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Action and Conservation Plan

Addu Atoll Biosphere Reserve

November 2024

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1. INTRODUCTION

Addu Atoll was officially declared a UNESCO Biosphere Reserve on 28 October 2020 at the 32nd Session of the UNESCO International Coordinating Council of the Man and the Biosphere (MAB) Programme (IUCN 2021). The MAB programme aims to set a scientific basis for the improvement of the relationship between people and their environment at the global scale through three key functions:

- Conservation of biodiversity and cultural diversity
- Economic development that is socio-culturally and environmentally sustainable
- Logistic support, underpinning development through research, monitoring, education, and training

This document outlines the ten-year Action Plan for the Addu Atoll Biosphere Reserve. The Action Plan was formulated through an extensive consultation process. Internal and external stakeholder consultations informed the goals and actions for the management of the Biosphere Reserve for the next 10 years. The Addu Atoll nomination dossier (MoE 2019) submitted to UNESCO MAB Programme, Technical Guidelines for Biosphere Reserves (UNESCO 2021), Periodic Review for Biosphere Reserves (UNESCO 2013), and the Ten-Year Periodic Review of UNESCO Baa Atoll Biosphere Reserve (MoE 2022) were key resources used in preparing this Action Plan. A SWOT analysis was undertaken for Addu Atoll to inform the planning process.

The Action Plan outlines the goals and objectives of the Addu Atoll Biosphere Reserve. The goals will contribute to achieve the three functions of the MAB programme. Each goal has a key objective and planned actions for implementation.

1.1 VISION

Our vision for 2030:

Biodiversity and heritage conservation contribute to Addu becoming the most sustainable city

1.2 MISSION

To establish a well-planned, fully coordinated and adequately resourced system for the management of Addu Atoll Biosphere Reserve

2. BIOSPHERE RESERVE

Addu Atoll was officially declared a UNESCO Biosphere Reserve on 28 October 2020. The designation of UNESCO Biosphere Reserve in Addu Atoll Atoll will help:

1. Achieve sustainable development by ensuring environmental conservation as the primary basis for the country's key economic sectors and improvement of livelihoods.
2. Facilitate a decentralised system for environment management by ensuring equitable benefits to local communities from sustainable use of biological resources.
3. Increase environmental research and awareness by enhancing public support for conservation, thus securing a vibrant green economy (IUCN 2021)

Addu Atoll (also known as Seenu Atoll) is the southernmost atoll in the Maldives archipelago. Addu lies just south of the equator and is about 18 km wide and 15 km long. Gan in Addu Atoll is the southernmost island in the Maldives and is located at latitude 0°42'S (MoE 2019).

Addu Atoll is endowed with ecologically rich coral reef and associated ecosystems. Addu has coral reefs, lagoons, reef passes, seagrass beds, sandbanks, coral islands, lush tropical vegetation, mangroves, and wetlands. The people in these islands have pursued sustainable agriculture, responsible fisheries and lived sustainable lifestyles. In Addu Atoll, reef ecosystems covering 785.65 ha of marine area and 87.79 ha of terrestrial ecosystems are legally declared as protected areas (MoE 2019).

Addu Atoll has undertaken several projects for biodiversity conservation and climate adaptation. These projects include Maldives Protected Area System Project funded by the Australian Agency for International Development (AusAID); Maldives Wetland Conservation and Coral Reef Monitoring for Adaptation to Climate Change Project 2011-2015 funded by the World Bank; Climate Change Adaptation Project, 2015-2018 funded by the World Bank, European Union (EU), and AusAID. These projects have helped build the local capacity to utilise the Convention on Biological Diversity (CBD) Ecosystem Approach. The designation of the Addu Atoll as a Biosphere Reserve would continue to recognise and secure the achievements made so far and support new initiatives to pursue sustainable development (MoE 2019).

The community and stakeholders of Addu Atoll were fully engaged in the nomination process of Addu Atoll Biosphere Reserve. Awareness was created among the community and NGOs of Addu Atoll on UNESCO Biosphere Reserves, citizen engagement in the nomination process, the implications for the environment and the biological diversity. A door-to-door survey with 1381 respondents was carried out to assess the willingness of the public to participate in the biosphere reserve process and to measure the level of awareness amongst the public. When asked if participants would like their island obtain

biosphere reserve status, 93% agreed. Meetings were held with government ministries to share information, seek technical advice, and identify necessary steps to designate Addu Atoll as a Biosphere Reserve. Key stakeholder workshops were then conducted to discuss the nomination of Addu Atoll as a Biosphere Reserve and to prepare the dossier to be submitted to UNESCO (MoE 2019 b).

Customary and traditional protection regimes exist for the core areas and buffer zones of the Addu Atoll Biosphere Reserve. The core areas and buffer zones are designated as protected areas under the Environmental Protection and Preservation Act (Law no. 4/93) of the Maldives and the Addu Atoll Protected Area Regulation (2018/R-105). Management plans have been developed for Eedhigali Kilhi, British Loyalty and Manta Point. The Addu Atoll Protected Area Regulation (2018/R-105) provides the legislative framework for habitat specific management of Eedhigali Kilhi and Koatey Area, Kandi'hera channel; including its surrounding ocean, reef, lagoon and land area, and the shipwreck "British loyalty". Prior to these areas being legally protected and the government establishing measures, they were managed by locals who lived nearby (MoE 2019).

Core area: Defined as legally constituted areas devoted to long-term protection. Seven core areas (MoE 2019) have been identified for the biosphere reserve. Their total area comprises about 873.44 ha, of which 87.79 ha are terrestrial areas and 785.65 ha are marine areas. These include representative examples of high biodiversity value reefs, islands, mangroves, wetlands, and specific species in Addu Atoll, as selected through detailed surveys and consultations with local communities. The boundary for all core areas extends 100 metres from the reef edge and includes all marine and terrestrial biological and non-biological resources enclosed within the boundary. Key management objectives are to:

- preserve habitats, ecosystems, and species in as undisturbed a state as possible
- maintain genetic resources in a dynamic and evolutionary state;
- maintain established ecological processes and functions; and
- permit public access and manage visitor use for educational, scientific, cultural, and recreational purposes at a level which will maintain the area in a near natural state.

Buffer zone: Clearly identified zones surrounding core areas as a protective belt. Buffer zones serve to minimize adverse impacts on the core areas. The buffer zones are also legally gazetted but have a lower degree of legal protection than the core areas. Their total area comprises about 1,385.02 ha, of which 101.13 ha are terrestrial areas and 1,283.89 ha are marine areas (MoE 2019). The boundaries of the buffer zones have been defined through a consultative process with stakeholders of Addu Atoll. Their extents have been specially designed to accommodate supporting functions of the core areas. Therefore, the sizes of buffer zones vary and include all marine and terrestrial biological and non-biological resources enclosed within their boundaries. In the buffer zones, small scale and strictly managed extractive livelihood activities are permitted with low impacts on the environment. They will help to minimize adverse impacts on the protected core areas. All use of the buffer zones is in line with sustainability principles and based on ecosystem reliance and conservation. The detail of activities allowed in the core area and buffer areas is governed by the Regulation for Management of Protected

Areas of Addu City (2018/R-105). Key management objectives for the buffer zones are maintenance of habitats, ecosystems, species, and ecological processes to ensure long term protection of resources;

- permit public access and manage low impact tourist/visitor use for educational, scientific, cultural, and recreational purposes at sustainable levels; and
- permit small scale, strictly managed extractive livelihood activities that are of low impacts, sustainable and are reliant on these ecosystems.

Transition area: All areas and resources (biological and non-biological) that are outside buffer zones and core areas. The transition area has been developed through a consultative process with stakeholders and has been specially designed to provide supporting functions to the core areas and buffer zones whilst ensuring that sustainable livelihood activities can be undertaken. The total area of the transition zone for Addu Atoll is about 13,566.19 ha, of which 1,283.11 ha are terrestrial areas and 12,283.08 ha are marine areas (MoE 2019). The transition area is defined as an “area within the atoll that does not fall into core or buffer area”. Key management objectives for the transition area are:

- balanced maintenance of habitats, ecosystems, species and ecological processes with community livelihood requirements to ensure long term sustainable use and protection of all biological and non-biological resources;
- permit through sustainable management plans the commercial, artisanal and subsistence extraction of biological and non-biological resources; and permit public access for educational, cultural, recreational, tourism and livelihood purposes.

Table 1: Core areas, buffer zones and their significant features

No.	Name of Site	Core Area (Ha)	Buffer Zone (Ha)	Significant Features
1.	Eedhigali Kilhi and Koathey Area	194.98	575.78	Mangroves and Marine Area
2.	Kandihera (Manta Point)	622.21	710.33	Island and Marine Area
3.	British Loyalty Wreck (Ship Wreck)	12.30	44.91	Marine Area
4.	Maa Kilhi	17.40	8.10	Mangrove and wetlands
5.	Hulhudhoo Bedhi (Not protected yet)	5.58	4.90	Marine and Terrestrial Area
6.	Maafishi Kilhi	2.63	3.23	Mangrove and wetlands
7.	Mathi kilhi	18.34	37.77	Mangrove and Wetlands

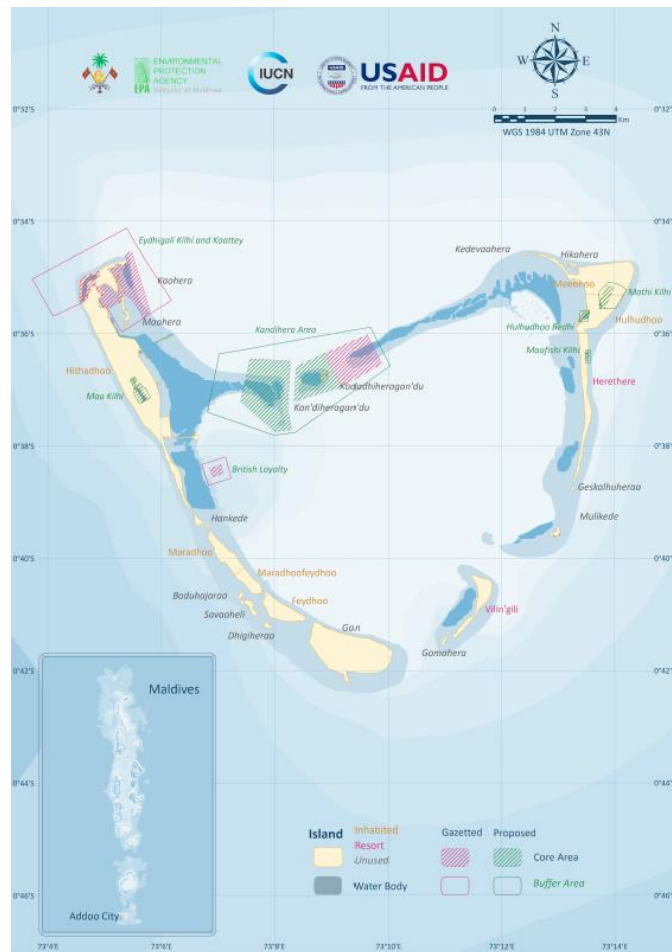


Figure 1: Zonation map with core areas, buffer zones and transition area sent to UNESCO (source MoE 2019)

In addition, there are 15 sites listed as Environmentally Sensitive Areas (ESA) in Addu Atoll by Environment Protection Authority (EPA). They are:

1. Maamendhoo Kilhi
2. Bodaheragandey
3. Maakanaa Heragandu
4. Moolikeda
5. Kandi Heraa-gandu
6. Villingili House Reef
7. Villingili Kandu
8. Gan Kandu
9. Maa Kandu
10. Kuda Kandu
11. Hankeda outer reef
12. Rocky Reef
13. Meedhoo North
14. Hithadhoo Seagrass beds
15. British Loyalty Wreck

3. PEOPLE & HERITAGE

Population

Addu Atoll is the second most populated in the Maldives with a total resident population of 19,319 (9,195 males and 10,124 females) (NBS 2014). According to the 2021 Statistical Yearbook of Maldives, the registered population of Addu Atoll by the end of 2020 was 34,369 (17,542 males and 16,827 females) (NBS 2021).

Addu Atoll consists of 6 inhabited islands (Hithadhoo, Feydhoo, Maradhoo, Maradhoo-Feydhoo, Hulhudhoo and Meedhoo), 03 resorts, Gan International Airport, and 17 uninhabited islands. Addu has a total area of 130km² with a land area of 15km². Administratively, Addu Atoll is considered as a city (South Province Office 2010).

History

Koagannu is the oldest and most historically significant cemetery in Maldives. Four mosques, 227 monuments, and 1,535 tombstones have been recorded at Koagannu Cemetery. The cemetery is believed to be more than 900 years old and is a nationally recognized heritage site (Edition 2019).

Historically, Addu is recognized for education in the Maldives. The famous scholars from Addu include Aisaabeegedharu Dhon Beiyya and his student Al-sheikh Hussain Salahuddin from Male' Dharavandhooge. Hussain Salahuddin became the Attorney General at the age of only 18 years (Addu Diary 2018). He served as Chief Justice and was the first Maldives Minister of Justice under the written constitution. The school started by Salahuddin in Male' is now famously recognized as the iconic Majeediyya School.

Addu was established as a military base for the Royal Navy in 1941. A base "Port T" in Addu Atoll was constructed to take advantage of the deep anchorage and sheltered natural harbour. Royal Navy engineers began constructing airstrips on Gan in August 1941. The Royal Navy transferred the base to the control of the Royal Air Force in 1957 and the Royal Air Force Gan became established as a stopover and staging post to the RAF Far East Air Force based in Singapore. On 29 March 1976, the RAF staging post on Gan closed down and was handed back to the Maldivian Government (Forces War Records 2021).

The United Suvadive Republic or Suvadive Islands was established in January 1959 (Romero-Frias 2013) as a Government unanimously elected by the will of a State of 18,000 people. This short-lived breakaway nation was joined by Addu Atoll, Huvadhoo Atoll and Fuvahmulah. These atolls rejoined the Maldives on 23 September 1963. At that time the Maldives had remained a British protectorate.

