



# GOA

## COASTAL ZONE MANAGEMENT PLAN

As per CRZ Notification 2011

*1:25000 & 1:4000 Scale*

**National Centre for Sustainable Coastal Management**

**Ministry of Environment, Forest & Climate Change**

**Government of India**

13<sup>th</sup> February 2021

# OUTLINE OF THE PRESENTATION

## **PART-I:**

*CRZ notification, it's objectives; CZMP and requirements of CZMP as per CRZ notification 2011*

## **PART-II:**

*Data source and methodology including demarcation of ESAs and other features*

## **PART-III:**

*CZMP map, its legend; CRZ of Goa; Special provision of Goa; comparisons CZMP, summary and recommendation*

## **PART-IV:**

*Question and Answer*

# Part-I

*CRZ notification, it's objectives; CZMP and requirements of CZMP as per CRZ notification 2011*

## CRZ notification 2011

- ❖ The Ministry of Environment, Forest and Climate Change, Government of India, issued CRZ notification No. S.O.19 (E) dated 6<sup>th</sup> January 2011 which is referred to as the CRZ notification 2011 in Supersession of CRZ Notification 1991.
- ❖ The Main objective is to regulate human activities on the coastal zone.

## OBJECTIVES OF CRZ NOTIFICATION 2011

- To ensure livelihood security to the fisher communities and other local communities living in the coastal areas.
- To conserve and protect coastal stretches, its unique environment and its marine area.
- To promote development through sustainable manner.
- Imposes restrictions on the setting up and expansion of industries, operations or processes and the like in the CRZ.

## REQUIREMENT OF CRZ NOTIFICATION 2011

The CRZ Notification, 2011 [clause 5 (vi)] required the coastal States and Union Territory to prepare Coastal Zone Management Plans (CZMPs).

The coastal States and Union Territory will prepare within a period of twenty four months from the date of issue this notification, draft CZMPs in 1:25,000 scale map identifying and classifying the CRZ areas within the respective territories in accordance with the guidelines given in Annexure-I of the notification, which involve public consultation.

The CRZ Notification, 2011 [Annexure I) stated:

The local level CZM Maps shall be prepared on a Cadastral scale in accordance with the CZM Maps approved by the Central Government.

**The Local level CZM Maps shall be prepared for:**

The use of officials of local bodies for determination of CRZ.

For the use of local bodies and other agencies to facilitate implementation of the Coastal Zone Management Plans.

# JURISDICTION OF CRZ NOTIFICATION 2011

- (i) The land area from High Tide Line to 500mts on the landward side along the sea front.
- (ii) To the land area between HTL to 100 mts or width of the creek whichever is less on the landward side along the tidal influenced water bodies.
- (iii) land area between HTL and Low Tide Line (hereinafter referred to as the LTL) which will be termed as the intertidal zone.
- (iv) the water and the bed area between the LTL to the territorial water limit (12 Nm) in case of sea and the water and the bed area between LTL at the bank to the LTL on the opposite side of the bank, of tidal influenced water bodies.

Note: The land area falling between the hazard line and 500mts from HTL on the landward side, in case of seafront and between the hazard line and 100mts line in case of tidal influenced water body the word 'hazard line' denotes the line demarcated by Ministry of Environment and Forests (hereinafter referred to as the MoEF) through the Survey of India (hereinafter referred to as the Sol) taking into account tides, waves, sea level rise and shoreline changes. – this paragraph is removed from the CRZ notification 2011 as on 2<sup>nd</sup> July 2018 Amendment.

# REQUIREMENT OF CRZ NOTIFICATION 2011

## Introduction

MOEF&CC via **S.O. 1422(E)** dated 1<sup>st</sup> May 2020 amendment to the CRZ Notification 2011, which stated that:-

1. In paragraph 2, the following provision shall be inserted, namely: -

*“Provided that **in case there exists a bund or a sluice gate constructed in the past, prior to the date of notification issued vide S.O. 114(E) dated 19th February, 1991**, the HTL shall be restricted up to the line long along the bund or the sluice gate and in such a case, area under mangroves arising due to saline water ingress beyond the bund or sluice gate shall be classified as CRZ-IA irrespective of the extent of the area beyond the bund or sluice gate. Such areas under mangroves shall be protected and shall not be diverted for any developmental activities.”*

As per the CRZ Notification, 2011, the draft CZMPs (1:25000) as well as 1:4000 scale maps has been prepared and submitted to the Department of Environment, Government Goa for website publication and public hearing

# REQUIREMENT OF CZMP AS PER NOTIFICATION 2011

- The CRZ provides a spatial planning framework for Coastal Zone Management Plans which provide setbacks around sensitive eco-zones restricting development and other activities close to it.
- Setbacks require specific reference lines and boundaries for its meaningful implementation.
- The High Tide Line (HTL) forms the cardinal reference line for determining the setbacks for CRZ.
- The 100, 200 and 500m CRZ lines landward from the HTL are the landward setback lines. The Low Tide Line (LTL) and the Territorial water boundary (12 NM) form the setback lines towards the sea.

# REQUIREMENT OF CZMP AS PER NOTIFICATION 2011

For the preparation of the CZMPs the following essential details were inducted in the information system:

- a) Base layer based on Sol OSM Grid 1:25000
- b) HTL/ LTL, CRZ regulation lines, CRZ categories such as CRZ I, II, III and IV.
- c) Coastal land use and infrastructure
- d) Administrative Boundaries
- e) Cadastral information
- f) Ecologically Sensitive Areas (ESAs), Geomorphologically Important Areas and Archeologically Important and Heritage Sites
- g) Bund and sluice gate existing prior to 1991.
- h) Fishing villages/wards, and fishing related infrastructures
- l) Khazan Land etc.

# Part-II

*Data source and methodology including demarcation HTL, ESAs and other features*

# Data Sources.

<b>Source</b>	<b>Data</b>
NCSCM - Chennai	<ul style="list-style-type: none"><li>• High Tide Line</li><li>• Low Tide Line</li><li>• ESAs and geomorphological features</li><li>• CRZ Regulation Line, boundary &amp; categories</li><li>• Infrastructure facilities such as Lighthouse, Seawall, Breakwater or Jetty</li></ul>
Department of Survey and Land records (DSLRL) - Goa	<ul style="list-style-type: none"><li>• Survey plots</li><li>• Village boundary</li><li>• Taluka Boundary</li><li>• Municipal/corporation Boundary</li><li>• Road</li></ul>
Department of Fisheries - Goa	<ul style="list-style-type: none"><li>• Fish landing Centre/Ramp</li><li>• Fishing ward Boundary</li><li>• Fish breeding Area</li><li>• Fisherman Community Complex</li><li>• Boat parking area/Net mending Yard</li></ul>

# Data Sources.

<b>Source</b>	<b>Data</b>
Department of water resources - Goa	<ul style="list-style-type: none"><li>• Bund prior to 1991</li><li>• Sluice Gate prior to 1991</li><li>• Khazan land</li></ul>
Goa state pollution Control Board - Goa	<ul style="list-style-type: none"><li>• Water Quality Monitoring Location</li></ul>
Department of Environment - Goa	<ul style="list-style-type: none"><li>• Port limit</li><li>• Lighthouse</li><li>• Beacon</li></ul>
Survey of India	<ul style="list-style-type: none"><li>• Open Series Maps (OSM) Grid</li><li>• Toposheets on 1:25,000 scale</li><li>• Hazard Line</li></ul>
Others	<ul style="list-style-type: none"><li>• NHO charts</li><li>• High Resolution Satellite images (Quick bird, World View &amp; Ikonos)</li></ul>

# DEMARCATIION OF HIGH TIDE LINE

- High Tide Line is defined as *“the line on the land up to which the highest water line reaches during the spring tide”* as per the decisions taken by MoEF&CC (29<sup>th</sup> September 2014), NCSCM to demarcate HTL and LTL for the coast of mainland India
- **Signatures/geomorphologic features to demarcate HTL are:**
  - a) Berm crest/ Flotsam;
  - b) Permanent terrestrial vegetation;
  - c) Coastal sand dune
  - d) Cliff/ Rocky headland;
  - e) Sea wall/ Embankment/ Bund/ Revetment;
  - f) Mangrove;
  - i) Saltpan and brackish water aquaculture pond
  - j) Mudflat.
  - k) Naval Hydrographic chart for LTL

Manual on demarcation of HTL/ LTL and Preparation of CZMP of the Coast of India has been prepared BY NCSCM

*Including Salinity information*

MOEF&CC via S.O. 1422(E) dated 1<sup>st</sup> May 2020 amendment to the CRZ Notification 2011, HTL has been modified.

# Field photos

## Plates:



DGPS Survey



Tidal measurement near Khazan land



Fishing activity

# MAPPING OF CRZ-I AREAS (ESAs)

As per Para 4.2 (1) & Para 7 of the CRZ Notification, 2011 – mapping of CRZ I areas are being undertaken,

