

# Curriculum on Communicating Coastal and Marine Biodiversity Conservation and Management Through the Media

Using participatory training methods



## Imprint

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### Disclaimer

This trainer's guide is a work in progress. It has been developed and edited by the named authors, contributors and editors, who do not necessarily reflect the views of GIZ or its partners. The information has been created and compiled from documented and published references/resources, as cited in the text. While due care has been taken in preparing this document, the publisher, editors and text contributors assume no responsibility for the authenticity, correctness, sufficiency, or completeness of such information or examples.

The trainers using this guide are encouraged to share their experiences with the training methods and modules. Any feedback, suggestions and contributions (adapted training methods, case studies, examples, photos of the training sessions, students projects based on this curriculum etc) for the next edition are welcomed at [neeraj.khera@giz.de](mailto:neeraj.khera@giz.de).

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# Trainer's guide navigator

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This trainer's guide facilitates the delivery of the modules of 'Communicating Coastal and Marine Biodiversity Conservation and Management Through the Media' by trainers and faculty members of media-training institutes and universities in India.

This guide serves as an interactive working document composed of flexible modules that can evolve with use and experience. The training modules and methods can be customized to suit the learning objectives, audience, time availability, resource availability and other factors. It is also possible to include new case studies, relevant reading material or training activities as they become available.

The guide consists of five sections:

## **Section 1: About the curriculum and training resource material**

This section provides an overview of the concept of capacity development as understood by the team that facilitated this curriculum development, a brief history of the developments of the curriculum and training material and the pilot testing.

The section then provides an understanding of the expected learning outcomes for different target groups, possible schedule of the training and trainers' profile.

## **Section 2: Fundamental concepts of training and learning and the role of the trainer**

This section provides interesting reading for various training and learning concepts that will serve as a quick refresher for the trainers. The purpose of this section is to draw close linkages between concepts and the practical implications of such concepts used by the trainers. This section provides an overview of the concepts of learning, characteristics of adult learners, framing learning outcomes and an insight into the need to use more participatory methods while delivering the contents of this curriculum.

## **Section 3: A journey through a selection of training methods**

This section provides a comprehensive list and an overview of various training methods that can be used by the trainers— either in the original form or after adaptation as necessary to suit the specific group of participants. There is an attempt to elaborate a few selected training methods and approaches in the coloured boxes in this section. These are the methods that were found to be effective in not only delivering the contents of this curriculum but also brought in a change of perspective and attitude among the media students. Some of these methods are: Baseline expectations, connectedness to nature, simulation games, role play, and coastal expedition. Sketches, photos from the pilot testing and video clips (in the online version of this guide) will help the trainers simulate the overall training.

## **Section 4: Planning, organizing and implementing coastal expeditions for media students**

Field expeditions are an important tool of experiential learning for all kinds of participants. But organizing a successful field expedition needs some planning, and some rules to be followed so that the success is maximized.

This section serves as a guide to coastal and marine ecosystems and a learning journal for the media. Media trainers who wish to provide experiential learning for media students or trainers can use it as reference.

## **Section 5: Overview of the modules and session delivery**

This section provides an overview of the seven modules with their learning outcomes, summaries, key messages and key words. A session-wise presentation of the modules contents and descriptions of the most appropriate training methods that have been either tested or thought to be suitable for delivering the contents of the particular module are provided. This will help the trainers in implement this curriculum in the most efficient way. The trainers will of course be required to refer to Section 1 or Section 2 for details of training methods, to Section 4 for the handouts and case studies and to the CD for the PowerPoint presentations. Lists of sources and references are provided for each module in this section itself.

## **Section 6: Tools and handouts**

This section provides detailed information to be used as resource both during and after the training. They include a comprehensive glossary, detailed case studies, handouts, simulation material, references and other material. The trainers can customize and take printouts for their own use or for the participants, as the case may be.

The trainers are, however, encouraged to try new methods and customize the existing methods as and when required to enhance the learning experience of the students. The section 'How to Take Feedback' and the sample feedback forms in the annexures will help the trainer test training methods and adapt these according to the students' feedback and their own experience.

