

Deliverable 5: Management Plans & Annexes

Laamu Gaadhoo-Hithadhoo Kan'du Area Management Plan

Project: Consultancy Service to Develop Management plan for six Protected Areas at Laamu Atoll

28th April 2025

Proposed by

Ministry of Tourism and Environment

Prepared by

Water Solutions Pvt Ltd

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Laamu Gaadhoo-Hithadhoo Kan'du Area Management Plan

28th April 2025

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1. Executive Summary

L. Gaadhoo Hithadhoo Kandu has been declared a Protected Area (PA) on 23rd December 2021 under the Environment Protection and Preservation Act (4/93). The total area of 521.08 hectares was declared as a PA under the Category 6: Species/Habitat Management Area. The PA is mainly protected for its significant biodiversity. This management plan is developed in accordance with Clause 12 of the Protected Areas Regulation (2018/R-78) to ensure sustainable use and management of the PA.

The vision of the Gaadhoo-Hithadhoo Kan'du PA is “To effectively manage Gaadhoo-Hithadhoo Kan'du Protected Area for maintaining a healthy ecosystem to protect globally and locally significant and threatened species”. 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.
- Objective 2: By the end of 2028, the current levels of Grouper, Napoleon wrasse, sharks, rays and sea turtles within the PA are maintained or improved., along with general improvement of biodiversity and ecosystem function and services of the PA.
- Objective 3: By the end of 2028, understand the current levels of tourism and fishery use, and develop and implement appropriate guidelines for sustainable practices.

The Gaadhoo-Hithadhoo Kan'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 Atoll Council (LAC). The LAC 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.

2. 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 Laamu Gaadhoo-Hithadhoo Kan'du. This Kan'du, a stretch of ocean between Gaadhoo and Hithadhoo has been declared a Protected Area (PA) on 23rd December 2021 under the Regulation No. 4/93 (Environment Protection and Preservation Act). The total area of 521.08 hectares was declared as a PA under the Category 6: Species/Habitat Management Area following the government announcement no: (IUIL)438-ENV/438/2021/371. The PA is mainly protected for its significant biodiversity.

The Gaadhoo-Hithadhoo Kan'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 Atoll Island Council (LAC). The LAC 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 Atoll Council and other local stakeholders. A market assessment and willingness to pay for improved management was also conducted.

3. Vision

Gaadhoo-Hithadhoo Kan'du is recognized for its significant biodiversity. The channel is especially known to have several globally endangered species and is also a grouper and Napoleon wrasse spawning area. The area is also economically important for fisheries and tourism.

The Gaadhoo-Hithadhoo Kan'du PA is therefore guided by the following vision:

“To effectively manage Gaadhoo-Hithadhoo Kan'du Protected Area for maintaining a healthy ecosystem to protect globally and locally significant and threatened species”

4. 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.
- Objective 2: By the end of 2028, the current levels of Grouper, Napoleon wrasse, sharks, rays and sea turtles within the PA are maintained or improved., along with general improvement of biodiversity and ecosystem function and services of the PA.
- Objective 3: By the end of 2028, understand the current levels of tourism and fishery use, and develop and implement appropriate guidelines for sustainable practices.

5. Description of the Site

The Laamu Gaadhoo-Hithadhoo Kan'du Area is a total size of 777.04 ha marine area, as shown in the figure below. The PA is declared as a Category 6: Species/Habitat Management Area under the local PA Regulation and it corresponds to IUCN Category IV which are areas protected habitat or species management (see Figure 2).

Physical features: Gaadhoo-Hithadhoo Kan'du is a stretch of ocean between Gaadhoo and Hithadhoo. It is located at the southern tip of Laamu atoll, at 1.805074, 73.422383. Detailed bathymetry of the area is not available and needs to be taken.

Biological features: Gaadhoo-Hithadhoo Kan'du is adjacent on the western side to a Reef Manta Ray (*Mobula Alfredi*) cleaning station, grouper spawning site, and Napoleon Wrasse (*Cheilinus undulatus*) spawning site. Species of groupers spawning and aggregating at this site include *Epinephelus fuscoguttatus*, *Plectropomus areolatus* and *Epinephelus polyphekadion*. Its nutrient rich waters are an important habitat for commercially important species including emperors, snappers and groupers. Other significant species found here include green turtles (*Chelonia mydas*), and Ornate eagle ray (*Aetomylaeus vespertilio*). On the eastern side the area is in close proximity to the green sea turtle nesting beach in Gaadhoo. The area may have importance as a migratory route for the aforementioned species.

Economic features: The area is used for reef fishery, which is an important economic activity in Laamu atoll.