**Mapping of Ecologically Sensitive Areas as detailed in the CRZ Notification 2011;**

(a) Mangroves

(b) Coral reefs

(c) Sand Dunes

(d) Mudflats

(e) Marine Protected Areas, Reserve Forests, Marine Biosphere Reserves

(f) Salt Marshes

(g) Turtle nesting grounds

(h) Sea grass beds

(i) Nesting grounds of birds

(j) Areas/ structures of archaeological importance and heritage sites

(k) Horseshoe crabs habitats

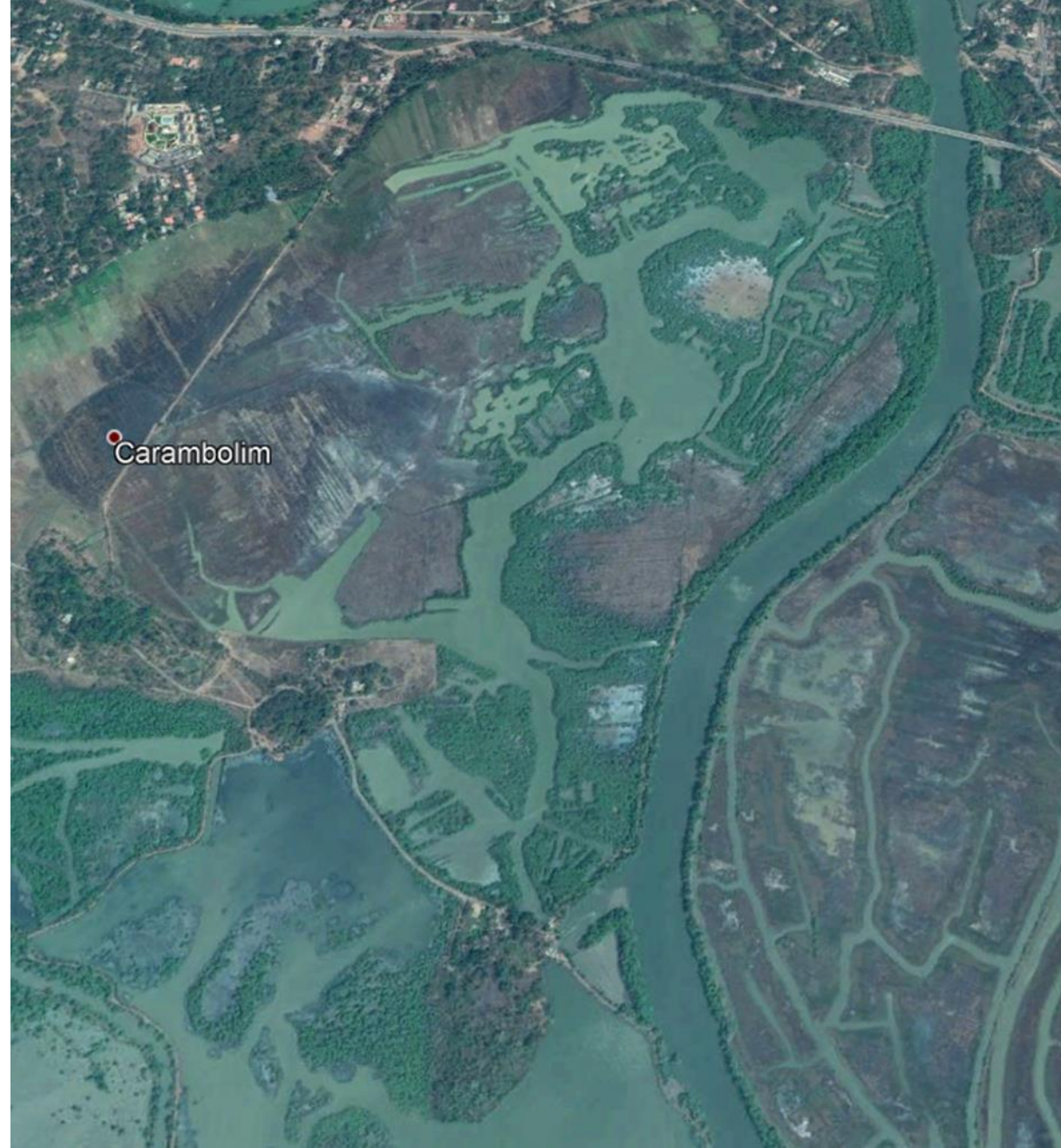
Field investigation during  
2017, 2018 and 2019

# Khazan land

(iv) the eco sensitive low lying areas which are influenced by tidal action known as khazan lands shall be mapped;

(v) the mangroves along such as khazan land shall be protected and a management plan for the khazan land prepared and no developmental activities shall be permitted in the khazan land;

Khazan land data along with the bund prior to 1991 and sluice gate prior to 1991 have been provided by WRD, Goa. WRD, Goa carried out the survey and demarcation of bunds, sluice gates & Khazan lands, along with the Biodiversity Management Committee of the respective villages.



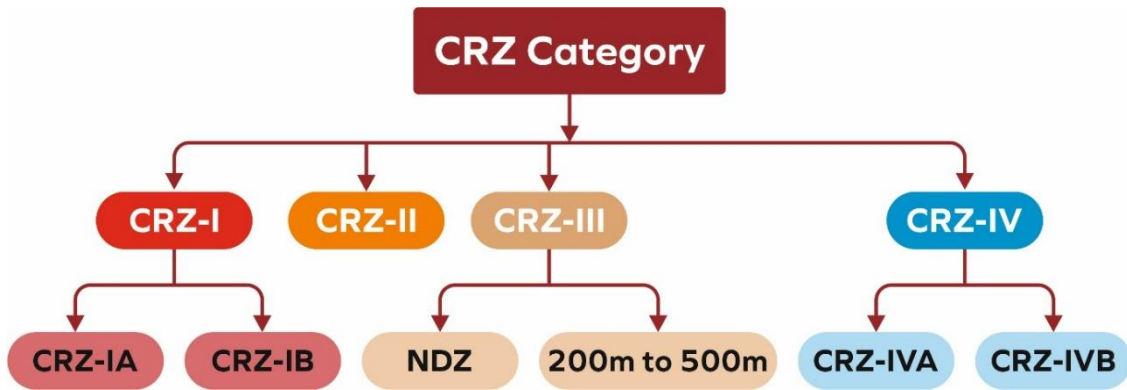
# Fishing Wards/infrastructure

- The Department of Fisheries, Government of Goa provided the data on fishing ward boundary, fish breeding area, fisherman community complex, boat parking area/net mending yard, fish landing center/ramp and it has been depicted in the CZMP on 1:4000 scale.
- A 100m buffer line was drawn from HTL to landward side in case of fishing wards near the sea coast to facilitate special consideration available for coastal communities. Construction/reconstruction of dwelling units of traditional coastal communities including fisher folk may be permitted between 100 and 200 meters from the HTL along the seafront. The draft comprehensive plan is prepared for fisherman community living in CRZ areas by Department of Environment, Government Goa

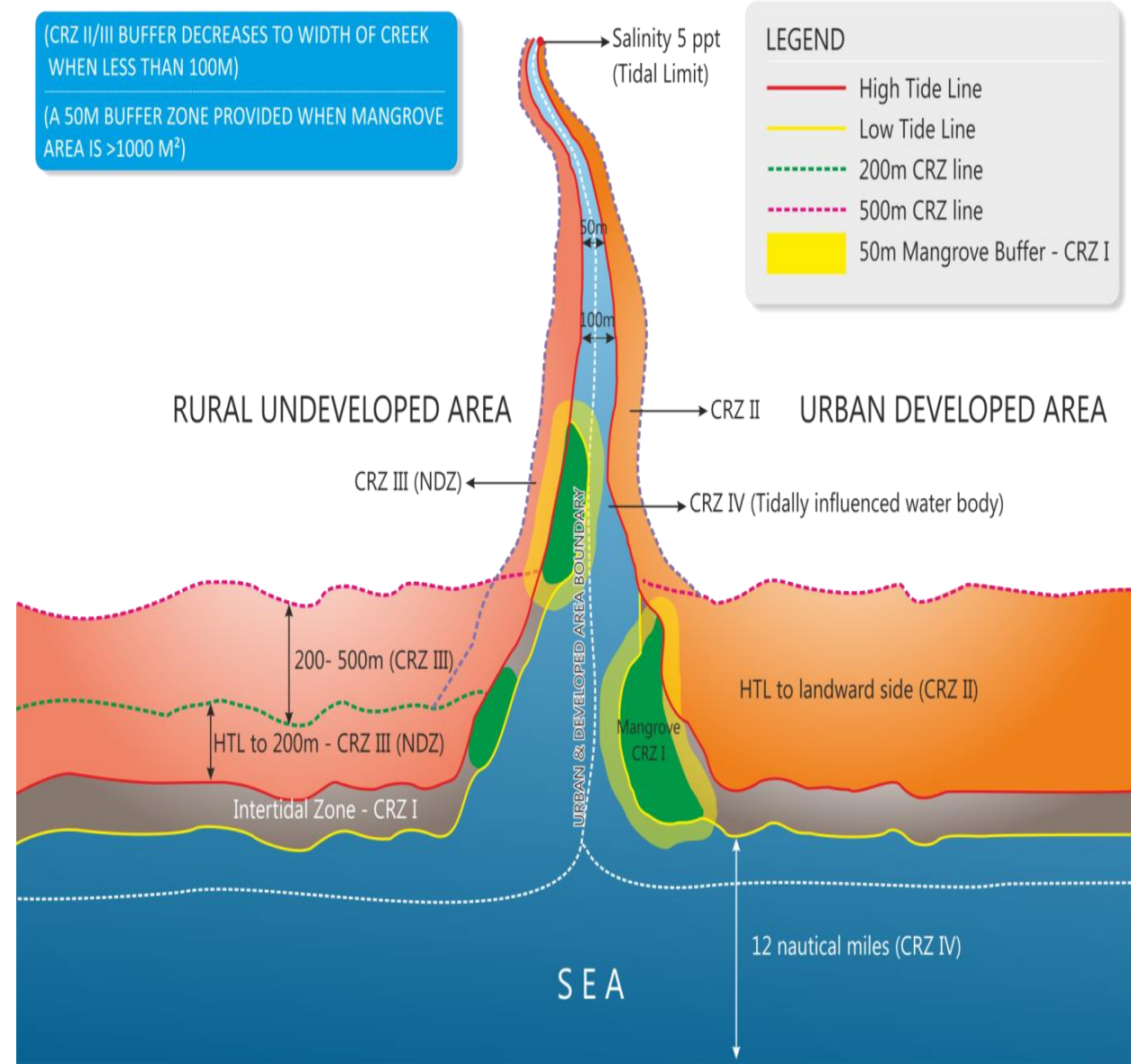
## Research Partners / Data Sources for Mapping ESAs

<b>ESA</b>	<b>Source</b>
<b>Mangrove</b>	NCSCM
<b>Coral Reef</b>	NCSCM
<b>Sand Dunes</b>	NCSCM
<b>Mudflat, Salt marsh</b>	NCSCM
<b>MPAs</b>	Wildlife Institute of India, Dehradun
<b>Archaeological Sites</b>	Archaeological Survey of India, Chennai
<b>Turtle Nesting Grounds</b>	Indian Institute of Science, Bengaluru

# CRZ CLASSIFICATION



(CRZ II/III BUFFER DECREASES TO WIDTH OF CREEK WHEN LESS THAN 100M)  
 (A 50M BUFFER ZONE PROVIDED WHEN MANGROVE AREA IS >1000 M<sup>2</sup>)



# CRZ CATEGORY

## CRZ-I(A)

The area that are (ESA) **ecologically sensitive Area and the geomorphologic features** which play a role in maintaining the integrity of coast.

Such as Mangroves, Coral reefs, Sand Dunes, Mudflats, Marine Protected Areas, Reserve Forests, Marine Biosphere Reserves, Salt Marshes, Turtle nesting grounds, Sea grass beds, Nesting grounds of birds, Areas/ structures of archaeological importance and heritage sites and Horseshoe crabs habitats.