Tangible heritage sites

The community has identified 8 heritage attractions in Addu. The attractions identified through community survey are:

1. Eedhigali Kilhi and Koathey Area (core area)
2. Manta Point and Kandihera (core area)
3. British Loyalty Wreck (core area)
4. Bodage
5. Koagannu Cemetery
6. Gan Island (British military base during second world war)
7. Hirigau Miskiy (a mosque)
8. Southern most point in the Maldives in Gan Island

The Ministry of Arts, Culture and Heritage has identified 15 heritage sites as key cultural and historical sites. These sites are listed below:

1. Astra Cinema
2. Second World War Memorial
3. Maaranga
4. Hukuru Miskiy
5. Koatey
6. Ranin Hana Fengandu
7. Thakurufanu Miskiy
8. Hithadhoo Medhu Miskiy
9. Hithadhoo Hukuru Miskiy
10. Koagannu
11. Veyraa'du
12. Dhandivaru Miskiy
13. Hirigau Miskiy
14. Gaadhirukalyegefaanu Ziyaaraiy
15. Venbolhofishi

4. SWOT ANALYSIS

STRENGTHS

- Designated protected areas Eedhigali Kilhi and Koathey Protected Area-nesting sites, and high diversity of coral and marine life
- Kandihera Manta Point – a cleaning station for mantas with daily sightings of mantas
- Habitat for Common White Tern
- Rich tradition of local medicinal practices
- International airport and international port
- Internet and mobile phone connectivity
- Quality schools and university campuses
- Community pride in Addu history
- British presence during World War II and historic sites

WEAKNESSES

- The economic value of ecosystem and biodiversity conservation are not well understood
- Lack of research data on biodiversity, sustainable development, and livelihoods
- Challenges in city governance
- Few sustainable development professionals working in Addu
- Decline in spirit for volunteering
- Lack of financial resources for biodiversity and heritage conservation

OPPORTUNITIES

- Brand 'Maldives' associated with natural beauty and rich biodiversity
- Three resorts, a hotel, and eighteen guesthouses
- More locals travelling within the Maldives
- Increase in air connectivity
- Global recognition of the value of heritage

THREATS

- Climate change
- Plastics and waste pollution
- Increase in national debt
- Worsening budget and fiscal situation
- National policy mismatch with reclamation and conservation

5. ADDU ATOLL BIOSPHERE RESERVE ACTION PLAN

The Addu Atoll Biosphere Reserve Action Plan is formulated to enable the three key functions of the Biosphere Reserve:

- i. Conservation of Biodiversity and Cultural Diversity
- ii. Sustainable Economic Development
- iii. Logistics Support

Addu Atoll Biosphere Reserve Action Plan is formulated under six goals and strategic objectives.

FUNCTION 1: CONSERVATION OF BIODIVERSITY AND CULTURAL DIVERSITY

GOAL 1: Conserve and sustainably use biodiversity and beauty of natural ecosystems

Strategic Objectives

- 1.1 Recognize and understand the ecological systems, processes, and their values
 - 1.2 Develop the principles, policies, guidelines and establish mechanisms for improved management effectiveness of the biosphere reserve
 - 1.3 Contribute to the development and adoption of tools and processes to protect species and habitats
 - 1.4 Implement programmes to restore species and habitats
 - 1.5 Strengthen financial sustainability of core areas and buffer zones of the biosphere reserve
-

GOAL 2: Safeguard culture and heritage and showcase them to gain economic benefits

Strategic Objectives

- 2.1 Promote greater awareness, knowledge and engagement with culture and heritage
- 2.2 Improve policy and process to enable shared protection of culture and heritage
- 2.3 Improve storytelling, visitor experience, and services to increase visitation and engagement

FUNCTION 2: SUSTAINABLE ECONOMIC DEVELOPMENT

GOAL 3: Achieve sustainable livelihoods by enhancing economic and social benefits to all from biodiversity and culture

Strategic Objectives

- 3.1 Strengthen agriculture to achieve sustainable livelihoods
 - 3.2 Enable responsible management of fisheries for biodiversity conservation
 - 3.3 Promote inclusive integrated sustainable tourism
-

GOAL 4: Achieve climate change adaptation, mitigation, resilience building and sustainable development

- 4.1 Promote Net Zero Emissions (NZE) in electricity
- 4.2 Pave the way for transition to Net Zero Emissions (NZE) in transport within the Biosphere Reserve
- 4.3 Build the resilience of natural systems and community to climate change
- 4.4 Promote zero waste and prevent the impact of waste on the Biosphere Reserve

FUNCTION 3: LOGISTICS SUPPORT

GOAL 5: Undertake research and monitoring to generate knowledge

Strategic Objectives

- 5.1 Encourage and support collaborative scientific research
- 5.2 Establish the data management capacity for research and monitoring

GOAL 6: Strengthen communication, outreach, education and knowledge management

Strategic Objectives

- 6.1 Enable diverse, multi stakeholder participation and engagement
- 6.2 Enable young people to actively contribute and meaningfully engage with the Biosphere Reserve
- 6.3 Enable women's full participation and contribution to Biosphere Reserve activities
- 6.4 Deliver well planned communication and education to change the attitude and behaviour towards conservation and sustainable utilization of biological and cultural resources
- 6.5 Build the capacity of the Addu Atoll Biosphere Reserve staff to deliver core functions of the biosphere reserve

GOAL 1: Conserve and sustainably use biodiversity and beauty of natural ecosystems

Addu Atoll is endowed with rich biological diversity. The atoll has a total area of 13,000 ha with a land area of 1,500 ha. Of these, 87.79 ha of land area and 785.65 ha of marine area are declared as protected areas (MoE 2019). The ecological system of Addu Atoll includes coral reefs, reef passes, seagrass beds and lagoons in the marine environment, and tropical vegetation, mangroves, wetlands (locally known as kilhi). Addu Atoll harbours a richer diversity of plants than other atolls of the Maldives, and detailed study of vegetation of Addu was undertaken in 1960s.

Addu Atoll has rich megafauna. The northeast tip of Addu Atoll on the outside of Hulhumeedhoo is a notable shark point, where as many as 15 white tip sharks can be seen at any one time (MoE 2019). At the 'Manta Point' in Addu, Mantas can be seen all year round (MantaTrust 2019). Whales including humpback whale and killer whale have been sighted in Addu.

Common White Tern (Dhivehi: Dhondheeni; Scientific: *Gygis alba*) has a special importance in Addu Atoll. At national level, Addu Atoll is one of the two sites where the Common White Tern is observed. Even though it is common across the tropical seas and in the Indian Ocean, in the Maldives, it is known to breed only in Addu Atoll. Due to its limited distribution at national level, Common White Tern was declared as a protected bird under Environmental Protection and Preservation Act (Law no: 4/93) on 5th June 1996 (MoE 2019).

Eedhigali Kilhi is among the largest and best-preserved protected areas in the Maldives. Eedhigali Kilhi is among the largest wetlands in the Maldives and the mangrove ecosystems are specially known by the relative abundance of water birds. Based on various studies, 23 species of terrestrial birds have been recorded, including two endemic sub species; most of them associated to the wetland habitats in Eedhigali Kilhi. Herons are reported as the most common group both in terms of species and numbers. Among these, Maldivian Pond Heron (*Ardeola grayii phillipsi*) is recorded as an endemic subspecies which is resident and breeding in the area. Grey heron (*Ardea cinerea rectirostris*) was identified in relatively high numbers. The Great Egret (*Egretta alba modesta*), a very rare bird in the Maldives, was also identified in the area. Other interesting birds identified in the area are "*Amaurornis phoenicurus maldivus*, the endemic Maldivian Water-hen or Kabili (known as Kambilah in Addu), and the White-Tailed Tropic bird or Dhandifulhu Dhooni (*Phaethon lepturus*)" (MoE 2019).

The Eedhigali Kilhi and Koathey Protected Area is well recognised for its live coral cover, the species richness and the good conservation status make it a unique site which needs to be properly managed. The Maakandu side coral cover is identified to be particularly beautiful and coral species that have not been identified in other parts of the Maldives such as *Stylophora pistillata* and *Stylophora subseriata*

have been recorded in Addu. *Heterocyathus aequicostatus* have been found in depths below 20m on soft horizontal substrates (Dryden et al, 2020).

Strategic Objectives	Action(s)
1.1 Recognize and understand the ecological systems, processes, and their values	Undertake a comprehensive baseline assessment of the fauna and flora species found in the core areas (both marine and terrestrial protected areas) to map the species distribution
	Establish a species inventory for each core area
	Develop a portfolio of ecological performance indicators with their threshold limits for all key species
	Undertake detailed assessment of the economic values of habitats and species in the core areas
	Undertake an assessment of the social and cultural values derived from the core areas
	Undertake an in-depth survey of information on hydrology, biota, processes, nutrient cycling, climate regulation, and other ecological characters of the wetlands in Addu
	Establish a videography library on status of biodiversity, habitats and species and their use
	Report on the global and national indices on the status and trends of biodiversity
	Adopt the national monitoring protocols and inclusion of citizen science (schools, university, community) for regular monitoring
	Integrate dashboards on status and trends of biodiversity into the website
1.2 Develop the principles, policies, and guidelines and establish mechanisms for improved management effectiveness of the biosphere reserve	Undertake a study on visitor experience
	Develop and update management plans for the core areas and buffer zones of the biosphere reserve
	Undertake METT analysis for all core areas
	Introduce and implement IUCN green list standard to improve management effectiveness of core areas and buffer zones
	Prepare technical guideline for the biosphere reserve
1.3 Contribute to the development and adoption of tools and processes to protect species and habitats	Establish the Addu Atoll Biosphere Reserve Advisory Committee
	Contribute and advocate for development of a regulation for the sustainable use of bait fish species in Addu
	Contribute and advocate to development of a regulation to prevent destructive fishing techniques in Addu
	Contribute and advocate to development of Develop a regulation for sustainable agriculture and home gardening in Addu
	Contribute and advocate to development of a regulation on responsible use of pesticides in Addu
	Contribute and advocate to development of a guideline for regeneration and sustainable harvesting of medicinal plants in Addu
Contribute and advocate to develop a guideline to prevent the spread of invasive and alien species in the biosphere reserve	

	Develop a guideline for visitor activities in the Biosphere Reserve
	Identify and establish potential OECMs within the biosphere reserve
	Identify and establish potential KBAs within the biosphere reserve
1.4 Implement programmes to restore species and habitats	Undertake an assessment of the species that have disappeared or are at the risk of extinction
	Design programmes to restore threatened species and habitats
	Undertake environmental and ecological impact assessments for re-introduction and restoration of threatened species
1.5 Strengthen financial sustainability of core areas and buffer zones of the biosphere reserve	Develop a regulation for biosphere reserve conservation trust fund management
	Establish a conservation trust fund to finance Addu Atoll Biosphere Reserve management activities
	Strengthen the existing conservation trust fund to incorporate innovative financing options
	Develop proposals to secure finance from bilateral and multilateral donor agencies for conservation and adaptation
	Organise fundraising events for the biosphere reserve
	Develop the business plan with revised user fee structure
	Develop the marketing strategy for the biosphere reserve
	Develop the brand strategy for Addu Atoll Biosphere Reserve products and services

GOAL 2: Safeguard culture and heritage and showcase them to gain economic benefits

Addu Atoll is well recognised for history and heritage. A total of 15 sites are identified as key historical sites by the Department of Heritage. Amongst these, some of the notable sites include Second World War Memorial, Maaranga, and Astra Cinema which are the remnants of the British Royal Navy and Air Force in Gan. Koagannu in Meedhoo is the oldest cemetery in the Maldives built around 900 years ago. The cemetery is also home to largest tombstone in the country and the graves showcase Arabian art and craftsmanship of ancient Meedhoo natives.

Addu is famous for its authentic food created from local produce. Addu *Havaadhu* is a unique curry paste in the Maldives and has evolved over time to match some of the best curries served in the Indian sub-continent. Addu *Bendi* is a coconut based sweet very famous in the Maldives while *Naaroh Faludha* is a sweet made from breadfruit with authentic local flavours. Breadfruit chips, taro chips and *Addu Gulha* are favourites among locals and visitors to Addu (Discover Addu 2021). The Addu *Folhi* flatbread has several unique versions that needs promotion.

Addu has several places, stories, and folktales that capture the culture, identity, and customs. The Biosphere Reserve will help to revive and revitalise storytelling and align eco-tourism with culture tourism. The stories and folktales can be used to offer unique experiences for visitors and connect them to rich history and traditions that date back to thousands of years.

Addu Atoll Biosphere Reserve will adopt a shared responsibility approach for protection of culture and heritage. The Addu Atoll Biosphere Reserve Management Office/Unit (AABRM entity) will collaborate actively with Ministry of Arts, Culture and Heritage and with Ministry of Tourism to identify and engage with stakeholders, community members, community organizations, and businesses to promote culture and heritage tourism.

Strategic Objectives	Action(s)
2.1 Promote greater awareness, knowledge and engagement with culture and heritage	Establish an inventory of the heritage of Addu City
	Incorporate and promote Addu history and culture into communication materials of the biosphere reserve
	Ensure effective participation and engagement of heritage experts in biosphere reserve planning and implementation
2.2 Improve policy and process to enable shared protection of culture and heritage	Contribute to development of guidelines on film and photography at heritage sites within core areas and buffer zones of the biosphere reserve
	Advocate and promote Addu cuisine and delicacies as products of biosphere reserve
	Integrate celebration of Ramadan, Eid and Islamic festivals and other Addu festivals into annual plans
2.3 Improve storytelling, visitor experience, and services to increase visitation and engagement	Establish digital interactive storytelling to enhance visitor experience

Facilitate events for culinary festivals showcasing local food

Facilitate events to revive and restore the value of traditional food and cultural food practices

GOAL 3: Achieve sustainable livelihoods by enhancing economic and social benefits to all from biodiversity and culture

The biggest sustainable development challenge faced in Addu Atoll is lack of employment opportunities. The adult population between 18 to 65 years is 15,100 of whom 8,700 were employed and 903 were unemployed in 2014. There are 2,078 (23.8%) people in Addu Atoll employed in biodiversity dependent economic sectors such as tourism, fisheries, and agriculture (NBS 2014).

Nature-based tourism offers excellent livelihood opportunities in Addu Atoll. The coral reefs spanning 7,200 ha, rich biodiversity of the coral reefs, sharks and manta rays are natural assets that can be used to generate income and employment opportunities for the poorest segment of society in Addu Atoll. Terrestrially, Eedhigali Kilhi is the largest brackish water wetland in the Maldives attracting migratory birds and an area of outstanding natural beauty with several unique species of mangroves. The Manta Point in Addu is a manta cleaning station that attracts several visitors (MoE 2019).