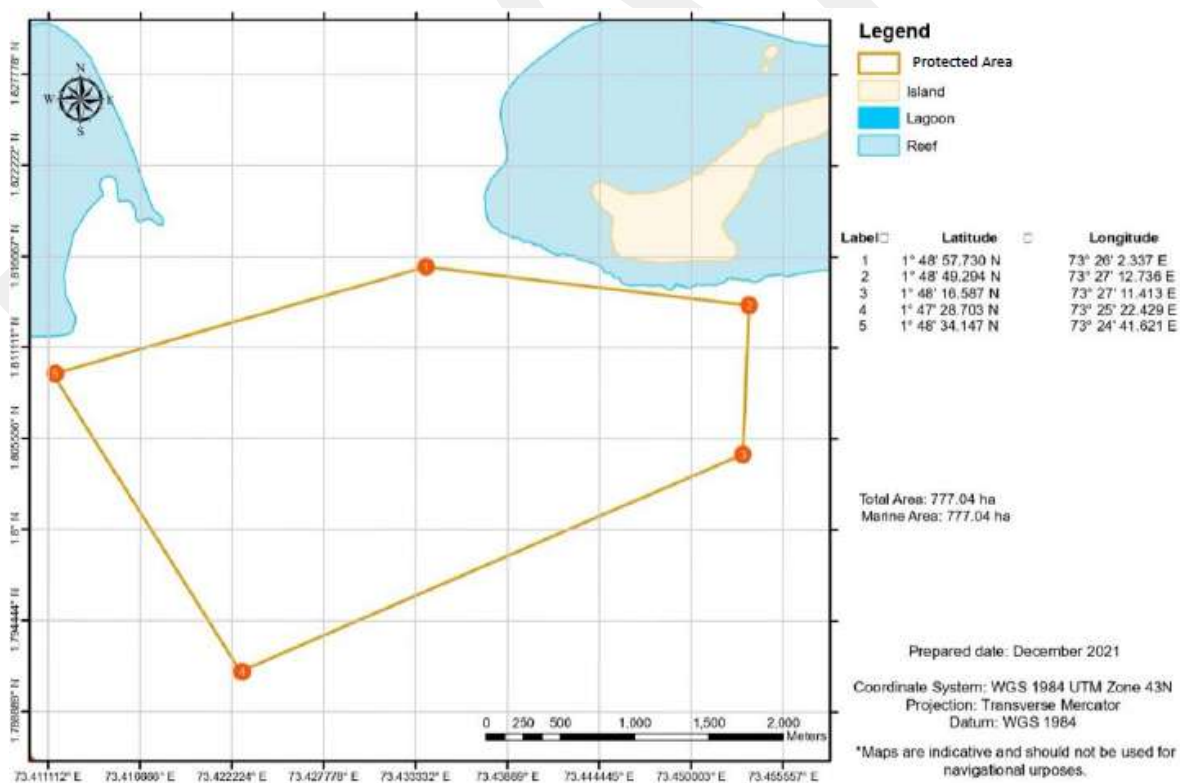


Figure 1: Gaadhoo-Hithadhoo Kan'du Protected Area

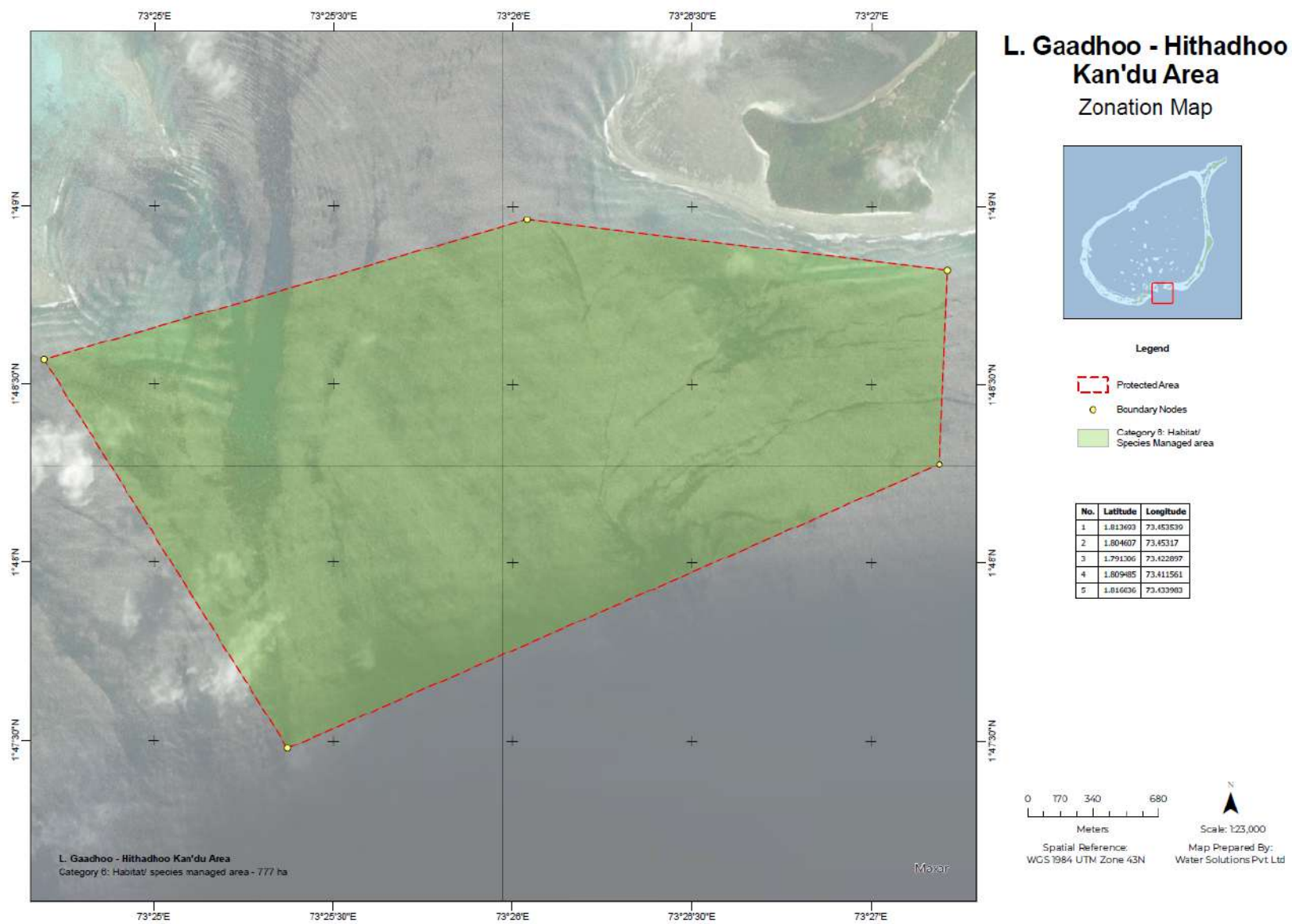


Figure 2. Zonation map for Gaadhoo-Hithadhoo Kan'du

Current Resource Use

Currently, this area is mainly used for fishing and diving. The current resource uses are given below and in Figure 3.

1. Diving: Given the significant biodiversity of the PA, this area is a popular dive site. Specifically Olhuveli Corner on the northwestern side and Gaadhoo Outside on the eastern side are popular dive sites which are primarily used by Six Senses Laamu.
2. Fisheries: The area is significantly used for reef fishery primarily using handline method. Trolling, spearfishing and jigging are carried out at low levels. Other types of fishery carried out in this area include tuna, octopus, billfish, sea cucumber, baitfish and lobster fisheries at low levels.
3. Dolphin watching: Excursions from resorts and guesthouses offer dolphin watching to this area.