## 5.2 MODULE 1

# Introduction to biodiversity and ecosystem services

After completing this module, the participants will be able to

- explain the term 'biodiversity' and describe different aspects of the concept
- outline different types of ecosystem services
- express the difference between terrestrial and coastal ecosystems
- illustrate different types of coastal and marine habitats and summarize the threats that they face.

### Summary

This module deals with the importance of biological diversity for the stability and richness of the coastal and marine ecosystem. The diversity of plant and animal species in the coast and the seas provides ecosystem services that are provisioning, regulative, supportive and cultural. The diversity is contained in genes, species and ecosystem. The diversity of the marine habitats, such as mangroves, wetlands, seagrass beds, and coral reefs, also helps strengthen the stability of coastal and marine ecosystems.

### Key messages

1. 'Biological diversity or biodiversity refers to the diversity of life in all its forms and at all levels of organization.' The levels of biodiversity are the diversity within a species (genetic diversity), the diversity of species (species diversity) and the diversity of ecosystems (habitat or ecosystem diversity). Each of the three levels can be described further: What types of elements are there and in what numbers (compositional biodiversity), how they are arranged (structural biodiversity) and what role they play in the system (functional biodiversity).
2. Ecosystems provide a variety of benefits to people, including provisioning, regulating, cultural and supporting services, known as 'Ecosystem Services.'
3. Biodiversity is the foundation of resilient ecosystems supporting a vast array of 'functions.' Genetic, species (animal and plant) and habitat diversities have important roles to play in provision of ecosystem services.
4. Changes in biodiversity can influence all these functions (e.g., pollination, nutrient cycling) and the products arising out of these (e.g., food, medicinal plants).
5. When it comes to measuring and monitoring biodiversity, there are two ways of doing it: The first is to measure actual processes (functional biodiversity), e.g., regeneration rates and patterns, rates of productivity, species interaction. However, this would be difficult and time consuming. The second one is, therefore, the way out and uses surrogates (known as conservation shortcuts), which is simpler and based on certain assumptions that the conservation benefits of surrogate species extend to a larger set of species and/or habitats. Therefore, measuring a surrogate species would provide us an idea of how the ecosystem is doing. Some famous surrogates are Tigers, Turtles, Whale Sharks, etc.
6. There are several types of coastal ecosystems in India: inland freshwater wetlands, inland brackish water wetlands, estuarine wetlands, coastal mudflats, sand dunes, rocky shores, mangrove forests, coral reefs and other coastal and marine ecosystems.
7. Marine and terrestrial ecosystems are different with respect to the aquatic medium in which all marine organisms exist. Water unites, land divides—there are no discrete boundaries in marine ecosystems as seen on land.

### Key words

Biological diversity; genetic, species and ecosystem diversity; keystone, umbrella, indicator and flagship species; provisioning, regulating, supportive and cultural ecosystem services; mangroves, wetlands, seagrasses and coral reefs.



## 5.3 MODULE 2

# Setting the context: Why are the coasts important?

### Learning outcomes

After completing this module, the participants will be able to:

- outline the economic benefits that coastal and marine biodiversity provides to different sectors
- appraise different development activities on the coast and their relationship with the ecosystem
- appreciate the concept of sustainability
- describe different types of coastal and marine habitats and summarize the threats that they face
- analyse the environmental disputes along the coast from ecological and economic viewpoints.

### Summary

This is the most comprehensive and time-intensive module of the course, and in a way it sets the foundation of the issues of coastal and marine conservation for media. This module places the topic of coastal and marine biodiversity conservation into the overall development context, and looks into the interrelationship of conservation and economic development, the positive benefits that coastal and marine biodiversity brings to human societies via ecosystem services, the challenges in balancing conservation with the economic development, and a detailed understanding of the threats that the coastal and marine ecosystems are facing. To make the learning easy for participants, this module comprises two very interesting training methods—ecological footprint game, and a simulation game on a fictitious country—Bakul.

### Key messages

- The eight Millennium Development Goals (MDGs), which range from halving extreme poverty to halting the spread of HIV/AIDS and providing universal primary education, all by the target date of 2015—form a blueprint agreed to by all the countries and all the leading development institutions. They have galvanized unprecedented efforts to meet the needs of the world's poorest.