Good farming practices will benefit locals through better nutrition, higher food security and good health. Traditionally yam, breadfruit, tapioca, and sweet potatoes had been extensively used as a source of carbohydrates. The community embodies rich knowledge of creating delicacies and value-added products from the traditionally grown crops. Addu is also renowned for traditional medicines that can be harnessed for wellness tourism. Efforts are needed to conserve the variety and variability of the local plants that are used directly or indirectly for food and to diversify the types of crops grown for agriculture.

Priority will be given to sustain fisheries. Fisheries has been a mainstay of the local economy following the departure of the British forces based in Gan. One of the biggest challenges for sustaining tuna fishery is the lack of bait fishery grounds. Other risks for fishery include extensive land reclamation, obstruction of flow of water between the islands, and harmful fishery practices. Attention will be given to management of fisheries and introduce value added products that will increase the benefits for fishery.

Objective	Action(s)
3.1 Strengthen agriculture to achieve sustainable livelihoods	Facilitate and encourage revival of key native agricultural species and products of Addu
	Conduct awareness and promote good agricultural practices within the biosphere reserve
	Encourage biosphere reserve brand strategy for authentic local Addu food products
3.2 Enable responsible management of fisheries for biodiversity conservation	Incorporate biosphere reserve principles by participating in atoll level fisheries development and management planning
	Promote participation and engagement of fishermen to promote dialogue and knowledge sharing among fishermen to protect and conserve the marine ecosystem
3.3 Promote inclusive integrated sustainable tourism	Develop sustainable tourism activity guidelines for core areas and buffer zones
	Integrate access and permit system for biosphere reserve core areas into the online platforms
	Develop and ensure implementation of code of conduct for threatened and endangered species within biosphere reserves
	Develop interactive maps for visitors to nature parks
	Establish information kiosks in across key areas in Addu
	Place safety signs and safety materials around the protected areas

GOAL 4: Achieve climate change adaptation, mitigation, resilience building and sustainable development

Addressing climate change is a priority for the Biosphere Reserve. The Sixth Assessment Report (AR6) of the Intergovernmental Panel on Climate Change (IPCC) showed that greenhouse gas concentrations have continued to increase in the atmosphere since the year 1750 and are unequivocally caused by human activities. AR6 showed that each of the last four decades has been successively warmer than any decade that preceded it. Innovative and intensified initiatives will be pursued by the AABRM entity to respond to the scale and severity of the challenge posed by climate change to Biosphere Reserve.

The Maldives has committed to achieve NetZero Emissions (NZE) by 2030. The President announced this policy goal at the United Nations Climate Ambition Summit held in December 2020. Subsequently, in May 2021, the President has ratified the Climate Emergency Act passed by the Parliament that paves the way for Maldives to achieve NZE by 2030. In this context, the biosphere reserve will demonstrate NZE in electricity generation, transport, and waste management.

There is an urgent need to take steps to build resilience to climate change. The Addu Atoll Biosphere Reserve Management Office/Unit (AABRM entity) will build the tools, partnerships, and programs to address the threat posed by climate change. AABRM entity will take initiative to develop a portfolio of projects aimed at addressing the impacts of climate change on beaches and nature parks. Extensive support will be offered for adaptation projects on to climate change and other aspects of global environmental change.

Plastic pollution is emerging as a serious threat the biodiversity and health of people. The volume of plastic debris and metal cans found in the coral reefs, beaches and wetlands have drastically increased over the last decade. Incomplete combustion of plastic waste leads to emissions of dioxins. Plastics is ingested by fish threatening human health while plastic incidence in marine megafauna and seabirds is a growing concern. Single use plastic items such as light weight shopping bags, water bottles, soft drink bottles, cups, and straws that end up in the reef, wetlands and beaches are growing in number year by year.

Strategic Objectives	Action(s)
4.1 Promote Net Zero Emissions (NZE) in electricity	Install solar PV, energy storage, and energy efficiency in the biosphere reserve management office to demonstrate smart office Advocate and contribute to national goals to reach net zero in electricity utilisation within the Biosphere Reserve.
4.2 Pave the way for transition to Net Zero Emissions (NZE) in transport within the Addu Atoll Biosphere Reserve	Design the walking tracks and bicycle lanes around the Eedhigali kilhi, Maa Kilhi, Maafishi Kilhi and Mathi Kilhi wetlands Advocate and contribute to national goals to reach net zero in transport sector within the Biosphere Reserve.

	Establish benches along the walking tracks to support pedestrians
	Establish water re-fill stations in visitor centres
	Establish partnership for vehicles and vessels repair and maintenance
	Procure bicycles for rental use by visitors to the wetlands
	Establish bicycle parking stands in visitor centres
	Install bicycle fixing stands with the required handy tools
	Promote use of electric vehicles (golf buggy style) for transport of visitors to and within the protected areas
	Establish solar PV electric vehicles charging stations in visitor centres
	Promote use of electric speedboats/solar powered boats for use by rangers
	Promote establishment of charging stations for electric vehicles
4.3 Build the resilience of natural systems and community to climate change	Advocate and contribute to national goals of achieving resiliency through climate change adaptation and mitigation in Addu Biosphere Reserve.
4.4 Promote zero waste and prevent the impact of waste on the Addu Atoll Biosphere Reserve	Design and introduce Addu Atoll Biosphere Reserve green bags
	Encourage the use of reusable water bottles as alternative for pet bottles within the nature park
	Conduct regular public awareness campaign on Clean Addu
	Organise and participate in waste clean-up campaigns

GOAL 5: Undertake research and monitoring to generate knowledge

Addu Atoll Biosphere Reserve will facilitate biodiversity and sustainability research. During consultations with stakeholders, it was noted that there is a need to develop a research framework and strategy for the Biosphere Reserve, to improve the knowledge base on the ecosystems and their services within the Biosphere Reserve. Since the capacity to undertake rigorous scientific research is limited, there is a need for shared collaborative scientific research projects with well-established research centres and academic institutions.

The Kandihera core area is a known all year around aggregation site for Reef Manta (*Mobula alfredi*). The Maldivian Manta Ray Project (MMRP), a research programme run by Manta Trust (<https://www.mantatrust.org/maldives>), has been conducting research on mantas, and has evolved to one of the largest research programmes on mantas in the world (MantaTrust 2019).

Biodiversity conservation will become mainstream when knowledge is shared, and its benefits are valued and recognized. Regular monitoring and research are undertaken by Addu Atoll Nature Park on the core areas especially birds and other flagship species. Additionally, biannual monitoring of the water from wetlands are carried out to analyse the health of ecosystems and impacts from external pressures such as pollution. The coral reefs of the Addu Atoll Biosphere Reserve are regularly monitored through the national coral reef monitoring framework and the data is fed into the National Coral Reef Monitoring Database (<https://coraldatabase.gov.mv>).

The need to incorporate citizen science as an innovative approach for research and monitoring in the Biosphere Reserve was also highlighted. Recognition and respect to the unique traditional biodiversity knowledge of our citizens is a priority. By helping to maintain and build this knowledge it can be used more effectively when developing biodiversity conservation management programmes. Special emphasis will be given to synthesize traditional and local knowledge and involve citizens in research and monitoring.

Strategic Objectives	Action(s)
5.1 Encourage and support collaborative scientific research	Identify research priorities for the short and long term
	Develop the Research Agenda and Strategy for Addu Atoll Biosphere Reserve
	Establish collaborative research partnerships with national universities and institutes
	Establish research partnerships with international universities and organisations
	Establish a network of citizen science researchers and writers

	Establish a database of local knowledge and traditional management practices
5.2 Establish the data management capacity for research and monitoring	Develop a strategy for data management
	Develop GIS spatial data management system
	Conduct training on GIS data management
	Promote and implementation of national protocols for monitoring of species, habitats and other environmental parameters

GOAL 6: Strengthen communication, outreach, education and knowledge management

The Biosphere Reserve management will take place in a highly complex context within a constantly changing web of social, political, economic, cultural, and environmental constraints and opportunities. Stakeholder engagement is critical to gain perspectives that improve outcomes in such a dynamic and complex context. The success of the Biosphere Reserve will depend on navigation and adjustments made to adapt to the constantly changing nature of conditions in the design, implementation, and evaluation of management actions. Hence, understanding whom to engage, as well as when and how, are important considerations for Biosphere Reserve management.

A fundamental principle of the Addu Atoll Biosphere Reserve will always be to work very closely with the local community and key stakeholders. Due attention will be given to understand and respond to the priorities and perspectives of key stakeholders, including the government ministries, community, civil society, private sector, and academia. Learning about the priorities and perspectives of the stakeholders as well as their knowledge will provide better understanding of the context in which the management decisions making will take place.

The formal engagements with the national level stakeholders will help prioritize conservation and sustainability in important development decisions and in mobilizing finance. Likewise, it will help strengthen the technical decisions on biodiversity and cultural heritage conservation, sustainability, education, research, livelihood activities, and economic diversification.

Comprehensive community engagement will help establish strong connection between the works of the Biosphere Reserve and the community and in transparent decision making for the management of the Biosphere Reserve. Community level stakeholders can be found at all levels of society and special focus will be on engagement of women, youth, private sector, NGOs, media, and local groups. By working with community groups, the Biosphere Reserve will ensure that socially, culturally, and economically responsible decisions that are accepted and welcomed by the community are made.

Stakeholder mapping will identify all key stakeholders, their roles, and responsibilities in relation to the management of the Biosphere Reserve. Stakeholders will be mapped to include policy institutions, regulatory authorities, financing agencies, donors, resource use groups, businesses, civil society organizations, community groups and media. Once stakeholders are identified, a stakeholder engagement plan can be designed according to the stakeholder category and their roles in relation to the functions and management of the Biosphere Reserve. A stakeholder engagement plan will identify the mediums, channels, and frequency of consultations to be undertaken. It is important to engage in meaningful exchanges in a timely manner.

Sharing useful information through effective and open communication and data and knowledge exchange is a necessity for the Biosphere Reserve. To enhance the research and monitoring of

biodiversity of Maldives, the Government of the Maldives has launched the Maldives Conservation Portal (<https://maldivesconservationportal.org/>). The portal provides information about citizen science initiatives and projects, e-learning modules with video lectures by renowned experts, as well as reference material on climate change and nature conservation with some 400 publications that can be accessed through the portal. All the publications relevant to the Addu Atoll Biosphere Reserve will be made available on this portal. Contemporary communication and information channels such as social media and digital video conferencing will be used extensively to share knowledge and connect with people. Such sharing of information is expected to increase the engagement with diverse external audiences as well.

The future of biodiversity, heritage and sustainability will depend on the collective action of a well-educated society. Hence, it is crucial to build capacity of Addu Atoll Biosphere Reserve staff to deliver the core functions, delivery of well-planned long-term education to change the attitude and behaviour towards conservation and sustainable utilization of biological and cultural resources is a key objective. The Addu Nature Park (ANP) Office and Visitor Centre established in October 2018, will continue the efforts of education and awareness.

Strategic Objectives	Action(s)
6.1 Enable diverse, multi stakeholder participation and engagement	Establish the Addu Atoll Biosphere Reserve Advisory Committee
	Formulate the stakeholder consultations and engagement strategy based on functions of biosphere reserve and key messages from goals and strategic objectives identified above
	Establish a grievance mechanism for Addu Atoll Biosphere Reserve
	Prepare annual stakeholder engagement report and disclose it on the AABRM entity website
	Aim to achieve internationally recognised biosphere reserve awards
6.2 Enable young people to actively contribute and meaningfully engage with the biosphere reserve	Encourage participation and effective engagement in MAB youth network
	Ensure youth representation in the planning and implementation of activities within biosphere reserve
	Develop an annual programme to provide opportunities for school students to volunteer their time towards conservation activities in biosphere reserve
	Develop an internship programme for young people
6.3 Enable women's full participation and contribution to Addu Atoll Biosphere Reserve activities	Ensure women representation in the planning and implementation of activities within biosphere reserve
	Ensure gender mainstreaming in planning and implementation of biosphere reserve activities
	Facilitate events to showcase the skills and talent of women in biodiversity, heritage, and livelihoods
6.4 Deliver well planned communication and education to change the attitude and behaviour	Develop the social media communication strategy of Addu Atoll Biosphere Reserve

towards conservation and sustainable utilization of biological and cultural resources	Establish the website of the Addu Atoll Biosphere Reserve
	Develop guidelines for biosphere reserve logo use (in technical guideline)
	Organise an annual forum on biosphere reserve and the importance of its functions for relevant officials
	Conduct training on disaster risk management for officials of Addu Atoll Biosphere Reserve
	Develop digital and social media materials for public awareness on conservation, livelihoods, and research
	Develop a programme for school students from at least 2 different atolls to visit the biosphere reserve every year
	Develop a programme for at least 1 international school actively engaged in conservation activities to visit the biosphere reserve every year
	Integrate Biosphere Reserve related topics in environmental clubs and other school activities
	Identify and utilise existing games, videos, photos and stories on biodiversity, culture, heritage, and sustainable livelihoods
	Establish partnerships with international centres of excellence for biodiversity conservation and sustainability education
	Develop a publicly searchable online knowledge base of the biosphere reserve and link to the Maldives Conservation Portal
	Publish the baseline assessment of species and habitats in the protected areas of the biosphere reserve
	Publish and distribute a biannual newsletter
	Publish the annual Biosphere Reserve Report
	Develop the training materials for capacity development for city council and community practitioners working on biosphere reserve activities and initiatives
	Facilitate sustainable training programme for farmers on good agricultural practices of in Addu
	Facilitate training programmes for the fishers in Addu
	Facilitate training programmes for tourism service providers in Addu
	Conduct training for apprentices and strengthen their skills and knowledge of the traditional medicines
	Celebrate environmentally significant days
Develop an annual calendar for awareness and information sessions to different stakeholder groups such as farmers, tourism service providers, fishers, women, youth, and make it publicly available	
Develop annual calendar of activities and festivals	
6.5 Build the capacity of the Addu Atoll Biosphere Reserve staff to deliver the core functions of the biosphere reserve	Conduct a training needs assessment for Addu Atoll Biosphere Reserve staff
	Conduct training on modern techniques and tools for ecosystem management

Conduct leadership training for management staff
Conduct training on sustainability monitoring to the staff
Organize training courses on innovative techniques and field gear for biodiversity surveys and monitoring
Conduct training on methods of collection, preparation and maintenance of plant and animal specimens
Conduct training on building and managing databases
Organize training courses on geographical information systems (GIS)
Conduct training on management of websites
Organise national study tours for the Addu Atoll Biosphere Reserve staff
Organise international study tours and exposure trips for Addu Atoll Biosphere Reserve staff
Participate in the network of Maldives Atoll Biosphere Reserves to exchange information and lessons
Participate in the UNESCO World Network of Island and Coastal Biosphere Reserves
Participate in UNESCO World Network of Biosphere Reserves
Participate in the South and Central Asia MAB Network
Establish an online forum for exchange of information and knowledge between biosphere reserves
Formulate a plan to contribute to the World Network of Biosphere Reserves

6. IMPLEMENTATION PLAN

6.1 GOVERNANCE

Institutional excellence is essential for leading, coordinating, negotiating, and facilitating interaction with the stakeholders and the community for the management of the Biosphere Reserve. The functions essential to the Biosphere Reserve include governance, technical advice, management, and fund management. Quality of governance of the biosphere will depend on the structure of decision making, management, coordination processes, and human resource capabilities established within the Biosphere Reserve.

