-based approaches for PA management	x			x			
Community engagement	x			x	x		

Ecological monitoring and research							short training
Ecological surveying and data collection			x		x		
Data Analysis and Scientific Reporting			x				
PA management effectiveness monitoring							on the job training
Standards (IUCN Green List) and Monitoring tools for PA effectiveness (e.g. METT)			x	x	x		
Evaluation and Reporting		x	x				
Ranger training							short course
PA codes of conduct and rules					x		
Visitor engagement and management		x	x	x	x		
Non-compliance monitoring protocols					x		
Conflict engagement					x		
Drone surveillance and operation					x		
First aid					x		
Fire safety training					x		
Swimming skills					x		
Personal survival techniques					x		

Appendix 4: Annual programme and work plan development guideline

- The annual programme outlines the activities to be carried out by the PA management unit for the upcoming year and should include resources and budget needed to implement the activities.
- The Annual program should include the following
 - The management objectives to be achieved in the year.
 - A plan of activities including operational and ongoing activities as well as new activities and programs to improve the PA management. The activities should focus on the following areas and must include a timeline.
 - Administration and infrastructure management
 - Visitor and Public Use monitoring
 - Research and monitoring
 - Education, awareness and community engagement
 - Resource needs including human resources, equipment, and trainings
 - A budget estimate for implementing the program
- The template below can be used for each planned activity to identify resource and budget needs.

Name of PA:

Activity description:

Personnel needs (list all personnel needed, including current and additional staff)

Job Title	Quantity	Number of working months	Cost per month (MVR)	Total Cost (MVR)

Supplies, Equipment & vehicles (items that need to be purchased or rented)

Item	Quantity	Unit Cost (MVR)	Total cost (MVR)

Contractual Services (List all work to be done by contract with non-PA staff)

Services needed	Estimated Cost (MVR)

Training needs

Course Title	Cost of course (MVR)	Travel & Other expenses (MVR)	Total Cost (MVR)

Summary of Costs (MVR):

Item	Total Cost (MVR)
Personnel	
Supplies and Material	
Contractual Services	
Training	
Total cost	

Appendix 5: Annual reporting template

The annual report should include the following areas

1. Introduction
 - Provide a description of the PA and an overview of the PA management objective.
 - Include an outline of the report and its objective
2. Administration and Finance
 - Updates on staffing, and trainings
 - maintenance and waste management with available data
 - Budgeting including income and expenditures
3. Activities and Programmes
 - Visitor activities including numbers and type of activities done in the PA
 - Information and feedback collected through visitor surveys
4. Compliance Monitoring
 - Incidences of non-compliance and illegal activities
 - Action taken - Fines and penalties
 - recommendations
5. Education, Awareness and Outreach
 - Webpage and social media engagements and stats
 - Activities undertaken at PA for awareness raising and education
 - Activities undertaken in collaboration with community
 - Any publications or reports produced during the reporting period
 - Other outreach activities
6. Research & Monitoring
 - Report on overall physical health of the PA with any data collected during the reporting period.
 - Include trends of health of the area based on previously collected data
 - Any incidences of risks or unusual impacts on the health of the area
 - Any ongoing research during the reporting period
7. Monitoring and Evaluation
 - Report on any monitoring effectiveness assessments undertaken during reporting period (e.g. METT)
8. Conclusions & Recommendations
 - A summary of the overall report
 - Overview of management effectiveness
 - Recommendations to improve management

Appendix 6: Monthly data reporting template

Administration

Number of Staff at PA Management unit:	
Number of Trainings conducted: (List details of each training below)	

Name of training	# participants	Duration	Training conducted by	Training mode

Budget

Total revenue (MVR): (List all types of revenue generation in table below)	
---	--

Total Expenditure (MVR): (List all types of revenue generation in table below)	
---	--

Revenue source	Amount (MVR)
Entry fees	
Photography & videography permits	
donations	
external projects	
annual budget	
Event hiring	
Others	

Expense	Amount (MVR)
Salaries	
Trainings	
Equipment	
Maintenance	
Consumables	
Events	
Others	

Infrastructure Maintenance

List with description new structures developed or maintenance carried out on existing structures

Activity	Start date	End Date	New/Existing

Waste Management

Waste from segregated bins	Amount of waste (kg)
Recyclable plastics	
organic	
Other	

waste collected from litter (kg)	
types of waste found in litter	

Report any incidences relating to waste management

Incident description	Date of occurrence

Visitor Engagement

Number of Maldivian visitors:	
Number of visitors from Laamu Atoll	
Number of tourists	
Total number of visitors:	

List any special group bookings (e.g. school field visit)

Description	No of people	Visit Date

Provide a graph of daily visitor log counts

Non-compliance and illegal activity:
List all incidences

Incident description	Action taken

Education, Awareness & Outreach

List activities undertaken during reporting period

Date(s)	Activity description	Target audience	# people engaged	Link to activity report

List any knowledge products produced (e.g. video, publication, report)

Description of product	Type of product	Link to location

Research and Monitoring

List and ecological monitoring activities undertaken during reporting period

Date(s)	Monitoring type (e.g. reef, terrestrial)	Parameters measured	Link to available reports

