

# COASTAL REGULATION ZONE NOTIFICATION, 2019 WITH AMENDMENTS



# COASTAL REGULATION ZONE NOTIFICATION, 2019 WITH AMENDMENTS (Upto 24.11.2022)



- CRZ Notification, 2019 No. G.S.R. 37 (E) dated 18<sup>th</sup> January 2019
- Amendment No. S.O. 4886 (E) dated 26<sup>th</sup> November, 2021
- Amendment No. S.O. 5495 (E) dated 24<sup>th</sup> November, 2022

## **MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE NOTIFICATION**

**New Delhi, the 18<sup>th</sup> January, 2019**

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**G.S.R. 37(E).—Whereas by notification of the Government of India in the erstwhile Ministry of Environment and Forests number S.O.19 (E), dated the 6<sup>th</sup> January, 2011 (hereinafter referred to as the Coastal Regulation Zone Notification, 2011), the Central Government declared certain coastal stretches as Coastal Regulation Zone (hereinafter referred to as the CRZ) under section 3 of Environment (Protection) Act, 1986 (29 Of 1986);**

**And Whereas, the Ministry of Environment, Forest and Climate Change has received representations from various coastal States and Union territories, besides other stakeholders, regarding certain provisions in the Coastal Regulation Zone Notification, 2011 related to management and conservation of marine and coastal ecosystems, development in coastal areas, eco- tourism, livelihood options and sustainable development of coastal communities etc.;**

**And Whereas, various State Governments and Union territory administrations and stakeholders have requested the Ministry of Environment, Forest and Climate Change to address the concerns related to coastal environment and sustainable development with respect to the Coastal Regulation Zone Notification, 2011;**

**And Whereas, the Ministry of Environment, Forest and Climate Change had constituted a Committee under the Chairmanship of Dr. Shailesh Nayak to examine various issues and concerns of coastal States and Union territories and various stakeholders, relating to the Coastal Regulation Zone Notification 2011 and to recommend appropriate changes in the said Notification;**

**And Whereas, the report submitted by Dr. Shailesh Nayak Committee has been examined in the Ministry and consultations have been held with various stakeholders in this regard;**

And Whereas, a draft Coastal Regulation Zone Notification, 2018 was issued and hosted in the website of the Ministry of Environment, Forest and Climate Change on the 18<sup>th</sup> April, 2018 seeking comments and suggestions from all concerned;

And Whereas, objections and suggestions received in response to the above mentioned draft Coastal Regulation Zone Notification, 2018 have been duly considered by the Central Government;

Now, therefore in exercise of the powers conferred by sub-section (1) and clause (v) of sub- section (2) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986) and in supersession of the Coastal Regulation Zone Notification 2011, number S.O. 19(E), dated the 6<sup>th</sup> January, 2011, except as respects things done or omitted to be done before such supersession, the Central Government, with a view to conserve and protect the unique environment of coastal stretches and marine areas, besides livelihood security to the fisher communities and other local communities in the coastal areas and to promote sustainable development based on scientific principles taking into account the dangers of natural hazards, sea level rise due to global warming, do hereby, declares the coastal stretches of the country and the water area up to its territorial water limit, excluding the islands of Andaman and Nicobar and Lakshadweep and the marine areas surrounding these islands, as Coastal Regulation Zone as under:-

- (i) The land area from High Tide Line (hereinafter referred to as the HTL) to 500 meters on the landward side along the sea front.

**Explanation** [- For the purposes of this notification,

- a) the HTL means the line on the land upto which the highest water line reaches during the spring tide as demarcated by the National Centre for Sustainable Coastal Management (NCSCM) in accordance with the laid down procedures and made available to various coastal States and Union territories;
- b) in case there exists a bund or sluice gate constructed prior to the date

of notification issued vide S.O.114(E) dated 19<sup>th</sup> February, 1991, the HTL shall be restricted up to the line long along the bund or the sluice gate, however, in such a case, area under mangroves arising due to saline water ingress beyond the bund or sluice gate shall be classified as CRZ-IA irrespective of the extent of the area beyond the bund or sluice gate and such areas under mangroves shall be protected and shall not be diverted for any developmental activities.]<sup>1</sup>

- (ii) CRZ shall apply to the land area between HTL to 50 meters or width of the creek, whichever is less on the landward side along the tidal influenced water bodies that are connected to the sea and the distance upto which development along such tidal influenced water bodies is to be regulated shall be governed by the distance upto which the tidal effects are experienced which shall be determined based on salinity concentration of five parts per thousand (ppt) measured during the driest period of the year and distance up to which tidal effects are experienced shall be clearly identified and demarcated accordingly in the Coastal Zone Management Plan (hereinafter referred to as the CZMP):

Provided that the CRZ limit of 50 meters or width of the creek whichever is less, shall be subject to revision and final approval of the respective CZMPs as per this notification, framed with due consultative process, public hearing etc. and environmental safeguards enlisted therein, and till such time the CZMP to this notification is approved, the limit of 100meters or width of the creek whichever is less, shall continue to apply.

**Explanation.-** For the purposes of this sub-paragraph the expression —tidal influenced water bodies|| means the water bodies influenced by tidal effects from sea in the bays, estuaries, rivers, creeks, backwaters, lagoons, ponds that are connected to the sea.

- (iii) The —intertidal zone|| means land area between the HTL and the Low Tide Line (hereinafter referred to as the LTL).

