

Key Projects

- Opportunities, Risks, and Governance for Deep-Sea Mining in the Indo-Pacific
- Ecological status assessment for the Dr. Salim Ali bird sanctuary
- Assessment of Persistent Pesticides in Goa
- Empowerment and Capacity Building of Artisanal Fishery: Community Based Resources Management
- City Biodiversity Index (CBI) for the city of Panaji
- Facilitate the Preparation of Peoples Biodiversity Register (PBR) for villages of Goa and Karnataka
- Development of aquaculture feed from deoiled microalgae
- Improving access to safe water using Riverbank Filtration Technology, Karnataka
- Off the grid sensor controlled irrigation using bank filtration technology
- Demonstration of River Sal Cleaning by Vertical Wetlands and River bed filtration
- Assessing the impact of mining activities on water bodies in the State of Goa
- Evaluation of climate change impacts on reservoir inflows using climate and hydrological model, Salaulim Dam, Goa
- Developed Strategy for fostering Resource Efficiency and Circular Economy for the State of Goa
- Developing a Sustainable, Collaborative Agri-business Ecosystem for Small Farmers
- Conducting Environment and Social Screening, Impact Assessment

Key Associates and Sponsors

- Deutsche Gesellschaft Fur Internationale Zusammenarbeit (GIZ) GmbH, Germany
- Toyota Foundation
- National Health and Medical Research Council, Australia
- Environ Foundation, URI, USA
- Norwegian Ministry of Foreign Affairs
- Commonwealth Scientific and Industrial Research Organization (CSIRO), Australia
- European Union- Resource Efficiency Initiative (EU-REI)
- Federal Ministry of Education and Research - BMBF, HTWD Germany
- Department of Biotechnology, New Delhi
- MoEFCC, New Delhi
- Ministry of Earth Science MoES, New Delhi
- Department of Biotechnology, New Delhi
- Karnataka Evaluation Authority
- Karnataka Biodiversity Board
- Govt of Goa (WRD, DoF, GSBB, GSPCB, DST)

- National Bank for Agriculture and Rural Development
- ONGC
- Nave Marg Foundation
- University of Oslo, Norway
- M2Lab Centre for Statistical and Data Science Research (CSDS), Norway
- INESCTEC, Portugal
- SMI, The University of Queensland, Australia
- Monash University, Australia
- The University of Rhode Island, USA
- National Institute of Hydrology, Belgaum, Karnataka
- National Institute Oceanography, NIO
- BITS Pilani, K K Birla Goa Campus
- National Institute of Technology, Goa
- Inovativa Waste Aid & Management Private Limited, Goa
- ICAR-CCARI, Goa

The Team

In order to address issues across a broad range of sectors and themes and in order to do so holistically our Centre relies on a multidisciplinary team of researchers. Our team includes, political scientists, microbiologists, biotechnologists, Taxonomist, aquaculture experts, geographers and geologists, environmental management specialists, and chemists working together to tackle environmental and social challenges. When required we also draw on further expertise from TERI's headquarters and other regional centres around the country.

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The Coastal Ecology & Marine Resources Centre



TERI, established in 1974, is an independent, dynamic and multi-dimensional organization with a global vision and a local focus. Head quartered in New Delhi, it has regional offices in Bangalore, Goa, Mumbai, Guwahati and Nainital. TERI works not only on subjects of policies and strategic analyses, but also on several activities that find sustainable solutions for elimination of poverty, provision for energy and management of natural resources. Other important key research areas include climate change, industrial biotechnology, sustainable habitat, educating youth for sustainable development, technology dissemination and enterprise development.

TERI's Goa Centre, established in 1996, works at influencing policy and strengthening the institutional support required for better management of natural resources. Conserving coastal ecosystems through sustainable development and community-based resource management programmes has been the expertise of this Centre. The Centre is also engaged in research that focuses on a variety of sectors such as biodiversity, coastal resource management, aquaculture and training, water treatment technologies, impact and vulnerability assessment of water resources to climate change, and studies at the interface of environment and development. In addition to participation in research projects that are local, national and international in scale, the Centre actively contributes to local thinking and provides intellectual inputs on sustainable development issues through organisation and participation in seminars, training programmes and workshops.