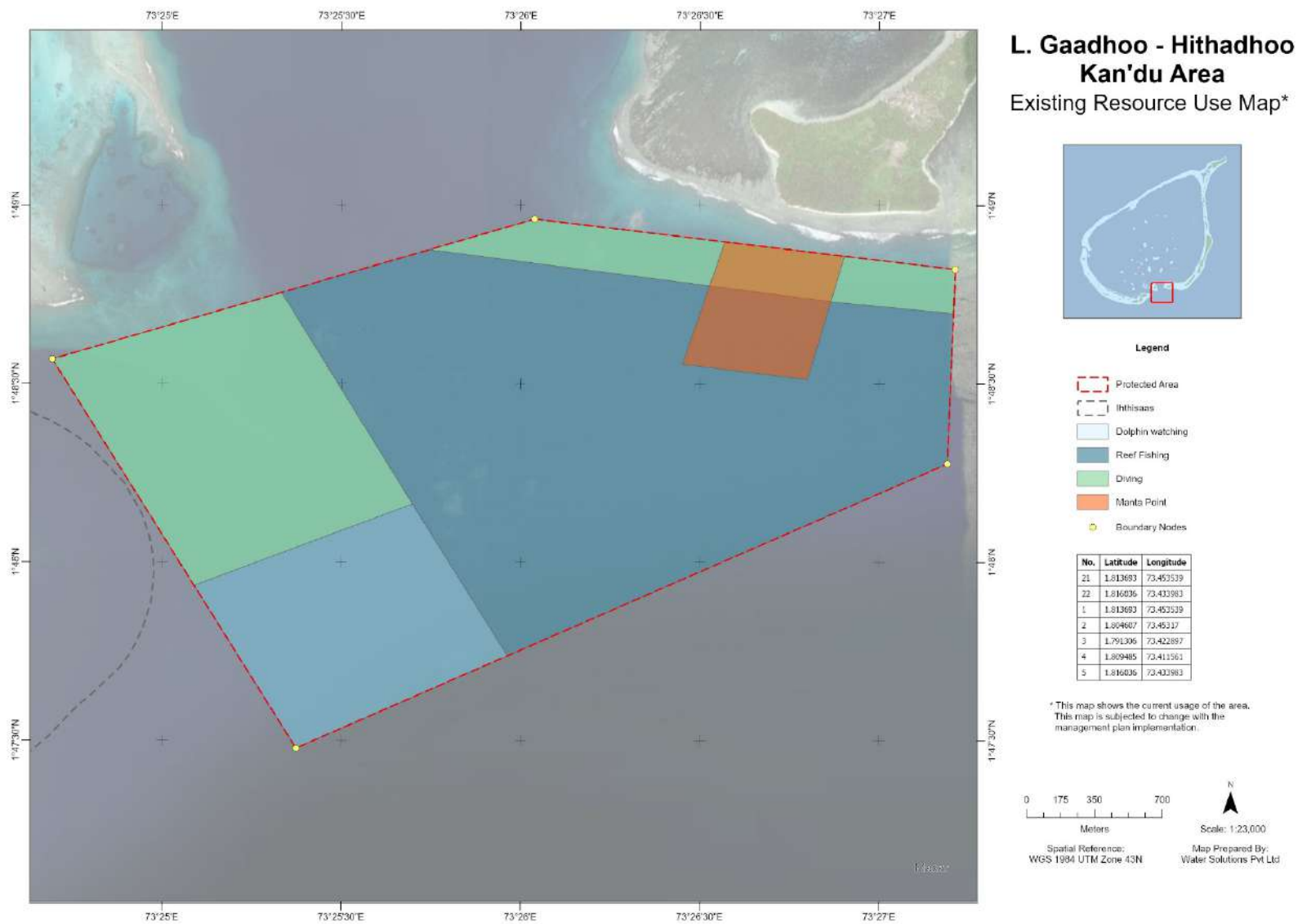


Figure 3: Existing resource uses at L. Gaadhoo-Hithadhoo Kan'du

6. Key values of the site

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

- i The area to the west adjacent to the PA is a known grouper and Napoleon Wrasse spawning area. This is a multispecies grouper spawning site, for *Epinephelus fuscoguttatus*, *Plectropomus areolatus* and *Epinephelus polyphekadion*.
- ii Several globally endangered species under IUCN Red List of Threatened Species are found in the channel. These include Oceanic manta ray (*Mobula birostris*), Green turtles (*Chelonia mydas*), and Ornate eagle ray (*Aetomylaeus vespertilio*).
- iii This is an important area for reef fishery and other types of fishery including bait and billfish fisheries.
- iv The area is also popular tourism use areas for diving and dolphin watching.

7. Identification of constraints, opportunities and threats

Constraints

The main constraint of this PA is the lack of baseline information about the area. For monitoring the effectiveness of the PA, further information on the numbers and species of fish is 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 vessels and equipment will also be required for the management unit. Capacity is also needed to be built for sustainable financing planning.

Threats

Figure 4 gives a threat prioritization matrix showing the likelihood and extent of threat impact.

Natural threats: El Niño associated coral bleaching events are a major threat to the reefs in Maldives. With more frequent bleaching events, coral reefs are at increased risk of dying which would be devastating for the species which inhabit the reefs. Crown of Thorns starfish feed on hard coral, which in conjunction with bleaching events pose a significant threat to coral reefs. Monitoring the health in accordance with the national coral reef monitoring protocols under Coral Database of reefs would be included in the management of this PA. Other threats include invasive species which are found in coral reefs of Maldives.

Human threats: Moderate levels of fishing intensities for reef fishery in the area have been recorded, which could possibly result in unsustainable fishing practices. The threat of overfishing is of high concern due to the impact it could have on key species found here. Further, ghost nets and fishing lines get entangled in corals and marine species and are prominently from fishing practices outside of Maldives EEZ. Anchoring during fishing and diving is another issue, which will need to be monitored. Marine litter, especially plastics and micro plastic pollution is an issue all over Maldives, which can be ingested by marine species and can also be entangled in them. The area also has vessel collisions which would be dangerous for marine life.

Likelihood					Constraints
Rare	Unlikely	Possible	Likely	Almost certain	
		<ul style="list-style-type: none"> • Overfishing • Destructive fishing practices 	<ul style="list-style-type: none"> • Plastic pollution • Unsustainable development impacts • Sea level rise • Marine pollution that are not plastics 	<ul style="list-style-type: none"> • Bleaching events • Damage to corals 	
		<ul style="list-style-type: none"> • Invasive species • Anchoring • Vessel collisions 	<ul style="list-style-type: none"> • Anchoring 	Marine litter	

- Low risk
- Medium risk
- High risk
- Very high risk

Figure 4: Threat identification and prioritisation matrix for L. Gaadhoo Hithadhoo Kan'du

Opportunities

The Laamu Atoll Council (LAC), is overall responsible for local governance of the atoll, and hence, assigning the management authority to LAC through a Memorandum of Understanding (MoU) can be a potential model for the PA. This ensures that PA management can be a collaborative process with local stakeholders involved.