For any ecological monitoring conducted report the following parameters

Format can be adapted according to parameters reported

Type	Attribute	Parameter	Value
Terrestrial	Flora & vegetation	number by type of tree (Mature)	
		number by type of tree (young)	
		Canopy cover (%)	
		vegetation distribution (% composition)	include a graph

	Fauna	Numbers for each type	
	Human impact	litter weight (kg)	
		litter composition	
	Natural impact	Any signs of dead trees (area size or individual tree numbers)	
		Any signs of dead fauna (numbers and type)	
		Other impacts	
Water body	Water quality	Temperature	
		pH	
		dissolved oxygen	
		nutrients	
		pollutants	
	Fauna	Numbers for each type	
	Flora	Numbers for each type	
	Human impact	litter weight (kg)	
		litter composition	
	invasive species type and numbers		
	Other observations		
Marine & Coastal Environment	Beach	Beach length	
		Erosion presence	
	Water quality	Temperature	
		nutrients	
		pollutants	
	Fauna	Fish types and numbers	
		Coral types and numbers	
		live coral cover	
	Flora	Sea grass cover & composition	
	Human impact	observed impacts	

Research Activities

Research permit number	Research project description	Research conducted by	Activities carried out	Available reports/data

Appendix 7: Visitor survey questionnaire development guide

- The purpose of the visitor survey is to find out about the experience of the visitors and get their feedback to help improve the PA management as well as the visitor experience
- The visitor survey shall be prepared as an online form and visitors can be requested to fill the form
- Alternatively, for an identified period in-person questionnaires can also be administered
- The form can include the following sections and can be adapted as needed.

Section	Questions
Socio-demographic	Age
	Gender
	Visiting a individual, family or group
	Residential status (Laamu local, Maldivian outside Laamu, Expat with work visa or international tourist)
	Education level
Visit to Laamu	Which island are you residing in Laamu? (list all islands and tourist resorts)
	What kind of accommodation are you staying at? (guesthouse, private residence, rented local house, resort, other)
	What modes of travel did you use to get here? (private car, bus, taxi, speedboat, airplane, other)
	Why are you visiting Laamu? (work, holiday, visit family, other)
	If you are a visitor to Laamu, how long are you staying in Laamu?
	Is this your first visit to Laamu? If not, approximately how many times have you visited Laamu?
Visit to the PA	Is this your first visit to Boda Fengan' du? If not, approximately how many times have you visited?
	What type of experiences are you seeking at the PA? (Select all that apply) <ul style="list-style-type: none"> • Adventure activities (diving, surfing, kayaking etc) • Relaxation • Closeness to nature • Wildlife observation • Educational reasons • Other (Specify)
	Do you know this is a Protected Area?
	Do you know why this is a Protected Area?
	Which of the following activities did you undertake at the PA? (Tick all that apply) <ul style="list-style-type: none"> • Look around the pond and mangrove area • Bathed in the pond • Had a picnic • Surfing • Camping • Bird watching • Other (specify)

