

COMPENDIUM OF

Training Courses on Coastal and Marine Biodiversity and Marine Protected Areas in India



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

Imprint

Published by

Wildlife Institute of India (WII)

P.O. Box 18, Chandrabani,
Dehradun - 248001
Uttarakhand, India

T +91-(0)135-2640 910

E dwii@wii.gov.in

W www.wii.gov.in

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Indo-German Biodiversity Programme
A-2/18, Safdarjung Enclave
New Delhi - 110029, India

T +91-11-4949 5353

E biodiv.india@giz.de

W www.indo-germanbiodiversity.com

GIZ is a German government owned not-for-profit enterprise supporting sustainable development.

This Compendium has been developed by the GIZ Project –‘Conservation and Sustainable Management of Existing and Potential Coastal and Marine Protected Areas (CMPA)’, under the Indo-German Biodiversity Programme, in partnership with the Ministry of Environment, Forests and Climate Change (MOEFCC), Government of India. The CMPA 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).

Published in

November, 2014 (First Edition)

Responsible

Dr. V. B. Mathur, Director, WII | Mr. Edgar Endrukaitis, Director, Indo-German Biodiversity Programme, GIZ India

Compiled and edited

Dr. Neeraj Khera and Dr. K. Sivakumar

Photos

Dr. Neeraj Khera

Designed and Printed

Aspire Design, New Delhi | www.aspiredesign.in

Disclaimer

This Compendium on training courses addressing issues relevant to Coastal and Marine Biodiversity Conservation and Protected Areas in India is a compilation of information received from the concerned institutions via a questionnaire.

This compendium is not a comprehensive overview of all the institutes that are offering coastal and marine protected area related trainings and other capacity development initiatives in India. It only contains profiles of those courses and institutes which have been brought to our notice during our desktop research, and those who responded to our questionnaire.

Though editing and compilation of the write ups has been done by GIZ and WII, the responsibility of the authenticity of the factual information contained in the write ups remains with its respective authors.

Facilitating Networking of Training Institutions

Supporting Human Capacity Development for Coastal and Marine Biodiversity Conservation in India





Foreword

Capacity development is the process of developing the capacities of individuals and institutions and shaping the joint learning processes, such that they 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. As conservation of coastal and marine biodiversity along with managing marine protected areas is extremely challenging, the need for a combination of traditional and innovative capacity development measures is essentially required to deliver the knowledge products. This calls for greater exchange of experiences and expertise among the training institutions within the environment sector and also with the other key sectors such as fisheries and media. There are, however, not enough platforms to facilitate such an exchange among the training institutions and also to share information on training courses to the potential trainees.

Facilitating capacity development of individuals and institutions relevant to coastal and marine biodiversity conservation in India, through networking, trainings, and other measures and instruments, is one of the objectives of the 'Conservation and Sustainable Management of Existing and Potential Coastal and Marine Protected Areas' (CMPA) project under the Indo-German Biodiversity Programme. This project is being supported by the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB), Government of Germany, and implemented by GIZ India, in partnership with the Ministry of Environment, Forests and Climate Change (MoEFCC), Government of India.

To develop this Compendium, the CMPA project has partnered with the Wildlife Institute of India (WII), having a mandate to train Indian Forest Service officers, State Forest Service officers, as well as, other key stakeholders such as the Coast Guards and Customs etc.

This Compendium is intended to bring together, on one platform, the information on expertise and experience available at the training organisations based in different parts of India, on the theme of coastal and marine biodiversity. We congratulate the editors of this Compendium and all those institutions who have contributed to the development of this Compendium, and look forward to its effective use as a tool for networking among the training organisations.



A handwritten signature in blue ink, appearing to read 'E. Endrukaitis'.

Mr. Edgar Endrukaitis

Director

Indo-German Biodiversity
Programme, GIZ India



A handwritten signature in blue ink, appearing to read 'V. B. Mathur'.

Dr. V. B. Mathur

Director

Wildlife Institute of India,
India

Preface

This Compendium presents details on the training courses in coastal and marine biodiversity and protected areas in India along with the profiles of the institutions offering such courses. These training courses belong to three key sectors relevant to coastal and marine protected areas in India, viz., forest, fisheries and media.

This first edition of the Compendium is a reservoir of information on 27 institutions, offering 51 courses, presented in alphabetical order. For the readers, not only a pictorial representation of the map of India is given to understand and decipher the location of the institutions, but also, a comprehensive glossary is available for their background information on terms to coastal and marine biodiversity and protected areas, used in this Compendium.

The Compendium provides a range of information on each course, such as philosophy and background of the course,

curriculum, duration, frequency & schedule, seats, admission criteria, attendance requirements, target audience, participant's sector, geographical affiliation, thematic focus, training methods applied and contact details of the course coordinator.

The Compendium provides the following information on each training institution: general information about the institute, training portfolio, thematic areas addressed, courses offered and contact details of the institute.

The Compendium serves a dual purpose. Firstly, it is not only intended as a source of reference to anyone considering or requiring professional training in the sector, but would also allow the user to contact directly the chosen institute. Secondly, the Compendium will help the training institutions in networking for their technical and methodological development, and also forge linkages between training institutions, practitioners

and the research community, so that the vast experience available in different institutions can be utilised at a broader scale.

The Compendium has been developed using a coherent and systematic four step methodology. As the first step, a desktop research was undertaken to identify organisations that are either currently offering or planning training courses in the field of coastal and marine biodiversity and protected areas. These organisations were sent a questionnaire via email, as well as, a hard copy on request, to seek information on the institutional profile, along with the details of the courses being offered. The participating organisations were further requested to share the names of other relevant organisations. In the second round, questionnaires were sent to the additional organisations, as well. The second step was to compile and edit the information contained in the questionnaires, followed by placing the edited contents in the specific Compendium design and layout. In

the third step, the participating organisations were sent the edited and designed draft of the Compendium for validation and proof reading of information. In the fourth step, the document was finalised based on revisions received from the participating organisations.

We would like to extend our sincere gratitude to coordinators from the training organisations included in this compendium, for sparing their valuable time in filling up the questionnaire, helping in validation of information and responding to our queries on the contents as and when asked for. Without their constructive support, it would not have been possible to bring out the compendium in such a short duration.

We would like to extend our sincere thanks to Ms. Atiya Anis, Communications & PR Expert of the Indo-German Biodiversity Programme for her overall support in the development of

the Compendium. We would also like to greatly appreciate and acknowledge the contributions made by Ms. Clara Mokry, Ms. Madhuri Negi, and Ms. Divya Joshi - Interns at the CMPA Project, GIZ, New Delhi.

This is a work-in-progress, so we welcome your feedback, and look forward to your suggestions for the next edition. The next edition will provide an even more comprehensive picture of the training courses being imparted and planned by training organisations in India in the field of coastal and marine biodiversity and protected areas. Please feel free to contact us at neeraj.khera@giz.de or ksivakumar@wii.gov.in to get your courses and institute's profile listed in the next edition.

Hard copies of this compendium are available with GIZ and WII. An online version of this compendium is also available on the Indo-

German Biodiversity Programme website- www.indo-germanbiodiversity.com

We hope that this edition will serve its crucial and ultimate purpose of facilitating knowledge exchange to its greatest possible extent.




Dr Neeraj Khara
Senior Advisor
Indo-German Biodiversity
Programme, GIZ India




Dr. K. Sivakumar
Principal Scientist
Wildlife Institute of India,
India





Table of Contents

ACADEMIC COURSES	1
Coastal Management	3
Fisheries Resource Management	4
Masters in Climate and Sustainability Studies	5
Masters in Ecology, Environment and Sustainable Development	6
Masters in Sustainable Livelihoods, Natural Resources Management and Governance	7
Masters in Wildlife Science	8
M.Sc. Program in Wildlife Biology and Conservation	9
Postgraduate Diploma	10
PROFESSIONAL COURSES	13
Applications of GIS and Remote Sensing for the Management of Coastal Critical Habitats	15
Biodiversity	16
Certificate Course in Wildlife Management	17
Certificate course on Impact of Climate Change on Coastal Diversity and Mitigation (planned course)	18
Climate Change Issues & Concerns in Coastal Ecosystems	19
Coastal and Marine Biodiversity (Planned)	20

Coastal Area Mapping Project (CAMP)	21
Coastal and Marine Research Expeditions	22
Course in Coastal Regulation Zone, 2011	23
Coral Rehabilitation Techniques	24
Coral Transplantation	25
Courses on Climate Change and Environment for the State Administrative Institutes	26
Distance Learning Course on Coastal and Marine Biodiversity	27
Empowerment through Information	28
Global Citizenship for Sustainability (GCS) Marine Education	29
Integrated Coastal Management Course	30
Integrated Coastal Zone Management	31
Integrated Coastal Zone Management	32
Integrated Coastal Zone Management Training Programme	33
Management of Coastal and Marine Biodiversity in India: Challenges and Prospects	34
Mangrove Ecology and Biology	35
Mangrove Nursery Development Methods	36
Mangrove Restoration and Management	37
Mangrove Restoration and Management	38
Marine and Coastal Biodiversity Training Programme	39
Marine Biodiversity Assessment and Monitoring Techniques	40

Participatory Biodiversity Monitoring in Mangrove Forest Area (Planned)	41
Participatory Management of Coastal Resources and Biodiversity	42
Policy Dialogue on Coastal and Marine Biodiversity and MPA Management	43
Regional Training Course on Code of Conduct for Responsible Fisheries (RTC-CCRF)	44
RFO Induction Training	45
Reporting Coastal and Marine Biodiversity	46
State Forest Service (SFS) Induction Training	47
Sustainability Leadership Programme	48
Sustainable Forest (Coastal) Management	49
Special Certificate Course on Coastal and Marine Biodiversity	50
Special Course on Coastal and Marine Biodiversity and MPA Management	51
Technical Training on Mangrove Plantation	52
Training Programme on Open Sea Cage Culture (Planned)	53
Train The Trainers (TTT) on Experiential Learning	54
UNU-INWEH International Course: Mangrove Biodiversity and Ecosystems	55
SKILL DEVELOPMENT COURSES	57
Open Water Diver Course	59
Advanced Open Water Diver Course	60

Bay of Bengal Programme Inter-Governmental Organisation (BOBP-IGO)	65
Bombay Natural History Society (BNHS)	66
Central Institute of Fisheries Education (CIFE)	67
Central University of Orissa	68
Centre for Environment Education (CEE)	69
Centre of Advanced Study in Marine Biology, Faculty of Marine Sciences, Annamalai University	70
Directorate of Forest Education	71
Earth System Sciences Organisation - National Institute of Ocean Technology (ESSO-NIOT)	72
Earthwatch Institute India	73
Gujarat Ecological Education and Research Foundation (GEER)	74
Gujarat Ecology Commission (GEC), Government of Gujarat	75
Gujarat Institute of Desert Ecology (GUIDE)	76
Indian Council of Forestry Research & Education	77
Indian Institute of Bio-Social Research and Development (IBRAD)	78
Indira Gandhi National Forest Academy (IGNFA)	79
Institute for Ocean Management, Anna University	80
Integrated Coastal and Marine Area Management Project Directorate (ICMAM-PD), Ministry of Earth Sciences	81
International Collective in Support of Fishworkers (ICSF)	82
International Union for the Conservation of Nature (IUCN)	83

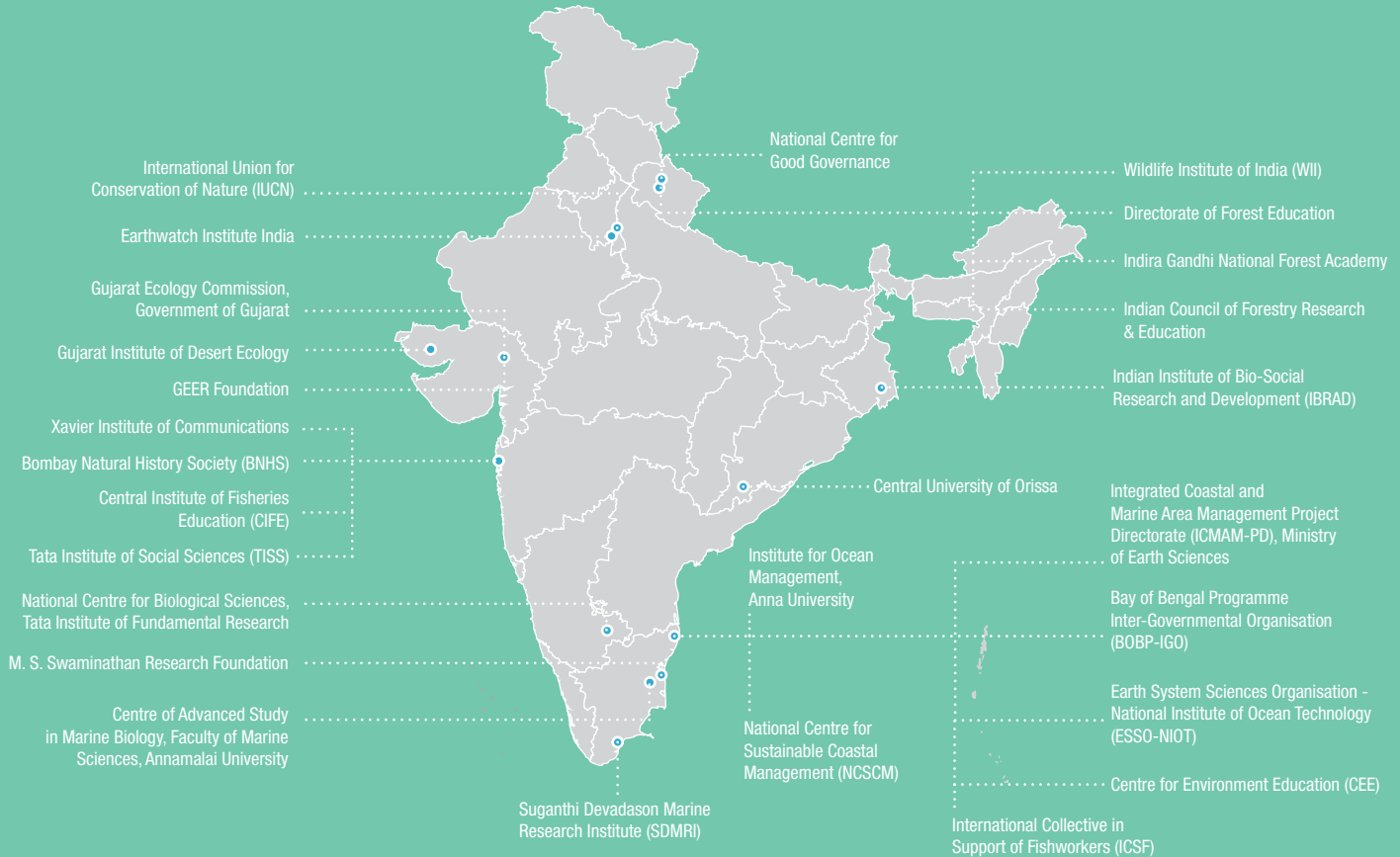
M. S. Swaminathan Research Foundation	84
National Centre for Biological Sciences, Tata Institute of Fundamental Research	85
National Centre for Good Governance	86
National Centre for Sustainable Coastal Management (NCSCM)	87
Suganthi Devadason Marine Research Institute (SDMRI)	88
Tata Institute of Social Sciences (TISS)	89
Wildlife Institute of India	90
Xavier Institute of Communications	91

GLOSSARY & INDEX **93**

Glossary of Terms	95
Index	107

ABOUT THE PROJECT **111**

Geographical location of Institutions







ACADEMIC COURSES



Coastal regions are densely populated and environmentally vulnerable. They are subjected to increased pressure from many sources including industrial development, urban expansion, exploitation of marine resources and tourism. There is an urgent need to integrate the various uses made of coastal resources and to develop them in harmony with the environment. An integrated approach to coastal and marine management is needed to resolve the conflicting demands of society for products and services. The Coastal Management course addresses the current and future engineering, environmental and socio-economic challenges facing developed and developing countries of the tropics. This program adopts an interdisciplinary approach to the recognition of the need for individuals who can understand both landward (indigenous communities) and seaward concerns (coastal structures, ecology etc.).

Curriculum

- Coastal ocean survey and monitoring
- Oceanography
- Satellite oceanography
- Probability and statistics for water resources
- Numerical and environmental modeling
- Coastal engineering
- ICM: Learning from practice
- Socio-economic building blocks in ICM
- Marine ecology and toxicology
- Coastal EIA

Thematic focus

- Application of Remote Sensing and GIS
- Climate Change
- Coastal Disasters
- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Coastal Zone Management
- EIA
- Legal Aspects of Coastal and Marine Protected Areas
- Monitoring and Evaluation of Biodiversity
- Pollution Monitoring

Training Methods Applied

Assignments | Dissertation/Research Project | Field Tours | Group Work | Laboratory Practice | Participants Presentations | Role Play/Simulation | Seminars



Coordinator
Dr. N.K. Ambujam
Professor and Director i/c, IOM

Institute for Ocean Management
Anna University, Chennai - 600025, India

T +91-44-22300108
E nkambuj@annauniv.edu
W www.annauniv.edu/academic_courses/curr_ud.html

For undergraduate students, civil, marine, geoinformatics, environmental engineering sector

2 years duration

Conducted once a year (May-June)

Full time with mandatory presence

15 Seats

Selection via Exam (TANCET, Anna University) and through single window counselling/Roster

Depending on course type M.Tech. or MS (by Research) for P.G. courses and Ph.D. for Research awarded



Director
Dr. W.S. Lakra

Central Institute of Fisheries Education
(Deemed University) ICAR
Panch marg, (Off.) Yari road, Versova, Mumbai - 400061,
Maharashtra, India

T +91 (22) 26363404
E wslakra@cife.edu.in
W <http://www.cife.edu.in>

For decision-makers, senior management, senior technical/
scientific staff, biodiversity specialists and overall environment
sector, fishery officials and students from neighbouring countries
and fishery manager and new entrants

2 years duration for the M.F.Sc. and 3 years for the Ph.D.

Conducted once a year

Full time with mandatory presence

8 Seats for the M.F.Sc. and 6 Seats for the Ph.D.

Selection via Exam and Interview

M.F.Sc. and Ph.D. can be awarded

The availability of the vast aquatic resource in India and the increasing demand for food for the ever growing population makes the management of our resources an urgent and challenging need. The course in fisheries resource management looks into the aspects of aquatic biodiversity, with specific focus on assessment of biodiversity and fish stock. The course also provides a sound understanding of the interlinkages of the coastal and marine ecosystems with the overall developmental issues by bringing in the topics such as coastal zone management, and fisheries legislation and regulations.

Curriculum

- Assessment of aquatic biodiversity
- Conservation & management of exploited fish stocks
- Aquatic ecosystems, biodiversity and conservation
- Bio systematics of aquatic fauna
- Advances in fish stock assessment
- Advances in marine fisheries resource management
- Coastal zone management
- Fisheries environmental assessment
- Shellfish and finfish biology
- Fisheries legislations and regulations

Thematic focus

- Climate Change
- Coastal Disasters
- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Legal Aspects of Coastal and Marine Protected Areas
- Management Effectiveness of Coastal and Marine Protected Areas
- Marine Invasives
- Monitoring and Evaluation of Biodiversity
- Protected Area Management
- Sustainable Fisheries Management

Training Methods Applied

Assignment | Dissertation/ Research Project | Field Tours | Participant's Presentations | Seminars

The MA programme will have a special focus on the issue of climate change which is among the most urgent global environment issues confronting the world today. The programme would seek to build amongst the students an in-depth understanding of the multi-dimensional and complex nature of climate change, through comprehensive and thorough engagement with the relevant scholarship and field studies and interaction with practitioners, grass-roots workers and activists from communities and movements. This would entail looking into the reasons behind climate change, its impacts, the vulnerabilities of the future and the complex responses required in terms of climate change mitigation and adaptation.

Curriculum

- Introduction to the study of development in general
- Assessment of climate mitigation, adaptation and sustainability principles and practices
- Conceptual and practical tools for evaluation of developments in key sectors such as energy and water
- Location and mapping of vulnerabilities with respect to the environment and climate as well as social vulnerabilities including those due to caste, class and gender
- Field Work - Two weeks of urban fieldwork and three-four weeks of rural fieldwork in the first year to apply relevant methods

Thematic focus

- Climate Change
- Coastal Disasters
- Coastal Livelihoods
- Global Environmental Governance

Training Methods Applied

Assignments | Dissertation/Research Project | Field Tours | Group Work | Laboratory Practice | Participants Presentations | Role Play/Simulation | Seminars



Coordinator

Mr. Sudarshan Rodriguez

Senior Programme Coordinator - Director's Office

Centre for Climate Change and Sustainability Studies

School of Habitat Studies, Academic Building No. 2,
New Campus, Tata Institute of Social Sciences,
Mumbai - 400088, Maharashtra, India

T +91-(022)-25525375

E climatechange@tiss.edu

W www.tiss.edu; climate.tiss.edu

For young professionals from overall environment sector

2 years duration

Conducted once a year starting in June

Full time with mandatory presence

20 Seats

Selection via Exam and Interview

Masters awarded



Coordinator
Mr. Sudarshan Rodriguez
Senior Programme Coordinator - Director's Office

Centre for Climate Change and Sustainability Studies
 TISS Guwahati Campus
 14-A, Bhuban Road, Uzanbazar,
 Guwahati - 781001, India

T +91-(0361)- 2510342
 E tissguwahati@tiss.edu
 W www.tiss.edu

For Young Professionals from overall environment sector

2 years duration

Conducted once a year starting in June

Full time with mandatory presence

25 Seats

Selection via Exam and Interview

Masters awarded

The Master's programme in Ecology, Environment and Sustainable Development is an interdisciplinary programme that enables students to acquire a conceptual understanding of environmental issues. It also facilitates the application of critical thinking skills with scientific analysis to engage with the issues. The programme is based on the understanding that India, today has pressures of globalisation on one hand and the need to supplement the demands of an increasing population on the other hand. In this scenario, the pressure on natural resources is so enormous that it has serious implications for sustainability. Therefore, holistic approaches to environment and sustainability become evident. The programme is a combination of theoretical knowledge, awareness of contemporary environmental issues and fieldwork experiences. The aim of the course is to provide knowledge and skills to the students, which will help them understand the existing problems effecting our environment, possible ways to reduce such impacts and increase awareness in the communities. This professional course will give students the opportunity to understand the institutional structures concerning environment, both at the local and international level, as well as, the policies, issues and problems of India and strategies to address these.

Curriculum

- Man-environment interaction and the different approaches to studying environment and ecology
- Interrelationships of resource use, economics, politics and their impact on the environment
- Environmental issues and their linkages to politics of development at the local, regional and global level
- Issues in environmental economics and natural resource economics.
- Problems and debates of developing countries
- A combination of theoretical knowledge, awareness of the contemporary environmental issues and fieldwork experiences
- Knowledge and skills, which will help students understand existing environmental concerns, and possible ways to reduce such impacts
- The opportunity to understand the institutional structures dealing with environment at the national and the international level
- Information on the national and global policies and strategies to address environmental issues

Thematic focus

- Climate Change
- Coastal Disasters
- Coastal Livelihoods
- Global Environmental Governance
- Monitoring and Evaluation of Biodiversity
- Protected Area Governance
- Protected Area Management
- Social and Human Ecology

Training Methods Applied

Assignments | Dissertation/Research Project | Field Tours | Group Work | Laboratory Practice | Participants Presentations | Role Play/Simulation | Seminars

The Masters in Sustainable Livelihoods, Natural Resources Management and Governance, is a two-year Masters programme designed to enable the students to develop professional competence in planning, managing and assessing activities that have implications for household and community livelihoods, to develop an understanding of the conceptual and theoretical frameworks for the analysis of social change brought about by natural resource based livelihood interventions and to examine critically the governance framework and mechanisms put in place for promoting sustainable livelihood models. The course will emphasise the role and influences of important environmental policies influencing the basic socio-economic lives of people. In this context, it will cover some of the important flagship programmes of the Government of India and their impacts on the communities. The course will specifically focus on community level organisations such as SHGs, Co-operatives and other such agencies influencing livelihoods and food security.

Curriculum

- Focus on community level organisations such as SHGs, co-operatives and such other agencies influencing livelihoods and food security
- Conceptual understanding of livelihoods, distinguishing it from poverty alleviation while remaining connected to it
- Introduction to various models and approaches of thinking about and engaging with livelihoods in critical reference to the range of approaches used by multilateral agencies
- Exposure to a range of livelihood interventions undertaken in India and in other countries to facilitate critical thinking on policy and programming for livelihood
- Mapping of the trajectory of livelihood interventions in India over the plan period and evaluation of the same based on development indicators / parameters

Thematic focus

- Climate Change
- Forest Rights and Social Justice
- Livelihoods
- Protected Area Governance
- Traditional knowledge in NRM

Training Methods Applied

Assignment | Dissertation/ Research Project | Field Tours | Group Work | Laboratory Practice | Participant's Presentations | Role Play/Simulation | Seminars



Coordinator
Mr. Sudarshan Rodriguez
Senior Programme Coordinator - Director's Office

Tata Institute of Social Sciences
School of Rural Development, Tuljapur - 413601,
District-Osmanabad, Maharashtra, India

T +91- 9270105222
E info.srd@tiss.edu
W www.tiss.edu; climate.tiss.edu

For young professionals

2 years duration

Conducted once a year in June

Full time with mandatory presence

30 Seats

Selection via Exam and Interview

Masters awarded

Masters in Wildlife Science



Coordinator
Dr. P. K. Mathur
Dean, Faculty of Wildlife Science

Wildlife Institute of India
P.O. Box 18, Chandrabani, Dehradun - 248006,
Uttarakhand, Inida

T +91-135-2640304
E dean@wii.gov.in
W <http://www.wii.gov.in>

For students of life science or zoological science

2 years duration

Conducted once every 2 years

Full time with mandatory presence

10- 20 Seats

Selection via written Exam

M.Sc. awarded

Masters in Wildlife Science course was initiated by WII in 1988, with the syllabus published as a document of the FAO-WII project in the same year. The two-year course not only seeks to meet the increasing demand for research and monitoring of wildlife and their habitats, and provide trained biologists to further the cause of wildlife conservation, but also served as a model for developing higher education in the field of wildlife science elsewhere in the country. The syllabus of the course has been revised in 1995, 1999 and 2001, in order to match with the progress in discipline worldwide and the changing requirements in its application. Coastal and Marine Management is one of the ten thematic areas that students can select for their specialised paper.