Maldives Underwater Initiative (MUI) is a collaboration between the marine biologists at Six Senses Laamu (a resort at the south of Laamu atoll), and three NGOs (Olive Ridley Project, The Manta Trust, and Blue Marine Foundation), conducting research, awareness and community empowerment in Laamu

atoll. MUI collects data by participating in dives to the PA from Six Senses Laamu, including recording sightings of megafauna. Blue Marine Foundation (BLUE), in collaboration with national and local partners (including the NGO Maldives Resilient Reefs and Hithadhoo Island Council), is doing work to support effective management of PAs, and has conducted research to understand resource use, coral reef health and more. Maldives Resilient Reefs/ Blue Marine Foundation have been undertaking periodic coral reef surveys in this area since 2019. They have also trained numerous community members of Laamu Atoll in SCUBA diving and coral reef monitoring protocols. Their main office is based on Laamu Gan island, and will be an ideal NGO partner to collaborate with on coral reef monitoring activities. This provides a valuable opportunity to monitor the health of Gaadhoo-Hithadhoo Kan'du through a collaborative effort.

Additionally, Laamu Fisheries Forum, organized by Maldives Resilient Reefs in partnership with LAC gives the opportunity to convene with fishers in Laamu to discuss managing fisheries in areas with high fishing intensities and manage possible overfishing. Maldives Resilient Reefs/ Blue Marine Foundation and Six Senses Laamu are currently implementing a programme Laamaseelu Masveriya to work with fishers to ensure sustainable use of the nearby reefs.

8. Governance

The Gaadhoo-Hithadhoo Kan'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 Atoll Council (LAC). The LAC will be assigned management authority through a memorandum of understanding with the EPA. The LAC will establish a PA Management Unit within the council to implement the management plan. The LAC will engage support from Laamu based NGOs and research groups to support research and monitoring of the PA. A PA Management Steering Committee on an atoll-level, comprising of the Atoll Council as well as local stakeholders, will be established to guide governance and management of the PA on a case-by-case basis. 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 LAC
- Determine all policies related to the establishment and management of the protected area, including review and changes to PA rules and regulations.
- 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 PA management
- Approve and implement the management plan and a sustainable financing plan for the PA.
- Ensure the management plan and a sustainable financing plan is in place for the PA
- Annually review the PA financing mechanism and financial plans for the PA
- Provide necessary PA management trainings for the assigned management authority. A training needs matrix is presented in Appendix 3.
- Monitoring management effectiveness of the PA.

Roles and responsibilities of the Environmental Protection Agency (EPA)

- A main regulatory authority for the PA through a tripartite agreement with MoTE, EPA and LAC
- 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 and periodically review the management plan.
- 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 and train the management authority with a mechanism to monitor the biodiversity and physical health of the PA
- Provide 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 through the oneGov portal. Long-term partnerships for environmental monitoring and research can be developed with NGOs, universities and other capable research groups.
- Review annual monitoring reports submitted by the management authority.
- Recommend changes to PA rules and management based on review of monitoring reports.

Roles and responsibilities of Laamu Atoll Council

- A main regulatory authority for the PA through a tripartite agreement with MoTE, EPA and LAC
- 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
- Recruit required human resources to manage the PA and ensure staff undergo necessary trainings according to the training requirements provided in Appendix 3.
- Ensure equity including gender equity in site management and include a review of practices during management review
- 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 an MoU 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 the PA 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 overall operations of the PA management unit 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 5
 - 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 (R58/2013).
- 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.
- 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 7.
- Receive and resolve any complaints, disputes or grievances to the governance or management of the PA according to the grievance redress mechanism 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 of 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 a PA website and other social media platforms
- Promote the PA to attract visitors

Roles and responsibilities of NGOs

- Support the PA Management Unit in ecological monitoring of the area.
- Train the PA Management to undertake ecological monitoring, analyze and report data

The PA Management Steering Committee

The Gaadhoo-Hithadhoo Kan'du Management Steering Committee (hereafter referred to as Steering Committee) will advise the PA Management Unit on implementing the PA management plan on an atoll-level.

1. The Steering Committee should comprise of members representing the following parties, with the number of representatives from each indicated in the brackets:
 - Laamu Atoll Council (1)
 - Representation from PA management unit (1)
 - Representation from tourism sector – guesthouse and resort (2)
 - Representation from a research NGO (2)
 - Representation from a Laamu community NGO (1)
 - Representation from a fisher (1)
 - Representation from dive community (1)
 - Representation from local community (1)
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
 - Advise on 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 LAC 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 LAC with secretariat services provided by the PA management Office.
 7. The Steering Committee will meet a minimum of twice a year.

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 Gaadhoo-Hithadhoo Kan'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, eco-tourism 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. Recreational diving: Number of users will be monitored for the first year of management plan implementation. Based on user numbers and types the PA Management Steering Committee will decide on an annual user permit and fees. Appendix 11 gives permit types for consideration.
2. Traditional bait fishing and top layer fishing: Number of users will be monitored for the first year of management plan implementation. Based on user numbers and types and ecological health of the PA, the PA Management Steering Committee will decide on an annual user permit and fees. Appendix 11 gives permit types for consideration.
3. A permit is required for conducting research in the PA. Appendix 12 provides guidelines for conducting research inside the PA.