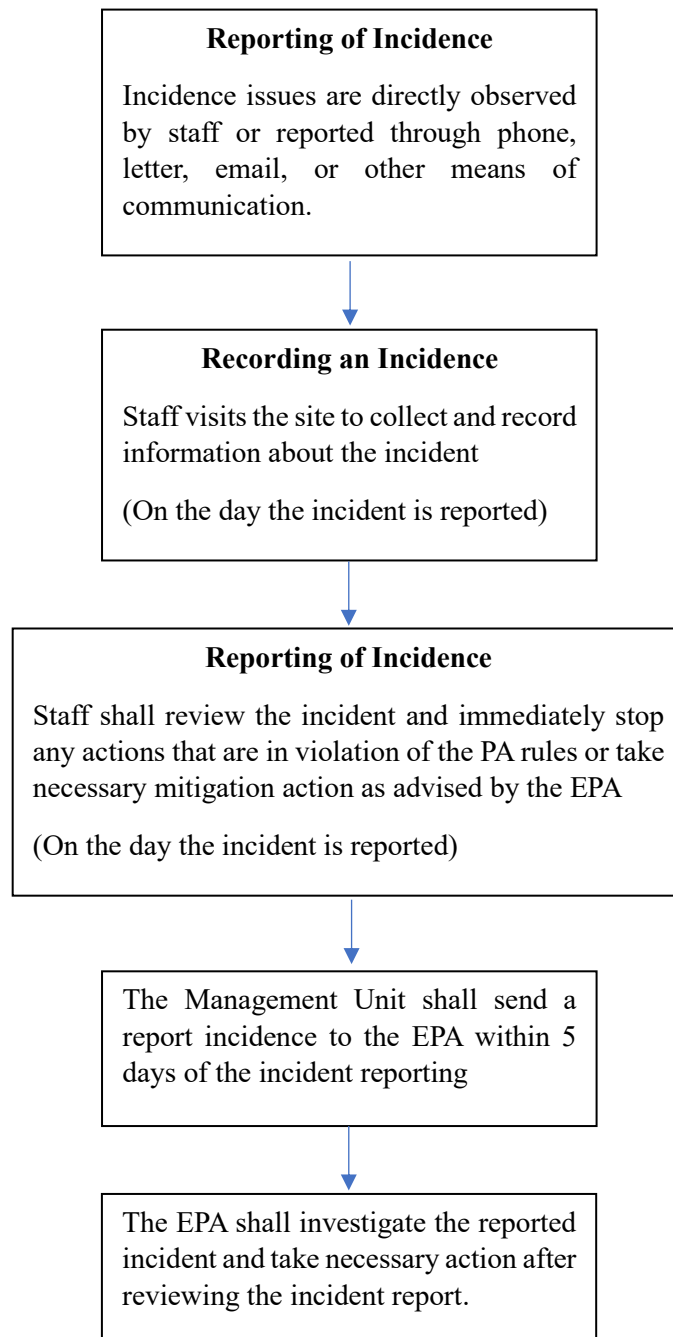
Visitor experience	On a scale of 1-5, how satisfied are you with your overall experience at the protected area? (1- very dissatisfied; 2 dissatisfied; 3 neutral; 4 satisfied; very satisfied)
	On a scale of 1-5, did the PA have sufficient information to guide your visit? (1- very insufficient; 2- insufficient; 3- neutral; 4- sufficient; 5- very sufficient)
	On a scale of 1-5, how did you find the cleanliness of the PA? (1- very unclean; 2- unclean; 3-neutral; 4- clean; 5- very clean) On a scale of 1 to 5, how important are amenities (restrooms, food options, etc.) for your overall experience at the PA? (Scale: 1 - Not important, 5 - Very important)
	On a scale of 1 to 5, how important is environmental sustainability and conservation in your decision to visit a nature park (1 being not important, 5 being very important)?
	On a scale of 1 to 5, how interested would you be in participating in educational programs about the local ecosystem/wildlife/conservation efforts?
Feedback & recommendations	Do you have any recommendations to improve your experience at the PA?
	Do you have any additional feedback on regarding the PA?

Appendix 8: Guidelines to monitor non-compliance incidences of PA rules

The following provides guidelines for PA management unit to attend to any incidences of non-compliances or violations of the PA rules.

1. The Gan Boda Fengan'du Management Unit established within the Gan Island Council (Management Unit) will be the primary party responsible for attending to reported incidences of non-compliance and violation of PA rules.
2. The Management Unit has the right to attend to such issues and resolve these in a peaceful manner.
3. Reports of the incidence shall be received through direct observation by the Management Unit staff or through reports either by phone, letter, email or other means of communication.
4. Management Unit Staff shall attend the site and gather information on the day an incident is reported. Any violations of PA rules should immediately be stopped or necessary mitigation action should be taken as advised by the EPA.
5. A report of the incidence should be sent to the EPA within 5 days of the incidence being reported.
6. The EPA will investigate the incident and take necessary action after reviewing the incident report.
7. The Management Unit shall maintain a log of all reported incidences and compile a list of incidences in the monthly PA management report.
8. The EPA shall maintain a register of reported incidences and actions taken.
9. A flow diagram outlining the process for attending to the reports are given below.

Flow diagram of Incidence Attendance Mechanism



Appendix 9: PA ecological baseline and periodic monitoring schedule

Attribute	Parameter	Method	Frequency for periodic monitoring
Terrestrial			
Vegetation	<ul style="list-style-type: none"> • Vegetation species and composition • tree height and girth • canopy cover • Tree health • Invasive species 	Transects, plots	Annually (monitor seasonal changes)
Fauna	<ul style="list-style-type: none"> • Species and composition • Health 	Visual surveys	Annually (monitor seasonal changes)
	<ul style="list-style-type: none"> • Avifauna species and numbers • Migratory birds 	Observations by rangers (In future can develop citizen science reporting)	Continuously and reported in monthly report (monitor seasonal changes)
Groundwater	<ul style="list-style-type: none"> • Temperature • pH • Salinity • Electrical conductivity • Nitrates, Phosphates, Ammonia, • Faecal coliform, and Total coliform • Other pollutants 	Onsite testing and laboratory testing	Once every 3 months
Human Impact	<ul style="list-style-type: none"> • Litter by weight • Litter composition 	Observations by rangers	Continuously and reported in monthly report
Water Body			
Water Quality	<ul style="list-style-type: none"> • Temperature • pH • Salinity • Electrical conductivity • Nitrates, Phosphates, Ammonia, • Faecal coliform, and Total coliform • Other pollutants 	Onsite testing and laboratory testing	Once every 3 months
Flora & Fauna	<ul style="list-style-type: none"> • Flora species and composition 	Visual surveys, fish census	

