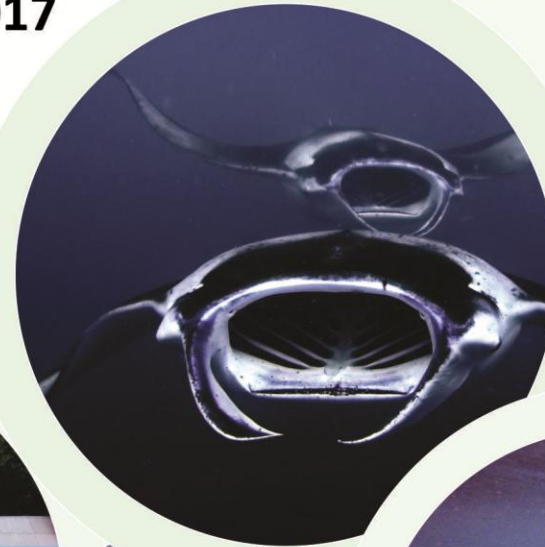


Maldives as a Biosphere Reserve

Implementation Plan
2013-2017



Maldives as a Biosphere Reserve

Maldives as a Biosphere Reserve

An Implementation Plan
2013-2017

Insert collage of photos
Fishing, tourism, biodiversity, renewable energy

January 2013

Contents

Implementation Plan Summary

Maldives Biosphere Organigramme and Road-map

1. Maldives – a fragile treasure

1.1 Geography and biodiversity	4
1.2 An environmental economy and society	4
1.3 Environmental threats	4
1.4 The policy context	5
1.5 The President’s challenge	5

2. The Vision

2.1 Vision at the national level	7
2.2 Vision at the Atoll / local level	7

3. The Baa atoll experience

3.1 The Atoll Ecosystem Conservation project	8
3.2 The Baa atoll UNESCO Biosphere Reserve	8
3.3 Lessons learned	8

4. Delivering the Vision

4.1 Stakeholders and their responsibilities	9
4.2 National level actions	10
4.3 Atoll level actions	11
4.4 International partnerships	12
4.5 Declaring Maldives as a UNESCO Biosphere Reserve	12

5. Budget

5.1 Budget for National-level actions	13
5.2 Budget for Atoll-level actions	13
5.3 Budget for project coordination	14
5.4 Budget for International technical support	14
5.5 Overall budget for Plan implementation	15

6. Next Steps 16

Annexes

Annex 1. Actions at National Level
Annex 2. Actions at Atoll Level
Annex 3. The 12 Principles of the CBD ecosystem approach
Annex 4. UNESCO Criteria for Biosphere Reserves
Annex 5. Summary of atoll characteristics
Annex 6. Project risk register

This plan was prepared by Mike Moser and Ilham Atho Mohamed. It is based on the approaches piloted for the Baa Atoll UNESCO Biosphere Reserve, and the discussions held during the National Stakeholder Conference on Declaring Maldives a Biosphere Reserve.

Implementation Plan Summary

Vision

1. In June 2012, at the UN Conference on Sustainable Development, RIO+20 meeting in Rio de Janeiro, Brazil, the President of Maldives announced the intention to declare the whole of Maldives as a UNESCO Biosphere Reserve within 5 years. This announcement was inspired by the success achieved in designating Baa Atoll as the first UNESCO Biosphere Reserve in Maldives.
2. This ambitious target represents a commitment by the Government to implement a de-centralised system for environmental management and sustainable development, based on the lessons learned from Baa Atoll. The Vision is that *“Maldives will be a UNESCO Biosphere Reserve – where public support for conservation of the country’s remarkable environment secures a vibrant green economy and good quality of life for all Maldivians”*.

Purpose

3. This implementation plan covers the period 2013-2017. It sets a roadmap for 2013 and 2014, after which the plan will be updated based on progress and lessons learned. In order to achieve the Vision, this Plan must succeed in:
 - Making a difference “on the ground and in the sea”
 - Securing the active support of those Ministries and organisations who can make it happen
 - Being supported by and involving those it affects
 - Being clear, and setting out agreed roles and responsibilities
 - Developing momentum at national and local level
 - Inspiring support from the international community

Making the implementation plan happen

4. Ensuring that this Plan makes a difference depends on the commitment of key stakeholders and a structure that can achieve results.

5. The governance arrangements comprise three structures with political, practical and popular roles. The first is the Maldives Biosphere *Custodians Group* - those Ministers with a direct interest in the success of the Plan. The second is the Maldives Biosphere *Delivery Group* - senior focal points from key Ministries, agencies, NGOs and the private sector, responsible for driving and monitoring the Plan. The third structure is a Maldives Biosphere *Forum* for all key stakeholders.
6. The responsibility for coordinating, animating and maintaining the Plan is that of the Maldives Biosphere *Project Coordination Unit*, which will be established in Male’.

Action-oriented delivery

7. The Plan sets out a series of SMART actions for delivery of the Vision. These are divided into the National-level enabling actions (see Annex 1), and secondly the actions to be undertaken at Atoll level (see Annex 2).

Resources and timings

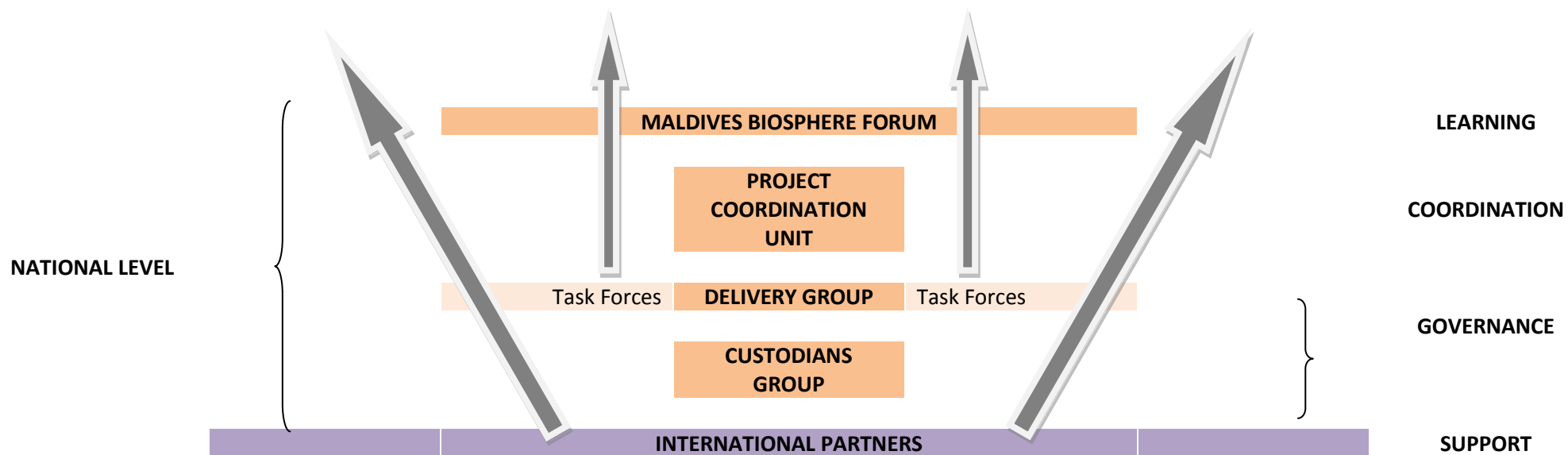
8. This Implementation Plan will be signed off by the *Biosphere Custodians Group* and formally launched in early 2013. It will be reviewed and updated at the end of 2014 and again at the end of 2016.
9. The plan will be implemented by and for different atolls in a stepwise fashion, based on their readiness to adopt the “Biosphere Approach”. A target of more than half of the country’s atolls (ie Baa atoll + 10 others) implementing the new approach by end 2017 must be achieved in order to trigger the application for Maldives as a Biosphere Reserve to be submitted to UNESCO.
10. Successful implementation of the Plan will depend on forging new partnerships, both horizontal and vertical: international partners working with Government to provide financial and technical support; government agencies working together and with NGOs, and public private partnerships at local level.

Using this Plan

The Tables in Annexes 1 & 2 summarise the National-level actions and the Atoll-level actions that are required to implement the Plan. The structure of the Tables reflects the descriptive text in Chapter 4. The lead organisation with responsibility for each action is shown in **Bold**.

MALDIVES BIOSPHERE ORGANIGRAMME AND ROAD-MAP

PHASE	IMPLEMENTATION ATOLLS					TIMELINE
V	Atoll 17	Atoll 18		Atoll 19	Atoll 20	2019
IV	Atoll 12	Atoll 13	Atoll 14	Atoll 15	Atoll 16	2018
Maldives declared a UNESCO Biosphere Reserve						
III	Atoll 7	Atoll 8	Atoll 9	Atoll 10	Atoll 11	2015-17
II		Atoll 4	Atoll 5	Atoll 6		2014
I		Atoll 2		Atoll 3		2013
0			Baa Atoll			2011-12



- NB:
1. The number of atolls achieving implementation in any Phase is shown for illustrative purposes only.
 2. A Target of 11 atolls will have achieved the implementation criteria before submitting the application to UNESCO for Maldives as a Biosphere Reserve.