Curriculum

- Primer in wildlife science
- Population ecology & quantitative methods
- Habitat ecology
- Wildlife ecology and conservation biology
- Wildlife health and population management
- Applied wildlife science
- Specialised paper in any one of the five thematic areas: high altitude ecology/wetland ecology/conservation genetics/landscape ecology/global warming and climate change
- Specialised paper in any one of the five thematic areas: wildlife forensics/coastal and marine management/environment impact assessment/human dimensions in wildlife management/wildlife health management
- Research design and development of pre-proposal

Thematic focus

- Coastal Disasters and Climate Change
- Eco-development in and around PAs
- Environment Impact Assessment
- Human-Wildlife Interface
- Monitoring and Evaluation of Biodiversity
- Protected Area Management & Governance
- Wildlife Health Management

Training Methods Applied

Assignments | Dissertation/ Research Project | Field Tours | Seminars | Theory Sessions

The conservation of India's biological diversity depends critically on sound professional management of significant wildlands and wild populations in the future. The goal of this program is to produce practicing wildlife conservation professionals who can actively promote science-based decision making for the conservation of wildlife and wildlands in India. The M.Sc. Program in Wildlife Biology and Conservation, which started in 2004 with the goal of producing future leaders in wildlife research and conservation, is a joint venture between the Centre for Wildlife Studies (CWS), an NGO and the National Centre for Biological Sciences (NCBS), a research institution of the Tata Institutes with the degree being awarded by TIFR. Other institutions which make significant academic contributions to the course include Ashoka Trust for Research in Ecology and the Environment, Nature Conservation Foundation and National Institute of Advanced Studies. The programme is funded largely by the Wildlife Conservation Society (WCS) and includes a field based course in marine ecology. A decade into the course, it has produced 60 alumni, 56 of whom are presently engaged in conservation research across 25 states of India. This group has also produced 120 publications, accounting for nearly 25% of publications in this field from India in the last decade. With faculty drawn from many institutions, the course continues to draw excellent students from across India.

Curriculum

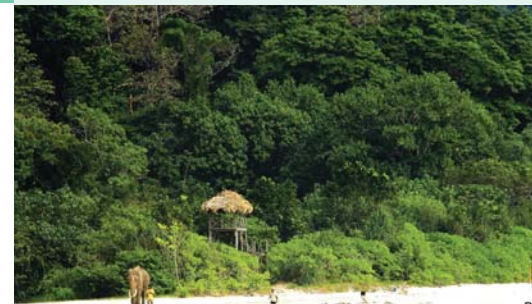
- Foundation courses in ecology, evolution, statistics
- Advanced courses in population ecology, conservation biology, behavioral ecology, species interactions
- Specialised courses in the historical, social and economic framework of conservation
- Intensive field courses exposing students to methodologies in ecology and conservation practice
- Interactions between students and conservation scientists, practitioners, law-makers, policy makers and NGO's

Thematic focus

- Coastal and Marine Biodiversity
- Conservation Biology
- Conservation Practice
- General Ecology
- Monitoring and Evaluation of Biodiversity
- Protected Area Governance
- Protected Area Management
- Wildlife Biology and Management

Training Methods Applied

Assignment | Dissertation/Research Project | Field Tours | Group Work | Participant's Presentations | Seminars



Course coordinator
Ms. Chandni Gurusrikar

National Centre for Biological Sciences,
Tata Institute of Fundamental Research
GKVK Campus, Bangalore - 560065, India

T +91-08023666414
E mscwildlife@ncbs.res.in
W http://www.ncbs.res.in/msc_program

2 years duration

Conducted once every 2 years

Full time with mandatory presence

15 Seats

Selection via Exam and Interview

M.Sc. awarded

For Students from any undergraduate background

Postgraduate Diploma



Coordinator
Dr. P. K. Mathur
Dean, Faculty of Wildlife Science

Wildlife Institute of India
P.O. Box 18, Chandrabani, Dehradun - 248006,
Uttarakhand, India

T +91-135-2640304
E dean@wii.gov.in
W http://www.wii.gov.in/post_graduate_diploma

For in-service forest officers (ACF and DCF Level) and equivalent

10 months duration

Conducted once a year

Full time with mandatory presence

20 Seats

Selection via nominations sent by states/countries/
conservation agencies

Diploma awarded

It is globally recognised that biological diversity can be conserved through the establishment and management of Protected Areas (PAs). It is also important that such PAs are managed as a component of the landscape complex in which it is located. The management of a protected area network, therefore requires personnel with appropriate knowledge and skills in managing the wilderness areas along with all associated external factors operating on it. The programme's objective is to develop a pool of professionals with requisite ability to manage protected area systems. The participants are now exposed to theory, concepts, planning, and best practices relevant to landscape approach to conservation.

Curriculum

- Conservation biology
- Tools and techniques for conserving wildlife
- Advanced wildlife management practices
- Integrated wildlife management planning

Thematic focus

- Coastal Disasters and Climate Change
- Conservation Education, Nature Interpretation, and Visitor Management
- Eco-development in and around PAs
- Environment Impact Assessment
- Human-Wildlife Interface
- Landscape Approach to Conservation
- Monitoring and Evaluation of Biodiversity
- Policies in Biodiversity Conservation
- Protected Area Management
- Protected Area Governance
- Wildlife Forensics and Law Enforcement
- Wildlife Health Management

Training Methods Applied

Assignments | Field Tours | Preparation of Management/Landscape Plan | Seminars | Term Paper | Theory Sessions

Participant's geographical affiliation: All India / SAARC Countries





A close-up photograph of mangrove plants, showing numerous dark, woody stems and vibrant green, oval-shaped leaves. The plants are densely packed, creating a textured background. A semi-transparent white banner is overlaid on the right side of the image, containing the text 'PROFESSIONAL COURSES'.

**PROFESSIONAL
COURSES**





The training programme is an introduction to the use of Geographic Information System (GIS) and Remote Sensing for effective coastal and marine habitat management such as, mangroves, coral reefs etc. This course aims at creating awareness among the coastal stakeholders on the use of scientific tools and techniques available for better management of coastal resources and critical habitats. Apart from lectures delivered by experts, the training programme includes extensive practical sessions, wherein, trainees will be taught to work independently on GIS and Image Processing software. Both open source (QGIS, MapWindow) and Commercial GIS (ARCGIS) and Image Processing software are used in the practical sessions. Field data collection using GPS and field survey techniques are taught during a one day field trip. Along with an introduction to coastal biodiversity and ecosystems, the training programme deals with data collection, development of a spatial database in GIS, analysis of data and deriving information for management purposes using case studies developed for critical habitats such as Pichavaram, Gulf of Mannar, Andaman and Nicobar islands etc.

Curriculum

- GIS – concepts and applications
- Introduction to remote sensing
- Coastal critical habitats
- Geographic data models
- Application of GIS in integrated coastal and marine area management
- Application of GIS in critical habitat management
- Development of GIS database for coastal critical habitats
- Case studies: Pichavaram mangroves, Gulf of Mannar
- Field data collection

Thematic focus

- Coastal Disasters
- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Integrated Coastal Zone Management
- Legal Aspects of Coastal and Marine Protected Areas
- Management Effectiveness of Coastal and Marine Protected Areas
- Protected Area Management
- Sustainable Fisheries Management

Training Methods Applied

Lectures | Field Tours | Software Practicals/Laboratory Practice | Participant's Presentations



Coordinator

Dr. Tune Usha

Scientist-E, Group Head - Training

National Institute of Ocean Technology Campus,
Velacherry- Tambaram Main Road, Pallikaranai,
Chennai - 601302, India

T +91-044-66783587

E usha@icmam.gov.in

W <http://icmam.gov.in>

For officials from the various Departments of the Central and State Government, Lecturers, Research Scholars and Students who are working in various fields on Coastal Zone Management

5 days duration with possibility of extension

Conducted once a year

Full time with mandatory presence

20–25 Seats

Selection by nominations by the State Department, Research Institutes, Universities

Certificate of Participation awarded



Biodiversity



As part of the overall Human Resource Development programme of ICFRE, the course involves trainings for scientific and managerial cadre on:

1. Biodiversity assessment, conservation and development
2. Forest Certification
3. Economics & marketing of forest produce

Coordinator
Dr. Renu Singh
ADG (Education & Policy Research)

Indian Council of Forestry Research & Education
PO- New Forest, FRI Campus,
Dehradun - 248006, Uttarakhand, India

T 0135-2758348/ 0135-2224850
E renusingh@icfre.org
W <http://www.icfre.org>

1 week duration

Conducted once a year

Full time with mandatory presence

20 Seats

Selection via nomination

Certificate awarded

For senior management, senior technical/ scientific staff, field staff, biodiversity specialists, and overall forest sector

Curriculum

- Biodiversity of India
- Tools of sustainable management, assessment and monitoring of biodiversity
- Biodiversity and protected area management
- Impacts of climate change
- Ecology and environment management
- Forest certification in India
- Forest certification schemes
- Marketing, economics of forest produce
- Livelihood issues and biodiversity
- Demand and supply issues

Thematic focus

- Climate Change
- Coastal and Marine Biodiversity
- Legal Aspects of Coastal and Marine Protected Areas
- Management Effectiveness of Coastal and Marine Protected Areas
- Monitoring and Evaluation of Biodiversity
- Protected Area Management

Training Methods Applied

Field Tours | Group Work | Laboratory Practice | Participant's Presentations

The main objectives of the Certificate Course in Wildlife Management is to provide understanding and knowledge on modern concepts in wildlife management; an insight into relevant conservation policies and legislation and their enforcement mechanism at Global, Regional, National, State and Local Level. Other objectives are to provide hands-on experience and training in use of modern scientific methods, techniques and tools that are required for assessment and monitoring of conservation goals; to develop skills for scientific wildlife management planning including eco-tourism and finally, to develop skills for resolving human wildlife conflict including capture, care and management of stray animals.

Curriculum

- Wildlife species and habitats
- Population estimation
- Remote sensing and GIS
- Wildlife management (human wildlife conflict including capture and restraint, wildlife health management, habitat management, law enforcement and monitoring, ex-situ conservation and management, communities and outreach)

Thematic focus

- Coastal Disasters and Climate Change
- Conservation Education and Visitor Management
- Eco-development in and around PAs
- Environment Impact Assessment
- Human-Wildlife Interface
- Management Planning
- Monitoring and Evaluation of Biodiversity
- Policies in Biodiversity Conservation
- Protected Area Management
- Protected Area Governance
- Wildlife Forensics and Law Enforcement
- Wildlife Health Management

Training Methods Applied

Assignments | Class Room Teaching | Field Tours and Demonstrations | Seminars



Coordinator

Dr. P. K. Mathur

Dean, Faculty of Wildlife Science

Wildlife Institute of India

P.O. Box 18, Chandrabani, Dehradun - 248006,
Uttarakhand, India

T +91-135-2640304

E dean@wii.gov.in

W http://www.wii.gov.in/certificated_course

For in-service forest officers at the Rank of Range Forest Officer and equivalent

3 months duration

Conducted on regular basis

Full time with mandatory presence

20 Seats

Selection via nominations by states/countries/conservation agencies

Certificate awarded



Coordinator
Professor S.B. Roy
Chairman

Indian Institute of Bio-Social Research and Development (IBRAD)

Prafulla Kanan, V.I.P. Road, Kestopur,
Kolkata - 700101, West Bengal, India

T +91(33)6621-0320 F +91(33)6621-0300
E sbroy_chairman@yahoo.com
W www.ibradindia.org

For decision-makers, senior technical/scientific and field staff from overall forest and environment sector

2 weeks duration

Conducted four times a year

Full time with mandatory presence

20 Seats

Selection by Interview with preference to candidates with experience in working in coastal areas

Certificate of Participation awarded

The marine and estuarine compartment sustains a wide spectrum of biotic and abiotic resources. These resources are gradually depleting due to sea level rise, alteration of temperature, salinity and gradual acidification of coastal waters that are directly related to rise of carbon dioxide in recent times. On this background, the present course aims to orient the coastal village community, researchers and students to understand the threats related to climate change and its mitigation. This course can serve the purpose of building capacity of different stakeholders on climate change mitigation and adaptation.

Curriculum

- Climate change: Natural & anthropogenic causes
- Acidification of coastal waters: cause and effect
- Effect of climate change on estuarine/ coastal plankton
- Effect of climate change on coastal fishery
- Effect of climate change on human health
- Blue carbon: An overview
- Carbon sequestration by coastal vegetation
- Case studies of carbon sequestration by mangroves
- Alternative livelihood for coastal population

Thematic focus

- Blue Carbon Documentation
- Climate Change
- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Monitoring and Evaluation of Biodiversity
- Protected Area Management

Training Methods Applied

Assignment | Field Tours | Participant's Presentations

The ever increasing emission of carbon dioxide due to rapid industrialisation, urbanisation, unplanned tourism and gross alteration of land use pattern is causing unprecedented changes to the terrestrial and marine biodiversity. Irrespective of political philosophy, nation, caste, creed, sex and religion, mankind is under the appalling shadow of climate change. Today, nature-based approaches for the mitigation of climate change are increasingly accepted as part of the low-cost solution. Thrust has been given by several scientific communities to assess the magnitude and viability of carbon sequestering potential of plants. Coastal producer communities like mangroves, salt marsh grass ecosystem, seagrass beds and seaweeds absorb atmospheric carbon dioxide during the process of photosynthesis. This carbon known as the 'blue carbon' is thus associated with the marine and estuarine ecosystems. Preventing degradation, destruction and promoting restoration of coastal ecosystems are important approaches that can mitigate climate change. The coastal ecosystems, river mouths, estuaries and bays sustaining mangroves, tidal marshes, seagrasses and seaweed beds are some of the most rapidly disappearing natural systems of the blue planet. When lost or destroyed, they not only shut down the process of sequestering carbon, but also release their deposits of carbon and become new sources of carbon emissions which can last for centuries. Recent scientific syntheses have placed the global total estimated emissions from degraded and converted coastal wetlands each year at between 300 and 900 million tonnes of carbon dioxide. The signatures of degradation and conversion of coastal wetlands have been clearly documented through the technology of remote sensing. Very few scientific studies on the carbon stored in these valuable natural vaults have been performed, and no data bank is available on their carbon sequestering capacity on global basis.

Curriculum

- Marine and estuarine environment: An overview
- Biodiversity of the blue soup
- Carbon pool in coastal vegetation
- Carbon sequestration by mangrove vegetation
- Carbon sequestration by mangrove soil
- Carbon stock in seagrass and saltmarsh grass community
- Carbon storage by seaweeds
- Triggering phytoplankton through iron fertilization: Looking beyond open ocean
- Carbon stock in molluscan community
- Shoreline changes and its impact on biodiversity
- Policy issues relating to conservation of coastal ecosystems

Thematic focus

- Climate Change
- Coastal Disasters
- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Legal Aspects of Coastal and Marine Protected Areas
- Management Effectiveness of Coastal and Marine Protected Areas
- Monitoring and Evaluation of Biodiversity
- Protected Area Management
- Sustainable Fisheries Management

Training Methods Applied

Participant's Presentations

Participant's geographical affiliation: All India



*Assistant Professor
Dr. Kakoli Banerjee
Senior Programme Coordinator - Director's Office*

Centre for Biodiversity & Conservation of Natural Resources,
Central University of Orissa, Landiguda,
Koraput – 764020, India

T +91-9433305844
E banerjee.kakoli@yahoo.com
W <http://www.cuo.ac.in>

5 days

Conducted 3 times in a year (Jan, May, Sept)

Full time with mandatory presence

10 Seats

Selection via portfolio and interview

Certificate awarded

For decision-makers, senior management, senior technical/scientific and field staff, overall forest, environment, biodiversity, remote sensing and GIS and marine science and oceanography sector



Coastal and Marine Biodiversity (Planned)

There is a proposal to organise a 3-4 days module on 'Coastal and Marine Biodiversity'. The objective is to sensitise the IFS probationers about the importance of coastal and marine biodiversity, issues related to conservation and management of sustainable livelihood of the communities living around coastal areas.



Coordinator
Dr. Alok Saxena, IFS
Additional Director

Indira Gandhi National Forest Academy
New Forest P.O., Dehradun - 248006
Uttarakhand, India

T +91(94)12053119
E dr_aloksaxena@rediffmail.com
W www.ignfa.gov.in

For IFS probationers only

3-4 days duration initially and later on longer duration courses will be undertaken

Conducted once a year

Full time with mandatory presence

Curriculum

1.0 Marine and Coastal Aquatic Resources

- 1.1 Understanding the Oceans
- 1.2 The role of tidal cycles in marine ecosystems
- 1.3 Definitions and description of coastal and marine ecosystems, mangroves, sea grass, sea weeds and coral reefs
- 1.4 Coastal and Marine biodiversity (with special reference to marine vertebrates, fishes, reptiles mammals, and plant biodiversity like sea weeds and sea grasses).
- 1.5 Introduction of coastal and marine protected areas

2.0 Ecosystem Approaches

- 2.1 Resource inter-relatedness
- 2.2 Various biotic and abiotic elements of ecosystems and their interrelationships
- 2.3 Balancing needs of different economic and non-economic activities
- 2.4 Migration of marine fauna

3.0 Planning and Management

- 3.1 Challenges and prospects in management of aquatic and marine regions

- 3.2 Managing marine protected areas and non-protected areas, including unique ecosystems like Mangroves and coral reefs.
- 3.3 Participatory approaches (Stakeholder approach)
- 3.4 Managing inter-sectoral conflicts
- 3.5 Environment Impact Assessment
- 3.6 Eco-restoration
- 3.7 Integrated coastal zone management
- 3.8 Coastal ecosystems and Climate change issues
- 3.9 Introduction of marine species recovery plan
- 3.10 Current status of coastal ecosystem management and DRR and CCA in India

4.0 Livelihoods

- 4.1 Sustainable development/wise use of resources
- 4.2 Mainstreaming biodiversity into production processes

5.0 Institutional Aspects

- 5.1 Biodiversity, fisheries, conservation policies
- 5.2 National laws covering biodiversity, fisheries, etc.
- 5.3 International laws (binding and non-binding) concerning biodiversity, fisheries, Law of the Sea

Thematic focus

- Climate Change
- Coastal Disasters and Livelihood
- Coastal and Marine Biodiversity
- Legal Aspects of Coastal and Marine Protected Areas
- Marine Invasives
- Media Reporting on Coastal and Marine Biodiversity Issues
- Monitoring and Evaluation of Biodiversity
- Protected Area Governance
- Protected Area Management
- Sustainable Fisheries Management

Training Methods Applied

A mix of lectures, case studies and if possible field visits are proposed.

Under the Coastal Area Mapping Project (CAMP) four different trainings are offered for communities and NGOs. They include Participatory and Community GIS - GIS for Empowered Actions and Result (GEAR), Community Beach Profiling, Coastal Zone Management Plan (CZMP) and CRZ, as well as, WebGIS and Crowd Sourcing of Data. The project uses demystified science and technology with rigour to document, analyse and challenge the current paradigm of unsustainable coastal development. It works with communities on establishing a beach monitoring system for the coast which is managed by them, transforms field level activities through learning-in-action, builds capacities and stimulates critical and pattern thinking capabilities for the parties and local communities in order to become self-sufficient in creating effective strategies and solutions for a sustainable coastline and builds leadership capacities such that members from the parties and the communities can source their full potential for stewardship of coastal commons.

Curriculum

- Use of GIS for Empowerment, Action and Results (GEAR) to create Village Development plans under Coastal Zone Management Plan (CZMP)
- Mapping Common Property Resources on Coastal Land and Water, Hotspots, Habitats and Vulnerable Areas. Mapping and documenting Erosion along Shoreline. Counter mapping and ground truth verification with communities
- Building a Community Information System based on Village Knowledge Resource Centres for transparency, availability, accessibility and usage of all information by community
- Organisation of fish workers into Unions to strengthen spaces for dialogue and reflections about work, employment and social issues

Thematic focus

- Coastal Regulation Zone (CRZ)
- Coastal Zone Management Plan (CZMP)
- Geographic Information System (GIS)
- Participatory Rural Appraisal (PRA)

Training Methods Applied

Assignments | Co-Creation of Practicum | Field Tours | Group Work | Laboratory Practice | Participant's Presentations | Peer Learning | Role Play/Simulation | Seminars



Coordinator
Mr. Sudarshan Rodríguez
Senior Programme Coordinator - Director's Office

Tata Institute of Social Sciences (TISS)
Coastal Area Mapping Project
V.N. Purav Marg, Deonar, Mumbai - 400088, India

T +91-9310442441
E sudarshan@tiss.edu
W www.tiss.edu; camp.tiss.edu

For overall environment sector, communities, NGOs and young professionals

2 months - 1 year duration

Distance Learning Mode and Learning in Action Mode

Coastal and Marine Research Expeditions



Coordinator

Dr. Pradeep Mehta

Research & Programme Manager

Earthwatch Institute India

Augusta Point (Level 4), Golf Course Road,
Sector 53, Gurgaon - 122001, Haryana, India

T +91-124-4354248

E pmehta@earthwatch.org.in

W <http://in.earthwatch.org/expeditions/expedition-search>

For any interested stakeholder, students, educators, media,
communities

3-5 days duration

Conducted on demand

Full time with mandatory presence and part-time distance
learning

12-15 Seats

Selection via nomination through a proposing organisation

Citizen Science/Training (Certificate of Participation awarded)

Earthwatch Institute India plans to offer a Coastal Expedition to give exposure to students, educators, media and communities on issues related to coastal and marine biodiversity. The objective would be to facilitate experiential learning on coastal and marine biodiversity management issues for the faculty and experts from the forest, fisheries and media sectors in India. It is expected that the expedition will facilitate, among the participants, an enhanced understanding and appreciation of coastal and marine biodiversity, coastal livelihoods, and fisheries management issues. This will be achieved by creating opportunities for the participants to not only engage in conceptual discussions on coastal and marine biodiversity management relevant issues, but also gain hands-on experience of methods and procedures for assessing and monitoring coastal and marine biodiversity elements.

Curriculum

- Understanding of coastal and marine biodiversity and ecosystem services
- Challenges in coastal and marine areas from a cross-sector perspective
- Field exposure to understand issues related to coastal and marine
- Hands-on experience in collection of data in ongoing project/programme
- Personal action to be taken

Thematic focus

- Climate Change
- Coastal Disasters and Livelihoods
- Coastal and Marine Biodiversity
- Legal Aspects of Coastal and Marine Protected Areas
- Management Effectiveness of Coastal and Marine Protected Areas
- Marine Invasives
- Media Reporting on Coastal and Marine Biodiversity Issues
- Monitoring and Evaluation of Biodiversity
- Protected Area Governance
- Protected Area Management
- Sustainable Fisheries Management

Training Methods Applied

Assignment | Field Tours | Group Work | Laboratory Practice | Participant's Presentations | Role Play/ Simulation

Coastal Regulation Zone (CRZ), 2011, is important for all stakeholders who belong to the coastal area or who are involved in activities affecting the coast. Therefore, orientation is necessary for these stakeholders in order to support them to implement CRZ effectively. Gujarat Ecology Commission (GEC) has conducted 7 different trainings, covering 359 district level government officials. Presently, as a part of the project these courses are offered free of cost. However, after project expiration, course fees might have to be raised. GEC examines the proposals for conducting this training as submitted by the institution/organisation, and conducts the training for the selected institutions/organisations as and when required.