Core Research Areas

MARINE & COASTAL RESEARCH

POLLUTION MONITORING & REMEDIATION
COASTAL RESOURCES MANAGEMENT
BIODIVERSITY
AQUACULTURE, EDUCATION & TRAINING

WATER SCIENCE & TECHNOLOGY

RBF & TREATMENT TECHNOLOGIES
IMPACT & VULNERABILITY ASSESSMENT TO CLIMATE CHANGE
POLICY ANALYSIS

ENVIRONMENT DEVELOPMENT INTERFACE STUDIES

AGRICULTURE
WASTE MANAGEMENT
BIOTECHNOLOGICAL APPLICATIONS

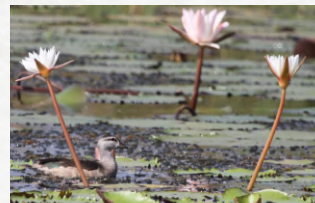
Marine and Coastal Resources Management

Given the centre vast experience with rural and community work, conservation of coastal resources through community based management has been main focus of the Centre. Better policies were suggested to support sustainable

management of unique Khazan ecosystem of Goa. The Centre also takes up variety of environmental issues pertinent to marine and coastal areas such as impact of antifouling paints on marine ecosystem; harmful algal blooms impacts; agriculture and development activities impact on coastal ecosystem.

Biodiversity

The Centre focuses on conservation and management of biodiversity through outreach and community participation. Several research projects on coastal biodiversity assessment along with the documentation of People's Biodiversity Register (PBR's) in the state of Goa and Karnataka in consultation with the local people for recording rapidly eroding knowledge of the medicinal uses of local plants and inventorization of various species of flora and fauna in the villages. Through preparation of City Biodiversity Index (CBI) a platform is provided by Center for conservation and management of urban biodiversity.

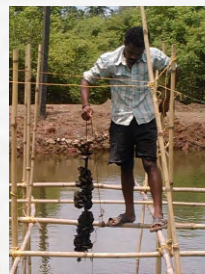


TERI Coastal Education Hub

The Hub brings to the forefront the different coastal resources such as mangrove and unique Khazan ecosystems – prized wealth of Goa State. The Hub is a platform for disseminating ecological knowledge especially on the conservation of our coastal ecosystems and resources to schools/colleges and youth across state and at national level. Moreover, the AquaTech Park at the Hub showcases live demonstrations and hands-on activities on different aquaculture technologies such as mussel & oyster cultivation, crab farming, fin fish cage culturing including aquaponics. Additionally, guided boat tour and walks expose visitors to the balance of the integrated ecosystems and other focal points of the Hubs such as organic kitchen garden, dairy and pig farming, biogas technology and vermicomposting.

Aquaculture and Training

Training courses for entrepreneurship development and woman empowerment are undertaken in aquaculture at the TERI Coastal Education Hub for diversification and development of new pathways in livelihood generation.



Under TERI-DBT Center of Excellence the research project deals with development of low-cost fish feed using microalgae. Small to large test set-ups are established at the Center for trial runs of development of feed formulation for different fishes such as Tilapia, Pearls spot, Rohu, Catla and common carp.

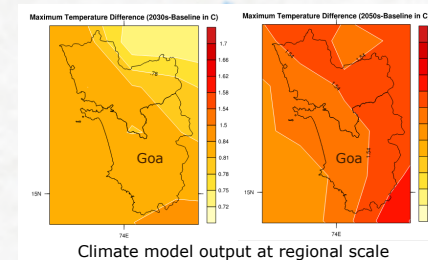
River Bank Filtration (RBF)

RBF is a sustainable, inexpensive, mechanically simple, low-maintenance water treatment technology especially suited for small rural villages that lack access to clean water. RBF treats most drinking water contaminants, but not dissolved solids ("salts"). The Center has successfully established RBF systems along several major rivers, including the Kali, Krishna, and Tungabhadra Rivers in Karnataka and the Sal River in Goa, with proven feasibility of the RBF treatment approach in Southern India. Following handover, local communities are given charge of RBF system operation and maintenance, including periodic water quality testing. Our RBF systems are designed for village level usage, for approximately 4,000 people.



Hydrological Modeling & Predictions To Aid In Strategic Planning Of Water-Use

Our work focuses on climate and hydrological modeling to develop better understanding of climate variability at regional scales. We study the risks and vulnerabilities of key sectors such as surface-water, groundwater and reservoirs at watershed level. We conduct numerical simulations to assess crop-water requirement to improve water-use efficiency. We also undertake modeling studies to study impacts of land-use change.



Environmental and Social Impact Assessment (ESIA)

Under the National Cyclone Risk Mitigation Project (NCRMP) to address the cyclone risks in the country through short and long term measures (that lay emphasis on prevention, preparedness and mitigation) with the World Bank assistance the Center has taken Environmental and Social impact assessment studies that involves construction/strengthening of resilient infrastructure across multiple villages of Goa. Some of the projects that ESIA were carried out include saline embankments and underground electrical cabling.