Local government-driven governance model

The Addu City Council is the lead authority for the governance of the Addu Atoll Biosphere Reserve. The lead authority has the responsibility to ensure implementation of the key functions of a biosphere reserve in AABR. All critical issues and conflicts related to the biosphere will be discussed and solutions decided by the Addu Atoll Biosphere Reserve Advisory Committee. The Addu Atoll Biosphere Reserve Management Office/Unit will be managing and implementing the action and management plan.

Addu Atoll Biosphere Reserve Management Office/Unit (AABRM entity)

The Addu Atoll Biosphere Reserve Management Office/Unit will be the leading Biosphere Reserve management entity in Addu Atoll. The Addu Atoll Biosphere Reserve Management Office/Unit will manage and coordinate all the functions of the Biosphere Reserve. The management will be based on the principles of conservation and sustainability and always demonstrate such practices. Addu Atoll Biosphere Reserve Management Office/Unit will consist of professional staff employed full time to work on activities with an associated budget made available.

Addu Atoll Biosphere Reserve Advisory Committee (AABRAC)

The Addu Atoll Biosphere Reserve Advisory Committee, comprising of key stakeholders, has the advisory role for implementation and management of MAB Strategy in AABR.

The Committee be chaired by the mayor of Addu City and will include representation from policy and implementation authorities, management unit of AABR, each of the town offices, Addu Women's Development Committee and a representative from all the major resource users of the atoll, as identified in the Terms of Reference for the Advisory Committee of UNESCO Addu Atoll Biosphere Reserve. The Committee will be responsible for providing advice and guidance on the development and implementation of the action plan, and management plans for core areas and buffer zones and any other matter related to the functions of Biosphere Reserve.

Addu Conservation Trust Fund

A Trust Fund will be established for the conservation of biodiversity and cultural diversity for sustainability in Addu Atoll. The trust fund will be governed by a fund board, chaired by the mayor of Addu City Council, with representation from environmental governance and policy making authority, environmental regulatory authority, local government management authority, Addu Women's Development Committee and AABRAC. The fees collected from visitors and any in-kind aid for AABR will be deposited to the trust fund and will be used for development and management of core areas and buffer zones, investment, introduction of sustainable alternatives and knowledge dissemination in the atoll.

Governance related activities

- Establish the Addu Atoll Biosphere Reserve Advisory Committee
- Establish a grievance mechanism for Addu Atoll Biosphere Reserve
- Develop the business plan with revised user fee structure for Addu Nature Park
- Undertake visitor experience study

Legislative strengthening

Regulation on Management of Protected Areas of Addu City (2018/R-105), provides the legislative framework to manage the human use and activities in the core area and buffer zones of three areas: Eedhigali Kilhi and Koathey Area, Kandihera and British Loyalty Wreck.

All key areas of the Biosphere Reserve require a management plan. Fund management of the Biosphere Reserve require a regulation on collection and use of funds. A guideline on logo use for the Biosphere Reserve products and services will enable better opportunities for partnerships and increase the brand value of AABR.

A management plan of Addu Atoll Biosphere Reserve is being developed. This plan is being developed through a consultative process of stakeholders of the government, private sector, and local communities.

Laws, regulations, guidelines, and management plans that need to be developed

- Contribute and advocate for development of a regulation suitable for bait fish species in Addu
- Contribute and advocate for development of a regulation to prevent destructive fishing techniques in Addu
- Contribute and advocate for development of a regulation for sustainable agriculture and home gardening in Addu
- Contribute and advocate for development of a regulation on responsible use of pesticides in Addu

- Contribute and advocate for development of guidelines for regeneration and sustainable harvesting of medicinal plants in Addu
- Contribute and advocate for development of a regulation to prevent the spread of invasive and alien species in the biosphere reserve
- Develop a guideline for visitor activities in the biosphere reserve
- Contribute to development of guidelines on film and photography at heritage sites within core areas and buffer zones of the biosphere reserve
- Develop and update management plans for the core areas of biosphere reserve
- Develop and update management plans for the buffer zones
- Develop a regulation for biosphere reserve trust fund management
- Develop guidelines for biosphere reserve logo use
- Prepare technical guideline for the biosphere reserve

6.2 KEY STAKEHOLDERS AND RESPONSIBILITIES

Stakeholders for the implementation of the Addu Atoll Biosphere Reserve action and management plan are entities with the responsibility to achieve the implementation of the Biosphere Reserve, people who are affected directly or indirectly by projects or activities undertaken for the implementation of the action plan or those that have an interest in the projects or activities undertaken and could have influence over the results of the Addu Atoll Biosphere Reserve action plan. Stakeholder engagement is the process of sharing information and knowledge, seeking to understand the concerns of stakeholders and building relationships based on collaboration. Engagement with stakeholders will be inclusive and culturally appropriate and will provide stakeholders with opportunities to express their views and participate in the implementation of the activities. These views will be considered, responded to, and incorporated into the decision making of the Addu Atoll Biosphere Reserve. Stakeholder engagement for the implementation of the activities in the Addu Atoll Biosphere Reserve action plan will be designed to facilitate ongoing exchange of information that allows to identify, understand, and address stakeholder priorities and concerns and improve decision-making and transparency

The stakeholder engagement activities of the Addu Atoll Biosphere Reserve will be designed to be consistent, comprehensive, and a coordinated long-term approach that encourages open and transparent dialogue with as broad a range of stakeholder groups as is appropriate. The approach to stakeholder engagement has the following main objectives:

- To facilitate an open and inclusive approach to consultation that provides meaningful, timely and transparent information concerning the governance, funding, and sustainable development of the Biosphere Reserve.
- To increase the opportunity to provide feedback on the projects and activities of the Biosphere Reserve and to voice opinions.
- To provide the mechanism for managing stakeholder and community expectations and possible misconceptions about the projects and activities of the Biosphere Reserve.
- To gather the stakeholder's view on past, present, and predicted environmental and socio-economic impacts of the projects and activities undertaken by the Biosphere Reserve and ways to mitigate negative impacts.
- To ensure stakeholders understand the potentially significant environmental and social impacts of the projects and activities of the Biosphere Reserve.
- To optimize any local benefits that can be delivered and livelihood activities that can be enhanced throughout the life of the projects and activities undertaken by the Biosphere Reserve.
- To establish research and knowledge on the values of the Biosphere Reserve.
- To establish a feedback mechanism for ensuring that affected stakeholders have the opportunity to voice their opinions, suggestions and grievances within a transparent process.

Key stakeholders and their responsibility in implementing the action plan of the activities of the Addu Atoll Biosphere Reserve are classified as internal and external stakeholders. The following are the key stakeholders of the Addu Atoll Biosphere Reserve. This list of a stakeholders will be updated on a continuous basis.

Table 2: Key stakeholders for implementing the action plan

Group	Stakeholder
Responsible entity	Addu City Council
Responsible entity	Addu Atoll Biosphere Reserve Advisory Committee
Responsible entity	Addu Conservation Trust Fund
Responsible entity	Addu Atoll Biosphere Reserve Management Office/Unit
Responsible entity	Addu Nature Park
Policy maker	Ministry of Environment, Climate Change and Technology
Regulator	Environmental Protection Authority
Policy makers	Ministry of National Planning, Housing, and Infrastructure
Policy makers	Ministry of Arts, Culture and Heritage (MACH)
Policy makers	Ministry of Tourism
Policy makers	Ministry of Fisheries, Marine Resources and Agriculture
Policy makers	Ministry of Economic Development
Policy makers	Ministry of Transport
Policy makers	Ministry of Education
Policy makers	Ministry of Finance
Regulator	Local Government Authority
Local authorities	Addu City Council
Local authorities	Addu Women's Development Committee
Regulators	Utility Regulatory Authority
Private Sector	Guesthouses
Private Sector	Liveaboards
Private Sector	Dive centres
Private Sector	Farmers
Private Sector	Fishers
Private Sector	Traders
Private Sector	Artists
Civil Society	Social and environmental NGOs
Scientific Community	Maldives National University (MNU)
Scientific Community	Islamic University of Maldives (IUM)
Scientific Community	Villa College
Scientific Community	Maldives Marine Research Institute

Table 3: Responsibilities of key stakeholders for implementing the action plan

Stakeholder	Responsibilities
Addu City Council	Governance, finance, outreach, communication
AABRAC	Advice, governance, coordination, stakeholder engagement
Addu Conservation Trust Fund	Finance and advice
Addu Atoll Biosphere Reserve Management Office/Unit (AABRAC entity)	Governance, Management, implementation
Ministry of Environment, Climate Change and Technology (MoECCT)	Policy advice, finance, outreach, communication, Technical guidance
Environmental Protection Authority (EPA)	Technical guidance, regulatory advice, research
Addu Nature Park	Management, implementation
Ministry of National Planning, Housing, and Infrastructure	Planning advice, sustainable development advice
Ministry of Arts, Culture and Heritage (MACH)	Heritage conservation
Ministry of Tourism	Visitors and tourism guidelines
Ministry of Fisheries, Marine Resources and Agriculture (MoFMRA)	Fisheries and agriculture guidelines
Ministry of Economic Development	Sustainable livelihood, SMEs
Ministry of Transport	Sustainable transport
Ministry of Education	Outreach, school education programmes, curriculum development
Ministry of Finance	Budget, Funds set up, advice
Local Government Authority	Governance
Maldives Marine Research Institute (MMRI)	Research partnerships, communication
Women's Development Committee	Governance, women's engagement, partnership
Utility Regulatory Authority	Technical guidance, regulatory advice on utilities
Guesthouses	Visitor experiences, sustainable tourism, communication
Liveaboards	Visitor experiences, responsible wildlife interactions. communication
Dive centres	Visitor experiences, responsible wildlife interactions. communication
Farmers	Sustainable farming practices, visitor experiences
Fishers	Responsible fisheries,
Traders	Souvenirs, local products, minimize waste
Artists	Artistic expressions. performances, cultural interactions
Social and environmental NGOs	Partnerships, advocacy, communication
Maldives National University (MNU)	Research, communication
Islamic University of Maldives (IUM)	Research, communication
Villa College	Research, communication

6.3 INSTITUTIONAL AND FINANCIAL FRAMEWORK

The key institutions responsible for implementation of the Addu Atoll Biosphere Reserve action plan are:

- Addu City Council
- Ministry of Environment, Climate Change and Technology
- Environment Protection Authority

Addu Atoll Biosphere Reserve will utilise different models of funding. National government funding will be the preferable, and reliable long-term funding source for the Biosphere Reserve. The Addu City Council will work closely with Ministry of Environment, Climate Change and Technology to develop a medium-term programme budget framework for the Biosphere Reserve. Addu City Council will take responsibility for submitting the annual budget of the Biosphere Reserve to the Ministry of Finance.

The administrative budget of the Biosphere Reserve Management Office will be included in the Addu City Council budget. The Addu City Council will work with the Local Government Authority and the Ministry of Finance to include the administrative budget in the annual national block grant provided to the City Council. Where challenges remain to increase the annual national block grant, Addu City Council will seek the support of the Ministry of Environment, Climate Change and Technology to secure funds for the administrative budget.

Project funds will be an important component of the financial framework for the Addu Atoll Biosphere Reserve. The Addu City Council will work with Ministry of Environment, Climate Change and Technology and the Ministry of Finance to seek project finance from relevant national funds , multilateral banks, and international donors. In addition to that, to ensure sustainability, innovative financing options will be explored to integrate into the conservation trust fund. Project concept notes and detailed project proposals will be prepared in advance by the Biosphere Reserve Management Office/Unit.

6.4 COMMUNICATION AND OUTREACH

The Communication Strategy of Addu Atoll Biosphere Reserve is designed to give attention to:

- biodiversity conservation, heritage conservation and enhancement of sustainable livelihoods in the context of social dynamics in Addu
- facilitate change in perceptions, beliefs, behaviours, and motivations through communication goals
- strengthen the institutional and organizational capacity for communication

The internal and external stakeholders including the Addu City Council and Addu Nature Park staff were consulted for development of the communication strategy.

Table 4: Strategic Communication Matrix

Challenges	Objectives	Expected Results
Inadequate budget for Biosphere Reserve management	Conduct advocacy for inclusion of biodiversity conservation, heritage conservation and sustainable livelihoods as priorities for policy design and implementation	Greater accessibility of funds for Addu Atoll Biosphere Reserve
	Develop the tools and communication materials to mobilize the international finance for biosphere reserve	Greater success with international project finance
Poor involvement of national level institutional stakeholders	Reach out to ministers and Members of Parliament to increase coordination and collaboration	Improved coordination and increased participation for Biosphere Reserve management
Poor understanding and awareness of the concept of Biosphere Reserve at the local level	Develop messages, materials, and methods of communication to mobilize the community	Increased community participation and sustainable practices
Contradictory development policies	Establish ongoing dialogue and communication among policy makers and community decision makers	Improved planning and policy design for sustainability at city level

Target audiences

The following are the critical target audiences for communication.