- (iv) The water and the bed area between the LTL to the territorial water limit (12 Nm) in case of sea and the water and the bed area between LTL at the bank to the LTL on the opposite side of the bank, of tidal influenced water bodies.

*[1.S.O.4886(E) dated 26<sup>th</sup> November, 2021 – The explanation substituted]*

**2.0 Classification of CRZ.** – For the purpose of conserving and protecting the coastal areas and marine waters, the CRZ area shall be classified as follows, namely:-

**2.1. CRZ-I** areas are environmentally most critical and are further classified as under:

**2.1.1. CRZ-IA:**

(a) CRZ-I A shall constitute the following ecologically sensitive areas (ESAs) and the geo- morphological features which play a role in maintaining the integrity of the coast viz.:

- (i) Mangroves (in case mangrove area is more than 1000 square meters, a buffer of 50 meters along the mangroves shall be provided and such area shall also constitute CRZ-I A);
- (ii) Corals and coral reefs;
- (iii) Sand dunes;
- (iv) Biologically active mudflats;
- (v) 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), including Biosphere Reserves namely; [ except in the case of the Sundarbans Biosphere Reserve, wherein, the categorization of CRZ and delineation of the HTL and CRZ boundaries shall be done in consonance with the provisions of this Notification.

**Note:** The CVCA delineated within the Sundarban Biosphere Reserve shall be managed through the Integrated Management Plan prepared by the State Government and approved by the Central government.]<sup>2</sup>

- (vi) Salt marshes;
- (vii) Turtle nesting grounds;
- (viii) Horse shoe crabs' habitats;
- (ix) Sea grass beds;
- (x) Nesting grounds of birds;
- (xi) Areas or structures of archaeological importance and heritage sites.

*[2.S.O.4886(E) dated 26<sup>th</sup> November, 2021 – The sub-clause inserted]*

(b) A detailed environment management plan shall be formulated by the states and Union territories for such ecologically sensitive areas in respective territories, as mapped out by the National Centre for Sustainable Coastal Management (NCSCM), Chennai based on guidelines as contained in Annexure-I to this notification and integrated with the CZMP.

#### 2.1.2. CRZ-IB:

The intertidal zone i.e. the area between Low Tide Line and High Tide Line shall constitute the CRZ-I B.

#### 2.2. CRZ-II:

CRZ-II shall constitute 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.

#### 2.3. CRZ-III:

Land areas that are relatively undisturbed (viz. rural areas, etc.) and those which do not fall under CRZ-II, shall constitute CRZ-III, and CRZ-III shall be further classified into following categories: -

##### 2.3.1 CRZ-III A:

Such densely populated CRZ-III areas, where the population density is more than 2161 per square kilometre as per 2011 census base, shall be designated as CRZ-III A and in CRZ-III A, area up to 50 meters from the HTL on the landward side shall be earmarked as the 'No Development Zone (NDZ)', provided the CZMP as per this notification, framed with due consultative process, have been approved, failing which, a NDZ of 200 meters shall continue to apply.

##### 2.3.2 CRZ-III B:

All other CRZ-III areas with population density of less than 2161 per square kilometre, as per 2011 census base, shall be designated as CRZ-III B and in CRZ-III B, the area up to 200 meters from the HTL on the landward side shall be earmarked as the 'No Development Zone (NDZ)'.



**2.3.3 :** Land area upto 50meters 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.

*Note: The NDZ shall not be applicable in the areas falling within notified Port limits.*

## **2.4 CRZ-IV:**

The CRZ-IV shall constitute the water area and shall be further classified as under:-

### **2.4.1 CRZ-IVA:**

The water area and the sea bed area between the Low Tide Line up to twelve nautical miles on the seaward side shall constitute CRZ-IV A.

### **2.4.2 CRZ-IVB:**

CRZ-IV B areas shall include 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 the sea up to the influence of tide, i.e., salinity of five parts per thousand (ppt) during the driest season of the year.

**3.0 Areas requiring special consideration in the CRZ.-** Following coastal areas shall be accorded special consideration for the purpose of protecting the critical coastal environment and difficulties faced by local communities:-

**3.1 Critically Vulnerable Coastal Areas (CVCA):** Sundarban region of West Bengal and other ecologically sensitive areas identified as under Environment (Protection) Act, 1986 such as Gulf of Khambhat 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, Bhaitarkanika in Odisha, Coringa, East Godavari and Krishna in Andhra Pradesh shall be treated as Critical Vulnerable Coastal Areas(CVCA)and managed with the involvement of coastal communities including fisher folk who depend on coastal resources for their sustainable livelihood.

**3.2 CRZ for inland Backwater islands and islands along the mainland coast.**

**3.3 CRZ falling within municipal limits of Greater Mumbai.**



**4. Prohibited activities within CRZ.-** The following activities shall be prohibited, in general, within the entire CRZ and exceptions to these and other permissible and regulated activities in specific CRZ categories viz. CRZ- I, II, III and IV, shall be governed by the provisions of paragraph 5:-

- (i) Setting up of new industries and expansion of existing industries, operations or processes.
- (ii) 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.
- (iii) Setting up of new fish processing units.
- (iv) Land reclamation, bunding or disturbing the natural course of seawater except for the activities permissible under this notification and executed with prior permission from the competent authority.
- (v) Discharge of untreated waste and effluents from industries, cities or towns and other human settlements.
- (vi) Dumping of city or town wastes including construction debris, industrial solid wastes, fly ash for the purpose of land filling.
- (vii) Port and harbor projects in high eroding stretches of the coast.
- (viii) Mining of sand, rocks and other sub-strata materials.
- (ix) Dressing or altering of active sand dunes.
- (x) In order to safeguard the aquatic system and marine life, disposal of plastic into the coastal waters shall be prohibited and adequate measures for management and disposal of plastic materials shall be undertaken in the CRZ.
- (xi) Drawal of groundwater.