## CRZ-I(B)

The area Between the LTL to HTL called as **Inter tidal zone (ITZ)**

# CRZ CATEGORY

## CRZ-II

The area that have been **developed** upon or close to the shoreline ( HTL to 500m and with of the Creek or 100m landward side).

The developed area is referred to as that area within the **existing municipal limits** or in other existing legally urban area which are substantially build-up and has been provided with drainage and approach road and other infrastructure facilities, such as water supply and sewerage mains.

i.e: **Town panchayat ,Municipal limits and corporation limits**

# CRZ CATEGORY

## CRZ-III

Areas that are relatively undisturbed and **those do not belong to either CRZ-I or II** which include coastal zone in the rural areas (developed and undeveloped) and also areas within municipal limits or in other legally designated urban areas, which are not substantially built up.

A. Area **up to 200mts from HTL on the landward side in case of seafront and 100mts.** along tidal influenced water bodies or width of the creek whichever is less is to be earmarked as **“No Development Zone (NDZ)”**

NDZ shall not be applicable in such area falling within any **notified port limits;**

B. **Area between 200mts to 500mts,**

# CRZ CATEGORY

## CRZ-IV

- A. CRZ-IVA the water area from the **Low Tide Line to twelve nautical miles** on the seaward side;
- B. CRZ-IVB shall include the water area of the **tidal influenced water body from the mouth of the water body** at the sea up to the influence of tide which is measured as **five parts per thousand** during the driest season of the year.

The activities impugning on the sea and tidal influenced water bodies will be regulated except for traditional fishing and related activities undertaken by local communities.

# AREAS REQUIRING SPECIAL CONSIDERATION OF GOA

## Areas requiring special consideration of Goa

In view of the peculiar circumstances of the State Goa including past history and other developments, the specific activities shall be regulated and various measures shall be undertaken as follows:-

- (i)** The Government of Goa shall notify the fishing villages where in all foreshore facilities required for fishing and fishery allied activities such as traditional fish processing yards, boat building or repair yards, net mending yards, ice plants, ice storage, auction hall, jetties may be permitted by **Grama Panchayat** in the CRZ area;
- (ii)** Reconstruction, repair works of the structures of **local communities including fishermen community** shall be permissible in CRZ;
- (iii)** Purely temporary and seasonal structures customarily put up between the months of **September to May**; (iii.a) such structures shall not be removed and dismantled during the month of June to August. Provided that the facilities available in these structures shall remain non-operational during the month of June to August.
- (iv)** the eco sensitive low lying areas which are influenced by tidal action known as **khazan lands** shall be mapped;

## AREAS REQUIRING SPECIAL CONSIDERATION OF GOA

- (v)** The mangroves along such as khazan land shall be protected and a management plan for the khazan land prepared and no developmental activities shall be permitted in the khazan land;
- (vi)** Sand dunes, beach stretches along the bays and creeks shall be surveyed and mapped. No activity shall be permitted on such sand dune areas;
- (vii)** The beaches such as Mandrem, Morjim, Galgiba and Agonda has been designated as turtle nesting sites and protected under the Wildlife Protection Act, 1972 and these areas shall be surveyed and management plan prepared for protection of these turtle nesting sites;
- (viii)** No developmental activities shall be permitted in the turtle breeding areas referred to in sub-paragraph (vii).

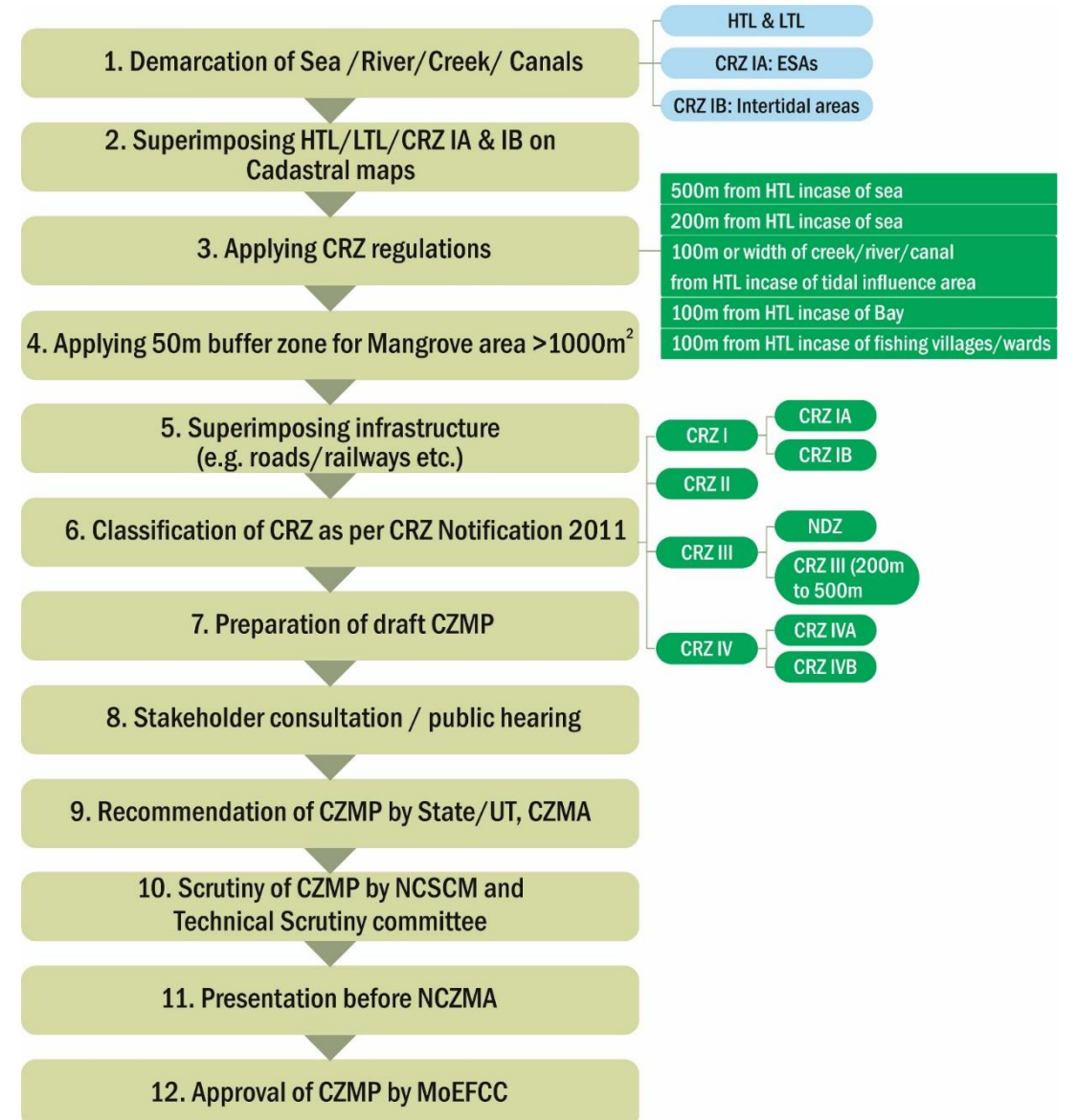
## AREAS REQUIRING SPECIAL CONSIDERATION OF GOA

As per the amendment to the CRZ notification 2011 dated 1st May 2020 S.O.1422(E ) where it stated that:-

Under paragraph 8.V relating to Areas requiring special consideration, in clause 3, for sub-clause (iv), the following sub-clause shall be substituted, namely: -

*“(iv) the eco sensitive low lying areas which are influenced by tidal action known as khazan lands shall be mapped and in case there exists a bund or a sluice gate constructed in the past, prior to the date of notification issued vide S.O. 114(E) dated 19th February, 1991, the HTL shall be restricted up to the line long along the bund or the sluice gate and in such a case, area under mangroves arising due to saline water ingress beyond the bund or sluice gate shall be classified as CRZ-IA irrespective of the extent of the area beyond the bund or sluice gate. Such areas under mangroves shall be protected and shall not be diverted for any developmental activities”.*













# Various steps involved in the preparation of CZMPs



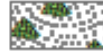












# Part-III

*CZMP map, its legend; CRZ of Goa; comparisons CZMP, summary and recommendation*






# Legend used in CZMP Maps - 1:4,000 -Scale

	Lighthouse/Beacon
	Fish Landing Centre/ Ramp
	Water Quality Monitoring Location - SW-II
	Multi Purpose Cyclone Shelters
	Sluice Gate - Prior to 1991
	Bund - Prior to 1991
	Road
	Railway Line
	Seawall
	High Tide Line
	Low Tide Line
	Hazard Line

	Port Limit
	Khazan Land
	Boat Parking /Net Mending Area
	Rock Outcrop
	Jetty or Shipyard
	Fishing Ward Boundary
	Fish Breeding Area
	Fisherman Community Complex
	Waterbody
	Survey Plots
	Village Boundary
	Municipal/Other Urban boundary
	Taluk Boundary

# Legend used in CZMP Maps - 1:4,000 -Scale

## CRZ Lines


-  100m CRZ line for Bays
-  100 m Line in CRZ III Area
-  200 m Line - NDZ
-  500 m CRZ Line
-  CRZ Line for River or Creek

## CRZ CATEGORY



### CRZ - I

-  Mangroves - CRZ IA
-  50m Mangrove buffer zone - CRZ IA
-  Archaeological and heritage sites - CRZ IA
-  Reserve Forest - CRZ IA
-  Mudflats - CRZ IA
-  Salt Marsh - CRZ IA
-  Sand Dunes - CRZ IA
-  Corals and coral reefs - CRZ IA
-  Nesting Grounds of Birds - CRZ IA
-  Turtle Nesting Grounds - CRZ IA
-  Intertidal Zone -CRZ IB
-  Aquaculture / Saltpan - CRZ IB

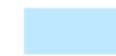

### CRZ - II

-  CRZ Landward of HTL - CRZ II






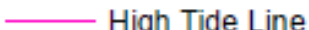


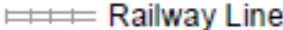
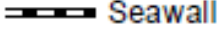





### CRZ - III











-  No Development Zone - CRZ III
-  200 to 500 m from HTL - CRZ III







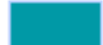
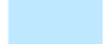
### CRZ - IV

