

Training Resource Material

Coastal and Marine Biodiversity and Protected Area Management

For MPA Managers



भारतीय वन्यजीव संस्थान
Wildlife Institute of India

giz Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH

On behalf of:



Federal Ministry
for the Environment, Nature Conservation,
Building and Nuclear Safety

of the Federal Republic of Germany





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FOREWORD

Coastal and marine ecosystems provide a large array of ecosystem services which form the foundation for livelihoods of millions of people. For conserving and managing these ecosystems in a sustainable and effective way, it is imperative that the stakeholders managing these ecosystems possess the required competence. In this endeavour, a holistic capacity development system addressing the knowledge, skills and values of the key stakeholder viz. The officers of Indian Forest Service (IFS), is of paramount importance.

It gives me a great pleasure to present this competence-based training material on 'Coastal and Marine Biodiversity Conservation and Marine Protected Area (MPA) Management', for the IFS officers. It has been developed under the aegis of the Indo-German technical cooperation project 'Conservation and Sustainable Management of Coastal and Marine Protected Areas' (CMPA), jointly implemented by the MoEFCC and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) on behalf of the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB). The curriculum has been developed through a participatory approach with valuable contributions from marine and fisheries scientists, trainers, capacity development experts, media professionals, and practicing MPA manager and it focuses on all three dimensions of competence viz. knowledge, skills and attitudes.

I congratulate Dr. J. R. Bhatt, Adviser, MoEFCC in providing scientific and technical guidance and for making this endeavour a success. I commend the overall guidance and support provided by Shri Hem Pande, former Special Secretary, MoEFCC, Mr. Edgar Endrukaitis, former Programme Director, Mr. Konrad Uebelhoer, the Director of the Indo-German Biodiversity Programme, GIZ, Dr. V B Mathur, Director, Wildlife Institute of India and Director, Indira Gandhi National Forest Academy. I appreciate the diligent efforts of all those who worked tirelessly in this assignment, especially the lead coordinators and editors Dr. Neeraj Khara, GIZ, and Dr. K Sivakumar, Wildlife Institute of India.

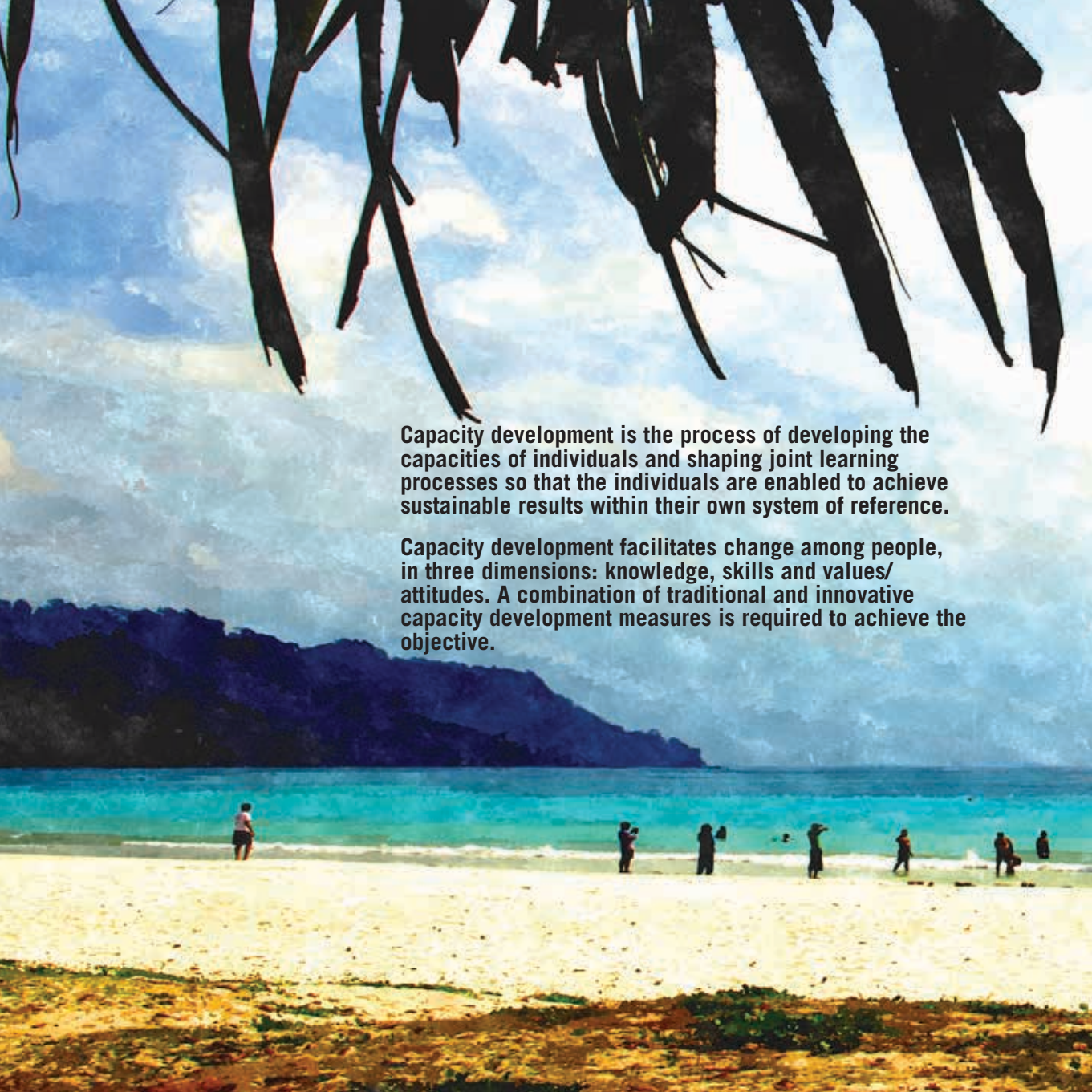
I am confident that this training material will be useful to both current and future MPA managers in effectively managing coastal and marine biodiversity of the country.