## **5. Regulation of permissible activities in CRZ:**

### **5.1 CRZ-I:**

#### **5.1.1. CRZ-IA:**

These areas are ecologically most sensitive and generally no activities shall be permitted to be carried out in the CRZ-I A area, with following exceptions:-

- (i) Eco-tourism activities such as mangrove walks, tree huts, nature trails, etc., in identified stretches areas subject to such eco-tourism plan

featuring in the approved CZMP as per this notification, framed with due consultative process, public hearing, etc. and further subject to environmental safeguards and precautions related to the Ecologically Sensitive Areas, as enlisted in the CZMP.

(ii) In the mangrove buffer, only such activities shall be permitted like laying of pipelines, transmission lines, conveyance systems or mechanisms and construction of road on stilts, etc. that are required for public utilities.

(iii) Construction of roads and roads on stilts, by way of reclamation in CRZ-I areas, shall be permitted only in exceptional cases for defence, strategic purposes and public utilities, subject to a detailed marine or terrestrial or both environment impact assessment, to be recommended by the Coastal Zone Management Authority and approved by the Ministry of Environment, Forest and Climate Change; and in case construction of such roads passes through mangrove areas or is likely to damage the mangroves, a minimum three times the mangrove area affected or destroyed or cut during the construction process shall be taken up for compensatory plantation of mangroves.

**5.1.2. CRZ-I B- The inter tidal areas:** Activities shall be regulated or permissible in the CRZ-I B areas as under:-

- (i) Land reclamation, bunding, etc. shall be permitted only for activities such as,-
  - (a) foreshore facilities like ports, harbours, Jetties, wharves, quays, slipway, bridges, hover ports for coast guard, sea links, etc;
  - (b) projects for defence, strategic and security purposes;
  - (c) road on stilts, provided that such roads shall not be authorised for permitting development on the landward side of such roads, till the existing High Tide Line:

Provided that the use of reclaimed land may be permitted only for public utilities such as mass rapid or multimodal transit system, construction and installation of all necessary associated public utilities and infrastructure to operate such transit or transport system including those for electrical or electronic signaling system, transit stopover of permitted designs; except for any industrial operation, repair or maintenance;

- (d) measures for control of erosion;
  - (e) maintenance and clearing of waterways, channels, ports and hover ports for coastguard;
  - (f) measures to prevent sandbars, installation of tidal regulators, laying of storm water drains or for structure for prevention of salinity ingress and freshwater recharge.
- (ii) 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.
  - (iii) Power by non-conventional energy sources and associated facilities.
  - (iv) Transfer of hazardous substances from ships to Ports, terminals and refineries and vice versa.
  - (v) Facilities for receipt and storage of petroleum products and liquefied natural gas as specified in Annexure-II to this notification, subject to implementation of safety regulations including guidelines issued by the Oil Industry Safety Directorate in the Ministry of Petroleum and Natural Gas and guidelines issued by the Ministry of Environment, Forest and Climate Change, provided that such facilities are for receipt and storage of fertilizers and raw materials required for fertilizers, like ammonia, phosphoric acid, sulphur, sulphuric acid, nitric acid, etc.
  - (vi) Storage of non-hazardous cargo i.e. edible oil, fertilizers and food grains in notified Ports.
  - (vii) Hatchery and natural fish drying.
  - (viii) Existing fish processing units may utilise 25% additional plinth area for modernisation purposes (only for additional equipment and pollution control measures) subject to the following:-
    - (a) Floor Space Index of such reconstruction not exceeding the permissible Floor Space Index as per prevalent town and country planning regulations;
    - (b) Additional plinth area is constructed only to the landward side.
    - (c) Approval of the concerned State Pollution Control Board or Pollution Control Committee.
  - (ix) Treatment facilities for waste and effluents and conveyance of treated effluents.

- (x) **Storm water drains.**
- (xi) **Projects classified as strategic, defence related projects and projects of the Department of Atomic Energy, Government of India.**
- (xii) **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) occurring as such or in association with one or other minerals in the intertidal zone by such agencies as authorised by the Department of Atomic Energy, Government of India as per mining plan approved by the Atomic Mineral Directorate for Exploration and Research: Provided that the manual mining operations shall be carried out only by deploying persons using baskets and hand spades for collection of ore or mineral within the intertidal zone and as per approved mining plan, without deploying or using drilling and blasting or Heavy Earth Moving Machinery in the intertidal zone.**
- (xiii) **Exploration and extraction of oil and natural gas and all associated activities and facilities thereto;**
- (xiv) **Foreshore requiring facilities for 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 in conformity with the environmental standards notified by Ministry of Environment, Forest and Climate Change and relevant directions of Central Pollution Control Board (CPCB) or State Pollution Control Board (SPCB) or Pollution Control Committee (PCC), as the case may be.**
- (xv) **Pipelines, conveying systems including transmission lines.**
- (xvi) **Weather radar for monitoring of cyclones prediction, ocean observation plat forms, movement and associated activities.**
- (xvii) **Salt harvesting and associated facilities.**
- (xviii) **Desalination plants and associated facilities.**
- (xix) **[Collection of dead shells by traditional communities for poultry and animal feed supplements and shall not require prior CRZ clearance]<sup>3</sup>**