1 Maldives – a fragile treasure

1.1 Geography and biodiversity

The Maldives is a remarkable archipelago of 26 geographical (and 20 administrative) atolls in the Indian Ocean, dominated by the marine environment. The lagoons and reefs within the atolls total about 21,300km². Outside the atolls the deep oceans cover a vast area of 115,000km² of territorial waters and 859,000 km² in the Economic Exclusion Zone, making a total of almost 1 million km². Despite its huge size, the 1,192 low-lying coral islands that make up the terrestrial area covers only 300km²; of these, 193 islands are inhabited by local communities and 93 by tourism resorts, still leaving around 900 uninhabited. The total population is about 320,000 (2010), with one-third living on the over-crowded capital island, Male'. The islands are low-lying, with an average elevation of 1.5m and a maximum of just 2.3m. The archipelago is 860 km long (from latitude 7°6'35"N to 0°42'24"S), and is 80-120 km wide (longitude 72°33'19"E to 73°46'13"E).

The vast extent and extraordinary landforms of the reefs and islands becomes apparent from the air, but it is only underwater that the dazzling marine biological diversity is revealed. Maldives enjoys some of the richest marine biodiversity in the world. The coral reefs (21,000 km²) are the seventh most extensive in the world, representing some 3% of global reef area. They are home to 250 species of coral, teeming with over 1,000 species of fish, including iconic mega-fauna such as whale sharks and manta rays, as well as large populations of marine turtles and seabirds, whales and dolphins. There are 42 protected areas totalling 24,494 ha designated under the Environment Act (= 0.2% of the national territory), plus 14 turtle nesting beaches and several grouper, bait fish and tuna spawning areas are protected under the Fisheries Act. A further 247 "environmentally sensitive areas" have been identified.

1.2 An environmental economy and society

Atoll ecosystems provide the basis for the country's existence as well as life-supporting services such as shoreline protection and goods upon which the economy entirely depends, mainly fish and tourism. The biodiversity of atoll ecosystems underpins at least 71% of national employment, 89% of GDP and 98% of exports.

Historically the economy was entirely dependent on fishing and other marine products. However, tourism has rapidly become the nation's largest sector and accounts for approximately 28% of GDP and more than 60% of foreign exchange receipts. Over 90% of government tax revenue comes from import duties and tourism-related taxes. With its exclusive resorts, the Maldives is one of the world's ultimate luxury destinations for an industry that welcomes about a million visitors per year.

Fishing is the second leading sector and remains integral to the life of Maldivians. The rich marine environment provides a wealth of fishing opportunities including tuna, groupers, dolphin fish, barracuda, rainbow runner, trevally, squirrelfish and many more. Aside from being of essential importance to the economy, fishing is also a popular recreational activity.

For an island nation like the Maldives, the importance of coastal and marine ecosystems cannot be overstated, since the limited availability of land constrains major development of agriculture and manufacturing. Coastal biodiversity plays a key role in the economy and development of the country, and this is increasingly being recognised across the public and private sectors. However, there are obvious risks for this small island economy, particularly as it is so dependent on only two sectors of activity – and on the quality of its natural environment.

1.3 Environmental threats

Social and economic change and population growth has altered consumptive behaviour, outpacing institutional capacity to manage the environment and threatening the structure and function of atoll ecosystems which support the globally significant biological diversity, livelihoods and environmental security of the people. The key threats include:

- **Conversion of natural habitats:** reefs and terrestrial habitats have been lost to reclamation projects for urban, touristic, harbour, airport and other infrastructure

Maldives as a Biosphere Reserve

developments. The competition for land is fierce, and natural systems are suffering as a consequence.

- **Climate change impacts** threaten sustainable developmental aspirations, through increasing temperature, acidification and storm impacts on fragile ecosystems and communities; sea level rise threatens the very existence of the country (a rise of more than 1m is predicted over the next century). Already in 1998, bleaching caused significant mortality of corals, and more recently severe weather events have caused major flooding of islands
- **Waste** disposal is a major problem threatening corals reefs and marine organisms, fisheries and tourism. There is no municipal collection system for household waste which is usually burned in open fires or shipped to the primary landfill/incineration island, Thilafushi, but too often ends up in the sea.
- **Over-harvesting of biodiversity** - both legal and illegal, has brought about massive declines in species like sharks, sea cucumbers, groupers, giant clams and lobsters. Marine turtles (eggs and adults) are still harvested illegally, and reef and tuna fisheries are generally showing declines.
- **Disturbance** - particularly from the burgeoning tourism industry, has brought about the abandonment of seabird breeding colonies and roosting sites, and there have also been human-wildlife conflicts at sites of particular importance for marine mega-fauna
- **Depletion and pollution of freshwater:** there is almost no surface water in the country, and the traditional sources of water are shallow groundwater aquifers which are increasingly becoming polluted and depleted.
- **Land/beach erosion** is a serious issue in many islands, often exacerbated by construction activities.

The fragility of the situation and the dependence between coastal resources and economic and human wellbeing was demonstrated by the 2004 tsunami which severely affected the country's economy and population by destroying infrastructure, especially in the tourism and fishing industry. However, despite the crucial importance of conserving environmental resources in Maldives, there is no effective environmental management system. Indeed until very recently, the Government had no personnel with responsibility for environmental management residing outside of the capital. This has meant that the approach is "top down", legislation is poorly enforced and those few and small protected areas that exist are largely "paper parks".

There is widespread recognition that conventional approaches have not been effective in conserving the natural environment and biodiversity. There is an urgent need to plan

and manage the country's natural resources in a more integrated and conservation-oriented manner that is appropriate to the country's unique geography and ecology, socio-economic development and patterns of resource use.

1.4 Policy context

The current policy context provides great opportunities to address these issues. Following the first democratic election in November 2008, Maldives is in a period of rapid political transition. With the passing of the Decentralisation Act in October 2010, Island and Atoll Councils have been formed, paving the way for growth to be distributed equally between the atolls and the capital. With this change, the importance of decentralising environmental protection and conservation, and integrating it into development decision making is increasingly being realised.

The Government is also demonstrating its commitment to international obligations, playing an active role in the Convention on Biological Diversity and the climate change negotiations. While Maldives contributes less than 0.01% of the global emission of greenhouse gases, it is at the frontline of the predicted impacts of climate change and sea level rise. Maldives has expressed the priority of reaching carbon neutrality by 2020. However, the overwhelming urgency is to address climate change adaptation through better management of the country's coastal and marine ecosystems and support their role in providing environmental security. This is an urgent driver for implementation of this Plan.

The inauguration of the Baa Atoll UNESCO Biosphere Reserve in 2012 was the country's first international site designation, and provides a model of how enhanced environmental management can be achieved at atoll level, with great potential for replication nationally.

Therefore, the time is ripe to make a step-change for biodiversity conservation as a basis for sustainable economic and social development

1.5 The President's challenge

On 20th June 2012, at the RIO+20 Meeting of the UN Conference on Sustainable Development, held in Rio de Janeiro (Brazil), President of Maldives Dr Mohamed Waheed announced:

Maldives as a Biosphere Reserve

“This year we have established the first UNESCO Biosphere reserve in the Baa Atoll, one of the 20 atolls that make up the Maldives. I would like to announce today that Maldives will become the first country to be a marine reserve. We can do it in a short time. I hope we can do it in 5 years. It will become the single largest marine reserve in the world.”

As a first step towards implementation of this commitment, the Ministry of Environment and Energy convened a national conference on 8 November 2012 to consult stakeholders from across the country on how to achieve this ambitious target. The conference reviewed the advantages for, and implications of, Maldives becoming a Biosphere Reserve, and discussed the experiences from the recent designation of Baa Atoll as a UNESCO Biosphere Reserve.

A key outcome of the Conference was the decision to develop this Implementation Plan to drive the process forward.

2 The Vision

The President's highly ambitious challenge of declaring Maldives a Biosphere Reserve within 5 years, requires that all stakeholders have a clear Vision of what Maldives will look like once the challenge has been achieved. This section tries to create that picture, and therefore sets some high level targets to be achieved:

VISION

Maldives will be a UNESCO Biosphere Reserve – where public support for conservation of the country's remarkable environment secures a vibrant green economy and good quality of life for all Maldivians.