Dr. Amita Prasad
Additional Secretary
Ministry of Environment, Forest and Climate Change

7th December, 2016
New Delhi



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Capacity development is the process of developing the capacities of individuals and shaping joint learning processes so that the individuals are enabled to achieve sustainable results within their own system of reference.

Capacity development facilitates change among people, in three dimensions: knowledge, skills and values/ attitudes. A combination of traditional and innovative capacity development measures is required to achieve the objective.

Capacity Development for Sustainable and Effective Management of Coastal and Marine Biodiversity and Protected Areas (MPAs)

In the coastal areas, a major determinant of the well-being and livelihood security is the availability of marine and coastal biodiversity resources and access to these resources. Consequences of the biodiversity loss and resulting loss of ecosystem services, therefore, have far reaching impacts on livelihoods and the overall well-being of coastal communities.

One of the most effective means of protecting marine and coastal biodiversity is through the establishment and management of marine and coastal protected areas (MPAs) and community-involvement in managing the coastal and marine ecosystems.

A holistic capacity development system for the MPA managers, addressing their knowledge, skills and values, is key to developing approaches for sustainable and effective management of coastal and marine biodiversity.



About the Special Course

The course for the senior Indian Forest Service (IFS) officers as MPA managers is designed with enough flexibility to be adapted to different requirements of training institutions and participants. Ideally, it is to be delivered as series of three one-week trainings, where all the three trainings should be completed within one year. However, the three trainings can also be implemented as stand-alone trainings if the participants fulfill the minimum pre-requisites for each of the stand-alone trainings.

The first one-week training is to be organized as a field expedition to selected coastal / marine protected areas to facilitate participants in exploring and understanding coastal and marine ecosystems, and also getting a first hand information on various issues and challenges associated with managing these ecosystems.

The second one-week intensive training course facilitates participants in further developing their knowledge and skills on managing coastal and marine biodiversity and MPAs, including assessment and monitoring of biodiversity and ecosystem services, interlinkages with climate change and disasters, coastal and marine related laws and policies, mainstreaming tools, leadership and communication. The pre-requisites for this training is that the participants should have a good exposure to coastal and marine ecosystems in general, and marine protected areas in particular.

The third one-week specialized training focuses on effective management of coastal and marine protected area, where participants specialize in management effectiveness evaluation of the MPAs. The pre-requisites for this training is that the participants should have an excellent understanding of the key issues related to managing coastal and marine ecosystems; and they would have attended at least one training course on coastal and marine biodiversity / ecosystems.