*[3.S.O.4886(E) dated 26<sup>th</sup> November, 2021 – The sub-clause inserted]*

(xx) **[Purely temporary and seasonal structures (e.g. shacks) customarily put up during non-monsoon months:**

**Provided that the facilities available in these structures shall remain non-operational during monsoon months.]<sup>4</sup>**

## **5.2 CRZ-II:**

(i) **Activities as permitted in CRZ-IB, shall also be permissible in CRZ-II, in so far as applicable.**

(ii) **Construction of buildings for residential purposes, schools, hospitals, institutions, offices, public places, etc. shall be permitted only on the landward side of the existing road, or on the landward side of existing authorised fixed structures:**

**Provided that no permission for construction of buildings shall be given on landward side of any new roads which are constructed on the seaward side of an existing road.**

(iii) **Buildings permitted as in (ii) above, shall be subject to the local town and country planning regulations as applicable from time to time, and the norms for the Floor Space Index (FSI) or Floor Area Ratio (FAR) prevailing as on the date of this Notification, and in the event that there is a need for amendment of the FSI after the date of publication of this notification in the official Gazette, the Urban Local Body or State Government or Union territory Administration shall approach the Ministry of Environment, Forest and Climate Change through the concerned State Coastal Zone Management Authority (SCZMA) or Union Territory Coastal Zone Management Authority, as the case may be and the SCZMA shall forward the proposal to the National Coastal Zone Management Authority (NCZMA) with its views in the matter, and the NCZMA shall thereafter examine various aspects like availability of public amenities, environmental protection measures, etc., and take a suitable decision on the proposal and it shall be the responsibility of the concerned Town Planning Authority to ensure that the Solid Wastes are handled as per respective Solid Waste Management Rules and no untreated sewage is discharged on to the coast or coastal waters.**

**[4.S.O.5495(E) dated 26<sup>th</sup> November, 2021 – The clause inserted]**

(iv) Reconstruction of authorised buildings shall be permitted, without change in present land use, subject to the local town and country planning regulations as applicable from time to time, and the norms for the Floor Space Index or Floor Area Ratio, prevailing as on the date of publication of this notification in the official Gazette and in the event that there is a need for amendment of the FSI after the said date of this notification, the Urban Local Body or State Government or Union territory Administration shall approach the Ministry of Environment, Forest and Climate Change through the concerned State Coastal Zone Management Authority (SCZMA) or Union Territory Coastal Zone Management Authority, as the case may be and the CZMA shall forward the proposal to the National Coastal Zone Management Authority (NCZMA) with its views in the matter, and the NCZMA shall thereafter examine various aspects like availability of public amenities, environmental protection measures etc., and take a suitable decision on the proposal and it shall be the responsibility of the concerned Town Planning Authority to ensure that the Solid Wastes are handled as per respective Solid Waste Management Rules and no untreated sewage is discharged on to the coast or coastal waters.

(v) Development of vacant plots in designated areas for construction of beach resorts or hotels or tourism development projects subject to the conditions or guidelines at **Annexure-III** to this notification.

(vi) Temporary tourism facilities shall be permissible in 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, etc. and such facilities shall however be permitted only subject to the tourism plan featuring in the approved CZMP as per this notification, framed with due consultative process or public hearing, etc. and further subject to environmental safeguards enlisted in the CZMP, however, a minimum distance of 10 meter from HTL shall be maintained for setting up of such facilities.

### **5.3 CRZ-III:**

(i) Activities as permitted in CRZ-IB, shall also be permissible in CRZ-III, in so far as applicable.

**(ii) Regulation of activities in NDZ:**

Following shall be permissible and regulated in the NDZ:-

- (a) No construction shall be permitted within NDZ in CRZ III, except for repairs or reconstruction of existing authorised structure not exceeding existing Floor Space Index, existing plinth area and existing density and for permissible activities under this notification including facilities essential for activities and construction or reconstruction of dwelling units of traditional coastal communities including fisher folk, incorporating necessary disaster management provisions and proper sanitation arrangements.
- (b) Agriculture, horticulture, gardens, pastures, parks, playfields and forestry.
- (c) Construction of dispensaries, schools, public rain shelter, community toilets, bridges, roads, provision of facilities for water supply, drainage, sewerage, crematoria, cemeteries and electric sub-station which are required for the local inhabitants may be permitted on a case to case basis by Coastal Zone Management Authority (CZMA).
- (d) Construction of units or auxiliary thereto for domestic sewage, treatment and disposal with the prior approval of the concerned Pollution Control Board or Committee.
- (e) Facilities required for local fishing communities such as fish drying yards, auction halls, net mending yards, traditional boat building yards, ice plant, ice crushing units, fish curing facilities and the like.
- (f) Wherever there is a national or State highway passing through the NDZ of CRZ-III areas, temporary tourism facilities such as toilets, change rooms, drinking water facility and temporary shacks can be taken up on the seaward side of the road.

