



# **STANDARD OPERATING PROCEDURE**

## **For Processing of Application as per CRZ Notification, 2019**

**Directorate of Environment and Climate Change  
Department of Environment  
Government of Kerala  
January 2025**



# Standard Operating Procedure

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## **Publication Information**

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04 January, 2025.

## **MESSAGE**

Kerala has one of the longest coastlines in the West Coast of India, which spans about 580 kms. It is endowed with beautiful beaches, estuaries and lagoons. Our coastal belt, a narrow strip of lowland, is flanked by the presence of paddy fields and coconut trees.

Out of Kerala's 14 districts, 10 are covered under the CRZ Notifications. It is with great satisfaction that I present the Standard Operating Procedure (SOP) for the processing of applications under the Coastal Regulation Zone (CRZ) Notification, 2019, prepared by the Directorate of Environment and Climate Change. This document marks a significant step towards ensuring the sustainable development of our coastal regions while safeguarding the unique ecosystem of Kerala's coastline.

This SOP establishes a streamlined, transparent, and efficient framework to assess and process applications in alignment with the CRZ Notification, ensuring that development activities are environmentally sound and community inclusive. I extend my heartfelt congratulations to all those who have made significant contributions in bringing this vital initiative to fruition.

I urge all stakeholders to adhere to these guidelines and work collectively towards the preservation of our invaluable coastal resources.

**Pinarayi Vijayan**

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**DR. RATHAN U. KELKHAR IAS**  
Secretary, Environment Department



It is with great appreciation that I acknowledge the significant effort put forth by the Director, DoECC, and the entire team in preparing the Standard Operating Procedure (SOP) for processing applications under the Coastal Regulation Zone (CRZ) Notification, 2019, issued by the Ministry of Environment, Forest and Climate Change, Government of India.

The CRZ Notification, 2019, reflects our collective commitment to the protection and preservation of coastal ecosystems, which play a pivotal role in maintaining environmental balance. The coastal areas are not only ecologically sensitive zones but also provide vital support to the livelihoods of traditional coastal communities. It is imperative that we ensure the sustainable utilization of these coastal regions while safeguarding against coastal erosion and promoting resilience against climate change.

The SOP developed aligns with the objectives of the CRZ Notification and will serve as a structured framework to streamline the application process. It ensures transparency, efficiency, and adherence to regulatory guidelines, thus facilitating better protection of our invaluable coastal ecosystems while enabling livelihood and developmental activities in a sustainable manner.

I would like to specially commend the author of this document, Sri. P. Kalaiarasan, Environmental Engineer, DoECC, for his exceptional effort and meticulous attention to detail in developing this SOP. His hard work and commitment have been instrumental in creating a document that reflects the highest standards of professionalism and environmental stewardship.

I extend my sincere appreciation to the entire team for their diligence and dedication in understanding the nuances of the CRZ Notification and preparing this comprehensive SOP. Your collective efforts will contribute significantly towards achieving a harmonious balance between environmental protection, coastal community well-being, and sustainable development.

Let us remain steadfast in our mission to conserve our coastal resources for future generations.

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## **SUNEEL PAMIDI IFS**

Director, DoECC



The Coastal Regulation Zone (CRZ) framework has been a cornerstone of India's environmental conservation efforts since its inception. The CRZ Notification, first issued in 1991 by the Ministry of Environment, Forest and Climate Change, marked a significant step towards the sustainable management of India's vast and diverse coastal ecosystems. This regulation established guidelines to protect and conserve sensitive coastal and marine areas while balancing the needs of development and livelihoods.

Over the years, the CRZ framework has evolved to address emerging challenges and incorporate learnings from its implementation. The 2011 Notification introduced new classifications and streamlined regulatory procedures, improving clarity for stakeholders. Building on this legacy, the CRZ Notification, 2019, represents a major advancement by integrating updated scientific insights and community considerations. This notification aims to foster sustainable development in coastal areas, ensuring economic growth while safeguarding ecological balance.

The "Standard Operating Procedure for Processing CRZ Applications as per CRZ Notification, 2019" has been developed as a practical tool to facilitate the consistent and efficient processing of applications. It provides a detailed guide for stakeholders, including environmental consultants, regulatory authorities, and developers, ensuring compliance with the CRZ Notification.

I would like to extend my heartfelt appreciation to Sri. Kalaiarasan P., Environmental Engineer, for his dedicated effort in preparing this comprehensive document. By adopting the processes outlined in this SOP, we can uphold the principles of sustainable coastal management, securing the future of our fragile coastal ecosystems for generations to come.

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## Preface

The Ministry of Environment, Forest and Climate Change (MoEFCC) is the nodal agency in the administrative structure of the Central Government for the planning, promotion, co-ordination and overseeing the implementation of India's environmental and forestry policies and programmes. The ministry has directed all the coastal States and Union Territories to regulate various activities in their respective coastal areas. 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 and to promote development through sustainable manner based on scientific principles taking into account the dangers of natural hazards in the coastal areas, sea level rise due to global warming, the MoEFCC issued a Coastal Regulation Zone (CRZ) Notification vide S.O. 114 E dated 19.02.1991 under the Environment (Protection) Act, 1986. In supersession of the CRZ Notification, 1991, the MoEFCC issued a CRZ Notification, 2011 vide S.O. 19 E dated 06.01.2011.

In supersession of the CRZ Notification, 2011, number S.O. 19 E dated 06.01.2011, except as respects things done or omitted to be done before such supersession, the MoEFCC issued a CRZ Notification, 2019, vide number G.S.R. 37 E dated 18.01.2019.

As per the Notification, the CRZ area classified into CRZ IA, CRZ IB, CRZ II, CRZ IIIA, CRZ IIIB, CRZ IVA and CRZ IVB. The Kerala state has 10 coastal districts namely Kasargod, Kannur, Kozhikode, Malappuram, Thrissur, Ernakulam, Kottayam, Alappuzha, Kollam and Thiruvananthapuram. Altogether 286 local bodies of Kerala state are covered by this notification in which 5 are municipal corporation, 36 are municipalities and 245 are grama panchayats out of which 66 are classified as 'Other Legally Designated Urban Area' and 6 as Atomic Mineral Deposits. The Coastal Zone Management Plan as per the Notification was prepared by National Centre for Earth Science Studies (NCESS), Thiruvananthapuram in 1:25000 scale and approved by MoEFCC vide F.No.IA 3-12/7/2021-IA.III (E-153017) dated 16.10.2024 followed by all the procedures laid down in the notification.

As per CZMP 2019, the total length of HTL along Kerala seacoast is 576.5 km and tidal influenced water bodies such as river, creeks, canals etc., is 5731.67 km. The ecologically sensitive area includes mangrove, turtle nesting site, archeologically important sites etc (CRZ IA) is 46.78 sq.km. The area of intertidal zone (CRZ IB) is 98.30 sq.km. The total area including area along sea coast and tidal influenced water bodies in CRZ II is 199.67 sq.km. The extent of No Development Zone in CRZ IIIA, CRZ IIIB including NDZ of tidal influenced water body is 134.75 sq.km. The CRZ IIIA (50m-500m) and CRZ IIIB (200m-500m) extent

is 48.14 sq.km and 31.29 sq.km respectively. The area of CRZ IVB is 387.81 sq.km and the area of atomic mineral deposit in the CZMP is 387.81 sq.km and 8.04 sq.km.

The SOP described the permissible/regulated and prohibited activities within different CRZ categories and explained the procedure involved to obtain the CRZ clearance/recommendation from the concerned authority. The steps involved in various stages of application processing and the mandatory documents required to obtain the clearance are well explained. The roles and responsibilities of coastal Local Self Government Institute (LSGI), District Level Committee, and Kerala Coastal Zone Management Authority (KCZMA) are demonstrated in the respective sections of the document. It is hoped that the coastal community/local inhabitant, project proponents, consultants, regulatory authorities and the officials concerned will find this SOP helpful.

This is a very important initiative of the Environment Department to harmonize the methodology for processing of application to obtain CRZ clearance as per the provisions of CRZ Notification, 2019. I wish to thank the Environment Department, Govt of Kerala for preparation of this SOP. Thanks are due to Dr. Rathan U Kelkhar IAS, Secretary, Environment Department, Shri. Suneel Pamidi IFS, Director, DoECC, Dr. Jissy Jyothi S, Shri. Rahul Ramesh, Shri. Toms Augustine and other technical staffs of DoECC for their contribution and value addition to this SOP. I am grateful to all Technical Members of earlier and present KCZMA, Additional Secretary and officials of Environment Department, Joint Secretary and all other staffs of KCZMA/DoECC for their useful support and constructive interaction.

**P.KALAIARASAN**

Environmental Engineer, DoECC,  
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# Standard Operating Procedure for Processing of Application as per CRZ Notification, 2019

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## List of Abbreviations

<b>CRZ</b>	<b>Coastal Regulation Zone</b>
<b>CVCA</b>	<b>Critically Vulnerable Coastal Area</b>
<b>CWPRS</b>	<b>Central Water and Power Research Station</b>
<b>CZMP</b>	<b>Coastal Zone Management Plan</b>
<b>DLC</b>	<b>District Level Committee</b>
<b>EC</b>	<b>Environmental Clearance</b>
<b>EIA</b>	<b>Environment Impact Assessment</b>
<b>ESA</b>	<b>Ecologically Sensitive Area</b>
<b>FAR</b>	<b>Floor Area Ratio</b>
<b>FSI</b>	<b>Floor Space Index</b>
<b>GP</b>	<b>Grama Panchayat</b>
<b>HTL</b>	<b>High Tide Line</b>
<b>IIMP</b>	<b>Integrated Island Management Plan</b>
<b>IMP</b>	<b>Integrated Management Plan</b>
<b>ITZ</b>	<b>Inter Tidal Zone</b>
<b>KCZMA</b>	<b>Kerala Coastal Zone Management Authority</b>
<b>KMBR</b>	<b>Kerala Municipality Building Rules</b>
<b>KPBR</b>	<b>Kerala Panchayat Building Rules</b>
<b>LSGI</b>	<b>Local Self Government Institute</b>
<b>LTL</b>	<b>Low Tide Line</b>
<b>MoEF&amp;CC</b>	<b>Ministry of Environment, Forest and Climate Change</b>
<b>NCCR</b>	<b>National Centre for Coastal Research</b>
<b>NCESS</b>	<b>National Centre for Earth Science Studies</b>
<b>NCSCM</b>	<b>National Centre for Sustainable Coastal Management</b>
<b>NCZMA</b>	<b>National Coastal Zone Management Authority</b>
<b>NDZ</b>	<b>No Development Zone</b>
<b>NGT</b>	<b>National Green Tribunal</b>
<b>NIO</b>	<b>National Institute of Oceanography</b>
<b>NIOT</b>	<b>National Institute of Ocean Technology</b>
<b>Nm</b>	<b>Nautical Mile</b>
<b>NOC</b>	<b>No Objection Certificate</b>
<b>PPT</b>	<b>Parts Per Thousand</b>
<b>SEIAA</b>	<b>State Environmental Impact Assessment Authority</b>
<b>TIWB</b>	<b>Tidal Influenced Water Body</b>



## 1 Introduction

### 1.1 CRZ Notification 2019

The Ministry of Environment, Forest & Climate Change (MoEF&CC), Government of India issued the Coastal Regulation Zone (CRZ) Notification, 2019 vide G.S.R. 37(E) dated 18.01.2019 in supersession of the Coastal Regulation Zone Notification 2011, number

S.O. 19(E), dated the 06.01.2011. The CRZ Notification 2019 defines the CRZ areas to include the land area from High Tide Line (HTL) to 500 m on the landward side along the seafront as well as the land area between HTL to 50 m or width of the creek, whichever is less, on the landward side along tidal influenced water bodies connected to the sea. The CRZ of the coastal/backwater islands is between HTL to 20 m on the landward side of the Islands. The CRZ also includes the entire water and the bed area between the Low Tide Line (LTL) to the territorial water limit (12 Nm) in case of sea and the water and the bed area between the LTL at the bank and the LTL on the opposite side of the bank, of tidal influenced water bodies.

The Standard Operating Procedure provides guidance on the processing of applications to obtain the CRZ clearance as per the provisions of CRZ Notification 2019.

### 1.2 Objectives of CRZ Notification, 2019

The major objectives of the notification are as follows:

- To conserve and protect the unique environment of coastal stretches and marine areas
- To ensure livelihood security for the fisher communities and other local communities in the coastal areas
- To promote sustainable development based on scientific principles taking into account the dangers of natural hazards and sea level rise due to global warming.

## 2 CRZ Classification

The CRZ area is classified into CRZ IA, CRZ IB, CRZ II, CRZ IIIA, CRZ IIIB, CRZ IVA, CRZ IVB and coastal/backwater Islands. A schematic diagram to understand the regulatory features in CRZ Notification, 2019 is shown in Figure 1.

**CRZ I:** The environmentally most critical areas are classified into CRZ-IA (constitute the ecologically sensitive areas and the geomorphological features which play a role in maintaining the integrity of the coast such as mangroves, corals and coral reefs, sand dunes, biologically active mudflats, national parks, marine parks, sanctuaries, reserve forests, wildlife habitats and other protected areas under the provisions of Wild Life (Protection) Act, 1972 (53 of 1972), Forest (Conservation) Act, 1980 (69 of 1980) or Environment (Protection) Act, 1986 (29 Of 1986), salt marshes, turtle nesting grounds, horse shoe crabs habitats, sea grass beds, nesting grounds of birds, areas or structures of archaeologically importance and heritage sites.

The area between Low Tide Line (LTL) and High Tide Line is classified as CRZ IB.

**CRZ II:** CRZ-II constitutes the developed land areas up to or close to the shoreline, within the existing municipal limits or in other existing legally designated urban areas, which are substantially built-up with a ratio of built-up plots to that of total plots being more than 50 per cent and have been provided with drainage and approach roads and other infrastructural facilities, such as water supply, sewerage mains etc.

**CRZ-III:** Land areas that are relatively undisturbed (viz. rural areas, etc.) and those which do not fall under CRZ-II. CRZ-III shall be further classified into CRZ-III A (population density is more than 2161 per square kilometer as per 2011 census), where area up to 50 meters from the HTL on the landward side shall be earmarked as the 'No Development Zone (NDZ)' failing which, a NDZ of 200 meters shall continue to apply and CRZ-III B (all other CRZ-III areas with a population density of less than 2161 per square kilometer, as per 2011 census base).

**No Development Zone (NDZ) of Tidal Influenced Water Bodies (TIWB):** CRZ shall apply to the land area upto 50 meters from the HTL, or width of the creek whichever is less, along the tidal influenced water bodies in the CRZ III, shall also be earmarked as the NDZ in CRZ III.

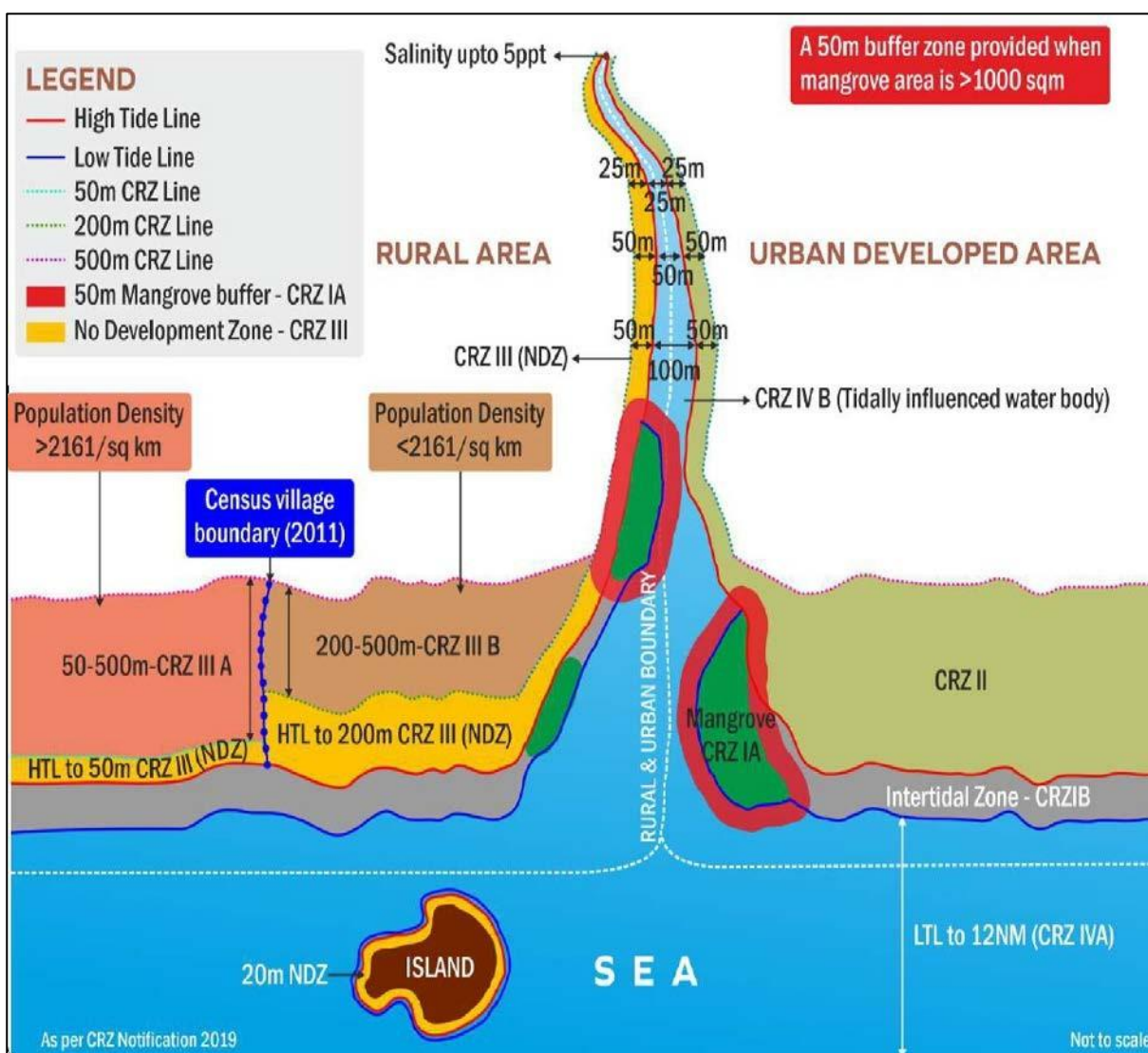
Tidal influenced water body means the water bodies influenced by tidal effects from sea in the bays, estuaries, rivers, creeks, backwaters, lagoons, ponds that are connected to sea. The extent of such tidal influenced water bodies are determined based on the salinity concentration of five parts per thousand (ppt) measured during the driest period of the year.

**CRZ- IV:** Constitutes the water area and shall be further classified as under CRZ-IVA include the water area and the seabed area between the LTL up to twelve nautical miles on the seaward side and CRZ-IVB which includes the water area and the bed area between LTL at the bank of the tidal influenced water body to the LTL on the opposite side of the bank, extending from the mouth of the water body at sea up to the influence of the tide, i.e., the salinity of five parts per thousand (ppt) during the driest season of the year.

**CRZ for inland backwater islands and islands along the mainland coast:** CRZ of 20 meters from the HTL of the islands towards the landward side is classified as No Development Zone (NDZ). To avail this provision an Integrated Island Management Plan (IIMP) shall be prepared for these islands. Until the IIMPs are approved by MoEF&CC, the CZMP as per provisions of CRZ Notification 2011 number S.O. 19 (E) dated 6<sup>th</sup> January 2011 shall continue to apply.

Critically Vulnerable Coastal Areas (CVCA), Inland and Coastal Islands and CRZ falling within municipal limits of Greater Mumbai are requiring special consideration for the purpose of protecting the critical environment and difficulties faced by local communities.

The CVCA in India are Sundarban region of West Bengal, Gulf of Khambat and Gulf of Kutchh in Gujarat, Malvan, Achra-Ratnagiri in Maharashtra, Karwar and Coondapur in Karnataka, Vembanad in Kerala, Gulf of Mannar in Tamil Nadu, Bhitarkanika in Odisha, Coringa, East Godavari and Krishna in Andhra Pradesh are Critical Vulnerable Coastal Areas (CVCA).