Learning Outcomes of the three set of trainings:

First-level Training: Training Expedition on Coastal and Marine Biodiversity for MPA Managers

By the end of the First-level training the participants:

- able to outline concepts and issues related to managing coastal and marine biodiversity and demonstrate the types and relevance of different categories of MPAs
- able to differentiate clearly, between terrestrial and coastal-marine protected areas vis-a-vis the ecological and socio-political context, conservation approaches and legal-policy framework
- able to demonstrate the relevance of community involvement and cross-sector cooperation
- open to acquiring more knowledge on coastal and marine biodiversity and contributing to its conservation in whichever capacity possible in the future.

Second-level Training: One-week Intensive Training on Coastal and Marine Biodiversity and MPA Management

By the end of the Second-level training the participants are able to:

- outline concepts and issues related to managing coastal and marine biodiversity, and demonstrate the types and relevance of different categories of MPAs in different scenarios
- differentiate clearly, between the ecological and socio-political context, conservation approaches and legal-policy framework between terrestrial and coastal-marine PAs.
- manage and organize assessment and monitoring of coastal and marine habitats and species and prepare field reports drawing expertise from the required sectors
- be open to acquiring more knowledge on coastal and marine biodiversity relevant issues

Third-level Training: Specialized Training on Management Effectiveness Evaluation of MPAs

By the end of the Third-level training the participants are able to:

- develop MPA management plans and operational plans based on management effectiveness guidelines
- conduct management effectiveness evaluation (MEE) of coastal and marine protected areas, as a specialist

The process of curriculum development

Capacity needs assessment

The first step in facilitating capacity-development is to assess what key capacities already exist with the key stakeholders and what additional capacities might be required by specific stakeholders to contribute to the project objectives.

The process of capacity needs assessment (CNA) was carried out in a truly participatory and cross-sector manner, with the involvement of institutions and experts from the forest, fisheries and media sectors. CNA was conducted as series of workshops, group discussions, meetings and individual consultations. At the individual level, competencies were assessed in the knowledge, skills and values dimensions. A special focus of this assessment process was identifying capacity needs for enhancing cross-sector and cross-stakeholder cooperation.

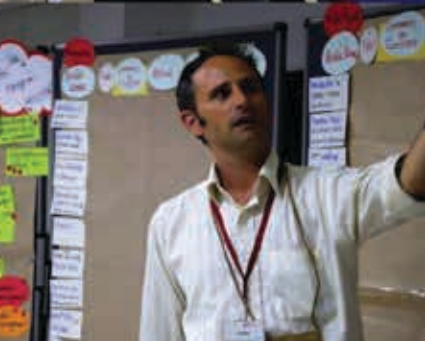


Curriculum development dialogue

To develop a competence-based curriculum and training material for existing and potential MPA managers, the project organized a curriculum development dialogue in July 2014 in Delhi. The participants represented a good mix of coastal and marine experts, fisheries experts, protected area managers, media professionals, capacity development experts, governance and policy experts and senior administrators and decision-makers from the MoEFCC, premier forest training institutes such as Wildlife Institute of India, Indira Gandhi National Forest Academy, State Forest Department representatives, specialized research institutions for coastal and marine research, NGOs and International organizations.

The curriculum development group developed a curriculum framework, with 12 modules, to be delivered in three phases to the MPA managers. A core team of content coordinators and editors was identified to elaborate the curriculum. It took one year for putting together the contents and structure, several rounds of review, editing, re-writing and then special editing to ensure cross-sector linkages.





Training Approach and Methodology

The training courses based on this curriculum intend to enable participants with sound understanding of the concepts and issues related to managing coastal and marine biodiversity and protected areas, mainstreaming approaches and legal-policy framework between terrestrial and coastal-marine PAs, as well as necessary skills to evaluate management effectiveness of coastal and marine protected areas and manage change in the policy development on coastal and marine protected areas.

The curriculum suggests use of a mix of field-based and classroom sessions, in almost equal proportions, to facilitate the participants in applying the information from classroom sessions into the field conditions, and to understand the field-level phenomena and actions in a broader development context.

A unique feature of the curriculum is to focus on the aspects of appreciation and contemplation of nature and ecological consciousness, for which special sessions are recommended during the trainings.