-  Waterbody - CRZ IVA
-  Waterbody - CRZ IVB

# Legend used in CZMP Maps - 1:25,000 -Scale

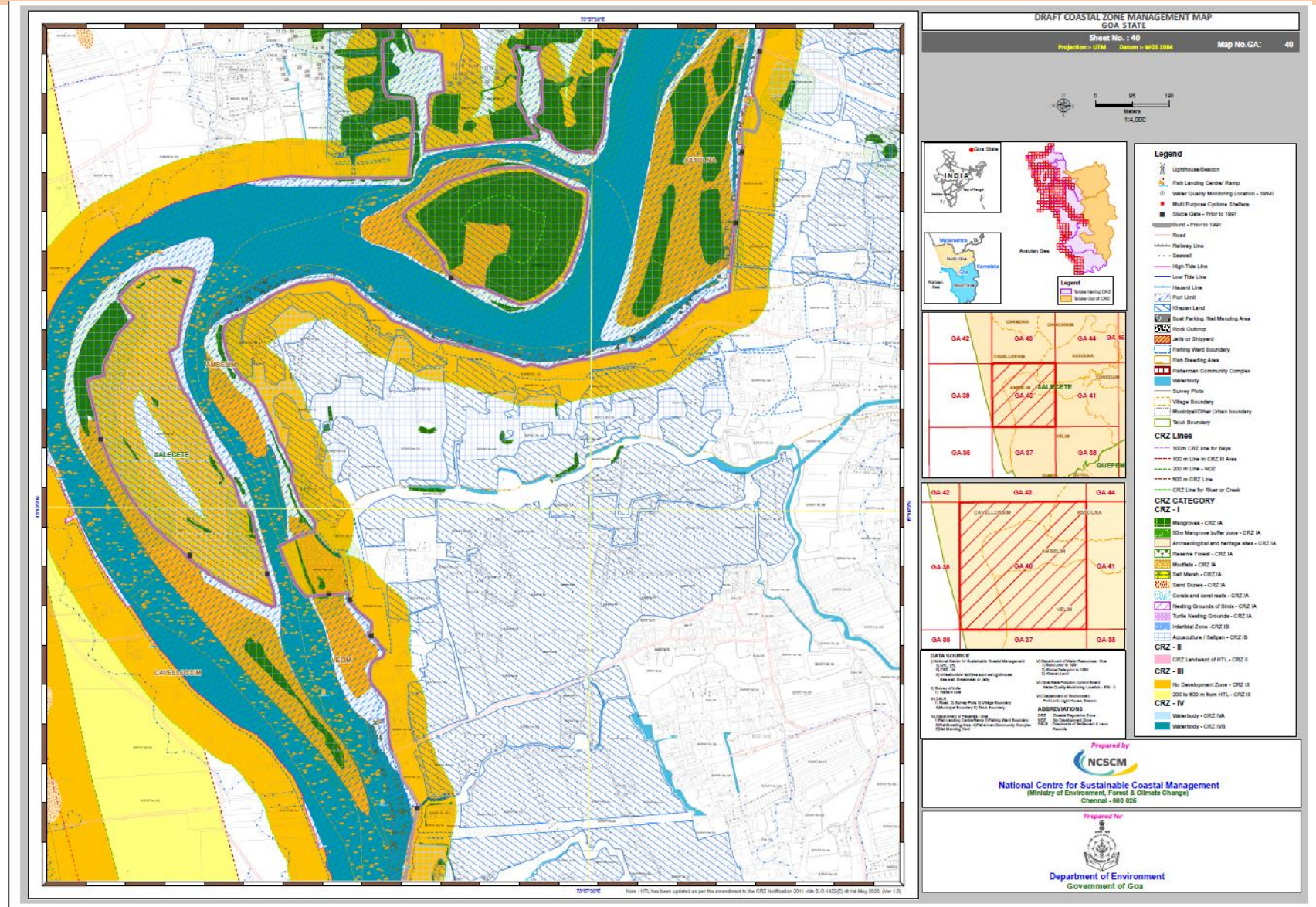
	Lighthouses/Beacons
	Fish Landing Centre/ Ramp
	Water Quality Monitoring Location - SW-II
	Multi Purpose Cyclone Shelters
	Sluice Gate - Prior to 1991
	High Tide Line
	Low Tide Line
	Road
	Railway Line
	Seawall
	Bund - Prior to 1991
	Village Boundary
	Municipal/Other Urban boundary
	Taluk Boundary
	Fishing Ward Boundary

	Port Limit
	Khazan Land
	Boat Parking /Net Mending Area
	Jetty or Shipyard
	Fish Breeding Area
	Fisherman Community Complex
<b>CRZ Lines &amp; Boundary</b>	
	Hazard Line
	100 m Line in CRZ III Area
	200 m Line - NDZ
	CRZ Boundary (500m Line, 100m for Bay, 100 m or width of the creek whichever is less along the tidal influenced water bodies)

<b>CRZ CATEGORY</b>	
<b>CRZ - I</b>	
	50m Mangrove buffer zone - CRZ IA
	CRZ IA
	CRZ IB
<b>CRZ - II</b>	
	CRZ II
<b>CRZ - III</b>	
	No Development Zone
	200 to 500 m from HTL
<b>CRZ - IV</b>	
	CRZ - IVB
	CRZ IVA