Curriculum

- Various clauses of the notification
- Applicability of notification
- Institutional mechanism
- Implementation

Thematic focus

- Coastal Disasters
- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Legal Aspects of Coastal and Marine Protected Areas
- Management Effectiveness of Coastal and Marine Protected Areas
- Media Reporting on Coastal and Marine Biodiversity Issues
- Monitoring and Evaluation of Biodiversity
- Protected Area Governance
- Protected Area Management
- Sustainable Fisheries Management

Training Methods Applied

Assignment | Field Tours | Group Work | Participant's Presentations | Seminars



Member Secretary
Dr. A.K. Verma, IFS

Gujarat Ecology Commission, Government of Gujarat
Block No. 18, 1st Floor, Udyog Bhavan, Sector 11,
Gandhinagar - 382011, Gujarat, India

T (079) 23257656/23257658
F (079) 23257657
E mail@gecicomp.com
W <http://www.gec.gujarat.gov.in>

For all stakeholders of the coastal area, decision-makers, senior management, senior technical/scientific staff, field staff, biodiversity specialists, overall forest and environment sector

1-2 days duration but is designed on demand

Conducted on a regular basis

Full time with mandatory presence

20-25 Seats for the training programmes and according to need for the workshops and seminars

Admission via nomination by the institution/organisation

Certificate of Participation awarded



Coral Rehabilitation Techniques



Director
Dr. J.K. Patterson Edward

Suganthi Devadason Marine
Research Institute (SDMRI)
44-Beach Road, Tuticorin - 628001,
Tamil Nadu, India

T +91-(0)461-2336488, 2323007, F 0461 - 2325692
E edwardjkpatterson@sdmri.in
W <http://www.sdmri.in/>

For decision-makers, senior management, senior technical/
scientific and field staff, biodiversity specialists, overall forest and
environment sector, community stakeholders

7 days duration

Conducted on request

Full time with mandatory presence

5 Seats

For selection, a person must be a science graduate and a certified
Open Water Diver

Certificate awarded

Coral rehabilitation is a viable management tool to conserve coral reefs. It helps to support natural recruitment process; to restore / increase reef cover, particularly in the degraded area; and to conserve and enhance threatened / endangered coral species.

Curriculum

Unit - 1

Corals and coral reefs – Introduction, ecology and biology;
Reef decline – Natural and human induced factors; Gulf of
Mannar – Introduction, diversity and status; Local reef area
orientation dive

Unit - 2

Coral rehabilitation – Definition, benefits, types, techniques,
global status; Ecological and economic feasibility; Dive in
already rehabilitated area

Unit - 3

Site selection and baseline data collection; Species selection;
Post restoration monitoring - parameters and techniques

Unit - 4

Artificial substrates – construction, transportation and
deployment; Collection and transportation of fragments
from the donor colonies; Transplantation dive

Unit - 5

Monitoring of rehabilitated sites – Survival, growth, benthic
assemblages, fish population, sedimentation, physico-
chemical parameters etc.

Thematic focus

- Climate Change
- Coastal Ecosystem Rehabilitation
- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Management Effectiveness of Coastal and Marine Protected Areas
- Marine invasives
- Monitoring and Evaluation of Biodiversity
- Protected Area Management
- SCUBA diving

Training Methods Applied

Demonstration in Swimming Pool and Sea Dives | Field Tours | Group Work | Lecture | Participant's Presentations

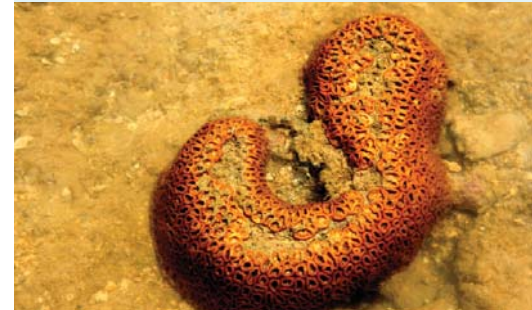
Under the ICZM Project, transplantation of coral is one of the most important components. In the Gulf of Kachchh, GEC has transplanted corals with the help of Gujarat Ecological Education and Research (GEER) Foundation and Marine National Park, Jamnagar. GEC provides experts on coral and marine issues and is also developing knowledge benchmarks for the methodology of coral transplantation. GEC examines the proposals for conducting this training as submitted by the institution/organisation, and conducts the training for the selected institutions/organisations as and when required. Since this is a new concept particularly for West Coast of India, it is essential to train coastal manager and authorities, as well as, ground staff in coral transplantation. This training will help the person involved in the coral transplantation related activities to improve its success and will enable managers to effectively monitor transplantation related activities.

Curriculum

- Site Selection
- Feasibility
- Identification of donor colony
- Nursery Preparation
- Transplantation

Thematic focus

- Climate Change
- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Monitoring and Evaluation of Biodiversity
- Protected Area Governance
- Protected Area Management



Member Secretary
Dr. A.K. Verma, IFS

Gujarat Ecology Commission, Government of Gujarat
Block No. 18, 1st Floor, Udyog Bhavan, Sector 11,
Gandhinagar - 382011, Gujarat, India

T (079) 23257656/23257658
F (079) 23257657
E mail@geciczm.com
W <http://www.gec.gujarat.gov.in>

For all relevant stakeholders of the coastal area, decision-makers, senior management, senior technical/scientific staff, field staff, biodiversity specialists, overall forest and environment sector

1-2 days duration but is designed on demand

Conducted on a regular basis

Full time with mandatory presence

20-25 Seats for the training programme and 5-10 Seats for exposure visit, and as per need for the workshops and seminars

Admission via nomination by the institution/organisation

Certificate of Participation awarded

Training Methods Applied

Assignment | Field Tours | Group Work | Laboratory Practice | Participant's Presentations | Role Play/ Simulation | Seminars



National Centre for Good Governance (NCGG) is engaging with State Administrative Training Institute to train State Civil Service Officers on Climate Change & Environment issues. Various climate change topics have been structured for different training phases at LBSNAA. The courses offered are mandatory for Civil Service Officers at various stages of their career. The Centre for Climate Change and Environment at the NCGG is supported by UNDP India. Subject matter experts from UNDP India also deliver lectures at the LBSNAA on climate change.

Coordinator
Dr. B.S.Bisht

Director General
Shri Kush Verma, IAS

Branch Office:
National Centre for Good
Governance
(An Autonomous
Organisation of DoPT,
Government of India)
Cozy Nook-L.B.S.
National Academy of
Administration,
Mussoorie - 248179

Head Office:
Block IV, 4th Floor,
Old JNU Campus
New Mehrauli Road,
New Delhi - 110030

T +91-135-2632485
E vermak@ias.nic.in
W [www.lbsnaa.gov.in/
home](http://www.lbsnaa.gov.in/home)

For decision-makers, Probationary Civil Service Officers for FC and Phase I&II and for In-Service officers for Phase III-V

Conducted once a year, for FC and Phase I - V & Twice a year for Induction course

Full time with mandatory presence

170 Seats for officer trainees (depends on batch strength)

Selection via competitive civil service exams administered by the Union Public Service Commission

No award

Curriculum

- Vulnerability assessment & climate change adaptation
- Disaster risk reduction
- Coastal zone management
- Domestic environmental laws and international agreements/ treaties related to protection of ecosystems (including coastal and wetlands)
- MGREGA and IWRM integration with climate change policies/ strategies

Thematic focus

- Climate Change
- Coastal Disasters
- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Legal Aspects of Coastal and Marine Protected Areas

Training Methods Applied

Seminars | Classroom Lectures

There is a perceived need to complement the theory-based academic courses with formal field training for the post graduates in coastal and marine sciences in India. In this context, the course provides the post graduates with hands-on training in field techniques which make them employable in a competitive manner. Through its four field stations, namely, Gulf of Kutch (Gujarat), Ratnagiri (Maharashtra), Agatti (Lakshadweep) and Port Blair (Andaman), field sessions are organised. With full-fledged SCUBA unit, BNHS also undertakes sub-tidal habitat monitoring training. Ongoing BNHS programmes such as, mangrove eco-restoration, project giant clam, assessment of intertidal fauna and independent impact assessment studies of large developmental projects provide space for field modules under the supervision of highly qualified faculty.

Curriculum

- Understanding coastal and marine biodiversity
- Rapid habitat monitoring and assessment tools
- On-site marine crime investigation
- Role of communities in conservation
- Coastal development and impact on coastal and marine biodiversity and livelihoods
- Statistical analysis
- Basics of classical marine taxonomy, bioinformatics and DNA
- Mangrove eco restoration
- Laws and legislations

Thematic focus

- Climate Change
- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Legal Aspects of Coastal and Marine Protected Areas
- Media Reporting on Coastal and Marine Biodiversity Issues
- Monitoring and Evaluation of Biodiversity

Training Methods Applied

Assignment | Field Tours | Laboratory Practice | Participant's Presentations



Chief Operating Officer
Dr. Deepak Apte

Bombay Natural History Society
Hornbill House, S.B. Singh Road
Mumbai – 400001, Maharashtra, India

T +91-022-22821811
E spiderconch@gmail.com
W <http://www.bnhs.org>

6 weeks duration spread over six months

Conducted once in 2 years

Full time distance learning with some presence requirements

10 Seats

Selection via portfolio and interview

Certificate awarded

For fresh graduate and post graduate students of both biology and social studies



Coordinator

*Ms. Ramya Rajagopalan
Executive Trustee, ICSF Trust*

International Collective in Support of
Fishworkers (ICSF)
27, College Road, Chennai - 600006, India

T +91(44)2827-5303

E icsf@icsf.net

W sites.google.com/site/icsftrainingprogramme

For local community representatives and fishing communities

5 days duration

Conducted at least once a year (based on demand by
fishworker organisations)

Full time with mandatory presence

30 Seats

Selection via portfolio

No award

ICSF believes in empowering fishing communities with information. Its first training programme in 2003 was designed for fishing communities in South and Southeast Asia, focusing on the various important legal instruments (international, national and regional) that are of relevance to fishing communities including trade, human rights, resource management. Subsequently, ICSF has had two regional training programmes-one in Asia, and another in Central America, and 6 local national level training programmes in India (Gulf of Mannar, Sundarbans, Myanmar, Bangladesh, Thailand, and Indonesia). Besides this local training programmes are organised in India, to empower people with information on the legal developments and on coastal management. There are training modules and guideline books developed specifically for these purposes. ICSF uses the support of research institutes in certain cases to act as resource persons as well.

Curriculum

- Ecosystem approach to fisheries
- Resource management
- Coastal zone management
- Labour issues in fisheries
- Trade aspects

Thematic focus

- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Legal Aspects of Coastal and Marine Protected Areas
- Management Effectiveness of Coastal and Marine Protected Areas
- Sustainable Fisheries Management

Training Methods Applied

Field Tours | Group Work | Participant's Presentations | Role Play/ Simulation

This course is offered as an international ‘citizenship for sustainability’ partnership programme between Indian schools and schools participating from other countries pairing up to exchange information and project experiences on marine and coastal sustainability aspects amongst them. Currently, schools in Gujarat are partnered with schools in Australia. The course is offered in the form of a school project to interested schools from coastal areas in order to train their students towards competencies of Global Citizenships and sustainability aspects through a customised 7 step *learning journey*. The project also ensures essential learning about marine biodiversity/ ecosystem, motivating students to address sustainability concerns of their local coastal communities. The GCS Website interface provides interactive opportunities, web-base resources and project management support. Launched during the United Nation Decade of Education for Sustainable Development (UNDESD), the project is recognised by UNESCO, CBD, Mangroves for Future (MFF), Government of Gujarat and Ministry of Environment, Forests and Climate Change (MoEFCC). It also conforms to the priority action areas of the UN Secretary General - Global Education First Initiative (GEFI).

Curriculum

- Orientation to global citizenship for sustainability concept and approach
- Project based learnings – experiences and learning opportunity for teachers, educators
- ‘Learning journey’ – steps towards undertaking sustainability projects in coastal / marine areas
- Project support, using website, interactions with international GCS partners

Thematic focus

- Coastal and Marine Biodiversity
- Sustainability and Global Citizenship Education
- Climate Change
- Monitoring and Evaluation of Biodiversity

Training Methods Applied

Dissertation/ Research Project | Field Tours | Group Work | Participant’s Presentations | Laboratory Practice | Web-based interactions and sharing of experience



Coordinator
Dr. Shriji Kurup

Centre for Environment Education
Thaltej Tekra, Ahmedabad - 380054
Gujarat, India

T 079 - 26858002 to 09 | **M** +91 - 9442541513
E shriji.kurup@ceeindia.org /
parvavaranmitra@ceeindia.org
W <http://www.ceeindia.org>

For school students and teachers

1 year duration (School project)

Conducted once a year at the beginning of the school academic year but enrolment is possible anytime

On site training - at school

5-6 students and related teachers

Any interested school in coastal area in India may seek for enrolment for the programme

Certificate of Participation awarded



Integrated Coastal Management Course



The Mangroves for the Future (MFF) regional initiative is jointly implemented by IUCN and UNDP in ten countries across Asia. The MFF Secretariat is hosted in the IUCN Asia regional office in Bangkok. MFF in partnership with the Asian Institute of Technology (AIT) and the Bay of Bengal Large Marine Ecosystem Project (BOBLME) offer annually a Postgraduate Certificate Course on Integrated Coastal Management (ICM). The course is part of the commitment by MFF, AIT and BOBLME to address the growing need for qualified coastal practitioners. The course aims to build a strong cadre of coastal managers and policy makers with the knowledge, tools and skills to design and implement sustainable ICM programmes for countries in the Asia region, and is designed for practitioners and managers in sectors relevant to coastal zone management who need to learn both the principles and practical tools for effective coastal zone management. National experts shortlisted by the MFF's National Coordinating Body are fully funded by the MFF regional initiative.

MFF Capacity Development
Manager/Course focal point,

IUCN Bangkok
Ms. Maeve Nightingale
IUCN Asia Regional Office
63, Soi Prompong, Sukhumvit
Soi 39, Wattana,
Bangkok - 10110, Thailand

E maeve.nightingale@iucn.org
W www.mangrovesforthefuture.org

India country focal point
Dr. N M Ishwar

Mangroves for the Future - India
Coordinator
IUCN India Country Office
B 88, Neeti Bagh,
New Delhi - 110049, India

T +91 11 2652 7742/ +91 11
4605 2583
E nm.ishwar@iucn.org
W www.mangrovesforthefuture.org

For decision-makers, senior-management, senior technical/
scientific and field staff from overall environment sector

6 weeks duration (residential course)

Conducted annually August/September at AIT, Bangkok
Thailand

Full time with mandatory presence

25 Seats

Selection via nomination of National Coordinating Body of
each MFF country

30 Diploma Certificate awarded by AIT

Curriculum

- Marine and coastal ecosystems
- Principles of ICM
- Tools for ICM
- Project design, evaluation and management

Thematic focus

- Climate Change
- Coastal Disasters
- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Legal Aspects of Coastal and Marine Protected Areas
- Management Effectiveness of Coastal and Marine Protected Areas
- Monitoring and Evaluation of Biodiversity
- Protected Area Governance
- Protected Area Management
- Sustainable Fisheries Management

Training Methods Applied

Assignment | Dissertation/ Research project | Field Tours | Group Work | Participant's Presentations

Participant's geographical affiliation: MFF countries (India, Indonesia, Maldives, Pakistan, Seychelles, Sri Lanka, Thailand, Vietnam, Bangladesh, Cambodia)

Integrated Coastal Zone Management is essential nowadays considering dependency over coastal areas from various stakeholders. The Gujarat Ecology Commission will train all stakeholders in different aspects of Coastal Zone Management in an integrated manner such as, coastal eco-morphology, coastal process, marine biodiversity management, coastal biodiversity, roles and responsibility of each player, issues and measures, etc.

Curriculum

- Coastal Awareness: Overview of coastal zone management, exclusive economic zone, geological process and coastal geomorphology, coastal erosion, coastal resources and marine biodiversity, importance of coastal resources
- Coastal Governance: CRZ, hazard mapping, disaster management, public grievance mechanism under ICZMP
- Physical Oceanography: Physical process in coastal areas and estuaries, climate change variability and sea level rise
- Remote sensing and GIS for coastal zone management
- Monitoring and impact assessment
- Coastal zone management: Protocol/techniques for biodiversity assessment, assessment of conversion into aquaculture and salt pan, coastal biogeochemical process and marine pollution, sources of marine pollution and mitigation strategies, coastal and estuaries fisheries management, need of involvement of coastal community
- Socio-economic issues of the coastal communities: Empowerment of community by CBO formation, social audit, livelihood options for the coastal community, community procurement, etc.

Thematic focus

- Climate Change
- Coastal Disasters
- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Legal aspects of Coastal and Marine Protected Areas
- Management Effectiveness of Coastal and Marine Protected Areas
- Monitoring and Evaluation of Biodiversity
- Protected Area Governance
- Protected Area Management
- Sustainable Fisheries Management

Training Methods Applied

Assignment | Field Tours | Group Work | Participant's Presentations | Seminars



*Member Secretary
Dr. A.K. Verma, IFS*

Gujarat Ecology Commission, Government of Gujarat
Block No. 18, 1st Floor, Udyog Bhavan, Sector 11,
Gandhinagar - 382011, Gujarat, India

T (079) 23257656/23257658
F (079) 23257657
E mail@gecizmp.com
W <http://www.gec.gujarat.gov.in>

For all relevant stakeholders of the coastal area, decision-makers, senior management, senior technical/scientific staff, field staff, biodiversity specialists, overall forest and environment sector

4-5 days duration but is designed on demand

Conducted on a regular basis

Full time with mandatory presence

20-25 Seats for the training programme and 5-10 Seats for exposure visit

Admission via nomination by the institution/organisation

Certificate of Participation awarded

Integrated Coastal Zone Management



Coordinator
Dr. V. Selvam
Director Coastal Systems Research

M. S. Swaminathan Research Foundation
3rd Cross Street, Taramani Institutional Area, Taramani,
Chennai - 600113, India

T +91-(44)-22541229
E vselvam45@hotmail.com
W www.mssrf.org

For senior technical/scientific and field staff, community participation and livelihood overall environment, NGO, biodiversity sector

3 weeks duration

Conducted once in a year

Full time with mandatory presence

30 Seats

Selection via portfolio and nominations

Certificate of Participation awarded

Sustainable management of coastal and marine biodiversity is dependent on intersectoral planning, which takes care of environment, livelihood and other developmental needs in a mutually reinforcing manner. The ICZM training programme provides the participants an overview of the coastal management issues and problems, experiences with the process of coastal management and an integrated approach to problem solving and ICZM plan preparation. The importance of and methodology relating to science-based, community-centred and process-oriented approach for ICZM plan preparation and implementation is explained in details with examples of success stories. The participants get an exposure to some of the tools, techniques and few technologies to study the coastal area and to engage meaningfully with the coastal area stakeholders and to understand the ground realities. The participants are exposed to the above, in the context of the ICZM framework to understand overarching need for integration. Through field work and case studies the participants are provided opportunity to experience the complexity of the ICZM processes.

Curriculum

- Natural and physical processes in the coastal and nearby marine environment
- Social, economic and political processes in the coastal and marine
- Linkages of these processes and their impact on sustainability
- Coastal biodiversity and biological resources
- Climate and coastal resource, biological resources
- ICZM Planning framework
- Participatory techniques and tools
- Participatory management of coastal and marine protected areas
- Policy Governance in ICZM

Thematic focus

- Climate Change
- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Community Participation
- Management Effectiveness of Coastal and Marine Protected Areas
- Protected Area Management

Training Methods Applied

Field Tours | Group Work | Participant's Presentations | Role Play/Simulation | Lecture from experts and interaction with them

Integrated Coastal Zone Management (ICZM) uses a holistic approach in managing resources and activities along the coast. Coastal resources include living and non-living resources and form an important component of the ICZM management philosophy as they provide a variety of ecosystem services and support livelihoods that depend on coastal and marine resources. Currently coastal resources and activities have been managed using a sectoral approach but with the increase in the number of activities, coastal ecosystems are under tremendous pressure. Hence, the ICZM management strategy for sustainable coastal development has a broad and international focus and is worldwide the preferred approach.

Curriculum

- Overview of ICZM
- Identification of coastal issues, resources, activities and conflicts
- Problem tree analysis
- Conflict management
- Building an ICZM plan

Thematic focus

- Climate Change
- Coastal Disasters
- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Coastal Resources, Economics
- Legal Aspects of Coastal and Marine Protected Areas
- Sustainable Fisheries Management



Director
Prof. R. Ramesh

**National Centre for Sustainable
Coastal Management**
Koodal Building, Anna University,
Chennai - 600025, India

T +91-(44)-2230-0108
E rramesh_au@yahoo.com
W <http://ncscm.org/>

For decision-makers, senior management, senior technical/ scientific staff and overall environment sector

5-6 days duration

Conducted once to twice a year

Full time with mandatory presence

20-25 Seats

Selection by deputation from government and other organisations

Certificate awarded

Training Methods Applied

Field Tours | Group Work | Participant's Presentations | Role Play/Simulation | Seminars

Participant's geographical affiliation: All coastal states

Management of Coastal and Marine Biodiversity in India: Challenges and Prospects



Coordinator
Dr. P. K. Mathur
Dean, Faculty of Wildlife Sciences

Wildlife Institute of India
P.O. Box 18, Chandrabani, Dehradun - 248006,
Uttarakhand, India

T +91-135-2640304
E dean@wii.gov.in
W http://www.wii.gov.in/short_term_courses

For IFS officers of all states from overall forest sector

3 days-1 week duration

Conducted once a year

Full time with mandatory presence

20 Seats

Selection via nomination

Certificate awarded

In India, multiple governance frameworks and structures administer the coastal and marine environment. Overlapping jurisdictions, contradictory mandates and limited coordination between multiple agencies result in limited understanding about management of multiple use of coastal and marine areas. Given this scenario, the challenge lies in reconciling livelihood needs and development vis-a-vis conservation. Therefore, this special capacity building course addresses the conservation of coastal and marine biodiversity on issues like effectiveness of administrative, governance, legal frameworks and its support of livelihood enhancement. Other issues are existing and potential threats, current policy and governance challenges, and the role of community in the governance and management of marine protected areas and ecologically sensitive coastal areas. For this course, Wildlife Institute of India partners with MoEFCC, GIZ and State government.

Curriculum

- Integrated management of marine protected areas
- Coastal disaster and climate change
- Mainstreaming production sectors into the biodiversity conservation
- Participatory governance in MPAs management

Thematic focus

- Coastal Livelihoods
- Management Effectiveness of Coastal and Marine Protected Areas
- Monitoring and Evaluation of Biodiversity
- Protected Area Management
- Protected Area Governance

Training Methods Applied

Class Room Teaching | Field Tours | Group Discussion | Panel Discussion

MSSRF has been working on mangrove conservation and management since 1992, associating with a number of stakeholders including local community, research institutions and government agencies. For most of the stakeholders, mangrove management means nothing but managing mangrove forest alone. But mangroves, as a dynamic ecotone between the land and the sea, are controlled by several interacting factors such as tides, quality and quantity of freshwater, sediment influx, topography of the wetland, soil structure and sedimentation pattern, apart from human interactions. These oceanographic, geomorphological, hydrological and biological factors act upon and within mangrove wetland in a complex manner. Understanding these ecological factors are essential for successful management of mangrove wetlands. Secondly, mangrove biodiversity is unique in many ways and possess many uncommon characters and biological processes. Hence, in this course, the participants are oriented to basic ecological forces that act upon and within mangrove wetlands and how these forces determine long term sustainability of amenities and economic benefits provided by the mangrove wetlands. The participants are also provided hands-on training on simple methods to monitor the health and wealth of the mangroves. They are also provided practical training in the field, on using qualitative and quantitative methods to measure mangrove biodiversity and its relationship with ecological factors.

Curriculum

- Biodiversity of mangrove ecosystem
- Biology of mangrove plants and animals
- Oceanographic factors acting on and within mangroves
- Geomorphological and Hydrological factors acting on and within mangroves
- Biological factors acting on and within mangroves
- Restoration ecology
- Climate and mangroves
- Mangrove resources

Thematic focus

- Climate Change
- Coastal Disasters
- Coastal and Marine Biodiversity
- Protected Area Management

Training Methods Applied

Field Tours | Group Work | Laboratory Practice | Participant's Presentations

Participant's geographical affiliation: All coastal states



Coordinator
Dr. V. Selvam
Director Coastal Systems Research

M. S. Swaminathan Research Foundation
3rd Cross Street, Taramani Institutional Area,
Taramani, Chennai - 600113, India

T +91-(44)-22541229
E vselvam45@hotmail.com
W www.mssrf.org

For senior technical/scientific and field staff, NGO representatives, youth from communities, overall forest, environment, marine biology and fisheries sectors

1 week duration

Frequency depends on funding

Full time with mandatory presence

30 Seats

Selection via nominations from institutions including government

Certificate of participation awarded

Mangrove Nursery Development Methods



Coordinator

Dr. G. A. Thivakaran

Senior Principal Scientist

Gujarat Institute of Desert Ecology, PB.No. 83,
Mundra Road, Bhuj - 370001, Gujarat, India

T +91-(0)94274 38803, 02832-329408

E athivakaran028@gmail.com;
guide@gujaratdesertecology.com

W www.gujaratdesertecology.com

For senior technical/scientific and field staff and villagers who are involved in mangrove plantation activities, from overall forest and environment sector, industry managers, NGO members and overall environment sector

3-10 days duration

Conducted twice a year based on demand

Full time with mandatory presence

30 Seats

Selection based on interest and project involvement

Certificate of participation awarded

The short term training course on Mangrove Nursery Development Methods is being conducted to impart practical knowledge to coastal communities and industry participants who are planning to take up mangrove plantation/restoration in a coastal belt in India. The course is purely target oriented and mainly aims to achieve higher and better mangrove survival in the plantation effort. In the majority of cases, the course is being carried out as a part of ongoing projects. The course is being offered based on demand from stakeholders and is free of charge for participants. The course was conceived initially to train coastal villagers and other stakeholders like environmental staff of coastal industries on the necessity and principle of mangrove conservation in general, and plantation in particular. As Gujarat Institute of Desert Ecology is being engaged continuously by several coastal industries of Gujarat for mangrove plantation/restoration activities, it was planned to impart this training to all mangrove stakeholders, especially coastal industries and mangrove dependant coastal communities.