The trainings based on this curriculum must be facilitated primarily through participatory training methods, where learning occurs through active involvement of the participants and it is they who develop the answers. Following are some examples of such participatory training methods:

- 1 Group work and presentations
- 2 Dialogue and brainstorming
- 3 Knowledge Café
- 4 Role play
- 5 Simulation (case study simulation/ video simulation)
- 6 Games and Mind Maps
- 7 Case Studies
- 8 Fish Bowl
- 9 Icebreakers, energisers, and team-building exercises
- 10 Nature walks and contemplation
- 11 Under-water and coastal surveys
- 12 Field excursions

Competence-based curriculum for the senior MPA managers

The Special Course uses a competencies-based curriculum with a strong emphasis on field-based exercises using participatory methods of training and learning. The training material is developed by a competent team of experts drawn from forest, fisheries and media sectors, bringing in a truly cross-sector perspective to the whole process of capacity development.

Competencies-based curriculum is a way of approaching professional training that places primary emphasis on facilitating the participants in further developing their competencies, which are required to enable them in performing their jobs more efficiently and effectively. It aims at preparing people more effectively for real workplaces.





An Overview of the modularized curriculum

Module 1:

An introduction to coastal and marine biodiversity

This module serves as the foundation of the course by providing the basic concepts of biodiversity at the genetic, species and habitat levels, focussing on the examples and peculiarities of the coastal and marine ecosystems.

Module 2:

Coastal and marine Ecosystem Services and their Value

This module facilitates participants looking into the overall development agenda via Global Sustainable Development Goals, the concepts of sustainability, and sustainable livelihoods and its interlinkages with the ecosystem services. Concept of ecosystem services and their value is the central theme of this module.



Module 3:

From Landscape to seascape

This brief but very important module provides an overview of the ecological, socio-economic and political context that make coastal and marine ecosystem management different from the management of terrestrial ecosystems. The module also summarises the key ecosystem characteristics of coastal and marine ecosystems.

Module 4:

Assessment and monitoring of coastal and marine biodiversity and relevant issues

This module provides an overview of different coastal and marine ecosystems, critical marine habitats, their importance and assessment, and describes selected assessment methodologies of different critical habitats and different species found in coastal and marine ecosystems. The module ends with an overview of stakeholder mapping and analysis for effective MPA management.



Module 5:

Sustainable Fisheries Management

This module provides the much needed information on basics of fisheries management, and principles and practices of sustainable fisheries management in and around marine protected areas. Apart from providing useful case studies on the subject, this module also covers challenges and trade-offs associated with protection-oriented coastal management, synergies with MPAs and livelihood security.

Module 6:

Marine and Coastal Protected Areas

This module provides the much needed information on basics of marine protected areas (MPAs) and provides insights into the differences between MPAs and terrestrial protected areas, special conditions that affect the management of MPAs, and the categories and types of MPAs. This module covers the key issues of community participation and the role of indigenous communities in managing the MPAs and in coastal and marine biodiversity management. The module also contains information on different types of MPAs in India, their locations and on the benefits and challenges that management of MPAs involves.



Module 7:

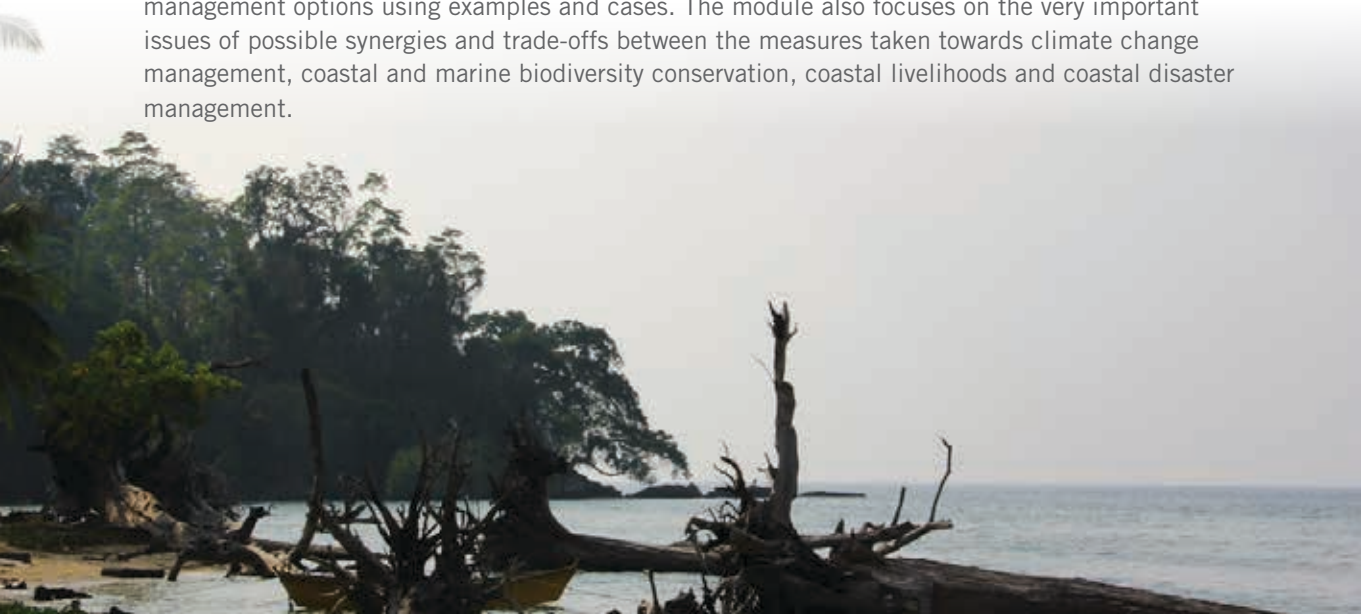
Governance, law and policies for managing coastal and marine ecosystems, biodiversity and protected areas