9. 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) 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 Gaadhoo-Hithadhoo Kan'du PA

Use zone	Allowed uses
Diving zone	<ul style="list-style-type: none">• Recreational diving
Fishing	<ul style="list-style-type: none">• Traditional bait fishing• Top layer fishing

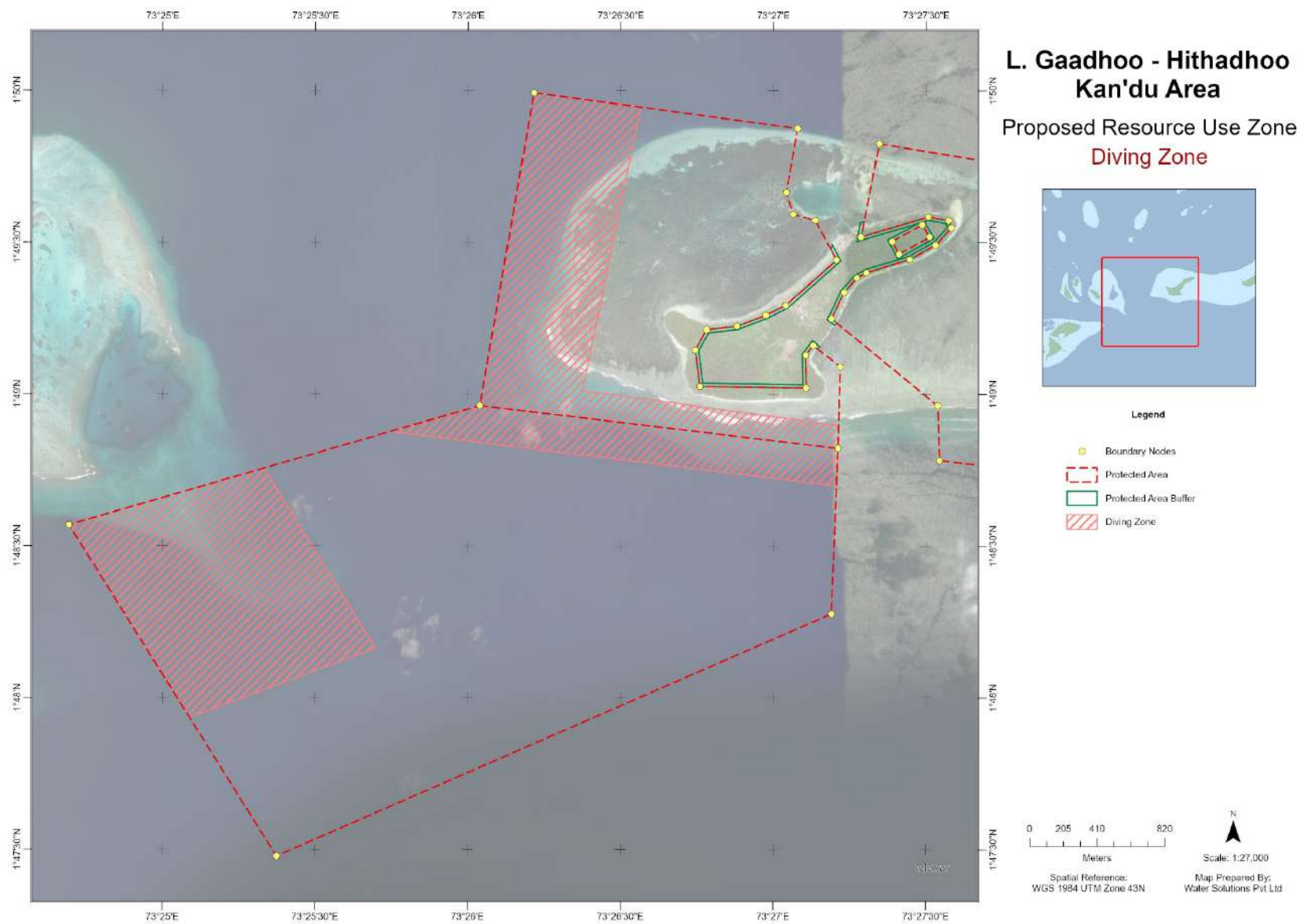


Figure 5: Proposed Resource Use Map

10. 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 LAC 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 training for staff.

Objective 3: Economic

The Gaadhoo-Hithadhoo Kan'du PA is used for fishery – mainly reef fishery by the local community. Other types of fishery such as tuna, billfish also take place. This area is also used as a dive site as well. The current level of use for economic purposes is not well monitored. Therefore, initial 2 years will focus on monitoring the use levels and developing guidelines to ensure activity within the PA does not cause negative impacts on the key species populations within the area. Continued monitoring of user activities as well as key species levels is important.

Table 2. Management Actions for Gaadhoo-Hithadhoo Kan'du

Objective	Actions	Indicators
Objective 1: By the end of 2025, an effective management plan will be implemented with a functioning management unit.	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 LAC	<ul style="list-style-type: none">• MoU between LAC and EPA
	Establish PA management Steering Committee	<ul style="list-style-type: none">• Member appointment documents• Minutes of committee meetings
	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 Limits of Acceptable Change (LAC) for the PA	<ul style="list-style-type: none"> • Approved LAC by PA Management Steering Committee • LAC development report
	Develop management effectiveness monitoring protocols (METT-4)	<ul style="list-style-type: none"> • Approved management effectiveness monitoring protocols
	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 Grouper, Napoleon wrasse, sharks, rays and sea turtles within the PA are maintained or improved., along with general improvement of biodiversity and ecosystem function and services of the PA.	Develop and implement monitoring plan	<ul style="list-style-type: none"> • PA Monitoring Plan
	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, understand the current levels of tourism and fishery use, and develop and implement appropriate guidelines for sustainable practices.	Measure baseline level of community understanding of PA values	<ul style="list-style-type: none"> • KAP survey data • KAP baseline assessment report
	Continue periodic Knowledge, Attitudes and Practices (KAP) assessment	<ul style="list-style-type: none"> • KAP survey data • KAP assessment report
	Develop a procedure for monitoring user activities within PA	<ul style="list-style-type: none"> • Monthly monitoring data Guidelines on sustainable use of activities within PA
	Monitor and collect data on diving, fishery and travel activity within PA	

	Develop and implement guidelines for user activities within PA	
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11. Compliance and enforcement

- Activities prohibited and allowed in the PA are given in Appendix 10.
- The PA Management Unit should have PA rules available and included 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 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 13.
- The PA Management Unit should record and report non-compliance incidences according to guidelines provided in Appendix 13.
- 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 with soft measures to achieve it through deterrence measures. However, it is encouraged to explore new technology for surveillance and enforcement and monitor remotely. Penalties can be enforced gradually as given in Appendix 13.