	<ul style="list-style-type: none"> • Fauna species and composition • Invasive species 		
Human Impact	<ul style="list-style-type: none"> • Litter by weight • Litter composition 	Observations by rangers	Continuously and reported in monthly report
Beach & Coastal Environment			
Erosion and coastal changes	<ul style="list-style-type: none"> • Beach profile • Beach line at high tide and low tide • Vegetation line 	Surveying using level, staff and GPS Aerial imagery	Once every 3 months
Coastal vegetation	<ul style="list-style-type: none"> • Species and composition along beach line 	Line transects	Annually
Marine Environment			
Water quality	<ul style="list-style-type: none"> • Temperature • pH • Salinity • Electrical conductivity • Nitrates, Phosphates, Ammonia, • Faecal coliform, and Total coliform • Other pollutants 	Onsite testing and laboratory testing	Annually
Coral reef health	<ul style="list-style-type: none"> • Percentage live coral cover • Species and abundance • Invasive species 	Quadrant	Annually
	<ul style="list-style-type: none"> • Coral bleaching 	Visual quadrants	<ul style="list-style-type: none"> • Monitor following a MMRI alert in Laamu Atoll. • Continue to monitor every 6 months after a bleaching event to check recovery
Seagrass health	<ul style="list-style-type: none"> • Seagrass cover • Seagrass species composition • Presence of epiphytes and macroalgae 	Quadrats	Annually
Fauna	<ul style="list-style-type: none"> • Species abundance and composition 	Visual surveys	Annually
Pollution	<ul style="list-style-type: none"> • Litter weight and composition • Visible oil or another surface contamination • Others 	Observations by rangers	Continuously and reported in monthly report

Appendix 10: Activities Allowed and prohibited in the PA

Note: The activities which are allowed within the PA are indicated with a right mark (√) and the activities that are prohibited are marked with a wrong mark (X). Activities that are not relevant or applicable to an area are indicated with a (NA). Activities indicated by an asterix (*) can be carried out by special permits.

Activity	Marine Area	Terrestrial Area
Any activities that may cause harm to or alter the PA	X	X
Any activities such as remove, kill, injure or remove, that may cause harm to biodiversity within the PA	X	X
Harvest eggs or causing destruction to nests of any species	X	X
Littering	X	X
Using strong lights in the area during night time	X	X
Creating noise disturbances to disrupt behaviours of wildlife in the area	X	X
Introduce any new or alien species into the area	X	X
Feeding the birds, fish and other species present in the area	X	X
Mining or conducting any research to find gas, oil or minerals	X	NA
Reclamation and dredging	X	NA
Anchoring	X	NA
Infrastructure development	X	√*
Aquaculture/mariculture	X	NA
Sand and coral mining	X	NA
Releasing any pollutants into the reef and placing outfalls	X	NA
Use of motor vehicles	NA	X
Cutting, removal or causing harm to trees	NA	X
Removal of soil	NA	X
Plant a seedling or seeds from any type of trees other than that growing in the area	NA	X
Lighting fires	NA	X
Agriculture	NA	X
Visiting and viewing the area by locals and tourists*	√	√
Eco-tourism related activities*	√	√
Research*	√	√
Restoration and rehabilitation activities*	√	√
Traditional resource gathering (fallen palm fronds, mature coconut, dry wood and sea almonds)*	NA	√
Picking, cutting and removal of fruits and other edibles from mangrove plants*	NA	√
Cutting wood*	NA	√
Removal of soil	Na	x

Appendix II: Guidelines for Access and Other Fees

Below is a guideline for the fees to be taken as part of the PA management plan. All fees are for Maldives residents and work permit holders unless stated otherwise.

No.	Description	Cost (MVR)
1	Entry fee	-
2	Entry fee (Non-Mv)	100.00
3	Guided tours	200.00
4	Guided tours (Non-Mv)	771.00
5	Bicycle hire per day	50.00
6	Bicycle hire per day (Non-Mv)	100.00
7	Photography Permit (Non-Mv)	1,500.00
8	Photography Permit	500.00
9	Commercial Research License	3,000.00
10	Merchandise (Souvenirs) monthly	125.00
11	Food and beverage monthly	150.00

Fee exemptions will be made for the following parties:

1. Students and teachers visiting the PA for educational purposes
2. Individuals or parties visiting for official purposes under a special permission from the Ministry of Tourism and Environment
3. Researchers with valid permit
4. Individuals or parties attending trainings or capacity development programs organized by the PA Management Unit.

Appendix 12: Guidelines for selling products within the Gan Boda Fengan'du

Food items sold within the Gan Boda Fengan'du:

- Should mainly be Maldivian products
- Should give importance to products produced in Laamu Gan or within Laamu Atoll
- Should be packaged in environmentally friendly packaging

Souvenirs or other exhibit items sold within the Gan Boda Fengan'du should:

- Should be only Maldivian products
- At least 50% of products should be made in Laamu Gan or in Laamu Atoll
- Should not be in plastic packaging

Appendix 13: Guidelines for photography and videography within the Gan Boda Fengan'du Protected Area

1. Commercial photography and videography inside the PA can be carried out under a permit. Commercial photography and videography permit request forms are available from the PA Management Unit or can be downloaded from their website.
2. Completed permit request forms must be submitted to the PA Management Unit at least 5 (five) days prior to the visit.
3. Completed permit request forms can be submitted to the PA Management Unit between 8:00 and 14:00 hrs on all working days. The form can also be faxed or emailed during these times.
4. The PA Management Unit will review the submitted information and give permission.
5. Forms with false information will be rejected.
6. The maximum duration permitted for a photography or videography session will be 5 (five) hours.
7. All activities carried out in the PA should comply with the PA rules and regulations.
8. Parties conducting commercial photography and videography in the PA should ensure the activities do not cause any negative impact to the ecosystem.
9. Commercial photography and videography permits will require a fee as given in the financial plan.