**Figure 1 Schematic representation of regulatory features in CRZ Notification 2019**

The comparison between CRZ Notification 2011 and CRZ Notification 2019 is given in Appendix 1.

### 3 CZMP of Kerala

#### 3.1 CRZ Classification & CZMP of Kerala

In accordance with para 6 of the CRZ Notification, 2019, the Kerala State has entrusted the National Centre for Earth Science Studies (NCESS), Thiruvananthapuram to prepare Coastal Zone Management Plan (CZMP) as per the guidelines issued by MoEF&CC. The CZMP of Kerala was approved by MoEF&CC vide F.No. IA3-12/7/2021-IA.III (E-153017) dated 16.10.2024 and the provisions of the notification are applicable from the date of approval of CZMP.

The CRZ Notification applies to the following districts;

1. Kasaragod
2. Kannur
3. Kozhikode
4. Malappuram
5. Thrissur
6. Ernakulam
7. Kottayam
8. Alappuzha
9. Kollam
10. Thiruvananthapuram

As per the CZMP, 5 municipal corporations, 36 municipalities and 245 grama panchayats are covered under CRZ Notification, 2019. The distribution of CRZ categories among the coastal districts is given in Table 1.

Table 1 CRZ category of coastal LSGI

Name of District	CRZ II	CRZ II & IIIA	CRZ II & IIIB	CRZ III A-GP	CRZ III B -GP	CRZ III A & CRZ IIIB - GP	Tidal Influenced Water Body (NDZ)
Kasaragod	10	0	0	0	5	0	9
Kannur	19	0	0	2	1	0	23
Kozhikode	28	0	0	1	0	0	6
Malappuram	9	0	0	3	4	0	7
Thrissur	4	0	0	7	8	1	11
Ernakulam	17	0	0	2	1	0	11
Kottayam	1	0	0	0	0	0	7
Alappuzha	4	1	1	6	7	1	16
Kollam	3	0	0	5	0	0	19
Thiruvananthapuram	9	3	0	6	0	0	8
Total	104	4	1	32	26	2	117

GP – Grama Panchayat; M – Municipality; M.C – Municipal Corporation

Note:

Out of 66 Category I Panchayats, 5 of them are categorized as CRZ II, CRZ IIIA, CRZ IIIB and NDZ based on deposition of atomic minerals.



The approved CZMP is in 1:25000 scale and the total number of maps for Kerala State is 87. The approved CZMP is available at [www.keralaczma.gov.in](http://www.keralaczma.gov.in). The QR Code for each maps is given in Appendix 2 .The district - wise details of CZMP are given in Table 2.

**Table 2 CZMP of Coastal Districts**

S.No	Name of District	Map Nos
1	Kasaragod	KL-87, 86, 85, 84, 83, 82, 81, 80, 79, 78, 77, 76, 73 (Total = 13 maps)
2	Kannur	KL-80, 77, 75, 74, 73, 72, 71, 70, 69, 68, 67, 66, 65, 64 (Total = 14 maps)
3	Kozhikode	KL-66, 65, 63, 62, 61, 60, 59, 58, 57, 56, 55 (Total = 11 maps)
4	Malappuram	KL-56, 55, 54, 53, 52, 51, 50, 49, 48, 47 (Total = 10 maps)
5	Thrissur	KL-48, 47, 46, 45, 44, 43, 42, 41, 40, 39, 38, 37 (Total = 12 maps)
6	Ernakulam	KL-38, 37, 36, 35, 34, 33, 32, 31, 30, 29 (Total = 10 maps)
7	Kottayam	KL-30, 29, 28, 27, 25, 24, 22 (Total = 7 maps)
8	Alappuzha	KL-32, 30, 29, 27, 26, 24, 23, 21, 19, 18, 17, 16 (Total = 12 maps)
9	Kollam	KL-16, 15, 14, 13, 12, 11, 10, 09 (Total = 8 maps)
10	Thiruvananthapuram	KL-10, 08, 07, 06, 05, 04, 03, 02, 01 (Total = 9 maps)

The details of CRZ category and CZMP with respect to the concerned local body are given in Appendix 3. The statistics of the CRZ area of Kerala state is given in Table 3. The district wise statistics of CRZ area is given in Appendix 4.

Table 3 CRZ statistics of Kerala State

S.No	Parameters	Kerala State
1	Length of HTL along Sea Coast(km)	576.50
2	Length of HTL along inland water bodies(km)	5731.67
3	Area of Archeological/Historical sites(sq.km)	0.19
4	Area of turtle nesting ground(sq.km)	1.16
5	Area of mangrove extent CRZ IA (sq.km)	21.14
6	Area of mangrove buffer CRZ IA (sq.km)	24.29
7	Area of intertidal zone (IB)(sq.km)	98.30
8	Area of CRZ II along Sea Coast(sq.km)	131.73
9	Area of CRZ II along TIWB(sq.km)	67.94
10	Area of NDZ along Sea Coast(sq.km)	32.13
11	Area of NDZ along TIWB(sq.km)	102.62
12	Area in CRZ IIIA between 50-500m(sq.km)	48.14
13	Area in CRZ IIIB between 200-500m(sq.km)	31.29
14	Area of CRZ IVB(sq.km)	387.81
15	Area of CVCA (sq.km)	8.399
16	Area of Atomic minerals (sq.km)	8.043

Note: The Overlapping of CRZ categories (CRZ I, CRZ II, CRZ III and CRZ IV) areas has been removed based on hierarchal order.

### 3.2 Description of CZMP

The features shown in CZMP are given in Table 4.

Table 4 Legend of CZMP 2019

Lighthouse	High Tide Line	Groyne
Fish Landing Centre	Low Tide Line	Jetty/Breakwater
Fishing Harbour	Village Boundary	Community Reserve
Port	Panchayat Boundary	Atomic Mineral Deposit
Sluice Gate – Prior to 1991	Municipal/Urban Area	Hazard Line
Bund – Prior to 1991	Taluk Boundary	20m CRZ Line for Island
Bridge	District Boundary	50m CRZ Line – CRZ IIIA
Road	Survey Plots	200m CRZ Line – NDZ
Railway Line	Port Limit	CVCA Boundary
Seawall	Pier	CRZ Boundary
(500m Line, 50m for Bay, 50m for Backwater Island, 50m or width of the Creek whichever is less along the tidal influenced water bodies and 50m mangrove buffer zone is shown as CRZ Boundary)		

The Data Source for the preparation of CZMP is given below;

❖ **National Centre for Sustainable Coastal Management**

- 1) HTL, 2) LTL, 3) CRZ-IA, 4) CVCA

❖ **Survey of India**

- 1) Hazard Line

❖ **Survey and Land Records, Govt. of Kerala**

- 1) Administrative Boundaries such as District Boundary, Taluk Boundary, Municipal/Urban Area, Panchayat Boundary, Village Boundary

❖ **Department of Environment, Govt. of Kerala**

- 1) Bund & Sluice Gate – Prior to 1991, 2) Atomic Mineral Deposit

❖ **National Centre for Earth Science Studies**

- 1) CRZ Categories and Lines

❖ **Kerala Coastal Zone Management Authority**

- 1) Mangroves in Government Land having area more than 1000m<sup>2</sup>
- 2) Infrastructure Facilities – Lighthouse, Road, Railway Line, Seawall, Jetty/Breakwater, Groynes etc.

**Note:**

1. CRZ – I areas are further classified on Land Use Map and CZMP map shall be used along with Coastal Land Use Map;
2. 50m Mangrove Buffer Zone is provided only for Mangroves in Government Land having area more than 1000m<sup>2</sup>;
3. ISLAND: 20m CRZ Line from HTL is valid only after approval of IIMP of the particular island. IIMPs of the particular island shall be prepared by concerned States/UTs and got approved by MoEF&CC.

## **4 Permissible & Prohibited Activities**

### **4.1 Permissible Activities-CRZ Notification, 2019**

#### **CRZ IA**

- ❖ Mangrove walks, tree huts, nature trails, etc., as per eco-tourism plan
- ❖ Laying of pipelines, transmission lines, conveyance systems or mechanisms and construction of road on stilts, etc. that are required for public utilities (only in mangrove buffers)
- ❖ Construction of roads and roads on stilts for defence, strategic purposes and public utilities subject to conditions

#### **CRZ IB**

- ❖ Foreshore facilities like ports, harbours, Jetties, wharves, quays, slipways, bridges, hover ports for coast guard, sea links, etc.
- ❖ Projects for defence, strategic and security purposes

- ❖ Road on stilts, provided that such roads shall not be authorized for permitting development on the landward side of such roads, till the existing High Tide Line subject to conditions
- ❖ Measures for control of erosion
- ❖ Maintenance and clearing of waterways, channels, ports and hover ports for the coastguard
- ❖ Measures to prevent sandbars, installation of tidal regulators, laying of storm water drains or structures for prevention of salinity ingress and freshwater recharge
- ❖ Activities related to waterfront or directly needing foreshore facilities such as ports and harbours, jetties, quays, wharves, erosion control measures, breakwaters, pipelines, lighthouses, navigational safety facilities, coastal police stations, Indian coast guard stations and the like
- ❖ Power by non-conventional energy sources and associated facilities
- ❖ Transfer of hazardous substances from ships to Ports, terminals and refineries and vice versa
- ❖ Facilities for receipt and storage of petroleum products and liquefied natural gas as specified in Annexure-II of CRZ Notification 2019 subject to conditions
- ❖ Storage of non-hazardous cargo i.e. edible oil, fertilizers and food grains in notified Ports
- ❖ Hatchery and natural fish drying
- ❖ Existing fish processing units may utilise 25% additional plinth area for modernization purposes (only for additional equipment and pollution control measures) subject to conditions.
- ❖ Treatment facilities for waste and effluents and conveyance of treated effluents
- ❖ Storm water drains
- ❖ Projects classified as strategic, defence - related projects and projects of the Department of Atomic Energy, Government of India
- ❖ Manual mining of atomic mineral(s) notified under Part-B of the First Schedule to the Mining and Minerals (Development and Regulation) Act, 1957(67 of 1957) subject to conditions
- ❖ Exploration and extraction of oil and natural gas and all associated activities and facilities thereto
- ❖ Foreshore requiring facilities for the transport of raw materials, facilities for intake of cooling water, intake water for desalination plants, etc, and outfall for discharge of treated wastewater or cooling water from thermal power plants subject to conditions

- ❖ Pipelines, conveying systems including transmission lines
- ❖ Weather radar for monitoring of cyclones prediction, ocean observation plat forms, movement and associated activities
- ❖ Salt harvesting and associated facilities
- ❖ Desalination plants and associated facilities
- ❖ Collection of dead shells by traditional communities for poultry and animal feed supplements
- ❖ Purely temporary and seasonal structures (e.g. shacks) customarily put up during non-monsoon months subject to conditions.

## CRZ II

- ❖ Activities as permitted in CRZ-IB
- ❖ Construction of buildings for residential purposes, schools, hospitals, institutions, offices, public places, etc., only on the landward side of the existing road, or on the landward side of existing authorized fixed structures subject to conditions
- ❖ Reconstruction of authorized buildings subject to conditions
- ❖ Development of vacant plots in designated areas for construction of beach resorts or hotels or tourism development projects subject to conditions or Guidelines III of CRZ Notification 2019
- ❖ Temporary tourism facilities shall be permissible on the beaches which shall only include shacks, toilets or washrooms, change rooms, shower panels; walk ways constructed using interlocking paver blocks, etc, drinking water facilities, seating arrangements (as per Tourism Plan) subject to conditions

## CRZ III

- ❖ Activities as permitted in CRZ-IB

### **NO DEVELOPMENT ZONE (NDZ)**

- ❖ Repairs or reconstruction of existing authorized structure subject to conditions
- ❖ Construction or reconstruction of dwelling units subject to conditions
- ❖ Agriculture, horticulture, gardens, pastures, parks, playfields and forestry
- ❖ Construction of dispensaries, schools, public rain shelters, community toilets, bridges, roads, provision of facilities for water supply, drainage, sewerage, crematoria, cemeteries and electric sub-station on a case to case basis
- ❖ Construction of units or auxiliary thereto for domestic sewage, treatment and disposal subject to conditions

- ❖ Fish drying yards, auction halls, net mending yards, traditional boat building yards, ice plants, ice crushing units, fish curing facilities and the like
- ❖ Temporary tourism facilities such as toilets, change rooms, drinking water facilities and temporary shacks subject to conditions
- ❖ Resorts or hotels and associated tourism facilities (as per Tourism Plan) and the conditions or guidelines at Annexure III of CRZ Notification 2019.
- ❖ Temporary facilities shall only include shacks, toilets or washrooms, change rooms, shower panels, walk ways constructed using interlocking paver blocks, etc, drinking water facilities, seating arrangements (as per Tourism Plan) subject to conditions
- ❖ Mining of atomic minerals notified under Part-B of the First Schedule to Mining and Minerals (Development and Regulation) Act, 1957 (67 of 1957) subject to conditions

***Beyond NDZ in CRZ III:***

- ❖ Construction of beach resorts or hotels or tourism development projects subject to the conditions or guidelines at Annexure III of CRZ Notification 2019
- ❖ Construction or reconstruction of dwelling units with an overall height of construction not exceeding 9 meters and with only two floors (ground + one floor) subject to local town and country planning rules on built-up areas.
- ❖ Home stay buildings (only for local communities/fishermen) subject to conditions
- ❖ Public rain shelters, community toilets, water supply drainage, sewerage, roads, bridges, etc
- ❖ Limestone mining subject to conditions
- ❖ Mining of atomic minerals notified under Part-B of the First Schedule of Mining and Minerals (Development and Regulation) Act, 1957 (67 of 1957) subject to conditions
- ❖ Drawing of groundwater and construction related thereto only through manual means from ordinary wells for drinking, horticulture, agriculture, fisheries and etc.
- ❖ Development of airports in wastelands and non-arable lands

**CRZ IV**

- ❖ Foreshore facilities like ports, harbours, Jetties, wharves, quays, slipways, bridges, sea links and hover ports for coast guard, etc
- ❖ Projects for defence, strategic and security purposes including coast guard
- ❖ Measures for control of erosion
- ❖ Maintenance and clearing of waterways, channels and ports

- ❖ Measures to prevent sand bars, installation of tidal regulators, laying of storm water drains or structures for prevention of salinity ingress and freshwater recharge
- ❖ Activities related to waterfront or directly needing foreshore facilities, such as ports and harbours, jetties, quays, wharves, erosion control measures, breakwaters, pipelines, navigational safety facilities and the like
- ❖ Power by non-conventional energy sources and associated facilities such as offshore wind, wave energy, ocean thermal energy conversion, etc
- ❖ Transfer of hazardous substances from ships to Ports
- ❖ Storage of non-hazardous cargo like edible oil, fertilizers and food grains in notified Ports
- ❖ Facilities for discharging treated effluents into the watercourse
- ❖ Projects classified as strategic and defence-related projects including the coast guard coastal security network
- ❖ Projects of the department of Atomic Energy
- ❖ Exploration and extraction of oil and natural gas and all associated activities and facilities thereto
- ❖ Exploration and mining of atomic minerals notified under Part-B of the First Schedule of the Mining and Minerals (Development and Regulation) Act,1957(67of1957)
- ❖ Foreshore requiring facilities for transport of raw materials, facilities for intake of cooling water and outfall for discharge of treated wastewater or cooling water from thermal power plants, and foreshore requiring facilities for transport of raw materials, facilities for intake of cooling water and outfall for discharge of treated wastewater or cooling water from thermal power plants
- ❖ Pipelines, conveying systems including transmission lines
- ❖ Weather radar for monitoring of cyclone prediction, ocean observation platforms, movement and associated activities
- ❖ Construction of memorials or monuments and allied facilities

#### **Inland Backwater Islands and Islands along the Mainland Coast**

- a. existing dwelling units of local communities may be repaired or reconstructed within 20 meters from the HTL of these islands, however, no new construction shall be permitted in this zone.
- b. foreshore facilities, such as fishing jetties, fish drying yards, net mending yards, fishing processing by traditional methods, boat building yards, ice plants, boat repairs and the like, may be taken up in CRZ limits subject to due environmental safeguards

**Note:**

The 20 meter No Development Zone (NDZ) is applicable only after the approval of Integrated Island Management Plan (IIMP) by MoEF&CC, until then a 50 meter NDZ is applicable to all these Islands. The conditions specified in the Notification shall be followed before issuing CRZ clearance for any activity as mentioned above.

**Regularization of Dwelling Units**

The constructed dwelling units of the traditional coastal communities including fishermen & tribals as were permissible under the provisions of CRZ Notification, 2011, but not obtained formal clearance shall be regularized by KCZMA subject to the following conditions;

- These are not used for any commercial activity;
- These are not sold or transferred to non-traditional coastal community.

Such applications shall be forwarded to KCZMA by LSGI with their remarks for regularization.

**4.2 Prohibited Activities- CRZ Notification, 2019**

- Setting up of new industries and expansion of existing industries, operations or processes
- Manufacture or handling of oil, storage or disposal of hazardous substances as specified in the notification of the Ministry of Environment, Forest and Climate Change number G.S.R.395(E), dated the 4<sup>th</sup> April, 2016
- Setting up of new fish processing units
- Land reclamation, bunding or disturbing the natural course of seawater
- Discharge of untreated waste and effluents from industries, cities or towns and other human settlements
- Dumping of city or town wastes including construction debris, industrial solid wastes and fly ash for the purpose of land filling
- Port and harbor projects in high-eroding stretches of the coast
- Mining of sand, rocks and other sub-strata materials subject to condition
- Dressing or altering of active sand dunes
- Disposal of plastic into the coastal waters
- Drawal of groundwater subject to conditions.

**Note:**

The conditions specified in the Notification shall be followed before declining the CRZ clearance for any activity as mentioned above.



## 5 CRZ Application Processing

Kerala Coastal Zone Management Authority (KCZMA) is primarily responsible for issuing of CRZ clearance in the State of Kerala. The filled-in CRZ application submitted by the applicant in complete format shall be processed within 60 days and placed it in the KCZMA meeting for decision-making. After obtaining the recommendations of the authority the minutes will be uploaded to the website of the KCZMA and the clearances/recommendations will be issued by the KCZMA.

### 5.1 Procedure to obtain CRZ clearance / recommendations

The clearance is sub-divided into CRZ clearance, CRZ clearance & Environmental clearance. The clearance may be issued by, LSGI, KCZMA, SEIAA and MoEF&CC depending on the type of clearance required for the project. The clearances prior to the commencement of the project shall be obtained from the concerned authorities are given below;

- CRZ clearance from MoEF&CC
- CRZ clearance from KCZMA
- CRZ clearance from coastal LSGI
- Combined CRZ clearance and Environmental Clearance from MoEF&CC
- Combined CRZ clearance and Environmental Clearance from SEIAA, Kerala.