2.1 Vision at the national level

- National and sectoral development plans and actions will be achieving sustainable development through conserving and restoring the country's remarkable environmental assets and pursuing carbon neutrality
- Maldives will be better adapted to the challenges of climate change, through a policy of "working with nature"
- New fit-for-purpose governance and institutional mechanisms and legislation will be in place, supporting a decentralised, integrated environmental management system which empowers atoll and island communities to look after their own natural resources
- Offshore marine protected and marine managed areas (MPAs/MMAs) covering more than 10% of the territorial waters and EEZ will be supporting recovery of fish stocks and fisheries

- The Maldives tourism sector will be top-ranked globally for its sustainability leadership and contribution to the Maldivian environment and society
- A Maldives Green Fund will be supporting atoll communities to manage their own environment
- A wide range of international partners will be working with Government to provide technical and financial support to make this vision a reality
- Politicians, NGOs, the public and the media will be demanding ever-higher standards of sustainability and environmental management from government and the private sector.
- The UNESCO Biosphere Reserve will be bringing pride and benefits to all

2.1 Vision at the Atoll / local level

- New partnerships between Atoll and island Councils, resorts, NGOs and international partners will have emerged (and be formalised as Environmental Advisory Boards) to deliver this vision
- Local communities will be taking responsibility for managing their environmental resources, supported by an Environment Office within each Atoll administration
- Atoll and island development plans and land use plans, will be securing sustainable development through conservation and restoration of the environment
- Coherent networks of coastal and terrestrial protected and managed areas (MPAs/MMAs) covering at least 17% of each atoll will be safeguarding the most important biodiversity and ecosystem services, helping fisheries and tourism to thrive, and providing new opportunities for employment, including rangers.
- Renewable energy initiatives will be appearing on every atoll, contributing to the Maldives carbon neutral target
- An effective waste management system will be in place
- Fishermen will be receiving better prices for their catches from resorts and international buyers, because of sustainability certification
- The Maldives Green Fund will be providing grants for conservation, livelihoods and education/outreach projects
- New businesses on many islands will be supplying handicrafts, coconut products, jewellery, foods and other services to the resorts
- Environmental NGOs will be thriving, leading communities in their efforts for a better environment and life, and challenging government to do more
- The media, schools, the arts and cultural sectors will be key players in raising awareness of the need for environmental conservation and sustainability

3 The Baa atoll experience

3.1 The Atoll Ecosystem Conservation Project

From 2005-2012, the Government of Maldives undertook the UNDP/GEF *Atoll Ecosystem Conservation* (AEC) project. This aimed to pilot a system for integrated conservation and sustainable development on Baa Atoll, which could then serve as a model for other atolls. A three-pronged strategy was followed which led to: (i) integrating biodiversity conservation into institutions and policies at both national and Baa Atoll levels; (ii) conserving biodiversity “in the water and on the ground” by establishing protected and managed areas and managing them through innovative national-local and public-private partnerships in Baa Atoll; and (iii) by supporting alternative sustainable livelihood development strategies to relieve pressure on biodiversity.

3.2 The Baa Atoll UNESCO Biosphere Reserve

In order to leave a lasting legacy for Baa atoll, the Government (with strong support of the local communities and tourism sector) nominated Baa atoll for designation as a UNESCO Biosphere Reserve. This was approved by UNESCO in 2011 and inaugurated by the President in 2012 – the first international designation for Maldives.



Biosphere Reserves are world class environments demonstrating innovative approaches to conservation and sustainable development. They have three functions: conservation, sustainable development and education/research. They also have three zones: core protected areas, buffer zones, and a transition area where people live and work which can be used for testing out approaches to sustainable development. Effectively they are laboratories for implementing the principles of the CBD Ecosystem Approach (Annex 3).

In addition, the project created the Baa Atoll Conservation Fund through an innovative Public Private Partnership with the tourism sector that provides financial resources for management of the Biosphere Reserve, as well as grants for conservation, livelihoods and outreach activities.

3.3 Lessons learned

- The “atoll-level” provides a practical, ecosystem-based level at which to manage the environment and implement sustainable development for the Maldives.
- A clear and aspirational vision can bring diverse stakeholders together to work for a common objective. Achieving UNESCO status has brought pride, international recognition and new opportunities to Baa atoll. Having the support of the community, in advance, was crucial.
- Conservation and sustainable development happen on the ground and in the water; the AEC project demonstrated that decentralised environmental management can reduce user conflicts and bring benefits to atoll stakeholders.
- Building capacity for decentralised environmental management is the highest priority, since this is a new experience for Maldives, and few people have the required qualifications or experience.
- Effective governance and institutional arrangements were needed both at local (implementing) and national (enabling) levels.
- An effective funding mechanism was crucial; local tourism businesses were willing to invest in environmental management to resolve environmental conflicts and support community development.
- Good communications and cooperation between key stakeholders such as the atoll council, the EPA and the resorts was essential. Individual “champions” play a vital role in motivating and leading such cooperation.

The AEC project demonstrated that international partners can play a key role in assisting such “game-changing” initiatives through technical and financial support.

4 Delivering the Vision

The President’s challenge of declaring Maldives a UNESCO Biosphere Reserve within 5 years is an aspirational “vision” that can help deliver the step-changes that are urgently required to manage the Maldivian environment more effectively. However, to succeed will require leadership, the integrated inputs of all government sectors – national and local – plus strong engagement of the private and third sector partners and the international community.

1.1 Stakeholders and their responsibilities

Every individual and every organisation in the Maldives can contribute to the achievement of this Plan by adjusting the way they live and work. The following table lists the key stakeholders and summarises their main responsibilities.

KEY STAKEHOLDERS AND THEIR RESPONSIBILITIES	
Stakeholder	Responsibility
President and President’s Office	Championing the Vision; securing international partnerships
Cabinet	Championing the vision through the Custodians Group; driving national implementation of the Plan
Ministry of Environment and Energy and EPA	Setting environmental targets, gazetted protected areas, capacity building, monitoring, Plan implementation
Ministry of Tourism, Culture and Arts	Integrating environment and sustainability into Tourism, Culture and Arts; Plan implementation
Ministry of Fisheries and Agriculture & MRC	Integrating environment and sustainability into Fisheries and Agriculture; planning MPAs, Plan implementation
Ministry of Economic Development	Integrating environment and sustainability into Economic Development, Plan implementation
Ministry of Housing and	Integrating environment and sustainability into Housing

KEY STAKEHOLDERS AND THEIR RESPONSIBILITIES	
Stakeholder	Responsibility
Infrastructure	and infrastructure; land use plans, Plan implementation
Ministry of Health	Integrating environment and sustainability into Health, Plan implementation
Min. of Education & schools, colleges & university	Integrating environment and sustainability into Education; Plan implementation
Ministry of Home Affairs	Integrating environment and sustainability into Home Affairs, Plan implementation
Ministry of Finance and Treasury	Integrating environment and sustainability into Finance, Maldives Green Fund, Plan implementation
Ministry of Foreign Affairs	Secure and support international partners for plan implementation; promote the Plan internationally
Ministry of Defence and National Security	Integrating environment and sustainability into Defence and National Security, Plan implementation
Ministry of Islamic Affairs	Integrating environment and sustainability into Islamic Affairs, Plan implementation
Ministry of Human Resources, Youth and Sport	Integrating environment and sustainability into Human Resources, youth and sport, Plan implementation
Attorney General’s Office	Legislation, Plan implementation
Local Government Authority	Supervision /support of local councils for implementation
Atoll and Island Councils	Championing the Vision, driving local implementation of the Plan, establishing new partnerships
NGOs (national and local), LAM, DAM, Bluepeace etc	Championing the vision; lobbying government to do more and faster, supporting local community engagement
Private sector (tourism, fisheries, other)	Striving for sustainability; supporting Plan implementation; supporting the Maldives Green Fund
Media	Championing the Vision, raising awareness, challenging government and private sector to do more and faster.
Communities	Adopting /demanding more sustainable lifestyles,
International partners	Technical and financial support, capacity building

Maldives as a Biosphere Reserve

In addition, three key structures at National level have responsibility for keeping Plan implementation on track:

Custodians Group - those Ministers (Cabinet) that have a direct responsibility for the success of the Plan. This Group will meet 3 times per year (one meeting each year will be devoted to approving the plan for the following year) to review implementation and drive the process forward.

Delivery Group – senior focal points from key Ministries, agencies, NGOs and private sector bodies responsible for driving implementation, coordinating sectoral inputs and monitoring and reporting progress to the Custodians. This Group will meet 4 times per year, and will have the mandate to establish task forces and projects.

Project Coordination Unit (PCU) - A PCU will be established to coordinate delivery of plan implementation and to provide the Secretariat for the Custodians and Delivery Groups. This will be led by a PCU Manager and comprise a Communications Officer, a Coordination Officer (National level), a Coordination Officer (Atoll level), two further Technical Officers, a Finance Officer and a Project Assistant (all civil service positions, drawn on “secondment” from Ministries such as Environment, Fisheries and Agriculture, Department of National Planning, Local Governance Authority, as well as the President’s Office). In addition international partners and donors will provide a full time International Advisor for national level implementation, 3 or more full-time International Advisors for atoll level implementation, and specialists to cover: Adaptive Management, High seas Environmental management, Environmental financing, Environmental legislation, Evaluator.