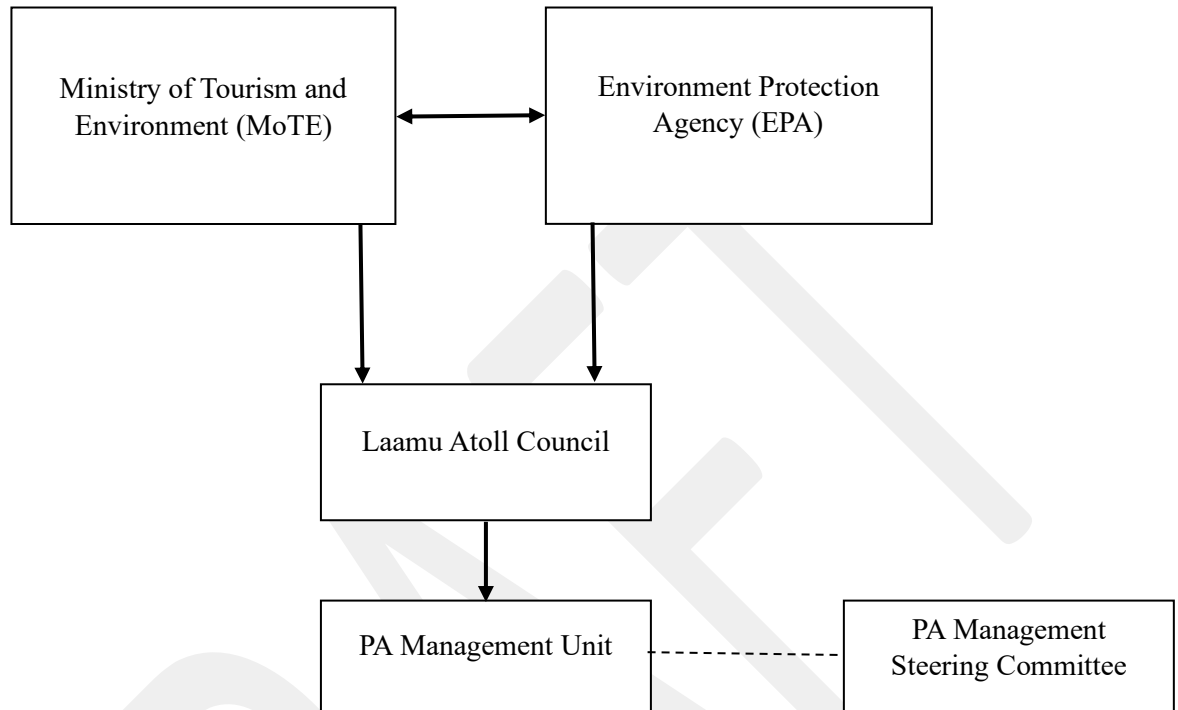
12. Monitoring and evaluation

A work plan with timeline for implementing the management plan is given in Appendix 14. 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.

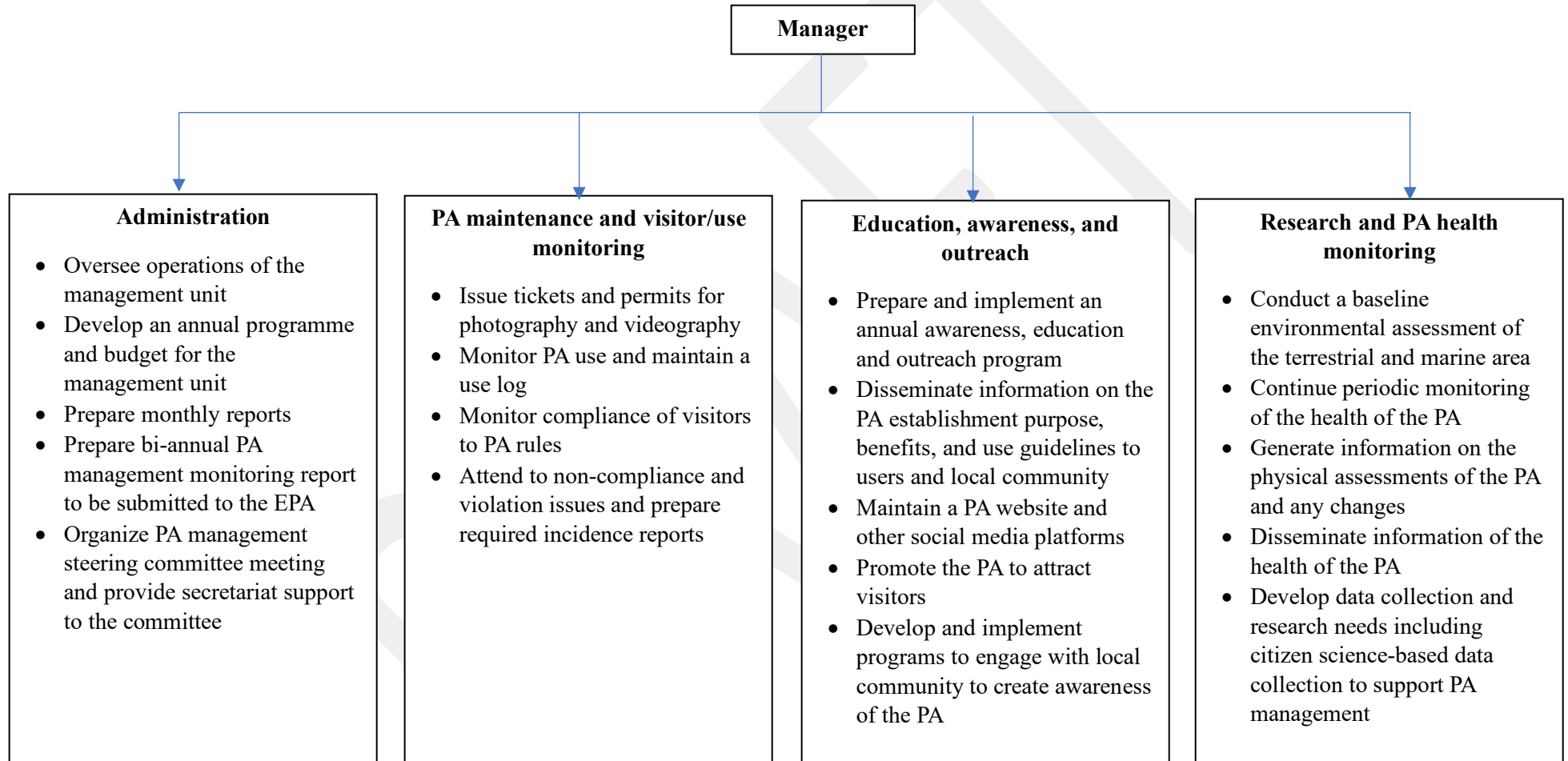
- A baseline ecological assessment with continued periodic monitoring will be used to monitor and evaluate if current ecological conditions are maintained or improved
 - Guidelines on ecological monitoring including parameters to be monitored, methods and frequency for continued monitoring are given 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

13. Appendices

Appendix 1: Laamu Gaadhoo-Hithadhoo Kan'du Governance Structure



Appendix 2: Functions of the PA Management Unit



Staff	No.
Senior Ranger	1
Ranger	2

Note: Staffing is together for Gaadhoo-Hithadhoo Kan'du Olhi and Bodufinolhu and Vadinolhu Pas. In the beginning stage 3 rangers will be hired who will collaborate with the existing Atoll Council staff in implementation.