The Procedure for clearance(s) of permissible activities as per the CRZ Notification, 2019 are as follows:

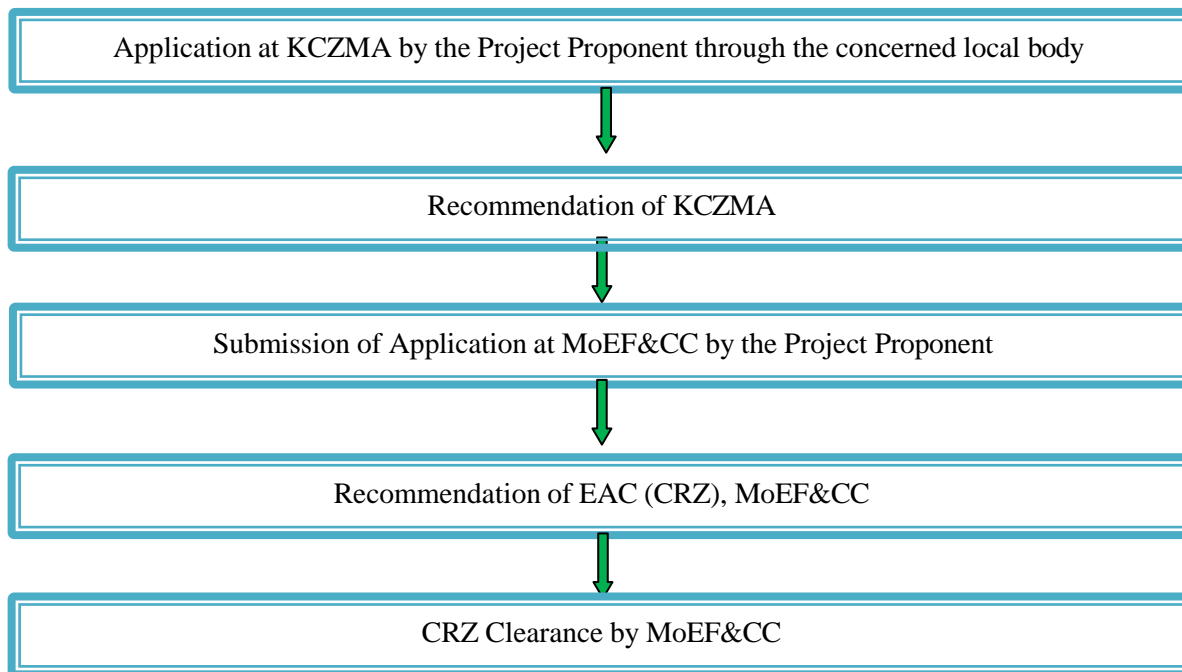
#### 5.1.(i) Projects requiring CRZ clearance only

##### 5.1.(i) (a).CRZ clearance by MoEF&CC

The KCZMA will examine the application and supporting documents and make recommendations on the proposal to MoEF&CC to issue CRZ clearance for the following activities;

1. All development activities or projects in CRZ-I and CRZ IV areas except standalone jetties, salt works, slipways, Temporary structures and erosion Control Measures (like Bunds, Seawall, Groynes, Breakwaters, Submerged reefs, Sand nourishment, etc.) located in CRZ-I and CRZ-IV area.
2. All construction activities related to projects of the Department of Atomic Energy or National Defence or Strategic or Security importance, except permissible and regulated activities which fall purely in CRZ-II and CRZ-III areas.
3. Projects in CRZ-II and III, which also traverse through CRZ-I or CRZ-IV or both.

The steps involved in processing of application are given below;

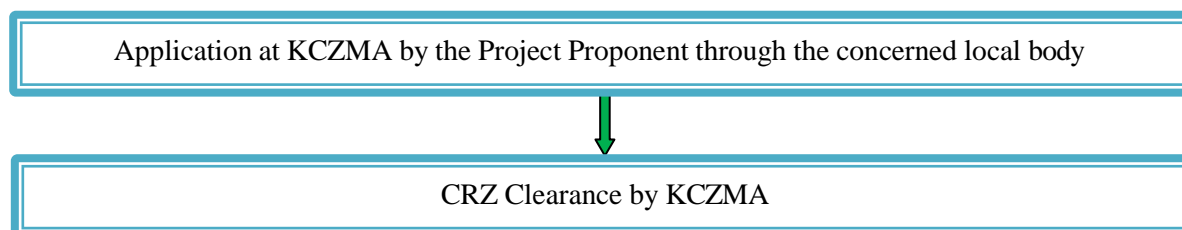


**5.1.(i) (b).CRZ clearance by KCZMA**

The KCZMA will examine the application and supporting documents and issue CRZ clearance for the following activities;

1. Standalone jetties, salt works, slipways, Temporary structures and erosion Control Measures (like Bunds, Seawall, Groynes, Breakwaters, Submerged reefs, Sand nourishment, etc.) located in CRZ-I and CRZ-IV areas.
2. Permissible and regulated activities which fall purely in CRZ-II and CRZ-III areas.
3. All construction activities related to projects of the Department of Atomic Energy or National Defence or Strategic or Security importance.
4. Building and construction projects located in the CRZ area, which is not attracting the provisions of the EIA Notification, 2006.

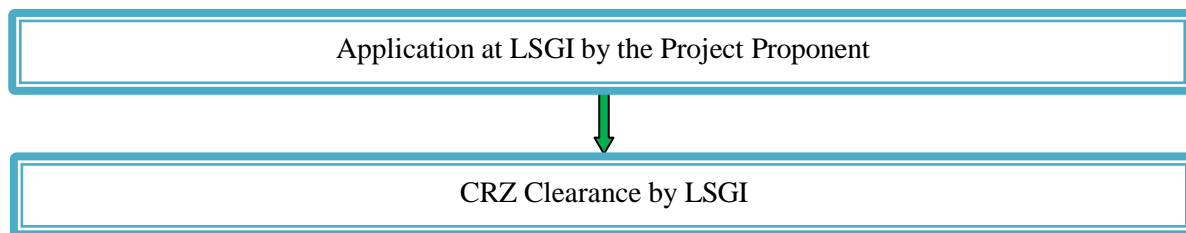
The steps involved in processing of application are given below;



**5.1.(i) (c).CRZ clearance by Coastal LSGI**

Construction/reconstruction of self-dwelling units up to a total built-up area of 300 square meters. The Secretary, LSGI shall examine the proposal from the perspective of the CRZ Notification 2019, before sanctioning approval.

The steps involved in processing of application are given below;



**Note:**

The application format for CRZ II coastal local bodies and CRZIIIA, CRZ IIIB and NDZ of Tidal Influenced water bodies are given in Appendix 5 and Appendix 6 respectively. For any violation of the provisions of CRZ Notification, 2019, the Secretary is solely responsible on the issuance of CRZ clearance.

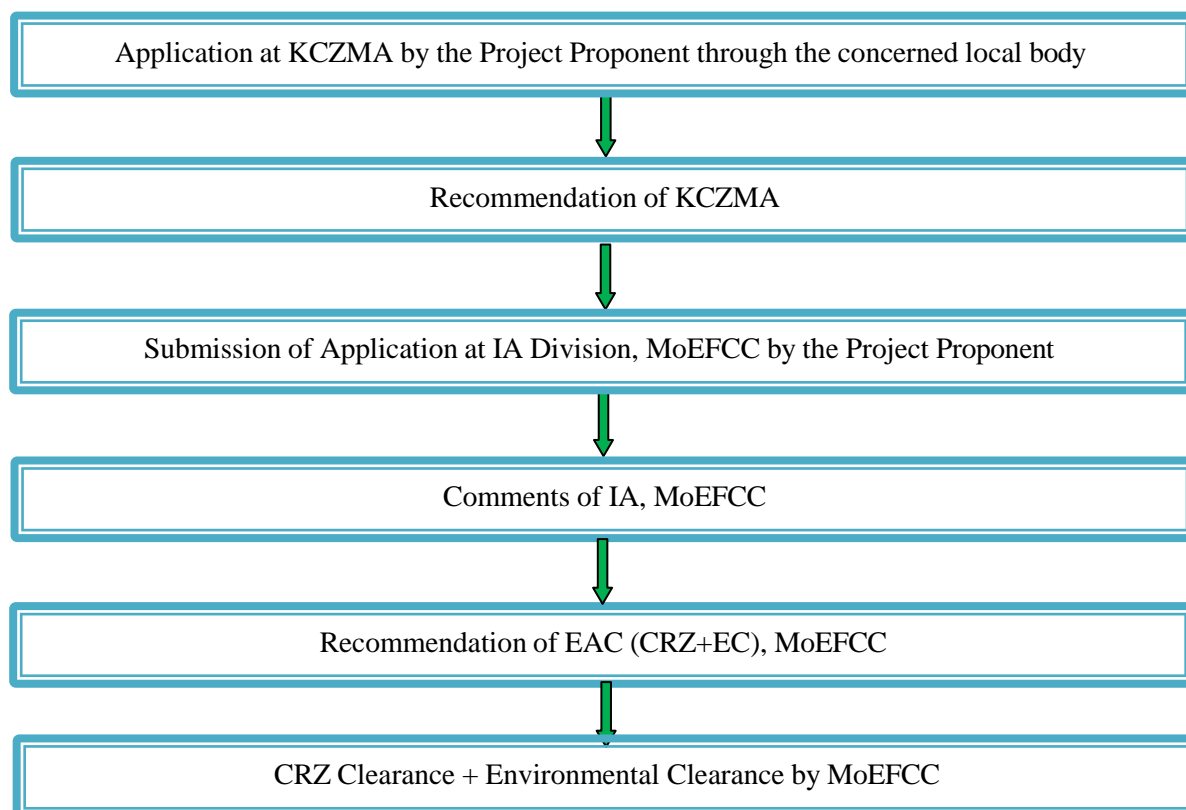
## 5.2. Projects requiring CRZ clearance and Environmental Clearance (EC)

### 5.2. (i). Combined CRZ & EC by MoEF&CC

The KCZMA will examine the application and supporting documents and make recommendations on the proposal to SEIAA. The SEIAA will recommend the proposal to MoEF&CC to issue CRZ clearance & Environmental clearance for the following activities;

1. Any project located in the CRZ area that requires Environmental Clearance under Category 'A'
2. All construction activities related to projects of the Department of Atomic Energy or National Defence or Strategic or Security Importance that require Environmental Clearance under Category 'B'.

The steps involved in processing of application are given below;

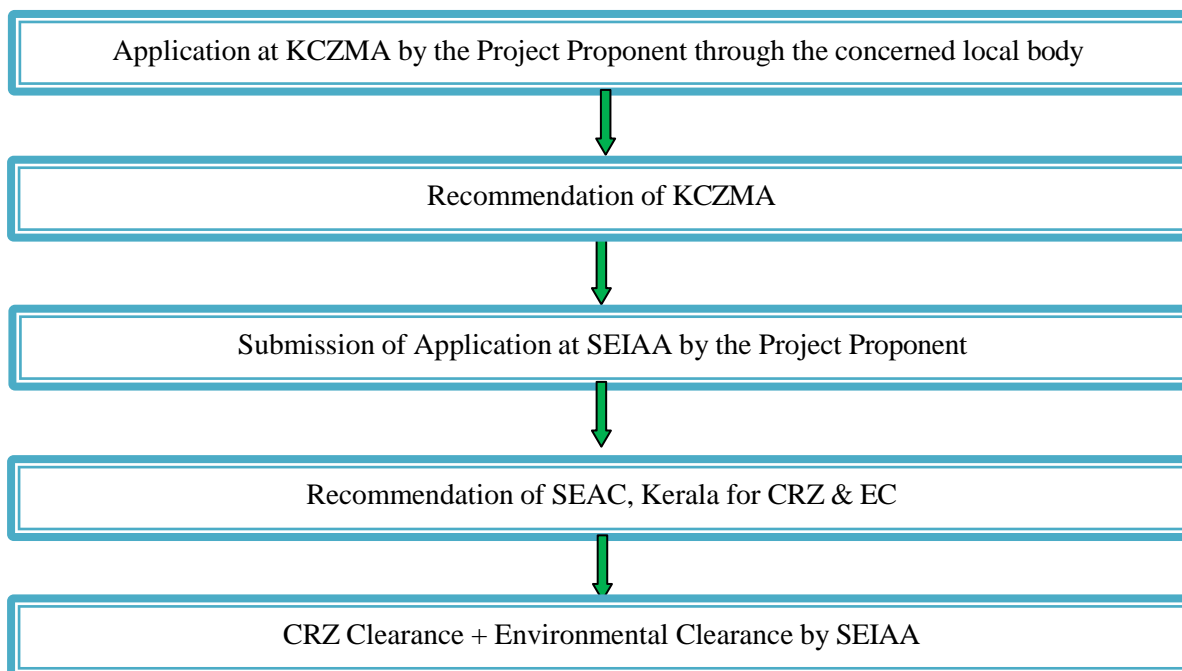


### 5.2. (ii). Combined CRZ & EC by SEIAA, Kerala

The KCZMA will examine the application and supporting documents and make recommendations on the proposal to SEIAA. The SEIAA will issue CRZ clearance & Environmental clearance for the following activities;

1. Any project located in the CRZ area that requires Environmental Clearance (EC) under Category 'B' except construction activities related to projects of the Department of Atomic Energy or National Defence or Strategic or Security importance.

The steps involved in processing of application are given below;



#### Note:

In case, the KCZMA desires to consider an activity which is not explicitly mentioned in the notification or not permissible, such recommendations shall be forwarded with detailed justification to the MoEF&CC for consideration.

### 5.3. Documents required for clearance

The project proponents shall apply on the PARIVESH portal (<https://parivesh.nic.in/>) along with the following set of documents to the Kerala Coastal Zone Management Authority (KCZMA) for seeking prior clearance under this notification:-

- (a) Project Information details as per Form -1 (Appendix 8) & Performa are given in Appendix -9&10.
- (b) Rapid Environment Impact Assessment (EIA) Report including marine and terrestrial components, as applicable, except for building construction projects or housing schemes.

- (c) Comprehensive EIA with cumulative studies for projects in the stretches classified as low and medium eroding by MoEF&CC based on scientific studies and in consultation with the State Governments and Union territory Administration.
- (d) Disaster Management Report, Risk Assessment Report and Management Plan, with Financial and Physical allocation/target
- (e) CRZ map indicating HTL and LTL demarcated by one of the Authorised Agency in 1:4000 scale
- (f) The CRZ map normally covering 7km radius around the project site
- (g) The CRZ 1:4000 scale map indicating the CRZ-I, II, III and IV areas including other notified ecologically sensitive areas
- (h) No Objection Certificate from the concerned State Pollution Control Board or Union territory Pollution Control Committees for the projects involving discharge of effluents, solid wastes, sewage and the like
- (i) CRZ Report of Authorised Agencies / Institute on CRZ mapping authorized by MoEF&CC
- (j) KCZMA recommendation letter should explicitly mention the clause/provision of CRZ Notification, 2019 based on which the proposal has been recommended to MoEF&CC
- (k) Certified Compliance Report ( in case of amendment/expansion project)

**Note:**

- The *EIA Report* shall be prepared by the National Accreditation Board for Education and Training (NABET) certified agency.
- *Authorised agency of MoEF&CC to prepare CRZ Report*

The Ministry of Environment Forest and Climate Change (MoEF&CC) authroised the following agencies to prepare the CRZ Report vide O.M No. J-17011/8/92-IA- III dated 14.03.2014 and 08.08.2019 respectively;

**Table 5 MoEF&CC Authorised Agency**

S.No	Name of the Institute / Agency
1	Space Application Centre, Ahmadabad
2	Centre for Earth Science Studies, Thiruvananthapuram
3	Institute for Remote Sensing, Anna University, Chennai
4	National Centre for Sustainable Coastal Management (NCSCM), Chennai
5	Institute for Wetland Management and Ecological Designs, Kolkata
6	National Institute of Oceanography, Panjim, Goa
7	National Institute of Ocean Technology (NIOT), Chennai

- *Disaster Management/ Risk Assessment Report & Plan* by District Disaster Management Authority or approved agency
- *Tranquility or Mathematical Modeling Report*

The MoEF&CC authorised the following institutions to prepare the modeling report on proposed shore protection measures;

- (i) Central Water and Power Research Station
- (ii) IIT Chennai, IIT Bombay
- (iii) Department of Erosion Directorate, Ministry of Water Resources
- (iv) ICMAM (Presently NCCR, Chennai)
- (v) National Centre for Sustainable Coastal Management
- (vi) NIT, Suratkal

## 6 Delegation of Powers

### 6.1 Local Self - Government Institute (LSGI)

The CZMP 2019 covers 245 coastal grama panchayats, 36 municipalities and 5 municipal corporations. The Secretary of the concerned LSGI's shall examine the project proposal for the construction/reconstruction/repair/alteration of the dwelling units having a plinth area upto 300 sq.m as per the provisions of CRZ Notification 2019 and the building permit may be issued accordingly. The LSGI's are directed to issue the building permit only in CRZ II, CRZ IIIA, CRZ IIIB and No Development Zone (NDZ) areas. The prior clearance from the concerned LSGI is mandatory before the commencement of construction of the dwelling unit otherwise it is illegal and a violation against the provisions of CRZ Notification 2019.

The monthly statement of CRZ applications shall be submitted to the District Level Committee on or before the 5<sup>th</sup> day of every month. The following template (Table 6) shall be used to submit the monthly statement to DLC;

**Table 6 Monthly Statement of CRZ Application**

Name of Local body .....CRZ Category: II or IIIA or IIIB or NDZ

S.No	Name of the applicant	Applicant status (traditional Coastal Community/Local Inhabitant/others)	Date of application received	Location of the project (four corners - Latitude & Longitude)	Decision of LSGI (permissible/ Not permissible)	Remarks

Prepared by

Verified by

Approved by

Name & Signature with office seal

The application for residential buildings having a plinth area of more than 300 sq.m, and other applications irrespective of plinth area and CRZ category received by the LSGI shall be forwarded to KCZMA with a covering letter. Without obtaining prior clearance from KCZMA, no activity shall be commenced within the CRZ limits.

## 6.2 District Level Committee

The Government of Kerala has constituted a District Level Committee in each Coastal District under the Chairmanship of the District Magistrate concerned with the representatives of Local Traditional Communities, Deputy Director of Panchayat, District Planning Officer and Assistant Conservator of Forest vide G.O. (Rt) No. 69/2013/S&TD dated 12.12.2013. The Committee was reconstituted vide G.O (Rt) No. 33/2022/Envr dated 10.05.2022 with amendments vide G.O. (Rt). 63/2022/Envr dated 22.08.2022 and G.O (Rt) No. 88/2022/Envr dated 15.11.2022 respectively.

The responsibilities of District Level Committee (DLC) are given below;

- The DLC is to assist the KCZMA in enforcing and monitoring CRZ Notification.
- The complaints, CRZ violations if any across the District shall be reported to KCZMA on time to time basis.
- Any other instructions/directions/orders issued by KCZMA from time to time shall be followed.
- The member(s) of DLC shall be deputed along with the Site Inspection team based on the request of KCZMA. The following template (Table 7) may be used for the site inspection report;

Table 7 Site Inspection Template

TEMPLATE - CRZ SITE INSPECTION		
I. Details of Site Inspection		
1	Date & Time of inspection conducted:	
2	Proceedings/Order No/Reference Letter No:	
3	Name and Designation of the Officer(s) with Signature	
	i)	
	ii)	
	iii)	
Details of Property & Structure		
1	Name & address of the applicant:	
2	Applicant Status (Traditional Coastal community/Local Inhabitant/ Others)	
3	Type of building (Residential/Commercial/Others)	
4	Occupancy type as per building rules issued by State/UT:	

5	Type of construction (New construction/reconstruction/repair/ alteration/expansion)	
6	Sy/Re.Sy.No:	
7	Type of land use:	
8	Name of Village:	
9	Name of Grama panchayat/Municipality/Municipal Corporation:	
10	Name of District:	
11	Latitude:	
12	Longitude:	
13	Total plot area:	
14	Total built-up area:	
15	FAR/FSI:	
16	Total No. of floors:	
17	Height of the structure:	
18	Any other remarks:	
<b>CRZ Provisions &amp; its applications</b>		
1	CRZ Category (CRZ-I, II, III, IV)	
2	Type of waterbody (Seacoast/River/Creek/Canal/Backwater Island)	
3	Width of tidal influenced water body	
4	Distance from HTL to the proposed/constructed structure	
5	The details of authorized structures:	
6	CRZ Notification and CZMP applicable (Sheet No):	
7	CRZ Provisions:	
8	Any other remarks:	
<b>If the building is constructed without obtaining prior CRZ clearance</b>		
1	Year of construction commenced:	
2	Year of construction completed:	
3	Application received by the local body: Provide details	
4	Building permit issued by the local body if any: Yes/No. (If yes, provide the details)	
5	Occupancy Certificate issued if any: Yes/No (If yes, provide the details)	
6	Any other remarks:	
<b>Any legal case pending in the Hon'ble Court (or) Court Directions if any, provide the details</b>		
<b>List of Annexure</b>		
1	Details of photographs attached	
2	Details of CZMP attached	
3	Details of supporting documents attached	

- The Monthly Statement of CRZ Application received from the LSGI shall be examined and the consolidated statement shall be submitted to KCZMA every three months. The following template (Table 8) shall be used to prepare the consolidated statement.



**Table 8 Consolidated Statement of CRZ Application**

Name of District.....Total No. of Coastal LSGI's .....

S.No	Name of LSGI	Applications Received	Permissible	Not Permissible	Remarks

Prepared by

Verified by

Approved by  
Name & Signature with office seal**6.3 Kerala Coastal Zone Management Authority**

In exercise of the powers conferred by sub-section (1) and (3) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government constituted Kerala Coastal Zone Management Authority (KCZMA) vide S.O. No. 1001 (E) dated 26.11.1998. Subsequently, the Authority was reconstituted and the present Authority was constituted vide S.O. 1317(E) dated 21.03.2023 for three years with effect from the date of publication of the order.