This module gives an outline of the governance, legal and policy framework for managing coastal and marine ecosystems, which has been presented in two sections. The first section presents 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.

Module 8:

Coasts, climate change, natural disasters and coastal livelihoods

The module provides an overview of the concepts of climate change and natural disasters and the related risks that they pose to coastal and marine biodiversity and ecosystems. The module further explores the impacts of climate change and natural disasters on coastal livelihoods and their management options using examples and cases. The module also focuses on the very important issues of possible synergies and trade-offs between the measures taken towards climate change management, coastal and marine biodiversity conservation, coastal livelihoods and coastal disaster management.



Module 9:

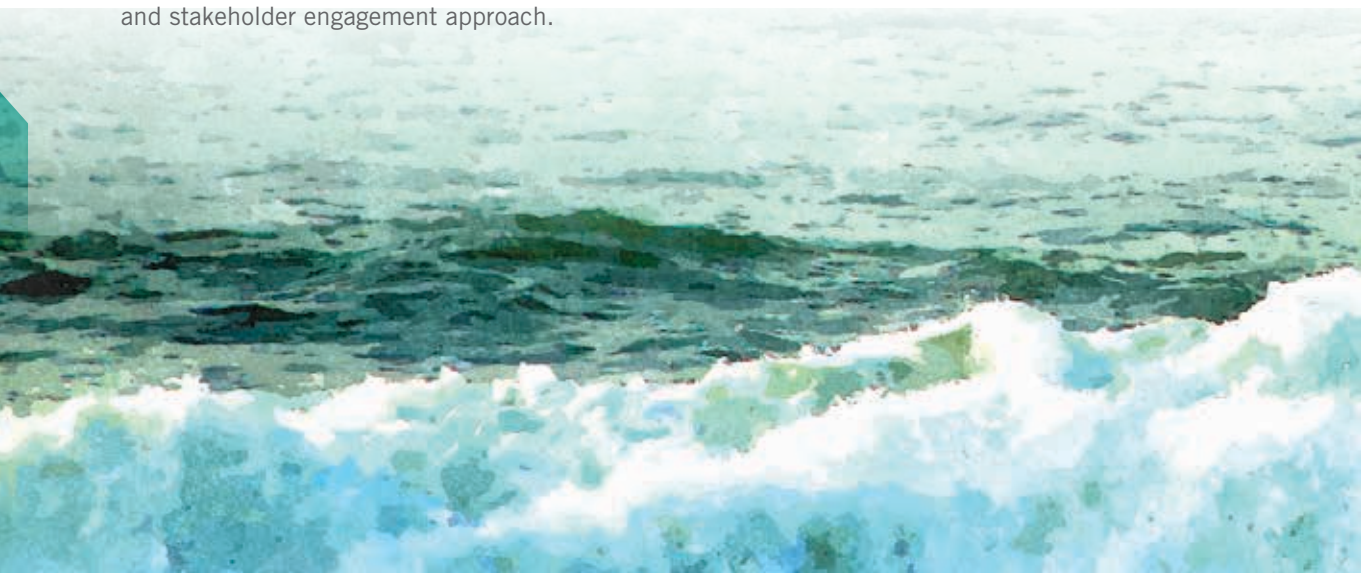
Tools for Mainstreaming: Impact assessment and spatial planning

This module provides the conceptual background and introduction of mainstreaming biodiversity. 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. This module provides the basic concepts and examples of such tools, knowledge of which is useful for marine protected area managers.