- Policy makers (government ministers and Members of the Parliament)
- Ministry of Finance
- Local government
- International donor agencies
- Community leaders, youth, and women
- Private sector

Messages and content design

Policy makers (government ministers and Members of the Parliament)

- economic value of Addu history and World War heritage
- ecological significance of Addu including Eedhigalhi Kilhi, coral reefs, White tern or Dhondheeni value of the unique location of Addu on the south of the equator
- concise data and illustrative examples to mobilize budget support
- values and concepts such as efficiency, democracy, transparency, results, visibility, and progress at the national level
- technical content that is relevant and of high impact
- experts and their views
- status of the law and regulations related to Biosphere Reserve management

Local Government:

- economic value of Addu history and World War heritage
- ecological significance of Addu including Eedhigalhi Kilhi, coral reefs, White tern or Dhondheeni value of the unique location of Addu on the south of the equator
- importance of culture and heritage for Addu
- importance of data driven budgeting
- efficiency, democracy, transparency, results, visibility, and progress for sustainability

International donor agencies:

- Significance of Addu biodiversity at the global level
- Significance of Addu history and World War heritage
- Opportunity for globally significant results from Biosphere Reserve management

- Value and success to be derived from capacity building
- Scope for synergy through partnerships

Community leaders, youth, and women

- economic value of Addu history and World War heritage
- ecological significance of Addu including Eedhigali Kilhi, coral reefs, White tern or Dhondheeni value of the unique location of Addu on the south of the equator
- importance of culture and heritage for Addu
- role of civic engagement and volunteering
- use of Biosphere Reserve brand and logo for economic gain
- employment, income, and livelihood opportunities through Biosphere Reserve

Private sector

- sustainable business development opportunities
- renewable energy and e-transport opportunities
- heritage and cultural tourism opportunities
- use of Biosphere Reserve brand and logo for branding and marketing
- sustainable tourism development based on wildlife
- importance of good agriculture practices for health, wellbeing, and sustainable economic development

6.5 BUSINESS AND MARKETING

The annual business and marketing plan for the Addu Atoll Biosphere Reserve will outline the resources necessary to fulfil the goals and objectives of the Biosphere Reserve, the main funding sources and the amount of finance estimated to be generated from each source. Addu Atoll Biosphere Reserve will play an important role in conservation of biodiversity, culture and heritage, new knowledge generation and creation of new experiences that can be linked to the socio-economic development of the community in Addu. The business plan will match with the goals and objectives of the Biosphere Reserve and the time frame for activities. The business plan also will include the total revenue and expenditure estimated for the year and identify the budget gap between available funding and the resources necessary to achieve the goals. Effective partnership building activities with potential funders will be organized every year by the Biosphere Reserve.

Some of the potential income sources:

- Central government funding
- Local government funding
- Industry sponsorships
- Donations
- Ecotourism tariff
- Natural resource use levy
- Sales of merchandise
- Sales of labelled local produce
- Partnerships in funded projects
- Subsidized loans
- Grants

Main expenses of the Biosphere Reserve entity can be:

- Full time and parttime staff including rangers
- Consultant fees
- Office facilities
- Equipment
- Travel
- Community consultations
- Awareness materials
- IT and communications

Marketing strategy

The Addu Atoll Biosphere Reserve status places Addu in a unique position to market and promote the island. UNESCO has one of the most famous and best recognized global brands. A marketing strategy for the Addu Atoll Biosphere Reserve is designed to identify the products, services, distribution, prices, and promotion of the Biosphere Reserve.

Key objectives

The key objectives of the Addu Atoll Biosphere Reserve marketing strategy are

- improving awareness, and understanding of the Addu Atoll Biosphere Reserve
- improving collective action towards the objectives of the action plan
- optimizing engagement with the key stakeholders of the Addu Atoll Biosphere Reserve

Unique Selling Point (USP)

The most important nature based economic sector in Addu is the historical significance of Addu. During World War II, the British Royal Airforce base was in Gan, Addu. There are several sites of historical significance in Addu, including the Second World War Memorial, Maaranga, and Astra Cinema which are the remnants of the British Royal Navy and Air Force in Gan. Koagannu in Meedhoo is the oldest cemetery in the Maldives built around 900 years ago.

Addu has several places, stories, and folktales that would capture the culture, identity, and customs. The Biosphere Reserve will help to revive and revitalise storytelling and align eco-tourism with culture tourism. The stories and folktales can be used to offer unique experiences for visitors and connect them to rich history and traditions that date back to thousands of years.

Addu is recognised for its ecological significance. Eedhigali Kilhi (wetlands) and Koathey have rich ecosystems. The coral reefs of Addu have been studied and recognised for its outstanding beauty. Similarly, due to its location, Addu is unique for migratory bird visits. The White tern known locally as Dhondheeni is a seabird unique to Addu atoll in the Maldives.

Addu is also famous for its authentic food created from local produce. Addu *Havaadhu*, Addu *Bendi*, *Naaroh Faludha*, amongst others are popular local delicacies that captivate the interests of visitors to Addu. Breadfruit chips, taro chips and *Addu Gulha* are favourites among locals and visitors to Addu. The Addu *Folhi* flatbread has several unique versions that could be leveraged in the promotion of Addu cuisine.

Addu Atoll Biosphere Reserve logo

Guidelines will be developed to ensure appropriate use of the name and logo of Addu Atoll Biosphere Reserve by all authorized entities, and to prevent misuse both by any unauthorized entity as well as by authorized entities. The guidelines will ensure avoidance of any misunderstanding, connected to Addu Atoll Biosphere Reserve, and prevent the impression that Biosphere Reserve certifies the quality of all products or services. Authorization of the use of the name and logo of the Biosphere Reserve will be a privilege and will be a responsibility of the Addu Atoll Biosphere Reserve Management Office to answer queries related to logo use. The guideline will also cover the sale of goods or services with the name and logo of Addu Atoll Biosphere Reserve and must be authorized by the Addu Atoll Biosphere Reserve Management Office.

Business and marketing activities

- Establish the website of Addu Atoll Biosphere Reserve
- Develop the social media communication strategy of Addu Atoll Biosphere Reserve
- Develop a publicly searchable online knowledge base of the biosphere reserve and link to the Maldives Conservation Portal
- Publish the baseline assessment of species and habitats in the protected areas of the biosphere reserve
- Publish and distribute a biannual newsletter
- Publish the 'Annual Biosphere Reserve Report'
- Develop an annual calendar for awareness and information sessions to different stakeholder groups such as farmers, tourism service providers, fishers, women, youth, and make it publicly available
- Celebrate environmentally significant days
- Participate in the network of Maldives Atoll Biosphere Reserves to exchange information and lessons
- Participate in the UNESCO World Network of Island and Coastal Biosphere Reserves
- Participate in the South and Central Asia MAB Network
- Participate in UNESCO World Network of Biosphere Reserves
- Establish an online forum for exchange of information and knowledge between biosphere reserves
- Formulate a plan to contribute to the World Network of Biosphere Reserves
- Develop the marketing strategy for the biosphere reserve
- Develop the brand strategy for Addu Atoll Biosphere Reserve products and services

6.6 BUDGET ESTIMATES AND RESOURCE MOBILIZATION

Guaranteed finance is essential for the full functioning of the Biosphere Reserve and for implementation of this Action Plan. Currently, the guaranteed funding available for functioning of the Biosphere Reserve entity is the budget allocated to Addu City Council from the block grant. Ministry of Finance provides the block grant to the Council through the annual national budget. The Addu Atoll Biosphere Reserve was transferred to the Addu City Council in 2021. From 2022 onwards, the Addu City Council has the responsibility for securing the budget of Addu Atoll Biosphere Reserve Management Office. Addu City is already challenged with recruiting new technical staff due to budgetary challenges; hence alternative funding mechanisms will be important for the Biosphere Reserve entity to function.

The Addu Atoll Biosphere Reserve Management Office will need funds for the administration of office and for implementation of this Action Plan: The administrative functions include the setting up of the office with staff and equipment. The programme functions under this Action Plan include the research, communication, and education programme; stakeholder engagement programme; biodiversity conservation programme; culture and heritage conservation programme; sustainable livelihood programme; and the Net Zero Emissions and Zero Waste programme.

The following table summarizes the annual estimated programme budget for the implementation of the activities in the Action Plan.

Table 5: Estimated annual programme budget

Year	Recurrent Administrative Budget in '000 MVR	Activity Budget in '000 MVR
2022	3,905	150
2023	3,905	12,350
2024	3,035	36,020
2025	3,035	42,970
2026	3,035	11,470
2027	3,035	16,470
2028	3,035	10,970
2029	3,035	15,470
2030	3,035	15,070
2031	3,035	10,970

The Biosphere Reserve has mechanisms for collecting visitor fees and partnership fees. The fees will go into the conservation trust fund. The guidelines for use of the fund can help establish where budget needs for the Biosphere Reserve can be managed through different sources of funding. In addition, there is a diverse range of funding sources that Biosphere Reserve can tap into both nationally and internationally. Establishing a social enterprise model for Biosphere Reserve products sales, funding

from individual projects, from international scientific institutions, international NGOs and Green Funds are mechanisms that need to be tapped into and secured.

Resource mobilization plan

Resources can be mobilized for the action plan through the following sources:

- The national budget
- Local council budget
- Addu Conservation Trust fund for eco-tourism activity tariff
- Permanent revolving fund
- Donations
- Fund raising activities, sales of merchandise, sales of labelled local produce
- Partnerships in funded projects
- Subsidized loans
- National and international green funds
- Grant assistance through bilateral and multilateral agencies
-

It is anticipated that the national budget will be the main source of finance for the implementation of the activities. The Ministry of Environment, Climate Change and Technology will be responsible to mobilize budgetary support through the Ministry's annual budget planning.

6.7 RESEARCH AND MONITORING

Addu Atoll Biosphere Reserve Management Office will facilitate biodiversity and sustainability research.

Stakeholders noted that there is a need to develop a research framework and strategy for the Biosphere Reserve, to improve the knowledge base on the ecosystems and their services within the Biosphere Reserve. Since the capacity to undertake rigorous scientific research is limited, there is a need for shared collaborative scientific research projects with well-established research centres and academic institutions.

Addu has several historical sites of economic and historical value. It is important to document and showcase the history through museums, storytelling, and other heritage tours. Similarly understanding the economic and social value generated from heritage tourism backed by information and data is important for the socioeconomic value of heritage tourism in Addu.

Addu Atoll is endowed with rich biological diversity. The marine ecological system of Addu Atoll includes coral reefs, reef passes, seagrass beds and lagoons. Eedhigali Kilhi in Addu is among the largest wetlands in the Maldives and the mangrove ecosystems are specially known by the relative abundance of water birds. The Koatthey protected area is well recognised for its live coral cover, the species richness and the good conservation status make it a unique site which needs to be properly studied. The ecological significance of Addu needs to be studied and documented for the promotion of sustainable tourism and for its value for future generation.

Addu Atoll has rich megafauna. The northeast tip of Addu Atoll on the outside of Hulhumeedhoo is notable shark point. At the 'Manta Point' in Addu, Mantas can be seen all year round. Whales including humpback whale and killer whale have been sighted in Addu. The importance of Addu for these megafaunas, their movements, behaviour and the sustainability of these species needs to be studied.

White tern or Dhondheeni (*Gygis alba*) has a special importance in Addu Atoll. At national level, Addu Atoll is one of the two sites where the Common White Tern (*Gygis alba*) is observed. Even though it is common across the tropical seas and in the Indian Ocean, in the Maldives, it is known to breed only in Addu Atoll. White is a protected bird in the Maldives. The significance of White tern to Addu, its status and value needs to be researched and documented.

Biodiversity conservation will become mainstream when knowledge is shared, and its benefits are valued and recognized. Regular monitoring and research are undertaken by Addu Nature Park on the core areas especially birds and other flagship species. Additionally, biannual monitoring of the water from wetlands are carried out to analyse the health of ecosystems and impacts from external pressures such as pollution. The coral reefs of the Addu Atoll Biosphere Reserve are regularly monitored through

the national coral reef monitoring framework and the data is fed into the National Coral Reef Monitoring Database (<https://coraldatabase.gov.mv>).

The need to incorporate citizen science as an innovative approach for research and monitoring in the Biosphere Reserve was also highlighted. Recognition and respect to the unique traditional biodiversity knowledge of our citizens is a priority. By helping to maintain and build this knowledge it can be used more effectively when developing biodiversity conservation management programmes. Special emphasis will be given to synthesize traditional and local knowledge and involve citizens in research and monitoring.

Sharing useful information through effective and open communication and data and knowledge exchange is a necessity for the Biosphere Reserve. Contemporary communication and information channels such as social media and digital video conferencing will be used extensively to share knowledge and connect with people. Such sharing of information is expected to increase the engagement with diverse external audiences as well. The Ministry of Climate Change, Environment and Energy has launched the Protected and Conserved Areas Website, where relevant information regarding Addu Atoll will be published.

The future of biodiversity, heritage and sustainability will depend on the collective action of a well-educated society. Hence, delivery of well-planned long-term education to change the attitude and behaviour towards conservation and sustainable utilization of biological and cultural resources is a key objective. The Addu Nature Park and Visitor Centre established in September 2018, will continue the efforts of education and awareness.

Research objectives

- educate and raise awareness among biodiversity conservation and management to stakeholder groups
- inform the work of Addu City Council in areas including history of Addu, ecological significance and its culture, heritage, and cuisine
- advise emergency responses including fires, to protect conservation
- develop and implement frameworks for adaptive management

Research priorities

- Develop the Research Agenda and Strategy for Addu Atoll Biosphere Reserve
- Establish collaborative research partnerships with national universities and institutes
- Establish research partnerships with international universities and organisations
- Establish a network of citizen science researchers and writers
- Establish a database of local knowledge and traditional management practices
- Organise an annual Citizen Science Forum

- Undertake a comprehensive baseline assessment of the fauna and flora species found in the core areas (both marine and terrestrial protected areas) to map the species distribution
- Undertake detailed assessment of the economic values of habitats and species in the core areas
- Undertake an assessment of the social and cultural values derived from the core areas
- Undertake an in-depth survey of information on hydrology, biota, processes, nutrient cycling, climate regulation, and other ecological characters of the wetlands in Addu
- Undertake a study of the species that have disappeared or are at the risk of extinction
- Undertake environmental and ecological impact assessments for re-introduction and restoration of threatened species
- Undertake an assessment of the vulnerabilities of the heritage sites
- Facilitate and encourage revival of key native agricultural species and products of Addu

6.8 TECHNOLOGY NEEDS

The key technology needs identified for the Addu Atoll Biosphere Reserve to monitor, protect, and conserve biodiversity are:

- mobile ecological surveys
- applications for individual-level monitoring
- fixed survey
- remote sensing and satellite imagery
- automated processing of data streams
- automated image processing
- blockchain
- data analysis, and enabling technologies
- data sharing

As a first step Addu Atoll Biosphere Reserve Management Office needs to establish the capabilities for computing hardware and software, communications, and data and image capturing.