The authority is empowered to take the following measures for protecting and improving the quality of the coastal environment and preventing, abating and controlling environmental pollution in the Coastal Regulation Zone in the State of Kerala.

- Examination of proposals received from the project proponent for approval of project proposal, in accordance with the approved Coastal Zone Management Plan as per CRZ Notification 2011/2019, as the case may be, and make a recommendation for approval of the project to the concerned authority, as specified in the said notification, within a period of sixty days from the date of receipt of application;
- Regulate all development activities in the Coastal Regulation Zone areas as specified in the said notification;
- Responsible for enforcing and monitoring the provisions of the said notification;
- Issue directions under section 5 of the Environment (Protection) Act 1986 under notification on delegation of powers issued by MoEF&CC vide S.O.4650 (E) dated 30.09.2022;
- Take action by the person as specified in the amendment notification of MoEF&CC vide number S.O. 4648 (E) dated 30.09.2022;
- File complaint under section 19 of the Environment (Protection) Act, 1986;

- Examination of proposals received from the State Government of Kerala for changes or modifications in the classification of Coastal Regulation Zone areas and in the Coastal Zone Management Plan and making specific recommendations thereon, to the National Coastal Zone Management Authority;
- Inquire into cases of alleged violation of the provisions of the Environment (Protection) Act, 1986 or the Environment (Protection) Rules, 1987 made thereunder, and review the cases involving violation or contravention of the provisions of the Environment (Protection) Act, 1986 and the Environment (Protection) Rules, 1987 made thereunder;
- Inquire and review cases of violation or contravention of the said notification suo- moto or on the basis of a complaint made by any individual or organisation before it.

### **6.3.(i).CRZ Application Processing by KCZMA**

The consolidated statement of the District Level Committee will be scrutinised by KCZMA and remarks if any will be communicated DLC/LSGI to take action.

The application for dwelling units (plinth area between 301 sq.m to 500 sq.m.), commercial activities (plinth area up to 500 sq.m) and other type of projects costing upto Rs. 1 crore will be processed at KCZMA and the clearance will be issued accordingly. The application form is given in Appendix 7.

All other projects, the application shall be uploaded by the project proponent through the PARIVESH portal and the procedure for clearance of permissible activities as per the CRZ Notification, 2019 issued by MOEF&CC vide F.No.IA3-12/1/2022-IA.III dated 29.11.2022 will be followed by the KCZMA. The project proponents are directed to apply through PARIVESH following the details given in Appendix 8, 9 & 10.

## Appendix 1

Comparison between CRZ Notification 2011 and 2019

S. No	Item	CRZ Notification 2011	CRZ Notification 2019
1	CRZ along seacoast	The land area from High Tide Line to 500m on the landward side along the sea front	The land area from High Tide Line to 500m on the landward side along the sea front
2	CRZ along the tidal-influenced water bodies	100m or width of the water body, whichever is less	50m or width of the water body, whichever is less
3	CRZ for coastal Islands and Islands in backwaters	50m from the HTL towards the land area	20m from the HTL towards the land area
4	Mangrove buffers for 1000 sq.m or more area	50m	50m only for Government land. No buffer for private mangrove land
5	NDZ in CRZ III of Seacoast	200m	CRZ IIIA (population density > 2161/sq.km as per Census, 2011) – 50m  CRZ IIIB (population density < 2161/sq.km as per Census, 2011) – 200m
6	Tourism activities in CRZ I	No	Eco-tourism activities such as mangrove walks, tree huts, nature trails, etc. permitted in CRZ-IA in accordance with the ecotourism plan as part of CZMP  Further subject to environmental safeguards and precautions related to the ESAs as enlisted in the CZMP
7	Construction of Temporary tourism facilities	No	Allows temporary tourism facilities on beaches and NDZ subject to tourism plan as part of CZMP  Further subject to environmental safeguards enlisted in the CZMP, a minimum distance of 10 m from HTL shall be maintained for setting up of such facilities

			<p>Allows construction of temporary tourism facilities on the seaward side of a highway and resorts/hotels on the landward side of the highway in NDZ as per conditions or guidelines at Annexure-III of CRZ Notification</p> <p>Resort/hotels would be permitted subject to the incorporation of a tourism plan in the CZMP.</p>
8	Dwelling units in CRZ III	<p>Allows construction of dwelling units for coastal/local communities between 100 to 200 meters from HTL of seacoast in accordance with a comprehensive plan incorporating necessary disaster management provisions, sanitation etc</p> <p>With an overall height of construction not exceeding 9 meters and with only two floors (ground + one floor) subject to the provisions of KPBR.</p>	<p>Allows construction of dwelling units for coastal/local communities after 50 meters in CRZ IIIA / 200m in CRZ IIIB from HTL of seacoast with an overall height of construction not exceeding 9 meters and with only two floors (ground + one floor) subject to the provisions of KPBR.</p>
9	Reconstruction in NDZ of seacoast/ tidal influenced water bodies/Islands	<p>Allows reconstruction/repair of the existing authorised structure between HTL to 100m not exceeding existing Floor Space Index, existing plinth area and existing density</p> <p>Allows construction of dwelling units for coastal/local communities between 100 to 200 meters from HTL of seacoast in accordance with a comprehensive plan incorporating</p>	<p>Allows reconstruction/repair of the existing authorised structure not exceeding existing Floor Space Index, existing plinth area and existing density in accordance with a comprehensive plan incorporating necessary disaster management provisions, sanitation arrangements etc</p>

		necessary disaster management provisions, sanitation etc	
10	Construction/Reconstruction in CRZ II	Allows building construction only on the landward side of the existing road or on the landward side of the existing authorised structures subject to the provisions of KMBR, except the Floor Space Index or Floor Area Ratio, as on 19.02.1991.	Allows building construction only on the landward side of the existing road or on the landward side of the existing authorised structures subject to the provisions of KMBR, except the Floor Space Index or Floor Area Ratio, as on 18.01.2019.
11	Low and medium eroding areas	Comprehensive EIA with cumulative studies for projects in the stretches classified as low and medium eroding by MoEF based on scientific studies and in consultation with the State Governments and Union territory Administration	Comprehensive EIA with cumulative studies for projects, if located in low and medium eroding stretches as per the CZMP to this notification
12	Biologically active mudflats	NA	Biologically active mudflats shall be identified by NCSCM in association with State Governments or Union Territory Administrations
13	Areas requiring special consideration	CRZ areas falling within municipal limits of Greater Mumbai, Kerala, Goa and CVCAs	CVCAs, inland backwater islands and islands along the mainland coast and CRZ areas falling within municipal limits of Greater Mumbai
14	CRZ IVB	The water area of the tidal influenced water body from the mouth of the water body at the sea upto the influence of tide	The water area and the bed area from LTL at the bank of the tidal influenced water body to the LTL on the opposite side of the bank, extending from the mouth of the water body at the sea up to the influence of tide
15	CRZ clearance for dwelling units upto 300 sq.m	NA	The Secretary of the concerned local body can issue clearance for construction/reconstruction of self - dwelling units only up to a total built up area of 300 sq.m on the perspective of this notification.

Appendix 2

QR Code of Kerala CZMP 2019



MAP NO KL 01



MAP NO KL 02



MAP NO KL 03



MAP NO KL 04



MAP NO KL 05



MAP NO KL 06



MAP NO KL 07



MAP NO KL 08



MAP NO KL 09



MAP NO KL 10



MAP NO KL 11



MAP NO KL 12



MAP NO KL 13



MAP NO KL 14



MAP NO KL 15



MAP NO KL 16



MAP NO KL 17



MAP NO KL 18



MAP NO KL 19



MAP NO KL 20



MAP NO KL 21



MAP NO KL 22



MAP NO KL 23



MAP NO KL 24



MAP NO KL 25



MAP NO KL 26



MAP NO KL 27



MAP NO KL 28



MAP NO KL 29



MAP NO KL 30



MAP NO KL 31



MAP NO KL 32



MAP NO KL 33



MAP NO KL 34



MAP NO KL 35



MAP NO KL 36



MAP NO KL 37



MAP NO KL 38



MAP NO KL 39



MAP NO KL 40



MAP NO KL 41



MAP NO KL 42



MAP NO KL 43



MAP NO KL 44



MAP NO KL 45



MAP NO KL 46



MAP NO KL 47



MAP NO KL 48





MAP NO KL 49



MAP NO KL 50



MAP NO KL 51



MAP NO KL 52



MAP NO KL 53



MAP NO KL 54



MAP NO KL 55



MAP NO KL 56



MAP NO KL 57



MAP NO KL 58



MAP NO KL 59



MAP NO KL 60



MAP NO KL 61



MAP NO KL 62



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MAP NO KL 76



MAP NO KL 77



MAP NO KL 78



MAP NO KL 79



MAP NO KL 80



MAP NO KL 81



MAP NO KL 82



MAP NO KL 83



MAP NO KL 84



MAP NO KL 85



MAP NO KL 86



MAP NO KL 87

## Appendix 3

**COASTAL LOCAL BODY – MAP WISE**  
**KASARAGOD DISTRICT (13 Maps)**  
**KL-73, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87**

Name of Local Body	Category	Map No.
Thrikarippur GP	CRZ II	73,77
Valiyaparamba GP	CRZ IIIB	73,76,77
Nileshwar Municipality	CRZ II	76,77,78,79
Kanhangad Municipality	CRZ II	76,78
Padanna GP	NDZ-TIWB	77
Cheruvathur GP	NDZ-TIWB	76,77
Kayyur-Cheemeni GP	NDZ-TIWB	77,79,80
Ajanur GP	CRZ II	78,82
Pullur-Periya GP	CRZ II	78
Pallikara GP	CRZ II	78,82
KinanurKarinthalam GP	NDZ-TIWB	79,80
West Elleri GP	NDZ-TIWB	80
Chemnad GP	CRZ IIIB	81,82,83,84
Kasargod Municipality	CRZ II	81,82,83,84
Uduma GP	CRZ II	82
Chengala GP	CRZ II	82,84
Bedadukka GP	NDZ-TIWB	82
Muliyar GP	NDZ-TIWB	82
Mogral-Puthur GP	CRZ II	83
Puthige GP	NDZ-TIWB	83
Kumbla GP	CRZ IIIB	83,86
Mangalpady GP	CRZ IIIB	83,86
Manjeshwar GP	CRZ IIIB	85,86,87
Meenja GP	NDZ-TIWB	86

**KANNUR DISTRICT (14 Maps)**

KL-64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 77, 80

<b>Name of Local Body</b>	<b>Category</b>	<b>Map No.</b>
Thalassery Municipality	CRZ II	64,65,68,69
New Mahe GP	CRZ II	65
Chokli GP	CRZ II	65
Thripongottur GP	NDZ-TIWB	65
Peringalam GP	CRZ II	65
Kariyad GP	CRZ II	65
Panoor Municipality	CRZ II	65
Kannur M. Corporation	CRZ II	67,68,70
Eranholi GP	NDZ-TIWB	68,69
Dharmadom GP	CRZ IIIA	68
Pinarayi GP	NDZ-TIWB	68,69
Vengad GP	NDZ-TIWB	68,69,72
Peralassery GP	NDZ-TIWB	68,69
Kadambur GP	NDZ-TIWB	68
Muzhappilangad GP	CRZ IIIA	68
Chembilode GP	NDZ-TIWB	68
Kadirur GP	NDZ-TIWB	69
Chirakkal GP	CRZ II	70,71
Azhikode GP	CRZ II	70
Valapattanam GP	CRZ II	70
Narath GP	NDZ-TIWB	70,71
Pappinissery GP	CRZ II	70,71
Kalliasseri GP	CRZ II	70,71
Kannapuram GP	CRZ II	70,74
Mattool GP	CRZ II	70,74
Anthoor Municipality	CRZ II	70,71,74,75
Cherukunnu GP	CRZ II	70,74
Kolacheri GP	NDZ-TIWB	71
Mayyil GP	NDZ-TIWB	71,75
Anjarakandi GP	NDZ-TIWB	69,72
Keezhallur GP	NDZ-TIWB	72
Madayi GP	CRZ IIIB	73,74
Kunhimangalam GP	NDZ-TIWB	73
Cheruthazham GP	NDZ-TIWB	73,74
Payyanoor Municipality	CRZ II	73,74,77
Ramanthali GP	CRZ II	73
Ezhome GP	NDZ-TIWB	74
Pariyaram GP	NDZ-TIWB	74,75
Chepparappadavu GP	NDZ-TIWB	74,75
Thaliparamba Municipality	CRZ II	70,71,74,75
Pattuvam GP	NDZ-TIWB	74
Kadanapally-Panapuzha GP	NDZ-TIWB	74
Kurumathur GP	NDZ-TIWB	74,75
Chengalayi GP	NDZ-TIWB	75
Karivellur-Peralam GP	NDZ-TIWB	77

**KOZHIKODE DISTRICT (11 Maps)**  
**KL-55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65**

<b>Name of Local Body</b>	<b>Category</b>	<b>Map No.</b>
Kadalundy GP	CRZ II	53,55
Feroke Municipality	CRZ II	55
Ramanattukara Municipality	CRZ II	55
Olavanna GP	CRZ II	55,56
Kozhikode Corporation	CRZ II	55,57,58
Mavoor GP	CRZ II	56
Peruvayal GP	CRZ II	56
Perumanna GP	CRZ II	56
Thalakulathur GP	CRZ II	57,58
Chemanchery GP	CRZ II	57,60,61
Atholi GP	CRZ II	57,58,60,61
Kakkodi GP	CRZ II	58
Chelannur GP	CRZ II	58
Moodadi GP	CRZ II	59,60,63
Thikkodi GP	CRZ II	59,60,62,63
Chenkottukavu GP	CRZ II	60,61
Ulliyeri GP	CRZ II	60,61
Koyilandy Municipality	CRZ II	60
Naduvannur GP	CRZ II	60,61
Keezariyur GP	NDZ-TIWB	60,63
Kottur GP	CRZ-II	61
Balusseri GP	CRZ II	61
Payyoli Municipality	CRZ II	62, 63
Maniyur GP	NDZ-TIWB	62,63
Vadakara Municipality	CRZ II	62
Chorode GP	CRZ II	62,65
Thurayur GP	NDZ-TIWB	63
Cheruvannur GP	NDZ-TIWB	63
Velom GP	NDZ-TIWB	63
Thiruvallur GP	CRZ II	63
Onchiyam GP	CRZ IIIA	65
Azhiyur GP	CRZ II	65
Eramala GP	CRZ II	65
Edachery GP	CRZ II	65
Thuneri GP	NDZ-TIWB	65

**MALAPPURAM DISTRICT (10 Maps)**  
**KL-47, 48, 49, 50, 51, 52, 53, 54, 55, 56**

<b>Name of Local Body</b>	<b>Category</b>	<b>Map No.</b>
Veliyancode GP	CRZ IIIB	47,49
Maranchery GP	NDZ-TIWB	47,49
Ponnani Municipality	CRZ II	47,49
Perumpadappu GP	CRZ IIIB	47
Tripurangode GP	NDZ-TIWB	49
Purathur GP	CRZ IIIB	49
Mangalam GP	CRZ IIIA	49
Thalakkad GP	NDZ-TIWB	49,52
Tanur Municipality	CRZ II	51,52,53,54
Vettom GP	CRZ IIIA	49,52
Tirur Municipality	CRZ II	52
Cheriyamundam GP	NDZ-TIWB	52
Niramaruthur GP	CRZ IIIA	52
Tanalur GP	NDZ-TIWB	52
Parappangadi Municipality	CRZ II	53,54
Vallikunnu GP	CRZ IIIB	53,54,55
Thenhipalam GP	CRZ II	53,55
Chelambra GP	CRZ II	55
Vazhayur GP	CRZ II	55,56
Vazhakkad GP	CRZ II	56
Kaladi GP	NDZ-TIWB	49
Mooniyur GP	NDZ-TIWB	53,54
Tirurangadi Municipality	CRZ II	54

**THRISSUR DISTRICT (12 Maps)**  
**KL-37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48**

<b>Name of Local Body</b>	<b>Category</b>	<b>Map No.</b>
Eriyad GP	CRZ IIIA	37
Kodungallur Municipality	CRZ II	37,40
Poyya GP	NDZ-TIWB	37,38
Puthenchira GP	NDZ-TIWB	37,40,41
Sreenarayanapuram GP	CRZ IIIB	37,40
Edavilangu GP	CRZ IIIA	37
Mala GP	NDZ-TIWB	37,38,40,41
Kaipamangalam GP	CRZ IIIA	39,40
Edathiruthy GP	CRZ IIIA	39,40,42,43
Valappad GP	CRZ IIIB	39,42
Vellangallur GP	NDZ-TIWB	40
Mathilakam GP	CRZ IIIB	40
Padiyur GP	NDZ-TIWB	40
Perinjanam GP	CRZ IIIA	39,40
Kattur GP	NDZ-TIWB	40,43
Nattika GP	CRZ IIIB	42
Thanniyam GP	NDZ-TIWB	42,43
Thalikulam GP	CRZ IIIA	42
Anthicad GP	NDZ-TIWB	42
Vadanapally GP	CRZ IIIB	42,45
Manalur GP	NDZ-TIWB	42,45
Engandiyur GP	CRZ IIIB	42,45
Chavakkad Municipality	CRZ II	44,45
Punnayur GP	CRZ IIIA&B	44,45,47
Mullassery GP	NDZ-TIWB	45
Kadappuram GP	CRZ IIIA	45
Pavaratty GP	CRZ II	45
Orumanayoor GP	CRZ IIIB	45
Guruvayur Municipality	CRZ II	45
Punnayurkulam GP	CRZ IIIB	47
Venkitangu GP	NDZ-TIWB	45



**ERNAKULAM DISTRICT (10 Maps)**  
**KL-29, 30, 31, 32, 33, 34, 35, 36, 37, 38**

<b>Name of Local Body</b>	<b>Category</b>	<b>Map No.</b>
Chellanam GP	CRZ II	29,32
Kumbalangi GP	CRZ II	29,32
Udayamperoor GP	NDZ-TIWB	29,30,32
Amballur GP	NDZ-TIWB	30
Kochi M. Corporation	CRZ II	31,32,35
Elamkunnappuzha GP	CRZ II	31,34
Kumbalam GP	CRZ II	32
Maradu Municipality	CRZ II	32
Thripunithara Municipality	CRZ II	32
Thrikkakara Municipality	CRZ II	32,35
Kalamasserry Municipality	CRZ II	32
Mulavukkad GP	CRZ II	31,32,34,35
Njarakkal GP	CRZ II	34
Nayarambalam GP	CRZ II	34
Kadamakkudy GP	CRZ II	34,35
Varappuzha GP	CRZ II	34,35
Ezhikkara GP	NDZ-TIWB	34,35,37
Edavanakkad GP	CRZ IIIB	34
Kottuvally GP	NDZ-TIWB	34,35,37,38
Kuzhappalli GP	CRZ IIIA	34,37
Pallipuram GP	CRZ IIIA	34,37
Paravur Municipality	CRZ II	37,38
Cheranallur GP	CRZ II	35
Elur Municipality	CRZ II	35
Kadungallur GP	NDZ-TIWB	35
Alangad GP	NDZ-TIWB	35,38
Karumallur GP	NDZ-TIWB	35,38
Chittatukara GP	NDZ-TIWB	37
Chendamangalam GP	NDZ-TIWB	37,38
Puthenvelikkara GP	NDZ-TIWB	37,38
Vadakkekkara GP	NDZ-TIWB	37

**KOTTAYAM DISTRICT (7 Maps)****KL-22, 24, 25, 27, 28, 29, 30**

<b>Name of Local Body</b>	<b>Category</b>	<b>Map No.</b>
Vaikom Municipality	CRZ II	27,29,30
Thalayazham GP	NDZ-TIWB	27
Vechoor GP	NDZ-TIWB	27
T.V Puram GP	NDZ-TIWB	27
Chembu GP	NDZ-TIWB	29,30
Udayanapuram GP	NDZ-TIWB	29,30
Maravanthruthu GP	NDZ-TIWB	29,30