Appendix 14: Guideline for Traditional Resource Use in Gan Boda Fengan'

1. Collection of fallen palm fronds, mature coconut and dry wood for traditional use is permitted in the PA.
2. Traditional resource collection can be carried out on Fridays and Saturdays according to the times set below:
 - Morning: 6:00 to 9:00 hrs
 - Afternoon: 16:00 to 18:00 hrs
3. All activities carried out in the PA should comply with the PA rules and regulations. The palm fronds and dry wood collected must be fallen.

Appendix 15: Guideline to conduct research in the Gan Boda Fengan'du

1. Research inside the PA can be carried out under a permit from EPA. Research permit is issued by EPA, and this permit can be requested through the EPA's oneGov portal.
2. EPA will review the submitted information and give permission.
3. All research activities carried out in the PA should comply with the PA rules and regulations.
4. Researchers must consent to sharing research findings and publication with the PA Management Unit.
5. Commercial research will incur a fee of MVR 3,000 (three thousand) payable to the PA Management Unit.

Appendix 16: Penalties for Non-Compliance in Gan Boda Fengan'du PA

The following penalties will be imposed for violations of the PA rules, regulations and permit conditions at Gan Boda Fengan'du PA

No.	Penalty for Violation
1	The management authority reserves the right to immediately remove escort out of the premises, anyone in violation of the PA management rules, regulations or permit conditions.
2	Anyone entering the PA without required permits will be fined MVR 500 (five hundred) in the first instance. For repeat violations, an additional MVR 5,000 (five thousand) will be added to the previous fine.
3	In instances where a permit has to be revoked due to breach of PA management rules, regulations or permit conditions, the individual or party will be fined MVR 8,000 (eight thousand)
4	Damages to any infrastructure or ecosystem within the PA will be fined between MVR 5,000 (five thousand) and MVR 50,000 (fifty thousand) based on the magnitude of the damages
5	Touching or harming any fauna within the PA will incur a fine between MVR 5,000 (five thousand) to MVR 10,000 (ten thousand)
6	Removing any flora or fauna from the PA will incur a fine between MVR 5,000 (five thousand) to MVR 10,000 (ten thousand). Removal of things allowed in Appendix 10 are exempted.
7	Introduction of any new or invasive species into the PA will incur a fine between MVR 5,000 (five thousand) and MVR 50,000 (fifty thousand)
8	Littering within the PA will incur a fine between MVR 5,000 (five thousand) and MVR 50,000 (fifty thousand)
9	Any violations or damages to the PA, not mentioned in Nos 1 to 8 of this Appendix, will be penalized under the Regulation on Environmental Liabilities (2011/R-9)
10	Any violations or damages to the PA, not mentioned in Nos 1 to 8 of this Appendix or the Regulation on Environmental Liabilities (2011/R-9), will be fined between MVR 5,000 (five thousand) to MVR 10,000 (ten thousand)

Appendix 17: A 10-year work plan for management of Gan Boda Fengan'du Protected Area

Activities	Responsible	Timeline (year)									
		1	2	3	4	5	6	7	8	9	10
Objective 1: By the end of 2025, an effective management plan will be implemented with a functioning management unit on-site.											
Activity 1.1 Approve a management plan and sustainable financing plan for the PA	EPA										
Activity 1.2 Delegate management authority to GIC	EPA										
Activity 1.3 Establish PA management Steering Committee	MoTE										
Activity 1.4 Develop infrastructure inside PA	GIC										
Activity 1.5 Establish management unit and hire staff	GIC										
Activity 1.6 Develop Standard Operating Procedures (SOP) for PA	PA management unit										
Activity 1.7 Conduct general capacity building trainings for staff	MoTE /GIC										
Activity 1.8 Conduct ranger training	MoTE										
Activity 1.9 Develop PA website and social media platforms	PA management unit										
Activity 1.10 Implement visitor activities management and monitoring	PA management unit										
Activity 1.11 Develop management effectiveness monitoring protocols	PA management unit										
Activity 1.12 Train staff on management effectiveness monitoring	MoTE										
Activity 1.13 Conduct periodic management effectiveness monitoring	PA management unit										
Activity 1.14 Review management plan	PA management steering committee										