4.2 National level actions (see Annex 1)

National level actions provide the enabling framework for decentralisation of environmental management and action on the ground. The activities to be undertaken at national level include both revision of existing ways of working at national level, as well as providing direct support to the implementing atolls, and a special component on managing the offshore marine environment.

Capacity building: This is the highest priority action. It will be overseen by the Custodians and Delivery Groups and will be coordinated from national level by the PCU with input from different Ministries and international partners. It needs to address human capacity, software and hardware, with an emphasis on the former. It will occur

at 3 levels: (i) a capacity-building “road-show” to every atoll will be organised to raise awareness of the Vision, ecosystem approach and targets to be followed during Plan implementation, and to prepare a training needs assessment and plan. (ii) For those atolls that are selected to enter the implementation phase, further targeted training will be provided, including provision of resource materials and follow-up mentoring. (iii) Targeted participatory workshops and training will be provided to staff of sectoral agencies at national level to ensure they have the necessary understanding and skills for Plan implementation. A longer term commitment to capacity building should be developed through establishment of a specialised “Biosphere” Environmental Training Centre and programme (perhaps with the Maldives National University, with certification linked to the Bachelor of Environmental Management diploma).

Targets and Legislation: A task force of experts will be established to develop harmonised targets and Standard Operating Procedures (SOPs) for implementation on each atoll and nationally, taking into account the lessons learned from Baa atoll. This will cover aspects such as: structure of plans and zoning systems, % of the terrestrial and marine areas to be protected (considering CBD targets), format of management plans, governance and institutional arrangements (national and local), financing arrangements. Once finalised, these targets and SOPs will be approved by the Custodians Group for implementation and under-pinned by new policies and legislation. The legislation must include measures to resolve the overlapping mandates between Ministries for the management of the Maldivian natural environment, and put in place an ecosystem-based management approach. The adoption of these new policies and legislation is aimed to speed up the process of roll-out of the Biosphere Reserve approach.

Territorial Waters and EEZ: A time-limited Task Force of experts and user representatives will be established to develop proposals for environmental management of the offshore territorial waters and EEZ. This will include the design of marine protected and managed areas (MPAs/MMAs) that meet international best practice and the CBD Aichi Target of covering at least 10% of marine areas, as well as a review of management measures and controls for human activities. Recommendations will be made to the Custodians Group for decisions, including gazetting of the MPAs/MMAs and a sustainable use action plan to be covered by legislation.

Governance, coordination and communications: The first actions will be to establish the national level governance and institutional mechanisms for implementation of this Plan, including the Custodians Group, the Delivery Group, the Forum, and the PCU. A time-limited Task Force of experts including NGO and private sector representatives, will then be established to review environmental governance and institutions in Maldives

Maldives as a Biosphere Reserve

(horizontal and vertical arrangements), and to make recommendations to the Custodians that will deliver an ecosystem-based approach and resolve the overlaps in mandates for environmental management. This will include recommendations as to how the Maldives Biosphere Reserve should be governed and managed - to be enshrined in the new legislation.

The PCU will develop and maintain a contacts database for national and atoll level focal points and champions, and will establish a schedule for meetings of the Custodians Group, Delivery Group and a Forum Conference, and support those meetings. The PCU will also establish a website, Facebook page and e-newsletter, and will work with the media to communicate widely about implementation of this Plan.

Financing: The first steps will be for Government to agree initial start-up resources for the financing of this Plan, including the civil service appointments staffing for the PCU, plus a cash contribution for operational activities, plus time in-kind from key Ministries. The review of potential international donors will be completed, and high potential donors will be approached, to secure initially at least 5 substantive partnership agreements.

With regard to long-term financing, decisions will be needed from Government regarding the establishment and civil service financing of the Environment Offices on each atoll, and the establishment of the Maldives Green Fund (particularly addressing the disbursement of funding between atolls).

UNESCO designation: Early and ongoing communication with UNESCO will be essential to secure a successful nomination. A time-limited Task Force of experts and user representatives will be established to develop the nomination document for submission to UNESCO for approval in 2017.

Monitoring and evaluation: The Delivery Group will submit a quarterly “traffic light” assessment of the implementation of this Plan to the Custodian’s Group. A scorecard assessment system will also be designed to measure progress on each atoll, and to feed into the reporting system. An independent mid-term evaluation of progress in implementing the Plan will be undertaken early in 2015, and the Custodians Group will take adaptive measures to respond to the recommendations.

4.3 Atoll level actions (see Annex 2)

Implementation of the new approach will be introduced in a step-wise fashion to the atolls, depending on their readiness for implementation (see Annex 5) and the

availability of funding¹. The target is that more than half of the Maldivian atolls (ie. Baa atoll + 10 more) will be implementing the new approach by the end of 2017 when the nomination documents are submitted to UNESCO for Maldives to become a Biosphere Reserve. The following actions will apply to each atoll once the Delivery Group has confirmed that it is an “Implementing Atoll”.

Capacity building: Through support from the PCU, relevant Ministries and international partners, the atoll stakeholders will receive initial training in the approach to be followed and will participate in a training needs assessment and the preparation of a training plan (also addressing hardware and software needs). This will focus on the Atoll and Island Councils, the Environment Office staff and NGOs. Targeted training to address identified needs will then be provided through the proposed “Biosphere” Environmental Training Centre, together with the necessary resource materials and equipment.

Planning and zonation: In consultation with their communities and resource users, and with support of relevant Ministries, Atoll Councils, will define spatial plans (and land-use plans) for their atoll based on the principles of sustainable development; this will include proposals for a coherent network of coastal and terrestrial protected (and or managed) areas (MPAs/MMAs) with buffer zones that meet international best practice and the CBD Aichi Target of covering at least 17% of these areas, for submission to the Environment Ministry for gazetting. The initial areas will be identified based on existing scientific evidence, traditional knowledge and participatory discussions with users; additional areas may be identified as a second step by further ecological surveys where necessary. They will also prepare, adopt and implement Atoll (and Island) Sustainable Development Plans incorporating principles of sustainability and the ecosystem approach at their heart.

Environmental Management: Atoll Councils will oversee the conservation and recovery of habitats and species within their atoll, according to prioritised plans and national regulations. With support of Ministries and international partners, they will develop and implement management plans for each protected area. They will promote sustainable development and adaptation to climate change throughout the atoll by demanding effective environmental impact assessment and monitoring, promoting environmental restoration and supporting renewable energy initiatives.

¹ Work can be started for atolls where relevant community work has already been initiated like Male Atoll, South Ari Atoll, North Ari Atoll, Addu and Fuvamulak

Maldives as a Biosphere Reserve

Participation and outreach: There will be strong attention to raising community awareness and engagement in environmental issues through schools and NGOs, volunteering, art and cultural activities and the media.

Governance and institutional arrangements: Each Atoll Council will establish an Environment Advisory Board (EAB), with representation from the local and atoll Councils, resource users, NGOs and private sector. An Environment Office will be established in each atoll administration with as a minimum an Environment Manager, Environment Officer and at least 2 Rangers (civil service appointments) to support environmental management of the atoll. Opportunities for resort and community volunteers to assist with management and monitoring will be encouraged through co-management agreements.

Sustainable financing: Flexible arrangements (and scale of funding) will be required depending on the conditions for each atoll. The Atoll Council will work with the tourism and other sectors to secure Partnership Agreements (Resorts, dive schools etc.) for contributions to the Maldives Green Fund (MGF). Where appropriate, further funds will be raised through permit systems for visitor access to “hot spot” protected areas. The Atoll Council will seek annual contributions from the MGF for operating costs of the Environment Office, as well as for grants for conservation, livelihoods and outreach activities.

Monitoring, reporting and evaluation: Following appropriate training, the Atoll Council will monitor implementation of this Plan, undertake any necessary adaptive management and provide an annual report to the EPA. The EPA will undertake an evaluation of the effectiveness of environmental management of the atoll both at the mid-term and end of each 5 year management period based upon a standard scorecard assessment. Recommendations will be implemented by the Atoll Council.

4.4 International partnerships

The geographical and economic situation of Maldives brings special challenges, meaning that the country will not be able to implement this ambitious Plan successfully on its own. A high level of international technical and financial support will be required from a diverse range of partners.

International environmental projects in Maldives have too often suffered from lack of integration into an overall framework, and absence of follow up or sustainability. All

international environmental and livelihoods projects for the period 2013-2017 (and beyond) must be integrated into and contribute to this Plan.