**ALAPPUZHA DISTRICT (12 Maps)****KL-16, 17, 18, 19, 21, 23, 24, 26, 27, 29, 30, 32**

<b>Name of Local Body</b>	<b>Category</b>	<b>Map No.</b>
Devikulangara GP	CRZ IIIB	16,17
Kandalloor GP	NDZ-TIWB	16
Kayamkulam Municipality	CRZ II	16,17
Pathiyur GP	NDZ-TIWB	16,17
Arattupuzha GP	CRZ IIIB	16
Muthukulam GP	NDZ-TIWB	16
Chingoli GP	NDZ-TIWB	16,19
Karthikapally GP	NDZ-TIWB	16,19
Thrikunnapuzha GP	CRZ IIIB	16,19
Krishnapuram GP	NDZ-TIWB	17
Purakkad GP	CRZ IIIB	18,19,21
Haripad Municipality	CRZ II	19
Ambalappuzha South GP	CRZ II & IIIB	21
Ambalappuzha North GP	CRZ II & IIIA	21
Punnapra North GP	CRZ IIIA & B	21
Punnapra South GP	NDZ-TIWB	21
Alappuzha Municipality	CRZ II	21,23
Aryad GP	CRZ IIIA	23
Mararikulam South GP	CRZ IIIA	23
Mararikulam North GP	CRZ IIIB	23,26
Cherthala South GP	CRZ IIIA	26
Cherthala Municipality	CRZ II	26
Kadakkapally GP	CRZ IIIA	26
Thanneermukkom GP	NDZ-TIWB	26,27
Pattanakkad GP	CRZ IIIA	26,29
Thuravoor GP	CRZ IIIB	26,29
Vayalar GP	NDZ-TIWB	26,29
Chennampallipuram GP	NDZ-TIWB	26,27,29,30
Kuthiyathodu GP	CRZ IIIA	29
Kodamthuruthu GP	CRZ IIIB	29
Ezhupunna GP	NDZ-TIWB	29
Aroor GP	NDZ-TIWB	29,32
Arookutty GP	NDZ-TIWB	29,32
Perumbalam GP	NDZ-TIWB	29,30,32
Panavally GP	NDZ-TIWB	29,30
Thaikattusserri GP	NDZ-TIWB	29

**KOLLAM DISTRICT (8 Maps)**  
**KL-09, 10, 11, 12, 13, 14, 15, 16**

<b>Name of Local Body</b>	<b>Category</b>	<b>Map No.</b>
Kollam M. Corporation	CRZ II	9,10,11
Paravoor Municipality	CRZ II	10
Poothakulam GP	NDZ-TIWB	10
Chathanoor GP	NDZ-TIWB	10,12
Adichanalloor GP	NDZ-TIWB	10,12
Mayyanad GP	CRZ IIIA	10
Neendakara GP	CRZ IIIA	11
Thekkumbhagom GP	NDZ-TIWB	11
Thrikkaruva GP	NDZ-TIWB	11
Chavara GP	CRZ IIIA	11,14
Panmana GP	CRZ IIIA	11,14
Panayam GP	NDZ-TIWB	11,12
Perinad GP	NDZ-TIWB	11,12
Mandrothuruth GP	NDZ-TIWB	11,12,14,15
Thevalakkara GP	NDZ-TIWB	11,14
Nedumpana GP	NDZ-TIWB	12
East Kallada GP	NDZ-TIWB	11,12,15
Perayam GP	NDZ-TIWB	11,12,15
Kulasekharapuram GP	NDZ-TIWB	13,14
Alappad GP	CRZ IIIA	13,14,16
Clappana GP	NDZ-TIWB	13,16
West Kallada GP	NDZ-TIWB	14,15
Karunagapally Municipality	CRZ II	14
Mynagapally GP	NDZ-TIWB	14
Pavithreswaram GP	NDZ-TIWB	15
Kunnathur GP	NDZ-TIWB	15
Sasthamkotta GP	NDZ-TIWB	15

**THIRUVANANTHAPURAM DISTRICT (9 Maps)****KL-01, 02, 03, 04, 05, 06, 07, 08, 10**

<b>Name of Local Body</b>	<b>Category</b>	<b>Map No.</b>
Thiruvananthapuram M. Corp	CRZ II	1,2,3,4,5,6
Karode GP	NDZ-TIWB	2
Kulathoor GP	CRZ IIIA	2
Chenkai GP	CRZ II	2
Thirupuram GP	NDZ-TIWB	2
Poovar GP	CRZ IIIA	2
Karumkulam GP	CRZ II&IIIA	2
Kottukal GP	CRZ II&IIIA	2
Venganoor GP	CRZ II	3
Kadinamkulam GP	CRZ IIIA	5,8
Andoorkonam GP	CRZ II	5
Mangalapuram GP	CRZ II	5,8
Azhoor GP	NDZ-TIWB	5,8
Chirayinkeezhu GP	CRZ II&IIIA	5,8
Anchuthengu GP	CRZ IIIA	7,8
Vettoor GP	CRZ IIIA	7,8
Varkala Municipality	CRZ II	7,10
Edava GP	CRZ IIIA	7,10
Kadakkavoor GP	CRZ II	8
Vakkom GP	CRZ II	7,8
Manamboor GP	NDZ-TIWB	8
Cheruunniyur GP	NDZ-TIWB	8
Ottoor GP	NDZ-TIWB	8
Kizhuvilam GP	NDZ-TIWB	8
Attingal Municipality	CRZ II	8
Elakamon GP	NDZ-TIWB	10

## Appendix 4

**District wise Statistics of CRZ area****Statistics of CRZ area – Kasaragod District**

S.No	Parameters	Kasaragod
1	Length of HTL along Sea Coast(km)	79.18
2	Length of HTL along inland water bodies(km)	418.99
3	Area of Archeological/Historical sites(sq.km)	0.11
4	Area of turtle nesting ground(sq.km)	0.37
5	Area of mangrove extent CRZ IA (sq.km)	1.22
6	Area of mangrove buffer CRZ IA (sq.km)	2.27
7	Area of intertidal zone (IB)(sq.km)	8.44
8	Area of CRZ II along Sea Coast(sq.km)	17.70
9	Area of CRZ II along TIWB(sq.km)	4.71
10	Area of NDZ along Sea Coast(sq.km)	7.33
11	Area of NDZ along TIWB(sq.km)	9.30
12	Area in CRZ IIIA between 50-500m(sq.km)	0.0
13	Area in CRZ IIIB between 200-500m(sq.km)	7.94
14	Area of CRZ IVB(sq.km)	25.46

**Statistics of CRZ area – Kannur District**

S.No	Parameters	Kannur
1	Length of HTL along Sea Coast(km)	62.60
2	Length of HTL along inland water bodies(km)	693.86
3	Area of Archeological/Historical sites(sq.km)	0.06
4	Area of turtle nesting ground(sq.km)	0.0
5	Area of mangrove extent CRZ IA (sq.km)	9.11
6	Area of mangrove buffer CRZ IA (sq.km)	12.57
7	Area of intertidal zone (IB)(sq.km)	15.90
8	Area of CRZ II along Sea Coast(sq.km)	23.52
9	Area of CRZ II along TIWB(sq.km)	10.69
10	Area of NDZ along Sea Coast(sq.km)	1.09
11	Area of NDZ along TIWB(sq.km)	11.57
12	Area in CRZ IIIA between 50-500m(sq.km)	2.69
13	Area in CRZ IIIB between 200-500m(sq.km)	1.25
14	Area of CRZ IVB(sq.km)	33.91

**Statistics of CRZ area – Kozhikode District**

S.No	Parameters	Kozhikode
1	Length of HTL along Sea Coast(km)	75.04
2	Length of HTL along inland water bodies(km)	447.41
3	Area of Archeological/Historical sites(sq.km)	0.0
4	Area of turtle nesting ground(sq.km)	0.71
5	Area of mangrove extent CRZ IA (sq.km)	1.13
6	Area of mangrove buffer CRZ IA (sq.km)	2.51
7	Area of intertidal zone (IB)(sq.km)	4.39
8	Area of CRZ II along Sea Coast(sq.km)	33.11
9	Area of CRZ II along TIWB(sq.km)	12.70
10	Area of NDZ along Sea Coast(sq.km)	0.14
11	Area of NDZ along TIWB(sq.km)	2.21
12	Area in CRZ IIIA between 50-500m(sq.km)	1.29
13	Area in CRZ IIIB between 200-500m(sq.km)	0.0
14	Area of CRZ IVB(sq.km)	25.25

**Statistics of CRZ area – Malappuram District**

S.No	Parameters	Malappuram
1	Length of HTL along Sea Coast(km)	49.07
2	Length of HTL along inland water bodies(km)	270.78
3	Area of Archeological/Historical sites(sq.km)	0.0
4	Area of turtle nesting ground(sq.km)	0.09
5	Area of mangrove extent CRZ IA (sq.km)	0.64
6	Area of mangrove buffer CRZ IA (sq.km)	0.63
7	Area of intertidal zone (IB)(sq.km)	5.00
8	Area of CRZ II along Sea Coast(sq.km)	10.13
9	Area of CRZ II along TIWB(sq.km)	3.44
10	Area of NDZ along Sea Coast(sq.km)	3.49
11	Area of NDZ along TIWB(sq.km)	5.11
12	Area in CRZ IIIA between 50-500m(sq.km)	5.19
13	Area in CRZ IIIB between 200-500m(sq.km)	3.99
14	Area of CRZ IVB(sq.km)	14.87

### Statistics of CRZ area – Thrissur District

S.No	Parameters	Thrissur
1	Length of HTL along Sea Coast(km)	59.20
2	Length of HTL along inland water bodies(km)	508.88
3	Area of Archeological/Historical sites(sq.km)	0.01
4	Area of turtle nesting ground(sq.km)	0.0
5	Area of mangrove extent CRZ IA (sq.km)	1.31
6	Area of mangrove buffer CRZ IA (sq.km)	0.37
7	Area of intertidal zone (IB)(sq.km)	12.62
8	Area of CRZ II along Sea Coast(sq.km)	2.42
9	Area of CRZ II along TIWB(sq.km)	3.27
10	Area of NDZ along Sea Coast(sq.km)	6.79
11	Area of NDZ along TIWB(sq.km)	13.25
12	Area in CRZ IIIA between 50-500m(sq.km)	11.22
13	Area in CRZ IIIB between 200-500m(sq.km)	7.58
14	Area of CRZ IVB(sq.km)	21.00

### Statistics of CRZ area – Ernakulam District

S.No	Parameters	Ernakulam
1	Length of HTL along Sea Coast(km)	44.82
2	Length of HTL along inland water bodies(km)	1569.77
3	Area of Archeological/Historical sites(sq.km)	0.0
4	Area of turtle nesting ground(sq.km)	0.0
5	Area of mangrove extent CRZ IA (sq.km)	5.53
6	Area of mangrove buffer CRZ IA (sq.km)	4.09
7	Area of intertidal zone (IB)(sq.km)	25.80
8	Area of CRZ II along Sea Coast(sq.km)	12.06
9	Area of CRZ II along TIWB(sq.km)	24.40
10	Area of NDZ along Sea Coast(sq.km)	1.01
11	Area of NDZ along TIWB(sq.km)	14.64
12	Area in CRZ IIIA between 50-500m(sq.km)	1.37
13	Area in CRZ IIIB between 200-500m(sq.km)	0.54
14	Area of CRZ IVB(sq.km)	95.13
15	Area of CVCA (sq.km)	8.399

**Statistics of CRZ area – Kottayam District**

S.No	Parameters	Kottayam
1	Length of HTL along Sea Coast(km)	0.0
2	Length of HTL along inland water bodies(km)	89.29
3	Area of Archeological/Historical sites(sq.km)	0.0
4	Area of turtle nesting ground(sq.km)	0.0
5	Area of mangrove extent CRZ IA (sq.km)	0.01
6	Area of mangrove buffer CRZ IA (sq.km)	0.04
7	Area of intertidal zone (IB)(sq.km)	0.91
8	Area of CRZ II along Sea Coast(sq.km)	0.0
9	Area of CRZ II along TIWB(sq.km)	0.22
10	Area of NDZ along Sea Coast(sq.km)	0.0
11	Area of NDZ along TIWB(sq.km)	3.05
12	Area in CRZ IIIA between 50-500m(sq.km)	0.0
13	Area in CRZ IIIB between 200-500m(sq.km)	0.0
14	Area of CRZ IVB(sq.km)	19.14

**Statistics of CRZ area – Alappuzha District**

S.No	Parameters	Alappuzha
1	Length of HTL along Sea Coast(km)	78.25
2	Length of HTL along inland water bodies(km)	857.58
3	Area of Archeological/Historical sites(sq.km)	0.0
4	Area of turtle nesting ground(sq.km)	0.0
5	Area of mangrove extent CRZ IA (sq.km)	1.29
6	Area of mangrove buffer CRZ IA (sq.km)	0.64
7	Area of intertidal zone (IB)(sq.km)	16.98
8	Area of CRZ II along Sea Coast(sq.km)	4.54
9	Area of CRZ II along TIWB(sq.km)	0.88
10	Area of NDZ along Sea Coast(sq.km)	9.46
11	Area of NDZ along TIWB(sq.km)	20.91
12	Area in CRZ IIIA between 50-500m(sq.km)	7.89
13	Area in CRZ IIIB between 200-500m(sq.km)	9.98
14	Area of CRZ IVB(sq.km)	68.05
15	Area of Atomic minerals (sq.km)	1.231



### Statistics of CRZ area – Kollam District

S.No	Parameters	Kollam
1	Length of HTL along Sea Coast(km)	54.37
2	Length of HTL along inland water bodies(km)	542.27
3	Area of Archeological/Historical sites(sq.km)	0.0
4	Area of turtle nesting ground(sq.km)	0.0
5	Area of mangrove extent CRZ IA (sq.km)	0.88
6	Area of mangrove buffer CRZ IA (sq.km)	1.17
7	Area of intertidal zone (IB)(sq.km)	2.93
8	Area of CRZ II along Sea Coast(sq.km)	9.86
9	Area of CRZ II along TIWB(sq.km)	3.73
10	Area of NDZ along Sea Coast(sq.km)	1.26
11	Area of NDZ along TIWB(sq.km)	17.03
12	Area in CRZ IIIA between 50-500m(sq.km)	5.87
13	Area in CRZ IIIB between 200-500m(sq.km)	0.0
14	Area of CRZ IVB(sq.km)	71.44

### Statistics of CRZ area – Thiruvananthapuram District

S.No	Parameters	Thiruvananthapuram
1	Length of HTL along Sea Coast(km)	73.96
2	Length of HTL along inland water bodies(km)	332.85
3	Area of Archeological/Historical sites(sq.km)	0.01
4	Area of turtle nesting ground(sq.km)	0.0
5	Area of mangrove extent CRZ IA (sq.km)	0.01
6	Area of mangrove buffer CRZ IA (sq.km)	0.0
7	Area of intertidal zone (IB)(sq.km)	5.33
8	Area of CRZ II along Sea Coast(sq.km)	18.39
9	Area of CRZ II along TIWB(sq.km)	3.88
10	Area of NDZ along Sea Coast(sq.km)	1.56
11	Area of NDZ along TIWB(sq.km)	5.55
12	Area in CRZ IIIA between 50-500m(sq.km)	12.62
13	Area in CRZ IIIB between 200-500m(sq.km)	0.0
14	Area of CRZ IVB(sq.km)	13.56
15	Area of Atomic minerals (sq.km)	6.812

*Note : Overlapping of CRZ categories (CRZ I, CRZ II, CRZ III and CRZ IV) areas has been removed based on hierarchal order*

## Appendix 5

**Application for CRZ Clearance-Dwelling Units**  
**(Plinth area upto 300 sqm) – CRZ II**  
**[Kerala Coastal Zone Management Authority (KCZMA)]**

1	Name & Address of the Applicant:	
	<i>Mobile No:</i>	
	<i>Email:</i>	
2	Survey No/Resurvey No:	
3	Village Name:	
4	Name of Grama Panchayat/ Municipality/ Municipal Corporation:	
5	Location of the Plot (Geo-coordinates of the plot)	
a	<i>1st corner of the proposed building Latitude &amp; Longitude ( Either 00°00'00.0000" or 00.0000° )</i>	
b	<i>2nd corner of the proposed building Latitude &amp; Longitude ( Either 00°00'00.0000" or 00.0000° )</i>	
c	<i>3rd corner of the proposed building Latitude &amp; Longitude ( Either 00°00'00.0000" or 00.0000° )</i>	
d	<i>4th corner of the proposed building Latitude &amp; Longitude ( Either 00°00'00.0000" or 00.0000° )</i>	
6	Type of Construction	
a	New Construction	Yes/No
b	Reconstruction/ Repair/ Alteration/Extension	Yes/No
7	Project Cost	
8	Total Plot area (sq.m)	
9	Total built-up area (sq.m)	
10	Total Floor area (sq.m)	
11	FAR/FSI as per KMBR as on 18.01.2019	
12	No of floors proposed	
13	Total height of the proposed building	
14	Type of Occupancy (as per KMBR 2019)	
15	CRZ Category	
a	CRZ II (Sea Coast)	Yes/No
b	CRZ II (Tidal influenced water body)	Yes/No
c	Backwater Island- (HTL of BW island to 50m)	Yes/No
16	Distance from HTL	
a	CRZ II (Sea Coast)	
b	CRZ II (Tidal Influenced water body & width of water body)	
c	Backwater Island	
17	If the proposal is in CRZ II, Details of authorised structures	
a	Year of construction of authorized road if any (Yes/No)	
b	If yes, the distance from HTL	
c	Year of construction of authorized buildings adjacent on either side of the proposed building if any (Yes/No)	

d	If yes the distance from HTL & Building Nos. Building 1 Building 2	
18	If the proposal is for reconstruction/repair/alteration/extension	
a	Existing Building No	
b	Ownership of the building	
c	Year of construction	
d	Total plinth area of the existing building	

#### Declaration

I hereby declare that the information given above and in the enclosed documents is true to the best of my knowledge and belief and nothing has been concealed therein. I understand that if the information provided by me is proved false, I will have to face the punishment as per the law. Also, all the benefits availed by me shall be summarily withdrawn.

Place :

Date :

Signature of the applicant

#### Check List

- Site plan/building plan showing HTL & distance
- Document of applicant status
- Document of authorised structures
- Budget Estimate
- Any other document (if required)

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#### OFFICE USE

Applicable CRZ Provision	
Recommendation of the Secretary (Specify the reason)	Permissible
	Not Permissible
Additional Details Sought	

#### CERTIFICATE

It is certified that the information given above are true to the best of my knowledge and belief and nothing contravening the provisions of CRZ Notification, 2019 has been concealed therefore. I hereby indemnify the KCZMA and Environment Department with respect to legal consequences arising out of the court cases of this project, if any.

