



Member's report on activities related to ICRI

Reporting period December 2015 - November 2016

1. **Contribution to the ICRI Plan of Action and GM.** *Your responses to the following questions will assist the Secretariat in assessing contributions towards the major themes of the current ICRI Plan of Action (<http://www.icriforum.org/icri-secretariat/current>) and objectives of the general meeting.*

- a. **Bleaching event**

Were you affected by the Third Global Coral Reef event? Did you do some monitoring, if yes what are the results and could you explain what method did you use? Would you like to report during the ICRI Meeting?

Maldives was affected by the Third Global Coral Bleaching event. Monitoring was carried out across the Maldives by government scientists, marine biologists based on the resorts and the citizen scientists who reported data using the protocols developed by Marine Research Centre (MRC) with assistance of IUCN. Preliminary results indicate that > 60% of the live corals in the monitored sites were bleached. Point Intercept Transect (PIT) using a three replicates 50 meter tape in 5 meters and 10 meters were employed. Also belt covering an area of 10 meter by 1 meter were used to understand the specific genus affected by bleaching.

- b. **INDCs - Intended Nationally Determined Contributions** - *Did your national contribution mention 'marine ecosystems or coral reefs'? Would you be interested in joining an Ad Hoc committee to develop guidelines to integrate coral reefs in the INDC?*

Yes. It is mention in the INDC by the Maldives. We are interested to join an Ad Hoc committee regarding INDCs.

- c. **Nature-based Solutions to address Climate Change** - *Do you have some example(s) of Nature-based (coral reef and related ecosystems) Solutions to address climate change? If yes, could you please provide use some details?*

Tourism Adaptation Project (TAP)

TAP Project provide the tourism sector in the Maldives with the required policy environment, regulatory guidance, technical skills and knowledge to ensure that climate change- related risks can be systematically factored into day-to-day tourism operations. The project will facilitate and provide support to bring about the required amendments to the existing laws and regulations that govern the tourism sector, so as to incentivize private sector investments in climate change adaptation in the tourism sector; will strengthen the capacity of the Ministry of Tourism (MOT) and tourism businesses to recognize evident climate risk issues in tourism operations and adopt appropriate adaptation measures to address them. The project will establish at least 10 new investment projects to climate proof operational infrastructure in tourist resorts and safari vessels to showcase the economic and environmental benefits of no-regrets

adaptation in tourism operations. In addition to the 10 new investment projects, TAP will identify and support 10 community-based adaptation projects in tourism-associated communities which will demonstrate how tourism operators and tourism-dependent communities can cooperate on joint initiatives to reduce common vulnerabilities. Finally, to cover the residual catastrophic risks, the project will develop the capacity of the government and the tourism industry to assess the feasibility of market-based risk financing mechanisms (such as weather index- insurance) and ensure that tangible private-sector investments can be leveraged.

Climate Change Adaptation Project (CCAP)

There are four main components in CCA Project that have the common theme of intent to contribute to delivering climate resilient island development. All three components build on activities initiated and lessons learned from the Climate Change Trust Fund (CCTF) phase 1 CCTF-I. All four components are interdependent and also require evidence-based and target-driven planning processes to deliver enhanced resilience to climate change. The integrative vision of strengthening climate resilience through the CCA Project is given below:

- The wetland component will build on the work done in CCTF-I. The Community Based Wetland Management Plans CBWMPs have already been developed for one wetland in Hithadhoo and two in Fuvahmulah under CCTF-I (the wetland in Hithadhoo includes extensive coral reefs while reefs around Fuvahmulah are limited). Wetlands conservation in Hithadhoo assumes the need for ecosystem-based adaptation of coral reefs if the wetland is to be sustained and requires that these reefs be managed to maximize the opportunities for this adaptation. The wetland in Fuvahmulah requires a planning approach that is not dependent on ecosystem-based adaptation of coral reefs. The drainage works and tidal gate hard engineering works developed and delivered under CCTF-I demonstrate partial solutions to climate resilience in the wetlands in the absence of coral reefs or should coral reefs not adapt to climate change.
- The coral reef component provides a monitoring framework necessary to support evidence-based management that optimizes opportunity for ecosystem-based adaptation to sustain wetlands and coastal infrastructure.
- The SWM component recognizes that wetlands and the coral reef ecosystem functions are impaired (smothered and polluted) by inappropriate disposal of solid waste. Effective management of solid waste reduces pressure on the ecosystem function of wetlands and coral reefs. Effective management of solid waste, and maintenance of the carbon sequestration function of wetlands both contribute to a reduction in GHGs that cause human induced climate change.
- The mainstreaming component is broader in nature and will scale up efforts in building capacities of the atoll/island councillors in climate resilient planning primarily in the above three areas building on the efforts of CCTF-I. Additional areas of adaptation and mitigation such as water resources management and renewable energy will also be considered. All four components will deliver climate resilience in respect of development and the livelihoods that depend on this resilient development.