On landward side of such roads in the NDZ, resorts or hotels and associated tourism facilities shall be permitted and such facilities shall, however, be permitted only subject to the incorporation of tourism plan in the approved CZMP as per this notification and the conditions or guidelines at Annexure - III, to this notification as applicable.

- (g) Temporary tourism facilities shall be permissible in the NDZ and beaches in the CRZ-III areas and such 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 etc., and such facilities shall, however, be permitted only subject to the tourism plan featuring in the approved CZMP as per this notification subject to maintaining a minimum distance of 10 meters from HTL for setting up of such facilities.

(h) Mining of atomic minerals notified under Part-B of the First Schedule to Mining and Minerals (Development and Regulation) Act, 1957 (67 of 1957) occurring as such or in association with one or other minerals by such agencies as authorised by the Department of Atomic Energy, Government of India, as per mining plan by the Atomic Mineral Directorate for Exploration and Research.

(iii) Regulation of activities for CRZ-III are as beyond NDZ:

(a) Development of vacant plots in designated areas for construction of beach resorts or hotels or tourism development projects subject to the conditions or guidelines at Annexure-III to this notification.

(b) Construction or reconstruction of dwelling units, so long it is within the ambit of traditional rights and customary uses such as existing fishing villages, etc. and building permission for such construction or reconstruction will be subject to local town and country planning rules, with an overall height of construction not exceeding 9 meters and with only two floors (ground + one floor).

(c) The local communities including fishermen may be permitted to facilitate tourism through 'home stay' without changing the plinth area or design or facade of the existing houses.

(d) Construction of public rain shelters, community toilets, water supply drainage, sewerage, roads, bridges, etc.

(e) Limestone mining:

Selective mining of limestone minerals may be permitted in specific identified areas under the mining plans, which are adequately above the height of HTL, based on the recommendations of reputed National Institutes in the mining field such as Council of Scientific and Industrial Research (CSIR), Central Mining Research Institute etc., provided that the extraction of minerals shall be carried out not below a height of 1 meter above the HTL and an adequate barrier shall be created so as to safeguard against saline water incursion and subject to appropriate safeguards related to pollution of coastal waters and prevention of coastal erosion.

- (f) Mining of atomic minerals notified under Part-B of the First Schedule of Mining and Minerals (Development and Regulation) Act, 1957 (67 of 1957) occurring as such or in association with one or other minerals by such agencies as authorised by Department of Atomic Energy, Government of India, as per mining plan by the Atomic Mineral Directorate for Exploration and Research.
- (iv) Drawing of groundwater and construction related thereto shall be prohibited within 200 meters of HTL except for the use of local communities in areas inhabited by them and in the areas between 200 to 500 meters of the HTL, groundwater withdrawal may be permitted only through manual means from ordinary wells for drinking, horticulture, agriculture and fisheries, etc. where no other source of water is available and restrictions for such drawal may be imposed by the designated Authority by State Government or Union territory Administration in the areas affected by sea water intrusion, however, for horticulture and agriculture purpose, micro irrigation promoted by Government welfare schemes shall be permitted.
- (v) Development of airports in wastelands and non-arable lands in CRZ-III areas with adequate environmental safeguards.

#### **5.4 CRZ-IV:**

Activities shall be permitted and regulated in the CRZ IV areas as under:-

- (i) Traditional fishing and allied activities undertaken by local communities.
- (ii) Land reclamation, bunding, etc. to be permitted only for activities such as.-
  - (a) Foreshore facilities like ports, harbours, Jetties, wharves, quays, slipway, bridges, sea links and hover ports for coast guard ,etc;
  - (b) Projects for defence, strategic and security purpose including coast guard;
  - (c) Measures for control of erosion;
  - (d) Maintenance and clearing of waterways, channels and ports;
  - (e) Measures to prevent sand bars, installation of tidal regulators, laying of storm water drains or for structure for prevention of salinity ingress and freshwater recharge.

- (iii) **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.**
- (iv) **Power by non-conventional energy sources and associated facilities such as offshore wind, wave energy, ocean thermal energy conversion, etc.**
- (v) **Transfer of hazardous substances from ships to Ports.**
- (vi) **Storage of non- hazardous cargo like edible oil, fertilizers and food grains in notified Ports.**
- (vii) **Facilities for discharging treated effluents into the watercourse.**
- (viii) **Projects classified as strategic and defence related projects including coast guard coastal security network.**
- (ix) **Projects of department of Atomic Energy.**
- (x) **Exploration and extraction of oil and natural gas and all associated activities and facilities thereto.**
- (xi) **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), occurring as such or in association with other mineral(s) and of such associated mineral(s).**
- (xii) **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, in conformity with the environmental standards notified by Ministry of Environment, Forest and Climate Change and relevant directions of the Central Pollution Control Board or State Pollution Control Board or Pollution Control Committee.**
- (xiii) **Pipelines, conveying systems including transmission lines.**
- (xiv) **Weather radar for monitoring of cyclone prediction, ocean observation platforms, movement and associated activities.**
- (xv) **Construction of memorials or monuments and allied facilities by the concerned State Government in CRZ-IV (A) areas, in exceptional cases, with adequate environmental safeguards, subject to the following, namely:-**
  - (a) **the concerned State Government shall submit justification for**

locating the project in CRZ-IVA area along with details of alternate sites considered and weightage matrix on various parameters including environmental parameters, to State Coastal Zone Management Authority who will examine the project and make recommendation to the Central Government (Ministry of Environment, Forest and Climate Change) for grant of Terms of Reference (ToRs) for preparation of an environmental impact assessment report by the State Government;