Curriculum

- Criteria for better site selection for good mangrove plantation
- Different techniques of mangrove plantation
- Sapling transplantation method
- Choosing the proper mangrove formation as a source of propagules
- Seed treatment method for better survival
- Post- plantation care
- Social fencing of plantation as a means of protection
- Mangrove restoration techniques

Thematic focus

- Coastal Livelihoods
- Sustainable Fisheries Management
- Mangrove Conservation and Restoration

Training Methods Applied

Field Tours | Role Play / Simulation

Mangroves for the Future (MFF) has supported numerous mangrove restoration activities in MFF member countries. Some projects have contributed significantly in improving coastal ecosystems and livelihoods. Yet many projects have also had disappointing results, often without giving adequate attention to the wider ecosystem and socio-economic impacts of mangrove planting. Based on these learnings, the MFF Regional Steering Committee (RSC) decided that MFF should conduct field-based mangrove restoration training courses, in collaboration with the Sirindhorn International Environmental Park, Thailand. The course is based on the “Call for Action”, an outcome of the Regional Symposium on Mangrove Restoration (Tamil Nadu, September 2012) by the participating countries.

Curriculum

- Mangrove forest structure, restoration and natural generation
- Plant-animal interactions, fisheries and aquaculture
- Education and ecotourism and research
- Integrated coastal planning
- Community livelihoods and post-tsunami recovery
- Mangrove rehabilitation techniques

Thematic focus

- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Legal Aspects of Coastal and Marine Protected Areas
- Management Effectiveness of Coastal and Marine Protected Areas
- Mangrove Restoration Techniques
- Monitoring and Evaluation of Biodiversity
- Protected Area Management

Training Methods Applied

Assignment | Dissertation/ Research project | Field Tours | Group Work | Seminars



MFF Capacity Development
Manager/Course focal point,
IUCN Bangkok
Ms. Maeve Nightingale
IUCN Asia Regional Office
63, Soi Prompong, Sukhumvit
Soi 39, Wattana,
Bangkok - 10110, Thailand
E maeve.nightingale@iucn.org
W www.mangrovesforthefuture.org

India country focal point
Dr. N M Ishwar
Mangroves for the Future - India
Coordinator
IUCN India Country Office
B 88, Neeti Bagh,
New Delhi - 110049, India
T +91 11 2652 7742/ +91 11
4605 2583
E nm.ishwar@iucn.org
W www.mangrovesforthefuture.org

For decision-makers, senior technical/scientific and field staff
from biodiversity, forest and fishery sector

10 days duration

Conducted once a year between August and September

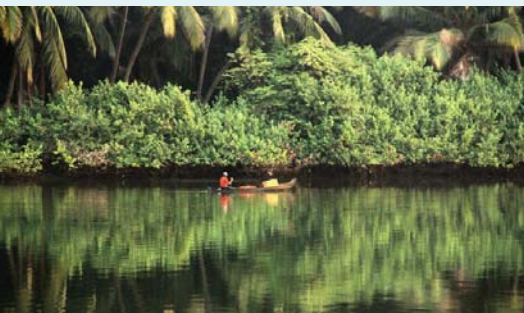
Full time with mandatory presence

25 Seats

Selection via portfolio and recommendations from MFF
National Coordination Bodies

Certificate awarded

Mangrove Restoration and Management



Coordinator
Dr. V. Selvam
Director Coastal Systems Research

M. S. Swaminathan Research Foundation
3rd Cross Street, Taramani Institutional Area, Taramani,
Chennai - 600113, India

T +91-(44)-22541229
E vselvam45@hotmail.com
W www.mssrf.org

For senior technical/scientific and field staff, overall environment,
forest, NGO and private sector

3 days – 3 weeks duration

Frequency depends on funding

Full time with mandatory presence

30 Seats

Selection via portfolio and nominations from institutions including
government

Certificate of participation awarded

Since 1992, MSSRF has been playing a catalytic role in restoring and managing mangrove wetlands of India through participatory analysis and action. MSSRF was the first to understand that mangrove wetlands of India are degraded mainly due to past unscientific management practices, rather than the use of mangrove resources by local community. On the basis of this finding, MSSRF developed and demonstrated mangrove restoration technique, which is replicated in many of the mangrove wetlands of India. On the basis of experiences, MSSRF has developed a science-based, community-centered and process-oriented approach called Joint Mangrove Management approach to restore and sustain mangrove wetlands. This course exposes the participants to the Joint Mangrove Management approach including scientific basis of mangrove restoration, participatory tools and process required for problem analysis and finding solutions and how to engage community to restore and sustain mangrove wetlands. The participants are also provided opportunity to visit mangrove areas that are successfully restored and interact with the community restored and sustain them.

Curriculum

- Mangrove ecology and biology
- Restoration approaches and techniques
- Mangrove nursery development and management
- Planting methods and after care
- Participatory tools and techniques
- Role of village level institutions and micro planning in restoration
- Case studies

Thematic focus

- Climate Change
- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Management Effectiveness of Coastal and Marine Protected Areas
- Protected Area Management
- Restoration Ecology

Training Methods Applied

Field Tours | Group Work | Participant's Presentations | Role Play /Simulation

Participant's geographical affiliation: All coastal states

Since the year 2010-11, a one-week training programme for the frontline staff of Marine National Park & Sanctuary (MNP&S), Gujarat Forest Department has been developed and conducted, organised jointly by Gujarat Ecological Education and Research Foundation and MNP&S, Gujarat on “Marine & Coastal Biodiversity and its Conservation”. The frontline/field staff of the Gujarat Forest Department represent key personnel for an effective conservation and management of the state’s marine biodiversity. Therefore, their capacity building through need-based training is a crucial approach for the overall strategy of marine biodiversity conservation and management in the state of Gujarat. Training courses include field training, as well as, imparting theoretical knowledge, as required by the staff on-a) environmental and physico-chemical parameters; b) marine flora; c) marine fauna and d) various conservation concepts and field conservation approaches. Twelve to fifteen expert sessions are conducted by the Foundation’s scientific staff to train around 20 participants each time. Coastal and marine issues are also addressed by the participants in their dissertations at GEER Foundation.

Curriculum

- Ecology and conservation
- Marine ecology
- Physico-chemical / environmental parameters
- Methods of biodiversity assessment
- Corals & coral reefs ecosystem
- Mangrove ecosystems
- Coastal wetland ecosystems
- Marine & coastal vegetation
- Marine invertebrates
- Marine and coastal avifauna
- Marine reptiles
- Marine mammals

- Maps, map reading, GPS & its application
- Conservation laws and regulations
- Local livelihoods and conservation benefit flows to local communities
- Communication and communication skills

Thematic focus

- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Legal Aspects of Coastal and Marine Protected Areas
- Monitoring and Evaluation of Biodiversity
- Protected Area Governance
- Protected Area Management

Training Methods Applied

Assignment | Field Tours | Group Work | Laboratory Practice | Participants Presentations | Role Play/ Simulation



Coordinator

Director

GEER Institute

P. O. Sector-7, Indroda Nature Park,
Gandhinagar – 382007, Gujarat, India

T +91-79-23221385 , +91 9099020793 (EE)

F +91- 79- 23241128

E dir-geer@gujarat.gov.in

W <http://www.geerfoundation.gujarat.gov.in>

For Master students for dissertation or field staff College/
university students or overall forest sector, biodiversity specialists

4 months duration for dissertation and 5 days field staff training

Conducted once a year

Full time with mandatory presence

50 Seats (max)

Selection via Interview for Dissertation students and through
nomination/deputation by the Gujarat Forest Department

Certificate of participation awarded



Director
Dr. J.K. Patterson Edward

Suganthi Devadason Marine
Research Institute (SDMRI)
44-Beach Road, Tuticorin - 628001
Tamil Nadu, India

T +91-(0)461-2336488, 2323007
F 0461 - 2325692
E edwardjkpatterson@sdmri.in
W <http://www.sdmri.in/>

For decision-makers, senior management, senior technical/
scientific staff, field staff; For biodiversity specialists, overall
forest and environment sector and community stakeholders

7 days duration

Conducted on request

Full time with mandatory presence

10 Seats

For selection, a person must be a science graduate and a
certified Open Water Diver

40 Certificate awarded

SDMRI is focusing on conservation of coastal and marine resources and mainly coral reefs, seagrass beds and associated biodiversity. In order to effectively conserve and manage these resources, the monitoring of marine biodiversity is very much essential to update its status and health.

Curriculum

Unit - 1

Introduction to the marine life – habitats; and common & scientific animal and plant species names

Unit - 2

Scientific information about various marine resources such as coral reefs, seagrasses, fin fishes, shell fishes, marine algae and other marine organisms

Unit - 3

Demonstration on assessment and monitoring of biological resources - Line Intercept Transect method (LIT); Quadrata method; Belt transect method; Visual survey

Unit - 4

Underwater identification tips (upto genera) - Identification of common corals, seagrasses, fin fishes, shell fishes, other marine organisms

Unit – 5

Application of assessment techniques

Thematic focus

- Coastal and Marine Biodiversity
- Coastal Ecosystem Rehabilitation
- Management Effectiveness of Coastal and Marine Protected Areas
- Marine Invasives
- Monitoring and Evaluation of Biodiversity
- Protected Area Management
- SCUBA diving

Training Methods Applied

Field Tours | Group Work | Participant's Presentations | Lecture | Demonstration in swimming pool | Sea dives

The course is designed to develop the capacity of the frontline staff of the forest department, EDC (Eco Development Committee) members and NGO functionaries to ensure conservation of the biodiversity resources through active participation of the community, keeping in view the decision of COP 11 to raise awareness on genetic resources, access and benefit sharing arrangements. The course is designed as part of the international research project openness, which aims to translate the concepts of Natural Capital (NC) and Ecosystem Services (ES) into operational frameworks that provide tested, practical and tailored solutions for integrating ES into land, water and urban management and decision-making.

Curriculum

- Biodiversity potentials in general & mangrove forest in particular
- Need for biodiversity conservation through people's participation
- Public governance issues for biodiversity conservation
- Developing community institutions for biodiversity conservation
- Participatory assessment & monitoring methods
- Participatory biodiversity monitoring & sustainable livelihood potentials
- Coastal biodiversity census methodology for grass root level
- Standardization of mangrove carbon sequestration monitoring for coastal people

Thematic focus

- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Monitoring and Evaluation of Biodiversity
- Participatory Monitoring of Coastal Biodiversity & Governance Issues

Training Methods Applied

Field Tours | Group Work | Participant's Presentations | Role Play/Simulation



Coordinator
Dr. Raktima Mukhopadhyay
Executive Director

Indian Institute of Bio-Social Research and Development (IBRAD)
Prafulla Kanan, V.I.P. Road, Kestopur, Kolkata - 700101,
West Bengal, India

T +91(33)6621-0320
E raktima2000@yahoo.com
W www.ibradindia.org

For decision-makers, field staff, students, EDC members, NGO functionaries, fisheries department, overall forest and agriculture sector

1 week duration

Conducted four times a year of which 2 are exclusively for forest department staff

Full time with mandatory presence

20 Seats

Selection by Interview. FD staff and EDC members are selected through the forest department

Certificate of Participation awarded



Coordinator
Dr. V. Selvam
Director Coastal Systems Research

M. S. Swaminathan Research Foundation
3rd Cross Street, Taramani Institutional Area,
Taramani, Chennai - 600113, India

T +91-(44)-22541229
E vselvam45@hotmail.com
W www.mssrf.org

For senior technical/scientific and field staff, overall environment,
forest and biodiversity sector

3 days – 3 weeks duration

Frequency depends on funding

Full time with mandatory presence

30 Seats

Selection via portfolio and nominations from institutions
including government

Certificate of participation awarded

Coastal community, including landless and assetless farming and fishing families, adopt different but interrelated strategies for their livelihood. Though the strategies are complex, two simple types of resource use can be seen; one is market-oriented and capital driven resource use, whereas, the second one is more of subsistence oriented and poverty driven resource use. However, high population density, rapid urbanisation, industrial development, unsustainable use of bioresources, and frequent occurrence of natural disasters such as cyclones and storms put livelihood security of the coastal communities and ecological security provided by biodiversity under stress, resulting in high rate of coastal environmental degradation and poverty. In such a situation, participation of stakeholders is essential in coastal resources and livelihood, biodiversity and protected areas management. However, most of the management programmes gives least or tokenistic importance to stakeholder participation. This leads to conflict between management agencies and other stakeholders. In this training programme, participants are oriented to and given training on coastal biodiversity and its importance as a source of livelihood, importance of participation, participatory tools and techniques, importance of village level institutions, participatory planning implementation and monitoring of programmes.

Curriculum

- Situation analysis using participatory and scientific tools
- Participatory rural analysis; tools and techniques
- Establishing gender balanced village level institutions
- Tools and techniques to identify management concerns and prioritisation
- Micro planning
- Joint implementation and monitoring
- Gender and conservation of coastal resources
- Capacity building of village level institutions

Thematic focus

- Coastal and Marine Biodiversity
- Linking Coastal Livelihood and Biodiversity
- Management Effectiveness of Coastal and Marine Protected Areas
- Protected Area Management

Training Methods Applied

Field Tours | Group Work | Participant's Presentations | Role Play/Simulation | Seminars

This two-day dialogue is planned for the senior MPA managers, heads of the relevant institutions from forest, fisheries and media sectors, and decision-makers from key central ministries and state governments. The contents of the dialogue will cover key and critical aspects of coastal and marine biodiversity conservation and management effectiveness of coastal and marine protected areas, socio-economic issues governing such areas, new approaches to mainstream biodiversity into coastal sectors, as well as, the International geopolitics and policy environment relevant to the Indian coast.

The course is intended to enable the decision-makers to discuss and debate issues of critical importance to coastal and marine biodiversity and MPAs, at platform with experts from different sectors and stakeholder groups. A unique feature of the course will be to focus on the aspects of appreciation and contemplation of nature and ecological consciousness.

Curriculum

- An introduction to coastal and marine biodiversity
- Mainstreaming biodiversity into production sectors (vice versa)
- Socio-economic relevance of MPAs
- Effective management planning of coastal and marine protected areas
- Governance, law and policies for managing coastal and marine ecosystems, biodiversity and protected areas
- Change management, connectedness to nature and ecological consciousness
- Media and outreach

Thematic focus

- Climate Change
- Coastal Disasters
- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Legal Aspects of Coastal and Marine Protected Areas
- Management Effectiveness of Coastal and Marine Protected Areas
- Marine Invasives
- Media Reporting on Coastal and Marine Biodiversity Issues
- Monitoring and Evaluation of Biodiversity
- Protected Area Governance
- Protected Area Management

Training Methods Applied

Group Work | Participant's Presentations | Role Play/ Simulation | Seminars

Participant's geographical affiliation: All India



Coordinator

K. Sivakumar

M. Phil., Ph.D. Scientist E

**Department of Endangered Species Management,
Wildlife Institute of India,
P.O. Box. 18, Chandrabani, Dehradun - 248001,
Uttarakhand, India**

T +91 135 2640111 to 2640115,

F +91 135 2640117

E ksivakumar@wil.gov.in, ksivakumarwii@gmail.com

Senior level protected area managers and decision-makers from State and Central Government

Overall forest, fisheries and media sectors

1- 3 days

Conducted as and when required

Full time with mandatory presence

15-20 Seats

Nomination by the State Government/ Organisations / MoEFCC

Certificate awarded



Coordinator

Dr. Yugraj Singh Yadava

Director

Bay of Bengal Programme Inter-Governmental Organisation

91, St Mary's Road, Abhiramapuram,
Chennai – 600018, Tamil Nadu, India

T +91-44-24936188 | F +91-44-24936102

E yugraj.yadava@bobpigo.org

W www.bobpigo.org

For field staff, junior and middle-level fisheries, environment officers, overall environment and fisheries sector

2 weeks duration

Conducted once a year

Full time with mandatory presence

24-30 Seats

Selection by nominations from the government as per qualification

Certificate awarded

The Regional Training Course on Code of Conduct for Responsible Fisheries (RTC-CCRF) is a structured course aimed at inculcating the philosophy of sustainable fisheries and environment management in young officers from fisheries and environmental disciplines. The participants come from the member-countries of the BOBP-IGO, viz., Bangladesh, India, Maldives and Sri Lanka. It is conducted every year in collaboration with national-level fisheries institutions and fishermen associations including, CIFE (Mumbai), CMFRI (Kochi) and Association of Deep Sea Going Artisanal Fishermen (Thoothoor Kanyakumari District). The objective is to create a cadre of officers in the Department of Fisheries and Environment, who are conversant with the CCRF and its technical guidelines and can also act as trainers within their respective work environments.

Curriculum

- Ecosystem approaches to fisheries management
- Managing commercially important and vulnerable species
- Understanding participatory management in fisheries
- Pattern of regional development and stresses on fisheries and environment
- Marine protected areas and fisheries management
- Controlling illegal, unreported and unregulated fishing
- Understanding climate change
- International treaties and conventions in fisheries and environment
- Use of information and communication technology
- Knowledge translation and preparation of policy inputs

Thematic focus

- Approaches to Participatory Management of Resources
- Causal Analysis
- Climate Change
- Coastal Disasters and Risk Reduction
- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Legal Aspects of Coastal and Marine Protected Areas
- Protected Area Management
- Sustainable Fisheries Management
- Stakeholder Analysis

Training Methods Applied

Assignment | Field Tours | Group Work | Participant's Presentations | Role Play/ Simulation | Seminars



The Directorate of Forest Education coordinates induction training for Range Forest Officers to be carried out at: Uttarakhand Forest Academy, Haldwani (Uttarakhand); Andhra Pradesh Forest Academy, Dulapally (AP); Balaghat Rangers Forest College, Balaghat (MP); Forest Training Institute & Ranger College, Sunder Nagar (HP); Kundal Academy of Administration, Development & Management, Sangli (Maharashtra); and at EFRC, Kurseong (West Bengal). The induction training is meant for newly recruited RFOs who are responsible for management of forest estate and protected areas in the country. Induction training of RFOs include intensive classroom teaching along with extensive field visit in the forest areas throughout the country where the trainees are trained in forest management and wildlife practices in protected areas and forest areas.



Curriculum

- Silviculture
- Forest resource assessment
- Forest survey
- Forest policy and law
- Biodiversity conservation and management
- Environmental economics
- Natural resources management
- Joint forest management
- Ecology and environment science
- Adverse influence on forests

Thematic focus

- Climate Change
- Coastal Livelihoods
- Protected Area Governance
- Protected Area Management
- Forest Resource Assessment
- Rural Livelihoods and Co-Management

Training Methods Applied

Assignments | Dissertation | Field Tours | Seminars | Lectures

*Director Forest Education
Dr. Dharmendra Verma, IFS*

Directorate of Forest Education
FRI Campus, PO New Forest
Dehradun - 248006, Uttarakhand, Inida

T +91-135-2757326
E thedfedun@yahoo.com
W www.dfe.gov.in

For senior technical scientific field; For overall forest sector

18 months duration

Conducted once a year

Full time with mandatory presence

180 seats

Selection via Exam and Interview

Certificate in Forestry awarded

Reporting Coastal and Marine Biodiversity (Planned)

This course is planned to be delivered as a component of the Post Graduate Diploma course on “Communication for Development” for the media. The course is intended to develop a strong knowledge base on coastal and marine biodiversity and need for conservation among the participants, along with providing them ample opportunities in the classroom, as well as, in the field to develop their skills related to using the scientific and technical knowledge into the process of developing different types of media products. A unique feature of the course will be to focus on the aspects of appreciation and contemplation of nature and ecological consciousness.

Coordinator
Prof. Luke Mendes
Faculty

Xavier Institute of Communications
St. Xavier's College Campus, 5, Mahapalika Marg,
Mumbai - 400001, Maharashtra, India

T +91 22 2262 1366 / 2262 1639
F +91 22 2265 8546
E lukemendes@gmail.com, admin@xaviercomm.org

For students of media and communications

15 days, spread over one semester

Conducted once a year

Full time with mandatory presence

20-25 Seats

Existing students of Communication for Development course
at XIC

Certificate awarded

Curriculum

- Basics of biodiversity and coastal marine issues
- Socio-ecological and political significance of coasts
- Coastal and marine protected areas
- The legal framework: policy, law and case law on coastal and marine biodiversity
- Media reporting on coastal and marine biodiversity: focusing beyond the immediate interests
- Mainstreaming biodiversity into the development sector
- Coasts, climate change and natural disasters
- Contemplation of nature and ecological consciousness

Thematic focus

- Media Reporting on Coastal and Marine Biodiversity

Training Methods Applied

Assignment | Dissertation/ Research Project | Field Exercise | Group Work | Participant's Presentations | Role Play/ Simulation
Seminars



The Directorate of Forest Education coordinates induction training for State Forest Service Officers to be carried out at Central Academies for State Forest service at Dehradun in Uttarakhand, Burnihat in Assam and Coimbatore in Tamil Nadu. The induction training is meant for newly recruited SFS officers who are responsible for management of forest estate and protected areas in the country. Induction training includes, intensive classroom teaching along with extensive field visit in the forest areas throughout the country where the trainees are trained in forest management and wildlife practices in protected areas and forest areas.



Curriculum

- Silviculture
- Forest resource assessment
- Forest survey
- Forest policy and law
- Biodiversity conservation and management
- Environmental economics
- Natural resources management
- Joint forest management
- Ecology and environment science
- Adverse influence on forests

Thematic focus

- Climate Change
- Coastal and Marine Biodiversity
- Forest Resource Assessment
- Protected Area Governance
- Protected Area Management
- Rural Livelihoods and Co-Management

Training Methods Applied

Assignments | Dissertation | Field Tours | Seminars | Lectures

Director Forest Education
Dr. Dharmendra Verma, IFS

Directorate of Forest Education
FRI Campus, PO New Forest
Dehradun - 248006, Uttarakhand, India

T + 91-135-2757326
E thedfedun@yahoo.com
W www.dfe.gov.in

For senior technical scientific field; For overall forest sector

24 months duration

Conducted once a year

Full time with mandatory presence

80 seats (40 each at Dehradun and Coimbatore)

Selection via Exam and Interview

Diploma in Forestry awarded

Sustainability Leadership Programme



Coordinator

Dr. Pradeep Mehta

Research and Programme Manager

Earthwatch Institute India

Augusta Point (Level 4), Golf Course Road,
Sector 53, Gurgaon - 122001, Haryana, India

T +91-124-4354248

E pmehta@earthwatch.org.in

W <http://in.earthwatch.org/expeditions/expedition-search>

For overall environment sector, decision-makers, business leaders and senior management

4-5 days duration

Conducted on demand

Full time with mandatory presence and pre work of 4-6 hours

12-15 Seats

Selection via nomination by organisations

Certificate awarded

The Sustainability Leadership Programme is a professional development experience designed to deeply engage senior leaders from corporate organisations in sustainability issues, leading to more sustainable actions and decisions. Sustainability leaders participate in an intensive training programme where they work with Earthwatch scientists on a climate change related research topic and participate in learning sessions facilitated and co-delivered by Earthwatch. The participants learn about climate change and issues relating to sustainability of their business operations. One of the research partners for the Programme is Indian Institute of Sciences. The programme takes place at Earthwatch sites in Brazil, China, Costa Rica, India, North America, Malaysia, Mexico and UK.

Curriculum

Sustainability leaders participate in an intensive training programme where they work with the Earthwatch scientists on a climate change related research and take part in facilitated learning sessions co-delivered by Earthwatch. They learn about the science of climate change, explore what sustainability means to them and their business, and design projects and actions to drive sustainable business policies and practices throughout their organisation.

Thematic focus

- Climate Change
- Coastal and Marine Biodiversity
- Any other issue can be included on demand

Training Methods Applied

Assignment | Field Tours | Group Work | Participant's Presentations

The programme on Sustainable Forest (Coastal) Management was initiated in the year 2009 to study the impact of climate change on forest in the Western Ghats. The regional climate centre was based in Sirsi where Earthwatch worked with its research partner Indian Institute of Sciences, Bangalore. Together with HSBC, Earthwatch Institute set up the course to help their employees learn about climate change, its impact on the business and individual scope for action to combat it. In order to build employee understanding, a variety of resources and opportunities were developed including the online programmes – Climate Champion Programme and Senior Leadership Programme.

Curriculum

- Planet under pressure (climate change)
- My understanding about climate change
- Field work: Measuring and mapping of marked trees in permanent plots
- My role as a climate champion
- Perception of climate change
- Climate change and sustainability within the organisational context
- Science of climate change
- Action planning

Thematic focus

- Climate Change
- Coastal Disasters
- Coastal and Marine Biodiversity
- Monitoring and Evaluation of Biodiversity

Training Methods Applied

Assignment | Dissertation/ Research project | Field Tours | Group Work | Participant's Presentations | Role Play/ Simulation | Field based experiential learning



Coordinator
Dr. Pradeep Mehta
Research & Programme Manager

Earthwatch Institute India
Augusta Point (Level 4), Golf Course Road, Sector 53,
Gurgaon-122001, Haryana, India

T +91-124-4354248
E pmehta@earthwatch.org.in
W <http://in.earthwatch.org/expeditions/expedition-search>

For senior management and anyone who cares for environment sustainability

3-10 days duration

Conducted on demand

Full time with mandatory presence

12-15 Seats

For selection, a person must have a good health fitness and pass the organisation's internal selection

Certificate of Participation awarded

Special Certificate Course on Coastal and Marine Biodiversity (Planned)



Coordinator
K. Sivakumar
M. Phil., Ph.D. Scientist E

Department of Endangered Species Management,
Wildlife Institute of India,
P.O. Box. 18, Chandrabani, Dehradun - 248001,
Uttarakhand, India

T +91 135 2640111 to 2640115,
F +91 135 2640117
E ksivakumar@wii.gov.in ksivakumarwii@gmail.com

Field level protected area managers, including Range Forest Officers, Foresters and Forest Guards of the coastal states of India.