Technical support is particularly required to bring international best practices and capacity building in the following thematic areas, at both national and atoll level:

- Planning and zonation
- Environmental mainstreaming
- Biodiversity assessments (particularly marine)
- Environmental financing
- (M)PA/(M)MA identification
- Protected areas management (and planning)
- Livelihoods development
- Community-based management
- Climate change adaptation, mitigation and renewable energy

Significant financial support is needed to support enabling activities at national level, and to assist each atoll with plan implementation. Chapter 5 presents an indicative budget.

Interested international partners are invited to review this Plan, identify areas where they could provide either technical or financial support and then contact the Ministry of Environment and Energy. We are particularly looking for partners who can support different modules of the plan at national level, and or support implementation across one or more atolls. Offers to place experienced staff or consultants into the national PCU or relevant Atoll Councils for significant periods would be very welcome.

4.5 Declaring Maldives as a UNESCO Biosphere Reserve

The criteria for UNESCO Biosphere Reserves are set out in the “Statutory Framework” for Biosphere Reserves, and are summarised in Annex 4. A brief assessment of these criteria compared to what is to be achieved through this implementation plan indicates a high level of convergence. The eligibility for declaring Maldives a Biosphere Reserve is more about the scale of the designation. But even here, the precedent for very large Biosphere Reserves has already been set. For example, the Mata Atlántica Biosphere Reserve in Brazil has a total area of 29,473,484 ha, covering 14 Brazilian States, and a length of more than 3,000km parallel to the coast.

Thus, there is every reason to believe that with a strong implementation of this Plan, a nomination to UNESCO in 5 years’ time could achieve the President’s challenge. A close relationship should be established with UNESCO-MAB from the start.

Maldives as a Biosphere Reserve

5 Budget

This indicative budget has been drawn up, particularly to assist Government, donors and partners to estimate the required levels and types of support. The budget estimates are divided into 4 sections:

- i. The budget for national level activities over 5 years (excluding project coordination and international technical support costs)
- ii. The average costs of implementation for one atoll over 5 years
- iii. The budget for Project Coordination over 5 years
- iv. The budget for specialist international technical support

For each budget section, it is assumed that the salary costs of the civil service staff to be engaged in Plan implementation at both national and atoll levels as well as in the Project Coordination Unit will be covered by Government. In addition, Government will provide offices and equipment for the PCU, as well as meeting facilities within the national agencies and the atoll offices. It is also assumed that the atoll administrations will make available office space and boat transport for Plan activities, including those of the environment office. These items are NOT shown in the budget tables.

The budget is structured according to Deliverables, emphasising action. An example of this is the establishment of the network of MPAs/MMAs, which should proceed based on existing evidence and traditional / local knowledge. Further surveys can be done as a second and later step.

5.1 Budget for National level actions

The budget over 5 years for national level activities, excluding project coordination and international technical support is \$1,242,000. The most significant items is capacity building (\$872,000) for which a contribution of \$600,000 is included towards the establishment of a national “Biosphere” Environment Training Centre, probably linked to the Maldives National University, which will play a central role in long-term capacity building.

Budget Table 1: National level activities (excl. project coordination)

Theme	#	Deliverable	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)
A. Capacity building	1	Initial awareness and capacity building visits for all Atolls	42,000	42,000	21,000	21,000	21,000	147,000
	2	Prepare and distribute resource materials for plan	30,000	30,000	10,000	10,000	10,000	90,000
	3	Enhanced capacity for national level sectoral bodies	10,000	10,000	5,000	5,000	5,000	35,000
	3	Environment Training Centre	50,000	100,000	150,000	150,000	150,000	600,000
B. Targets and legislation	4	Principles and targets for implementation atolls	5,000	-	-	-	-	5,000
	5	Fit-for purpose legislation	5,000	5,000	5,000	-	-	15,000
C. Offshore MPA/MMAs	6	MPA/MMA designations, zoning and sustainable use principles	20,000	20,000	-	-	-	40,000
	7	Operational governance structures and Secretariat for Future governance and institutional arrangements	5,000	5,000	5,000	5,000	5,000	25,000
D. Governance, coordination and communications	8	Effective coordination	5,000	5,000	5,000	-	-	15,000
	9	Effective communications	10,000	40,000	10,000	40,000	10,000	110,000
	10	Securing funds for implementing this plan	5,000	5,000	5,000	5,000	5,000	25,000
E. Financing	11	Sustainable financing for the Maldives Biosphere Reserve	5,000	5,000	5,000	5,000	-	20,000
	12	Maldives as UNESCO Biosphere Reserve	-	-	5,000	5,000	5,000	15,000
F. UNESCO designation	13	Monitoring and adaptive management of this plan	5,000	5,000	5,000	5,000	5,000	25,000
G. Monitoring and Evaluation	14	Evaluation of progress	-	25,000	-	-	-	25,000
	15	Miscellaneous	5,000	5,000	5,000	5,000	5,000	25,000
		Total	207,000	307,000	241,000	261,000	226,000	1,242,000

5.2 Budget for Atoll Level actions

The total budget for Plan implementation for one average atoll over 5 years is \$678,000, with a profile that is highest in the first 3 years of implementation due to start-up costs. There are likely to be large differences in “need” between atolls depending on their particular circumstances. The most significant items are overall capacity building (\$85,000), Planning and Zonation (\$165,000), management plan preparation and implementation for MPA/MMAs (\$135,000), expenses of the Environment Office and community co-management (\$120,000), and grants for social and environmental enhancement (\$90,000).

Maldives as a Biosphere Reserve

For the 10 atolls to be in the implementation phase by end 2017 (in addition to Baa atoll), the total cost is estimated to be \$6,780,000, and the total for all 19 atolls (in addition to Baa would be \$12.882 million. However, this will be staggered over a much longer period than 5 years. Additionally, there may be some further cost savings by undertaking activities in parallel for groups of atolls. It is intended that the Plan will finance the implementation costs for each atoll over 5 years, but that after this the ongoing costs will be taken over in full by Government and the MGF or other sustainable financing mechanisms.

Budget Table 2: Atoll level activities (for 1 average atoll)

Theme	#	Deliverable	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)
Capacity build	1	Training needs assessment and training plan	15,000	-	10,000	-	-	25,000
	2	Training for Atolls in the implementation phase	10,000	20,000	20,000	10,000	-	60,000
B. Planning and zonation	3	Spatial plan with a coherent network of MPAs/MMAs	30,000	20,000	10,000	-	-	60,000
	4	Ecological surveys and Phase 2 MPA/MMAs	-	-	50,000	20,000	10,000	80,000
C. Environment	5	Atoll and Island Sustainable Development Plans	15,000	10,000	-	-	-	25,000
	6	Management plans, implementation and	30,000	30,000	25,000	25,000	25,000	135,000
D. Participation	7	More engaged and informed community	5,000	10,000	5,000	5,000	5,000	30,000
E. Governance & Institutional arrangements	8	Governance for Environmental management	5,000	2,000	2,000	2,000	2,000	13,000
F. Sustainable finance	9	Institutional arrangements for environmental management	5,000	25,000	30,000	30,000	30,000	120,000
	10	Establish sustainable financing mechanisms	5,000	10,000	5,000	-	-	20,000
G. Monitoring, reporting & evaluation	11	Financing for environment and social enhancement projects	10,000	20,000	20,000	20,000	20,000	90,000
	12	Monitoring & reporting of adaptive management of plan	2,000	2,000	2,000	2,000	2,000	10,000
	13	Evaluations of progress	-	-	5,000	-	5,000	10,000
Total cost for one average atoll			132,000	149,000	184,000	114,000	99,000	678,000

5.3 Budget for Project Coordination

The budget for project coordination excludes the civil service positions in the Project Coordination Unit and the facilities for the PCU (all to be covered by Government). It is restricted to internal travel costs for the PCU and independent audit costs (particularly to cover the international donor contributions). The total budget for project

coordination over the 5 year period is \$160,000 (or less than 2% of the budget required for the project excluding international advisors).

Budget Table 3: Project Coordination Costs

Theme	#	Deliverable	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)
Full time PCU Staff positions (all on civil service)	1	PCU Manager	-	-	-	-	-	-
	2	PCU Communications Officer	-	-	-	-	-	-
	3	PCU Coordination Officer - National level	-	-	-	-	-	-
	4	PCU Coordination Officer - Atoll level (100%)	-	-	-	-	-	-
	5	Technical Officer 1	-	-	-	-	-	-
	6	Technical Officer 2	-	-	-	-	-	-
	7	PCU Finance Officer	-	-	-	-	-	-
	8	PCU Assistant	-	-	-	-	-	-
PCU expenses	9	Office costs & facilities for PCU	-	-	-	-	-	-
	10	Internal Travel costs for PCU	25,000	25,000	25,000	25,000	25,000	125,000
	11	Audit costs for PCU	5,000	6,000	7,000	8,000	9,000	35,000
Total			30,000	31,000	32,000	33,000	34,000	160,000

5.4 Budget for International technical support

This component of the budget covers technical support from 9 international advisors and specialists (some full-time, some part-time) to be provided by international partners. Some of these advisers and specialists may be provided directly by partners, while others will be recruited as consultants to the project by Government. The budget estimates the hiring costs of these individuals, including travel and subsistence costs.