Equipment and software needed for the Addu Atoll Biosphere Reserve Management Office include:

- 10 laptops
- 4 personal computers
- 10 tablets (Microsoft or Apple)
- 4 drones suitable for environmental research and monitoring
- 2 underwater cameras
- 2 DSLR cameras
- 2 wireless projectors
- 2 mobile sound systems
- Human Resources (HR) management system software
- cloud storage facilities for data, information, photos, and videos (eg: Google Drive, Microsoft OneDrive, Adobe Creative Cloud, Dropbox)
- graphics software license for environmental research and monitoring
- data processing software license for data analysis
- payment collection system (Bank of Maldives Payment Gateway)
- Geographic Information Systems (GIS) software (eg: ArcGIS)

6.9 HUMAN RESOURCE NEEDS

When fully Strategic, fourteen staff will form the Biosphere Reserve Management Office to fulfil all the functions of the Biosphere Reserve. They will be working in four key areas: (i) conservation; (ii) livelihood and funds management; (iii) sustainable development; and (iv) education, research, and marketing.

Addu Nature Park and Addu City Council currently have the following staff who have functions relevant to biosphere reserve management. They are the Nature Park manager, one conservations officer, one accounts officer, three park wardens and one boat captain.

Minimum of ten staff will be required for the effective and efficient management of the AABRM entity. To fulfil the mandate of the Biosphere Reserve, the AABRM entity shall have a manager, a human resource officer, a finance officer, and a funds management officer at the administration level. These staff should have minimum bachelor's degree qualification in business management or related fields. The minimal technical officials shall consist of a conservation and sustainability officer; a livelihood officer; and an education, research, and knowledge generation officer. These staff should have minimum bachelor's degree qualification in environmental science, environmental management, development studies economics or related fields. In addition, a speed boat captain and four rangers with boat crew skills will be needed for the AABRM entity.

Capacity building activities

- Establish the human resource management system for the Addu Atoll Biosphere Reserve
- Recruit the manager for the Addu Atoll Biosphere Reserve
- Recruit the professional and technical officials for the Addu Atoll Biosphere Reserve
- Recruit the administrative staff for the Addu Atoll Biosphere Reserve
- Recruit support staff for the Addu Atoll Biosphere Reserve
- Conduct a training needs assessment for Addu Atoll Biosphere Reserve staff
- Conduct training on modern techniques and tools for ecosystem management
- Conduct leadership training for management staff
- Conduct training on sustainability monitoring to the staff
- Organize training courses on innovative techniques and field gear for biodiversity surveys and monitoring
- Conduct training on methods of collection, preparation and maintenance of plant and animal specimens
- Conduct training on building and managing databases
- Organize training courses on geographical information systems (GIS)

- Conduct training on management of websites
- Organise national study tours for the Addu Atoll Biosphere Reserve staff
- Organise international study tours and exposure trips for Addu Atoll Biosphere Reserve
- Develop the training materials for capacity development
- Organise an annual forum on biosphere reserve and the importance of its functions for relevant officials
- Conduct training on disaster risk management for officials of Addu Atoll Biosphere Reserve
- Facilitate training programme for farmers on good agricultural practices in Addu
- Facilitate training programmes for the fishers in Addu
- Develop training programmes for tourism service providers in Addu
- Conduct training for apprentices and strengthen their skills and knowledge of the traditional medicines
- Establish partnerships with international centres of excellence for biodiversity conservation and sustainability education

7. MONITORING & EVALUATION

The AABRM entity shall monitor and evaluate the Addu Atoll Biosphere Reserve Action Plan. Monitoring and evaluation of the Action Plan is necessary to continuously improve the conservation of biodiversity and cultural heritage efforts and demonstrate sustainable development.

This Monitoring and Evaluation Plan sets out the approach to measure the performance, demonstrate the accountability and evaluate the results of the Action Plan.

Performance monitoring and periodic evaluation are synergistic. Monitoring is defined as systematic collection of data on specific indicators to provide key stakeholders with evidence of the extent of progress and achievement of objectives. Monitoring will regularly track the inputs, activities, outputs, outcomes, and impacts of the Action Plan. Performance monitoring enables identification of risks, management of risks, and better allocation of resources.

Evaluation is defined as the systematic assessment of the relevance, efficiency, effectiveness, and sustainability of the Biosphere Reserve. Evaluation will indicate to the community and the stakeholders the accountability of AABRM entity and the City Council in achieving the purpose and results of the Biosphere Reserve. While monitoring information is a necessary input for evaluation, it is by itself not sufficient for the deeper analysis required for evaluation.

Performance Monitoring

AABRM entity will implement activities under the Action Plan and make publicly available an Annual Performance Report (APR).

The Ministry of Climate Change, Environment, and Energy will inform the AABRM entity on the indicators and data requirements for the respective APR.

The AABRM entity manager will be responsible to gather the data, undertake analysis, and prepare the report. Each office or agency that is required to implement activities under the Action Plan shall mobilize and contribute resources as appropriate to establish an information management system, and manage the information by keeping them updated, easily accessible, and consistent.

The AABRM entity Manager will make the APR publicly available. The APR shall include a concise description of the actions taken by the AABRM entity in the previous calendar year to implement the functions of the Biosphere Reserve. The APR shall also include analysed summary descriptions of written comments by persons or organizations regarding the relevant activity in the Action Plan, risks for biodiversity conservation, and risks for sustainable development. The APR shall also include the response by the AABRM entity to the comments.

The APR shall be prepared before the end of the month of February in every calendar year. The APR shall be made publicly available in digital format. A digital copy of the APR shall be submitted to the Ministry of Climate Change, Environment and Energy, and the Environment Protection Agency before 01 March every calendar year.

Results Evaluation

A joint Biosphere Reserve Evaluation Team (BRET) with staff from Addu City Council and AABRM entity will be established to undertake periodic evaluation of the Biosphere Reserve management. The BRET will maintain an e-library of all evaluation documents on a shared cloud platform. The evaluation team will communicate findings by delivering presentations internally and externally.

The Biosphere Reserve management will be evaluated three times during the next ten years. The first and formative evaluation will be undertaken in January 2023. This evaluation will assess the implementation planning of Action Plan.

A mid-cycle evaluation will be undertaken by December 2027.

A cumulative and summative evaluation will be undertaken by December 2031 to assess the continuing need for the activities in the Action Plan and to inform the future Action Plan.

The findings of periodic evaluation will be communicated widely. The results from periodic evaluations of the significant policies in the Action Plan will be reported to the Ministry of Environment, Environment Protection Agency, and the Addu City Council. All external reports shall be digital in nature and link directly to original data sources. All external evaluation reports will be made accessible to the public and media through the websites of the AABRAC entity.

8. INDICATORS

Success indicators for biodiversity conservation

- Increasing understanding of economic value of biodiversity
- Economic valuation studies of biodiversity published
- Addu biodiversity index developed
- Ecosystem services of Addu quantified
- Assessment reports on key species completed
- Assessment reports on key habitats completed
- Capacity building for ecosystem restoration conducted
- Assessment and prioritization of restoration opportunities completed
- Legal framework for species restoration established
- Number and population of key species protected
- Database on species records maintained

Success indicators for heritage conservation

- Increase in understanding on the value of Addu history and culture among population below 30 years of age
- Positive attitude and behaviour change towards culture and heritage protection
- Number of heritage management plans implemented
- Increase in level of priority by policy makers for culture and heritage protection
- Increase in number of culture and heritage-based products and experiences
- Increase in visitation to Addu museum
- Increase in visitation for culture and heritage experiences
- Increase in number of media mentions about Addu history, culture, and heritage

Success indicators for sustainable livelihood

- Yearly reduction in import of chemical fertilisers to Addu
- Yearly reduction in import of pesticides to Addu
- Increasing trend in organic mangoes produced
- Total value of yam traded commercially
- Number of people and businesses trained in organic farming
- Number of people and businesses trained in food processing and packaging
- Consolidated database for various fisheries
- Number of fishery management plans implemented
- Number of fishers trained in conservation friendly fishery
- Number of international visitors to Addu
- Number of domestic visitors to Addu
- Average annual occupancy rate of tourism establishments in Addu
- Increasing in visitor expenditure on local products
- Establishment of online trader's market

- Ratio of people whose income is generated from biodiversity and ecosystem services

Success indicators for sustainable development

- Decrease in carbon footprint
- Reduction in GHG emissions from electricity production in Addu
- Proportion of e-vehicles in land storage
- Increase in number of bicycles use among school students
- Proportion of properties covered by flood insurance
- Reduction in annual flood damage and disaster relief costs
- Reduction in volume of plastic water bottles imported to Addu
- Reduction in volume of waste sent to landfills from Addu annually
- Volume of waste sent for recycling annually

Success indicators for research and monitoring

- Research agenda published
- Increase in funds mobilised for research
- Increase in number of collaborative research partnerships
- Increase in number of research articles on Addu biodiversity
- Increase in number of research articles on Addu culture and history
- Functional GIS database established

Success indicators for strengthening communication, outreach, and public relations

- Addu Atoll Biosphere Reserve relevant materials and content to be used in schools
- Number of people reached through different awareness programmes
- Increase in positive perception of people towards biosphere reserve
- Increase in women's engagement in biosphere reserve activities
- Increase in youth engagement in biosphere reserve activities
- Numbers of schools and environmental clubs actively engaged in conservation
- Number of NGOs actively engaged in conservation

Success indicators of governance

- Clear mandates established for biodiversity mandates at city level
- Increase in level of stakeholder engagement in biodiversity conservation
- Number of new regulations to address the gaps
- Number of regulations revised
- Number of biodiversity management plans developed and implemented
- Number of management plans developed for heritage and implemented
- Number of training programmes conducted annually for city councilors and council staff
- Number of training programmes conducted for law enforcement officials

Success indicators for stakeholder engagement

- Increase in stakeholder participation and engagement
- Stakeholder satisfaction with biosphere reserve communication
- Stakeholder satisfaction with biosphere reserve activity participation

Success indicators for institutional coordination

- Number of collaborative engagements undertaken
- Number of coordination meetings and events
- Increase in satisfaction levels among institutional leaders on coordination mechanism

Success indicators for communication and outreach

- Proportion of city council elected officials, parliamentarians, judiciary, and decision makers who participated in the awareness activities
- Number of awareness programmes by different target groups
- Increase in engagement with audience by type
- Increase in type and diversity percentage of messaging delivered
- Increase in number of media mentions on biosphere reserve
- Increase in different target audiences quoting of biosphere reserve

Success indicators for business and marketing

- Social media follower base in Addu
- Social media follower base nationally
- Social media follower base internationally
- Increase in awareness of biosphere reserve logo
- Increase in positive sentiment of local businesses on biosphere reserve logo use
- Increase in traffic on biosphere reserve website
- Increase in average time spent on biosphere reserve website
- Increase in number of visitors who will recommend Addu Atoll Biosphere Reserve

Success indicators for funding to biosphere reserve

- Year on year increase in government expenditure for Addu biodiversity conservation
- Year on year increase in government budget allocation for species conservation
- Increase in government budget allocation for professional staff for biosphere reserve
- Increase in government budget allocation for trainings for biosphere reserve personnel
- Increase in government expenditure to harness innovative technology for biosphere reserve management
- Year on year donor growth
- Growth in donation
- Pledge fulfilment percentage

- Fundraising return on investment (ROI)

Success indicators for research and monitoring

- Increase in number of people engaging in citizen science programmes
- Increase in number of successful monitoring programmes implemented with existing collaborators
- Increase in number of data sharing arrangements
- Increase in understanding of research priorities amongst peer research organisations

Success indicators for technology needs

- Increase in staff satisfaction with technology adoption
- Increase in staff competency in technology utilization

Success indicators for human resource needs

- Number of professional staff in biosphere reserve management technical needs
- Number of staff trained by their respective areas
- Training alignment with core functions of the biosphere reserve
- Increase in staff satisfaction
- Gender balance in professional position in biosphere reserve management
- Stakeholder satisfaction with performance of biosphere reserve staff

ANNEXES

ANNEX 1: FORECASTED BUDGET ESTIMATES FOR GOALS IMPLEMENTATION

No:	Goal	Strategic Objectives	Actions	Indicators	Baseline Status	Responsible Agencies	Implementing Partners	KPI	Target Dates	Budget Estimate in '000 MVR
1	Conserve and sustainably use biodiversity and beauty of natural ecosystem	1.1 Recognize and understand the ecological systems, processes, and their values	Undertake a comprehensive baseline assessment of the fauna and flora species found in the core areas (both marine and terrestrial protected areas) to map the species distribution	7 sites	Refer to dossier	MoECCT	Addu City Council, MNU	14	Every 5 years	4,500
			Establish a species inventory for each core area	Digital inventory	Refer to dossier	MoECCT	Addu City Council, MNU	1	2025	0
			Develop a portfolio of ecological performance indicators with their threshold limits for all key species	Methodology framework	Existing global indicators	MoECCT	EPA, national and international universities, MMRI, AABRM entity	1	2025	1,500
			Undertake detailed assessment of the economic values of habitats and species in the core areas	Report of assessment	No baseline completed	MoECCT	Addu City Council, MNU	1	2024	2,000
			Undertake an assessment of the social and cultural values derived from the core areas	Report of assessment	Refer to dossier	MACH,	MoECCT, MYSCE, AABRM entity	1	2024	1,000

No:	Goal	Strategic Objectives	Actions	Indicators	Baseline Status	Responsible Agencies	Implementing Partners	KPI	Target Dates	Budget Estimate in '000 MVR
			Undertake an in-depth survey of information on hydrology, biota, processes, nutrient cycling, climate regulation, and other ecological characters of the wetlands in Addu	Report of assessment	Baseline exists, needs to updated	MoECCT	Addu City Council, MNU	1	2024	3,000
			Establish a videography library on status of biodiversity, habitats and species and their use	Video collection	Incomplete	Addu City Council	Public Service Media, AABRM entity	1	2025	250
			Report on the global and national indices on the status and trends of biodiversity	Methodology framework	Global indices exist, needs to localised	MoECCT	Addu City Council, MNU	1	2025	500
			Adopt the national monitoring protocols and inclusion of citizen science (schools, university, community) for regular monitoring	Methodology framework	National coral reef monitoring framework is in place	MoECCT	Addu City Council, MNU	1	2024	200
			Integrate dashboards on status and trends of biodiversity into the website	Digital dashboards	Incomplete	Addu City Council	NCIT, MNU, AABRM entity	1	2025	200
			Undertake a study on visitor experience	Report	No survey conducted	Addu City Council	AABRM entity, MoECCT, MACH	1	2023	250