Overall forest sector

4 weeks

Conducted once a year

Full time with mandatory presence

20-25 Seats

Nomination by the State Government/ Organisations

50 Certificate awarded

This course for the field-level MPA managers, viz., Range Forest Officers and Foresters, is planned to be delivered as a special certificate course of one-month duration. The first week will provide an overview of the key concepts and experience sharing. The second and third week will focus on field- exposure, assessment and monitoring methods of coastal and marine biodiversity, community interaction etc. The fourth week will then focus on effective management planning of coastal and marine biodiversity and protected areas, reflecting on good practices and case studies. The course is intended to enable the participants to have a sound understanding of the concepts and issues related to managing coastal and marine biodiversity, coastal and marine protected areas, ecological and socio-political context, conservation approaches and legal-policy framework between terrestrial and coastal-marine PAs, as well as, necessary skills to conduct assessment and monitoring of coastal and marine habitats and species and prepare field reports, and develop-under supervision-operational plan for MPAs based on management effectiveness guidelines. A unique feature of the course will be to focus on the aspects of appreciation and contemplation of nature and ecological consciousness.

Curriculum

- Basics of coastal and marine biodiversity
- Coastal and marine biodiversity and ecosystem services in the overall environment and development context
- From landscape to seascape: key differences in management
- Sustainable fisheries management
- Coastal and marine protected areas
- Governance, law and policies for managing coastal and marine ecosystems, biodiversity and protected areas
- Assessment and monitoring of coastal and marine biodiversity and relevant issues
- Effective management planning of coastal and marine protected areas
- Change management, connectedness to nature and ecological consciousness
- Media and outreach

Thematic focus

- Climate Change
- Coastal Disasters
- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Legal Aspects of Coastal and Marine Protected Areas
- Management Effectiveness of Coastal and Marine Protected Areas
- Marine Invasives
- Media Reporting on Coastal and Marine Biodiversity Issues
- Monitoring and Evaluation of Biodiversity
- Protected Area Governance
- Protected Area Management

Training Methods Applied

Assignment | Dissertation/ Research Project | Field Exercise | Group Work | Participant's Presentations | Role Play/ Simulation Seminars

This course for the senior-level MPA managers is planned to be delivered in a phased manner- three phases of one-week each, since it may not be practically possible for the senior officers to take out time at once for three weeks. The first one-week training will focus on further developing the conceptual base on sustainability, knowledge about coastal and marine biodiversity and understanding the difference between managing terrestrial and coastal resources, coastal and marine related laws and policies, and leadership and communication skills. The second one-week training will be organised as a field expedition to selected coastal-marine protected areas to facilitate participants in applying their knowledge and skills in real life situations. The third one-week training will be focused on sustainable and effective coastal marine protected area management planning.

The course is intended to enable the participants to have a sound understanding of the concepts, issues and tools related to managing coastal and marine biodiversity and MPAs, ecological and socio-political context, conservation approaches and legal-policy framework under an overarching theme of management effectiveness. A unique feature of the course will be to focus on the aspects of appreciation and contemplation of nature and ecological consciousness.

Curriculum

- An introduction to coastal and marine biodiversity
- Coastal and marine ecosystem services and their value
- From landscape to seascape
- An overview of assessment and monitoring of coastal and marine biodiversity and relevant issues
- Sustainable fisheries management
- Marine and coastal protected areas
- Governance, law and policies for managing coastal and marine ecosystems, biodiversity and protected areas
- Good practices and Case studies
- Coasts, climate change and natural disasters
- Tools for impact assessment and spatial planning
- MPAs and local economy
- Change management, connectedness to nature and ecological consciousness
- Media and outreach

Thematic focus

- Climate Change
- Coastal Disasters
- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Legal Aspects of Coastal and Marine Protected Areas
- Management Effectiveness of Coastal and Marine Protected Areas
- Marine Invasives
- Media Reporting on Coastal and Marine Biodiversity Issues
- Monitoring and Evaluation of Biodiversity
- Protected Area Governance
- Protected Area Management

Training Methods Applied

Assignment | Dissertation/ Research Project | Field Exercise | Group Work | Participant's Presentations | Role Play/ Simulation Seminars



Coordinator
K. Sivakumar
M. Phil., Ph.D. Scientist E

**Department of Endangered Species Management,
Wildlife Institute of India,**
P.O. Box. 18, Chandrabani, Dehradun - 248001,
Uttarakhand, India

T +91 135 2640111 to 2640115,
F +91 135 2640117
E ksivakumar@wii.gov.in ksivakumarwii@gmail.com

Senior level protected area managers

Overall forest sector

3 weeks (Phased into 3 stages @ 1 week)

Conducted throughout the year

Full time with mandatory presence (Phased into 3 stages @ 1 week)

15-20 Seats

Nomination by the State Government/ Organisations / MoEFCC

Certificate awarded (Phase-wise)



Plantation and restoration of mangroves is an important component under the ICZM Project. GEC has extensive experience in the subject and is successfully doing community based mangrove plantation and restoration in the coast of Gujarat since many years. The Commission has also conducted an international mangrove workshop in 2013 to share its knowledge and experience. Most of the time, mangrove plantation success is based on few critical things such as site selection, model selection and seed selection etc. Hence, technical training in different aspects is vital for people involved in primary activities.

Member Secretary
Dr. A.K. Verma, IFS

Gujarat Ecology Commission, Government of Gujarat
Block No. 18, 1st Floor, Udyog Bhavan,
Sector 11, Gandhinagar - 382011, Gujarat, India

T (079) 23257656/23257658
F (079) 23257657
E mail@geciczm.gov.in
W <http://www.gec.gujarat.gov.in>

For all relevant stakeholders of the coastal area, decision-makers, senior management, senior technical/scientific staff, field staff, biodiversity specialists, overall forest and environment sector

1-2 days duration but is designed on demand

Conducted on a regular basis

Full time with mandatory presence

20-25 Seats for the training programme and 5-10 Seats for exposure visit

Admission via nomination by the institution/organisation

Certificate of Participation awarded

Curriculum

- Site selection
- Micro planning
- Seed collection/sorting
- Nursery preparation
- Earthen mound preparation
- Plantation of sapling

Thematic focus

- Coastal Disasters
- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Legal Aspects of Coastal and Marine Protected Areas
- Management Effectiveness of Coastal and Marine Protected Areas
- Monitoring and Evaluation of Biodiversity
- Protected Area Governance
- Protected Area Management
- Sustainable Fisheries Management

Training Methods Applied

Assignment | Field Tours | Group Work | Participant's Presentations | Seminars

The Training Programme on Open Sea Cage Culture aims at demonstration and technology transfer of marine finfish farming in open sea cages. With regard to Open sea cage culture (OSCC), NIOT has developed and tested community based square cages (HDPE, 2x2m) and demonstrated the fattening of oversized blue-barred parrotfish at Olaikuda, Rameshwaram; developed and deployed 9m dia HDPE cages with multi-point mooring in North Bay (Andaman Islands), Olaikuda (Tamil Nadu) and Kothachathram (Andhra Pradesh) and successfully demonstrated cage culture of marine finfishes, such as the Asian Seabass, Cobia, Pompano, Milkfish, Parrot fish and the Giant Travelly. The programme has also developed and tested a prototype automatic submersible cage to save the culture during cyclonic weather conditions. The programme is likely to be extended to the states bordering the west coast also.

Curriculum

- Nursery rearing of marine finfish fry in sea cages
- Rearing of adult fish
- Feed particulars
- Disease monitoring
- Protection from predators
- Growth assessment
- Harvesting

Thematic focus

- Coastal Livelihoods
- Sustainable Fisheries Management
- Living Marine Resource Enhancement
- Technology Development for Offshore Cage Culture
- Entrepreneur Development in Indian EEZ

Training Methods Applied

Field Tours | Group Work | Laboratory Practice | Lectures by subject experts



Coordinator
Dr. M.A. Atmanand
Director

**Earth System Sciences Organisation -
National Institute of Ocean Technology (ESSO-NIOT)**
Velachery - Tambaram Main Road, Pallikaranai,
Chennai - 600100, India

T +91-(44)66783303
F +91-(44)22460275
E director@niot.res.in
W <http://www.niot.res.in>

For coastal community, self-help groups and fishery sector

2 days duration

Conducted on demand from the fisheries sector

Full time with mandatory presence

Number of Seats varies programme-wise

Selection on the basis of willingness to attend

Certificate awarded

Train The Trainers (TTT) on Experiential Learning



Coordinator
Dr. Pradeep Mehta
Research and Programme Manager

Earthwatch Institute India
Augusta Point (Level 4), Golf Course Road,
Sector 53, Gurgaon - 122001, Haryana, India

T +91-124-4354248
E pmehta@earthwatch.org.in
W <http://in.earthwatch.org/expeditions/expedition-search>

For anyone who is involved in delivery of trainings as well as educators, independent consultants, scientists, overall environment sector and biodiversity specialists

3-4 days duration

Conducted on demand

Full time with mandatory presence and part time distance learning

12-15 Seats

Selection via nomination by organisation

Certificate awarded

This course aims at capacity building of potential trainers, as well as, educators in the field of environment and biodiversity conservation. The course equips the participants with the necessary skills and techniques. It is a field based training programme, including classroom sessions and field visits, specifically designed for the partner institutions to facilitate effective and efficient delivery of their projects and programmes. Key outcomes for the participants is the experience they gain to deliver experiential learning programmes as trainers. The course design and methodology allows for easy customisation to suit different ecosystems and areas, and therefore, TTT can also be organised in collaboration with other partners working in similar thematic areas.

Curriculum

- Earthwatch approach of experiential learning programmes
- How experiential learning programmes are designed and delivered
- Effective communication
- Demonstrate the design of the field programme, i.e. coastal & marine
- Offer opportunity to practice delivery and receive feedback
- Create personal action plan for how to take the learning forward
- Create a regional network of trainers
- Online resources for strengthening the learning
- Risk and safety management of field based learning programmes

Thematic focus

- Climate Change
- Coastal Disasters
- Coastal and Marine Biodiversity
- Management Effectiveness of Coastal and Marine Protected Areas
- Monitoring and Evaluation of Biodiversity

Training Methods Applied

Assignment | Field Tours | Group Work | Participant's Presentations | Role Play/Simulation | Presenting different skills



The International Course on Mangrove Biodiversity and Ecosystems has been supported by the United Nations University – Institute for Water Environment and Health (UNU-INWEH) since 1999. The course's mission consists in helping the developing countries overcome human, technical and institutional capacity shortfalls through training of key personnel and development of research institutions capacity to manage coastal resources so that effective responses to the threats faced by mangroves can be applied. This seems to be of vital importance at a time when the worldwide coastal population stands at over 55% and a number of important coastal ecosystems are under threat due to intense competition between various human activities for the natural and cultural resources. The course caters to issues like reversing negative trends and effective management without impacting sustainable economic growth. UNU-INWEH helps in enhancing capacity to manage coastal resources through training of key personnel and development of research institutions. After evaluating the perception and reception of the participants from various countries, UNU-INWEH has taken a decision to continue this course for a decade.

Curriculum

- Assessment methods; DNA barcoding of marine life and genetic diversity
- Importance, distribution, ecology and biology of mangroves
- Bioprospecting of mangroves and mangrove associates
- Floral diversity of mangroves, seaweeds and seagrasses
- Faunal diversity in mangroves
- Threats to mangroves
- Policies for sustainable management – national and global policies, restoration technology, alternative livelihood, people participation
- Impact of climate change on mangroves

Thematic focus

- Climate Change
- Coastal Disasters and Livelihoods
- Coastal and Marine Biodiversity
- Management Effectiveness of Coastal & Marine Protected Areas
- Marine Invasives
- Media Reporting on Coastal and Marine Biodiversity Issues
- Sustainable Fisheries Management

Training Methods Applied

Field Tours | Group Work | Laboratory practice | Participant's Presentations



*Director CAS in Marine Biology &
Dean Faculty of Marine Sciences
Prof. K. Kathiresan*

CAS in Marine Biology, Annamalai University,
Parangipettai – 608502
Tamil Nadu, India

T +91-4144-238348
E caservis@gmail.com
W [http://inweh.unu.edu/training/
mangrove-course-in-india/](http://inweh.unu.edu/training/mangrove-course-in-india/)

For decision-makers, senior management, senior technical/
scientific staff, overall forest, environment and biodiversity sector

15 days duration

Conducted once a year in October

Full time with mandatory presence

15 Seats

Selection via portfolio



SKILL DEVELOPMENT COURSES





SDMRI is focusing on conservation of coastal and marine resources and mainly coral reefs, seagrass beds and associated biodiversity. In order to effectively conserve and manage these resources, assessment and monitoring is essential and as such SCUBA diving plays an important role. This is the most popular diver programme worldwide and a passport to a lifetime of underwater adventure, which allows the freedom to dive with a buddy, independent of a professional. The participant can learn about scuba fundamentals, equipment and diving techniques, and then practice the diving skills in the pool before discovering the underwater treasure. Maximum depth allowed for an open water diver is 18 m.

Curriculum

Unit - 1

Video preview about the course - the under water world; dive equipment (part 1); SCUBA systems; the buddy system; and confined water dive preview 1.

Unit – 2

Adapting to the underwater world – respiration; dive equipment (part 2); buddy system; communication and procedures; underwater hand signals; confined water preview 2

Unit – 3

The dive environment; dive planning; boat diving; problem management; confined water dive preview 3; general open water skills; and open water dives 1 and 2.

Unit – 4

Dive accessories; health for diving; breathing air at depth; and confined water dive preview 4.

Unit – 5

Special dive table and computer procedures; using the dive table; basic compass navigation; confined water dive preview; open water dives 3 and 4; and dive safety practices summary

Thematic focus

- Coastal and Marine Biodiversity
- Coastal Ecosystem Rehabilitation
- Management Effectiveness of Coastal and Marine Protected Areas
- Marine Invasives
- Monitoring and Evaluation of Biodiversity
- Protected Area Management
- SCUBA diving

Training Methods Applied

Lecture | Demonstration in swimming pool | Sea dives



Director
Dr. J.K. Patterson Edward

**Suganthi Devadason Marine
Research Institute (SDMRI)**
44-Beach Road, Tuticorin - 628001,
Tamil Nadu, India

T +91-(0)461-2336488, 2323007, **F** 0461 - 2325692
E edwardjkpatterson@sdmri.in
W <http://www.sdmri.in/>

For decision-makers, senior management, senior technical/scientific and field staff, biodiversity specialists, overall forest and environment sector, community stakeholders

5 days duration

Conducted on request

Full time with mandatory presence

5 Seats

For selection, a person must be above 15 years and of good health

PADI, Australia Certificate awarded



Advanced Open Water Diver Course



Director
Dr. J.K. Patterson Edward

Suganthi Devadason Marine
Research Institute (SDMRI)
44-Beach Road, Tuticorin - 628001,
Tamil Nadu, India

T +91-(0)461-2336488, 2323007, F 0461 - 2325692
E edwardjkpatterson@sdmri.in
W <http://www.sdmri.in/>

For decision-makers, senior management, senior technical/
scientific and field staff, biodiversity specialists, overall forest and
environment sector and community stakeholders

2 days duration

Conducted on request

Full time with mandatory presence

5 Seats

For selection, a person must be above 15 years, of good health
and must be a certified Open Water Diver

PADI, Australia Certificate awarded

SDMRI is focusing on conservation of coastal and marine resources and mainly coral reefs, seagrass beds and associated biodiversity. In order to effectively conserve and manage these resources, assessment and monitoring is essential and as such SCUBA diving plays an important role. This course offers an opportunity to experience a wide range of activities and inter-related skills to enhance the interests and capabilities as a diver for exploring into diverse environments. One must be a certified open water diver. Maximum depth allowed for a open water diver is 30 m.

Curriculum

Unit - 1

Video preview about the course; demonstration about navigation; and deep dives

Unit - 2

Importance of underwater navigation - reduction of anxiety and stress; avoiding long surface swim; increasing the effectiveness of dive plan; avoiding buddy separation; and air conservation

Unit - 3

Deep dive - greater depths and air consumption; use of gauges; the effects and hazards of nitrogen narcosis; the risk of decompression ill; and safety stops

Unit - 4

Open water dives 1 and 2

Unit - 5

Open water dives 3, 4 and 5 (Elective adventure dives)

Thematic focus

- Coastal and Marine Biodiversity
- Coastal Ecosystem Rehabilitation
- Management Effectiveness of Coastal and Marine Protected Areas
- Marine Invasives
- Monitoring and Evaluation of Biodiversity
- Protected Area Management
- SCUBA diving

Training Methods Applied

Lecture | Demonstration in swimming pool | Sea dives



INSTITUTE PROFILES







Training Portfolio

- Community-based participatory approach
- Trainees from BOBP-IGO member countries
- Focus on fisheries grassroots practitioners in the region

Courses offered

Regional Training Course on Code of Conduct for Responsible Fisheries (RTC-CCRF) (p. 44)

About the Institute

The Bay of Bengal Programme Inter-Governmental Organisation (BOBP-IGO) is a unique regional fisheries body. It is specifically mandated to assist its member countries- Bangladesh, India, Maldives and Sri Lanka in enhancing the livelihood opportunities and improving the quality of life of the small-scale/ artisanal fisher-folk in the Bay of Bengal region. BOBP-IGO has evolved from the erstwhile Bay of Bengal Programme of the Food and Agriculture Organisation of the United Nations in 2003. Since then, its mission is to deal with the coastal communities (fish workers and their families) and their livelihoods aspects; sustainable utilisation of the coastal and marine fisheries resources, including conservational aspects of vulnerable and threatened marine fin and shell fish species; policy aspects of coastal and marine fisheries; and impact of climate change on coastal resources and communities. Capacity building of the stakeholders is one of the core functions of the BOBP-IGO, which is built in almost all the programmes. BOBP-IGO offers programmes such as the 'Regional Training Course on Code of Conduct for Responsible Fisheries' covering a variety of issues related to coastal and marine environment, as well as, issue-specific training/capacity building activities.

Thematic Areas Addressed

- Approaches to Participatory Management of Resources
- Causal Analysis
- Climate Change
- Coastal Disasters and Risk Reduction
- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Legal Aspects of Coastal and Marine Protected Areas
- Protected Area Management
- Stakeholder Analysis
- Sustainable Fisheries Management



Director
Dr. Yugraj Singh Yadava

**Bay of Bengal Programme
Inter-Governmental Organisation**
91, St Mary's Road, Abhiramapuram,
Chennai – 600018, Tamil Nadu, India

T +91-44-2493 6188
F +91-44-2493 6102
E yugraj.yadava@bobbigo.org
W www.bobbigo.org



Chief Operating Officer
Dr. Deepak Apte

Bombay Natural History Society
Hornbill House, S.B. Singh Road
Mumbai – 400001, Maharashtra, India

T +91-22-2282-1811
E spiderconch@gmail.com
W <http://www.bnhs.org/>

About the Institute

Bombay Natural History Society (BNHS) is a membership-driven organisation and has been promoting the cause of a natural India for the past 131 years, since 1883. The Society's guiding principle has always been that conservation must be based on scientific research. Its mission is "Conservation of Nature, primarily Biological Diversity, through action based on Research, Education and Public Awareness." BNHS is designated as a Scientific and Industrial Research Organisation (SIRO) by the Department of Science & Technology, Government of India. Under the Marine and Coastal Biodiversity programme, BNHS is presently undertaking several research and conservation programme such as taxonomy of invertebrates, identification of EBSA, Project Giant Clam, Mangrove restoration, inter-tidal faunal diversity along Gujarat, Maharashtra, Lakshadweep and Andaman and Nicobar. BNHS has a research team of 92 scientists.

Thematic Areas Addressed

- Climate Change
- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Legal Aspects of Coastal and Marine Protected Areas
- Media Reporting on Coastal and Marine Biodiversity Issues
- Monitoring and Evaluation of Biodiversity

Training Portfolio

- Distance learning course of 6 weeks on coastal and marine biodiversity for post graduate and graduate students

Courses offered

- Distance Learning Course on Coastal and Marine Biodiversity (p. 27)



Training Portfolio

CIFE is involved in training and research in mapping of coastal and marine biodiversity, assessment of aquatic biodiversity/resources, their stock, density biomass, monitoring of aquatic environment, diagnosis of diseases and their treatment, genetic characterisation of these resources and giving suggestions for management and conservation based on the results.

Courses offered

- M.F.Sc. and Ph.D. in Fisheries Resource Management (p. 04)

About the Institute

Central Institute of Fisheries Education is the premier National Fisheries University of India dedicated to development of quality human resources in frontier areas of fisheries and aquaculture. Hence, for the development of trained manpower for assessment, conservation and management of coastal and marine resources, the Institute and the relevant divisions were established by the Government of India under the Ministry of Agriculture in 1961. It was subsequently included in the Indian Council of Agricultural Research in 1979. CIFE was befittingly conferred the Deemed University status in 1989 and since then, has contributed immensely to the development of the fisheries sector through its three-pronged mandate of research, teaching and extension. Presently, CIFE awards M.F.Sc. and Ph.D. degrees in the following eleven disciplines: Fisheries Resource Management, Post Harvest Technology, Aquatic Environment Management, Aquatic Animal Health Management, Fish Genetics and Breeding, Fish Biotechnology, Aquaculture, Fish Physiology, Fish Nutrition and Feed Technology, Fisheries Extension and Fisheries Economics. The Institute is involved in training and research in mapping of coastal and marine biodiversity, assessment of aquatic biodiversity/resources: their stock, density, biomass, monitoring of aquatic environment, diagnosis of diseases and their treatment, genetic characterisation of these resources and giving suggestion for management and conservation based on the results. There are specialised units within CIFE which focus on coastal and marine biodiversity issues.

Thematic Areas Addressed

- Climate Change
- Coastal Disasters
- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Legal Aspects of Coastal and Marine Protected Areas
- Management Effectiveness of Coastal and Marine Protected Areas
- Marine Invasives
- Monitoring and Evaluation of Biodiversity
- Protected Area Management
- Sustainable Fisheries Management



Director
Dr. W.S.Lakra

**Central Institute of Fisheries Education
(Deemed University) ICAR**
Panch Marg, off Yari Road, Versova,
Mumbai - 400061, Maharashtra, India

T +91-(22)-26363404
E wslakra@cife.edu.in
W <http://www.cife.edu.in>



Deputy Registrar (Academics)
Mr. K. Kosala Rao

Central University of Orissa,
Landiguda, Koraput – 764020, Orissa, India

T +91-9437102943
E kkosalarao@gmail.com
W <http://www.cuo.ac.in/>

About the Institute

The Central University of Orissa has been established by the Parliament under the Central Universities Act, 2009 (No. 3C of 2009), and serves a large, economically deprived tribal population. In 2013, the University has received the Award of Best University in Tribal Areas. It has signed the MoU with University of Santiago de Compostela (Spain) for Euphrates Project and University of Wananga, New Zealand for collaborative programme on indigenous studies. The University has six schools and nine centres, including the “School of Biodiversity & Conservation of Natural Resources.” The faculties are well-versed with teachings on biodiversity conservation and have published several research papers in the field of marine biodiversity and conservation.

Thematic Areas Addressed

- Climate Change
- Coastal Disasters
- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Legal Aspects of Coastal and Marine Protected Areas
- Management Effectiveness of Coastal and Marine Protected Areas
- Monitoring and Evaluation of Biodiversity
- Protected Area Management
- Sustainable Fisheries Management

Training Portfolio

- The University provides M.Sc., M.Phil and Ph.D programmes to the students.
- The University has academic collaboration with University of Santiago de Compostela in Erasmus Mundus Programme for students to pursue higher education at 12 European Universities, University of Wananga, New Zealand and M. S. Swaminathan Research Institute.
- The University has organised a National Seminar on “Climate Change and Biodiversity” very recently in 2013 with financial assistance from Ministry of Earth Sciences, Govt. of India.

Courses offered

- Climate Change Issues & Concerns in Coastal Ecosystems (p. 19)

Training Portfolio

- Nodal Agency for implementation of DESD activities in India under the Ministry of Human Resources Development, Government of India
- Conducts Education for Sustainable Development (ESD) and Global Citizenship Education (GCE) in Formal Education sector - Schools and Colleges; Teacher training and Student projects
- Offers Paryavaran Mitra whole school programme across India for students from class 6 to 8 (age group 11-15); Eco Schools from class 1 to 5
- Offers Camping and Interpretation programs for developing life skills and nature conservation education
- National Host Institution for the UNDP Small Grants Programme of Global Environment Facility and capacity building of NGOs, CBOs
- Secretariat of the South and Southeast Asia Network for Environmental Education (SASEANEE), a network in partnership with IUCN Commission on Education and Communication (CEC)
- Secretariat of South Asia Youth Environment Network (SAYEN), supported by UNEP
- Facilitates Policy feedback and International discussions for Sustainable Development Goals (SDGs)

Courses offered

- Global Citizenship for Sustainability (GCS) Marine Education (p. 29)

About the Institute

Established in 1984 as a Centre of Excellence in Environmental Education, supported by the Ministry of Environment, Forests and Climate Change (MoEFCC), Government of India and affiliated to the Nehru Foundation for Development, Centre for Environment Education (CEE) is a national institution engaged in developing programmes and material to increase awareness about the environment and sustainable development. CEE's primary objective is to improve public awareness and understanding of the environment with a view to promote the conservation of nature and sustainable use of the natural resources, leading to a better environment and a better quality of life. To this end, CEE develops innovative programmes and educational material, and builds capacity in the field of Education for Sustainable Development (ESD). To test the validity and effectiveness of its programmes and material, CEE undertakes demonstration projects in education, communication and development that endorse attitudes, strategies and technologies which are environmentally sustainable.