Maldives as a Biosphere Reserve

Budget Table 4: International technical support

Theme	#	Deliverable	Amount Year 1	Amount Year 2	Amount Year 3	Amount Year 4	Amount Year 5	Total (USD)
Full time international advisors in PCU	1	International Advisor - national programme	100,000	100,000	100,000	50,000	50,000	400,000
	2	International Advisor #1 - atolls programme	100,000	100,000	100,000	100,000	100,000	500,000
	3	International Advisor #2 - atolls programme	50,000	100,000	100,000	100,000	100,000	450,000
	4	International Advisor #3 - atolls programme	-	100,000	100,000	100,000	100,000	400,000
Part-time international specialists	5	Adaptive Management Advisor / CTA	50,000	50,000	40,000	30,000	30,000	200,000
	6	High seas Environmental Management specialist	20,000	20,000	-	-	-	40,000
	7	Environmental financing specialist	20,000	20,000	-	-	-	40,000
	8	Environmental legislation specialist	10,000	20,000	10,000	-	-	40,000
	9	Evaluator	-	-	25,000	-	25,000	50,000
Total			350,000	510,000	475,000	380,000	405,000	2,120,000

5.5 Overall budget for plan implementation

Taking these totals of \$1,242,000 for national level activities, plus \$6,780,000 for implementation on the first 10 atolls, \$160,000 for project coordination and \$2,120,000 for international technical support over 5 years, gives a required overall budget of \$10,302,000 by end 2017 when the nomination for UNESCO designation can be submitted.

Budget Table 5: Budget summary for plan implementation

Source	Year 1	Year 2	Year 3	Year 4	Year 5	Total
National activities	207,000	307,000	241,000	261,000	226,000	1,242,000
Implementation for 10 atolls	1,320,000	1,490,000	1,840,000	1,140,000	990,000	6,780,000
Project coordination	30,000	31,000	32,000	33,000	34,000	160,000
International technical support	350,000	510,000	475,000	380,000	405,000	2,120,000
Total for 10 atolls	1,907,000	2,338,000	2,588,000	1,814,000	1,655,000	10,302,000

6 Next steps

As soon as the consultations for this Plan have been completed and its implementation has been approved, the following key steps need to be undertaken within the first 3 months:

1. The key governance structures (Custodians and Delivery Group) should be established and immediately operationalised. The proposed Task Force on Targets and Legislation should be established.
2. The PCU should be established by bringing together “seconded” and experienced staff from related ministries, particularly MEE (and EPA) and MOFA (and MRC). A detailed annual work plan for the PCU should be prepared, based on this Plan.
3. Government should decide on an annual budget allocation for Plan implementation, as well as confirming the in-kind inputs to be provided by the Ministries and Atoll Councils, particularly the staff of the PCU and the staff of the Environment Offices.
4. The Terms of reference for the different governance structures and Task Forces should be prepared as well as for the international advisors and specialists.
5. The review of the readiness of different atolls to start implementation including a gap analysis (see Annex 5) should be completed, and the first “Implementation Atolls” should be confirmed.
6. A review of all existing international projects should be undertaken, and all efforts should be made to align them with this framework plan.
7. The review of potential international partners and donors should be completed, and high potential ones should be formally approached, perhaps through a donor workshop.
8. Early contact should be established and then maintained with UNESCO-MAB to ensure that they are fully aware and supportive of the Plan.

Maldives as a Biosphere Reserve

Annex 1. ACTIONS TO BE UNDERTAKEN FROM NATIONAL LEVEL

Theme	Deliverable	Required Action	Indicator	Responsible	2013		2014		2015
					Q1 &2	Q3 &4	Q1 &2	Q3 &4	- 2017
A. CAPACITY BUILDING	1. Initial awareness and capacity building visits for (all) Atolls	1. Initial programme of 2 day visits (presentations and training) to every atoll to build awareness of the Plan and agree next steps	Reports of visits	PCU, EPA	X	X	X	X	
		2. Complete a training needs assessment and training plan for each atoll	Training needs assessment and plan	PCU, IP	X	X	X	X	
		3. Return visits to each atoll every year to assess progress	Reports of visits	PCU, IP					X
A. CAPACITY BUILDING	2. Prepare and distribute resource materials for plan implementation	1. Define resource and training materials for Plan implementation	Resource materials plan	PCU, IP	X	X			
		2. Prepare and distribute resource materials	Resource materials	Sec, IP		X	X	X	X
		3. Enhanced capacity for national level sectoral bodies	Seminars/workshops	PCU, DG, IP	X	X	X		
A. CAPACITY BUILDING	3. Enhanced capacity for national level sectoral bodies	1. Initial programme of capacity building seminars/workshops for sectoral agencies	Needs assessments/plan	PCU, IP	X	X			
		2. Identify training needs and prepare plan	Training	PCU, IP		X	X	X	
		3. Provide targeted training							
B. TARGETS AND LEGISLATION	4. Targets for implementation atolls, based on ecosystem approach and lessons from Baa atoll.	1. Establish time-limited Task Force to define Targets and Standard Operating Procedures (SOPs)	Task Force	DG, PCU	X				
		2. Approve lessons learned summary from Baa atoll experience	Lessons learned	DG, PCU	X				
		3. Publish Recommendations on Targets and SOPs for BR readiness (to include planning, PA extent targets, zoning, participation, governance, institutional mechanisms, financing), based on Baa atoll experience	Report	DG, PCU	X				
B. TARGETS AND LEGISLATION	5. Fit-for purpose legislation	4. Approved Targets and SOPs	Targets and criteria	CG, PCU	X				
		1. Establish time-limited Task Force on legislation	Task Force	DG, PCU		X			
		2. Publish Recommendations on gaps and weaknesses in legislation for BR approach	Report	DG, PCU, IP		X			
C. TERRITORIAL WATERS AND EEZ	6. MPA/MMA designations, zoning and sustainable use principles	3. Draft new BR legislation	Draft Legislation	CG, PCU			X		
		4. Parliament adopts new BR legislation	Act	CG				X	
		1. Establish time-limited Task Force on MPAs/MMAs, zoning and sustainable use in the territorial waters and EEZ (beyond the atolls)	Task Force	DG, PCU, MRC, IP	X	X			
C. TERRITORIAL WATERS AND EEZ	6. MPA/MMA designations, zoning and sustainable use principles	2. Publish Recommendations on MPAs/MMAs, zoning	Report	DG, PCU, MRC, EPA,		X	X		
		3. Prepare and gazette MPA/MMA/zoning proposals	MPA/MMAs gazetted	EPA			X		
		4. Sustainable use plan for offshore areas adopted	Sustainable use plan	DG			X		
D. GOVERNANCE, COORDINATION & COMMUNICATIONS	7. Operational governance structures and Secretariat for this Plan	6. Establish "Custodians" Group and hold biannual meetings	Minutes of meetings	PO	X	X	X	X	X
		7. Establish "Delivery" Group and hold quarterly meetings	Minutes of meetings	PO	X	X	X	X	X
		8. Establish "Forum"	Reports	PCO		X	X	X	X
D. GOVERNANCE, COORDINATION & COMMUNICATIONS	8. Future governance and institutional	9. Establish Project Coordination Unit	Reports	PO	X	X	X	X	X
		1. Establish time-limited Task Force on future governance and institutional arrangements for environmental management in	Task Force	DG, PCU		X			