Objective 2: By the end of 2028, the current levels of flora and fauna within the PA are maintained or improved.											
Activity 2.1 Develop monitoring parameters and protocols	PA management unit										
Activity 2.2 Procure equipment for ecological monitoring	GIC										
Activity 2.3 Conduct a training on ecological monitoring for relevant staff	MoTE										
Activity 2.4 Conduct a baseline ecological assessment of the PA	PA management unit										
Activity 2.5 Continue periodic ecological monitoring of the PA	PA management unit										
Activity 2.6 Disseminate information on health of the PA	PA management unit										
Objective 3: By the end of 2028, appreciation of the cultural, social and economic value of the PA by local community and visitors are increased.											
Activity 3.1 Develop a community engagement and awareness strategy	PA management unit										
Activity 3.2 Prepare and disseminate on the cultural and historical aspects of the PA and Gan island	PA management unit										
Activity 3.3 Prepare and disseminate information on social, cultural, ecological and economic benefits of PAs to local community and visitors	PA management unit										
Activity 3.4 Promote the PA to generate interest to visit the PA	PA management unit										

Appendix 18: Financial Plan

Management Plan Annex: Financial Plan

Laamu Gan Boda Fengan'du Protected Area Management Plan

29th July 2025

Proposed by

Ministry of Tourism and Environment

Prepared by

Water Solutions Pvt Ltd

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Executive Summary

L. Gan Boda Fengan'du Protected Area has been declared as a Protected Area (PA) on 23rd December 2021 under the Law no 4/93 (Environment Protection and Preservation Act4/93). The total area of 15.03 hectares was declared as a PA under the Category 7: Protected Area with Sustainable Use. The PA is mainly protected for its significant biodiversity and historical significance for the local community. In alignment with Clause 12 of the Regulation no 2018/R-78 (Protected Areas Regulation) (), this financial plan is a key component of the management plan, developed to support sustainable use and effective management of the PA.

The management framework proposes a co-management governance regime involving the Ministry of Tourism and Environment (MoTE), the Environmental Protection Agency (EPA), and the Laamu Gamu Council (LGC). The LGC will establish a PA Management Unit within the Council to implement the management plan.

Through careful allocation of financial resources and the establishment of a comprehensive governance framework, this plan aims to protect the ecological and social values of L. Gan Boda Fengan'du Area while providing long-term benefits to the local community and promoting sustainable use of this PA.

Introduction

In alignment with Clause 12 of the Regulation no 2018/R-78 (Protected Areas Regulation), this financial plan is a key component of the management plan, developed to ensure sustainable use and effective management of Laamu Gan Boda Fengan’du Area. Locally known as *Paree Fengan’du*, this area has been designated a Protected Area (PA) on 23rd December 2021 under the law no 4/93 (Environment Protection and Preservation Act). The total area of 15.03 hectares was declared as a PA under the Category 7: Protected Area with Sustainable Use following the government announcement no: (IUL)438-ENV/438/2021/371. The PA is mainly protected for its significant biodiversity and historical significance for the local community.

The vision of the Laamu Gan Boda Fengan’du Area is “To effectively manage Gan Boda Fengan’du Protected Area for maintaining a healthy ecosystem in a sustainable manner and maximizing its social, cultural and economic contribution to the local community for future generations”. The financial plan supports this vision by providing necessary funding to achieve the following objectives.

- Objective 1: By end of 2025, an effective management plan will be implemented with a functioning management unit on-site.
- Objective 2: By 2028, the current levels of flora and fauna within the PA are maintained or improved.
- Objective 3: By the end of 2028, appreciation of the cultural, social and economic value of the PA by local community and visitors has increased.

This report presents financial plan to sustainably implement the proposed management plan for Laamu Gan Boda Fengan’du Area. The objective of this financial plan is to address the resources required to establish effective management, support infrastructure, and ensure ongoing conservation and sustainable use practices. Key areas of focus include funding for management unit establishment, infrastructure development, ecological monitoring and visitor management. Additionally, the plan is designed with the goal of developing revenue-generating services within the PA, thereby supporting ongoing operations and potentially yielding profits that can be reinvested into further conservation and management efforts. This report provides a detailed breakdown of the initial investment, operating costs, revenue break-up and cash flow for the PA.

Description of Financial Plan

Initial Investment

Investment in the development and maintenance of infrastructure, especially visitor centre is essential. There is a need to improve the accessibility and infrastructure within the mangrove area to accommodate visitors, including well-maintained paths and facilities. A small grant from ENDhERI has been awarded to Gamu Island Council to assist in the implementation of the PA management plan, which can potentially cover the initial investments. The initial cost sheet includes fixed assets (physical structures), vessels, vehicles, management office, and miscellaneous items. Preliminary expenses cover bank accounts, stationery, and compliances. Construction costs for the visitor/research center is estimated using the rate MVR 700. The rate also applies for both masonry and wooden structures as they both incur similar cost during construction. This rate can be used to come up with the costs for viewing platforms, parking areas, and waste collection. A comprehensive breakdown of the initial investment is provided in Annex A: Initial investment. The initial investment also includes the cost of bringing utility services to the visitor center, totaling 6.5 million MVR. This cost cannot be covered by the initial grant and other sources of funds will have to be considered by the Gan Island Council.