The MDGs have been replaced by the Sustainable Development Goals from 2015.

- At the Rio+20 meeting, two decades after the Earth Summit in Rio de Janeiro in 1992, it was decided to institute Sustainable Development Goals (SDGs) from 2015. Targets for achieving these goals have been set for either 2020 or 2030. Eradicating poverty was, once again, seen as the greatest challenge to humankind. Changing unsustainable patterns of production and consumption and promoting sustainable ones were major priorities, and managing the natural resource base was seen as essential to achieving such sustainable practices.
- It is estimated that nearly 250 million people live within 50 km of the coastline in India and are dependent on the rich coastal and marine resources. Therefore, the ecological services of the marine and coastal ecosystems play a vital role in India's economic growth and the welfare of its citizens.
- Today, human activities are threatening the seas and coasts greatly through overfishing, destructive fishing practices, pollution and waste disposal, agricultural runoff, invasive alien species and habitat destruction. Global climate change will make matters worse. Sea levels will rise, water temperatures will increase, oceans will become acidified and there will be more storms and natural disasters.
- India is one of the 12 mega biodiversity countries and has a few of the 25 biodiversity hotspots, which are the richest eco-regions of the world. These hotspots are also highly endangered.
- Approximately 60 per cent (15 out of 24) of the ecosystem services evaluated in the Millennium Ecosystem Assessment (including 70 per cent of regulating and cultural services) are being degraded or used unsustainably. The loss of biodiversity at the habitat, species and genetic levels is enormous.

- The consequences of the biodiversity loss and resulting ecosystem services loss have a far-reaching impact on the livelihoods and overall well-being of human communities.
- Valuing ecosystem services will provide policymakers with a strong rationale to improve coastal and marine ecosystem management and invest in conservation for its risk management value and economic benefits. In order to fully leverage the ecological and economic knowledge of ecosystems and services, there is a need to generate and provide access to better data regarding ecosystem services.

## Key terms

Millennium Development Goals; Sustainable Development Goals; threat to marine biodiversity; invasive species; coastal pollution; marine debris; economics, ecosystems and biodiversity sustainable development; ecosystem services; livelihood security; ecosystem valuation; coastal infrastructure development; threats to coastal and marine biodiversity.

## 5.4 MODULE 3

# Marine and coastal protected areas

### Learning outcomes

After completing this module, the participants will be able to:

- explain the term ‘protected area’ and describe the different types of protected areas.
- differentiate between the key characteristics and factors governing a terrestrial PA and an MPA.
- describe different types of management models for MPAs and the challenges associated with each
- debate on the sustainability of fishing practices in and around MPAs.

### Summary

This module provides much needed information about marine protected areas (MPAs), the differences between them and terrestrial protected areas, the categories and types of MPAs and their management systems and an overview of the elements of management effectiveness. This module covers the key issues of fisheries and indigenous communities in the context of MPAs. Apart from providing information on different types of MPAs in India and their locations, the module elaborates benefits of and challenges for MPAs.

### Key messages

1. A clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, is mandatory to achieve the long-term conservation of nature with associated ecosystem services and cultural values.
2. One of the most effective means for protecting marine and coastal biodiversity is through the establishment and proper management of marine protected areas (MPAs). MPAs have many different types of protection. Some are ‘no-take zones’ or ‘protected zones’ that are essential to enable fish stocks to recover while others allow multiple use of their resources. MPAs protect key ecosystems such as coral reefs. Not only do they act as safe breeding ground for fish but they can also generate tourism, which in turn brings jobs. Creating more community managed MPAs would enhance the flow of benefits to local people.
3. India has designated four legal categories of PAs—national parks, wildlife sanctuaries, conservation reserves and community reserves. India has created a network of PAs representing all its 10 biogeographic regions. A total of 702 PAs have been established, comprising 103 national parks, 530 wildlife sanctuaries, 65 conservation reserves and 4 community reserves, and 26 wetlands have been designated Ramsar sites.
4. In India, PAs that fall—in whole or in part—within a swath of width 500 m along the high tide line are included in the MPA network. Based on this definition, there are 24 MPAs in peninsular India and more than 100 MPAs in its islands. The Gulf of Mannar Marine National Park, Sundarbans National Park, Gulf of Kachchh National Park, Bhitarkanika National Park, Coringa Wildlife Sanctuary and Chilika Wildlife Sanctuary have unique marine biodiversity and provide a range of services to local communities.
5. PA managers face a wide range of challenges, from lack of governmental funding and support to antagonism from local communities. With good communication and awareness programmes, this trend can be reversed. Involving the local communities in the management of MPAs would help generate sustainable livelihoods through revenue from fishing and tourism.