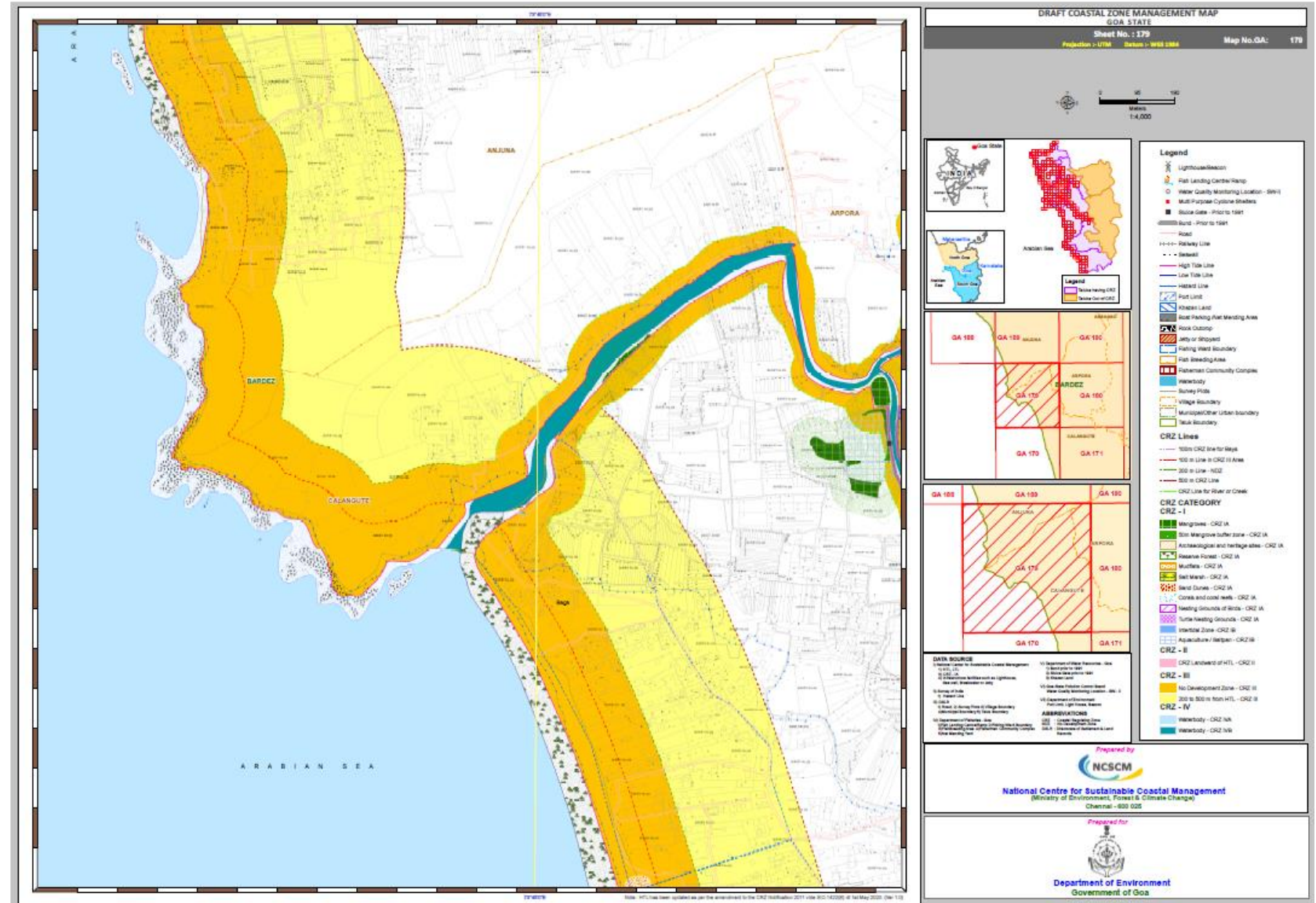
# Draft CZMP Map of Goa

**Map showing :-**  
 Mangroves and Mudflat  
 (CRZ IA)  
 Khazan Land,  
 CRZ II, and CRZ IVB



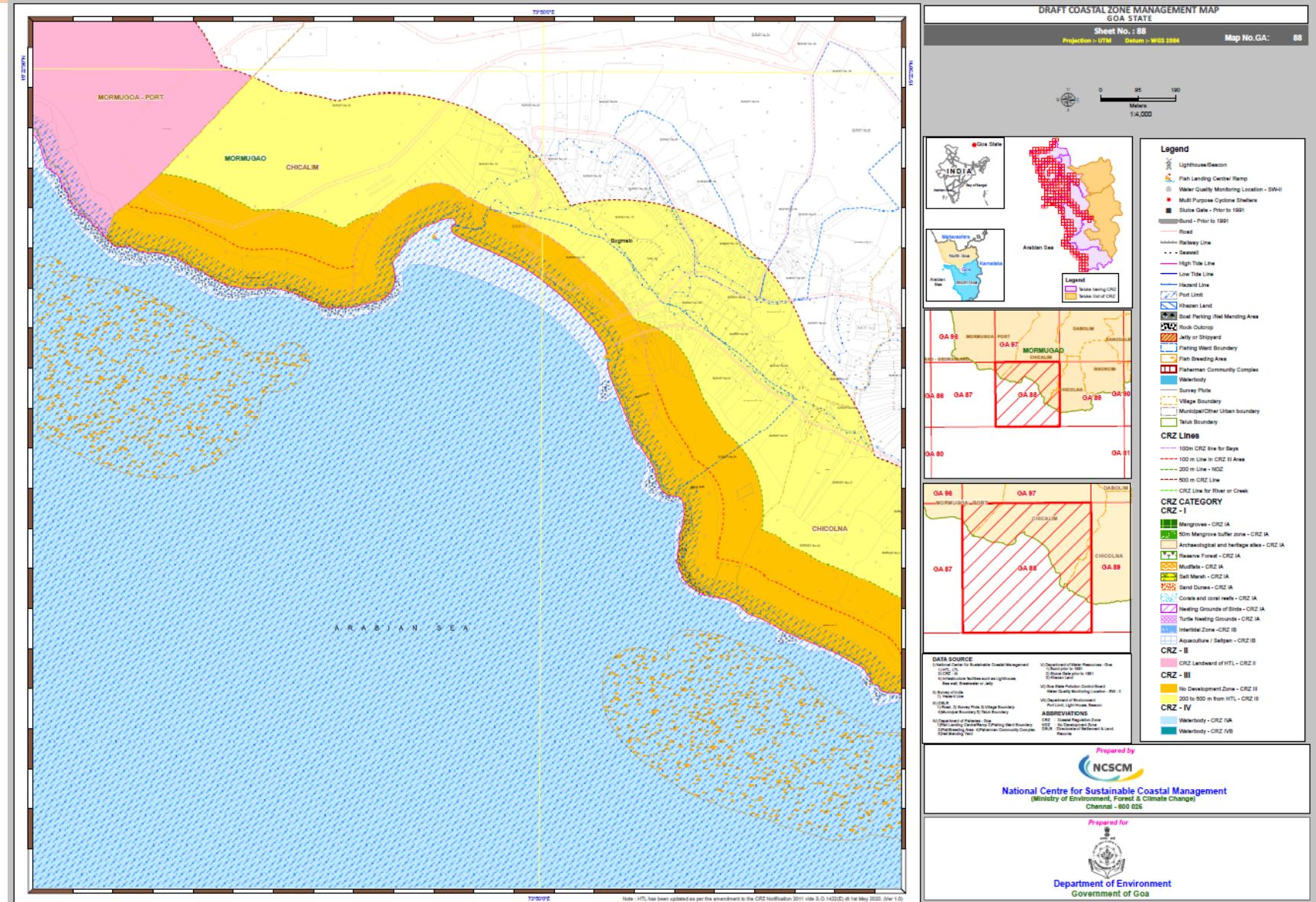
# Draft CZMP Map of Goa

**Map showing :-**  
 Mangroves (CRZ IA)  
 Khazan Land, and  
 Sluice Gates  
 CRZ III, and CRZ IVB  
 Rock out crops, Boat  
 Parking /Net Mending  
 Area

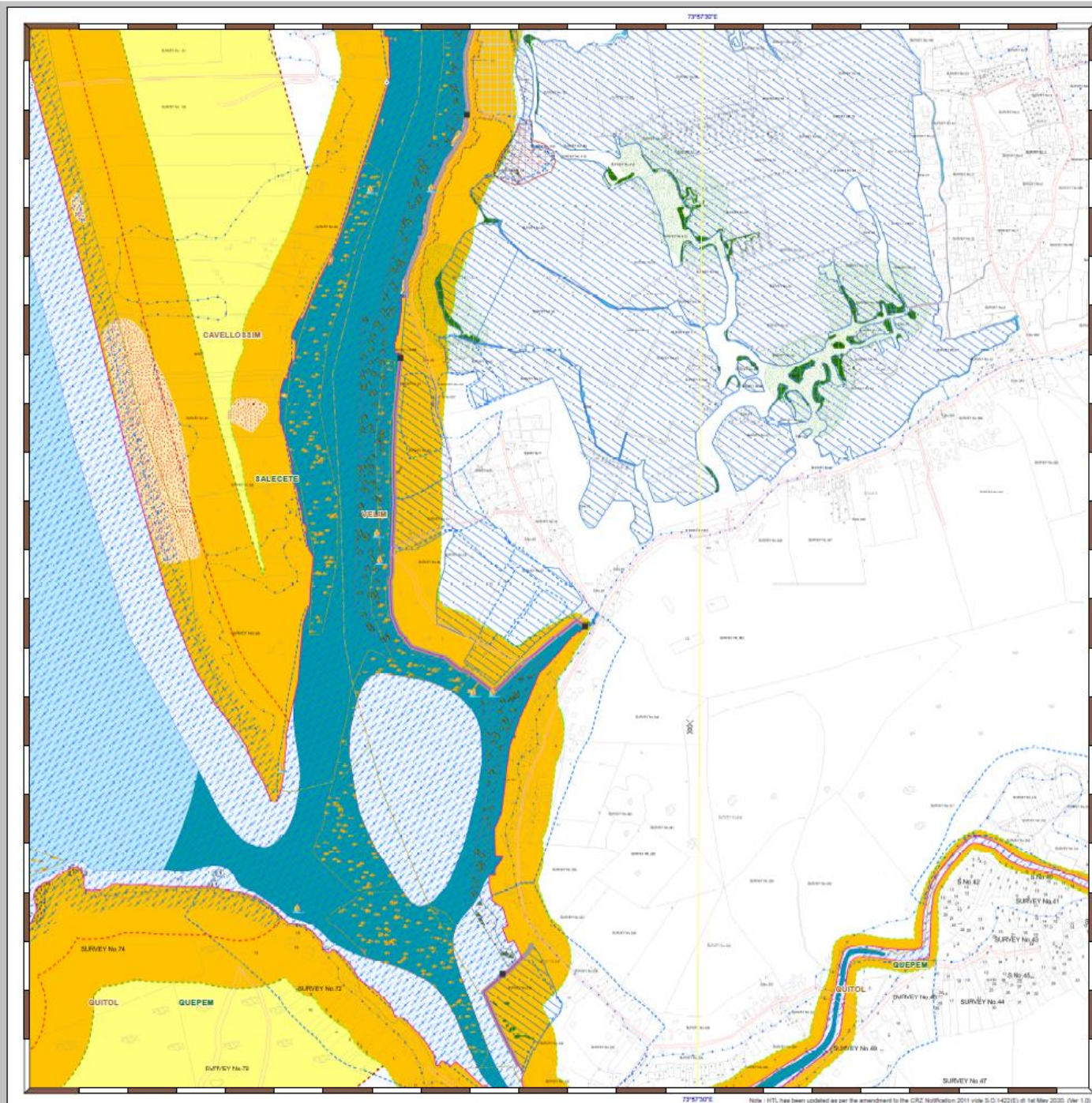


# Draft CZMP Map of Goa

Map showing :-  
 CRZ II,  
 NDZ and CRZ III,  
 Rock out crops,  
 Boat Parking /Net Mending Area  
 Fish Landing Centre/ Ramp  
 Fishbreeding Area and  
 Port Limit



# Sample CZMP map on 1:4000 scale



**DRAFT COASTAL ZONE MANAGEMENT MAP  
GOA STATE**

Sheet No. : 37  
Projection : UTM Datum : WGS 1984 Map No.GA: 37

Scale: 1:4,000

**Legend**

- Lighthouse/Beacon
- Fish Landing Centre/ Ramp
- Water Quality Monitoring Location - SWM
- Multi Purpose Cyclone Shelters
- Sluice Gate - Prior to 1991
- Bund - Prior to 1991
- Road
- Railway Line
- Seawall
- High Tide Line
- Low Tide Line
- Hazard Line
- Port Limit
- Khazan Land
- Roof Parking/Roof Mending Area
- Rock Outcrop
- Jetty or Shipyard
- Fishing Weir Boundary
- Fish Breeding Area
- Fishermen Community Complex
- Waterbody
- Survey Plots
- Village Boundary
- Municipal/Other Urban boundary
- Taluk Boundary

**CRZ Lines**

- 100m CRZ line for Bays
- 100 m Line in CRZ II Area
- 200 m Line - NDZ
- 500 m CRZ Line
- CRZ Line for River or Creek

**CRZ CATEGORY**

**CRZ - I**

- Mangroves - CRZ IA
- 50m Mangrove buffer zone - CRZ IA
- Archaeological and heritage sites - CRZ IA
- Reserve Forest - CRZ IA
- Mudflats - CRZ IA
- Salt Marsh - CRZ IA
- Sand Dunes - CRZ IA
- Coral and coral reefs - CRZ IA
- Nesting Grounds of Birds - CRZ IA
- Turtle Nesting Grounds - CRZ IA
- Intertidal Zone - CRZ IB
- Aquaculture / Saltpan - CRZ IB

