



Conservation and Sustainable Management of Coastal and Marine Protected Areas (CMPA)

1 Introduction

India is one of the megabiodiverse countries in the world with four of the 34 biodiversity hotspots in the entire world (V Report to the CBD). With the 15th longest coastline among the maritime countries of the world, the Indian coastline is a mosaic of ecosystems strewn along its 8,000 km. These include rocky and sandy shores, sand dunes, rich mangrove areas, mudflats, saltmarshes with rich halophytic vegetation, lagoons, estuaries, corals, seagrass beds, etc. The Indian coast boasts of being home to many important, charismatic and high-value (in an ecologic and economic sense) marine and coastal lifeforms and other resources, and also supports myriad livelihoods and industries directly or indirectly dependent on them. This include tourism, fisheries, aquaculture, real estate industry, many industrial activities that requires water front such as power plants (nuclear and thermal), chemical industries etc., to name a few. The unsustainable anthropogenic pressures emanating from these activities are proving to be detrimental to this ecosystem, which are compounded by other factors namely climate change, increased incidences of natural disasters etc. This calls for an immediate focus on the protection and better management of this critical ecosystem.

India, a signatory to the Convention on Biological Diversity (CBD), held its presidency for the term 2012-2014. The Eleventh Conference of Parties to the CBD placed marine and coastal biodiversity on the centre stage of areas/issues needing immediate focus. With India's national priority and commitment, compounded by its term as President of the COP to

the CBD, there was much emphasis on bringing more coastal and marine areas under conservation and better management. In 2012, the Ministry of Environment, Forest and Climate Change (MoEFCC), Government of India, entered into a Technical Cooperation Project on “Conservation and Sustainable Management of Coastal and Marine Protected Areas” (CMPA). The CMPA Project is supported by the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB), Government of Germany, coordinated by Ministry of Environment, Forests and Climate Change, Government of India and implemented by Gesellschaft für Internationale Zusammenarbeit (GIZ) in collaboration with MoEFCC and respective State Governments.

2 Objectives and mode of implementation

The main objective of the project is to show ways and means to improve the conservation and sustainable use of biological diversity along the coast. Taking into consideration the economic importance of the coastal zone for large segments of the population the project’s approach is people-centred, thus ensuring the acceptance of conservation by those directly affected. The project uses a variety of tools to achieve its objectives.



The Project intervenes at two levels in India: National and at the level of selected federal states.

A. National Level

a. Strengthened human capacities (HCD) in the State Forest Departments. In India, the Forest Departments are mandated to manage the coastal and marine protected areas. The HCD intervention provides support to strengthen their faculty with respect to managing the marine and coastal protected areas. The project has developed strategic partnerships with two leading Indian training institutions mandated to provide training for current and future Forest Department officials. After a thorough needs assessment, the project, together with these institutions has:

- Developed modular training programs for three levels of administrative responsibilities in the forest sector (park rangers, mid-level and high-level government officials).
- Ensured the integration of these training programs into the standard curriculum of the training institutions.
- Organised a large number of training-of-trainers to familiarise the staff of the participating institutions with advanced training methods.

A similar approach was used for the media sector (students and media professionals) and is planned for the fisheries sector.

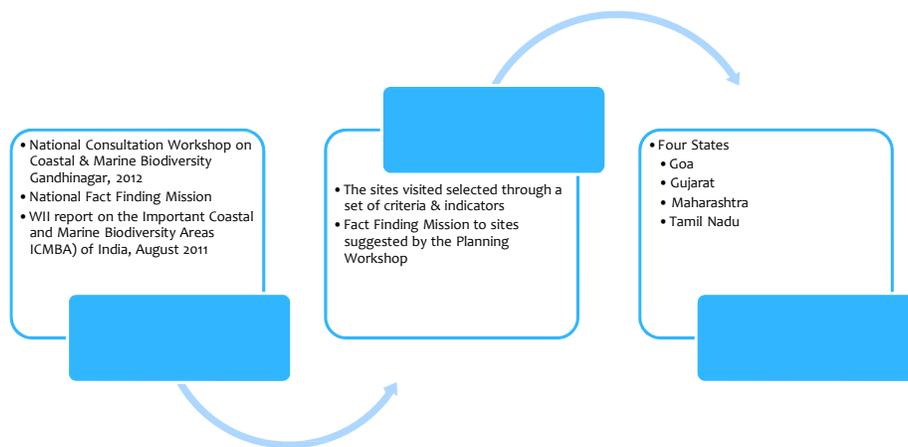
b. Strategic research of national importance dealing with questions such as marine park management, the management of seagrass beds, or the protection of charismatic animals such as the sea cow or cetaceans.