### Key terms

Marine protected areas; participatory management; stakeholders’ consultation; marine biodiversity.

## 5.5 MODULE 4

# Governance, law and policy framework for coastal and marine biodiversity

### Learning outcomes

After completing this module, the participants will be able to:

- outline the global conventions and treaties relevant to coastal and marine biodiversity and trace their history
- illustrate the Indian legal and policy framework relevant to coastal and marine biodiversity
- appraise some real cases with coastal and marine issues.

### Summary

This module gives an outline and a brief history of the diverse governance, legal and policy frameworks for managing coastal and marine ecosystems. The governance, policies and laws have been presented in two sections. The first section deals with global conventions and guidelines that provide a framework to the maritime countries to draft national policies and legislation for conservation and management of coastal and marine habitats and species. The second section provides an overview of the major policies, law, rules and guidelines in India.

### Key messages

- A large number of global treaties, conventions, self-obligations and guidelines target coastal and marine environments, habitats and species, and provide a framework to the countries to frame their national policies and legislation.
- Despite a large body of global and national conventions, policies and laws, several aspects of coastal and marine habitats and species are not fully covered.
- Implementation, compliance and enforcement of these regulations remain a challenge.
- Involvement of local communities, civil society and media is crucial in implementation and compliance of the legal provisions.

### Key terms

International conventions; treaties; multilateral environment agreements; Indian laws for the protection of coastal and marine biodiversity; protected areas under the Wildlife Protection Act; coastal regulation zone; and fisheries laws and rules.

## 5.6 MODULE 5

# Why do we not hear more about the coast?

### Learning outcomes

After completing this module, the participants are able to:

- analyse the reason for less coverage of coastal and marine biodiversity issues in the popular media
- appreciate the relevance of coastal and marine issues as a topic for mainstream media coverage
- demonstrate mainstreaming of coastal and marine issues into popular media, by developing at least one example of a media product

### Summary

This module will help media students understand how media looks at coastal and marine conservation issues. Since conservation is not in the media priority and MPAs come into news only when an event happens, the module will help the students to understand how to get media attention on conservation using the news pegs. This module will also help the participants in shaping their media products to demonstrate their understanding of the coastal and marine biodiversity issues.

### Key messages

- The media has 'pet topics' and a certain set style in which it covers news. Issues related to coastal and marine biodiversity conservation or the establishment and management of coastal and marine protected areas (MPAs) usually do not get picked up by the media.
- News about these issues is usually covered when there is an event such as a tsunami or cyclone, or an oil leak in the coast. Because of this lack of coverage, the ability of journalists to understand and report about coastal and marine biodiversity issues is also limited. There are many challenges that reporters in the coastal region face with regard to access to information and authentication.
- If readers and viewers are made to understand the linkage between so-called remote issues regarding the coast and their own lives, there will be enough interest in such news items therefore triggering better and more reportage.

### Key terms

Media priorities; reaching the public and policy makers through the media; media for outreach; print, electronic and online media; the Indian Readership Survey (IRS)/TRP ratings; mofussil or local reporting; editorial policies; no-go zones; pitching your story; varied presentation styles for different media; media campaigns; mainstreaming coastal and marine biodiversity conservation into media narrative.