- d. **UN Sustainable Development Goals** – Do you have example(s) showing how coral reefs and related ecosystems address the SDG (SDG 14 but also other related ones such as SDG 1 – End poverty in all its form; SDG 2 – End hunger, achieve food security and improved nutrition...)

Baa Atoll - a UNESCO Biosphere Reserve

Life, economic prosperity and social development in Maldives depend upon maintaining our atoll ecosystems in a healthy natural state. Our reefs, islands and surrounding seas and their component biodiversity are the natural assets on which the tourism and fishing industries depend, which provide us with land for development and materials for building, and which protect us from storms. More than almost any other country in the world, our future is inextricably linked to the quality of our environment. There is widespread recognition that conventional approaches have not been effective in conserving our natural environment and biodiversity. We are losing charismatic species like sharks, several fisheries are in decline, the land and seas are increasingly polluted, and we are threatened with coastal erosion, storms and sea-level rise. 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. Only by achieving this will future generations have the same rich natural resource base to support them that has sustained our development to date. Recognising this challenge, the Government of Maldives established the Atoll Ecosystem Conservation Project (AEC Project) in 2004 (with support of United Nations Development Program (UNDP) and the Global Environment Facility (GEF) with the purpose of designing and demonstrating an effective management system for atoll ecosystem conservation and sustainable development on Baa Atoll, which could then be replicated throughout Maldives. Baa Atoll biosphere reserve is a unique example which address SDG14 and also links to SDG2.

- e. Do you have notional measure(s) – existing or in development - to ban the sale and manufacture of cosmetics and personal care products containing plastic microbeads? And plastic bags?

There is an existing regulation regarding the use of bio-degradable plastics to encouragement of use of such bags. And also there incentive for the parties who import bio-degradable plastic bags compared to companies who import non-biodegradable plastic bags.

- f. **Upcoming events** - Do you plan to attend:

- November 2016 - Marrakech Climate Change Conference / The twenty-second session of the Conference of the Parties (COP 22)- A Maldivian delegate from Ministry of Environment and Energy will attend
- December 4, 2016 to December 17, 2016 - Convention on Biological Diversity COP1- A Maldivian delegate from Ministry of Environment and Energy will attend
- June 2017 - Oceans & Seas Global Conference, Fiji- Intends to attend pending availability of funds

2. **Updates on your activities.** The following table is a summary of ICRI's *Framework for Action* (FFA) and its four cornerstones. (The full text of the FFA is available in English, French, and Spanish at <http://icriforum.org/icri-documents/icri-key-documents/continuing-call-action-2013>).

Integrated Management	Objective	Manage coral reefs and related ecosystems using an ecosystem approach, recognizing place based activity; connectivity within and among ecological, social, economic, and institutional systems; as well as with attention to scale; resilience of ecological and social systems; and long-term provision of ecosystem services.
	General Approach	Integrated management, using a strategic, risk-based, informed approach, provides a framework for effective coral reef and related ecosystem management which supports natural resilience, ecosystem service provision, and enhances the ability to withstand the impacts of climate change and ocean acidification.
	Desired outcome	There is a demonstrable reduction in the threats to coral reefs and related ecosystems through management action.
Capacity Building	Objective	To build capacity in all facets of management of coral reefs and related ecosystems and support dissemination and application of best practices to achieve the widest possible engagement of all stakeholders in planning and management activities.
	General Approach	Continued collaboration, partnerships, outreach, information sharing and education to ensure the uptake of best practices and encourage behavioural change. This can only be successful if the diversity of cultures, traditions and governance among nations and regions are taken into account.
	Desired outcome	Persons who have influence in the management of coral reef and related ecosystems have the knowledge, tools and capital necessary to apply best practices, adapted to the cultural and socio-economic context.
Science & Monitoring	Objective	To support research and citizen science approaches to enable countries and communities assess and report on the status of and threats to their coral reefs and related ecosystems in a coordinated, comparable and accessible manner.
	General Approach	Research and monitoring programs are essential to ensure that management of coral reefs and related ecosystems is based on best available (scientific) information.
	Desired outcome	Knowledge of the status and trends in coral reefs and related ecosystems health is enhanced and used to inform planning and management, improving management outcomes.
Periodic Assessment (Review)	Objective	To engage in periodic review of the impact and effectiveness of all elements of management to enable evaluation and refinement of management measures in an adaptive framework.
	General Approach	Periodic assessments of management effectiveness and evaluation of projects and activities to ensure the efficacy of management tools and systems in tackling the range of pressures affecting coral reefs and related ecosystems and protecting the values associated with them.
	Desired outcome	Management processes and activities are regularly reviewed and improved using a structured approach, to enhance their ability to effectively reduce pressures and threats.