B. State Level

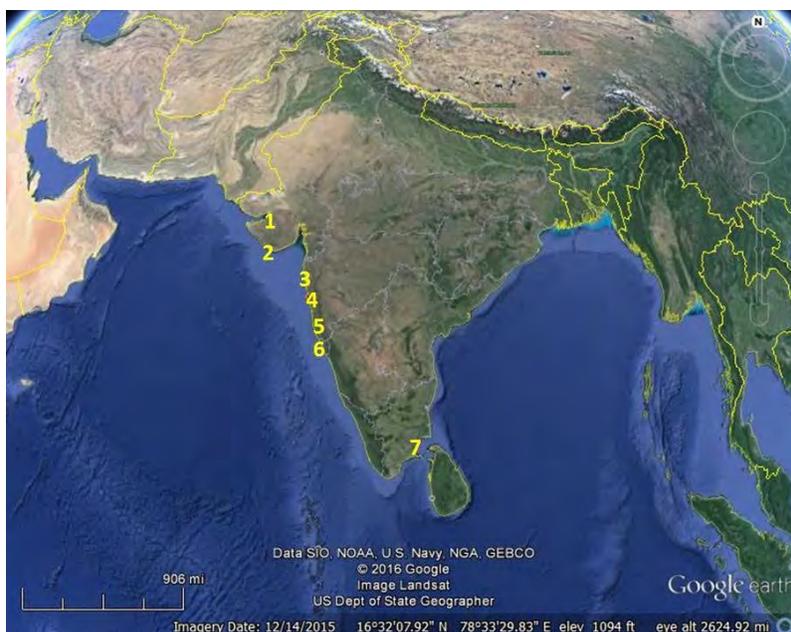
- a. Provided assistance at selected project sites for improving the management of existing and potential protected areas on the coast.
- b. Training of field staff of the concerned forest departments in respect to coastal and marine biodiversity (including diving courses).
- c. Information and communication campaigns to generate better awareness among stakeholders and the general public.

3 Project Sites

The Selection of project sites was done through a consultative process including state governments of coastal states, research institutions, non-governmental and civil society organizations.



CMPA Project Sites in India



1. Khijadiya Bird Sanctuary, Gujarat
2. Gosabara Wetland Complex & Madhavpur, Gujarat
3. Thane Creek, Maharashtra
4. Velas Dabhol Coast, Maharashtra
5. Ansure Creek, Maharashtra
6. Dr Salim Ali Bird Sanctuary & Chorao Island, Goa
7. Palk Bay, Tamil Nadu

Project Pilot Sites: Main characteristics and expected Project impacts

State	Project site	Area/ coast length	Habitat type	Status at the onset of the Project	Current status/ work undertaken	Expected Project impact
Gujarat	1. Khijadiya Bird Sanctuary	6 km ²	Wetland adjoining the Jamnagar Marine National Park; supports bird variety of 260 species	Wildlife Sanctuary	Support declaration of a Ramsar Status	Establishment as a Ramsar Site
	2. Gosabara Wetland Complex & Madhavpur	To Be Defined	Coastal Wetland, supporting a rich bird variety around 200 species; turtle nesting beaches	Important wetland of Gujarat and listed as Important Coastal and Marine Biodiversity Area (ICMBA)	Support declaration of a Ramsar Site and Important Bird Area (IBA)	Declaration of Ramsar Status and IBA
Maharashtra	3. Thane Creek	26 km	Coastal Mudflats, rich mangrove ecosystem, an Important Bird Area	No special status; listed as ICMBA	Declared a Wildlife Sanctuary in Aug 2015; support to the development of a Sanctuary Management Plan; Interpretation Centre	The Sanctuary Management Plans established & operationalised
	4. Velas Dabhol Coast	~60 km	Most important turtle congregating area along the Maharashtra coast; variety of ecosystems (sandy shores, rocky shores, mudflats mangroves)	No special status; part of the area listed as ICMBA	Support to community-based conservation models (turtles); Interpretation Centre	Establishment as a Biodiversity Heritage Site
	5. Ansure Creek	To Be Defined	Mudflats and mangrove vegetation	No special status; part of the area listed as ICMBA	Support to community-based conservation models (mangroves)	Establishment as a Biodiversity Heritage Site
Goa	6. Dr Salim Ali Bird Sanctuary & Chorao Island	1.8 km ²	Mudflats and mangrove vegetation; the only bird sanctuary in Goa; traditional rice cum fish farming practices (Khazans).	Wildlife Sanctuary	Interpretation Centre at the Wildlife Sanctuary; promotion of the Khazan system.	Improved Management of the sanctuary; conservation of the eco-friendly Khazan system.
Tamil Nadu	7. Palk Bay	130 km	Variety of ecosystems (mudflats, mangroves, coral patches, seagrass, sandy shores); conservation issues (dugong sea horse, sea cucumber)	Listed under ICMBA; site adjoins one of the three Marine Biosphere Reserves in India (the Gulf of Mannar Marine Biosphere Reserves and National Park)	Support people's efforts towards co-management of natural coastal resources	Co-management Model for resource conservation