## 5.7 MODULE 6

# Mainstreaming biodiversity conservation into the development sector

### Learning outcomes

After completing this module, the participants will be able to:

- appraise the need for mainstreaming biodiversity in different sectors and development programmes
- demonstrate the use of tools such as environmental impact assessment (EIA), strategic environment assessment (SEA) and marine spatial planning (MSP)
- critically analyse existing efforts and impacts of mainstreaming biodiversity concerns into sectoral and cross-sectoral strategies, plans and programmes
- prioritize sectors, on the basis of their understanding, where mainstreaming of coastal and marine biodiversity is of utmost importance.

### Summary

To ensure that biodiversity-related issues and concerns become a part of the larger development planning process in the country, there is a need to incorporate it into policies, strategies and action plan. There is also a need to use science-based tools to understand the impact that projects can have on the environment and ensure that spatial planning incorporates measures for conservation of coastal and marine biodiversity.

### Key messages

- The structure and functioning of marine ecosystems is different from terrestrial ecosystems despite primary producers being at the bases of both types of ecosystems.
- Terrestrial and marine ecosystems need to be managed differently.
- The absence of clear boundaries in marine systems makes living marine resources behave in manners quite different from those of terrestrial animals and plants, especially with respect to their distribution and genetic uniformity of populations.
- The application of property rights to terrestrial ecosystems have resulted in various forms of control, whereas most marine ecosystems are considered to be of the open access type (but a regime change is being seen in recent times).
- Various methods of assessment are available for both terrestrial and marine ecosystems.

### Key terms

Mainstreaming biodiversity, Environmental Impact Assessment (EIA) Strategic Environmental Assessment (SEA), Marine Spatial Planning (MSP).

## 5.8 MODULE 7

# Coasts, climate change and natural disasters

### Learning outcomes

After completing this module, the participants will be able to:

- summarize the basic science of climate change and disasters and illustrate the key vulnerable areas and major impacts of climate change and natural disasters
- demonstrate, with at least one real example, the interlinkages between climate change and coastal and marine biodiversity, and between natural disasters & coastal and marine biodiversity
- critically analyse the synergies and trade-offs between climate change adaptation, disaster risk reduction and coastal marine biodiversity conservation .

### Summary

Climate change can increase the risks due to disasters to coastal and marine ecosystems and can adversely impact the livelihoods of coastal communities. Strengthening the biodiversity and improving livelihood security can help reduce the risks due to climate change. Stable ecosystems are the foundation for achieving the goals of reduced vulnerability and higher adaptive capacities towards climate adaptation and disaster risk reduction. In coastal and marine ecosystems, the role of biodiversity and ecosystem services is more critical due to the high dependence of the communities on natural resources for livelihoods. Adopting an ecosystem approach in the overall development planning should be the top priority for coastal ecosystems. Conservation of ecosystems and biodiversity provides multiple benefits in the long run and will automatically minimize the trade-offs between the actions of various sectors. The most appropriate way could be to use disaster management structures as the entry point for climate change management strategies.

### Key messages

- ‘Climate change’ refers to a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean global temperatures and/or the variability of its properties and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forcing factors such as modulations of the solar cycles, volcanic eruptions and persistent anthropogenic changes in the composition of the atmosphere or in land use.
- The livelihoods of the rural poor are affected, in one way or the other, by three major factors, viz, climate change, disruption/loss of ecosystem services and disasters.
- The goal of climate change adaptation (CCA) planning is to find local or locally adapted sustainable solutions for robust and diversified livelihood options, especially in climate-sensitive sectors such as agriculture, forestry and tourism.
- Though the objective of both CCA and disaster risk reduction is reducing the vulnerability of the local communities, some CCA and disaster risk interventions may unintentionally leave people even more vulnerable than before to the impacts of natural disasters and vice versa.
- Many marine and coastal ecosystems no longer deliver the full suite of ecosystem services that humans have come to rely upon due to the existence of trade-offs between the activities of different sectors.
- Trade-offs can be minimized if the primary goal of all the activities in the marine and coastal ecosystems is maintaining a sustainable flow of ecosystem services.

### Key terms

Hazard; exposure; vulnerability; impact; mitigation; adaptation; REDD; disaster risk reduction.