**CRZ - II**

- CRZ Landward of HTL - CRZ II

**CRZ - III**

- No Development Zone - CRZ III
- 200 to 500 m from HTL - CRZ III

**CRZ - IV**

- Waterbody - CRZ IVA
- Waterbody - CRZ IVB

**DATA SOURCE**

- 1) National Centre for Sustainable Coastal Management
- 2) HTL, HTL - I, CRZ - I, CRZ - II, CRZ - III, CRZ - IV
- 3) Hydrographic Survey and Light House, Sea and Weather of India
- 4) Survey of India
- 5) Survey of India
- 6) Survey of India
- 7) Survey of India
- 8) Survey of India
- 9) Survey of India
- 10) Survey of India
- 11) Department of Fisheries - Goa
- 12) Coastal Land Use/Management of Fishing Weir Boundary
- 13) Coastal Land Use/Management of Fishing Weir Boundary
- 14) Coastal Land Use/Management of Fishing Weir Boundary
- 15) Coastal Land Use/Management of Fishing Weir Boundary
- 16) Coastal Land Use/Management of Fishing Weir Boundary
- 17) Coastal Land Use/Management of Fishing Weir Boundary
- 18) Coastal Land Use/Management of Fishing Weir Boundary
- 19) Coastal Land Use/Management of Fishing Weir Boundary
- 20) Coastal Land Use/Management of Fishing Weir Boundary
- 21) Coastal Land Use/Management of Fishing Weir Boundary
- 22) Coastal Land Use/Management of Fishing Weir Boundary
- 23) Coastal Land Use/Management of Fishing Weir Boundary
- 24) Coastal Land Use/Management of Fishing Weir Boundary
- 25) Coastal Land Use/Management of Fishing Weir Boundary
- 26) Coastal Land Use/Management of Fishing Weir Boundary
- 27) Coastal Land Use/Management of Fishing Weir Boundary
- 28) Coastal Land Use/Management of Fishing Weir Boundary
- 29) Coastal Land Use/Management of Fishing Weir Boundary
- 30) Coastal Land Use/Management of Fishing Weir Boundary
- 31) Coastal Land Use/Management of Fishing Weir Boundary
- 32) Coastal Land Use/Management of Fishing Weir Boundary
- 33) Coastal Land Use/Management of Fishing Weir Boundary
- 34) Coastal Land Use/Management of Fishing Weir Boundary
- 35) Coastal Land Use/Management of Fishing Weir Boundary
- 36) Coastal Land Use/Management of Fishing Weir Boundary
- 37) Coastal Land Use/Management of Fishing Weir Boundary
- 38) Coastal Land Use/Management of Fishing Weir Boundary
- 39) Coastal Land Use/Management of Fishing Weir Boundary
- 40) Coastal Land Use/Management of Fishing Weir Boundary
- 41) Coastal Land Use/Management of Fishing Weir Boundary
- 42) Coastal Land Use/Management of Fishing Weir Boundary
- 43) Coastal Land Use/Management of Fishing Weir Boundary
- 44) Coastal Land Use/Management of Fishing Weir Boundary
- 45) Coastal Land Use/Management of Fishing Weir Boundary
- 46) Coastal Land Use/Management of Fishing Weir Boundary
- 47) Coastal Land Use/Management of Fishing Weir Boundary
- 48) Coastal Land Use/Management of Fishing Weir Boundary
- 49) Coastal Land Use/Management of Fishing Weir Boundary
- 50) Coastal Land Use/Management of Fishing Weir Boundary
- 51) Coastal Land Use/Management of Fishing Weir Boundary
- 52) Coastal Land Use/Management of Fishing Weir Boundary
- 53) Coastal Land Use/Management of Fishing Weir Boundary
- 54) Coastal Land Use/Management of Fishing Weir Boundary
- 55) Coastal Land Use/Management of Fishing Weir Boundary
- 56) Coastal Land Use/Management of Fishing Weir Boundary
- 57) Coastal Land Use/Management of Fishing Weir Boundary
- 58) Coastal Land Use/Management of Fishing Weir Boundary
- 59) Coastal Land Use/Management of Fishing Weir Boundary
- 60) Coastal Land Use/Management of Fishing Weir Boundary
- 61) Coastal Land Use/Management of Fishing Weir Boundary
- 62) Coastal Land Use/Management of Fishing Weir Boundary
- 63) Coastal Land Use/Management of Fishing Weir Boundary
- 64) Coastal Land Use/Management of Fishing Weir Boundary
- 65) Coastal Land Use/Management of Fishing Weir Boundary
- 66) Coastal Land Use/Management of Fishing Weir Boundary
- 67) Coastal Land Use/Management of Fishing Weir Boundary
- 68) Coastal Land Use/Management of Fishing Weir Boundary
- 69) Coastal Land Use/Management of Fishing Weir Boundary
- 70) Coastal Land Use/Management of Fishing Weir Boundary
- 71) Coastal Land Use/Management of Fishing Weir Boundary
- 72) Coastal Land Use/Management of Fishing Weir Boundary
- 73) Coastal Land Use/Management of Fishing Weir Boundary
- 74) Coastal Land Use/Management of Fishing Weir Boundary
- 75) Coastal Land Use/Management of Fishing Weir Boundary
- 76) Coastal Land Use/Management of Fishing Weir Boundary
- 77) Coastal Land Use/Management of Fishing Weir Boundary
- 78) Coastal Land Use/Management of Fishing Weir Boundary
- 79) Coastal Land Use/Management of Fishing Weir Boundary
- 80) Coastal Land Use/Management of Fishing Weir Boundary
- 81) Coastal Land Use/Management of Fishing Weir Boundary
- 82) Coastal Land Use/Management of Fishing Weir Boundary
- 83) Coastal Land Use/Management of Fishing Weir Boundary
- 84) Coastal Land Use/Management of Fishing Weir Boundary
- 85) Coastal Land Use/Management of Fishing Weir Boundary
- 86) Coastal Land Use/Management of Fishing Weir Boundary
- 87) Coastal Land Use/Management of Fishing Weir Boundary
- 88) Coastal Land Use/Management of Fishing Weir Boundary
- 89) Coastal Land Use/Management of Fishing Weir Boundary
- 90) Coastal Land Use/Management of Fishing Weir Boundary
- 91) Coastal Land Use/Management of Fishing Weir Boundary
- 92) Coastal Land Use/Management of Fishing Weir Boundary
- 93) Coastal Land Use/Management of Fishing Weir Boundary
- 94) Coastal Land Use/Management of Fishing Weir Boundary
- 95) Coastal Land Use/Management of Fishing Weir Boundary
- 96) Coastal Land Use/Management of Fishing Weir Boundary
- 97) Coastal Land Use/Management of Fishing Weir Boundary
- 98) Coastal Land Use/Management of Fishing Weir Boundary
- 99) Coastal Land Use/Management of Fishing Weir Boundary
- 100) Coastal Land Use/Management of Fishing Weir Boundary

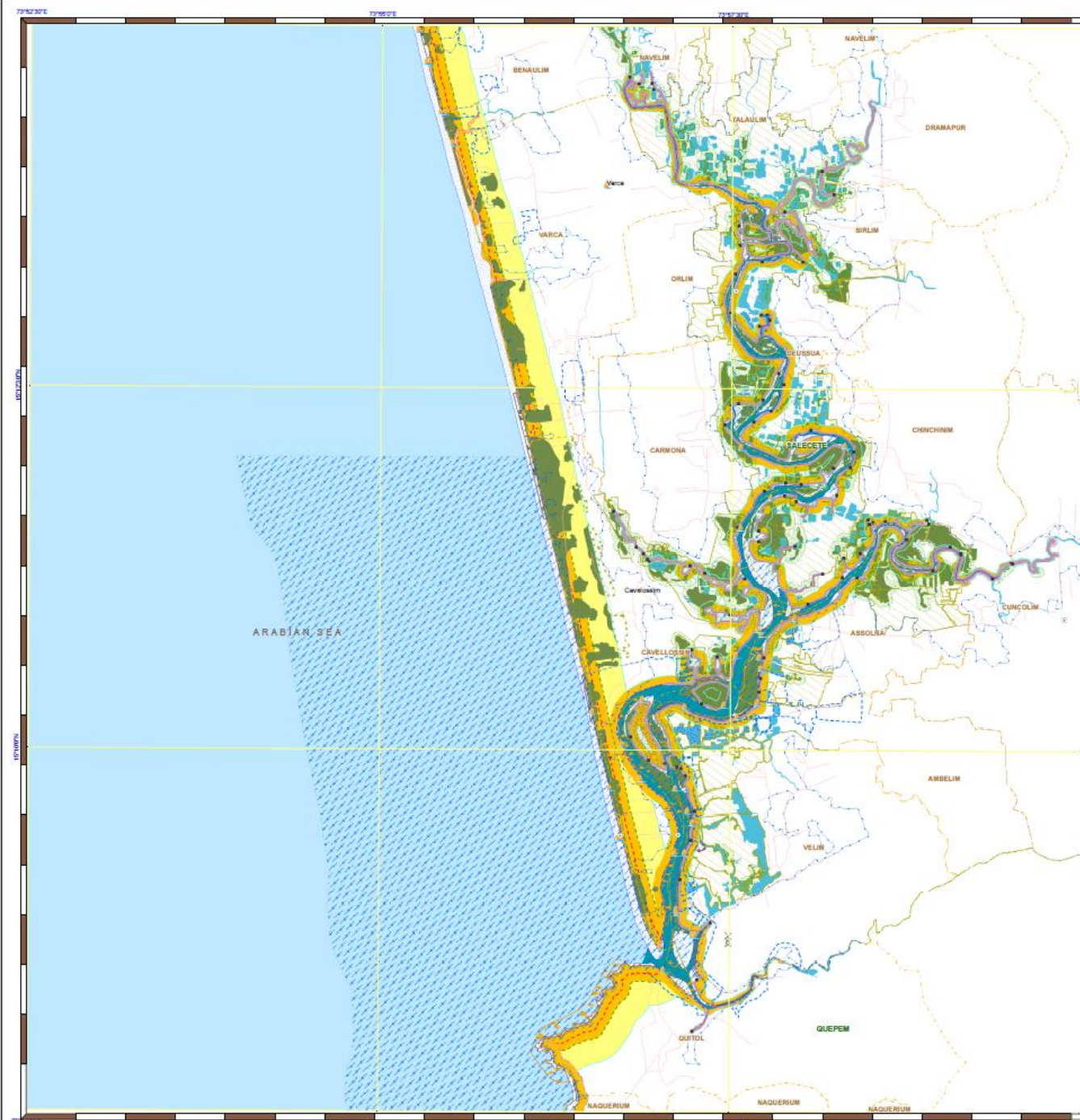
**ABBREVIATIONS**

- CRZ - Coastal Regulation Zone
- NDZ - No Development Zone
- HTL - High Tide Line
- HTL - I - High Tide Line - I
- HTL - II - High Tide Line - II
- HTL - III - High Tide Line - III
- HTL - IV - High Tide Line - IV
- HTL - V - High Tide Line - V
- HTL - VI - High Tide Line - VI
- HTL - VII - High Tide Line - VII
- HTL - VIII - High Tide Line - VIII
- HTL - IX - High Tide Line - IX
- HTL - X - High Tide Line - X
- HTL - XI - High Tide Line - XI
- HTL - XII - High Tide Line - XII
- HTL - XIII - High Tide Line - XIII
- HTL - XIV - High Tide Line - XIV
- HTL - XV - High Tide Line - XV
- HTL - XVI - High Tide Line - XVI
- HTL - XVII - High Tide Line - XVII
- HTL - XVIII - High Tide Line - XVIII
- HTL - XIX - High Tide Line - XIX
- HTL - XX - High Tide Line - XX
- HTL - XXI - High Tide Line - XXI
- HTL - XXII - High Tide Line - XXII
- HTL - XXIII - High Tide Line - XXIII
- HTL - XXIV - High Tide Line - XXIV
- HTL - XXV - High Tide Line - XXV
- HTL - XXVI - High Tide Line - XXVI
- HTL - XXVII - High Tide Line - XXVII
- HTL - XXVIII - High Tide Line - XXVIII
- HTL - XXIX - High Tide Line - XXIX
- HTL - XXX - High Tide Line - XXX

**Prepared by**  
NCSCM  
National Centre for Sustainable Coastal Management  
(Ministry of Environment, Forest & Climate Change)  
Chennai - 800 026