Using the table on the previous page, as well as the detailed descriptors of approaches and strategies available in the full text of the FFA as a reference, please give us an update on an activity/project/program(s) which has been particularly successful in your country/organization during this reporting period.

Project 1

Cornerstone(s) implemented through the project	Check all that apply: <input checked="" type="checkbox"/> Integrated Management <input checked="" type="checkbox"/> Capacity Building <input checked="" type="checkbox"/> Science & Monitoring <input type="checkbox"/> Periodic Assessment (Review)
Project Title	Coral bleaching assessments
Location	All across the Maldives
Dates	Marine Research Centre in association with IUCN with support from Project REGENERATE
Main Organizer(s)	MRC, IUCN, Cooperating Tourist Resort, Ministry of Tourism
Main Stakeholder(s)	Resort Marine Biologists, Citizen scientists, Government agencies and Marine enthusiasts
Description of Project (Please elaborate on how the project implements the FFA cornerstones)	Understand the severity and impact of the 3rd Global Coral Bleaching Event (GCBE3). FFA corner stone = Science & Monitoring
Outcome (Expected outcome)	Bleaching assessments conducted across the Maldives with the combine effort of government scientists, marine biologists in resorts and citizen scientists to obtain a nationwide data set which can be used to understand the real impact of coral bleaching in 2016. Two reports to be published based on the data collected. This includes technical report on bleaching and also another report on post bleaching or mortality after the bleaching event.
Lessons learned	Importance of citizen science in a country which is geographically dispersed and has limited resources.
Related websites (English preferred)	www.mrc.gov.mv https://www.facebook.com/MRC.Maldives/

Project 2

Cornerstone(s) implemented through the project	Check all that apply: <input type="checkbox"/> Integrated Management <input checked="" type="checkbox"/> Capacity Building <input type="checkbox"/> Science & Monitoring <input type="checkbox"/> Periodic Assessment (Review)
Project Title	Climate Change Adaptation Project (CCAP), previously known as Wetland Conservation and Coral Reef Monitoring for adaptation to climate change (WCCM)
Location	Male atoll, Addu atoll and Fuvahmulah
Dates	May 2015- Nov 2018
Main Organizer(s)	World Bank through funding from EU (EU Trust Fund, EU and Australian Aid), Ministry of Environment and Energy
Main Stakeholder(s)	Ministry of Environment and Energy, Marine Research Centre, Environmental Protection Agency, Addu city council, Fuvahmulah council, resorts in Male atoll and resorts and dive centres in addu city
Description of Project (Please elaborate on how the project)	The greatest threat to coral reefs is from climate change driven by the burning of fossil fuels. Whilst local actions may help coral reefs to adapt to climate change there is a need for a global response in terms

implements the FFA cornerstones)	<p>of emission controls.</p> <p>The coral reef monitoring component of the Project is focused on developing and piloting a web enabled coral reef monitoring framework for evidence based management of the coral reef ecosystem. This will be achieved through the development of a web enabled national geo-database “CoralDatabase” for supporting the monitoring of coral reefs, the provision of information for evidence based management of coral reefs, and the building of capacity to use this system hereinafter referred to as “the Coral Reef Monitoring Framework”.</p> <p>Integrated management: CoralDatabase is a google map supported system. The NCRMF contains a number of standardised protocols for entering information on the state of and management response to specified pressures, for example the “Impact and Management protocol”. The Project is also producing a Bleaching Risk Assessment Tool to be used to identify areas that could be more resilient to climate change.</p> <p>Capacity building: 10 partnering resorts and government stakeholders will be trained to collect data, enter them into the government CoralDatabase and use them for management.</p> <p>Science and monitoring: The NCRMF provides a standardised framework and an integrated data set for evidence based management.</p> <p>Periodic assessment (review): The NCRMF includes ReefCheck and GCRMN indicators. Protocols include “state” protocols and an “Impact and management” protocol</p>
Outcome (including expected outcome)	Coral reef ecosystem function is sustained through evidence based management so as to secure the social and economic goods and services that the ecosystem provides for the social and economic development of present and future generations.
Lessons learned	<p>Uptake and use of web enabled data management systems requires a well-documented user friendly system, good internet connectivity, significant training and follow-up support.</p> <p>Stakeholders need to see clear social and economic benefits from participation in any system if they are to invest in it and this requires a decadal timeline.</p>
Related websites (English preferred)	<p>coraldatabase.gov.mv</p> <p>www.mrc.gov.mv</p> <p>https://www.facebook.com/MRC.Maldives/</p> <p>https://www.facebook.com/ccapcctf/</p>