Thematic Areas Addressed

- Climate Change
- Coastal and Marine Biodiversity
- Monitoring and Evaluation of Biodiversity



Director
Shri Kartikeya Sarabhai

Centre for Environment Education
Thaltej Tekra, Ahmedabad - 380054,
Gujarat, India

T 079 - 26858002 to 09
F 079 - 26858010
E ceedo@ceeindia.org
W <http://www.ceeindia.org>



*Director CAS in Marine Biology &
Dean Faculty of Marine Sciences
Prof. K. Kathiresan*

CAS in Marine Biology, Annamalai University,
Parangipettai – 608502,
Tamil Nadu, India

T +91-4144-238348

E casenvis@gmail.com

W www.annamalaiuniversity.ac.in

About the Institute

The Centre of Advanced Study (CAS) in Marine Biology is a reputed Marine Institute in India which is actively engaged in teaching, research and extension activities in Marine Sciences. The advantage of the Centre is the ideal location and easy access to different biotopes such as estuary, mangrove, backwaters and coastal waters. Established in 1957 as a field laboratory for the Department of Zoology, Annamalai University at Parangipettai was recognised in 1963 for its outstanding research contribution by the University Grants Commission (UGC) as the Centre of Advanced Study in Marine Biology. Since the academic year 2010-11, CAS has been declared a separate faculty. As an ENVIS Centre, its mission is to document the present status of coastal biodiversity along the east coast of India. Internationally recognised by the United Nations University, Tokyo, CAS conducts a Training Workshop on Methodologies for Assessing Biodiversity of Coastal Ecosystems for trainees from developing Countries in Asia since the year 2000. The training portfolio of the Institute includes biological oceanography, training on methods of biodiversity assessment for scientists, teachers and research scholars, fishery biology, pollutants and monitoring methods, as well as, microbiology and biotechnology.

Thematic Areas Addressed

- Climate Change
- Coastal Disasters
- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Management Effectiveness of Coastal & Marine Protected Areas
- Marine Invasives
- Media Reporting on Coastal and Marine Biodiversity Issues
- Sustainable Fisheries Management

Training Portfolio

- **Biological Oceanography - Mangroves:** An international training course on mangrove biodiversity and resources with funding support from UNU-INWEH. Training on phytoplankton and zooplankton identification; identification of seaweeds; seaweed farming; training on remote sensing to assess resources in seagrass mangrove and coral reef diversity
- **Biodiversity division:** Training on methods of biodiversity assessment to scientists, teachers and research scholars in various central institutes and universities
- **Fishery Biology:** Training on fish parasite diversity, on preparation of value added products
- **Aquaculture:** Training on disease diagnosis and prevention methods; on fish immunology
- **Environment division:** Training on estimating levels of pollutants and monitoring methods
- **Microbiology and Biotechnology division:** Training on diversity of bacteria, fungi and virus; on bioprospecting methods

Courses offered

UNU-INWEH International Course:
Mangrove Biodiversity
and Ecosystems

(p. 55)



Training Portfolio

These institutes provide 24 months and 18 months courses on forestry for ACF and RFOs respectively. Protected area management is being taught in the syllabus. However, there is not much focus on coastal and marine biodiversity, although it is covered in tours and field visits.

There are 8 institutes dealing with induction training of SFS and RFOs. These training courses teach wildlife management as part of the course.

- Uttarakhand Forest Academy, Haldwani, Uttarakhand
- Andhra Pradesh Forest Academy, Dulapally, AP
- Balaghat Range Forest College, Balaghat, MP
- Forest Training Institute & Ranger College, Sunder Nagar, HP
- Kundal Academy of Administration, Development & Management, Maharashtra
- Eastern Forest Rangers' College, Kurseong

Courses offered

Induction Training

- SFS Induction Training (24 months) (p. 47)
- RFO Induction Training (18 months) (p. 45)
- Thematic Refresher Courses in
 - Community Forestry & JFM (1 week)
 - Human Resource Management (1 week)
 - Wildlife Management (1 week)
 - Legal Issues in Forest and Wildlife (1 week)
 - Training of Trainers (1 week)
 - General Refresher Course (2 weeks)
- Refresher Courses for Frontline staff (2 weeks)

About the Institute

The Directorate of Forest Education, since 1945 is engaged in professional training of Forest Officers that belongs to State Forest Service Officers and Range Forest Officers. The Directorate has three Central Academy for State Forest Service at Burnihat, Dehradun and Coimbatore, where 24 months induction training of State Forest Service Officers is carried out. The professional training of Range Forest Officers is carried out at Uttarakhand Forest Academy (Haldwani), Andhra Pradesh Forest Academy (Dulapally), Balaghat Range Forest College (Balaghat), Forest Training Institute & Ranger College (Sunder Nagar), Kundal Academy of Administration, Development & Management (Maharashtra) and EFRC (Kurseong). These academies and institutes work under the administrative and technical control of the Directorate. The Directorate is also engaged in skill-up gradation of in-service of Forest Officers by thematic courses for State Forest Service Officers and Range Forest Officers. Similarly, funding and technical support is provided for Refresher Course for sub-ordinate forest staff (Foresters, Deputy Foresters and Forest Guard).

Thematic Areas Addressed

- Climate Change
- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Protected Area Governance
- Protected Area Management



*Director Forest Education
Dr. Dharmendra Verma, IFS*

FRI Campus, PO New Forest
Dehradun - 248006,
Uttarakhand, India

T + 91-135-2757326
E dvermaifs@gmail.com; thedfedun@yahoo.com
W www.dfe.gov.in



Earth System Sciences Organisation - National Institute of Ocean Technology (ESSO-NIOT)

**INSTITUTE
PROFILE**



Director
Dr. M.A. Atmanand

**Earth System Sciences Organisation -
National Institute of Ocean Technology
(ESSO-NIOT)**
Velachery - Tambaram Main Road,
Pallikaranai, Chennai – 600100, India

T +91-(44)66783303
F +91-(44)22460275
E director@niot.res.in
W <http://www.niot.res.in>

About the Institute

The National Institute of Ocean Technology (NIOT) was established in November 1993 as an autonomous society under the Ministry of Earth Sciences, Government of India. The major aim of starting NIOT under the Ministry of Earth Sciences is to develop reliable indigenous technology to solve the various engineering problems associated with harvesting of non-living and living resources in the Indian Exclusive Economic Zone (EEZ), which is about two-thirds of the land area of India. Accordingly, its missions are to develop world class technologies and their applications for sustainable utilisation of ocean resources, to provide competitive, value added technical services and solutions to organisations working in the oceans and to develop a knowledge base and institutional capabilities in India for management of ocean resources and environment.

Thematic Areas Addressed

- Coastal Livelihoods
- Sustainable Fisheries Management

Training Portfolio

The Ocean Science and Technology for Islands (OSTI) group of ESSO-NIOT has been conducting training programmes, including workshops and national/international conferences, on lobster fisheries, fish aggregating devices, artificial reef maintenance, mooring of coral demarcation buoys, biofouling and antifouling as well as ballast water management technologies. A training on open sea cage culture is anticipated in the near future.

Courses offered

Training Programme on Open Sea
Cage Culture (p.53)

Training Portfolio

- Completed over 100 field based experiential training programmes based on Citizen Science model in 8 locations countrywide
- Programme on Climate Change in coastal areas of Western Ghats at Sirsi, Karnataka on demand.
- Train the Trainers (TTT); 12-15 participants on demand
- Coastal & Marine Expedition
- Sustainability Leadership Programme; 12-15 participants with research partner

About the Institute

Earthwatch Institute India is a premier research and engagement institution. It engages people 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 four areas in which Earthwatch Institute conducts scientific research in response to environmental challenges. Other areas are - Ecosystem Services (Biodiversity Conservation, Forests, Freshwater and Sustainable Agriculture), Climate Change, and Cultural Heritage and Indigenous Knowledge Systems. Earthwatch's Citizen Science field programmes create space for participation, rekindling exploratory spirit in science. Earthwatch projects provide an unforgettable and invaluable educational experience, bringing citizens and scientists together to create a sustainable environment. In order to provide field research and learning experiences, the Institute works with a wide range of institutions, businesses and non-profit organisations. Participants of the Expeditions include members of the general public, as well as, corporate employees, development professionals, officials in conservation sector, farmers and local community groups, and also educators and students. The overall purpose of the Earthwatch programmes is – to increase scientific knowledge; to develop environmental leaders; to enable organisations to become more sustainable; to contribute to management plans and pro-environment actions; and to enhance natural and socio-cultural capital.

Courses offered

- Coastal and Marine Research Expeditions (p. 22)
- Sustainable Forest (Coastal) Management (p. 49)
- Sustainability Leadership Programme (p. 48)
- Train the Trainers on Experiential Learning (p. 54)

Thematic Areas Addressed

- Climate Change
- Coastal Disasters
- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Management Effectiveness of Coastal & Marine Protected Areas
- Marine Invasives
- Media Reporting on Coastal and Marine Biodiversity Issues
- Monitoring and Evaluation of Biodiversity
- Protected Area Governance
- Protected Area Management
- Sustainable Fisheries Management



Country Director
Mr. Raghuvansh Saxena

Earthwatch Institute India
Augusta Point (Level 4),
Golf Course Road,
Sector 53, Gurgaon - 122001, Haryana, India

T +91-124-4354248

E rsaxena@earthwatch.org.in

W <http://in.earthwatch.org/expeditions/expedition-search>



Director
Shri. Bharat Pathak

GEER Foundation
P. O. Sector-7,
Indroda Nature Park,
Gandhinagar – 382007, Gujarat, India

T +91-95860 22211
E dir-geer@gujarat.gov.in
W www.geerfoundation.gujarat.gov.in

About the Institute

Gujarat Ecological Education and Research (GEER) Foundation was formed in June 1982 by the Forests & Environment Department of Government of Gujarat to undertake ecological education and research, natural history interpretation, management of sanctuaries and national parks, and establishment of protected areas. GEER foundation is a recognised research institute by the Department of Science & Technology, Government of India. Since its inception GEER Foundation has proved to be a linking organisation that brings the scientific fraternity, educational institutions, government, non-government agencies and the common man on a single platform to understand and address the issues pertaining to our ecology. The Foundation works in sync with Government of Gujarat, Gujarat Forest Department, Ministry of Environment, Forests and Climate Change (MoEFCC) and Government of India (GoI). Since 2001, GEER is the nodal agency for the National Green Corps of the MoEFCC. It also networks with educational institutions, eco-clubs and NGOs, as well as, with various national and international premier organisations. GEER Foundation is rated as one of the best organisations for research and training by MoEFCC, GoI. Government of India nominated GEER Foundation as the “Lead Institute for the Kachchh Biosphere Reserve Project.” Government of India also nominated it as a National Consultant for establishment of “West Bengal National Institute of Mangroves Research”. In 2008, GEER Foundation received “Rajiv Gandhi Wildlife Conservation Award for the year 2006” - a national award by Ministry of Environment, Forests and Climate Change, Government of India.

Thematic Areas Addressed

- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Legal Aspects of Coastal and Marine Protected Areas
- Monitoring and Evaluation of Biodiversity
- Protected Area Governance
- Protected Area Management

Training Portfolio

- Organises nature education activities for primary, high school, college and university students
- Dissertation research by the students of Master of Science courses
- 7 days field study based education programme on “Landscape Ecology and Conservation” for college students
- Since year 2010-11, one week training programme for frontline staff of Marine National Park, Gujarat Forest Department is developed and conducted
- Short term training courses are designed and conducted for the staff of the Gujarat Forest Department as required by the GFD

Courses offered

Marine and Coastal Biodiversity Training Programme (p. 39)



Training Portfolio

- GEC has undertaken various capacity building activities for the state government officials, officials from forest department, district level government officials and coastal managers and stakeholders including coastal communities on ICZM related issues.
- Presently as a part of the project, these course are offered free of cost, however after project expiration course fees might have to be raised.
- Since 2011, 43 various capacity building activities were conducted including trainings, workshops and exposure visits and it benefited to more than 1200 participants covering government and non-government functionaries.
- In addition to above mentioned activities capacity building activities for the coastal communities were conducted which include Disaster Management training, training of PRA, Formation of SHG & CBO, Management capacity building of CBOs, training on solar equipment, Micro-entrepreneurship training, training on lobster fattening, exposure visits, etc.

Courses offered

- Coastal Regulation Zone, 2011 (p. 23)
- Coral Transplantation (p. 25)
- Integrated Coastal Zone Management (p. 31)
- Technical Training on Mangrove Plantation (p. 52)

About the Institute

The Gujarat Ecology Commission (GEC) was established in 1992 by the Forest & Environment Department of the Government of Gujarat to achieve the aim of Gujarat Government to set up an apex body in-charge of implementing a comprehensive policy encompassing aspects of pollution control, environmental upgradation and improved ecological management. GEC is appointed as the Nodal agency for the Integrated Coastal Zone Management (ICZM) Project, being implemented in Gujarat, Orissa and West Bengal with funding from the World Bank. One of the main objectives of the ICZM Project is to build the capacity of stakeholders for Coastal Zone Management. SPMU has conducted various capacity building activities on ICZM and related issues for different stakeholders. GEC has in-house capacity to accommodate up to 20 persons for one day training in its well-equipped conference hall. GEC has currently technical experts on all the key coastal and marine issues including Coastal Management, CRZ, Coral, Mangroves, Flora and Fauna, etc.

Thematic Areas Addressed

- Climate Change
- Coastal Disasters
- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Legal Aspects of Coastal and Marine Protected Areas
- Management Effectiveness of Coastal and Marine Protected Areas
- Media Reporting on Coastal and Marine Biodiversity Issues
- Monitoring and Evaluation of Biodiversity
- Protected Area Governance
- Protected Area Management
- Sustainable Fisheries Management



*Member Secretary
Dr. A.K. Verma, IFS*

**Gujarat Ecology Commission (GEC),
Government of Gujarat**
Block No. 18, 1st Floor, Udyog Bhavan,
Sector 11, Gandhinagar - 382011, Gujarat, India

T (079) 23257656/23257658

F (079) 23257657

E mail@gecicmp.com

W <http://www.gec.gujarat.gov.in>



Director

Sh. R.V. Asari, IFS (Retd.) Ex. PCCF (Wildlife)

Gujarat Institute of Desert Ecology

PB.No.83,
Mundra Road, Bhuj - 370001,
Kachchh District, Gujarat, India

T +91-2832235025

E desert_ecology@yahoo.com

W www.gujaratdesertecology.com

About the Institute

Gujarat Institute of Desert Ecology (GUIDE) was established in May 1995 as a result of a cooperation with Jacob Blaustein Institute of Desert Research, Israel. It is registered as a public trust and society. GUIDE's research activities are linked to the goal of developing itself as a centre of excellence in the study of ecological, environmental and social issues and promoting sustainable development in arid and semi-arid regions of the state. Within coastal and marine research, GUIDE engages in two areas: Coastal and Marine Ecology. Its mandate includes developing a benchmark database for ecosystems of Kachchh followed by continuous monitoring and trend-analysis, identifying problem areas and evolving appropriate solutions and management strategies, formulating and implementing relevant projects for emulation, as well as, dissemination of ecological information and communication of action plans to suit local conditions. Another important mandate is to provide consultancy and training to NGO's, government officials, corporate sectors and other natural resources managers, in the principles of ecology, integrated management and sustainable development.

Thematic Areas Addressed

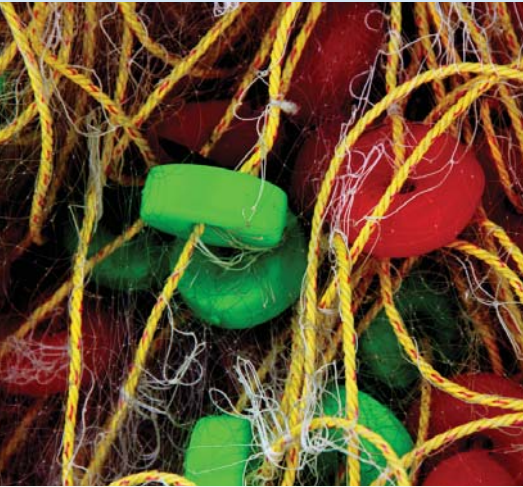
- Coastal Livelihoods
- Sustainable Fisheries Management
- Mangrove Conservation and Protection

Training Portfolio

- Offers short term (not more than 3-4 days) training courses on mangrove conservation, plantation, rehabilitation and restoration methods
- For different stakeholders in the coastal belt such as from coastal industries, mangrove dependent communities, NGOs and other interested groups who are interested in mangrove conservation
- Training programmes are offered as a part of ongoing projects like IUCN, MoEFCC etc.

Courses offered

Mangrove Nursery Development
Methods (p. 36)



Executive Director
Dr. Raktima Mukhopadhyay

Indian Institute of Bio-Social Research and Development (IBRAD)

Prafulla Kanan, V.I.P. Road, Kestopur,
Kolkata - 700101, West Bengal, India

T +91-033-66210320 F +91-033-66210300

E raktima2000@yahoo.com,
ibrad@giasclo1.vsnl.net.in

W www.ibradindia.org

About the Institute

Established in 1985, Indian Institute of Bio-Social Research and Development (IBRAD) is a non-profit professional institute engaged in action research and training on issues related to participatory Biodiversity Conservation, Natural Resource Management and Sustainable Development. It is organising training for the Indian Forest Service Officials since 1991 on issues related to Biodiversity Conservation, Microplanning, Participatory Monitoring, Conservation based Livelihood etc. IBRAD has been working in more than 10 states of India and facilitating the process of capacity building for forest biodiversity conservation, participatory monitoring, building and strengthening community institution and conservation based livelihood development for the senior level forest officials to the community members. It has a network of more than 200 community leaders engaged in conservation of biodiversity covering 10 states of India under the program Sustainable Action & Network through Community leaders Program (SANCALP) including members from the Sundarban Forest Reserves and Coringa Wildlife Sanctuary areas of Andhra Pradesh. Besides, it is also engaged in Biodiversity assessment and preparation of Wildlife Conservation Plan in mine leased areas. It has also engaged in research activities related to operationalisation of biodiversity as natural capital and ecosystem services for livelihood development in the Godavari Estuarine region of Andhra Pradesh. IBRAD has also been working in the coastal districts of Karnataka under Mangalore and Kundapur divisions for community institution building for biodiversity conservation and livelihood development under Karnataka Sustainable Forest Management and Biodiversity Conservation Project. It has set up units on Climate Change and Livelihood and Mangrove Ecosystem Services and Human Well Being Unit to pursue action research, training and sustainable livelihood development in the context of climate change adaptation and mitigation.

Thematic Areas Addressed

- Blue Carbon Documentation
- Climate Change
- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Monitoring and Evaluation of Biodiversity
- Participatory Monitoring of Coastal Biodiversity & Governance Issues
- Protected Area Management

Training Portfolio

IBRAD has been conducting

- One week training and training workshop for Indian Forest Service officials, sponsored by MoEFCC, Government of India on Biodiversity Conservation related issues
- Training program for senior to field level Forest officials across the country on biodiversity conservation, microplanning, participatory monitoring to measure vegetation changes and carbon sequestration
- Training for the frontline staff & EDC members of Mangrove Forest areas in Andhra Pradesh
- Certificate course on Agribusiness & Rural Development Management

Courses offered

- Certificate course on Impact of Climate Change on Coastal Diversity and Mitigation (p. 18)
- Participatory Biodiversity Monitoring in Mangrove Forest Area (p. 41)



Training Portfolio

- IGNFA is a National Academy entrusted with the responsibility of providing a 20 months professional training to Indian Forest Service (IFS) officer trainees (Probationers) and short term (ranging from 2 days to 10 weeks duration) training programmes for in-service IFS officers on themes related to Forestry, Wildlife and Environment with a view to update their professional knowledge
- IGNFA also organises 3-4 days sensitisation programme for members of other services like Indian Administrative Service, Indian Police Service, Indian Revenue Service including members of higher judiciary

Courses offered

Coastal and Marine Biodiversity
(Planned) (p. 20)

About the Institute

Indira Gandhi National Forest Academy (IGNFA) was constituted in the year 1987 by renaming the erstwhile Indian Forest College, which was originally established in 1938 for training senior forest officers. It is situated in the New Forest campus of Forest Research Institute (FRI) five kilometers from Dehradun town. IGNFA is currently functioning as a Staff College for the officers of the Indian Forest Service (IFS). 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's 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. 'Biodiversity Conservation and Protected Area Management' are covered under the subject Biodiversity Conservation and Wildlife Management.

Thematic Areas Addressed

- Climate Change
- Coastal Disasters
- Coastal Livelihood
- Coastal and Marine Biodiversity
- Legal Aspects of Coastal and Marine Protected Areas
- Marine Invasives
- Media Reporting on Coastal and Marine Biodiversity Issues
- Monitoring and Evaluation of Biodiversity
- Protected Area Governance
- Protected Area Management
- Sustainable Fisheries Management



Additional Director
Dr. Alok Saxena

Indira Gandhi National Forest Academy
New Forest P.O., Dehradun - 248006,
Uttarakhand, India

T +91(94)12053119
E dr_aloksaxena@rediffmail.com
W <http://www.ignfa.gov.in/>



Professor and Director i/c, IOM
Dr. N.K. Ambujam

Institute for Ocean Management, Anna University
Kotturpuram,
Chennai – 600025, India

T +91-44-22300108

E nkambuj@annauniv.edu

W <http://www.annauniv.edu/iom/home.htm>

About the Institute

The Institute for Ocean Management (IOM) was established in 1998 and forms an integral part of the Department of Civil Engineering, Anna University. IOM guides the Government in policy formulation, coordinates the activities of the different interested groups, carries out coastal and oceanic research and undertakes manpower training in Coastal Zone Management. Its mission is planned development and sustainable use of the coastal and marine resources, through extensive research and capacity building in coastal management. The overall objective of IOM is to investigate the interactions between biological, chemical and physical aspects of coastal and ocean resources including a socio-economic perspective, with a view to establish the level of sustainable utilisation, and thereafter, stimulating the adoption of scientifically-based integrated coastal and ocean management plans. The Institute offers training programmes, short courses, seminars and symposia on a regular basis throughout the year. IOM works with other national and international agencies to impart information, services, and technology to coastal resource managers.

Thematic Areas Addressed

- Application of remote sensing and GIS
- Climate Change
- Coastal Disasters
- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Coastal Zone Management
- EIA
- Legal Aspects of Coastal and Marine Protected Areas
- Monitoring and Evaluation of Biodiversity
- Pollution Monitoring

Training Portfolio

- This training is to promote the knowledge for the management of complex and dynamic physical, natural and social environments in coastal and marine area
- It focuses on diverse issues such as pollution and monitoring, database creation, remote sensing and GIS applications to coastal systems and climate change studies
- It consists of lectures, tutorials, practicals, case studies and field visits (practice oriented learning) and summer training in reputed institutions
- It provides students and scholars an opportunity to conduct scientific research in marine and coastal systems

Courses offered

Coastal Management

(p. 03)

Training Portfolio

- Conducted about 45 training programmes
- Trainees include officials from the various departments of the central and state government, lecturers, research scholars and students
- Training programmes of one week duration (five working days) are conducted
- Applications of remote sensing and GIS in management of coastal critical habitats
- Geoinformatics for coastal disaster management
- Satellite Oceanography
- Sediment transport in near shore areas
- Coastal vulnerability
- Ecotoxicology
- Shoreline management
- Integrated coastal zone management
- Marine pollution
- Coastal ecosystem modelling
- Oil spill modelling

Courses offered

- Applications of GIS and Remote Sensing for the management of Coastal Critical habitats (p. 15)

About the Institute

The Integrated Coastal and Marine Area Management Project Directorate (ICMAM-PD), an attached office of Ministry of Earth Sciences (MoES), Government of India, was established in 1998 for implementing the Environment Management Capacity Building Project. Presently, the Project Directorate is continuing its activities in the field of coastal research, fully funded by MoES. The mandate of the Project Directorate is to demonstrate application of GIS, Remote Sensing, Environmental Impact Assessment and Mathematical Modelling. ICMAM-PD has worked on monitoring and management of Coastal Critical habitats such as mangroves and coral reefs using tools such as Remote Sensing and Geographical Information Systems (GIS), supplemented with extensive field surveys. One of the objectives of the Project Directorate is to develop capabilities and skilled manpower in the fields of coastal critical habitat management, integrated coastal zone management, shoreline management, coastal hazard mapping, satellite oceanography, marine pollution, as well as, oil spill modeling among others through training programmes. The participants benefit from hands-on exercises on use of software related to GIS, image processing, sediment transport, oil spill modelling and tsunami modelling.