(b) On grant of ToRs by the Central Government, the concerned State Government shall submit the draft Environmental Impact Assessment report (EIA) with Environmental Management Plan (EMP), draft Risk Assessment Report with Disaster Management Plan (DMP) including on-site and off-site emergency plan and evacuation plan during emergency, to the State Pollution Control Board for conduct of public hearing for the proposed project in accordance with the procedure laid down under the Environment Impact Assessment (EIA) notification number S.O. 1533(E), dated the 14<sup>th</sup> September, 2006;

(c) The concerned State Government shall, after addressing the relevant issues raised by the public during the public hearing referred to in sub-item(b), submit the final EIA, EMP, Risk Assessment and DMP, to the State CZMA for their examination and recommendation to MoEF&CC;

(d) The Central Government may, if it considers necessary so to do, dispense with the requirement of public hearing referred to in sub-clause (b), if it is satisfied that the project will not involve rehabilitation and resettlement of the public or the project site is located away from human habitation.

### **5.5 Requirement for Clearance from Department of Atomic Energy installations:**

Prior to undertaking any developmental activity including construction of new structures, falling in the boundary limits specified by Atomic Energy Regulatory Board (AERB) guidelines, prior clearance shall be obtained from Department of Atomic Energy installations.

## **6 Coastal Zone Management Plan (CZMP)**

(i) All coastal States and Union territory administrations shall revise or update their respective coastal zone management plan (CZMP) framed

under CRZ Notification, 2011 number S.O. 19(E), dated 6<sup>th</sup> January, 2011, as per provisions of this notification and submit to the Ministry of Environment, Forest and Climate Change for approval at the earliest and all the project activities attracting the provisions of this notification shall be required to be appraised as per the updated CZMP under this notification and until and unless the CZMPs is so revised or updated, provisions of this notification shall not apply and the CZMP as per provisions of CRZ Notification, 2011 shall continue to be followed for appraisal and CRZ clearance to such projects.

(ii) The CZMP may be prepared or updated by the coastal State Government or Union territory by engaging reputed and experienced scientific institution(s) or the agencies including the National Centre for Sustainable Coastal Management (hereinafter referred to as the NCSCM) of Ministry of Environment, Forest and Climate Change and in consultation with the concerned stakeholders.

(iii) The coastal States and Union territories shall prepare draft CZMP in 1:25,000 scale map identifying and classifying the CRZ areas within the respective territories in accordance with the guidelines given in Annexure-IV to this notification, which involve public consultation.

All developmental activities listed in this notification shall be regulated by the State Government, Union territory administration, the local authority or the concerned Coastal Zone Management Authority within the framework of such approved CZMP, as the case may be, in accordance with provisions of this notification.

(iv) The draft CZMP shall be submitted by the State Government or Union territory to the concerned Coastal Zone Management Authority for appraisal, including appropriate consultations, and recommendations in accordance with the procedure(s) laid down in the Environment (Protection) Act, 1986 (29 of 1986).

(v) The Ministry of Environment, Forest and Climate Change shall thereafter consider and approve the respective CZMP of concerned State Governments or Union territory administrations.

(vi) The CZMP shall not normally be revised before a period of five years after which, the concerned State Government or the Union territory may consider undertaking a revision.

## **7 CRZ clearance for permissible and regulated activities-Delegation:**

(i) All permitted or regulated project activities attracting the provisions of this notification shall be required to obtain CRZ clearance prior to their commencement.

(ii) [All development activities or projects in CRZ-I and CRZ-IV areas, which are regulated or permissible as per this notification, shall be dealt with by the Central Government for Coastal Regulation Zone clearance, based on the recommendation of the concerned Coastal Zone Management Authority with the following exceptions, namely:-

Stand-alone jetties, Salt works, Slipways, Temporary structures and Erosion Control Measures (like Bunds, Seawall, Groynes, Breakwaters, Submerged reef, Sand nourishment, etc.) Which shall be dealt by concerned Coastal Zone Management Authority.]<sup>5</sup>

(iii) For all other permissible and regulated activities as per this notification, which fall purely in CRZ-II and CRZ-III areas, the CRZ clearance shall be considered by the concerned Coastal Zone Management Authority and such projects in CRZ -II and III, which also happen to be traversing through CRZ- I or CRZ-IV areas or both, CRZ clearance shall, however be considered only by the Ministry of Environment, Forest and Climate Change, based on recommendations of the concerned Coastal Zone Management Authority.

(iv) Projects or activities which attract the provisions of this notification as also the provisions of EIA notification, 2006 number S.O. 1533( E), dated the 14<sup>th</sup> September, 2006, shall be dealt with for a composite Environmental and CRZ clearance under EIA Notification, 2006 by the concerned approving Authority, based on recommendations of the concerned Coastal Zone Management Authority, as per delegations i.e., State Environmental Impact Assessment Authority (hereinafter referred to as the SEIAA) or the Ministry of Environment, Forest and Climate Change for category 'B' and category 'A' projects respectively.

