BOMBAY NATURAL HISTORY SOCIETY, INDIA

A Preliminary Report: Diversity of Coastal Marine Ecosystems of Maharashtra

Part 1.1: Rocky Shores at Ratnagiri & Rajapur

Deepak Apte

(Deputy Director - Conservation)

Vishal Bhave

(Scientist B)

Vishwas Shinde and Rajendra Pawar

(Field Assistant)

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Contents

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This is a first part in this series, where we are covering rocky coastal area of Rajapur and Ratnagiri, Maharashtra. The study of the coastal areas of Maharashtra is still in its preliminary stage. We carried out a rapid survey on the shore of Ratnagiri and Rajapur for opisthobranchs and other coastal biodiversity and collected data regarding habitat to prioritize the sites for conservation. The study will also cover various other habitats such as mangroves, sandy shores and mud flats in the following years.

ABSTRACT

The Konkan coast of Maharashtra, India has been the stage for another conservation battle and this time for opposing a slew of coal-fired power projects, nuclear power plant and mines. These developments will ravage one of Maharashtra's most serene coastal areas and Western Ghat areas which are home to rich biodiversity including several globally endangered species as well as world famous Alphonso mango. The area is also home to several rivers and rivulets which make Western Ghat foothills productive agricultural areas. The monsoon runoff to the adjoining sea is extremely vital for sea enrichment as the runoff not only bring water but also rich organic material from the forests. These very same organic contents help increase sea productivity which in turn help coastal fisheries. Not surprisingly, coastal Konkan is one of the richest fishing grounds along the Maharashtra coast.

The sheer scale of present development needs to be looked in totality. At least fifteen proposed coal-fired power projects equaling 25 GW of power are set to be built on a narrow strip of coastal land 50 to 90 km wide and 200 km long. This represents a 200% increase in coal-fired power for the entire state of Maharashtra, a state which already has the largest total installed capacity equal to 11 GW, or 13% of nationwide capacity.

Power plants require their own captive ports for the transport of raw material. Thus there are number of minor ports proposed to come up in this area. Needless to say that ancillary development bound to take place which is not necessarily envisaged in the proposed project impacts.

Besides, thermal power plants and minor ports and jetties, the coastal areas are dotted with numerous aquaculture farms which has come up at the cost of mangroves and most probably without any legal clearances. Unfortunately, lot of coastal mangrove areas in Konkan are privately owned thus it is not surprising to find many of these areas are easily available for sale. A quick search on google earth can actually show the areas marked for sale with even contact numbers mentioned. A gound troothing of all these sites proved conclusively that these are indeed mangrove areas. Western Ghat areas of Konkan are now witnessing mining activities as well. There are already few operational mines. Numbers of new mines are proposed in these areas.

Coastal tourism is catching up very fast in the coastal Konkan. There are number of coastal resorts have come up in this region. Of which one or two resorts are in total violation of CRZ.

Thus cost and benefits of all the proposed projects need to take into account not just the 10 sq km impact of a particular project, but cumulative impacts of all projects together. It is evident from the impact maps provided in the report, that if looked in totality, there is not a single sq km area free of impact in the stretch of about 200 km of coastal Konkan from Dabhol to Sindhudurg.

In light of these developments, BNHS has decided to undertake comprehensive impact assessment of these projects. The project is however, implemented in various phases due to the vastness of the area, limited funds and manpower. The present report is Phase 1 of the series of assessments. We have identified 10 coastal sites in Ratnagiri

and Rajapur districts. Phase I represent only rocky shores. Following table gives details the studies underway and will be published at various stages.

Primary objective of the work was to evaluate coastal habitats of Maharashtra and prioritization of sites for conservation as biodiversity hotspots. We used 1 x 1 meter quadrate to collect data regarding overall taxonomic groups to evaluate habitat. We used Opisthobranchs as a single taxa as an index to do the same. We have also listed other biodiversity as annexures with all species being digitalized photolibrary.

Why Opisthobranchs?

Opisthobranchs belong to Phylum Mollusca. These are among highly specialized organizams. These are habitat specialist and have specific preferences for food. Have narrow range of tolarance for environmental fluctuations and are widespread. Many species are cryptic and highly seasonal in its occurrence. Thus these are ideal organisms to use to assess the ecological status of an area. We have used them as single taxa to prioritize sites of conservation value. The data was generated over three seasons.

Phase	Report Title
Phase 2	Rocky shores – Raigad and Sindhudurg district
Phase 3	Sandy shores – Ratnagiri and Rajapur
Phase 4	Sandy shores – Raigad and Sindhudurg district
Phase 5	Mangrove habitat assessment – Thane, Mumbai and Raigad district
Phase 6	Mangrove habitat assessment – Ratnagiri, Rajapur and Sindhudurg district
Phase 7	Rapid assessment of terrestrial habitats including forest and plaetues within 10 sq.km impact zone of major projects
Final Report	Comprehensive status report for Maharashtra coastal habitats

Based on the one year work following sites has been identified as important biodiversity hotspots (rocky shores) in Ratnagiri and Rajapur district of coastal Konkan.

Site Name	Index
Mandvi (1 and 2)	1
Ambolgad	2
Undi	3
Kasheli	4
Alawa 2	5
Aare Ware	6
Alava 1	7
Purnagad	7
Varawade	8
Mirya	9
Madban	10

Conservation Threats

The Konkan coast of Maharashtra, India has been the stage for another conservation battle and this time for opposing a slew of coal-fired power projects and mines. These developments will ravage one of Maharashtra's most serene areas, home to an important biodiversity hotspot as well as world famous Alphonso mango.

In the 90s, Konkan's grassroots movement opposed big projects from Sterlite Copper and Enron Power. However, the sheer scale of present development needs to be looked in totality. At least fifteen proposed coal-fired power projects equaling 25 GW of power are set to be built on a narrow strip of coastal land 50 to 90 km wide and 105 km long. This represents a 200% increase in coal-fired power for the entire state of Maharashtra, a state which already has the largest total installed capacity equal to 11 GW, or 13% of nationwide capacity.

Power plants require their own captive ports for the transport of raw material. Thus there are number of minor ports proposed to come up in this area. Needless to say that ancillary development bound to take place which is not necessarily envisaged in the proposed project impacts.

Fig 4. 10 sq km impact map of thermal power plants, nuclear power plant, mega shipyard minor ports and captive jetties between Ranpar Creek and Dabhol creek