Maldives as a Biosphere Reserve

Theme	Deliverable	Required Action	Indicator	Responsible	2013		2014		2015
					Q1 &2	Q3 &4	Q1 &2	Q3 &4	- 2017
	arrangements	Maldives 2. Publish Recommendations on governance and institutional arrangements for environmental management in Maldives. 3. Incorporate proposals in legislation	Report Act	DG, PCU CG			X		
	9. Effective coordination	1. Establish/maintain contact database for national and atoll-level focal points & champions 2. Establish schedule for governance meetings, and provide PCU support for meetings 3. Establish plan for step-wise inclusion of implementing atolls	Contact database Meeting schedule and minutes Step-wise plan	PCU PCU PCU	X X X		X X X		X
	10. Effective communications	1. Establish website and Facebook and use for all reports, plans, announcements etc 2. Send quarterly e-news to all focal points (national & atoll level) 3. Hold Forum conference	Website, Facebook	PCU	X	X	X	X	X
			Quarterly e-newsletter Forum conference	PCU PCU, CG, DG	X	X	X	X	X
	E. FINANCING	11. Securing funds for implementing this plan	1. Government annual budget contribution agreed 2. Complete review of potential donors 3. Submit 15 requests for support to donor community 4. Engage 5 international partners to finance and provide technical support to components of this Plan	Government funds Financial partners Donor requests Contracts	CG, PO DG, PCU PCU DG	X X X X	X X X X	X X X X	X X X X
12. Sustainable financing for the Maldives Biosphere Reserve		1. Agree civil service positions for Atoll Environment Offices 2. Establish Maldives Green Fund 3. Disburse funds from Maldives Green Fund to support Atolls	Civil Service Positions MGF MGF disbursements	CG, PO, DG CG, MOF MGF		X X	X X	X X	
F. UNESCO DESIGNATION	13. Maldives as UNESCO Biosphere Reserve	1. Agree minimum criteria for submission with UNESCO 2. Establish Task Force to prepare nomination document 3. Submit nomination document	Minimum criteria Task Force Nomination document	CG, DG DG CG, DG			X X	X X	
G. RESEARCH, MONITORING & EVALUATION	14. Research	1. Promote and communicate research, including citizen science, to underpin the evidence base and raise awareness	Research reports	EPA, MRC	X	X	X	X	X
	15. Monitoring and adaptive management of this plan	1. Quarterly "traffic" light assessments of progress with plan 2. Adaptive management decisions 3. Develop "Scorecard" Assessment and use to monitor and report progress of each atoll towards BR readiness	Assessments Decisions Scorecard	DG, PCU CG DG, PCU	X X X	X X X	X X X	X X X	
			MTE report Management Response	DG, IP CG, DG					X X

Abbreviations: CG = Custodians Group DG = Delivery Group EPA = Environmental Protection Agency MOF = Ministry of Finance MRC = Marine Research Centre
IP = International Partners PO = President's Office PCU = Project Coordination Unit

Maldives as a Biosphere Reserve

Annex 2. ACTIONS TO BE UNDERTAKEN AT ATOLL LEVEL (for each atoll in the implementation phase)

Theme	Deliverable	Required Action	Indicator	Responsible	YEAR 1		YEAR 2		YEAR 3++
					Q1 &2	Q3 &4	Q1 &2	Q3 &4	
A. CAPACITY BUILDING	1. Training needs assessment and training plan	<ol style="list-style-type: none"> Participate in the initial 2 day training visits from the national team to build awareness of the ecosystem and Biosphere approach Complete a training needs assessment and training plan 	<p>Report of visits</p> <p>Assessment and Plan</p>	<p>AC, atoll stakeholders</p> <p>AC, atoll stakeholders</p>	X				
	2. Training for Atolls in the implementation phase	<ol style="list-style-type: none"> Participate in targeted training activities 	<p>Reports of training</p>	<p>AC, atoll stakeholders</p>	X	X	X	X	X
B. PLANNING AND ZONATION	3. Spatial plan with a coherent network of MPA/MMAs	<ol style="list-style-type: none"> Review existing information, gather local knowledge and prepare atoll resource map and zonation plan, including land-use plans Identify coherent network of marine and terrestrial protected areas (core and buffer zones) through participatory process Submit PA proposals to EPA for gazetting 	<p>Resource map and spatial plan, land use plan</p> <p>Proposals for PA network</p> <p>Gazetted PAs (1st phase)</p>	<p>AC, EPA, MRC, MH, Resorts, IP</p> <p>AC, EPA, MRC, IP</p> <p>AC, EPA</p>	X	X			
	4. Ecological surveys and Phase 2 MPA/MMAs	<ol style="list-style-type: none"> Ecological surveys to fill gaps and set baselines Gazette additional protected areas 	<p>Ecological surveys</p> <p>Gazetted PAs (2nd phase)</p>	<p>AC, EPA, IP</p> <p>AC, EPA</p>				X	X
	5. Atoll and Island Sustainable Development Plans	<ol style="list-style-type: none"> Prepare (review) and adopt Atoll Sustainable Development Plan Prepare 5 year priority implementation plan for Conservation, Livelihoods Development and Outreach programme for environmental management Prepare (review) and adopt Island Sustainable Development Plans 	<p>ASDP</p> <p>5 yr implementation plans</p> <p>ISDPs</p>	<p>AC, IP</p> <p>AC, EAB,IP</p> <p>IC, AC</p>	X	X	X		
C. ENVIRONMENTAL MANAGEMENT	6. Management plans, implementation and enforcement	<ol style="list-style-type: none"> Prepare management plans for protected areas Implement management for protected areas, and priority species according to plans 	<p>Management plans</p> <p>Reports</p>	<p>AC, EAB, IP</p> <p>AC, IC, NGOs</p>			X	X	X
		<ol style="list-style-type: none"> Enforce environmental regulations Reduce environmental impact of activities, supporting strict EIA for developments 	<p>Reports and prosecutions</p> <p>EIAs</p>	<p>AC, IC,Police, EPA</p> <p>AC, IC, EAB</p>	X	X	X	X	X
		<ol style="list-style-type: none"> Promote environmental restoration, sustainable use and “working with nature” 	<p>Reports</p>	<p>AC, IC, EAB, NGO</p>	X	X	X	X	X
		<ol style="list-style-type: none"> Promote adaptation to climate change and measures towards Carbon neutrality 	<p>Annual Reports</p>	<p>AC, IC, EAB, NGO</p>	X	X	X	X	X
		<ol style="list-style-type: none"> Promote environmental awareness at schools Support development of environmental NGOs 	<p>Reports</p> <p>NGOs</p>	<p>Schools, AC</p> <p>AC, NGOs</p>	X	X	X	X	X
		<ol style="list-style-type: none"> Engage communities in environmental activities, eg through science, arts and culture 	<p>Reports</p>	<p>NGOs, IC, AC</p>	X	X	X	X	X
D. PARTICIPATION & OUTREACH	7. More engaged and informed community	<ol style="list-style-type: none"> Promote environmental awareness through sharing of management and research results 	<p>Media coverage</p>	<p>Media, NGOs, AC</p>	X	X	X	X	X
		<ol style="list-style-type: none"> Establish participatory Environment Advisory Board to advise AC (including user representatives and NGOs) Hold Advisory Board meetings at least 3X per year 	<p>Advisory Board</p> <p>Minutes of Meetings</p>	<p>AC</p> <p>AC, EAB</p>	X				
E. GOVERNANCE AND	9. Governance for environmental management	<ol style="list-style-type: none"> Establish participatory Environment Advisory Board to advise AC (including user representatives and NGOs) Hold Advisory Board meetings at least 3X per year 	<p>Advisory Board</p> <p>Minutes of Meetings</p>	<p>AC</p> <p>AC, EAB</p>	X				

Maldives as a Biosphere Reserve

Theme	Deliverable	Required Action	Indicator	Responsible	YEAR 1		YEAR 2		YEAR 3++
					Q1 &2	Q3 &4	Q1 &2	Q3 &4	
INSTITUTIONAL ARRANGEMENTS	10. Institutional arrangements environmental management	1. Establish Environment Office in Atoll administration with (at minimum) 1 Environment Manager, 1 Environment Officer and at least 2 Rangers	Environment Office	AC, EPA		X			
		2. Establish arrangements (volunteers and part-time rangers) with island and resort communities for managing and monitoring protected areas	Protected Area rangers	AC, EPA			X		
F. SUSTAINABLE FINANCE	11. Establish sustainable financing mechanisms	1. Establish Partnership Agreements with Resorts, dive schools and Live-aboards to make contributions to the MGF	Partnership Agreements with local private sector	AC		X	X		
		2. Establish, manage and monitor visitor paying permit systems for access to “hot spot” protected areas	Visitor Permit schemes	AC, EPA			X	X	X
	12. Financing environmental management and projects	1. Seek annual contributions from MGF for operational costs of Environmental Office	Annual MGF contributions	AC			X		X
		2. Seek grants from MGF for conservation, livelihoods and outreach projects	MGF Grants	AC				X	X
G MONITORING, REPORTING & EVALUATION	13. Monitoring and reporting of adaptive management of this plan	1. Quarterly “traffic” light assessments of progress with implementation plans.	Assessments	AC	X	X	X	X	X
		2. Implement adaptive management decisions based on progress	Decisions	AC	X	X	X	X	X
		3. Annual report on Environmental Management to EPA	Annual report	AC		X	X	X	X
	14. Evaluation of progress	1. EPA evaluation of progress after 2 and 5 years based on “Scorecard” Assessment for BR readiness/compliance	Evaluation report	EPA				X	X
		2. Response to recommendations of evaluation	Management Response	AC				X	X

Notes: 1. Timeline shows schedule after confirmation as an “Implementation Atoll”