Place:

Date:

Signature of Secretary with office seal

## Appendix 6

**Application for CRZ Clearance-Dwelling Units  
(Plinth area upto 300 sqm) – CRZ III A, CRZ III B & NDZ  
[Kerala Coastal Zone Management Authority (KCZMA)]**

<b>1</b>	<b>Name &amp; Address of the Applicant:</b>	
	<i>Mobile No:</i>	
	<i>Email:</i>	
<b>2</b>	<b>Applicant Status</b>	
<b>a</b>	<i>Traditional Coastal Community</i>	Yes/No
<b>b</b>	<i>Local Inhabitant</i>	Yes/No
<b>c</b>	<i>Others</i>	Yes/No
<b>3</b>	<b>Survey No/Resurvey No:</b>	
<b>4</b>	<b>Village Name:</b>	
<b>5</b>	<b>Name of Grama Panchayat/</b>	
<b>6</b>	<b>Location of the Plot (Geo-coordinates of the plot)</b>	
<b>a</b>	<i>1st corner of the proposed building Latitude &amp; Longitude ( Either 00°00'00.0000" or 00.0000° )</i>	
<b>b</b>	<i>2nd corner of the proposed building Latitude &amp; Longitude ( Either 00°00'00.0000" or 00.0000° )</i>	
<b>c</b>	<i>3rd corner of the proposed building Latitude &amp; Longitude ( Either 00°00'00.0000" or 00.0000° )</i>	
<b>d</b>	<i>4th corner of the proposed building Latitude &amp; Longitude ( Either 00°00'00.0000" or 00.0000° )</i>	
<b>7</b>	<b>Type of Construction</b>	
<b>a</b>	<b>New Construction</b>	Yes/No
<b>b</b>	<b>Reconstruction/ Repair/ Alteration/Extension</b>	Yes/No
<b>8</b>	<b>Project Cost</b>	
<b>9</b>	<b>Total Plot area (sq.m)</b>	
<b>10</b>	<b>Total built-up area (sq.m)</b>	
<b>11</b>	<b>Total Floor area (sq.m)</b>	
<b>12</b>	<b>FAR/FSI as per KPBR as on 18.01.2019</b>	
<b>13</b>	<b>No of floors proposed</b>	
<b>14</b>	<b>Total height of the proposed building</b>	
<b>15</b>	<b>Type of Occupancy (as per KPBR 2019)</b>	
<b>16</b>	<b>CRZ Category</b>	
<b>a</b>	<i>CRZ III A-NDZ (HTL of sea coast to 50m)</i>	Yes/No
<b>b</b>	<i>CRZ III B - NDZ(HTL of sea coast to 200m)</i>	Yes/No
<b>c</b>	<i>CRZ III A – (50m to 500m)</i>	Yes/No
<b>d</b>	<i>CRZ III B – (200m to 500m)</i>	Yes/No
<b>e</b>	<i>CRZ III – NDZ (Tidal Influenced water body)</i>	Yes/No
<b>f</b>	<i>Backwater Island- NDZ (HTL of BW to 50m)</i>	Yes/No
<b>17</b>	<b>Distance from HTL</b>	
<b>a</b>	<i>CRZ III A-NDZ (HTL of sea coast to 50m)</i>	
<b>b</b>	<i>CRZ III B – NDZ (HTL of sea coast to 200m)</i>	
<b>c</b>	<i>CRZ III A – (50m to 500m)</i>	

d	CRZ III B – (200m to 500m)	
e	CRZ III – NDZ (Tidal Influenced water body & width of water body)	
f	Backwater Island- NDZ (HTL of BW to 50m)	
18	If the proposal is in CRZ III NDZ/BW Island NDZ for reconstruction/repair/alteration/extension	
a	Existing Building No	
b	Ownership of the building	
c	Year of construction	
d	Total plinth area of the existing building	

#### Declaration

I hereby declare that the information given above and in the enclosed documents is true to the best of my knowledge and belief and nothing has been concealed therein. I understand that if the information provided by me is proved false, I will have to face the punishment as per the law. Also, all the benefits availed by me shall be summarily withdrawn.

Place :

Date :

Signature of the applicant

#### Check List

- Site plan/building plan showing HTL & distance
- Document of applicant status
- Document of authorised structures
- Budget Estimate
- Any other document (if required)

\*\*\*\*\*

#### OFFICE USE

Applicable CRZ Provision	
Recommendation of the Secretary (Specify the reason)	Permissible
	Not Permissible
Additional Details Sought	

#### CERTIFICATE

It is certified that the information given above are true to the best of my knowledge and belief and nothing contravening the provisions of CRZ Notification, 2019 has been concealed therefore. I hereby indemnify the KCZMA and Environment Department with respect to legal consequences arising out of the court cases of this project, if any.

Place:

Date :

Signature of Secretary with office seal

## Appendix 7

**Application for CRZ Clearance - Dwelling Units**  
(Plinth area between 301 sq.m to 500 sqm), commercial activities (plinth area up to 500 sqm) and  
other type of projects with project cost up to Rs 1 Crore  
[Kerala Coastal Zone Management Authority (KCZMA)]

Please tick(✓) the below;		
Type of Project:		
{Dwelling Unit [ ]};		
{Commercial Project [ ]};		
{Other Type of Project [ ] (Specify) .....		
1	Name & Address of the Applicant:	
	<i>Mobile No:</i>	
	<i>Email:</i>	
2	Survey No/Resurvey No:	
3	Village Name:	
4	Name of Grama Panchayat/ Municipality/ Municipal Corporation:	
5	Location of the Plot (Geo-coordinates of the plot)	
a	1st corner of the proposed building Latitude & Longitude ( Either 00°00'00.0000" or 00.0000°)	
b	2nd corner of the proposed building Latitude & Longitude ( Either 00°00'00.0000" or 00.0000°)	
c	3rd corner of the proposed building Latitude & Longitude ( Either 00°00'00.0000" or 00.0000°)	
d	4th corner of the proposed building Latitude & Longitude ( Either 00°00'00.0000" or 00.0000°)	
6	Type of Construction	
a	New Construction	Yes/No
b	Reconstruction/ Repair/ Alteration/Extension	Yes/No
7	Project Cost (As per PWD/CPWD Schedule of Rates- Preferably prepared in PRICE software)	
8	Total Plot area (sq.m)	
9	Total built-up area (sq.m)	
10	Total Floor area (sq.m)	
11	FAR/FSI as per KMBR /KPBR as on 18.01.2019	
12	No of floors proposed	
13	Total height of the proposed building	
14	Type of Occupancy (as per KMBR/KPBR)	
15	CRZ Category	
	CRZ-IA/CRZ-IB,CRZ-II,CRZ-III A,CRZ-III B,CRZ-IV A,CRZ-IV B	If the project falls in different CRZ category the same shall be specified
16	Distance from HTL	
a	Sea Coast	
b	Tidal Influenced water body & width of water body	

c	<i>Backwater Island</i>	
17	If the proposal is in CRZ II, Details of authorised structures	
a	<i>Year of construction of authorized road if any (Yes/No)</i>	
b	<i>If yes, the distance from HTL</i>	
c	<i>Year of construction of authorized buildings if any (Yes/No)</i>	
d	<i>If yes the distance from HTL &amp; Building Nos.</i> <i>Building 1</i> <i>Building 2</i>	
18	If the proposal is for reconstruction/repair/alteration/extension in except CRZ II category	
a	<i>Existing Building No</i>	
b	<i>Ownership of the building</i>	
c	<i>Year of construction</i>	
d	<i>Total plinth area of the existing building</i>	
e	<i>CRZ clearance obtained earlier from DLC/KCZMA/MoEF&amp;CC if yes, provide the details (A copy of the clearance letter shall be attached)</i>	

Declaration

I hereby declare that the information given above and in the enclosed documents is true to the best of my knowledge and belief and nothing has been concealed therein. I understand that if the information provided by me is proved false, I will have to face the punishment as per the law. Also, all the benefits availed by me shall be summarily withdrawn.

Place :

Date :

Signature of the applicant

Check List (please use √ mark for the documents submitted)

- Site plan/building plan showing HTL & distance
- Document of applicant status
- Document of authorized structures
- Budget Estimate
- Copy of receipt of scrutiny fee remitted (Appendix 11)
- NOC from KSPCB, KSEB, GWB (if required)
- Any other document (if required)

\*\*\*\*\* CERTIFICATE

It is certified that the information given above are verified through a site inspection and is found true to the best of my knowledge and belief and nothing contravening the provisions of CRZ Notification, 2019 has been concealed therefore. I hereby indemnify the KCZMA and Environment Department with respect to legal consequences arising out of the court cases of this project, if any.

Place:

Date :

Signature of Secretary with office seal

**Appendix 8****Form-I for seeking clearance for project attracting CRZ notification Basic**

information:

Name of the Project:-

Location or site alternatives under consideration:-Size of the project (in terms of total area):-

CRZ classification of the area:-Expected cost of the project:-

Contact Information:-

**(II) Activity**

1. Construction, operation or decommissioning of the Project involving actions, which will cause physical changes in the locality (topography, landuse, changes in water bodies, and the like)

S. No.	Information/Checklist confirmation	Yes/No	Details there of (with approximate quantities/ rates, wherever possible)with source of information data
1.1	Permanent or temporary change in land use, land cover or topography including increase in intensity of land use (with respect to local land use plan)		
1.2	Details of CRZ classification as per the approved Coastal Zone Management Plan?		
1.3	Whether located in CRZ-I area?		
1.4	The distance from the CRZ-I areas.		
1.5	Whether located within the hazard zone as mapped by Ministry of Environment and Forests/National Disaster Management Authority?		
1.6	Whether the area is prone to cyclone, tsunami, tidal surge, subduction, earthquake etc.?		
1.7	Whether the area is prone for salt water ingress?		
1.8	Clearance of existing land, vegetation and buildings?		
1.9	Creation of new land uses?		
1.10	Pre-construction investigations e.g. borehole, soil testing?		
1.11	Construction works?		
1.12	Demolition works?		



1.13	Temporary sites used for construction works or housing of construction workers?		
1.14	Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations		
1.15	Underground works including mining or tunneling?		
1.16	Reclamation works?		
1.17	Dredging/reclamation/land filling/disposal of dredged material etc.?		
1.18	Offshore structures?		
1.19	Production and manufacturing processes?		
1.20	Facilities for storage of goods or materials?		
1.21	Facilities for treatment or disposal of solid waste or liquid effluents?		
1.22	Facilities for long term housing of operational workers?		
1.23	New road, rail or sea traffic during construction or operation?		
1.24	New road, rail, air water borne or other transport infrastructure including new or altered routes and stations, ports, airports etc?		
1.25	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?		
1.26	New or diverted transmission lines or pipelines?		
1.27	Impoundment, damming, culverting, realignment or other changes to the hydrology of water courses or aquifers?		
1.28	Stream and river crossings?		
1.29	Abstraction or transfers of water from ground or surface waters?		
1.30	Changes in water bodies or the land surface affecting drainage or run-off?		
1.31	Transport of personnel or materials for construction, operation or decommissioning?		
1.32	Long-term dismantling or decommissioning or restoration works?		
1.33	Ongoing activity during decommissioning which could have an impact on the environment?		
1.34	Influx of people to an area in either temporarily or permanently?		
1.35	Introduction of alien species?		
1.36	Loss of native species or genetic diversity?		
1.37	Any other actions?		

2. Use of Natural resources for construction or operation of the Project (such as land, water, materials or energy, especially any resources which are non-renewable or in short supply):

S. No.	Information/checklist confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
2.1	Land especially undeveloped or agricultural land(ha)		
2.2	Water (expected source & competing users) unit: KLD		
2.3	Minerals(MT)		
2.4	Construction material–stone, aggregates, sand/soil (expected source–MT)		
2.5	Forests and timber (source–MT)		
2.6	Energy including electricity and fuels (source, competing users) Unit: fuel(MT), energy(MW)		
2.7	Any other natural resources (use appropriate standard units)		

3. Use, storage, transport, handling or production of substances or materials, which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health.

S. No.	Information/Check list confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with Source of information data
3.1	Use of substances or materials, which are hazardous (as per MSIHC rules) to human health or the environment (flora, fauna, and water supplies)		
3.2	Changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)		
3.3	Affect the welfare of people e.g. by changing living conditions?		
3.4	Vulnerable groups of people who could be affected by the project e.g. hospital patients, children, the elderly etc.,		
3.5	Any other causes, that would affect local communities, fisher folk, their livelihood, dwelling units of traditional local communities etc.		

**4. Production of solid wastes during construction or operation or decommissioning (MT/month)**

S. No.	Information/Check list confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible)with source of information data
4.1	Spoil, over burden or mine wastes		
4.2	Municipal waste (domestic and or commercial wastes)		
4.3	Hazardous wastes (as per Hazardous Waste Management Rules)		
4.4	Other industrial process wastes		
4.5	Surplus product		
4.6	Sewage sludge or other sludge from effluent treatment		
4.7	Construction or demolition wastes		
4.8	Redundant machinery or equipment		
4.9	Contaminated soils or other materials		
4.10	Agricultural wastes		
4.11	Other solid wastes		

**5. Release of pollutants or any hazardous, toxic or noxious substances to air (Kg/hr)**

S. No.	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources		
5.2	Emissions from production processes		
5.3	Emissions from materials handling including storage or transport		
5.4	Emissions from construction activities including plant and equipment		
5.5	Dust or odours from handling of materials including construction materials, sewage and waste		
5.6	Emissions from incineration of waste		
5.7	Emissions from burning of waste in open air (e.g. slash materials, construction debris)		

5.8	Emissions from any other sources		
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**6. Generation of Noise and Vibration, and Emissions of Light and Heat:**

S. No.	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data with source of information data
6.1	From operation of equipment e.g. engines, ventilation plant, crushers		
6.2	From industrial or similar processes		
6.3	From construction or demolition		
6.4	From blasting or piling		
6.5	From construction or operational traffic		
6.6	From lighting or cooling systems		
6.7	From any other sources		

**7. Risks of contamination of land or water from releases of pollutants into the ground or into sewers, surface waters, ground water, coastal waters or the sea:**

S. No.	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible)with source of information data
7.1	From handling, storage, use or spillage of hazardous materials		
7.2	From discharge of sewage or other effluents to water or the land (expected mode and place of discharge)		
7.3	By deposition of pollutants emitted to air into the land or into water		
7.4	From any other sources		
7.5	Is there a risk of long term build up of pollutants in the environment from these		

	sources?		
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**8. Risk of accidents during construction or operation of the Project, which could affect human health or the environment**

S. No.	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
8.1	From explosions, spillages, fires etc from storage, handling, use or production of hazardous substances		
8.2	From any other causes		
8.3	Could the project be affected by natural disasters causing environmental damage (e.g., floods, earthquakes, landslides, cloud burst etc)?		

**9. Factors which should be considered (such as consequential development) which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality**

S. No.	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
9.1	Lead to development of supporting facilities, ancillary development or development stimulated by the project which could have impact on the environment e.g.: <ul style="list-style-type: none"> <li>• Supporting infrastructure (roads, power supply, waste or wastewater treatment, etc.)</li> <li>• Housing development</li> <li>• extractive industries supply industries</li> <li>• other</li> </ul>		
9.2	Lead to after-use of the site, which could have an impact on the environment		
9.3	Set a precedent for later developments		

9.4	Have cumulative effects due to proximity to other existing or planned projects with similar effects		
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I. Environmental Sensitivity

S. No.	Areas	Name/ Identity	Aerial distance (within 15km.) Proposed project location boundary
1	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value		
2	Areas which are important or sensitive for ecological reasons-Wetlands, water courses or other water bodies, coastal zone, biospheres, mountains, forests		
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration		
4	Inland, coastal, marine or underground waters		
5	State, National boundaries		
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas		
7	Defence installations		
8	Densely populated or built-up area		
9	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)		
10	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)		
11	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)		
12	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)		

(Signature of the Applicant with Name)

## Appendix 9

**PROJECT INFORMATION DETAILS**

S.No	Particulars		Remarks to be provided By Applicant
1.	Name of the Applicant, Address and Contact Details (Telephone nos. and e-mail address)		
2.	Name of the Consultant and Contact details, if any		
3.	Project Location	Co-ordinates (Latitude & Longitude)	
		Survey No.:	
		Village:	
		District:	
		State:	
4.	CRZ classification of project location as per Approved CZMP of 2019: CRZ-IA/CRZ-IB,CRZ-II,CRZ-IIIA,CRZ-IIIB,CRZ-IVA,CRZ-IVB		(if project site falls in different CRZ categories the same may also be elaborated)
	a)If Project Site in CRZ-IA, provide details of Ecologically Sensitive areas:		
	b)If Project Site in CRZ-II, provide details of Landward side of existing road/existing authorized fixed structures		
	c)If Project Site in CRZ-III, provide distance of project site from HTL & whether site falls in NDZ		
5.	Land details:		
	a)Ownership of land		
	b)Zoning/land use as per DP Remarks		
	c)Reservation as per DP remarks		
6.	Description of the project under consideration:		
	a)Buildings/Resort/civic amenities		
	i. Whether New Construction/Reconstruction		
	ii.Details existing authorized fixed structure, in a. case of reconstruction		
	iii.Proposed building floor details		
	iv.Plot area		
	v.FSI area		
	vi.Non FSI area		

	<b>vii.Total Construction area</b>	
	<b>viii.Height of structure</b>	
	<b>ix.FSI ratio and the governing town planning rules/ a. regulations</b>	
	<b>x.Details of provision of parking area</b>	
	<b>xi.Name of concerned Planning Authority</b>	
	<b>b) Coastal Roads/Roads on Stilt/Bridge</b>	
	<b>i.Length &amp; Width</b>	
	<b>ii. Length traversing CRZ area</b>	
	<b>iii. Area of land reclamation</b>	
	<b>iv. Estimated quantity of muck/earth for reclamation</b>	
	<b>v.Carrying capacity of traffic</b>	
	<b>c) Erosion Control Measures (Like Seawall, Bunds, Gryons, Soft measures like)</b>	
	<b>i. Length &amp;Width</b>	
	<b>ii. Whether proposal on beach area</b>	
	<b>iii. Whether CWPRS report obtained</b>	
	<b>d)Jetty/ Port/Breakwater/Harbor /Quays/ Wharves</b>	
	<b>i. Length &amp;Width</b>	
	<b>ii. Area of reclamation if any</b>	
	<b>iii. Purpose of project</b>	
	<b>iv. Capacity</b>	
	<b>e)Transmission lines</b>	
	<b>i. Length of transmission lines</b>	
	<b>ii. No.of Towers/Piers</b>	
	<b>iii. Whether passing through ESA areas</b>	
	<b>f)Pipelines from thermal power blow down</b>	
	<b>i. Length of pipeline</b>	
	<b>ii. Length traversing CRZ area</b>	
	<b>iii. Depth and width of excavation</b>	
	<b>iv. Length of pipeline from seashore to deep sea</b>	
	<b>v. Depth of outfall point from surface of seawater</b>	
	<b>Temperature of effluent above ambient at disposal point</b>	
	<b>g)Marine Disposal of Treated Effluent</b>	
	<b>i.Location of intake/outfall</b>	
	<b>ii.Depth of outfall point</b>	
	<b>iii.Length of pipeline</b>	
	<b>iv.Length traversing CRZ area</b>	
	<b>v.Depth and with of excavation</b>	
	<b>vi. Length of pipeline from shore to deep sea/creek</b>	
	<b>vii.Depth of outfall point from surface of water</b>	



	viii.Depth of water at disposal point	
	ix.BOD, COD, TSS, Oil & Grease, heavy metals	
	h)Facility for storage of goods/chemicals	
	i.Name and type of chemical	
	ii.End use of the chemical	
	iii.No. of tanks for storage and their capacities	
	i) Offshore structures	
	i.Exploration or Development	
	ii.Depth of seabed	
	iii.No. of rigs/platform	
	iv.Details of Group Gathering Stations	
	j)Desalination Plant	
	i.Capacity	
	ii.Total brine generation	
	iii.Temperature of effluent above ambient at disposal point	
	iv.Ambient salinity	
	k)Mining of rare earth/atomic minerals	
	i.Capacity, volume/area to be mined	
	ii.Type of mineral to be extracted	
	iii.End use of the mineral	
	l) Sewage Treatment Plants	
	i. Capacity	
	ii. Total area of construction	
	iii. Compliance of effluent parameters as laid down by CPCB/SPCB/other authorized agency	
	iv. If discharge is in seawater/creek, distance of marine outfall point from shore/from the tidal river bank	
	v. Depth of outfall point from seawater/river water surface	
	vi. Depth of seabed/riverbed at outfall point	
	m)Light house	
	i.total area of construction	
	ii.height of the structure	
	n)Wind Mills	
	i.capacity(MW)	
	ii.height of the structure	
	iii.diameter	
	iv.length of blade	
	v.speed of rotation	
	vi.transmission lines (overhead or underground)	