Operating Costs

To effectively achieve the objectives of this management plan, the financial plan identifies the essential resources, staffing, and assets required. Operating costs for the PA incorporate office cost, staff cost and activities cost. Office expenses includes internet, phone, electricity, water, conveyance, meeting costs, and office supplies, totaling around 58,200 MVR. Staff costs are estimated for 4 staff members; Environment Officer, 2 security staff and a ranger. The combined monthly staffing costs for these roles are estimated to be around 32,000 MVR, which includes salaries, benefits, and any associated allowances. Activity costs include staff training, educational initiatives to raise community and visitor awareness, and marketing efforts to promote sustainable tourism. The details of operating costs are outlined in Annex B: Operating costs

Revenue Break-up

The current product offerings at Laamu Gan Boda Fengan'du Area already provides a valuable experience by offering nature walks, picnic areas and photography. Visitors can participate in these activities to explore the mangrove area and learn more about the crucial function mangroves provide in environmental preservation. Potential products and services provided from the PA includes establishing recreational areas, vendor stands to offer refreshments and local handicrafts and provides a venue for scientific research as well.

Revenue streams for the next 10 years include entry fees, guided tours, bicycle hire, photography, research fees, merchandise as well as food and beverage. Revenue is expected to grow by 10% every two years. Merchandise, food and beverage are identified as major revenue sources, and the council is advised to focus on this. A comprehensive breakdown of revenue sources for this PA is presented in Annex C: Revenue break-up

Cash Flow

The cash flow sheet shows a consistently positive net cash flow throughout the year, assuming that the initial investment will be covered by a small grant provided to the island council. This positive cash flow indicates that, after covering operating expenses and management costs, the revenue streams of the PA, including visitor fees and services are sufficient to sustain ongoing operations. A detailed cash flow table for the PA is provided in Annex D: Cash flow.

Risk Management

This financial plan also incorporates a comprehensive risk management strategy to address potential financial and operational challenges that could impact the effective management of this PA. Key risks include fluctuations in funding sources, unexpected maintenance costs, environmental degradation, and changes in visitor numbers. To mitigate these risks, it is important to have multiple funding sources and regularly review financial performance to adapt to changing circumstances. Additionally, periodic ecological assessments and visitor impact studies will be conducted to address any environmental or operational concerns.

Monitoring and Evaluation

The financial plan should be monitored and evaluated along with the management plan. Refer to Section 12 of the Laamu Gan Boda Fengan'du Area Management Plan.

Annex A: Initial investment

Initial Investment		
		Total Cost
Fixed assets		
PA infrastructure		9,114,002.00
Visitor/research centre	1,225,000.00	
Treehouse	429,100.00	
Viewing platform	198,913.75	
Bicycle stand x1	114,675.00	
Waste collection point (Bins) x2	1,800.00	
Parking area	7,500.00	
Access gate	16,750.00	
Information board stand x5	25,000.00	
Life guard equipment x2	10,000.00	
Security camera x3	19,200.00	
Open shower (muslim shower) x1	10,032.00	
Seating x6	12,000.00	
Utilities (Water, Electricity, Sewerage)	6,500,000.00	
Wooden Walkway	544,031.25	
Vessels and vehicles		-
Speedboat	-	
Dingy	-	
Motor cycle	-	
Pickup	-	
Buggy x2	154,200.00	
Bicycle x12	105,000.00	
canoe x2	11,600.00	
PA Management Office		185,000.00
Office setup/renovation	50,000.00	
Rent Deposit		
Furniture	55,000.00	
Eqipment (PC, printers, etc)	80,000.00	
Eqipment (Ecological survey)	-	
Miscellaneous Fixed Assets		5,000.00
Network connections	5,000.00	
Total Fixed Assests		9,304,002.00
Preliminary expenses		2,000.00
Bank accounts	-	
Statutory compliance	2,000.00	
Insurance	-	
Total initial investment	MVR	9,306,002.00

Annex B: Operating costs

Operating Cost															
No.	Description		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YR 2024
1	Office Cost	-	4,850	4,850	4,850	4,850	4,850	4,850	4,850	4,850	4,850	4,850	4,850	4,850	58,200
2	Staff Cost	-	32,000	32,000	32,000	32,000	32,000	32,000	32,000	32,000	32,000	32,000	32,000	32,000	384,000
3	Activities Cost	-	1,000	4,000	4,000	4,000	4,000	4,000	14,000	4,000	4,000	4,000	4,000	4,000	55,000
Total Operating Costs			37,850	40,850	40,850	40,850	40,850	40,850	50,850	40,850	40,850	40,850	40,850	40,850	497,200
Office Cost															
No.	Description	Rate	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YR 2024
1	Rent														-
2	Communication (internet, phone, etc)	1,650	1,650	1,650	1,650	1,650	1,650	1,650	1,650	1,650	1,650	1,650	1,650	1,650	19,800
3	Utilities (electricity, water, etc)	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	24,000
4	Conveyance (local transport)	500	500	500	500	500	500	500	500	500	500	500	500	500	6,000
5	Meeting Cost (petty cash)	500	500	500	500	500	500	500	500	500	500	500	500	500	6,000
6	Office Supplies (stationary, etc)	200	200	200	200	200	200	200	200	200	200	200	200	200	2,400
7	Compliance	200	200	200	200	200	200	200	200	200	200	200	200	200	2,400
Total Office Cost			4,850	4,850	4,850	4,850	4,850	4,850	4,850	4,850	4,850	4,850	4,850	4,850	58,200
Staff Cost															
No.	Description	Rate	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YR 2024
1	Environment Officer	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	120,000
2	Ranger	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	96,000
3	Security x2	7,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	168,000
Total annual salary			32,000	32,000	32,000	32,000	32,000	32,000	32,000	32,000	32,000	32,000	32,000	32,000	384,000
Activities Cost															
No.	Description	Rate	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YR 2024
1	Training	10,000	10,000						10,000						20,000
2	Education, Awareness and Outreach	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	24,000
3	Marketing	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	24,000
Total Activities Cost			14,000	4,000	4,000	4,000	4,000	4,000	14,000	4,000	4,000	4,000	4,000	4,000	68,000