*[5.S.O.5495(E) dated 26<sup>th</sup> November, 2021 – The sub-paragraph substituted]*

(v) In case of building or construction projects with built-up area less than the threshold limit stipulated for attracting the provisions of the EIA Notification, 2006 these shall be approved by the concerned local State or Union territory Planning Authorities in accordance with this notification, after obtaining recommendations of the concerned Coastal Zone Management Authority.

(vi) Only for self-dwelling units up to a total built up area of 300 square meters, approval shall be accorded by the concerned local Authority, without the requirement of recommendations of concerned Coastal Zone Management Authority and such authorities shall, however, examine the proposal from the perspective of the Coastal Regulation Zone notification before according approval.

## **8 Procedure for CRZ clearance for permissible and regulated activities:**

(i) The project proponents shall apply with the following documents to the concerned State or the Union territory Coastal Zone Management Authority for seeking prior clearance under this notification:-

(a) Project summary details as per Annexure-V to this notification.

(b) Rapid Environment Impact Assessment (EIA) Report including marine and terrestrial component, as applicable, except for building construction projects or housing schemes.

(c) Comprehensive EIA with cumulative studies for projects, (except for building construction projects or housing schemes with built-up area less than the threshold limit stipulated for attracting the provisions of the EIA Notification, 2006 number S.O1533(E), dated 14<sup>th</sup> September, 2006) if located in low and medium eroding stretches, as per the CZMP to this notification.

(d) Risk Assessment Report and Disaster Management Plan, except for building construction projects or housing schemes with built-up area less than the threshold limit stipulated for attracting the provisions of the EIA Notification, 2006 number S.O 1533(E), dated 14<sup>th</sup> September, 2006).

(e) [Coastal Regulation Zone map in 1:4000 scale, drawn up by the agencies identified by the Central Government using the demarcation of the HTL, LTL and ecologically sensitive areas as specified by National



Centre for Sustainable Coastal Management for the concerned coastal area.]<sup>6</sup>

(f) Project layout superimposed on the CRZ map duly indicating the project boundaries and the CRZ category of the project location as per the approved Coastal Zone Management Plan under this notification.

(g) The CRZ map normally covering 7kilometre radius around the project site also indicating the CRZ-I, II, III and IV areas including other notified ecologically sensitive areas.

(h) “Consent to establish” or No Objection Certificate from the concerned State Pollution Control Board or Union territory Pollution Control Committee for the projects involving treated discharge of industrial effluents and sewage, and incase prior consent of Pollution Control Board or Pollution Control Committee is not obtained, the same shall be ensured by the proponent before the start of the construction activity of the project, following the clearance under this notification.

(ii) The concerned Coastal Zone Management Authority shall examine the documents in clause(i) above, in accordance with the approved Coastal Zone Management Plan and in compliance with this notification and make recommendations within a period of sixty days from date of receipt of complete application as under: -

(a) [For the projects or activities also attracting the EIA Notification, 2006 number S.O. 1533(E), dated 14<sup>th</sup> September, 2006, the Coastal Zone Management Authority shall forward its recommendations to the Central Government or State Environment Impact Assessment Authority for Category —A|| and Category —B|| projects respectively, to enable a composite clearance under the Environment Impact Assessment Notification, 2006.

(b) Coastal Zone Management Authority shall forward its recommendations to the Central Government for the projects or activities not covered in the EIA notification, 2006, but attracting this notification and located in CRZ-I or CRZ-IV areas, except in respect of those projects or activities listed in sub- paragraph (ii) of paragraph 7 of this notification.

*[6.S.O.5495(E) dated 26<sup>th</sup> November, 2021 – The clause substituted]*

(c) Projects or activities not covered in the aforesaid EIA Notification, 2006, but attracting this notification and located in CRZ-II or CRZ-III areas or those projects or activities listed in sub-paragraph (ii) of paragraph 7 of this notification, shall be considered for clearance by the concerned Coastal Zone Management Authority within sixty days of the receipt of the complete proposal from the proponent.

Note: All construction activities related to projects of the Department of Atomic Energy or related to National Defence or Strategic or Security importance shall be dealt with by the Central Government for Coastal Regulation Zone clearance or composite clearance, as the case may be based on the recommendations of the concerned Coastal Zone Management Authority, except those located in CRZ-II or CRZ -III or listed in sub- paragraph (ii) of paragraph 7 and requiring only Coastal Zone clearance.]<sup>7</sup>

(d) In case of construction projects attracting this notification but with built-up area less than the threshold limit stipulated for attracting the provisions of the aforesaid EIA Notification 2006, Coastal Zone Management Authority shall forward their recommendations to the concerned State or Union territory planning authorities, to facilitate granting approval by such authorities.

(iii) The Ministry of Environment, Forest and Climate Change shall consider complete project proposals for clearance under this notification, based on the recommendations of the Coastal Zone Management Authority, within a period of sixty days.

(iv) In case the Coastal Zone Management Authorities are not in operation due to their reconstitution or any other reasons, then it shall be responsibility of the Department of Environment in the State Government or Union territory Administration, who are the custodian of the CZMP of respective States or Union territories, to provide comments and recommend the proposals in terms of the provisions of the said notification.

*[7.S.O.5495(E) dated 26<sup>th</sup> November, 2021 – The clause substituted]*

(v) The clearance accorded to the projects under this notification shall be valid for a period of seven years, provided that the construction activities are completed and the operations commence within seven years from the date of issue of such clearance.