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							

Standards (IUCN Green List) and Monitoring tools for PA effectiveness (e.g. METT)			x	x	x		on the job training
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		
Open water dive certification or above					x		
Niyami training					x		

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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

Note: Please fill out the sections of this report that are applicable or have relevant updates for this month. If a section does not apply or there have been no changes, it is not necessary to complete it.

Administration

Number of Staff at PA Management office:	
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)
Annual budget	
External projects	
donations	
Fees or permits	
finances	
Others	

Expense	Amount (MVR)
Salaries	
Trainings	
Equipment	
Maintenance	
Consumables	
Others	

PA Use

Number of diver boats:	
Number of divers	
Number of reef fishing boats	
Number of recreational fishing boats	
Number of bait fishing boats	
Number of dolphin watching cruises	
Other activities	

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 ecological monitoring activities undertaken during reporting period

Date(s)	Monitoring type (e.g. megafauna, grouper, water quality)	Numbers observed	Link to available reports

Research Activities

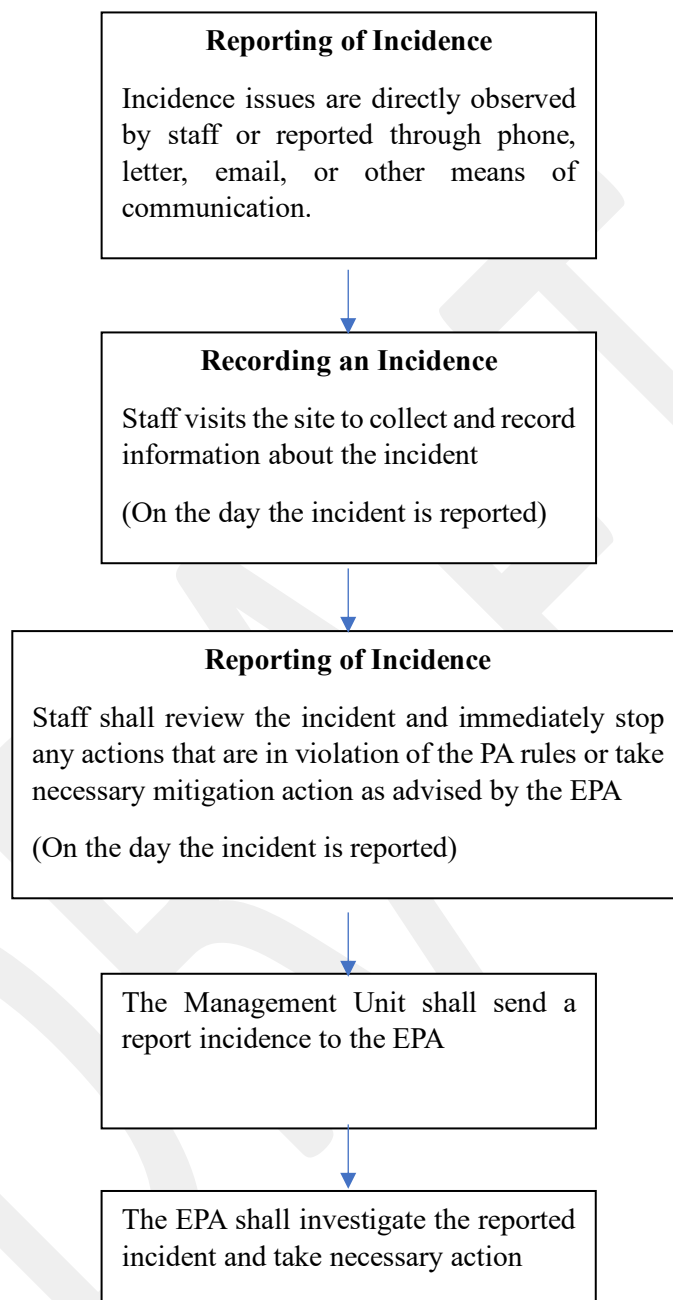
Research permit number	Research project description	Research conducted by	Activities carried out	Available reports/data

Appendix 7: 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 Gaadhoo-Hithadhoo Kan'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 incident 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 incident should be sent to the EPA within 5 days of the incident 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 8: Grievance Redress Mechanism

The PA management Unit shall maintain a registry of grievances and attend to any complaints, disputes or grievances related to the governance or management of the PA. The following provides guidelines for receiving and resolving any complaints, disputes or grievances related to the governance or management of the PA.

1. The PA Management Unit shall have a designated staff member to address all potential complaints, disputes or grievances related to the governance or management of the PA.
2. The PA Management Unit shall maintain a registry of grievances, which will record the details and nature of the complaint, the complainant, the date and actions taken as a result of the investigation. It will also cross-reference any noncompliance report and/or corrective action report or other relevant documentation.
3. The PA Management Unit shall address any grievances in 3 stages (

4. Table 3). The PA Management Unit shall make the grievance redress mechanism publicly available.
5. Any individual or parties (affected person) can report a complaint, dispute or grievance regarding the governance or management of the PA to the PA Management Unit via email, phone, in-person or via the Laamu Atoll Council.
6. The PA Management Unit will lodge the complaint in the grievance registry and resolve the matter in consultation with relevant parties within 7 (seven) days of receiving the report.
7. The PA Management Unit should inform the affected person of the outcome within 7 (seven) days of receiving the report.
8. If the matter is not resolved to the satisfaction of the affected party, then the PA Management Unit should submit the grievance to the PA Management Steering Committee.
9. The PA Management Unit should arrange a meeting of the PA Management Steering Committee to review the matter and the Committee shall come to a decision.
10. The PA Management Steering Committee should inform the affected person of the decision.
11. If the matter is not resolved to the satisfaction of the affected party, the party may take up the matter in the relevant judicial court of the Maldives.