No:	Goal	Strategic Objectives	Actions	Indicators	Baseline Status	Responsible Agencies	Implementing Partners	KPI	Target Dates	Budget Estimate in '000 MVR
		1.2 Develop the principles, policies, and guidelines and establish mechanisms for improved management effectiveness of the biosphere reserve	Develop and update management plans for the core areas and buffer zones of the biosphere reserve	Management plans	1 management plan developed	MoECCT	AABRM entity, EPA	7	2030	2,500
			Undertake METT analysis for all core areas	Report	No METT analysis	MoECCT	AABRM entity, EPA	7	2030	0
			Introduce and implement IUCN green list standard to improve management effectiveness of core areas and buffer zones	Sites green list certified	Incomplete	MoECCT	AABRM entity, EPA, Addu City Council	1	2030	1,000
			Prepare technical guideline for the biosphere reserve	Guidelines	Global guide needs to be localised	MoECCT	AABRM entity Addu City Council	1	2025	250
			Establish the Addu Atoll Biosphere Reserve Advisory Committee	Committee meetings	Completed	MoECCT	Addu City Council, EPA, LGA	2	Annual	30
		1.3 Contribute to the development and adoption of tools and processes to protect species and habitats	Contribute and advocate for development of a regulation for the sustainable use of bait fish species in Addu	Legal framework	Insufficient	MoFMRA	EPA, MoECCT, Addu City Council	1	2023	0
			Contribute and advocate for development of a regulation to prevent destructive fishing techniques in Addu	Legal framework	Insufficient	MoFMRA	EPA, MoECCT, Addu City Council	1	2023	0

No:	Goal	Strategic Objectives	Actions	Indicators	Baseline Status	Responsible Agencies	Implementing Partners	KPI	Target Dates	Budget Estimate in '000 MVR
			Contribute and advocate for development of a regulation for sustainable agriculture and home gardening in Addu	Legal framework	Insufficient	MoFMRA	Ministry of Economic Development, AgroNat	1	2023	0
			Contribute and advocate for development of a regulation on responsible use of pesticides in Addu	Legal framework	Insufficient	MoFMRA	EPA, MoECCT, Addu City Council	1	2023	0
			Contribute and advocate for development of guidelines for regeneration and sustainable harvesting of medicinal plants in Addu	Guidelines report	Insufficient	MoECCT	EPA, MACH, MOH	1	2023	0
			Contribute and advocate for development of a guideline to prevent the spread of invasive and alien species in the biosphere reserve	Legal framework	Insufficient	MoFMRA	EPA, MoECCT, MNDF, Addu City Council	1	2023	0
			Identify and establish potential OECMs within the biosphere reserve	OECMs	No OECMs	MoECCT	EPA, MOT, AABRM entity	1	2025	600
			Identify and establish potential KBAs within the biosphere reserve	KBAS	No KBAs	MoECCT	EPA, AABRM entity	1	2025	500

No:	Goal	Strategic Objectives	Actions	Indicators	Baseline Status	Responsible Agencies	Implementing Partners	KPI	Target Dates	Budget Estimate in '000 MVR
		1.4 Implement programmes to restore species and habitats	Undertake an assessment of species that have disappeared or are at the risk of extinction	Report of assessment	No baseline done	EPA	MoECCT, Addu City Council, MNU	1	2024	500
			Design programmes to restore threatened species and habitats	Proposal document	No programmes	EPA	MoECCT, Addu City Council, MNU	2	2025	5,000
			Undertake environmental and ecological impact assessments for re-introduction and restoration of threatened species	Report of assessment	No existing assessments	EPA	MoECCT, Addu City Council, MNU	1	2026	500
		1.5 Strengthen financial sustainability of core areas and buffer zones of the biosphere reserve	Develop a regulation for biosphere reserve conservation trust fund management	Legal framework	1 completed	MoECCT	Ministry of Finance, MMA, CMDA	1	2022	100
			Establish a conservation trust fund to finance Addu Atoll Biosphere Reserve management activities	Conservation trust fund	1 established	MoECCT	Addu City Council, MOF	1	2023	0
			Strengthen the existing conservation trust fund to incorporate innovative financing options	Innovative financing mechanism	No existing innovative financing mechanisms	MoECCT	Addu City Council, MOF	1	2027	5,000
			Develop proposals to secure finance from bilateral and multilateral donor agencies for conservation and adaptation	Amount of funding secured	One proposal developed	MoECCT	Addu City Council, AABRM entity	1	Annual	75

No:	Goal	Strategic Objectives	Actions	Indicators	Baseline Status	Responsible Agencies	Implementing Partners	KPI	Target Dates	Budget Estimate in '000 MVR
			Organise fundraising events for the biosphere reserve	Events	No fundraising events	Addu City Council	AABRM entity	1	Annual	250
			Develop the business plan with revised user fee structure	Business plan	Incomplete	MoECCT	Addu City Council, AABRM entity		2023	750
			Develop the marketing strategy for the biosphere reserve	Strategy document	Incomplete	Addu City Council	MoECCT, EPA, AABRM entity	1	2023	750
			Develop the brand strategy for Addu Atoll Biosphere Reserve products and services	Strategy document	Incomplete	Addu City Council	MoECCT, EPA, AABRM entity		2023	750
2	Safeguard culture and heritage and showcase them to gain economic benefits	2.1 Promote greater awareness, knowledge and engagement with culture and heritage	Establish an inventory of the heritage of Addu City	Digital inventory	Completed	Addu City Council	MACH	1	2023	100
			Incorporate and promote Addu history and culture into communication materials of the biosphere reserve	Communication materials	Incomplete	Addu City Council	AABRM entity	1	2025	300
			Ensure effective participation and engagement of heritage experts in biosphere reserve planning and implementation	Heritage expert participation	Insufficient	Addu City Council	AABRM entity	1	Annual	50

No:	Goal	Strategic Objectives	Actions	Indicators	Baseline Status	Responsible Agencies	Implementing Partners	KPI	Target Dates	Budget Estimate in '000 MVR
		2.2 Improve policy and process to enable shared protection of culture and heritage	Contribute to development of guidelines on film and photography at heritage sites within core areas and buffer zones of the biosphere reserve	Guideline	Insufficient	MoECCT	AABRM entity	1	2023	100
			Advocate and promote Addu cuisine and delicacies as products of biosphere reserve	Document	Insufficient	Addu City Council	NGOs, AABRM entity	1	2023	100
			Integrate celebration of Ramadan, Eid and Islamic festivals and other Addu festivals into annual plans	Events	AABRM Entity does participate in annual events	Addu City Council	MACH, MOT, MMPRC, Ministry of Islamic Affairs, AABRM entity	2	Annual	100
		2.3 Improve storytelling, visitor experience, and services to increase visitation and engagement	Establish digital interactive storytelling to enhance visitor experience	Information guides	Incomplete	Addu City Council	AABRM entity	1	2024	2,500
			Facilitate events for culinary festivals showcasing local food	Events	Insufficient	Addu City Council	resorts, schools, AABRM entity	1	Annual	200
			Facilitate events to revive and restore the value of traditional food and cultural food practices	Awareness events on cultural food practices	Insufficient	Addu City Council	resorts, schools, AABRM entity	1	Annual	500
3	Achieve sustainable livelihoods by enhancing	3.1 Strengthen agriculture to achieve	Facilitate and encourage revival of key native agricultural species and products of Addu	Revival of native agricultural species	Insufficient	Addu City Council	MED, BCC, AABRM entity	2	2024	300

No:	Goal	Strategic Objectives	Actions	Indicators	Baseline Status	Responsible Agencies	Implementing Partners	KPI	Target Dates	Budget Estimate in '000 MVR
	economic and social benefits to all from biodiversity and culture	sustainable livelihoods	Conduct awareness and promote good agricultural practices within the biosphere reserve	Awareness sessions	Incomplete	Addu City Council	MoFMRA, MED	1	2024	750
			Encourage biosphere reserve brand strategy for authentic local Addu food products	Strategy document	Insufficient	Addu City Council	MoECCT, AABRM entity	1	2023	500
		3.2 Enable responsible management of fisheries for biodiversity conservation	Incorporate biosphere reserve principles by participating in atoll level fisheries development and management planning	Planning sessions	Insufficient	Addu City Council	MoFMRA, MMRI	2	2023	100
			Promote participation and engagement of fishermen annual fishermen's forum to promote dialogue and knowledge sharing among fishermen to protect and conserve the marine ecosystem	Meeting records	Insufficient	Addu City Council	MoFMRA, MMRI	1	Annual	100
		3.3 Promote inclusive integrated sustainable tourism	Integrate access and permit system for biosphere reserve core areas into the online platforms	Digital application	Physical ticketing system in place	MoECCT	Addu City Council, AABRM entity	1	2023	150
			Develop and ensure implementation of code of conduct threatened and endangered species within biosphere reserves	Code of conducts	Incomplete	MoECCT	Addu City Council, MOT, AABRM entity	5	2025	300
			Develop interactive maps for visitors to nature parks	Digital map	Incomplete	Addu City Council	AABRM entity	1	2023	1,750

No:	Goal	Strategic Objectives	Actions	Indicators	Baseline Status	Responsible Agencies	Implementing Partners	KPI	Target Dates	Budget Estimate in '000 MVR
			Establish information kiosks across key areas in Addu	Information kiosks	Incomplete	Addu City Council	AABRM entity	2	2023	1,000
			Place safety signs and safety materials around the protected areas	Signage	Incomplete	Addu City Council	AABRM entity	4	2024	750
4	Achieve climate change adaptation, mitigation, resilience building and sustainable development	4.1 Promote Net Zero Emissions (NZE) in electricity	Install solar PV, energy storage, and energy efficiency in the biosphere reserve management office to demonstrate smart office	Renewable energy system	Incomplete	Addu City Council	MoECCT, FENAKA, URA	1	2025	7,000
		4.2 Pave the way for transition to Net Zero Emissions (NZE) in transport within the Addu Atoll Biosphere Reserve	Advocate and contribute to national goals to reach net zero in transport sector within the Biosphere Reserve.	Meetings	Incomplete	Addu City Council	MNPFI, EPA	2	2023	50
			Design the walking tracks and bicycle lanes around the Eedhigali kilhi, Maa Kilhi, Maafishi Kilhi and Mathi Kilhi wetlands	Design concept	Incomplete	Addu City Council	MoECCT, AABRM entity	1	2024	1,000
			Establish benches along the walking tracks to support pedestrians	Nature Park infrastructure	Few benches installed in around one of the core areas	Addu City Council	MoECCT, AABRM entity	5	2024	5,000
			Establish water re-fill stations in visitor centres	Nature Park infrastructure	No re-fill stations	Addu City Council	MoECCT, AABRM entity	5	2023	1,000
			Establish partnership for vehicles and vessels repair and maintenance	Partnership	No partnerships in place	Addu City Council	MoECCT, AABRM entity	1	Annual	250

No:	Goal	Strategic Objectives	Actions	Indicators	Baseline Status	Responsible Agencies	Implementing Partners	KPI	Target Dates	Budget Estimate in '000 MVR
			Procure bicycles for rental use by visitors to the wetlands	Nature Park infrastructure	20 bicycles	Addu City Council	MoECCT, AABRM entity	40	2024	1,000
			Establish bicycle parking stands in visitor centres	Nature Park infrastructure	No stands	Addu City Council	MoECCT, AABRM entity	1	2024	300
			Install bicycle fixing stands with the required handy tools	Nature Park infrastructure	Incomplete	Addu City Council	MoECCT, AABRM entity	1	2024	300
			Procure electric vehicles (golf buggy style) for transport of visitors to and within the protected areas	Nature Park infrastructure	Incomplete	Addu City Council	MoECCT, AABRM entity	10	2025	5,000
			Establish solar PV electric vehicles charging stations in visitor centres	Nature Park infrastructure	Incomplete	Addu City Council	MoECCT, AABRM entity	2	2025	1,500
			Promote use of electric speedboats/solar powered boats for use by rangers	Nature Park infrastructure	Incomplete	Addu City Council	MoECCT, AABRM entity	1	2025	5,000
			Promote establishment of charging stations for vehicles	Nature Park infrastructure	Incomplete	Addu City Council	MoECCT, AABRM entity	2	2025	2,000
		4.3 Build the resilience of natural systems and community to climate change and natural disasters	Advocate and contribute to national goals of achieving resiliency through climate change adaptation and mitigation in Addu Biosphere Reserve	Meetings	Incomplete	Addu City Council	MNPHI, EPA	2	2023	50
		4.4 Promote zero waste and prevent the	Design and introduce Addu Atoll Biosphere Reserve green bags	Green bags	Incomplete	Addu City Council	MoECCT, AABRM entity	100,000,00	2024	350

No:	Goal	Strategic Objectives	Actions	Indicators	Baseline Status	Responsible Agencies	Implementing Partners	KPI	Target Dates	Budget Estimate in '000 MVR
		impact of waste on the Addu Atoll Biosphere Reserve	Encourage the use of reusable water bottles as alternative for pet bottles within the nature park	Reusable water bottles	Incomplete	Addu City Council	AABRM entity	100,000,00	2024	500
			Conduct regular public awareness campaign on Clean Addu	Awareness campaign	Incomplete	Addu City Council	AABRM entity	1	Annual	500
			Organise and participate in waste clean-up campaigns	Event	No dedicated waste clean-campaign in place	Addu City Council	AABRM entity	1	Annual	50
5	Undertake research and monitoring to generate knowledge	5.1 Encourage and support collaborative scientific research	Identify research priorities for the short and long term	Research priorities list	0	MoECCT	Addu City Council, MACH, MFMRA, MMRI, EPA, MNU, AABRM entity	1	2023	1,000
			Develop the Research Agenda and Strategy for Addu Atoll Biosphere Reserve	Research agenda	Incomplete	MoECCT	Addu City Council, MACH, MFMRA, MMRI, EPA, MNU, AABRM entity	1	2023	0
			Establish collaborative research partnerships with national universities and institutes	Partnerships	No formal partnerships in place	MoECCT	MHE, MNU, IUM	1	Annual	100