Annex C: Revenue break-up

Revenue						
No.	Description	Cost (MVR)	Overhead (fixed and variable) (MVR)	Total (MVR)	Margin 25%	Price (MVR)
	Revenue					
1	Entry fee	-	-	-	-	-
2	Entry fee (Non-Mv)	100.00	-	100.00	-	100.00
3	Guided tours	200.00	-	200.00	-	200.00
4	Guided tours (Non-Mv)	771.00	-	771.00	-	771.00
5	Bicycle hire per day	50.00	-	50.00	-	50.00
6	Bicycle hire per day (Non-Mv)	100.00	-	100.00	-	100.00
7	Photography Permit (Non-Mv)	1,500.00	-	1,500.00	-	1,500.00
8	Photography Permit	500.00	-	500.00	-	500.00
9	Commercial Research License	3,000.00	-	3,000.00	-	3,000.00
10	Merchandise (Souvenirs) monthly	125.00	60.00	65.00	-	65.00
11	Food and beverage monthly	150.00	-	150.00	-	150.00

Estimated revenue from aforementioned fees in MVR is shown below

Assumptions	Nos	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
	1,500	-	-	-	-	-	-	-	-	-	-
	750	75,000.00	75,000.00	82,500.00	82,500.00	90,750.00	90,750.00	99,825.00	124,781.25	137,259.38	137,259.38
1 per week	52	10,400.00	10,400.00	11,440.00	11,440.00	12,584.00	12,584.00	13,842.40	12,584.00	13,842.40	13,842.40
1 per week	52	40,092.00	40,092.00	44,101.20	44,101.20	48,511.32	48,511.32	53,362.45	48,511.32	53,362.45	53,362.45
Every other visitor	750	37,500.00	37,500.00	41,250.00	41,250.00	45,375.00	45,375.00	49,912.50	45,375.00	49,912.50	49,912.50
1 in every 3 visitor	500	50,000.00	50,000.00	55,000.00	55,000.00	60,500.00	60,500.00	66,550.00	60,500.00	66,550.00	66,550.00
1 per week	52	78,000.00	78,000.00	85,800.00	85,800.00	94,380.00	94,380.00	103,818.00	94,380.00	103,818.00	103,818.00
1 per week	52	26,000.00	26,000.00	28,600.00	28,600.00	31,460.00	31,460.00	34,606.00	31,460.00	34,606.00	34,606.00
1 per quarter	4	12,000.00	12,000.00	13,200.00	13,200.00	14,520.00	14,520.00	15,972.00	14,520.00	15,972.00	15,972.00
Every other visitor	750	48,750.00	48,750.00	53,625.00	53,625.00	58,987.50	58,987.50	64,886.25	58,987.50	64,886.25	64,886.25
Every visitor	1,500	225,000.00	225,000.00	225,000.00	225,000.00	225,000.00	225,000.00	225,000.00	225,000.00	225,000.00	225,000.00
	5,962	602,742.00	602,742.00	640,516.20	640,516.20	682,067.82	682,067.82	727,774.60	716,099.07	765,208.98	765,208.98

Annex D: Cash flow

Cash Flow										
Details	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Income										
Revenue	602,742	602,742	640,516	640,516	682,068	682,068	727,775	716,099	765,209	765,209
Bal from Previous Quarter	-	105,542	186,224	278,577	343,522	421,240	468,741	530,220	546,709	577,327
Total Income	602,742	708,284	826,740	919,093	1,025,590	1,103,308	1,196,516	1,246,319	1,311,918	1,342,536
Expenses										
Initial Investment	-									
Office Cost	58,200	61,110	64,166	67,374	70,742	74,280	77,994	81,893	85,988	90,287
Staff Cost	384,000	403,200	423,360	444,528	466,754	490,092	514,597	540,327	567,343	595,710
Activity Cost	55,000	57,750	60,638	63,669	66,853	70,195	73,705	77,391	81,260	85,323
Total Expenses	497,200	522,060	548,163	575,571	604,350	634,567	666,296	699,610	734,591	771,320
Net Cash	105,542	186,224	278,577	343,522	421,240	468,741	530,220	546,709	577,327	571,215