Project 3

Cornerstone(s) implemented through the project	Check all that apply: <input type="checkbox"/> Integrated Management <input checked="" type="checkbox"/> Capacity Building <input checked="" type="checkbox"/> Science & Monitoring <input checked="" type="checkbox"/> Periodic Assessment (Review)
Project Title	Protecting Marine Ecosystems in MFF Countries Using the Green Fins Approach
Location	Male Atoll, Maldives

Dates	Started in 2013 – on going
Main Organizer(s)	UNEPP, MFF
Main Stakeholder(s)	Environmental Protection Agency (EPA), Marine Research Centre (MRC) and Ministry of Tourism (MoT)
Description of Project (Please elaborate on how the project implements the FFA cornerstones)	<p>The project 'Protecting Marine Ecosystems in MFF Countries Using the Green Fins Approach' started in 2013 and currently on going, with support from the Mangroves for the Future (MFF) initiative.</p> <p>The objective of the project is to support sustainable use of coral reefs and associated coastal ecosystems by encouraging environmentally responsible diving tourism through implementation of the Green Fins approach.</p> <p>Green Fins is an innovative conservation initiative that reduces negative impacts of dive tourism on coral reefs by promoting private sector compliance with a code of conduct to, and raising awareness among regulators, diving companies and their customers. Green Fins was initiated by UNEP and COBSEA and has been developed and implemented through collaboration with the Reef-World Foundation as the regional technical partner.</p> <p>The project will be directly executed in two MFF countries where Green Fins has not been introduced, Maldives and Viet Nam, and will support inter-linkages and exchange with countries where activities are ongoing. The project will be implemented in three phases:</p> <ol style="list-style-type: none"> 1. Assessment; 2. Consultation and Capacity Building; and 3. Implementation
Outcome (Expected outcome)	<p>Enhanced understanding of the diving industry and current relevant environmental policies in MFF countries where the Green Fins approach has not yet been introduced;</p> <p>Functional National Teams established and trained on the Green Fins approach in each target country; Specific activities implemented in Vietnam and the Maldives aimed at the protection and wise management of coral reefs through the promotion of the Green Fins approach with relevant partners and stakeholders; and Method for integrating Green Fins approach into environmental laws and regulations governing tourism industries and natural resource management outlined.</p> <p>Up to October 2016:</p> <p>44 dive centres enrolled in Green fins and annual assessments conducted by all resorts. Capacity building and environmental awareness are given including materials, stickers, posters.</p> <p>And encouraging people to participate in citizen science programs.</p>
Lessons learned	Managing effective policy within dive operations for a sustainable diving and snorkeling tourism industry was found to be not easy.

	<p>However, the project staff learnt;</p> <ol style="list-style-type: none"> 1. Threats associated with the curio trade and possible solutions 2. Waste reduction with particular focus on plastics 3. Promotion of environmental messages to tourists, targeting those markets who are currently difficult to manage
Related websites (English preferred)	<p>www.greenfins.net</p> <p>www.mff.org</p> <p>www.epa.gov.mv</p>