Module 10:

Change Management and connectedness to nature

This module takes up the prioritized global competencies identified for marine protected area (MPA) managers for effective communication with key stakeholders and for an effective cross-sector dialogue. The module elaborates a selected set of such competencies such as connectedness to nature and ecological consciousness, communication skills, leadership qualities and stakeholder engagement approach.



Module 11:

Communicating Coastal and Marine Biodiversity

This module will help the MPA managers understand how media looks at coastal and marine conservation issues. Since conservation is not a media priority topic and MPAs come into news only when an accident happens, the module will help managers to gain knowledge and skills for effectively engaging media on conservation issues. The module will introduce different tools for media relations, explaining their strengths and limitations. It will also discuss how to use these tools during a crisis communication situation.

Module 12:

Effective management Planning of coastal and marine protected areas

This module provides an overview of the management experiences in both terrestrial and marine environments. A description of the elements of management plans, guidelines for effective protected area management and key indicators form the major part of the learning from this module. Case studies on management effectiveness evaluation (MEE) help participants in applying concepts and guidelines in real life cases.

Expedition Resource Material for MPA managers: Field Learning Journal

To facilitate the participant's learning during and after the training, this learning journal has been designed to help them capture anything that is of any significance or value to them, and may help in enhancing their understanding of the coastal and marine issues. It is a place for participants to take notes on the observations that they make on habitats, species, people and events during the training.







The Trainer's Kit including -Training Resource material for MPA managers and Trainer's Guides, was released by Dr. Amita Prasad, Additional Secretary, Ministry of Environment, Forest and Climate Change (MoEFCC), Government of India and Dr. Elsa Nickel, Director General, Ministry of Environment, Nature Conservation, Building and Nuclear Safety (BMUB), Germany, in the presence of Dr. Vinod B. Mathur, Director- WII, Dr. Alok Saxena, PCCF- Government of Andaman and Nicobar Islands, India, Sh. N. Vasudevan, APCCF & Head of Mangrove Cell- Maharashtra Forest Department, and Dr Neeraj Khera, Senior Advisor- Biodiversity Programme, GIZ India on December 12, 2016 at a side-event of the Thirteenth Conference of the Parties to the Convention on Biological Diversity (CBD COP 13) - "Innovative Approaches for Ensuring Effectiveness and Sustainability: Capacity Development Measures for Coastal and Marine Biodiversity Conservation" in Cancun, Mexico. <http://enb.iisd.org/biodiv/cop13/enbots/12dec.html>

Our Partners

The [Wildlife Institute of India \(WII\)](#) has a mandate to train Indian Forest Service officers, State Forest Service officers, as well as other key stakeholders such as the Coast Guard and Customs etc., and has recently initiated one-week refresher course exclusively addressing issues related to integrated management of coastal and marine biodiversity targeting senior forest officials.

www.wii.gov.in

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<https://www.giz.de/en/worldwide/368.html>

[Indira Gandhi National Forest Academy \(IGNFA\)](#). The primary mandate of the Academy is to impart knowledge and skills to the professional foresters and help them to develop competence for managing the country forest and wildlife resources on a sustainable basis. In the Academy training is provided at different levels of seniority in the Indian Forest Service besides training the new entrants to the service.

<http://www.ignfa.gov.in/>



This material has been developed under the Project –‘Conservation and Sustainable Management of Coastal and Marine Protected Areas (CMPA)’, which is a technical cooperation project supported by the Governments of India and Germany (2012-17). The Project is commissioned by the German Federal Ministry for Environment, Nature Conservation, Building and Nuclear Safety (BMUB) with funds provided under the International Climate Initiative (IKI), and jointly implemented by the Ministry of Environment, Forests and Climate Change (MoEFCC), Government of India, and the *Deutsche Gesellschaft für Internationale Zusammenarbeit* (GIZ) India on behalf of BMUB.

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