



# Bay of Bengal Large Marine Ecosystem Project



## National consultation workshop on ecosystem health

Report of the  
indicators  
06 March 2012 • Malé Maldives

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# **National Consultation Workshop on Ecosystem Health Indicators Marine Research Centre, Malé Maldives**



**6<sup>th</sup> March 2012**

**BOBLME / MRC**

## National Consultation Workshop on Ecosystem Health Indicators – Maldives

**6<sup>th</sup> March 2012**

It was proposed at the workshop held in Kuala Lumpur, Malaysia during October 2010, to organize a National Consultations on Ecosystem Health Indicators in Male', Maldives. The consultations were initiated by the Marine Research Centre of the Ministry of Fisheries and Agriculture. The workshop was held at Marine Research Centre, Male', Maldives on 6<sup>th</sup> March 2012. Below is a list of participants and their representative agencies who contributed to the consultations.

<b>Name</b>	<b>Designation</b>	<b>Represented agency</b>
Mohamed S Adam	Director General	Ministry of Fisheries and Agriculture
Hanima Mohamed	Environment Analyst	Ministry of Housing and Environment
Hassan Azuar	Environment Analyst	Ministry of Housing and Environment
Rifath Naeem	Senior Environment Analyst	Environment Protection Agency
Ahmed Shan	Surveyor	Environment Protection Agency
Hussain Sinan	Director	Fisheries Management Agency
Shafana Rasheed	Economist	Fisheries Management Agency
Mohamed Muthalib	Senior Research Officer	Fisheries Management Agency
Zahid	Director – climatology	Maldives Meteorological Services
Aishath Shimana	Climatologist	Maldives Meteorological Services
Nishan Thaufeeq	Research Officer	Marine Research Centre
Fahmeedha Islam	Senior Research Officer	Marine Research Centre
Khadheeja Ali	Senior Research Officer	Marine Research Centre
Mohamed Ushan	Reef surveyor	Marine Research Centre
Mohamed Ahusan	Senior Research Officer	Marine Research Centre

The sessions were coordinated by Ahmed Riyaz Jauharee (Senior Research Officer, MRC) and facilitated by Hussein Zahir. The participants contributed in identifying existing data that may be used in the modules. They also proposed initiatives that will contribute to enhance ecosystem monitoring activities in Maldives.

LME Module	Information/Data	Description/Duration of data available
<b>PRODUCTIVITY</b>	<b>STRESS</b>	
	Sea Surface Temperature (SST)	NOAA AVHRR data, available public domain
	Ocean front	Derived data from Satellite altimetry / sea-level height (public domain)
	Upwellings/Downwellings	SeaWiFD / MoDIS data set
	Monsoon onset	1985 to 2010 (Meteorological data)
	Sea level	1989 to 2010 ( Tide gauge data)
	<b>STATUS/IMPACT</b>	
	Primary productivity / Chlorophyll	SeaWIFS / MODIS data
	Zooplankton	Ship surveys; TARA Oceans(Maldives Leg, June 2011?)
<b>FISH AND FISHERIES</b>	<b>STRESS</b>	
	1 year production required	
	Fishing effort	Basic fishery statistics (1959 to present)
	Bycatch/discards	FMA reports (log books / since 2010)
	<b>STATUS/IMPACT</b>	
	Reported landings	Basic fishery statistics (1959 to present)
	Species composition (biodiversity)	Basic fishery statistics (1980 to present)
	Catch stock status and trends	Basic fishery statistics (1959 to present)
	Predicted potential catch	Forecast for 3 yrs (Basic fishery statistics)
Immature fish in catch		
<b>POLLUTION AND ECOSYSTEM HEALTH</b>	<b>STRESS</b>	
	<b>Habitats</b>	Protection area and Environmentally sensitive areas ( GPS points, marked maps, descriptions of the sites ) environment survey done on some of the sites
	Invasive species	Ministry of Fisheries and Agriculture
	<b>Pollution</b>	
	Nutrient inputs (current & projection)	Limited data from EIA reports – baseline
	Fertilizer application	Limited data from EIA reports – baseline
	Freshwater discharge	Limited data from EIA reports – baseline
	Sediment flux	Limited data from EIA reports
	Acidification (CO <sub>2</sub> sequestration)	Limited data from EIA reports
	Mercury and other contamination	Limited data from EIA reports
	<b>STATUS/IMPACT</b>	
	<b>Habitats</b>	
	Critical habitat extent (mangrove, coral reefs, seagrass, turtle nesting)	Limited data on status/impacts
	Habitats at risk index	??
	Coral bleaching/disease	Limited data from EIA reports/Bleaching (MRC)
	<b>Pollution</b>	
	Harmful Algal Blooms (HABs)	MRC Reports (2007 HABs)
	Mercury in water and animal tissue	Limited data from EIA reports
	Multiple marine ecological disturbances	Limited data from EIA reports
	Marine litter	SCZMC Tarball Monitoring Reports (2011 & 2012)

Activities proposed by the participants of the workshop that could enhance ecosystem health monitoring activities in the Maldives:

1. Deployment of anchored buoys throughout Maldives to collect data – salinity, wave height, SST, ocean current, air temperature.
2. Measuring UV index for the country
3. Development of protocols for community based monitoring activities
4. Training locals for community based monitoring activities
5. Study the use of fertilizer and its effect on the local environment
6. Study the impact on coral reefs due to the discharge of untreated sewage
7. Study the impacts on biological diversity due the waste disposal practices in Maldives.

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ARJ  
26 March 2012





Bangladesh, India, Indonesia, Malaysia, Maldives, Myanmar, Sri Lanka and Thailand are working together through the Bay of Bengal Large Marine Ecosystem (BOBLME) Project and to lay the foundations for a coordinated programme of action designed to improve the lives of the coastal populations through improved regional management of the Bay of Bengal environment and its fisheries.

The Food and Agriculture Organization (FAO) is the implementing agency for the BOBLME Project.

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For more information, please visit [www.boblme.org](http://www.boblme.org)



Norad