Table 3. Grievance Redress Mechanism

Stage	Process	Duration
1	Reporting: Affected party reports grievance to PA Management Unit	Anytime
	PA Management Unit lodges the complaint in a registry and reviews and resolves the incident	Within 7 days from reporting
	PA Management Unit informs of outcome to affected party	7 days from reporting
If unresolved go to stage 2		
2	PA Management Unit takes grievance case to the PA Management Steering Committee	8 days from reporting
	PA Management Steering Committee reviews and resolves the grievance	-
	PA Management Unit informs of outcome to affected party	-
If unresolved go to stage 3		
3	PA Management Unit takes grievance case to the EPA/ MoTE	-
	EPA/ MoTE reviews and resolves the grievance	-
	PA Management Unit informs of outcome to affected party	-
If unresolved go to stage 4		
4	If the affected party is not satisfied then the party can take the matter to appropriate courts	As per the judicial systems

Appendix 9: PA ecological baseline and periodic monitoring schedule

Attribute	Parameter	Method	Frequency for periodic monitoring
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	Biannually
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
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
Any activities that may cause harm to or alter the PA	X
Littering	X
Using strong lights during night time to lure protected species to shallow areas	X
Introduce any new or alien species into the area	X
Feeding the birds, fish and other species present in the area	X
Mining or conducting any research to find gas, oil or minerals	X
Reclamation and dredging	X
Anchoring	X
Infrastructure development	X
Aquaculture/mariculture	X
Sand and coral mining	X
Releasing any pollutants into the reef and placing outfalls	X
Traditional bait fishing and top layer fishing*	√
Research*	√
Recreational diving*	√
Dolphin watching*	√

Appendix 11: Guidelines for Access and Other Fees

The following are guidelines for possible fee structures. These will need to be finalized following guidance from the PA Steering Committee. All fees listed are for Maldives residents and work permit holders unless stated otherwise.

No.	Description	Cost (MVR)
1	Entry fee - Dive	100.00
2	Entry fee (Non-Mv) - Dive	200.00
3	Dive fee, Guest House, per year	26,000.00
4	Dive fee, Resort/Safari, per year	70,000.00
5	Dive fee, Guest House, per month	3,000.00
6	Dive fee, Resort/Safari, per month	6,500.00
7	Dive fee, Guest House, per day	350.00
8	Dive fee, resort/safari, per day	500.00
9	Guided tours	2,500.00
10	Guided tours (Non-Mv)	3,500.00
11	Commercial Research License	3,000.00

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 Council
3. Promotional purposes
4. Researchers with a valid permit
5. Individuals or parties attending trainings or capacity development programs organized by the PA Management Unit.

Appendix 12: Guideline to conduct research in the Gaadhoo-Hithadhoo Kan'du

1. Research inside the PA can be carried out under a permit from the management unit. Research permit is issued by EPA, and this permit can be requested through the PA Management Unit or can be downloaded from their website.
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, which is research being done with the intention of generating revenue for the researching party, will incur a fee of MVR 3,000 (three thousand) payable to the PA Management Unit.

Appendix 13: Penalties for Non-Compliance in Gaadhoo-Hithadhoo Kan'du PA

The following penalties will be imposed for violations of the PA rules, regulations and permit conditions at Gaadhoo-Hithadhoo Kan'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 and carrying out activities 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 no 2011/R-9 (Regulation on Environmental Liabilities), will be fined between MVR 5,000 (five thousand) to MVR 10,000 (ten thousand)

Appendix 14: A 10-year work plan for management of Gaadhoo-Hithadhoo Kan'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.											
Activity 1.1 Approve a management plan and sustainable financing plan for the PA	EPA										
Activity 1.2 Delegate management authority to LAC	EPA/ MoTE										
Activity 1.3 Establish PA management Steering Committee	LAC										
Activity 1.4 Develop infrastructure inside PA	LAC										
Activity 1.5 Establish management unit and hire staff	LAC										
Activity 1.6 Develop Standard Operating Procedures (SOP) for PA	PA management unit (council)										
Activity 1.7 Conduct general capacity building trainings for staff	MoTE/LAC/ EPA										
Activity 1.8 Conduct ranger training	MoTE/ EPA										
Activity 1.9 Develop PA website and social media platforms	PA management unit (council)										
Activity 1.10 Develop Limits of Acceptable Change for the PA	PA management unit (council)										
Activity 1.11 Develop management effectiveness monitoring protocols	PA management unit (council)										
Activity 1.12 Implement visitor activities management and monitoring	LAC										
Activity 1.13 Conduct periodic management effectiveness monitoring	MoTE										
Activity 1.14 Review management plan	MoTE										
Objective 2: By the end of 2028, the current levels of Grouper, Napoleon wrasse, sharks, rays and sea turtles within the PA are maintained or improved., along with general improvement of biodiversity and ecosystem function and services of the PA.											

Activity 2.1 Develop and implement monitoring plan	PA management unit (council)											
Activity 2.2 Procure equipment for ecological monitoring	LAC											
Activity 2.3 Conduct training on ecological monitoring for relevant staff	MoTE/ EPA											
Activity 2.4 Conduct a baseline ecological assessment of the PA	PA management unit (council)											
Activity 2.5 Continue periodic ecological monitoring of the PA	PA management unit (council)											
Activity 2.6 Disseminate information on health of the PA	PA management unit (council)											
Objective 3: By the end of 2028, understand the current levels of tourism and fishery use, and develop and implement appropriate guidelines for sustainable practices.												
Activity 3.1 Measure baseline level of community understanding of PA values	PA management unit (council)											
Activity 3.2 Continue periodic KAP assessment	PA management unit (council)											
Activity 3.3 Develop a procedure for monitoring user activities within PA	PA management unit (council)											
Activity 3.4 Monitor and collect data on diving, fishery and travel activity within PA	PA management unit (council)											
Activity 3.5 Develop and implement guidelines for user activities within PA	PA management unit (council)											

Appendix 15: Financial Plan

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