	<b>o)Others (please specify with salient features)</b>	
<b>7.</b>	<b>Clause of CRZ notification, 2019 under which the Project is a permissible/regulated activity</b>	
<b>8.</b>	<b>Considering approved CZMP, Whether PP has Carried out:</b>	
	<b>a)CRZ map indicating HTL, LTL demarcation in 1:4000 scale prepared by MoEF&amp;CC Authorised agency</b>	
	<b>b)Project layout superimposed on CRZ map 1:4000scale</b>	
	<b>c)Distance of project (in meters) from HTL to be stated</b>	
	<b>d)CRZ map 1:25000 scale covering 7km radius around project site prepared</b>	
<b>9.</b>	<b>Project located in-</b> (a) Non eroding coast (b) Low and medium eroding coast (c) High eroding coast	
<b>10</b>	<b>Details of tree cutting(if applicable)</b>	
<b>11</b>	<b>Distance of proposed project from ESA/marine park (if any)</b>	
<b>12</b>	<b>Consent from Kerala State Pollution Control Board obtained</b>	<b>Copy of NOC to be provided and conditions imposed to be stated.</b>
<b>13</b>	<ul style="list-style-type: none"> <li>• EIA Complete Report</li> <li>• EIA (Terrestrial) studies: carried out/not carried out</li> <li>• EIA (Marine) studies: carried out/not carried out [State period of study month and Year] (as applicable)</li> </ul>	<b>Summary details to be provided/uploaded including recommendation made in EIAs</b>
<b>14</b>	<b>Risk Assessment report:</b>	<b>Brief details</b>
<b>15</b>	<b>Disaster Management Plan/National Oil Spill Disaster Contingency Plan (if applicable)</b>	<b>Brief details</b>
<b>16</b>	<b>Project involving discharge of liquid effluents:</b> <ul style="list-style-type: none"> <li>• Capacity of STP</li> <li>• Quantity of effluent generated/treated</li> <li>• Method of treatment &amp; disposal</li> </ul>	

17	<b>Project involving discharge of solid waste:</b> <ul style="list-style-type: none"> <li>• Quantity of solid waste generated/type of waste</li> <li>• Method of disposal</li> </ul>	
18	<b>Water requirement (KLD) and its source (including commitment of water supply)</b>	
19	<b>Details of water treatment and recycling (if any)</b>	
20	<b>Details of rain water harvesting system</b>	
21	<b>Ground water withdrawal approval from CGWA Or authorized body, if applicable</b>	
22	<b>Energy requirement and sources</b>	
23.	<b>Energy efficiency measures</b>	
24.	<b>Earlier, recommendation of Kerala Coastal Zone Management Authority (KCZMA), if any</b>	
25.	<b>Whether proposal attracts EIA Notification, 2006. (if yes, the category thereof) Status of proposal for EC (as applicable)</b>	
26.	<b>Cost of the project (Rs in Crores)</b>	
27.	<b>Social and environmental issues and mitigations measures suggested including but not limited to R&amp;R, Water, Air, Ecological aspects, Solid &amp; Hazardous Wastes, etc.</b>	<b>Brief details to be provided</b>
28.	<b>Benefits of the project</b>	
29.	<b>Employment likely to be generated (Nos.)</b>	
30.	<b>Details of Court cases, if any: pending/disposed</b>	
31.	<b>Additional information, if any</b>	

**Appendix 10****Brief Project Note / Performa for CRZ Clearance**

<b>S.No</b>	<b>Item</b>	<b>Response</b>
1	Brief description of the Project	
2	Salient features / Components of the project activity	
3	CRZ Report/Maps prepared by	
4	CRZ Categorization as per CRZ Report	
5	Applicability of EIA Notification 2006	
6	NOC from SPCB	
7	Certified Compliance Report from IRO (Expansion / Amendment Case)	
8	Permissibility of project as per CRZ Notification 2011/2019 (mention the Clause as recommended by SCZMA)	
9	EIA Consultants details	
10	Baseline period for EIA	
11	Applicability of Terrestrial and Marine EIA	
12	Anticipated impacts (mention page no of EIA)	
13	Mitigation measures proposed(mention page no of EIA)	
14	Disaster Management Plan (mention page no of EIA)	
15	Risk Assessment (mention page no of EIA)	
16	Total Project cost	
17	Is project located in erosion prone area (yes/no)	
18	If yes, specific the management plan proposed	
19	EMP cost proposed (capital and recurring)	
20	Forest Clearance requirement	
21	Wildlife Clearance Requirement	
22	Proposed Green Cover	
23	Proposed budget for green cover development	
24	Rain water harvesting	
25	Proposed budget for rainwater harvesting	
26	Details of tree Cutting	
27	Details of Compensatory afforestation proposed	
28	Proposed energy conserving measures	
29	Power Requirement and Source	
30	Water requirement and source	
31	Wastewater Treatment and reuse	
32	Solid Waste Generation	
33	Solid Waste management	

34	Hazardous waste Management	
35	Resettlement and Rehabilitation	
36	Employment generation	
37	Details of Litigation, If any	
38	Details of Ground Water extraction	
39	Benefits	
40	SCZMA Recommendation	

**Declaration of the Project Proponent**

It is certified that the information given above are true to the best of my knowledge and belief and nothing contravening the provisions of CRZ Notification, 2019 has been concealed therefore.

Place:

Date:

(Signature)

Name & Designation:

Organisation:

E-mail:

Mobile Phone:

**Declaration of the Project Consultant**

It is certified that the information given above are true to the best of my knowledge and belief and nothing contravening the provisions of CRZ Notification, 2019 has been concealed therefore. I hereby indemnify the KCZMA and Environment Department with respect to legal consequences arising out of the court cases of this project, if any.

Place:

(Signature)

Date:

Name & Designation :

Organisation :

E-mail :

Mobile Phone :

**SCRUTINY FEE- ORDER**



**കേരള സർക്കാർ  
സംഗ്രഹം**

ശാസ്ത്ര സാങ്കേതിക വകുപ്പ് - കേരള കോസ്റ്റൽ സോൺ മാനേജ്മെന്റ് അതോറിറ്റി (KCZMA) - തീരദേശ പരിപാലന അതോറിറ്റി മുൻപാകെ CRZ ക്ലിയറൻസ് അനുമതിക്കായി സമർപ്പിക്കുന്ന അപേക്ഷയിന്മേൽ ചുമത്തുന്ന പരിശോധനാ ചാർജ്ജ് (Scrutiny Fee) പുതുക്കി നിശ്ചയിച്ച് ഉത്തരവാകുന്നു - സംബന്ധിച്ച്.

**ശാസ്ത്ര സാങ്കേതിക (എ) വകുപ്പ്**

സ.ഉ.(എം.എസ്) നം: 01/2015/ശാ.സാ.വ. തിരുവനന്തപുരം, തീയതി: 25.03.2015

- പരാമർശം:-
- 1) 19.02.1991 തീയതിയിലെ കേന്ദ്ര-വനം പരിസ്ഥിതി മന്ത്രാലയത്തിന്റെ SO 114(E) നമ്പർ വിജ്ഞാപനം.
  - 2) 03.02.1998-ലെ കേന്ദ്ര-വനം പരിസ്ഥിതി മന്ത്രാലയത്തിന്റെ J-17011/29/97-IA-III നമ്പർ കത്ത്.
  - 3) 13.04.2000-ലെ കേന്ദ്ര-വനം പരിസ്ഥിതി മന്ത്രാലയത്തിന്റെ J-17011/8/92-IA-III നമ്പർ കത്ത്.
  - 4) സർക്കാർ ഉത്തരവ് നം. (എം.എസ്) 53/2001/S&TD dt. 08.07.2001.
  - 5) 65-ാമത് KCZMA യോഗത്തിന്റെ 65.1.34 തീരുമാനം.

**ഉത്തരവ്**

കേന്ദ്ര സർക്കാരിന്റെ പരാമർശിത 2, 3 സർക്കുലർ പ്രകാരം CRZ അനുമതിയ്ക്കായി സമർപ്പിക്കുന്ന അപേക്ഷയിന്മേൽ സംസ്ഥാന സർക്കാരുകൾക്ക് പരിശോധന ചാർജ്ജ് ഈടാക്കാവുന്നതാണെന്ന് കേന്ദ്ര സർക്കാർ ഉപദേശിച്ചിരുന്നു. അതിൻ പ്രകാരം പരാമർശിത (4) സർക്കാർ ഉത്തരവ് പ്രകാരം CRZ അനുമതിക്കായി കേരള തീരദേശ പരിപാലന അതോറിറ്റി മുൻപാകെ സമർപ്പിക്കുന്ന അപേക്ഷകൾക്ക് പരിശോധന ചാർജ്ജ് (Scrutiny Fee) ഈടാക്കി ഉത്തരവായിരുന്നു.

CRZ അനുമതിയ്ക്കായുള്ള അപേക്ഷകൾക്ക് KCZMA മുൻപാകെ സമർപ്പിക്കുന്ന അപേക്ഷകളിന്മേൽ ചുമത്തുന്ന പരിശോധന ഫീസിന്റെ നിരക്ക് താഴെപ്പറയും പ്രകാരം പുതുക്കി പുനഃക്രമീകരിച്ച് ഉത്തരവാകുന്നു.

നം.	നിർമ്മാണ പ്രവർത്തനങ്ങൾ	പുതുക്കിയത്
1)	500m <sup>2</sup> വരെ തറവിസ്തീർണ്ണമുള്ള വ്യക്തിഗത വാസഗൃഹം നിർമ്മിക്കുന്നതിന്.	ഇല്ല
2)	10 ലക്ഷം രൂപ മുതൽ 25 ലക്ഷം രൂപ വരെയുള്ള വ്യക്തിഗത വാസഗൃഹങ്ങൾ (500m <sup>2</sup> ന് മുകളിലുള്ളത്), മറ്റ് പ്രോജക്ടുകളും.	10,000/-
3)	25 ലക്ഷം മുതൽ 50 ലക്ഷം രൂപ വരെയുള്ള വ്യക്തിഗത വാസഗൃഹങ്ങളും (500m <sup>2</sup> ന് മുകളിൽ), മറ്റ് പ്രോജക്ടുകളും.	25,000/-
4)	50 ലക്ഷം രൂപ മുതൽ 1 കോടി രൂപ വരെയുള്ള വ്യക്തിഗത വാസഗൃഹങ്ങളും (500m <sup>2</sup> ന് മുകളിൽ), മറ്റ് പ്രോജക്ടുകളും.	1,00,000/-
5)	1 കോടി മുതൽ 2.5 കോടി രൂപ വരെയുള്ള വ്യക്തിഗത വാസഗൃഹങ്ങളും, മറ്റ് പ്രോജക്ടുകളും.	2,00,000/-

6)	2.5 കോടി മുതൽ 10 കോടി രൂപ വരെയുള്ള പ്രൊജക്ടുകൾ.	4,00,000/-
7)	10 കോടി മുതൽ 100 കോടി രൂപ വരെയുള്ള പ്രൊജക്ടുകൾ.	10,00,000/ -
8)	100 കോടി അധികരിച്ചാൽ	20,00,000/ -

CRZ അനുമതിയ്ക്കായുള്ള അപേക്ഷകളോടും അനുബന്ധ രേഖകളോടുംമൊപ്പം “1425-00-501-98” എന്ന ശീർഷകത്തിൽ ഏതെങ്കിലും സർക്കാർ ട്രഷറി/സബ് ട്രഷറിയിൽ തുക ഒടുക്കി ചെല്ലാൻ രസീതിന്റെ ഒറിജിനൽ കൂടി KCZMA മുൻപാകെ ഹജരാക്കേണ്ടതാണ്. ഫീസ് ഈടാക്കുന്ന മുറയ്ക്ക് മാത്രമേ CRZ അനുമതിയ്ക്കായുള്ള അപേക്ഷ പരിഗണിക്കേണ്ടതുള്ളൂ.

ഈ ഉത്തരവിന് 01.03.2015 മുതൽ പ്രാബല്യമുണ്ടായിരിക്കും.

ഗവർണ്ണറുടെ ഉത്തരവിൻപ്രകാരം,

**ഡോ. സുരേഷ് ദാസ്,**  
എക്സ് ഒഫീഷ്യോ പ്രിൻസിപ്പൽ സെക്രട്ടറി.

റ്റു.

1. പ്രിൻസിപ്പൽ സെക്രട്ടറി, ഫിഷറീസ് വകുപ്പ്.
2. ചെയർമാൻ, KCZMA, ശാസ്ത്ര ഭവൻ, പട്ടം, തിരുവനന്തപുരം-695 004.
3. മെമ്പർ സെക്രട്ടറി, KCZMA, ശാസ്ത്ര ഭവൻ, പട്ടം, തിരുവനന്തപുരം-695 004.
4. ജില്ലാ കളക്ടർ (ചെയർമാൻ, ജില്ലാതല മോണിറ്ററിംഗ് കമ്മിറ്റി, CRZ), തിരുവനന്തപുരം, കൊല്ലം, ആലപ്പുഴ, കോട്ടയം, എറണാകുളം, തൃശ്ശൂർ, മലപ്പുറം, കോഴിക്കോട്, കണ്ണൂർ, കാസർഗോഡ്.
5. ഡയറക്ടർ, പഞ്ചായത്ത്, തിരുവനന്തപുരം (എല്ലാ തീരദേശ പഞ്ചായത്തുകളുടെ സെക്രട്ടറിമാർക്കും നിർദ്ദേശം നൽകുന്നതിന് വേണ്ടി)
6. ഡയറക്ടർ, നഗരകാര്യം, തിരുവനന്തപുരം. (എല്ലാ കോർപ്പറേഷനുകൾക്കും, എല്ലാ തീരദേശ മുനിസിപ്പാലിറ്റികളുടെ സെക്രട്ടറിമാർക്കും നിർദ്ദേശം നൽകുന്നതിന് വേണ്ടി)
7. ഡയറക്ടർ, PRD (എല്ലാ പത്രമാധ്യമങ്ങളിലും, സർക്കാർ S&T വകുപ്പിന്റെ വെബ് സൈറ്റിൽ ലഭ്യമാക്കുന്നതിനും)
8. എല്ലാ KCZMA മെമ്പർമാർക്കും.
9. മെമ്പർ സെക്രട്ടറി, ശാസ്ത്ര സാങ്കേതിക പരിസ്ഥിതി കൗൺസിൽ, ശാസ്ത്ര ഭവൻ, പട്ടം, തിരുവനന്തപുരം-695 004.
10. ധനകാര്യ വകുപ്പ് (67282/RMC1/2014/Fin പ്രകാരം)
11. ശാസ്ത്ര സാങ്കേതിക വകുപ്പ് (എ-1, 3, 4) സീറ്റ്.
12. സ്റ്റോക്ക് ഫയൽ/ഓഫീസ് കോപ്പി/

പകർപ്പ് :

1. ബഹു. മുഖ്യമന്ത്രിയുടെ പ്രൈവറ്റ് സെക്രട്ടറിയ്ക്ക്.
2. അഡീഷണൽ സെക്രട്ടറി റ്റു ചീഫ് സെക്രട്ടറി.
3. പി.എ. റ്റു അഡീഷണൽ ചീഫ് സെക്രട്ടറി, പരിസ്ഥിതി വകുപ്പ്.
4. പി.എ. റ്റു. പ്രിൻസിപ്പൽ സെക്രട്ടറി, തദ്ദേശസ്വയം ഭരണ വകുപ്പ്.
5. പി.എ. റ്റു പ്രിൻസിപ്പൽ സെക്രട്ടറി, ശാസ്ത്ര സാങ്കേതിക വകുപ്പ്.
6. പി.എ. റ്റു ജോയിന്റ് സെക്രട്ടറി/അണ്ടർ സെക്രട്ടറി, ശാസ്ത്ര സാങ്കേതിക വകുപ്പ്.
7. പി.എ. റ്റു മെമ്പർ സെക്രട്ടറി, KCZMA (ഈ ഉത്തരവ് [www.keralaczma.gov.in](http://www.keralaczma.gov.in) എന്ന വെബ്സൈറ്റിൽ ലഭ്യമാക്കുന്നതിനായി)

ഉത്തരവിൻ പ്രകാരം,

സെക്ഷൻ ഓഫീസർ.



## GLOSSARY

**Apartment:** Apartment means a building, accommodating more than two dwelling units for residential purpose. This word is synonymous to ‘residential flat’.

**Approved Plan:** Approved plan means the set of drawings and statements submitted under these rules for obtaining development permit or building permit and duly approved by the Secretary.

**Backwater:** The water that is retarded, backed up or turned back in the coast from the land towards the sea by the movement of the tide, e.g. the water obtained at high tide to be discharged at low tide. This is always behind (on the landward side) the coast, with varying spread on either side of tidal creeks, depending upon the gradient of the adjoining land.

**Backwater Island:** Islands found in the backwaters are called backwater islands.

**Bars or Sand Bars:** Bars are submerged ridges of detrital sediments which are larger and less regularly spaced than ripple marks.

**Bay:** A bay is a well-marked indentation whose penetration is in such proportion to the width of its mouth as to contain land locked waters and constitute more than a mere curvature of the coast. The foregoing provision does not apply to so called “historic” bays.

**Beach:** The shore-parallel linear deposition of sand, shingle or gravel by the waves is commonly known as beach. Beach also known as shore is a gently sloping zone of unconsolidated material, typically with a concave profile, that extends landward from the low water line (LWL) to the place where there is a definite change in material or physiographic form or the line of permanent vegetation. Most often beach material is of sand grade (2-1/16 mm size). But sand may be replaced by cobbles, shingles or mud in certain areas.

**Berm:** A nearly horizontal part of the beach or backshore formed by the deposition of material by wave action. Some beaches have no berms, while others have one or several depending on the seasonal variations of the wave climate and tidal positions. In other words berm is the nearly – horizontal deposition of materials by wave action at the time of high tide.

**Berm crest:** The crest of the berm is berm crest. This is used as a geomorphological feature indicating the HTL in CRZ mapping.

**Bio-shield:** A vegetation belt along the coast that protects from wave and tide action, especially during storms. Coastal bio-shields include mangroves, casuarinas plantations etc.



**Biosphere reserve:** Designated resource area featuring multiple use management systems whereby nature protection and uses for farming, forestry, fisheries, etc. are accommodated (note: an international system of such reserves is endorsed and guided by UNESCO).

**Breakwater:** An artificial structure built into the sea, often curved, and designed to impede wave action so as to shelter a harbor or protect a stretch of coastline. The terms jetty and pier are sometimes used as synonyms.

**Buffer area:** A protective, often transitional, area of controlled use-in coastal management, a peripheral zone separating a developed area from a protected natural area.

**Built up area:** Built-up area means that the total area covered by the building at all floor levels. It shall also include area of mezzanine floor, galleries, barsati and pent house at terrace level.

**Bund/Embankment:** A term used mainly in India and southeast Asia for an artificial embankment, usually of earth or gravel, built along the coastline or the banks of a river or estuary.

**Cadastral map:** Village level survey maps depicting the individual land holdings and the plot boundaries for revenue purposes are available throughout the country. They are generally in 1:3960, 1:5000 or 1:7920 or 1:10,000 or other near scales.

**Cliff:** Any high, very steep to perpendicular or overhanging face of rock or earth rising above the shore of the sea.

**Cliff/Rocky Headlands:** At the rock outcrops, headlands, cliffs or other elevated coastal stretches, the sea face is steep and the water is quite deep, so virtually there is no spatial displacement in the water line.

**Coast / Coastal Zone:** The term coastal zone means the coastal waters, wetlands and adjacent shore lands, strongly influenced by marine water or vice versa. Thus coastal zone includes the near-shore marine waters, islands, beaches, intertidal areas, wetlands and inland area to the limits of the coastal watersheds and flood prone areas in which natural and man-made activities can affect the coastal waters.

**Coastline:** It is the water's edge, moving to and fro as the tides rise and fall, so that there is a low-tide shoreline, a mid-tide shoreline, and a high-tide shoreline. The term has been used as a synonym for Shoreline (q.v.), but it is useful to maintain a distinction between the two terms, taking coastline as equivalent to the high tide shoreline. Where the tidal range is large and the shore profile is gently sloping, there is much variation in the position of the various shorelines.

**Coastal Land-use Plan:** A coastal land use plan is strategy that guides the use of coastal space to balance environmental, social and economical needs.

**Coastal Plain:** A low, generally broad plain that has as its margin an oceanic shore and its strata horizontal or gently sloping toward the water, and generally represents a strip of recently prograded or emerged sea floor.

**Coastal protection:** Works or management operations intended to control coastal erosion.

**Coastal sand dunes:** Single or multiple ridges or mounds of loose wind-blown material, usually sand on the coast. Coastal sand dune covers small area and is defined as topographical feature of aeolian origin composed of sand grain deposited downwind from a natural source of sand (Fairbridge, 1968). They are developed in any environment in which loose sand size particles are exposed to wind action and are free to migrate and accumulate as unconsolidated masses.

The sand dunes function as a buffer for the beach to reduce the impact of coastal erosion.