3.1 Gujarat

Coastline	1600 km
CMPA Project Site	<ul style="list-style-type: none"> • Khijadiya Bird Sanctuary. • Gosabara Wetland Complex.

Khijadiya Bird Sanctuary, Jamnagar

Declared as a sanctuary on 06/11/1982, it is the biggest of its kind in Gujarat with an area of 6.05 km². It adjoins the oldest marine protected area of India, the Jamnagar Marine National Park. This wetland ecosystem provides a variety of habitats supporting some 250 bird species (including 105 migratory and 9 globally rare and threatened species).



Project Activities

- Support the Gujarat State’s effort to establish the site as a Ramsar Site.
- Facilitate the operationalisation of the Sanctuary’s existing management plan.
- Increase the capacities of the forest officers in dealing with coastal and marine protected areas.
- Facilitate exposure visits to effective and successful coastal and marine protected areas outside the country.
- Set up a state-of-the-art interpretation centre (funded by Tata Chemicals).

Gosabara Wetland Complex and Madhavpur

This coastal wetland complex is a brackish water lagoon and figures in the Important Coastal and Marine Biodiversity Area list. The area qualifies as a potential Ramsar Site. The adjacent Madhavpur is an important Olive Ridley nesting site. The area has recorded over 260 species of birds (out of which 130 are water birds).



Project Activities (Gosabara Wetland Complex and Madhavpur):

- Support the Gujarat State’s effort to establish the site as a Ramsar Site.
- Support towards developing a wetland management plan.
- Facilitate Citizen Science (participatory process) initiative to engage scientific community, school teachers and students/ eco clubs etc.
- Increase the capacities of the forest officers in dealing with coastal and marine protected areas.
- Facilitate exposure visits to effective and successful coastal and marine protected areas outside the country.
- Set up an indoor and an outdoor interpretation centre.

3.2 Maharashtra

Coastline	800 km
CMPA Project Site	<ul style="list-style-type: none"> • Thane Creek, Mumbai • Coastal Stretch from Velas to Dhabhol, Ratnagiri • Ansure Creek, Ratnagiri

Thane Creek, Mumbai

The 26 km long Thane Creek is situated in the midst of a bustling metropolis, Mumbai. The area is listed under ICMBIA to be protected. The creek’s mangroves and mudflats form an ecosystems rich in biodiversity. Apart from attracting a seasonal flamingo population to the tune of 30,000, it is refuge to more than 200 species of birds, including a large number of threatened species like the Greater Spotted Eagle and Osprey. For this reason it has been given the status of an Important Bird Area by Bird Life International.



The Government of Maharashtra issued a notification on August 6, 2015, declaring the northern area of Thane Creek between Airoli and Vashi bridges as a **Wildlife Sanctuary** under Sec. 18 of the Wildlife Protection Act, 1972. The area of 1,690 hectares consists of 896 ha of mangroves and 794 ha of adjacent water bodies. This “Thane Creek Flamingo Sanctuary” is Maharashtra’s second marine sanctuary, the other being the Malvan Wildlife Sanctuary.

Project Activities (Thane Creek, Mumbai)

- Support the Mangrove Cell in establishing the Thane Creek as a Wildlife Sanctuary.
- Facilitate the preparation of a scientific management plan for the sanctuary and its sustainable management. For the same, it has conducted various studies including baseline studies, rapid biodiversity assessment of the sanctuary area.
- Increase the capacities of the forest officers in dealing with coastal and marine protected areas.
- Facilitate exposure visits to effective and successful coastal and marine protected areas outside the country.
- Create various brochures, standees, booklets to disseminate information of the area to the wider public and policy makers.
- Support the Mangrove Cell in Celebrating the World Mangrove Day in Thane showcasing the importance of the mangrove ecosystems.
- A Coastal and Marine Biodiversity Park, Airoli is being set up to sensitize and raise awareness of the general public about the rich natural wealth of Thane Creek, focusing on its mangroves, flamingos, other lifeforms integral to a healthy ecosystem.