**Prepared for**  
Department of Environment  
Government of Goa

# Sample CZMP map on 1:25000 scale



**DRAFT COASTAL ZONE MANAGEMENT PLAN**  
GOA STATE

Sheet No. : 4  
Projection - UTM Datum - WGS 1984 Map No: GA 4

Prepared as per CRZ Notification 2011

**Legend**

- Lighthouse/Beacon
- Fish Landing Control Ramp
- Water Quality Monitoring Location - SW-II
- Multi Purpose Cyclone Shelter
- Sluice Gate - Prior to 1991
- High Tide Line
- Low Tide Line
- Road
- Railway Line
- Seawall
- Bund - Prior to 1991
- Village Boundary
- Municipal/Other Urban boundary
- Taluk Boundary
- Fishing Ward Boundary
- Port Limit
- Khazan Land
- Boat Parking/Net Mending Area
- Jetty or Shipyard
- Fish Breeding Area
- Fisherman Community Complex

**CRZ Lines & Boundary**

- Hazard Line
- 100 m Line in CRZ II Area
- 200 m Line - NDZ
- CRZ Boundary
- 100m Line, 100m for Step, 100 m or width of the beach, whichever is less along the 100m reference water line

**CRZ CATEGORY**

**CRZ - I**

- 50m Mangrove buffer zone - CRZ IA
- CRZ IA
- CRZ IB

**CRZ - II**

- CRZ II

**CRZ - III**

- No Development Zone
- 200 to 500 m from HTL

**CRZ - IV**

- CRZ - IVB
- CRZ IVA

**DATA SOURCE**

<p>I) National Center for Sustainable Coastal Management</p> <ol style="list-style-type: none"> <li>1) HTL, LTL</li> <li>2) CRZ - IA</li> <li>3) CRZ Categories and Lines</li> </ol> <p>II) Survey of India</p> <ol style="list-style-type: none"> <li>1) Hazard Line</li> </ol> <p>III) Department of Water Resources - Goa</p> <ol style="list-style-type: none"> <li>1) Bund prior to 1991</li> <li>2) Sluice Gate prior to 1991</li> <li>3) Khazan Land</li> </ol> <p>IV) Goa State Pollution Control Board</p> <p>Water Quality Monitoring Location - SW - II</p>	<p>V) Department of Environment</p> <p>Port Limit, Light House, Beacon</p> <p>VI) DSLR</p> <ol style="list-style-type: none"> <li>1) Road, 2) Village Boundary</li> <li>3) Municipal Boundary 4) Taluk Boundary</li> </ol> <p>VII) Department of Fisheries - Goa</p> <ol style="list-style-type: none"> <li>1) Fish Landing Centre/Ramp 2) Fishing Ward boundary</li> <li>3) Fish Breeding Area, 4) Fisherman Community Complex</li> <li>5) Boat Parking/Net Mending Yard</li> </ol>
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Prepared by

**National Centre for Sustainable Coastal Management**  
(Ministry of Environment, Forest & Climate Change)  
Chennai - 600 026

Prepared for

**Department of Environment**  
Government of Goa

# Coastal Goa – A GLANCE

<b>1.</b>	<b>Total Area of State</b>	<b>3702 sq km</b>
<b>2.</b>	No. of Coastal Districts	Two a) South Goa b) North Goa
<b>3.</b>	No. of CRZ Covering Taluks	10
<b>4.</b>	No. of Municipality/Local Planning Area	8
<b>5.</b>	No. of villages under CRZ area	178
<b>6.</b>	Length of High Tide Line	1002.29 km
<b>7</b>	No of CZMP Maps on 1:25000 scale	16
<b>8</b>	No of CZMP Maps on 1:4000 scale	254

# CRZ AREAS OF GOA

CRZ categories	Area (sq. km)
CRZ IA	107.11
CRZ IB (excluding ESA)	14.34
CRZ II (excluding ESA)	8.10
NDZ-CRZ III	41.14
200 to 500( CRZ III) excluding ESA)	22.40
CRZ IVB	102.19

# Area Ecologically Sensitive Areas (ESAs) and Geomorphological classes

Districts	Taluka	Area (sq km)											Total Area
		MG	MG Buffer	Coral	SD	MF	SM	TNG	AH	ITZ	Khazan Land	Saltpan/Aquua	
South Goa	Canacona	0.73	1.63	-	0.07	-	-	0.17	0.18	2.95	1.39	0.01	7.14
	Quepem	0.05	0.18	-	-	-	0.13	-	-	0.34	0.28	-	0.98
	Sanguem	-	-	-	-	-	-	-	-	0.02	-	-	0.02
	Salcette	4.29	9.74	-	2.24	0.46	0.77	-	-	5.70	22.77	0.73	46.70
	Mormugao	2.41	2.31	0.37	0.09	0.38	0.02	-	0.01	2.97	3.79	-	12.33
North Goa	Tiswadi	18.40	19.75	-	0.01	0.58	0.62	-	0.02	6.05	51.33	1.92	98.68
	Ponda	3.85	6.04	-	-	0.04	0.14	-	-	3.94	15.98	0.06	30.05
	Bardez	5.93	9.97	-	0.15	0.08	0.33	-	0.09	4.56	19.90	0.16	41.17
	Pernem	3.20	3.85	-	0.51	0.36	0.08	0.08	0.00	2.81	8.61	0.31	19.81
	Bicholim	2.26	3.49	-	-	-	0.00	-	-	1.51	11.50	-	18.76
<b>Total Area</b>		41.12	56.97	0.37	3.07	1.89	2.10	0.25	0.30	30.85	135.55	3.18	

MG: Mangrove; MG Buffer: Mangrove Buffer Zone; SD: Sand Dune; MF: Mudflat; MPA: Marine Protected Area; SM: Salt Marsh; TNG: Turtle Nesting Ground; NGB: Nesting Ground of Birds; AH: Archaeologically important and Heritage Sites; ITZ: Inter-Tidal Zone

# LIST OF MUNICIPALITIES in Coastal Goa

Sl. No.	District	Name	Type
1	North Goa	Pernem	Municipal Council
2		Mapusa	
3		Bicholim	
4		The City of Panaji	
5	South Goa	Mormugao	Municipal Council
6		Curchorem-Cacora	
7		Cuncolim	
8		Canacona	

# TALUKA WISE KHAZAN AREA

Districts	Taluka	Area in Sq. km
North Goa	Pernam	8.61
	Bardez	19.90
	Bicholim	11.50
	Tiswadi	51.33
	Ponda	15.98
South Goa	Mormugao	3.79
	Salecete	22.77
	Quepem	0.28
	Canacona	1.39
Total area		135.55

# COASTAL ARCHEAOLOGICAL & HERITAGE SITES

Sl. No	Districts	Taluka	Location
1	North Goa	Pernam	Fort of Terekhol
2		Bardez	Chapora Fort
3			Fortification Wall of Auguda Fortress (Lower)
4			Upper Agauda
5			Church of Reis Magos
6			Reis Magos Fort
7		Tiswadi	Church of Our Lady of the Cape
8			Chapel of St. Cajetan and Largo
9			Arch of Viceroy
10	South Goa	Mormugao	The Fort of Marmagoa
11			Shantadurga temple
12			Church at sancole,Nagapattinam
13		Canacona	Cabo da Rama Fort

# *Coastal Regulation Zones of Goa*

## CRZ along sea coast:

### **Pernem Taluka:**

- i. Tiracol Fort is classified as CRZ-IA and other areas are classified as CRZ-III.
- ii. The sand dune areas in Querim is classified as CRZ-IA, and other areas are classified as CRZ-III.
- iii. The Paliem village is classified as CRZ III.
- iv. Sand dune, mangrove and 50m mangroves buffer (if area greater than 1000 sq. m) areas falling in Arambol village are classified as CRZ-IA, and other areas are classified as CRZ-III.
- v. Sand dune, mangrove, 50m mangroves buffer (if area greater than 1000 sq. m) areas and turtle nesting sites falling in Mandrem village are classified as CRZ-IA, and other areas are classified as CRZ-III.
- vi. Sand dune, mangrove, 50m mangroves buffer (if area greater than 1000 sq. m) areas and turtle nesting sites falling in Morjim village are classified as CRZ-IA, and other areas are classified as CRZ-III.

**Bardez Taluka:**

- i. In Anjuna village, Chapora Fort and sand dune area is classified as CRZ-IA and rest of the area is classified as CRZ-III
- ii. Calengute area is classified as CRZ-III except sand dunes, which is classified as CRZ-IA.
- iii. Sand dunes and Aguada Fort (except Aguada Jail premises) in Candolim village is classified as CRZ IA, and other areas are classified as CRZ-III.

***Tiswadi Taluka:***

- i. Dona Paula is classified as CRZ-III (NDZ)

## ***Coastal Regulation Zones of Goa***

### ***Murmugoa Taluka:***

- i. Murmugoa Fort fall under the CRZ IA.
- ii. Areas within Municipal Limits of Mormugao Municipal Council, are classified as CRZ-II
- iii. Dabolia, Chicalim, Chicolna, Issorcam and Sarcola areas are classified as CRZ-III.
- iv. Pale and Velasso areas are classified as CRZ-III except sand dunes, which are classified as CRZ-IA. Cansaulim and Arossim are classified as CRZ-III except sand dunes, which are classified as CRZ-IA.

### ***Salcete Taluka:***

The entire villages falling in Salcete Taluka namely, Utorda, Majorda, Consua, Betalbatim, Ccolva Sernabatim. Benaulim, Varca and Cavellossim are classified as CRZ-III except sand dunes, which are classified as CRZ-IA.

### ***Quepem Taluka:***

- i. The villages of quitol and Naquerim are classified as CRZ-III

### ***Cancanona Taluka:***

- i. The whole of Cola stretch is classified as CRZ-III except Cabo da Rama Fort, reserved forest which is classified as CRZ-IA
- ii. In Agonda the entire Agonda village is classified as CRZ-III except reserved forest, mangrove, 50m mangroves buffer (if the area greater than 1000 sq m) areas and turtle nesting sites which are classified as CRZ-IA.
- iii. Nagarcem area is classified as CRZ-II except mangrove, 50m mangrove buffer area (if the area greater than 1000 sq m), which are classified as CRZ-IA. Palolem island is classified as CRZ IA due to the presence of reserve forest
- iv. Area falling in Paiguinium village is classified as CRZ-III except sand dune, turtle nesting site, mangrove, 50m mangrove buffer (if the area greater than 1000 sq m) which are classified as CRZ IA.
- v. In Loliem, the entire stretch is classified as CRZ-III except reserved forest, mangrove, 50m mangrove buffer (if the area greater than 1000 sq m), which are classified as CRZ-IA.