Thematic Areas Addressed

- Coastal Disasters
- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Integrated Coastal Zone Management
- Legal Aspects of Coastal and Marine Protected Areas
- Management Effectiveness of Coastal and Marine Protected Areas
- Protected Area Management
- Sustainable Fisheries Management



*Project Director
Dr. M A Atmanand*

**Ministry of Earth Sciences, National
Institute of Ocean Technology Campus,
Velacherry - Tambaram Main Road,
Pallikaranai, Chennai - 600100, India**

T +91-44-66783599
E icmam@icmam.gov.in
W <http://icmam.gov.in/>



International Collective in Support of Fishworkers (ICSF)

INSTITUTE
PROFILE



*Executive Trustee, ICSF Trust
Ms. Ramya Rajagopalan*

International Collective in Support of Fishworkers (ICSF)
27, College Road, Chennai – 600006, India

T +91(44)28275303
E icsf@icsf.net
W www.icsf.net

About the Institute

The International Collective in Support of Fishworkers (ICSF) is an international non-governmental organisation that works towards the establishment of equitable, gender-just, self-reliant and sustainable fisheries, particularly in the small-scale artisanal sector. ICSF draws its mandate from the historic International Conference of Fishworkers and their Supporters (ICFWS), held in Rome in 1984, parallel to the World Conference on Fisheries Management and Development organised by the Food and Agriculture Organisation of the United Nations (FAO). The main aims of ICSF are to monitor issues that relate to the life, livelihood and living conditions of fishworkers around the world, to disseminate information on these issues, particularly amongst the fisherfolk, to prepare guidelines for policymakers that affect fisheries development and management in a just, participatory and sustainable way; and to help create the space and momentum for the development of alternatives in the small-scale fisheries sector. As a support organisation, ICSF is committed to influence national, regional and international decision-making processes in fisheries so that the importance of small-scale fisheries, fishworkers and fishing communities is duly recognised. In this endeavour, ICSF works in collaboration with organisations of fishworkers and other like-minded groups. In 2003, ICSF was awarded the Margarita Lizárraga Award by the Food and Agriculture Organisation of the United Nations (FAO) for its contribution to the FAO Code of Conduct for Responsible Fisheries. In 2005, the Swedish Trade Association Svensk Fisk conferred the Kungsfenan Swedish Seafood Award for Sustainable Fishing on ICSF.

Thematic Areas Addressed

- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Legal Aspects of Coastal and Marine Protected Areas
- Management Effectiveness of Coastal and Marine Protected Areas
- Sustainable Fisheries Management

Training Portfolio

- For the past 4 years, ICSF has been actively involved in training fishing communities directly, and also leaders of fish worker organisations and NGOs, on different aspects of resource management (ecosystem based approach to fisheries management), on participatory conservation issues and on fishermen rights issues.

Courses offered

- Empowerment through information (p. 28)

Training Portfolio

Mangroves for the Future (MFF) Initiative, implemented by IUCN in India conducts the following training courses annually:

- Regional Mangrove Trainings
- ICM Course
- Scientific Writing and Presentation Workshops
- Project cycle management

Courses offered

- Integrated Coastal Management Course (p. 30)
- Mangrove Restoration and Management (p. 37)

About the Institute

The Government of India has been a state member of IUCN since 1969. Today, IUCN has 38 members in India, one of the highest among Asian countries. IUCN's six commissions include more than 400 experts from India. In 2007, IUCN established a country office and initiated its activities in India to strengthen its engagement at the national, regional and global level. Through national, regional, and global initiatives, IUCN supports dedicated forums to share knowledge, facilitate research and policy dialogue, design training programmes, and provide policy support. This provides opportunities for members to enhance their collective strengths, and contribute better to national, regional, and global conservation. Various considerations have guided the process of framing the India Programme objectives. These find common ground between India's conservation priorities, and IUCN's conservation priorities in Asia. IUCN India Office has been implementing the regional MFF programme since 2007. MFF is policy-relevant, people-focused, partnership-based and investment-oriented. Strengthen Integrated Coastal Management institutions and empower civil society (including local communities) to engage in decision-making and management that conserves, restores and sustainably uses coastal ecosystems is a key objective of this initiative.

Thematic Areas Addressed

- | | |
|---|---|
| ■ Climate Change | ■ Areas, Mangrove Restoration Techniques, Monitoring and Evaluation of Biodiversity |
| ■ Coastal Disasters and Livelihoods | ■ Protected Area Governance |
| ■ Coastal and Marine Biodiversity | ■ Protected Area Management |
| ■ Legal Aspects of Coastal and Marine Protected Areas | ■ Sustainable Fisheries Management |
| ■ Management Effectiveness of Coastal, Marine Protected | |



Country Representative
Mr. Priya Ranjan Sinha

International Union for the Conservation of Nature (IUCN)
India Country Office, B-88 Neeti Bagh,
New Delhi - 110049, India

T +91 11 2652 7742; Ext. 210
E priya.sinha@iucn.org
W www.iucn.org/india



Director
Dr. V. Selvam

**M. S. Swaminathan
Research Foundation**
3rd Cross Street,
Taramani Institutional Area,
Taramani, Chennai - 600113, India

T +91-4144-238509
E vselvam45@hotmail.com
W <http://www.mssrf.org>

About the Institute

M. S. Swaminathan Research Foundation (MSSRF) is a non-profit research organisation and was established in 1988. MSSRF has all along been developing and following a pro-nature, pro-poor, pro-women and pro-sustainable on-farm and non-farm livelihoods through appropriate eco-technology and knowledge empowerment. Coastal Systems Research is one of the six divisions/thematic areas in which the organisation is engaging. Its objective is to strengthen the resilience of coastal communities and ecosystems so that sustainable management of coastal resources can be achieved. Since 1991, MSSRF recognises the crucial role of mangrove wetlands and pursues a strategy of conservation of this ecosystem and sustainable utilisation of their resources through anticipatory research in developing saline tolerant crop varieties using salt-tolerant genes of mangrove plants. Mangrove wetlands play an important role in mitigating the impact of natural disasters, but they also provide livelihood to millions of artisanal fish worker and acts as a critical habitat for wildlife.

Thematic Areas Addressed

- Climate Change
- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Community Participation
- Linking Coastal Livelihood and Biodiversity
- Management Effectiveness of Coastal and Marine Protected Areas
- Protected Area Management
- Restoration Ecology

Training Portfolio

- MSSRF conducts mostly short-term training programme of about 3 days to 3 weeks on coastal and marine biodiversity and management
- Number of courses per year varies from 12 to 15
- A team of 10 members function as faculty and whenever needed outside experts are engaged
- MSSRF has three training halls and discussion rooms fitted with modern communication equipment
- Field work and working with community is must in all programmes and hence, field sites are well equipped to handle these training programmes

Courses offered

- Integrated Coastal Zone Management (p. 32)
- Mangrove Ecology and Biology (p. 35)
- Mangrove Restoration and Management (p. 38)
- Participatory management of coastal resources and biodiversity (p.42)

Training Portfolio

- Post doctoral Program
- PhD Program
- Integrated PhD Program
- iBio Program
- MD-PhD Program
- MSc Program
- Meetings and Workshop
- Eurospin Programme
- Science and Society
- Joint NCBS in STEM CRG post doctoral fellowship

Courses offered

- M.Sc. Program in Wildlife Biology and Conservation (p. 09)

About the Institute

National Centre for Biological Sciences (NCBS) is a part of the Tata Institute of Fundamental Research. It is a premier research institute with a faculty research interest lying in the frontier areas of biology using experimental and computational approaches to the study of molecules, cells and organisms. The research groups are small and with specific strengths that make interactions with complementary groups fruitful. Facilities and equipment are accessible, well managed, used optimally and allow most kinds of modern research in modern biology to be conducted in-house. The M.Sc. Program in Wildlife Biology and Conservation started in 2004, with the goal of producing future leaders in wildlife research and conservation. With faculty drawn from many institutions, the course continues to draw excellent students from across India.

Thematic Areas Addressed

- Coastal and Marine Biodiversity
- Conservation Biology
- Conservation Practice
- General Ecology
- Monitoring and Evaluation of Biodiversity
- Protected Area Governance
- Protected Area Management
- Wildlife Biology and Management



*Course coordinator
Ms. Chandni Gurusrikar*

**National Centre for Biological Sciences,
Tata Institute of Fundamental Research**
GKVK Campus, Bangalore - 560065, India

T +91-08023666414

F (079) 23257657

E mscwildlife@ncbs.res.in

W http://www.ncbs.res.in/msc_program



National Centre for Good Governance

**INSTITUTE
PROFILE**



About the Institute

The Lal Bahadur Shastri National Academy of Administration (LBSNAA) was set up in 1959 as The National Academy of Administration, Mussoorie. Its status was that of an ‘attached office’ of the Government of India under the Ministry of Home Affairs. LBSNAA imparts training to members of the Indian Civil Services in a common Foundation Course for the All India Services and the Central Service Group-A; and professional training to regular recruits of the Indian Administrative Service (IAS). The Academy also conducts in-service training courses for middle to senior level members of the IAS and induction level training for officers promoted to the IAS from the state civil services. Individuals, non-government organisations, the corporate sector, and governments both within India and abroad are offered customised courses, which cater to their research and training requirements. The National Centre for Good Governance (NCGG) is engaging with LBSNAA on capacity building of Indian Civil Service officers on climate change & environment issues. Various climate change topics have been structured for different training phases at the Academy. The training delivery feedback given by the officer trainees has been excellent in all the programmes.

Training Portfolio

- The Centre engages in training on Climate Change issues for Civil Service Officers at LBSNAA covering coastal zone vulnerability and the adaptation strategies for these areas
- The training portfolio of the organisation can be found at the academy's website: <http://www.lbsnaa.gov.in/home>

Director General
Shri Kush Verma, IAS

Coordinator
Dr. B.S.Bisht

Branch Office:
National Centre for Good Governance
(An Autonomous Organisation of DoPT, Government of India)
Cozy Nook-L.B.S. National Academy of Administration,
Mussoorie - 248179

Head Office:
Block IV, 4th Floor,
Old JNU Campus
New Mehrauli Road,
New Delhi - 110030

T +91-135-2632485
E vermak@ias.nic.in
W www.lbsnaa.gov.in/home

Thematic Areas Addressed

- Climate Change
- Coastal Disasters
- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Legal Aspects of Coastal and Marine Protected Areas

Courses offered

Courses on Climate Change and Environment for the State Administrative Institutes (p. 26)

Training Portfolio

- The training will be part of the ICZM Training Programmes to be organised by the NCSCM
- An interactive application has been developed to provide training in the process of preparation of ICZM plan. The focus is to provide training of trainers for integrated coastal planning and management. The training is mainly for mid and senior level personnel from different countries involved in various coastal sectors

About the Institute

National Centre for Sustainable Coastal Management (NCSCM) is an autonomous centre of the Ministry of Environment, Forests and Climate Change (MoEFCC), Government of India, aiming to be a world-class institution for coastal and marine area management. The Centre is established within the Anna University Campus, Chennai. Fourteen institutions have formed a consortium with NCSCM, with Anna University Chennai as the Hub. NCSCM has six divisions - geospatial, integrated social sciences and economics, coastal environmental impact assessment, conservation of coastal and marine resources, futuristic research and knowledge, governance and policy. Its mission is to support integrated management of coastal and marine environment for livelihood security, sustainable development and hazard risk management by enhancing knowledge, research and advisory support, partnerships and network as well as coastal community interface.

Courses offered

Integrated Coastal Zone Management
Training Programme (p. 33)

Thematic Areas Addressed

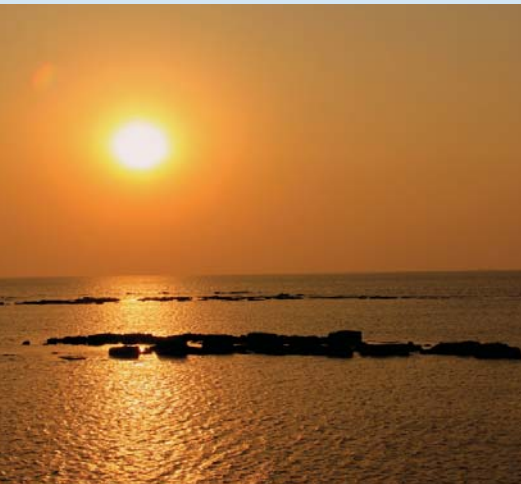
- Climate Change
- Coastal Disasters
- Coastal Livelihoods
- Coastal and Marine Biodiversity
- Coastal Resources, Economics
- Legal Aspects of Coastal and Marine Protected Areas
- Sustainable Fisheries Management



Director
Prof. R. Ramesh

**National Centre for Sustainable
Coastal Management**
Koodal Building, Anna University,
Chennai - 600025, India

T +91-(44)-2230-0108
E ramesh_au@yahoo.com
W <http://ncscm.org/>



Director

Dr. J.K. Patterson Edward

**Suganthi Devadason Marine
Research Institute (SDMRI)**

44-Beach Road, Tuticorin - 628001,
Tamil Nadu, India

T +91-(0)461-2336488, 2323007

F +91-(0)461 - 2325692

E edwardjkpatterson@sdmri.in

W <http://www.sdmri.in/>

About the Institute

Established in 1998 under the Suganthi Devadason Trust at Tuticorin, Tamil Nadu, Suganthi Devadason Marine Research Institute (SDMRI) is a Marine Research and Higher Education organisation. The founders of SDMRI are well known personalities in the society. The Founder President of SDMRI, Mr. D.G. Rajan is an industrialist, administrator and social worker with various capacities in the society. SDMRI's objective is to meet out the research needs of marine and coastal ecosystems in India, to promote higher education in marine science, and to enhance societal involvement in marine resource conservation, as well as, to assist the coastal folk in the improvement of socio-economic conditions. In 2012, the Department of Environment, Government of Tamil Nadu recognised the excellent contribution of the Institute in the field of Environmental Management and Protection by awarding the "Dr. Guruswamy Mudaliar Award".

Thematic Areas Addressed

- Coastal and Marine Biodiversity
- Coastal Ecosystem Rehabilitation
- Management Effectiveness of Coastal and Marine Protected Areas
- Marine Invasives
- Monitoring and Evaluation of Biodiversity
- Protected Area Management
- SCUBA Diving

Training Portfolio

- SCUBA diving (PADI, Australia) - Open Water Diver Course
- SCUBA diving (PADI, Australia) - Advanced Open Water Diver Course
- Marine biodiversity assessment and monitoring techniques
- Coral rehabilitation techniques

Courses offered

- SCUBA diving (PADI, Australia) - Open Water Diver Course (p. 59)
- SCUBA diving (PADI, Australia) - Advanced Open Water Diver Course (p. 60)
- Marine biodiversity assessment and monitoring techniques (p. 40)
- Coral rehabilitation techniques (p. 24)

Training Portfolio

- TISS offers a distance learning course for duration of 2 months to 1 year on Coastal Area Mapping Project (CAMP)
- This course is for overall environment sector, communities, NGOs and young professionals
- Under CAMP, four different trainings are offered:-
 - Participatory and Community GIS - GIS for Empowered Actions and Result (GEAR);
 - Community Beach Profiling;
 - Coastal Zone Management Plan (CZMP) and CRZ;
 - WebGIS and Crowd Sourcing of Data.

Courses offered

- Coastal Area Mapping Project (CAMP) (p. 21)
- M.A. in Climate and Sustainability Studies (p. 05)
- M.A. in Ecology, Environment and Sustainable Development (p. 06)
- M.A. in Sustainable Livelihoods, Natural Resources Management and Governance (p. 07)

About the Institute

The Tata Institute of Social Sciences (TISS) was established in 1936 and was declared Deemed University in 1956. Since its inception, the vision of the TISS is to be an institution of excellence in higher education that continually responds to the changing social realities through the development and application of knowledge, towards creating a people-centred, ecologically sustainable and just society that promotes and protects dignity, equality, social justice and human rights for all. Over the years, the Institute has made consistent contributions to civil society and the development sector through its education, research, field action and extension. Today, the TISS has earned recognition as an institution of repute from different Ministries of the Government of India; various State Governments; international agencies such as the United Nations; and the non-government sector, both national and international. A high degree of freedom and autonomy shape the positive work ethos and creativity in the Institute facilitating strong linkages between education, research, field action and dissemination.

Thematic Areas Addressed

- Climate Change
- Coastal Disasters
- Coastal Livelihoods
- Coastal Zone Management Plan (CZMP)
- CRZ
- Forest Rights and Social Justice
- GIS
- Global Environmental Governance
- Monitoring and Evaluation of Biodiversity
- PRA
- Protected Area Governance
- Protected Area Management
- Social and Human Ecology
- Traditional Knowledge in NRM



Senior Programme Coordinator - Director's Office
Mr. Sudarshan Rodriguez

Tata Institute of Social Sciences (TISS)
Coastal Area Mapping Project
V.N. Purav Marg, Deonar, Mumbai - 400088,
Maharashtra, India

T +91-9310442441

E sudarshan@tiss.edu

W <http://www.tiss.edu>



Director
Dr. V. B. Mathur

Wildlife Institute of India (WII)
P.O. Box 18, Chandrabani,
Dehradun - 248001,
Uttarakhand, India

T +91-(0)135-2640910 Extn: 101
E vbm@wii.gov.in | dwii@wii.gov.in
W www.wii.gov.in

About the Institute

Established in 1982, Wildlife Institute of India (WII) is an internationally acclaimed institution, with the objective to build up scientific knowledge on wildlife resources, train personnel at various levels for conservation and management of wildlife, carry out research relevant to management including the development of techniques appropriate to Indian conditions, provide information and advice on specific wildlife management problems, collaborate with international organisations on wildlife research, management and training, and develop as a regional center of international importance on wildlife and natural resource conservation. Wildlife Institute of India's mission is to nurture the development of Wildlife Science and promote its application in conservation, in consonance with its cultural and socio-economic milieu, while building capacity through training, education and research in the field of wildlife conservation.

Thematic Areas Addressed

- Animal Ecology & Conservation Biology
- Eco-development Planning & Participatory Management
- Endangered Species Management
- Habitat Ecology
- Landscape Level Planning & Management
- PA Network, Wildlife Management and Conservation Education
- Population Management, Capture & Rehabilitation
- Wildlife Health Management

Training Portfolio

- Trainees from 15 countries
- M.Sc. in Wildlife Science: 12 Courses completed, 104 Students passed out
- Training Programmes for
 - In-service Forest Officers
 - Central Military and Para-military Organisations
 - PA managers of neighboring countries

Courses offered

- Masters in Wildlife Science (p. 8)
- Postgraduate Diploma (p. 10)
- Certificate Course (p. 17)
- Short Term Course (p. 34)
- Two-day Dialogue Course (p. 43)
- Special Certificate Course (p. 50)
- Special Course (p. 51)



Training Portfolio

In collaboration with UNICEF, XIC has developed a curriculum framework for a course, “Communication for Development (C4D)” in India, which is a full-time, post-graduate diploma programme. Through this course, XIC aims to go beyond generating awareness, to creating a grassroot level democratic dialogue about development in which citizens would have a consultative/co-creative role

Courses offered

- Public Relation and Corporate Communication
- Communication for Development (C4D) (p. 46)
- Advanced Integrated Communication Programme (Weekend Course)

About the Institute

The Xavier Institute of Communications (XIC) is a professional media centre which offers 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. By virtue of its course offerings and enrolments, XIC ranks among the biggest non-government media centres in Asia. XIC was initiated in 1969 by The Catholic Bishops’ Conference of India to develop scholarship and professionalism in the media. It is presently managed by the Society of Jesus (Jesuits) of the Bombay Province. The Jesuit reputation for excellence is part of a 450-year old tradition that began when St. Ignatius of Loyola founded the Society of Jesus in 1540.

XIC offers diploma courses in various areas such as journalism and mass communication, advertising and marketing communications, film, television and digital video production, and marathi journalism. Apart from the diploma courses, XIC regularly organises workshops. The workshops are an integral part of the XIC system. They are specially designed and conducted for two significant groups: Students and Media Professionals. Keeping abreast with contemporary happenings and events, XIC evolves workshops which cater to the times and the public. Specialised workshops attract participants from all over India.

Thematic Areas Addressed

- Media Reporting on Coastal and Marine Biodiversity Issues



Fr. Lawrence Ferrao
Director

Prof. (Dr.) Jehangir B. Mistry
Dean

Xavier Institute of Communications
St. Xavier’s College Campus, 5, Mahapalika Marg,
Mumbai - 400001, Maharashtra, India

T +91 22 2262 1366 / 2262 1639
F +91 22 2265 8546
E dean@xaviercomm.org, admin@xaviercomm.org
W www.xaviercomm.org



GLOSSARY





Glossary

A

Access to genetic resources and Benefit Sharing (ABS)

The fair and equitable sharing of the benefits arising out of the utilization of genetic resources is one of the three objectives of the Convention on Biological Diversity. The Conference of the Parties to the Convention on Biological Diversity adopted The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization at the Convention on Biological Diversity at its tenth meeting on 29 October 2010 in Nagoya, Japan. The objective is to share the benefits arising from the utilization of genetic resources in a fair and equitable way, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding, thereby contributing to the conservation of biological diversity and the sustainable use of its components.

CBD: <http://www.cbd.int/abs/>

B

Biodiversity

The variability among living organisms from all sources including terrestrial, marine and other aquatic ecosystems, and the ecological complexes of which they are part; this includes diversity within species, between species, and of ecosystems.

IUCN: <http://www.iucn.org/what/biodiversity/about/>

The variability among living organisms from all sources, including terrestrial, marine, and other aquatic ecosystems and the ecological complexes of which they are part. Biodiversity includes diversity within species, between species, and between ecosystems (MA, 2005a). Biodiversity may be described quantitatively, in terms such as richness, rarity, and uniqueness.

TEEB: <http://www.teebweb.org/resources/glossary-of-terms/>

Biodiversity Assessment

Assessing the status and trends of biodiversity is essential for sustainable development strategies at all levels, from village to nation to region.

IUCN: http://cmsdata.iucn.org/downloads/biodiversity_assessment_guide.pdf

Biodiversity Conservation

The conservation of biological diversity –the diversity of ecosystems, genes, and plant and animal species –is one of the greatest challenges faced by society today. Biodiversity conservation has to be seen as a global service for humanity.

GIZ: <http://www.giz.de/en/downloads/gtz2010-en-biological-diversity.pdf>

Biodiversity Monitoring

Biodiversity monitoring is the repeated observation or measurement of biological diversity

to determine its status and trend. Because of the complexity of biodiversity, incomplete taxonomic knowledge, and high cost of total biodiversity assessments, monitoring relies on indicators. The biodiversity indicators being monitored may be qualitative (e.g. presence or absence of an indicator species) or quantitative (abundance or population density of a species, distribution area of a habitat, number of typical species in the habitat, etc.). Biodiversity monitoring is an obligatory component in many international agreements.

EuMon: <http://eumon.ckff.si/biomat/0.1.5.php>

C

Cage Culture

Cage culture uses existing water resources (ponds, rivers, estuaries, open ocean, etc.) but confines the fish inside some type of mesh enclosure. The mesh retains the fish, making it easier to feed, observe and harvest them. The mesh also allows the water to pass freely between the fish and surrounding water resource, thus maintaining good water quality and removing wastes.

<http://fisheries.tamu.edu/files/2013/09/SRAC-Publication-No.-160-What-is-Cage-Culture.pdf>

Capacity Development

Capacity Development is a process, which enables individuals, organisations and societies as a whole to shape their own development sustainably and adapt to changing conditions. In order to trigger sustainable changes in social systems, capacity development always addresses three levels – the individual, the systems of reference, and the systemic level. Systems of reference denote the individual's immediate sphere of influence, and can be an organisation, a company, a network or an informal community. Systemic level refers to the enabling environment where the individuals and systems of reference interact and grow.

GIZ Report 140328 CNA CMPA

Coastal and Marine Biodiversity

The oceans cover 70% of the planet's surface area, and marine and coastal environments contain diverse habitats that support an abundance of marine life. Life in our seas produces a third of the oxygen that we breathe, offers a valuable source of protein and moderates global climatic change. Some examples of marine and coastal habitats include mangrove forests; coral reefs; sea grass beds; estuaries in coastal areas; hydrothermal vents; and seamounts and

soft sediments on the ocean floor a few kilometres below the surface.

CBD: <http://www.cbd.int/marine/intro.shtml>

Coastal Regulation Zone (CRZ)

Under the Environment Protection Act, 1986 a notification was issued in February, 1991, for regulation of activities in the coastal area by the Ministry of Environment, Forests and Climate Change (MoEFCC). As per the notification, the coastal land up to 500m from the High Tide Line (HTL) and a stage of 100m along banks of creeks, estuaries, backwater and rivers subject to tidal fluctuations, is called the Coastal Regulation Zone (CRZ). CRZ along the country has been placed in four categories. The above notification includes only the inter-tidal zone and land part of the coastal area and does not include the ocean part. The notification imposed restriction on the setting up and expansion of industries or processing plants etc. in the said CRZ.

Anna University <http://www.annauniv.edu/iom/iomour/CRZ%20info.htm>

(Coastal) Resources

Any physical or virtual entity of limited availability that provides a benefit.

TEEB: <http://www.teebweb.org/resources/glossary-of-terms/>

Coastal Zone Management

A continuous and dynamic process by which decisions are made for the sustainable use, development and protection of coastal and marine areas and resources. ICM acknowledges the interrelationships that exist among coastal and ocean uses and the environments they potentially affect (<http://www.egreenideas.com/glossary.php?group=i>).