**Coastal sand dune / paleo-aeollan dune:** Single or multiple ridges or mounds of loose wind-blown material, usually sand on the coast. Coastal sand dune covers small area and is defined as topographical feature of aeolian origin composed of sand grain deposited downwind from a natural source of sand. Coastal sand dunes are ridges or a series of ridges that form at the rear of the beach.

**Coastal Zone Management:** A governmental process for achieving sustainable use of resources of the coastal zone whereby participation by all affected economic sectors, governmental agencies and non-government organizations is involved; unified or integrated coastal zone management when the management actions of the various stakeholders are formally unified and community participation is emphasized.

**Contour Map:** A topographic map on which the shape of the land surface is shown by contour lines, the relative spacing of the lines indicating the relative slope of the surface.

**Coral reef:** Corals are exclusively polypoid, marine organisms (which belong to Class: Anthozoa of Phylum: Coelenterata/ Cnidaria), capable of secreting a massive calcareous skeleton. Hermotypic or reef building corals, colonize suitable sea floor substrates in tropical and sub-tropical shallow waters with appropriate ecological conditions (summer maximum mean temperature is 28 °C and winter minimum mean temperature generally is above 18 °C, colonizing mainly photic depths, salinity 35±2 psuetc (SAC, 2012). Coral reef is defined as 'a complex organogenic framework of calcium carbonate (primarily of corals), which forms a rocky eminence on the sea floor and customarily grows upwards to the tide limit'.

**Creek:** Creek is a small tidal channel of the sea generally perpendicular to the coast through tidal swarms. Sometimes small streams of fresh water drain into the creek in their upstream region.

**Critically Vulnerable Coastal Areas (CVCA):** Critical Vulnerable Coastal Areas (CVCA) are ecological sensitive areas which shall be managed with the involvement of the local coastal communities including the fisher folk.

**CRZ map:** Map depicting the HTL, LTL and the CRZ boundaries.

**CZM Plan/ Map:** CZM plan/map depicting the HTL, LTL, the CRZ boundaries and all other details required for identifying and classifying the CRZ areas within the respective territories in accordance with the guidelines given in Annexure-I of the CRZ 2019 Notification and for regulating the activities prohibited / permitted in the CRZ Notification.

**Developed area:** Developed area refers to areas within the existing municipal limits or in other existing legally designated urban areas which are substantially built-up and have been provided with drainage and approach roads and other infrastructural facilities, such as water supply and sewerage mains.

**Dredging:** The excavation of sediments and other material from aquatic areas for the purpose of maintaining adequate depths in navigation channels and berthing areas, as well as for other purposes.

**Dwelling Unit:** Dwelling unit means a room or suites of rooms designed and intended for habitation by an individual or household in which facilities for cooking may or may not be provided.

**Ecotourism:** Tourist activity attracted to environmental resources and based, usually, on a conservation theme.

**Environmental Impact Assessment:** Detailed prediction of the impact of a development project on environment and natural resources with recommendations as to acceptability of the project, need for minimizing/eliminating/offsetting adverse effects, and a management plan to accomplish these countermeasures; a generic term for all types of impact assessment is Environmental Assessment (EA).

**Erosion:** Transportation of weathered (decomposed) rock material or soil by natural forces.

**Erosion control Measure:** Methods to control coastal erosion such as the use of seawalls, groynes (hard control measures) or beach nourishment, bioshields (soft control measures).

**ESA:** The areas that are ecologically sensitive and the geomorphological features which play a role in the maintaining the integrity of the coast as listed in the CRZ 2011 Notification. These include mangroves, coral reefs, sand dunes, mudflats, national parks

[marine parks, sanctuaries, reserve forests, wildlife habitats and their protected areas under the provisions of Wildlife Protection Act 1972, the Forest (Conservation) Act 1980 or Environment (Protection) Act 1986 including biosphere reserves], salt marshes, turtle nesting grounds, horse-shoe crab habitats, sea grass beds and nesting grounds of birds, Areas or structures of archaeological importance and heritage sites are also grouped under this category for regulatory purposes in the CRZ 2019 Notification.

**Estuary:** A semi-enclosed body of water which has free connection with the open sea and within which sea water is measurably diluted with freshwater derived from land drainage.

**Existing Authorised Buildings:** The existing authorized buildings means those buildings of a permanent nature that were existing prior to 18.01.2019 i.e., the date of CRZ Notification 2019 issued by MoEF&CC and were constructed in accordance with the building regulations and bye-laws in vogue prior to 18.01.2019 and had received necessary sanctions including commencement and occupation certificates from the concerned local authority prior to 18.01.2019. A certificate on existing authorized buildings can be issued by the Secretary of the concerned local authority.

**Existing Authorised Road:** The existing authorized road means those buildings of a permanent nature that were existing prior to 18.01.2019 i.e., the date of CRZ Notification 2019 issued by MoEF&CC. A certificate on existing authorized road can be issued by the Secretary of the concerned local authority.

**Floor Space Index:** Floor Space Index (F.S.I.) means the quotient obtained by dividing the total built up area by the area of the plot. (This word is synonymous with FAR)

$$\text{F.S.I.} = \text{Total built-up area} / \text{Plot area}$$

**Foreshore:** The intertidal part of a beach or the part of the shoreline lying between the beach head (for upper limit of wave wash at high tide) and the ordinary low water mark that is ordinarily traversed by the uprush and backrush of the waves as the tides rise and fall.

**Foreshore Facilities:** The expression “foreshore facilities” means those activities permissible under the CRZ 2019 notification and they require waterfront for their operations such as ports and harbours, jetties, quays, wharves, erosion control measures, breakwaters, pipelines, lighthouses, navigational safety facilities, coastal police stations and the like.

**Groundwater:** Groundwater is the water located beneath the earth’s surface in soil pore spaces and in the fractures of rock formations. A unit of rock or an unconsolidated deposit is called an aquifer when it can yield a usable quantity of water.

**Groyne:** A wall built out at right angles from the coastline, intended to intercept drifting beach material. American spelling: groin.

**Hazard line:** The hazard line for the CRZ purposes is being demarcated by the MoEF&CC through the Sol taking into account tides, waves (water level fluctuations), sea level rise and shoreline changes as the most landward boundary of the reach of the above-mentioned parameters.

**Height of building:** Height of building means the vertical distance measured from the average proposed ground level contiguous to the building;

- (i) In the case of flat roofs, to the highest point of the flat roof;
- (ii) In the case of pitched roofs and gabled roofs, to the midpoint between the eaves level and the ridge;
- (iii) In the case of domed roofs, to the highest point of the dome:

Provided that architectural features appurtenant roof structures like staircase tower, overhead tanks, air-conditioning plant rooms, lift rooms, cellular telecommunication equipments, tower structures, chimneys, rooftop helipad, open swimming pools, parapet walls and similar roof structures other than pent houses shall not be included in the height of the building.

**Note:**—for arriving at the average proposed ground level, the average of the lowest proposed ground level and the highest proposed ground level contiguous to the building shall be taken.

**HTL:** It is the line on the land up to which the highest water line reaches during the spring tide. The highs related to the spring tides vary every time, and there is a cycle which is estimated to be repeating every 18.6 years. Hence, in hydrography and sea surveying, the usually defined high sea level connected with tides is the MHWS which is the average of all spring tides over a period of 18.6 years.

**ICZM:** Integrated coastal zone management (ICZM) is a dynamic, multidisciplinary and iterative 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.

**Imaginary Building Line:** Imaginary Building Line is an artificial line which connects two existing authorized buildings immediately abutting/adjoining the proposed project site. The imaginary line to be drawn should not cut across any river, creek, backwater, estuary, water body, sandy beach or mangroves. The construction/protrusion towards the seaward side should not go beyond the imaginary line and should be parallel to the High Tide Line.

**IIMP:** The Integrated Island Management Plan display indicating their existing and proposed development, conservation and preservation schemes, dwelling units including infrastructure projects such as schools, markets, hospitals, public facilities etc. The No Development Zone in the backwater islands and islands along the coast is 20 meter from the HTL towards landward side and is applicable only after the approval of IIMP by MoEF&CC.

**IMP:** Integrated Management Plan prepared for CVCA keeping keep in view the conservation and management of mangroves, needs of local communities such as, dispensaries, schools, public rain shelter, community toilets, bridges, roads, jetties, water supply, drainage, sewerage and the impact of sea level rise and other natural disasters. The IMPs are prepared in line with the other guidelines for preparation of Coastal Zone Management Plans.

**Intertidal Zone:** land area between HTL and Low Tide Line (hereinafter referred to as the LTL).

**Island:** An island may be defined as a relatively small body of land surrounded entirely by waters. Islands include backwater islands, Channel Islands, bay mouth islands (barrier islands) and lake islands.

**Jetty:** On open seacoast, a structure extending into a body of water, and designed to prevent shoaling of a channel by littoral materials and to direct a confines the stream or tidal flow jetties are built at the mouth of a river or tidal inlet to help deeper and stabilize a channel.

**Khar land:** Khar land refers to tidal land which is made cultivable or otherwise beneficial in any matter whatsoever by protecting it, by means of an embankment, from the sea or tidal river, and includes all such land in whatever manner described, whether as khar (in Maharashtra), khazan (in Goa), pokkali (in Kerala), kharepat, gazni or otherwise.

**Littoral Drift:** The movement of sand and other material by littoral (long shore) currents in a direction parallel to the beach along the shore; usually wind driven. The sedimentary material moved in the littoral zone under the influence of waves and currents.

**Littoral Transport:** The movement of littoral drift in the littoral zone by waves and currents, including movement parallel to the shore (long-shore transport) and movement perpendicular to the shore (onshore-offshore transport).

**Lagoon:** A lagoon is an elongated body of water lying parallel to the coastline and separated from the open sea by barrier islands or by a narrow strip of land or a sand bank

**LTL:** It is the line on the land up to which the lowest water line reaches during the spring tide. The lows related to the spring tides vary every time and there is a cycle which is estimated to be repeating every 18.6 years. Hence, in hydrography and sea surveying, the usually defined low sea level connected with tides is the mean low water spring which is the average of all spring tides over a period of 18.6 years.

**Mangroves:** Mangroves are trees of various species of several families which grows only where they can come into permanent contact with sea water or brackish water. They occur at the edges of the tropical or subtropical seas, bays, lagoons and estuarine regions.

**Mangrove Buffer:** Mangroves (in case mangrove area is more than 1000 square meter, a buffer of 50 meters along the mangroves is demarcated. The buffer zone is excluded for the mangroves in private land.

**Mezzanine Floor:** Mezzanine floor means an intermediate floor in any storey overhanging and overlooking a floor beneath.

**Mudflat/tidal flat:** They are wide expanse of fine grained soft mud along the shore. They generally consist of deposits of clay, silt, ooze etc. The tidal mudflats are further classified on the basis of tidal influence into three types i.e., i) high tidal mudflats; ii) intertidal mudflats, and iii) sub-tidal mudflats.

**No Development Zone:** Area up to 50 meters from the HTL of seacoast on the landward side is No Development Zone (NDZ) in CRZ IIIA category and for 200 meters in CRZ IIIB category. Either width of water body or 50 meter from HTL on the land ward side of the tidal influenced water body is also called NDZ. For backwater islands/islands along coastline, the NDZ is 20m subject to the approval of IIMP until than it is 50m from the HTL.

**Near-shore Zone:** A subaqueous marine or lacustrine landform area that generally parallels the shore and extends seaward or lakeward from the low water line to beyond the breaker zone including longshore bars. In the nearshore zone, waves steepen, break, and reform

during passage to the beach. Sediment transport occurs both along and perpendicular to the shore via wave and current action.

**Permanent vegetation:** Vegetation on the non-eroding or accreted portion of the coast firmly attached to the substratum and unaffected by the erosional and tidal cycles. Well- grown coconut trees, palms, cashew trees, desert scrubs such as persopis, and so on found along the Indian coast create a firm seaward vegetative boundary line often used to demarcate the HTL.

**Plinth Area:** Plinth area means area of the building at the plinth level, and shall not include the area of open porch (not enclosed by wall), uncovered staircase.

**Pokkali:** Pokkali land is a tidal wetland in Kerala where a traditional organic method of rice-fish cultivation is practiced.

**Reclaimed land:**(a) A land area composed of earthy fill material that has been placed and shaped to approximate natural contours, commonly part of land reclamation efforts after mining operations. (b) A land area, commonly submerged in its native state, that has been protected by artificial structures (e.g., dikes) and drained for agricultural or other purposes.

**Reef flat:** The nearly flat surface that gets exposed as the summit level of the reef at low tide is known as reef flat. Under low tide condition, water depth on reef flat is extremely shallow, at the most a few meters. Reef flat is commonly composed of loosely cemented coralline sand or coarser reef debris and may consist of shallow pools, irregular gullies, low islands or cays of sand or rubble, vegetated and widely scattered colonies of hardy species of coral.

**Salt pan:** An undrained, usually small and shallow, rectangular, man-made depression or hollow normally in the mudflats in which saline water is allowed to accumulate and evaporate leaving a salt deposit is called salt pan.

**Sea grass /Sea grass bed:** Sea grasses are marine flowering plants forming extensive beds or meadows, which can be either monospecific (made up of a single species) or in mixed beds where more than one species coexist. They occur in the infratidal and midtidal zones of shallow and sheltered localities of sea, gulf, bays, backwaters and lagoons.

**Salinity:** Salinity is a measure of the concentration of dissolved salts in water. A common way to define salinity values is parts per thousand (ppt). The average salinity of the ocean typically varies from 32 to 37 psu. By definition it is 'the weight in grams (in vacuo) of solids that can be obtained from 1 kg of seawater (also measured in vacuo), when all of the carbonate has been converted to oxide, the bromine and iodine replaced by chloride, all organic matter oxidized, and the residue dried at 480 °C to constant weight'.



**Salinity Ingress:** Also seawater intrusion. Mainly in the case of groundwater, the intrusion of seawater due to excess withdrawal of groundwater as compared to its recharge from coastal aquifers resulting in increased salinity of groundwater.

**Satellite Imagery:** Visual representation of energy recorded by remote sensing instruments. These imageries are taken by satellites using various sensors that record electromagnetic energy associated with an environmental phenomenon or feature (IOM glossary).

**Sea front:** The land area exposed to the sea is the sea front.

**Sea level:** The level at which the sea stands against the coast, conventionally taken as mean sea level, the arithmetic mean of the calm sea surface (excluding waves and oscillations related to winds and atmospheric pressure variations) measured at hourly intervals over at least 18.6 years.

**Sea level rise:** The long-term rise in the sea level due to global warming is called the sea level rise.

**Shoreline:** The water's edge which moves to and fro as the tides rise and fall forms a low tide shoreline, a mid-tide shoreline, and a high tide shoreline. The term has been used as a synonym for coastline (q.v.), but it is useful to maintain a distinction between the two terms, taking coastline as equivalent to the high-tide shoreline. Where the tidal range is large and the shore profile is gently sloping there is much variation in the position of the various shorelines.

**Shoreline change:** Change over time of the shoreline due to processes of accretion and erosion. These can be analyzed in a geographic information system (GIS) by measuring differences in past and present shoreline locations.

**Seawall:** It is an embankment or wall built parallel to the shore for the protection of the coast against waves or tidal action along a shore or water front.

**Shoals:** Shoals are either submerged ridge, bank or bar producing a shoal, consisting of or covered by sand, mud, gravel or other unconsolidated material.

**Shoreland:** This covers the area from the tidal flat inland upto the nearest foothill with some features on the coast as well. Categories like delta, paleomudflat, coastal dunes, relict alluvium, paleochannel, terrace, ox-bow lake, reclaimed mudflat and strandline etc. are classified in this category.

Shoreland include coastal watershed and flood-prone areas. Coastal watersheds are those lands that drain directly into coastal water of 0.5 ppt water salinity.

**Shoreline Management Plan:** A shoreline management plan is a long-term strategy for managing the coastline to reduce the risk of coastal flooding and erosion. SMPs are designed to protect people, the environment, and developed areas over the next century.

**Spit:** Spit is a small point or low tongue or narrow embankment of land commonly consisting of sand or gravel deposited by long-shore drifting and having one end attached to the mainland and other protruding into open water, usually the sea, across the entrance of a bay or an estuary, a finger like extension of the beach .

**Territorial limit:** As defined by the 1982 United Nations Convention on the Law of the Sea, territorial sea is a belt of coastal waters extending at most 12 nautical miles (22.2 km; 13.8 mi) from the baseline (usually the mean low water mark) of a coastal state. The territorial limit is taken as 12 nautical miles.

**Tidal-influenced water bodies:** Tidal influenced water body means the water bodies influenced by tidal effects from sea in the bays, estuaries, rivers, creeks, backwaters, lagoons, ponds and the like that are connected to sea. The extent of such tidal influenced water bodies are determined based on the salinity concentration of five parts per thousand (ppt) measured during the driest period of the year.

**Tidal inlet:** Any inlet through which water alternately floods landward with the rising tide and ebbs seaward with the falling tide.

**Tide:** Tide is the periodic (few hours) rising and falling of the sea surface resulting from gravitational attraction of the moon and sun and other astronomical bodies acting upon the rotating earth as opposed to the wind-generated waves. A tide with one high water and one low water every day is the diurnal tide and the tide with two high and two low waters every day is the semi-diurnal tide.

**Tsunami:** Long seismic sea waves, generated by a major disturbance within an ocean basin (mainly due to earthquakes, but sometimes explosive volcanic eruptions or submarine landslides). They are of subdued form in deep water, but on entering shallow near-shore areas their height increases greatly, and can exceed 30 m when they break over the coastline.

**Turtle nesting Grounds:** Sea turtles or marine turtles are generally found in waters over continental shelves; females come ashore to sandy beaches where they dig nests and lay eggs during the nesting season. These beaches are known as turtle nesting grounds/sites. India has five of the seven species of known sea turtles. Mass nesting occurs along sandy beaches on the west and east coast. Female turtles come ashore on sandy beaches where they were born, dig a nest and bury their eggs in it. After hatching the turtles find their way back to the sea.

**Waterfront:** With reference to CRZ 2011 Notification, activities that require waterfront for their operations include ports and harbours, jetties, quays, wharves, erosion control measures, breakwaters, pipelines, lighthouses, navigational safety facilities, coastal police stations and the like.

**Wave:** The term wave indicates the short-period (few seconds) undulations observed on the sea surface due to the action of wind. Wind-generated wave at the generating area is called 'sea' and that have travelled outside their generating area is called 'swell'.

Undulations produced on the sea surface by disturbance, generally the frictional drag of wind action, but see Giant Waves (q.v.). Wave height is the vertical distance between adjacent crests and troughs, wave length the horizontal distance between successive wave crests, wave period the time taken by successive crests to pass a fixed point, wave steepness the ratio of wave height to wave length, and wave velocity the speed at which a wave crest moves forward. Wave energy is taken as length multiplied by the square root of the height.

**Wetland:** Wetlands are land transitional between terrestrial and aquatic system where the water table is usually at or near the surface of land is covered by shallow water. The land areas that are periodically (at least once a year) exposed and flooded by salt or brackish water through tides and normal storm action and having mangrove swamps and marshes, they are referred to as "Coastal wetlands".

## **Reference**

- 1 Coastal Regulation Zone Notification, 2019, Amendments, Office Memorandum, Order and Circulars issued by MoEFCC, Government of India as on 20<sup>th</sup> December 2024.**
- 2 Coastal Zone Management Plan 2019 approved by MoEFCC, Government of India dated 16.10.2024.**
- 3 Manual On Demarcation of High Tide Line and Low Tide Line and preparation of CZMP of the Coast of India published by National Centre for Sustainable Coastal Management, MoEFCC, 2015**
- 4 Standard Operating Procedure for preparation of Site Specific CRZ Maps on 1:4000 Scale and 7 km Radius CRZ Map on 1:25000 Scale as per CRZ & IPZ/ICRZ Notification, 2011/2019**
- 5 IOM Glossary. Coastal Zone Management and Coastal Shelterbelt Vulnerability. Published by ENVIS Centre, Institute for Ocean Management, Anna University, Chennai**
- 6 C-COAST Glossary - NOAA. Coastal Cartographic Object Attribute Source Table accessed 20 November 2024**

A vibrant underwater scene featuring a diverse coral reef. The reef is composed of various types of coral, including branching corals in shades of pink, orange, and red, and large, porous, light-colored sponges. Numerous small, bright orange fish are swimming around the reef. The background is a deep, clear blue water.

**For more information contact**

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