2. Flexibility (eg in budget and financing arrangements) will be needed depending on the characteristics of each atoll

Abbreviations: AC = Atoll Council EAB = Environment Advisory Board EPA = Environmental Protection Agency IC = Island Councils IP = International Partners
MH = Ministry of Housing & Infrastructure

Maldives as a Biosphere Reserve

Annex 3. The 12 Principles of the CBD ecosystem approach

“A strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way”

12 Principles (Summarised)

1. *The objectives of management of land, water and living resources are a matter of societal choice.*
2. *Management should be decentralized to the lowest appropriate level.*
3. *Ecosystem managers should consider the effects (actual or potential) of their activities on adjacent and other ecosystems.*
4. *Recognizing potential gains from management, there is usually a need to understand and manage the ecosystem in an economic context.*
5. *Conservation of ecosystem structure and functioning, in order to maintain ecosystem services, should be a priority target of the ecosystem approach.*
6. *Ecosystems must be managed within the limits of their functioning.*
7. *The ecosystem approach should be undertaken at the appropriate spatial and temporal scales.*
8. *Recognizing the varying temporal scales and lag-effects that characterize ecosystem processes, objectives for ecosystem management should be set for the long term.*
9. *Management must recognize that change is inevitable.*
10. *The ecosystem approach should seek the appropriate balance between, and integration of, conservation and use of biological diversity.*
11. *The ecosystem approach should consider all forms of relevant information, including scientific and indigenous and local knowledge, innovations and practices.*
12. *The ecosystem approach should involve all relevant sectors of society and scientific disciplines.*

Annex 4. UNESCO Criteria for Biosphere Reserves

Criterion 1 – *“It should encompass a mosaic of ecological systems representative of major biogeographic regions, including a gradation of human interventions”*

Criterion 2 – *“It should be of significance for biological diversity conservation.”*

Criterion 3 – *“It should provide an opportunity to explore and demonstrate approaches to sustainable development on a regional scale.”*

Criterion 4 – *“It should have an appropriate size to serve the three functions of biosphere reserves, as set out in Article 4.”*

Criterion 5 – *“It should include these functions, through appropriate zonation, recognizing:*

- a. *A legally constituted core area or areas devoted to long-term protection, according to the conservation objectives of the biosphere reserve, and of sufficient size to meet these objectives;*
- b. *A buffer zone or zones clearly identified and surrounding or contiguous to the core areas, where only activities compatible with the conservation objectives can take place;*
- c. *An outer transition area where sustainable resource management practices are promoted and developed.”*

Criterion 6 – *“Organizational arrangements should be provided for the involvement and participation of a suitable range of inter alia public authorities, local communities and private interests in the design and carrying out the functions of a biosphere reserve.”*

Criterion 7 – *“In addition, provisions should be made for:*

- a. *Mechanisms to manage human use and activities in the buffer zone or zones;*
- b. *A management policy or plan for the area as a biosphere reserve;*
- c. *A designated authority or mechanism to implement this policy or plan;*
- d. *Programmes for research, monitoring, education and training.”*

Maldives as a Biosphere Reserve

Annex 5. Summary of atoll characteristics and potential for plan implementation

	Atoll name	Islands (#)				Population	Area (ha)			Protected areas	# of Environmentally Sensitive Areas	Potential for Implementation of Biosphere Reserve approach			
		Inhabited	Un-inhabited	Resort	Total		Total	Land	Reefs			Name	Area (ha)	Biodiversity Priority (H, M, L)	Logistical Feasibility (H, M, L)
1.	Haa Alif	18	23	2	43	21,152	61,041	1830.7	11,522	-		20	M	M	M
2.	Haa Dhaal	17	17	-	34	25,116	92,519	2317.3	13,596	-		24	M	H	H
3.	Shaviyani	17	34	1	52	16,820	166,303	1782	9,202	-		24	M	M	M
4.	Noonu	13	58	2	73	15,815	102,085	1684.1	6,874	-		16	M	L	M/L
5.	Raa	18	74	1	93	21,678	119,710	1254.8	12,413	Vilingili Thila	200	7	L	L	L
6.	Baa	15	56	8	79	13,483	121,521	1015.5	16,673	*Dhigali Haa/Horubadhoo Thila *Olhugiri *B.Hanifaru Area *B.Angafaru *Mendhoo Region *Goidhoo Koaru Area *Maahuruvalhi Reef Region *Bathalaa Region *Mathifaru Huraa Region *The wreck of "Corbin" *Dhigali Giri	7537.88	27	H	H	H Already a Biosphere Reserve
7.	Lhaviyani	7	52	4	63	12,385	72,124	752.9	10,255	* Kuredhu kanduolhi	315	12	H	M	H/M
8.	Kaaf	11	52	43	106	12,224	224,300	1558.8	26,963	*Makunudhoo Kanduoilhi *Rasfari island, lagoon and surrounding reef *Thamburudhoo Thila *Gaathugiri / Aiydhashugiri *Kuda Haa	4117	18	H	H	H

Maldives as a Biosphere Reserve

										*Dhekunu Thilafalhuge Miyaruvani *Gilhifalhu Medhugai onna Kohlavaanee *Emboodhoo Kanduolhi *Guraidhoo Kanduolhi *Lankan Thila *Huraa Mangrove Area					
9.	Alif Alif	10	16	11	37	7,490	104,540	453.6	30,417	*Mayaa Thila *Orimas Thila *Mushimasmigili Thila *Kudarah Thila *Karibeyru Thila	804.5	8	H	H	H
10.	Alif Dhaal	12	28	16	56	10,180	134,761	555.2	34,196	*Faruhuruvalhibeyru *Hurasdhoo *South Ari Atoll MPA	5500	6	H	M	H/M
11.	Vaavu	7	10	2	19	2,452	117,694	97.4	16,490	*Miyaru Kandu *Vattaru Kandu	1390	15	H	H	H
12.	Meemu	11	42	2	55	7,028	100,935	416.3	11,968	*Lhazikuraadi	200	11	M	M	M
13.	Faafu	7	12	1	20	5,613	61,133	219.4	9,606	*Fushivaru Thila *Filitheyo Kandu	1280	6	M	L	M/L
14.	Dhaalu	10	40	3	53	7,259	75,697	431.2	10,699	*Fushee Kandu	2000	11	M	L	M/L
15.	Thaa	14	50	-	64	15,286	171,331	905.2	14,827			12	M	M	M
16.	Laamu	13	65	1	79	16,496	88,606	2206.1	14,346			7	M	H	M/H
17.	Gaaf Alif	11	74	4	89	13,653	186,365	1093.8	14,605	*Hithaadhoo	645	15	H	H	H
18.	Gaaf Dhaal	12	140	1	153	20,206	142,942	2055.7	13,698			18	H	H	H
19.	Gnaviyan i	1	-	-	1	11,857	1,028	491.7	953	*Bandaara Kilhi & surrounding wetland area *Dhandimagu Kilhi *Thundi Area-Fuvahmulah	98.91	3	H	H	H
20.	Seenu	7	24	2	33	31,999	15,548		4721	*Eidhigali Kilhi and Koatthey Area	905	15	H	H	H
21.	Male'	1	1	0		62,567					0	0	L	L	L

Maldives as a Biosphere Reserve

Annex 6. Project risk register

Risk Category and description	Risk Rating		Risk Rating Explanation	Proposed Mitigation Measure
	Likelihood	Impact		
1. Atoll level Risks				
Lack of co-operation and poor uptake from the atoll level stakeholders leads inadequate implementation.	Low	High	Baa atoll experience was positive. National stakeholder workshop indicated strong interest in decentralization of environmental governance.	Hold intensive stakeholder consultations and communicate actively to engage local councils, communities and private sector. Start with most enthusiastic atolls.
Low capacity and poor delivery affect speed and quality of implementation	High	High	Capacity is very low at project outset.	Give very high priority to capacity building, and start with most capable atolls
2. National level risks				
Lack of experience, capacity and coordination within GOM hinders implementation	Low	High	Baa atoll has provided experience and capacity building. Government supports the project at highest level.	Learn the lessons from Baa atoll. Draw in international support to provide additional capacity where needed.
Elections and change of Government bring new priorities	Low	Medium	Government has committed to the Vision at Rio+20. Environment and decentralization priorities will continue	Establish project governance and start implementation before elections.
3. Project delivery risks				
Ambition level of project cannot be met by implementation and 2017 deadline is missed	Medium	Medium	The 2017 deadline is extremely tight.	Strong M&E and adaptive management by the Custodians Group
Failure to secure enough international partners and funds	Low	High	This strategic project and vision should be attractive to donors. Many projects can be aligned to help deliver the vision. Timing and financial projections for MGF are encouraging	Strong donor management. Establish the MGF as soon as possible
UNESCO does not approve the designation	Low	High	Maldives has a world class environment and development model is Biosphere compatible.	Maintain strong engagement with UNESCO throughout the project period.