## About the CMPA project

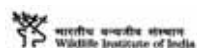
The Government of India and the Government of Germany are jointly implementing a technical project titled 'Conservation and Sustainable Management of Existing and Potential Coastal and Marine Protected Areas.' The project is supported by the Federal Ministry of Environment, Nature Conservation, Building and Nuclear Safety (BMUB), Government of Germany and being implemented by GIZ, India in partnership with the Ministry of Environment, Forest and Climate Change (MoEFCC), Government of India.

The project aims to contribute to conservation of biodiversity through participatory approaches in the management of existing and potential coastal and marine protected areas (CMPAs) in India. The project activities are being developed on the following three pillars:

- participatory management approaches for conservation of sites
- capacity-strengthening system for supporting participatory management of CMPAs
- information, communication and awareness raising.

The measures are being implemented with national, sub-national and local governments, training and learning organizations and experts to achieve specific capacity-development objectives. The project is engaging with different sectors and stakeholders who are crucial for management of coastal and marine biodiversity, including the forest, fisheries and media sectors. One of the key capacity-development measures is facilitating the training institutions of the forest, fisheries and media sectors in integrating coastal and marine biodiversity and protected area management-relevant issues into their curricula and equipping their faculty members and training experts with the latest and innovative training approaches and methodologies.

## Our partners



### The Wildlife Institute of India (WII), Dehradun

WII has a mandate to train Indian Forest Service officers, State Forest Service officers and other key stakeholders such as the Coast Guard and Customs and has recently initiated a one-week refresher course exclusively addressing issues related to integrated management of coastal and marine biodiversity that is targeted at senior forest officials.



### Xavier Institute of Communications (XIC), Mumbai

XIC is a professional media centre offering a variety of services in training and production. XIC is an autonomous educational unit of the Bombay St. Xavier's College Society Trust, which comprises St. Xavier's College, the Institute of Management, the Institute of Counseling and the Heras Institute of Indian History and Culture. XIC pilot-tested the curriculum between December 2014 and May 2015 and subsequently decided to integrate the curriculum into its Communication for Development (C4D) diploma course.

[www.xaviercomm.org](http://www.xaviercomm.org)



### BMM Department, St. Xavier's College, Mumbai

St. Xavier's College is one of the most prestigious liberal arts colleges in India. The BMM department was established in 2002. The Bachelor in Media Studies, a programme begun by the University of Mumbai in 1999, is being run by St. Xavier's College under the system of academic autonomy. While this is an applied course that seeks to provide industry with qualified media professionals, St. Xavier's believes that an academic grounding is very essential for forming young people for this crucial job of communications.

[www.xaviers.edu](http://www.xaviers.edu)



### St. Paul's Institute of Communication Education (SPICE), Mumbai

St. Paul's Institute of Communication Education (SPICE) is a fast-growing media school in India offering a comprehensive post-graduate diploma in journalism that trains students for a career in print journalism, television journalism and digital journalism. With top-notch media faculty members and excellent infrastructure, SPICE is the go-to destination for Gen Next journalists.

[www.stpaulsice.com](http://www.stpaulsice.com)





### **Department of Communication, Journalism and Public Relations, Gujarat University**

The Department of Communication, Journalism and Public Relations was established in 1987–1988.

The department plays a vital role in providing media professionals and communication experts to various fields. Two courses are offered by the department, the Master's in Mass Communication and Journalism (MMCJ) and the Master's in Development Communication (MDC).

<http://www.gujaratuniversity.org.in>



### **Earthwatch Institute India**

Earthwatch Institute India is a premier research and engagement institution, engaging citizens in scientific field research and education to promote the understanding and action necessary for a sustainable environment. Coastal and Marine Ecosystem is one of the key focus areas in which Earthwatch conducts scientific research to promote sustainable solutions to further strengthen efforts in regard to nature conservation and environment protection in response to environmental challenges.

Earthwatch programmes have a niche in citizen science and experiential learning and they bring this unique approach to coastal expeditions to increase scientific knowledge among key stakeholders, to develop environmental leaders, enable organisations to become more sustainable, contribute to management plans and pro-environment actions, and to enhance natural and socio-cultural capital.  
<http://in.earthwatch.org/>