Project 4

Cornerstone(s) implemented through the project	<p>Check all that apply:</p> <p><input checked="" type="checkbox"/> Integrated Management <input checked="" type="checkbox"/> Capacity Building</p> <p><input checked="" type="checkbox"/> Science & Monitoring <input checked="" type="checkbox"/> Periodic Assessment (Review)</p>
Project Title	Project REGENERATE – Enhancing Resilience of social-ecological coral reef ecosystems in the Maldives
Location	Across the Maldives
Dates	September 2013 - ongoing
Main Organizer(s)	USAID / IUCN / Marine Research Centre, Ministry of Environment, and Environmental Protection Agency
Main Stakeholder(s)	Government of the Maldives, State institutions (such as Maldives National University), CBOs, NGOs, island communities, resort operators and users of the reef resources (and its services) in the Maldives.
Description of Project (Please elaborate on how the project implements the FFA cornerstones)	The project is to develop a resilience-based management framework to improve the ability of policy makers and stakeholders in the Maldives to understand and address the risks from global, regional and local-scale pressures on their environment. The project will provide the foundation for environmental managers to improve the outlook for coral reef ecosystems and communities dependent on them. It will enhance understanding of social-ecological resilience, improve access to knowledge and increase capacity to manage coral reefs.
Outcome (Expected outcome)	<ol style="list-style-type: none"> 1. Improved access to science and technology for decision-making and establishing policy frameworks for increasing coastal resilience to climate change 2. Increased stakeholder capacity to measure, monitor, and adapt to climate stresses through education, training, and outreach 3. Strengthened governance in support of decentralized management for more resilient reef ecosystems 4. Sustainable financing mechanisms to support climate-resilient marine management established
Lessons learned	Initial phases of this project were complex as aligning the marine

	<p>conservation priorities of the Maldives Government (GoM), with the expertise of IUCN, and the expectations of the USAID was a challenge.</p> <p>In terms of involving local communities in conservation activities, one of the most important lessons learnt during the past year was that people want to be kept updated. Every time an activity is run in a local community (e.g. social or ecological survey), it is important to report to the community the main results/outcomes and introduce possible next steps to show how each activity fits into a bigger conservation plan.</p> <p>Another lesson learnt from working with different stakeholders in local communities is that sometimes the connection between marine species (e.g., megafauna species, fish species) and the coral reef system is not clear (i.e., the ecological role of marine species in keeping healthy coral reefs is not perceived/understood). It is important to communicate this message (in a reef everything is connected and every species has a role) and make it clear how we can affect this balance with our behaviour (i.e., all stakeholders are responsible for the reef health to a certain extent).</p> <p>From most stakeholders, the project staff understood that there is a great will to learn and take action and be involved in conservation. This can sometimes result in scattered projects that target one island, one resort, one dive center. There is a need to standardise data collection and promote protocols that can be used by GoM to have a better understanding of natural resources in Maldives and create policies to better protect them.</p> <p>In summary, the lessons learnt during the past year were: Improve communication with different participants; Provide different stakeholders with educational tools that will help them have a better understanding of their role in conservation</p> <p>Identify and promote national programs/protocols using standardized data collection techniques (which is being done already through the NCRMF and capacity building within REGENERATE)</p>
<p>Related websites (English preferred)</p>	<p>Temporary platforms are: iucnmaldivesprojects.wordpress.com and http://mcp.ravenstage.co.uk/) IUCN Maldives social media handles: fb.com/iucnmaldivesmarine Twitter.com/iucn_maldives Iucnmaldives.tumblr.com To subscribe to IUCN Maldives newsletter sign up here for free: http://eepurl.com/bHIAJb</p>

Note: If you have more activities/projects/programs you would like to report on or share with other members, please duplicate the table above and fill it in for as many projects as you wish.

3. **Publications.** Please list relevant publications/reports you have released during this reporting period.

Title (incl. author and date)	Website URL if available	Type of publication (Paper, report, etc.)
Status of coral bleaching in Maldivian coral reefs in 2016 (Nizam, 2016).	To be published on late Nov	Report
Long term monitoring of the Maldivian coral reefs (Rilwan, 2014).	To be published on late Nov	Report
Coral recovery in the central Maldives archipelago since the last major mass-bleaching, in 1998 (C.Pisapia, 2016)	www.nature.com	Paper

4. **General Information.** (Note that this information will be posted on the ICRI website on your member page: <http://www.icriforum.org/about-icri/members-networks>.)

Member type (Country / Organization):	
Focal Point 1:	
Name:	Mohamed Shiham Adam
Title/Organization:	Director General, Marine Research Centre
Email:	msadam@mrc.gov.mv
Focal Point 2:	
Name:	Nizam Ibrahim
Title/Organization:	Senior Research Officer, Marine Research Centre
Email:	nibrahim@mrc.gov.mv

Thank you very much for sharing your valuable experiences and information with ICRI.