IOM: http://www.iomenvi.in/coastal_zone%20management.php

Conservation Laws and Regulations

Conservation of various elements of biodiversity (genes, species and ecosystems as defined by the Biological Diversity Act, 2002) outside the protected area system is governed by a variety of legislations in a sectoral manner. In this, there has been a very distinct separation of wild and domesticated biodiversity in terms of management. Most of the wild biodiversity, mainly in

form of trees, are regulated through prevalent Central / State forest legislations such as the Indian Forest Act, 1927. In the overall management of forests and biodiversity, apart from the Working Plan, there is no information gathered at the sub-national level for assessing the health of forests, or to generate understanding about the functioning of an ecosystem. The conservation of habitats, corridors, and threatened and endangered species is largely governed by the provisions of the Wildlife (Protection) Act, 1972. The REDD+ regime needs to value these habitats and biodiversity outside protected areas with an ecosystem perspective, which would enhance the efficacy of biodiversity conservation efforts.

MoEFCC: http://envfor.nic.in/sites/default/files/redd-bk4_0.pdf (p.4)

Conference of the Parties (COP) to the Convention on Biological Diversity

The Conference of the Parties is the governing body of the Convention, and advances implementation of the Convention through the decisions it takes at its periodic meetings. To date the Conference of the Parties has held 11 ordinary meetings, and one extraordinary meeting (the latter, to adopt the Biosafety Protocol, was held in two parts). From 1994 to 1996, the

Conference of the Parties held its ordinary meetings annually. Since then these meetings have been held somewhat less frequently and, following a change in the rules of procedure in 2000, will now be held every two years. The Eleventh meeting of the Conference of the Parties to the Convention on Biological Diversity was held in Hyderabad, India (18 - 20 October 2012). The Twelfth meeting of the Conference of the Parties took place in Pyeongchang, Republic of Korea (6 - 17 October 2014).

CBD: <http://www.cbd.int/cop/>

Critical Habitat

Defined under the Endangered Species Act, critical habitat is "the specific areas within the geographic area occupied by a species on which are found those physical and biological features essential to the conservation of the species, and that may require special management considerations or protection; and specific areas outside the geographic area occupied by a species at the time it is listed, upon determination that such areas are essential for the conservation of the species."

US Department of Commerce, National Oceanic and Atmospheric Administration: <http://marine-protectedareas.noaa.gov/glossary.html>

E

Eco-Development Committee (EDC)

The role of the Economic Development Committee (EDC) is to develop an opportunity-specific and action-oriented plan that fosters and advances infrastructure in a specific Region.

<https://www.azmag.gov/Committees/Committee.asp?CMSID=3577>

Ecological Parameters

The information on environmental variables that affect the living organisms is vital. Hydrographical studies play an important role in understanding the various biological processes (growth, physiology, reproduction, etc.) and the general productivity of aquatic ecosystem. The physico-chemical parameters such as temperature, salinity, dissolved oxygen and nutrients are of profound biological significance and are used as population indicators (Head, 1985). Temperature and light play an important role in the gonadal gametogenesis, spawning and initiation of gonadal development (Pandey and Shukla, 2005).

http://drs.nio.org/drs/bitstream/2264/2112/6/chap2_3.pdf

Ecosystem(s)

A dynamic complex of plant, animal, and micro-organism communities and their non-living environment interacting as a functional unit (MA, 2005a). For practical purposes it is important to define the spatial dimensions of concern.

TEEB: <http://www.teebweb.org/resources/glossary-of-terms/>

Ecosystem Services

The direct and indirect contributions of ecosystems to human wellbeing. The concept "ecosystem goods and services" is synonymous with ecosystem services.

TEEB: <http://www.teebweb.org/resources/glossary-of-terms/>

Biodiversity and the services that the ecosystems provide—such as clean water, nutrient-rich soil, oxygen—are crucial to human existence.

GLZ: <http://www.giz.de/en/downloads/gtz2010-en-biological-diversity.pdf>

Ecosystem services are processes by which the environment produces benefits useful to people, akin to economic services. They include:

- Provision of clean water and air
- Pollination of crops
- Mitigation of environmental hazards
- Pest and disease control
- Carbon sequestration

Accounting for the way in which ecosystems provide economic goods is an increasingly popular area of development. The concept of ecosystem services is similar to that of natural capital. The Millennium Ecosystem Assessment released in 2005 showed that 60% of ecosystem services are being degraded or used unsustainably.

CBD: <https://www.cbd.int/cepa/toolkit/2008/doc/CBD-Toolkit-Glossaries.pdf>

The ecosystem services, as characterized by the framework of Millennium Ecosystem Assessment, form an integral part of association of local communities with the ecosystems in India.

MoEFCC http://envfor.nic.in/sites/default/files/redd-bk4_0.pdf

Ecosystem Management

An approach to maintaining or restoring the composition, structure, function, and delivery of services of natural and modified ecosystems for the goal of achieving sustainability. It is based on an adaptive, collaboratively developed vision of desired future conditions that integrates ecological, socioeconomic, and institutional perspectives, applied within a geographic framework, and defined primarily by natural ecological boundaries (MA, 2005a).

TEEB: <http://www.teebweb.org/resources/glossary-of-terms/>

Education for Sustainable Development (ESD)

Education for Sustainable Development is an important aspect of education quality; it enables people to understand global contexts and to shape their mindsets and actions accordingly in their daily lives. In addition, it conveys the values and principles that form the basis of sustainable development and underlines the complexity and interdependence of three spheres: the environment, society and the economy.

GIZ <http://www.giz.de/expertise/downloads/bmz2013-en-bildung-factsheet.pdf>

Exclusive Economic Zone

The Exclusive Economic Zone (EEZ) is one of the major innovations in the law of the sea, and of the UNCLOS in particular. It was born of a political demand strongly expressed by countries undergoing development, especially African states, which were not prepared to allow the unlimited removal of halieutic resources in the vicinity of their territorial seas (TS). In a context of legal uncertainty (the breadth of the TS had not yet been established in international law), many countries had begun to create territorial seas at considerable distances from their coasts in order to assert their total control of the resources in question. The EEZ, a formula based on compromise, was recognized by the Conference on the Law of the Sea in 1976: the Convention confirmed the success of this undertaking.

The EEZ's legal regime is characterized as follows:

- the EEZ is an area beyond and adjacent to the territorial sea: it can extend to a maximum 200 nautical miles from the baselines.
- within the EEZ, a coastal State enjoys sovereign rights over its natural resources. It can exercise its jurisdiction over certain

activities for the purpose, among others, of protecting the environment. But it is also obliged to respect the rights of other States (thanks to the maintenance of certain freedoms laid down by the law of the high seas, such as freedom of navigation).

In the Mediterranean, the greatest distance between opposite States is no more than 400 nautical miles. But apart from this detail regarding breadth, all the characteristics of the EEZ can be applied to it. The EEZ should be analyzed as a concept with three dimensions: the surface, water column, seabed (and its subsoil). The interconnection of these three elements makes the EEZ particularly complex, a marine area which is, in fact, a unique phenomenon. It is of a functional nature (it does not involve any territorial control, as does the territorial sea) and encompasses three kinds of legal situations: the sovereign rights of the coastal State, its jurisdiction, and freedom for other States.

IUCN: http://iucn.org/about/union/secretariat/offices/iucnmed/iucn_med_programme/marine_programme/governance/glossary/?11323

G

Geographic Information System (GIS)

A system of hardware, software, and procedures designed to support the capture, management, manipulation, analysis, modeling, and display of spatially referenced data for solving complex planning and management problems.

US Department of Commerce, National Oceanic and Atmospheric Administration: <http://marine-protectedareas.noaa.gov/glossary.html>

Governance (of Ecosystems)

The process of regulating human behavior in accordance with shared ecosystem objectives. The term includes both governmental and non-governmental mechanisms.

TEEB <http://www.teebweb.org/resources/glossary-of-terms/>

Global Environmental Governance

Environmental Governance comprises the rules, practices, policies and institutions that shape how humans interact with the environment. Good environmental governance takes into account the role of all actors that impact the environment. From governments to NGOs,

the private sector and civil society, cooperation is critical in achieving effective governance that can help us move towards a more sustainable future.

UNEP <http://www.unep.org/pdf/brochures/EnvironmentalGovernance.pdf>

H

Habitat

A place or type of site where an organism or population naturally occurs.

CBD: <https://www.cbd.int/cepa/toolkit/2008/doc/CBD-Toolkit-Glossaries.pdf>

Living space for resident and migratory species.

TEEB <http://www.teebweb.org/resources/glossary-of-terms/>

Human Ecology

Man's collective interaction with his environment. Influenced by the work of biologists on the interaction of organisms within their environments, social scientists undertook to study human groups in a similar way. Thus, ecology in the social sciences is the study of the ways in which the social structure adapts to the qual-

ity of natural resources and to the existence of other human groups. When this study is limited to the development and variation of cultural properties, it is called cultural ecology. Human ecology views the biological, environmental, demographic, and technical conditions of the life of any people as an interrelated series of determinants of form and function in human cultures and social systems. It recognizes that group behaviour is dependent upon resources and associated skills and upon a body of emotionally charged beliefs; these together give rise to a system of social structures.

<http://www.britannica.com/EBchecked/topic/275659/human-ecology>

I

Integrated Coastal and Marine Area Management

Multiple and often conflicting demands are placed on coastal areas and marine resources. A balance between diverse user interests can only be achieved if planning and management recognize all stake-holders' economic, environmental and social concerns. Forward-looking spatial planning in coastal and marine areas – including the establishment and governance of protected areas – helps to reconcile the in-

terests of ecosystem conservation and sustainable use.

GlZ publication "Oceans and coasts working towards a more sustainable use of marine and coastal ecosystems"

Integrated Coastal Zone Management (ICZM)

ICZM is a dynamic, multidisciplinary and interactive process to promote sustainable management of coastal zones. It covers the full cycle of information collection, planning (in its broadest sense), decision making, management and monitoring of implementation. ICZM uses the informed participation and cooperation of all stakeholders to assess the societal goals in a given coastal area, and to take actions towards meeting these objectives. ICZM seeks, over the long-term, to balance environmental, economic, social, cultural and recreational objectives, all within the limits set by natural dynamics. 'Integrated' in ICZM refers to the integration of objectives and also to the integration of the many instruments needed to meet these objectives. It means integration of all relevant policy areas, sectors, and levels of administration. It means integration of the terrestrial and marine components of the target territory, in both time and space.

IOM http://www.iomenvi.in/coastal_zone%20management.php

Invasive species

Invasive species are those that are introduced—intentionally or unintentionally—to an ecosystem in which they do not naturally appear and which threaten habitats, ecosystems, or native species. These species become invasive due to their high reproduction rates and by competing with and displacing native species, that naturally appear in that ecosystem. Unintentional introduction can be the result of accidents (e.g. when species escape from a zoo), transport (e.g. in the ballast water of a ship); intentional introduction can be the result of e.g. importing animals or plants or the genetic modification of organisms.

CBD: <https://www.cbd.int/cepa/toolkit/2008/doc/CBD-Toolkit-Glossaries.pdf>

K

Knowledge translation

Process of putting knowledge into action.

<http://www.cmaj.ca/content/181/3-4/165.full>

L

Line Intercept Transect method (LIT)

Measurements on line transects are taken along the entire length of the line. Commonly used line transects are called 'line intercept transects' (LIT), which focus on the horizontal plane of the reef (p.16). LIT is used to determine the percentage cover of benthic communities. It can be used on its own or in combination with other methods, such as quadrats. The LIT is the standard method recommended by the GCRMN to determine percentage cover and colony size for management level monitoring.

<https://portals.iucn.org/library/efiles/edocs/2004-023.pdf> [p.33]

M

Mangroves for the Future (MFF)

A partnership-based initiative promoting investment in coastal ecosystems for sustainable development. MFF provides a collaborative platform to help countries, sectors and agencies in the MFF region tackle the growing challenges to coastal sustainability.

MFF: <http://www.mangrovesforthefuture.org/who-we-are/about/who-we-are/>

Marine Protected Area

An area of sea (or coast) especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means.

CBD: <https://www.cbd.int/cepa/toolkit/2008/doc/CBD-Toolkit-Glossaries.pdf>

N

Natural Capital (NC)

An economic metaphor for the limited stocks of physical and biological resources found on earth (MA, 2005b).

TEEB: <http://www.teebweb.org/resources/glossary-of-terms/>

Natural Resources Management

One of the applications of ecology that looks into the sustainable management of not just individual ecosystems but entire landscape systems and functions. It identifies and highlights the prospects for institutional, technological, and policy innovations for community-based management of resources to reduce poverty, enhance food security, and ensure biodiversity

and watershed management. It helps in answering some of the questions as to how the current natural resources can be managed in a way that will ensure they remain accessible for future generations; how the increasing energy demand can be met in a sustainable way or what technological innovations would enhance their sustainability; and what type of institutions and regulations are needed to prevent the over-utilisation and exploitation of land-based biological resource.

ICIMOD: <http://www.icimod.org/?q=1258>

O

Ocean acidification

Ocean acidification is an observable and predictable consequence of increasing atmospheric CO₂ concentrations² now and in the future, given the well-known physio-chemical pathways and reactions of CO₂ as it dissolves in seawater. However, given the nascent recognition of ocean acidification as a global threat, the resulting impacts on marine species and ecosystem processes are still poorly understood.¹ The predicted consequences for marine plants and

¹ Kleypas, J. A., Buddemeier, R. W., Archer, D., Gattuso, J. P., Langdon, C., Opdyke, B. N. (1999). Geochemical Consequences of Increased Atmospheric Carbon Dioxide on Coral Reefs. *Science*, Vol 284:118-120.

animals, food security and human health are profound, including disruption to fundamental biogeochemical processes, regulatory ocean cycles, marine food chains and production, and ecosystem structure and function.^{2,3}

CBD: <http://www.cbd.int/doc/publications/cbd-ts-46-en.pdf> (p.12)

Oceanography

Oceanography covers a wide range of topics, including marine life and ecosystems, ocean circulation, plate tectonics and the geology of the sea floor, and the chemical and physical properties of the ocean.

National Oceanic and Atmospheric Administration <http://oceanservice.noaa.gov/facts/oceanographer.html>

² EUR-OCEANS. (2007). Fact Sheet 7: Ocean Acidification – the other half of the CO₂ problem. www.euroceans.eu/KTU
³ GC(52)/INF/3 (2008). Nuclear Technology Review 2008.

P

Participatory Management/ Participatory Management of Coastal Resources and Biodiversity

Participatory Planning

Participatory planning can be defined as a tool for identifying the needs of all individuals within a community, a way of building consensus, and a means of empowering disadvantaged or disenfranchised groups. Individuals and communities are empowered to influence and control the decisions and resources that affect them.

Worldbank <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTSOCIALPROTECTION/EXTSF/0,,contentMDK:20706647~menuPK:1561737~pagePK:148956~piPK:216618~theSitePK:396378,00.html>

Participatory Rural Appraisal (PRA)

PRA is a relatively new and different approach for conducting action-oriented research in developing countries. PRAs are used to help in-

volve villagers and local official leaders in all stages of development work, from the identification of needs and decision making to the assessment of completed projects. The term can be used to describe any new methodology which makes use of a multidisciplinary team. Rapid Rural Appraisal is a quicker approach that may or may not be participatory.

CBD: <https://www.cbd.int/cepa/toolkit/2008/doc/CBD-Toolkit-Glossaries.pdf>

Protected Area

A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values.

IUCN: http://cmsdata.iucn.org/downloads/governance_web_1.pdf

The term “protected area” is defined in Article 2 of the Convention (on biological diversity) as “a geographically defined area, which is designated or regulated and managed to achieve specific conservation objectives”. Article 8 of the Convention contains specific references to protected areas by encouraging Parties to:

- Establish a system of protected areas or areas where special measures need to be

taken to conserve biological diversity;

- Develop, where necessary, guidelines for the selection, establishment and management of protected areas or areas where special measures need to be taken to conserve biological diversity;
- Regulate or manage biological resources important for the conservation of biological diversity whether within or outside protected areas, with a view to ensuring their conservation and sustainable use;
- Promote environmentally sound and sustainable development in areas adjacent to protected areas with a view to furthering protection of these areas;
- Cooperate in providing financial and other support for in-situ conservation, particularly to developing countries.

CBD <http://www.cbd.int/protected/pacbd/>

An area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means. A protected area can be under either public or private ownership.

CBD: <https://www.cbd.int/cepa/toolkit/2008/doc/CBD-Toolkit-Glossaries.pdf>

Geographically defined area which is designated or regulated, and managed to achieve specific conservation objectives (CBD).

CBD: <https://www.cbd.int/doc/guidelines/MEAs-negotiator-glossary-terms-en.pdf>

Protected Area Governance

Is about who decides what to do, how those decisions are taken, who holds power, authority and responsibility and who is (or should be) held accountable.

IUCN: <http://www.cbd.int/pa/doc/draft-governance-pa-2012-07-en.pdf>

IUCN defines four governance types that is a description of who holds authority and responsibility for the protected area. These four governance types are:

■ Governance by government

Federal or national ministry/agency in charge; sub-national ministry/agency in charge; government-delegated management (e.g. to NGO)

■ Shared governance

Collaborative management (various degrees of influence); joint management (pluralist management board; transboundary

management (various levels across international borders)

■ Private governance

By individual owner; by non-profit organisations (NGOs, universities, cooperatives); by for-profit organisations (individuals or corporate)

■ Governance by indigenous peoples and local communities

Indigenous peoples' conserved areas and territories; community conserved areas – declared and run by local communities.

IUCN: http://cmsdata.iucn.org/downloads/governance_web_1.pdf

Protected Area Management

Is about what is done in pursuit of conservation objectives and about the means and actions to achieve such objectives.

IUCN: <http://www.cbd.int/pa/doc/draft-governance-pa-2012-07-en.pdf>

O

Quadrat Method

Involves random set quadrats. and the observer estimates percentage cover of categories of benthic communities and coral recruits.

IUCN: <https://portals.iucn.org/library/efiles/docs/2004-023.pdf> (p.41)

QGIS

Free and open source Geographic Information System.

<http://www.qgis.org/en/site/>

R

Remote Sensing

Refers to the technology of acquiring information about the earth's surface (land and ocean) and atmosphere using sensors onboard airborne (aircraft, balloons) or spaceborne (satellites, space shuttles) platforms.

<http://www.crisp.nus.edu.sg/~research/tutorial/intro.htm>

S

Sustainable Fisheries Management

The United Nations Convention on the Law of the Sea (UNCLOS) requires coastal states to implement conservation and management measures to maintain or restore populations of harvested species at levels which can produce the maximum sustainable yield, and to take into consideration the effects on species associated with or dependent upon harvested species with a view to maintaining or restoring populations of such associated or dependent species above levels at which their reproduction may become seriously threatened (UNCLOS 1982: Article 61).

MRAG http://www.pcfisu.org/wp-content/uploads/2010/12/MRAG-report_best-practice-examples1.pdf

V

Vulnerability

The degree to which a community, population, species, ecosystem, region, agricultural system, or some other quantity is susceptible to,

or unable to cope with, adverse effects of climate change.

CBD: <https://www.cbd.int/doc/guidelines/MEAs-negotiator-glossary-terms-en.pdf>

W

Wetlands

Wetlands are areas where water is the primary factor controlling the environment and the associated plant and animal life. They occur where the water table is at or near the surface of the land, or where the land is covered by water. The Ramsar Convention takes a broad approach in determining the wetlands which come under its aegis. Under the text of the Convention [Article 1.1], wetlands are defined as: "areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres". Five major wetland types are generally recognized:

- marine (coastal wetlands including coastal lagoons, rocky shores, and coral reefs);
- estuarine (including deltas, tidal marshes, and mangrove swamps);

- lacustrine (wetlands associated with lakes);
- riverine (wetlands along rivers and streams); and
- palustrine (meaning "marshy" - marshes, swamps and bogs).

The Ramsar Convention on Wetlands http://www.ramsar.org/cda/en/ramsar-about-faqs-what-are-wetlands/main/ramsar/1-36-37%5E7713_4000_0__

Wildlife Management

Management of "living, non-domesticated animals".

CBD: <https://www.cbd.int/cepa/toolkit/2008/doc/CBD-Toolkit-Glossaries.pdf>



Indo-German Biodiversity Programme

CONSERVATION AND SUSTAINABLE MANAGEMENT OF EXISTING AND POTENTIAL COASTAL AND MARINE PROTECTED AREAS (CMPA)

The Government of India and the Government of Germany are working together to implement a joint project entitled 'Conservation and Sustainable Management of Existing and Potential Coastal and Marine Protected Areas' (CMPA). The project is supported by the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB), Government of Germany and implemented by GIZ India, in partnership with the Ministry of Environment, Forests and Climate Change (MoEFCC), Government of India.

The overall objective of the CMPA project is the improvement of conservation and sustainable use of biodiversity in pilot protected areas, while taking into consideration the economic conditions of the local population. The project is being implemented in selected coastal states of India.

The objective will be reached via following three outputs of the project:

Output-I: Participatory management of coastal protected areas

Participatory processes for the management of protected areas are being implemented in pilot areas

Output-II: Capacity development

A capacity strengthening system for supporting the sustainable management of protected areas is developed for selected states and at national level

Output-III: Information, education and communication

Relevant actors in business, media, science, politics, and civil society are informed and sensitised regarding the importance to conserve biodiversity in marine and coastal areas.

Under the work area of Human Capacity Development (HCD), the project aims at facilitating knowledge exchange between training and learning organisations working on different aspects of coastal and marine protected areas. The first step in this direction is development of a Compendium of organisations offering courses/trainings in coastal and marine conservation. The Compendium is produced in the form of a printed booklet as well as a webpage on the website of the Indo-German Biodiversity Programme.

Indo-German Biodiversity Programme

CONSERVATION AND SUSTAINABLE MANAGEMENT OF EXISTING AND POTENTIAL COASTAL AND MARINE PROTECTED AREAS (CMPA)

Human Capacity Development (HCD) Approach of GIZ

Delivering capacity development support for individuals, organisations and societies is one of GIZ's core competencies. As one of the world's leading service providers in the field of international cooperation for sustainable development, GIZ is also a leader in designing joint learning processes and developing individual capacities. GIZ's approach to Human Capacity Development (HCD) puts the individual at the heart of our strategies and measures. Our HCD measures aim at facilitating changes in the actions of individuals and the results of the changed contributions of individuals within their system of reference. Our HCD measures always address the individual level, but also manage individual learning processes and the networking of individuals and their organisations such that they help achieve optimum results for capacity development within the participants' systems of reference and at systemic level.

The measures are implemented together with National, sub-National and local governments, training and learning organisations and experts to achieve specific capacity development objectives. The project will engage with different sectors and stakeholders that are crucial for management of coastal and marine biodiversity.

Foundation Principles of the HCD approach of GIZ

- A participatory approach in designing the capacity development measures
- Diversity of methods and holistic approach
- Covering three dimensions: knowledge, skills, and values
- Practice orientation and Participant orientation
- Tolerance and Transparency
- Joined-up thinking (multi-sectoral multi-disciplinary approach)
- Sustainability (strong partnerships with existing training and research institutions)
- Bringing the participants in a network for continued learning

Indo-German Biodiversity Programme

CONSERVATION AND SUSTAINABLE MANAGEMENT OF EXISTING AND POTENTIAL COASTAL AND MARINE PROTECTED AREAS (CMPA)

Capacity Development Strategy and Action Plan for Coastal and Marine Biodiversity and Marine Protected Areas in India

- Strategic goal 1** Enhanced understanding and appreciation of coastal and marine biodiversity among key sectors and stakeholders to facilitate co-creation of solutions for effective and sustainable management of coastal and marine protected areas.
- **Activity Area 1:** Orientation and sensitisation of key sectors and stakeholders
 - **Activity Area 2:** Fellowship to young professionals to work on cross-sector issues
 - **Activity Area 3:** CMPA Policy Dialogue
- Strategic goal 2** Protected Areas managers at the project sites and partner states have necessary knowledge and skills, as well as, the capability to apply those in effective management of coastal and marine protected areas.
- **Activity Area 4:** Training workshops
 - **Activity Area 5:** Leadership Development measures for Protected Area managers
 - **Activity Area 6:** On-the-job capacity development solutions
 - **Activity Area 7:** Participatory development of guidelines on management effectiveness of coastal and marine protected areas
 - **Activity Area 8:** Competence development for application of Strategic Environment Assessment (SEA) tool on CMPAs
- Strategic goal 3** Enhanced effectiveness in delivery of HCD measures and efficiency in the overall management system of key training institutes.
- **Activity Area 9:** Developing tools and building expertise on Capacity Needs Assessment, Training Needs Assessment, and monitoring & evaluation for managing training offers
 - **Activity Area 10:** Participatory curriculum development for induction and refresher trainings
 - **Activity Area 11:** Support to faculty and experts in further enhancing their knowledge on coastal and marine issues, as well as sharpening their skills on training tools and training methodologies: e-learning, Role play, simulation, communication and presentation skills, leadership skills etc.
 - **Activity Area 12:** Supporting a network of training institutions of national and state level to ensure sustainability of HCD measures.







Facilitating Networking of Training Institutions

Supporting Human Capacity Development for Coastal and Marine Biodiversity Conservation in India

Wildlife Institute of India (WII)

P.O. Box 18, Chandrabani,
Dehradun - 248001
Uttarakhand, India

T +91-(0)135-2640 910
E dwii@wii.gov.in
W www.wii.gov.in

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Indo-German Biodiversity Programme
A-2/18, Safdarjung Enclave
New Delhi - 110029, India

T +91-11-4949 5353
E biodiv.india@giz.de
W www.indo-germanbiodiversity.com