### CRZ along bank of river, creek, backwater:

- i. Along the rivers namely Tiracol, Chapora, Mandovi, Zuari, Sal, Talpona, creeks and backwaters in Goa influenced by tidal action, the extent of CRZ is either 100 meters or width of the river or creek or backwater which is less.
- ii. Along Tiracol River, tidal influence is felt up to Patradevi. All areas up to Patradevi within the CRZ having mangroves, mudflats, saltmarsh, 50m mangrove buffer (if area greater than 1000 sq m) including mouth of Qerim , Paliem, Cargao, Poroscondem, Amberem, Uguem, Tamboxem, and Torxem are classified as CRZ-IA and rest as CRZ-III (NDZ). Pernem municipal area classified as CRZ II.
- iii. All along Chapora river areas with mangroves, mudflats, 50m mangroves buffer (if the area greater than 1000 sq. m) including areas of river mouth, Siolim Marna, Marna, Siolim Sodiem, Oxel, Camrulim, Colvale, revora, Dargalim, Virnora, Tuem, Parcem, Agarvado, Chopdem are classified as CRZ-IA and other areas classified as CRZ -III (NDZ).
- iv. The areas at mouth of the river having sand dunes of Caranzalem-Miramar and Nerul and all areas along the bank of Mandovi having mangrove, mudflats, saltmarsh, bird nesting ground/Marine protected area, 50m mangrove buffer (if area greater than 1000 sq m) areas are classified as CRZ-IA and rest of the ares classified as CRZ-III (NDZ). The area falls under the municipal/urban boundary such as Panaji, Mapusa and Bicholim are classified as CRZ II.

### CRZ along bank of river, creek, backwater:

- V. All along Zuary river areas with mangroves, saltmarsh, mudflats, 50m mangroves buffer are classified as CRZ-IA and other areas classified as CRZ -III (NDZ). The area falls under the municipal/urban boundary such as Mormugoa, Cacora are classified as CRZ II.
- VI. All along the Sal river, ecologically sensitive areas such as Mangrove, Mudflat, salt marsh, 50m mangrove buffer (if area greater than 1000 sq m) etc are classified as CRZ IA, and rest of the area classified as CRZ III (NDZ). The area falls under the municipal/urban boundary such as Cuncolim are classified as CRZ II.
- VII. All along the Talpona river, ecologically sensitive areas such as Mangrove, 50m mangrove buffer (if area greater than 1000 sq. m) etc. are classified as CRZ IA, and rest of the area classified as CRZ III (NDZ). The area falls under the municipal/urban boundary such as Canacona are classified as CRZ II.
- VIII. All along the Galgibaga river, ecologically sensitive areas such as Turtle nesting site, Mangrove, 50m mangrove buffer (if area greater than 1000 sq. m) etc. are classified as CRZ IA, and rest of the area classified as CRZ III.
- IX. Panaji municipal area classified as CRZ II.

## Draft Management plan

The Department of Environment, Government Goa prepared draft management plans such as

- Mangroves management plan
- Turtle nesting sites Management plan
- Khazan land Management plan
- Fisherman Community management plan

# Comparison CRZ notification between 1991 and 2011

Sl No	Issues	CRZ Notification, 1991	CRZ Notification, 2011
1	Water area up to 12 NM	Not present	Added
2	Hazard line	Not present	Added, later on deleted Now hazard line shall be used for planning for disaster management preparation.
3	Requirements and procedure of CRZ clearance	Not clear and details	Details and clear
4	projects/activities monitoring, transparency and enforcement procedures	Not clear	Details and clear
5	Areas requiring special consideration	Not present	Added

# Comparison CRZ Categories

Sl No	Issues	CRZ Notification, 1991	CRZ Notification, 2011
6	ESAs		<p>The following ESAs were removed from CRZ Notification, 2011</p> <ol style="list-style-type: none"> <li>1 <b>Areas close to breeding and spawning grounds of fish and other marine life,</b></li> <li>2. <b>Areas of outstanding natural beauty,</b></li> <li>3. <b>Areas rich in genetic diversity,</b></li> <li>4. <b>Area likely to be inundated due to rise in sea level consequent upon global warming and such other areas as may be declared by the Central Government or the concerned authorities at the State [Union Territory level from time to time.</b></li> </ol> <p><b>All uninhabited islands would be classified as CRZ-I (subject to continuation of existing traditional rights, special rights and customary uses) except those islands, which have been approved by MoEF as CRZ-IV.</b></p> <p><b>Whereas, following ESAs have been added in CRZ Notification, 2011</b></p> <p>Biosphere Reserves; (f) Salt Marshes; (g) Turtle nesting grounds; (h) Horse shoe crabs habitats; (i) Sea grass beds; (j) Nesting grounds of birds;</p>

# Comparison CRZ Categories

Sl No	Issues	CRZ Notification, 1991	CRZ Notification, 2011
7	Water body	<p>CRZ IV:</p> <p>Coastal stretches in the Andaman &amp; Nicobar, Lakshadweep and small islands, except those designated as CRZ-I, CRZ-II or CRZ-III.</p>	CRZ IV area for waterbody
8	Andaman & Nicobar and Lakshadweep	Andaman & Nicobar and Lakshadweep was included as CRZ IV.	Andaman & Nicobar and Lakshadweep island were drop from CRZ Notification 2011. separate Notification has been issued called IPZ Notification for that

# Comparison CRZ Categories

- The **approved CZMP maps on 1:25000** scale of Goa prepared as per CRZ notification 1991 are not available.
- CZMPs was only prepared for the sea coast. Creek/river part was not included.
- HTL was demarcated by Navel Hydrographic officer all along the sea coast.

# SUMMARY AND RECOMMENDATIONS

- 1) The High Tide Line, Low Tide Line and Ecologically Sensitive Areas such as mangroves, mudflats etc. have been demarcated from Survey of India Aerial Photographs and by the use of high-resolution satellite images in gap areas during 2011-2012-time frame.
- 2) Based on the CRZ 2011 notification, various regulation lines and CRZ boundaries have been demarcated.
- 3) Survey of India topographical sheet was used as base map for preparation of CZMP on 1:25000 scale. DSLR provided PT sheet was used as base map for preparation of CZMP on 1:4000 scale.
4. HTL, LTL, ESAs etc. were superimposed over the cadastral map. Various administrative boundaries, infrastructure etc. as required in CRZ notification 2011 were overlaid over the above map. The Hazard line was demarcated by Survey of India.

# SUMMARY AND RECOMMENDATIONS

5) The Hazard line demarcated on the CZMP maps based on CRZ 2011 notification.

6) Coastal Zone Management Plan (CZMP) for Goa state in 1:25000 scale has been prepared as per the provision of CRZ notification 2011 and guidelines of Technical Scrutiny Committee of MoEF&CC.

7) CZMP of 1:4000 scale was prepared as per the CRZ notification 2011.

8) Coastal land use maps (i.e. land use map used to define CZMP including Ecologically Sensitive Areas) were prepared on 1: 25000 scale based on the recommendations of the Technical Scrutiny Committee of NCZMA.

9) There are sixteen CZMP maps for Goa in 1:25000 scale. Whereas, there are two hundred fifty-four maps in 1:4000 scale.

# SUMMARY AND RECOMMENDATIONS

10) The total area of CRZ IA in Goa is found to be 107.11 sq.km. The dominant ESAs are mangroves, sand dunes and mudflats.

11) The calculated area of CRZ II is 8.10 sq.km, CRZ III (200-500 m from HTL) is 22.40 sq.km, CRZ III – NDZ is 41.14 sq.km and CRZ IVB is 102.19 sq.km. HTL has been updated as per amendment to the CRZ Notification 2011 vide S.O. 1422(E) dt 1st May 2020 (NCSCM Map Version 1.0)

12) All developmental activities listed in CRZ notification 2011 shall be regulated by the State Government, the local authority or the concerned CZMA within the framework of the approved CZMPs prepared under CRZ notification 2011.

# SUMMARY AND RECOMMENDATIONS

13) The following recommendations from the Government of Goa vide Department of Environment and Climate Change:-

- i. No further increase in handling of coal at MPT shall be permitted beyond the capacities presently permitted by Goa state pollution control board.
- ii. Temporary structures in no development zone along coast and along banks of rivers/ estuaries shall be permitted except in ESA areas shown in CZMP plans with the following conditions.
  - A. Floor space index not exceed 0.33, open area shall be suitably landscaped with appropriate vegetation cover.

# RECOMMENDATIONS

B. The overall height of the temporary structure shall not exceed 9 meters and shall not be more than two floors (ground floor plus one).

C. Swimming pool not exceeding 50 sq. m. in area shall be permitted. **iii. The draft CZMP maps should depict the mangroves in khazan lands as mangroves in khazans and also there should not be buffer for mangroves in khazan lands.**

iv. The State of Goa is popular for its beaches and there are high footfalls on the beaches in Goa thereby making it essential to provide adequate infrastructure for visiting tourists such as parking, toilets, changing rooms, floating jetties, sewage treatment plant, solid waste collection system, lifeguard towers, cabins, events and wedding etc will be permitted in NDZ areas except in ESA.

# RECOMMENDATIONS

v. For any major infrastructure project in CRZ areas which requires EIA studies, consultation etc. prior approval in principal of the State Government should be obtained before the project is placed in public domain.

As the above recommendations submitted by the Government of Goa do not fall within the purview of NCSCM, the Government of Goa/GCZMA may take-up the above issues separately with NCZMA / MoEF&CC after the public hearing, for final deliberation and final decision.

# RECOMMENDATIONS

14) All activities in CRZ area permissible under the Goa Land Development and Building Construction Regulations, 2010 and as provided under the Regional Plan for Goa and the Outline Development Plans shall be subject to the provisions of the Coastal Regulation Zone Notification, 2011 in force and /or as amended from time to time and as per the approved Coastal Zone Management Plan.

15) All activities which requires prior clearance from the Ministry of Environment and Forest, has to be taken as per the provision of CRZ Notification, 2011.

16) All relevant provisions of the CRZ Notification, 2011 shall be strictly followed.

17) For development of Beach, Resorts and Hotels in the designated area of CRZ - III, the guidelines indicated under Annexure- III of CRZ Notification shall be followed.

# RECOMMENDATIONS

18) Monitoring & enforcement of the provision of the CRZ regulations would be carried out by the Goa Coastal Zone Management Authority and District Level Committees as notified by the State Government from time to time.

# Part-IV

## *Question and Answer*



**THANK YOU**