No:	Goal	Strategic Objectives	Actions	Indicators	Baseline Status	Responsible Agencies	Implementing Partners	KPI	Target Dates	Budget Estimate in '000 MVR
			Establish research partnerships with international universities and organisations	MoUs	No formal partnerships in place	MoECCT	MHE, EPA, MMRI, MACH	1	2025	100
			Establish a network of citizen science researchers and writers	Network forum	Incomplete	Addu City Council	MoECCT, MACH, MFMRA	1	2025	500
			Establish a database of local knowledge and traditional management practices	Digital database	Incomplete	Addu City Council	MNU, AABRM entity	1	2025	500
		5.2 Establish the data management capacity for research and monitoring	Develop a strategy for data management	Strategy document	Incomplete	MoECCT	Addu City Council, MACH, EPA	1	2023	200
			Develop GIS spatial data management system	GIS	Incomplete	MoECCT	Addu City Council	1	2023	2,000
			Conduct training on GIS data management	Training sessions	No targeted regular GIS training conducted	Addu City Council	AABRM entity, MoECCT	1	Every 3 years	500
			Promote and implementation of national protocols for monitoring of species, habitats and other environmental parameters	Monitoring using national protocols	National protocols in place, not implemented widely	MoECCT	AABRM entity, EPA	1	Annual	200

No:	Goal	Strategic Objectives	Actions	Indicators	Baseline Status	Responsible Agencies	Implementing Partners	KPI	Target Dates	Budget Estimate in '000 MVR
6	Strengthen communication, outreach, education and knowledge management	6.1 Enable diverse, multi stakeholder participation and engagement	Formulate the stakeholder consultations and engagement strategy based on functions of biosphere reserve and key messages from goals and strategic	Strategy document	Incomplete	Addu City Council	AABRM entity	1	2023	150
			Establish the Addu Atoll Biosphere Reserve Advisory Committee	Meetings	Addu Atoll Biosphere Reserve Advisory Committee established	Addu City Council	MoECCT, AABRM entity	2	Annual	30
			Establish a grievance mechanism for Addu Atoll Biosphere Reserve	Grievance mechanism	No formal grievance mechanism in place	Addu City Council	AABRM entity	1	2023	150
			Prepare annual stakeholder engagement report and disclose it on the Addu website	Annual report published	Insufficient	Addu City Council	AABRM entity	1	Annual	100
			Aim to achieve internationally recognised biosphere reserve awards	Awards	Incomplete	Addu City Council	AABRM entity, MoECCT	2	2030	100
		6.2 Enable young people to actively contribute and	Encourage participation and effective engagement in MAB youth network	Meetings attended	Insufficient	Addu City Council	AABRM entity, MoECCT	1	Annual	750

No:	Goal	Strategic Objectives	Actions	Indicators	Baseline Status	Responsible Agencies	Implementing Partners	KPI	Target Dates	Budget Estimate in '000 MVR
		meaningfully engage with the biosphere reserve	Ensure youth representation in the planning and implementation of activities within biosphere reserve	Youth representation	Insufficient	Addu City Council	AABRM entity, MoECCT	1	Annual	70
			Develop an annual programme to provide opportunities for school students to volunteer their time towards conservation activities in biosphere reserve	Strategy document	Incomplete	Addu City Council	Education Ministry, schools in Addu, AABRM entity, MoECCT	1	Annual	100
			Develop an internship programme for young people	Interns	Incomplete	Addu City Council	Education Ministry, schools in Addu, AABRM entity, MoECCT	1	Annual	75
		6.3 Enable women's full participation and contribution to Addu Atoll Biosphere Reserve activities	Ensure women representation in the planning and implementation of activities within biosphere reserve	Women representation in committee	Consultation with women are conducted regarding biosphere reserve activities	Addu City Council	WDC, AABRM entity, MoECCT	1	Annual	100
			Ensure gender mainstreaming in planning and implementation of biosphere reserve activities	Women participation	Women participation in activities are ensured	Addu City Council	AABRM entity, MoECCT WDC		Annual	100

No:	Goal	Strategic Objectives	Actions	Indicators	Baseline Status	Responsible Agencies	Implementing Partners	KPI	Target Dates	Budget Estimate in '000 MVR
			Facilitate events to showcase the skills and talent of women in biodiversity, heritage, and livelihoods	Annual event	Incomplete	Addu City Council	WDC, Ministry of Gender, AABRM entity, MoECCT	1	Annual	100
		6.4 Deliver well planned communication and education to change the attitude and behaviour towards conservation and sustainable utilization of biological and cultural resources	Develop the social media communication strategy of Addu Atoll Biosphere Reserve	Strategy document	Incomplete	MoECCT	Addu City Council, AABRM entity	1	2023	550
			Develop digital and social media materials for public awareness on conservation, livelihoods, and research	Education materials	Some materials are published, but not adequate	Addu City Council	AABRM entity	1	Annual	1,000
			Develop guidelines for biosphere reserve logo use (in technical guideline)	Guideline	Incomplete	MoECCT	Addu City Council, AABRM entity	1	2022	50
			Organise an annual forum on biosphere reserve and the importance of its functions for relevant officials	Forum	Incomplete	MoECCT	Addu City Council, AABRM entity, Ministry of Education	1	Annual	500
			Conduct training on disaster risk management for officials of Addu Atoll Biosphere Reserve	Trainings	No specific disaster risk management conducted	MoECCT	Addu City Council, AABRM entity	2	2024	200
			Establish the website of the Addu Atoll Biosphere Reserve	Website	No website	MoECCT	Addu City Council, AABRM entity	1	2023	2,300

No:	Goal	Strategic Objectives	Actions	Indicators	Baseline Status	Responsible Agencies	Implementing Partners	KPI	Target Dates	Budget Estimate in '000 MVR
			Develop a programme for school students from at least 2 different atolls to visit the biosphere reserve every year	Guideline Exchange tours	No formal programme in place, school students visit the biosphere reserve for field visits	MoECCT	Addu City Council, AABRM entity, Ministry of Education	2	Annual	1,000
			Develop a programme for at least 1 international school actively engaged in conservation activities to visit the biosphere reserve every year	Exchange tours	No formal programme in place	MoECCT	Addu City Council, AABRM entity, Ministry of Education	1	Annual	1,250
			Integrate Biosphere Reserve related topics in environmental clubs and other school activities	Activity plan	Incomplete	Addu City Council	MoECCT, AABRM entity Ministry of Education	2	2025	500
			Identify and utilize existing games, videos, photos and stories on biodiversity, culture, heritage, and sustainable livelihoods	Information materials	Insufficient	Addu City Council	MoECCY, MACH, MFMRA, MED, MOT, AABRM entity	1	2025	300
			Establish partnerships with international centres of excellence for biodiversity conservation and sustainability education	Partnerships	Insufficient	Addu City Council	MoECCT, AABRM entity	2	2025	50

No:	Goal	Strategic Objectives	Actions	Indicators	Baseline Status	Responsible Agencies	Implementing Partners	KPI	Target Dates	Budget Estimate in '000 MVR
			Develop a publicly searchable online knowledge base of the biosphere reserve and link to the Maldives Conservation Portal	Digital database	Information is not uploaded in the conservation portal	Addu City Council	MoECCT, AABRM entity	1	2024	100
			Publish the baseline assessment of species and habitats in the protected areas of the biosphere reserve	Digital publication	Incomplete	Addu City Council	AABRM entity	1	2025	150
			Publish and distribute a biannual newsletter	Digital publication	Incomplete	Addu City Council	AABRM entity	1	Biannual	40
			Publish the annual Biosphere Reserve Report	Digital publication	Incomplete	Addu City Council	AABRM entity	1	Annual	0
			Develop the training materials for capacity development for city council and community practitioners working on biosphere reserve activities and initiatives	Training sessions	Incomplete	Addu City Council	MoECCT, AABRM entity, EPA	1	Annual	200
			Facilitate sustainable training programme for farmers on good agricultural practices of in Addu	Training programme	Insufficient	Addu City Council	Addu City Council, MoFMRA, AABRM entity	1	2024	100
			Facilitate training programmes for the fishers in Addu	Training sessions	Insufficient	Addu City Council	MoECCT, MoFMRA, AABRM entity, EPA	1	Annual	100

No:	Goal	Strategic Objectives	Actions	Indicators	Baseline Status	Responsible Agencies	Implementing Partners	KPI	Target Dates	Budget Estimate in '000 MVR
			Facilitate training programmes for tourism service providers in Addu	Training sessions	Insufficient	Addu City Council	MoECCT, MoT, AABRM entity, EPA	1	Annual	100
			Conduct training for apprentices and strengthen their skills and knowledge of the traditional medicines	Training sessions	No trainings conducted	Addu City Council	MoECCT, AABRM entity, EPA	1	Annual	100
			Celebrate environmentally significant days	Events	World wetlands day, environment day are celebrated	Addu City Council	MoECCT, AABRM entity, EPA	2	Annual	1,000
			Develop an annual calendar for awareness and information sessions to different stakeholder groups such as farmers, tourism service providers, fishers, women, youth, and make it publicly available	Digital calendar	Incomplete	Addu City Council	AABRM entity	1	Annual	10
			Develop annual calendar of activities and festivals	Digital calendar	Incomplete	Addu City Council	AABRM entity	1	Annual	10
		6.5 Build the capacity of the Addu Atoll	Conduct a training needs assessment for Addu Atoll Biosphere Reserve staff	Training needs report	Incomplete	Addu City Council	MoECCT, EPA	1	2023	100

No:	Goal	Strategic Objectives	Actions	Indicators	Baseline Status	Responsible Agencies	Implementing Partners	KPI	Target Dates	Budget Estimate in '000 MVR
		Biosphere Reserve staff to deliver the core functions of the biosphere reserve	Conduct training on innovative techniques and tools for ecosystem management	Training sessions	No targeted trainings conducted	Addu City Council	MoECCT, EPA, MMRI	1	Annual	200
			Conduct leadership training for management staff	Training sessions	Incomplete	Addu City Council	MoECCT, EPA	1	Annual	150
			Conduct training on sustainability monitoring to the staff	Training sessions	No targeted trainings conducted	Addu City Council	MoECCT, EPA	1	Annual	150
			Organize training courses on innovative techniques and field gear for biodiversity surveys and monitoring	Training sessions	No targeted trainings conducted	Addu City Council	MoECCT, EPA, MMRI	1	Annual	200
			Conduct training on methods of collection, preparation and maintenance of plant and animal specimens	Training sessions	Incomplete	Addu City Council	MoECCT, EPA, MMRI, MoFMRA	1	Annual	200
			Conduct training on building and managing databases	Training sessions	Incomplete	Addu City Council	NCIT	1	Annual	200
			Organize training courses on geographical information systems (GIS)	Training sessions	No training courses conducted	Addu City Council	MoECCT, EPA, NCIT, Ministry of Planning	1	Annual	200
			Conduct training on management of websites	Training sessions	No training courses conducted	Addu City Council	NCIT	1	Annual	100

No:	Goal	Strategic Objectives	Actions	Indicators	Baseline Status	Responsible Agencies	Implementing Partners	KPI	Target Dates	Budget Estimate in '000 MVR
			Organise national study tours for the Addu Atoll Biosphere Reserve staff	Training sessions	Incomplete	Addu City Council	MoECCT, EPA	1	Annual	80
			Organise international study tours and exposure trips for Addu Atoll Biosphere Reserve staff	Training sessions	Incomplete	Addu City Council	MoECCT, EPA	1	Annual	250
			Participate in the network of Maldives Atoll Biosphere Reserves to exchange information and lessons	Meetings	Insufficient	Addu City Council	MoECCT, AABRM entity	1	Annual	50
			Participate in the UNESCO World Network of Island and Coastal Biosphere Reserves	Meetings	Insufficient	Addu City Council	MoECCT, AABRM entity	1	Annual	50
			Participate in UNESCO World Network of Biosphere Reserves	Meetings	Insufficient	Addu City Council	MoECCT, AABRM entity	1	Annual	50
			Participate in the South and Central Asia MAB Network	Meetings	Insufficient	Addu City Council	MoECCT, AABRM entity	1	2024	150
			Formulate a plan to contribute to the World Network of Biosphere Reserves	Plan	Incomplete	Addu City Council	MoECCT, EPA, AABRM entity	1	2024	50

ANNEX 2: FORECASTED BUDGET ESTIMATES FOR ADMINISTRATIVE MANAGEMENT OF ADDU ATOLL BIOSPHERE RESERVE

Objective	Action(s)	Indicators	Baseline Status	Responsible Agencies	Implementing Partners	KPI	Target Dates	Budget Estimates in '000 MVR
Recruit and retain human resources to manage biosphere reserve	Recruit the manager for the Addu Atoll Biosphere Reserve	Human resource	0	Addu City Council	MoECCT, Addu City Council	1	Annual	300
	Recruit the professional and technical officials for the Addu Atoll Biosphere Reserve	Human resource	Insufficient	Addu City Council	MoECCT, Addu City Council	4	Annual	1200
	Recruit the administrative staff for the Addu Atoll Biosphere Reserve	Human resource	Insufficient	Addu City Council	MoECCT, Addu City Council	3	Annual	750
	Recruit support staff for the Addu Atoll Biosphere Reserve	Human resource	Insufficient	Addu City Council	MoECCT, Addu City Council	5	Annual	750
Acquire the information technology required for Addu Atoll Biosphere Reserve	Undertake a comprehensive technology needs assessment for the Addu Atoll Biosphere Reserve	Needs assessment	Incomplete	Addu City Council	MoECCT, AABRM entity	1	2023	100
	Procure 10 laptops for Addu Atoll Biosphere Reserve staff use	IT equipment		Addu City Council	MoECCT, AABRM entity	10	2023	300
	Procure 4 PCs for Addu Atoll Biosphere Reserve office use	IT equipment		Addu City Council	MoECCT, AABRM entity	4	2023	100
	Procure 10 tablets for field data collection	IT equipment		Addu City Council	MoECCT, AABRM entity	10	2023	150
	Procure 2 wireless projectors	IT equipment		Addu City Council	MoECCT, AABRM entity	2	2023	40

Objective	Action(s)	Indicators	Baseline Status	Responsible Agencies	Implementing Partners	KPI	Target Dates	Budget Estimates in '000 MVR
Procure the technology for data collection and research	Procure 4 drones for surveying and photography	Survey equipment		Addu City Council	MoECCT, AABRM entity	4	2023	100
	Procure 2 professional cameras	Survey equipment		Addu City Council	MoECCT, AABRM entity	2	2023	80
	Acquire GIS software	Survey software	Incomplete	Addu City Council	MoECCT, AABRM entity	1	Annual	35

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