Velas to Dabhol Coastal Stretch, Ratnagiri District Maharashtra

This coast of some 60 km in length is bordered by Savitri River (Velas) in the North and Vashishtri River in the South (Dabhol). It is dotted with black and golden sandy beaches, rocky shores, coastal plateaus, mangroves etc. Beaches along this coast have become popular due to its reputation as the largest marine turtle congregation and nesting ground along the coast of Maharashtra. The coast also figures in the ICMBIA list. The project primarily focuses on the villages of Velas, Kelshi and Anjarle within this coastal stretch.



Velas, located along the Konkan coastline of Maharashtra, is a small and peaceful village in Ratnagiri. The community initiative started by interested villagers in turtle conservation has become a role model of biodiversity conservation through community participation. Velas is also known for its homestays that not only give the tourist an authentic flavour of rural life and traditional food but has also provides sustainable livelihood options for the local population.

Project Activities (Velas to Dabhol Coastal Stretch)

- Support the conservation model of biodiversity with the active participation of the community.
- Facilitate efforts to improve the sustainability of the homestay model.
- Improve the garbage and sewage management in the area with the involvement of local governance units such as panchayat, BMCs, the village community etc.
- Facilitate the formation of Biodiversity Management Committees and building capacity of the local population to make people’s biodiversity registers.
- The options of declaring this stretch as a Biodiversity Heritage Site is looked into.
- Increase the capacities of the forest officers in dealing with coastal and marine protected areas.
- Facilitate exposure visits to effective and successful coastal and marine protected areas outside the country.
- Create various brochures, standees, booklets to disseminate information of the area to the wider public and policy makers.
- Conduct Turtle Festivals, Celebrated Wildlife Week, Celebrated Biodiversity Day by conducting painting competition of school children, etc.
- Set up a state of the art interpretation centre to raise awareness among the general public.

Ansure

Ansure Creek, is located on the boundary of Ratnagiri and Sindhudurg districts about 70 km south of the district headquarters of Ratnagiri. It is world renowned through its Alphonso mangoes. The creek has mudflats and luxuriant mangrove vegetation.



Project Activities

- Facilitate the formation of Biodiversity Management Committees and building capacity of the local population to make people’s biodiversity registers.
- Set up outdoor interpretation centre to raise awareness among the general public.

3.3 Goa

Coastline	105 km
CMPA Project Site	Dr Salim Ali Bird Sanctuary and Chorao Island

Dr Salim Ali Bird Sanctuary

The sanctuary, established in 1988 and covering an area of 1.8 km², is situated on the western tip of Chorao Island along Mandovi River. The Chorao Island is the biggest of the 17 islands of Goa.



The sanctuary features a dense mangrove vegetation and is home to some 140 species of birds including Heron, Kingfisher, White-Bellied Sea Eagle, and Black Eagle. Marsh crocodiles, foxes, jackals, otters, bulbous-headed mudskippers are some of the other interesting sightings in the area. The island of Chorao is also known for its traditional eco-friendly production systems known as the Khazan lands, a paddy-cum-fish culture system, which provides a healthy diet of both grains and proteins to the local community.

Project Activities

- Support to showcase the traditional ecofriendly production system, the Khazans of Goa.
- Support the formation of Biodiversity Management Committees and building capacity of the local leaders in managing the same and to prepare the people’s biodiversity register.
- Facilitate review and revision of the Sanctuary Management Plan for sustainable management of the Bird Sanctuary.
- Participated in the Goa Carnival by supporting a Kheldo Float made entirely out of waste and showcasing the unique fish species the Mudskipper (an indicator of a healthy estuarine ecosystem) locally known as Kheldo.
- Set up of a Visitor Centre to highlight the biodiversity of the area and the importance to maintain its health. This helps increase the awareness of these ecosystems among the public.

3.4 Tamil Nadu

Coastline	1076 km
CMPA Project Site	Palk Bay (Ramanathapuram District)

Palk Bay

The project area in Palk Bay (Ramanathapuram District) covering a coastal length of some 130 km, is a mosaic of critical habitats including, mudflats, mangroves, coral ecosystem, and seagrass. The area is home to critically endangered species such as Dugongs, seahorses, and turtles.

Project Activities

- Support a co-management model for resource conservation.
- Baseline studies and vision exercises to understand community’s perspective of resource conservation and management.