The validity may be further extended for a maximum period of three years, provided an application is made to the concerned authority by the applicant within the validity period, along with recommendation for extension of validity of the clearance by the concerned State or Union territory Coastal Zone Management Authority.

(vi) **Post clearance monitoring:**

(a) It shall be mandatory for the project proponent to submit half-yearly compliance reports in respect of the stipulated terms and conditions of the environmental clearance in hard and soft copies to the regulatory authority(s) concerned, on the 1<sup>st</sup> June and 31<sup>st</sup> December of each calendar year and all such compliance reports submitted by the project proponent shall be published in public domain and its copies shall be given to any person on application to the concerned Coastal Zone Management Authority.

(b) The compliance report shall also be displayed on the website of the concerned regulatory authority.

(vii) To maintain transparency in the working of the Coastal Zone Management Authority, it shall be the responsibility of the Coastal Zone Management Authority to create a dedicated website and post the agenda, minutes, decisions taken, clearance letters, violations, action taken on the violations and court matters including the Orders of the Hon'ble Court as also the approved CZMP of the respective State Government or Union territory.

## **9 Enforcement of this notification:**

(i) For the purposes of implementation and enforcement of the provisions of this notification and compliance with conditions stipulated there under, the powers either original or delegated are available under

Environment (Protection) Act, 1986 (29 of 1986) with the Ministry of Environment, Forest and Climate Change, State Government or the Union territory Administration, National Coastal Zone Management Authority and the State or Union territory Coastal Zone Management Authority;

(ii) The composition, tenure and mandate of National Coastal Zone Management Authority and State Government or the Union territory Coastal Zone Management Authority have already been notified by the Ministry of Environment, Forest and Climate Change in terms of Orders of Hon'ble Supreme Court in Writ Petition 664 of 1993;

(iii) The State Government or the Union territory Coastal Zone Management Authority shall primarily be responsible for enforcing and monitoring of this notification and to assist in this task, the State Government and the Union territory shall constitute district level Committees under the Chairmanship of the District Magistrate concerned comprising at least three representatives of local traditional coastal communities including from fishermen, and the State Government may consider the enforcement of this notification to the level of respective District Magistrates.

(iv) The dwelling units of the traditional coastal communities including fishermen, tribals as were permissible under the provisions of the Coastal Regulation Zone notification, 2011 number S.O. 19(E), dated the 6<sup>th</sup> January, 2011, but which have not obtained formal approval from concerned authorities under the said Notification shall be considered by the respective Coastal Zone Management Authority and the dwelling units shall be regularised subject to the following condition, namely: -

(a) These are not used for any commercial activity;

(b) These are not sold or transferred to non-traditional coastal community.

## **10 Areas requiring special consideration:**

### **10.1 Critically Vulnerable Coastal Areas(CVCAs):**

(i) For all the CVCAs mentioned in sub-paragraph 3.1, Integrated Management Plans (IMPs) shall be prepared, which shall, inter alia, 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 and the IMPs will be prepared in line with the guidelines for preparation of Coastal Zone Management Plan.

(ii) Till such time the IMPs are approved and notified, construction of dispensaries, schools, public rain/cyclone shelters, community toilets, bridges, roads, jetties, water supply, drainage, sewerage which are required for traditional inhabitants shall be permitted on a case to case basis, by the Coastal Zone Management Authority with due regards to the views of coastal communities including fisher folk.

## **10.2 CRZ for inland backwater islands and islands along mainland coast:**

(i) All the inland islands in the coastal backwaters and islands along the mainland coast shall also be covered under this notification.

(ii) In view of the unique coastal systems of backwater islands and islands along the mainland coast, along with space limitations in such coastal stretches, CRZ of 20meters from the HTL on the landward side shall uniformly apply to such islands and activities shall be regulated as under:-

(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 jetty, fish drying yards, net mending yard, fishing processing by traditional methods, boat building yards, ice plant, boat repairs and the like, may be taken up in CRZ limits subject to due environmental safeguards.

(iii) [Integrated Island Management Plans (IIMPs), as applicable to smaller islands in Lakshadweep and Andaman & Nicobar by notification vide number S.O.1242 (E), dated the 8<sup>th</sup> March, 2019, shall be formulated by respective States or Union territory for all such islands and submitted to the Central Government and till the Integrated Island Management Plans are framed, provisions of this notification shall not apply and the Coastal Zone Management Plan as per provisions of CRZ Notification 2011 number S.O. 19(E), dated the 6<sup>th</sup> January, 2011, shall continue to apply.]<sup>8</sup>

*[8.S.O.5495(E) dated 26<sup>th</sup> November, 2021 – The clause substituted]*

### **10.3 CRZ areas falling within municipal limits of Greater Mumbai:**

- (i) In order to protect and preserve the ‘green lung’ of the Greater Mumbai area, all open spaces, parks, gardens, playgrounds indicated in development plans within CRZ-II shall be categorised as No Development Zone and a Floor Space Index up to 15% shall be allowed only for construction of civic amenities, stadium and gymnasium meant for recreational or sports related activities and the residential or commercial use of such open spaces shall not be permissible.
- (ii) Construction of sewage treatment plants in CRZ-I area for the purpose of treating the sewage from the municipal area shall be taken only by the municipal authorities in exceptional circumstances, where no alternate site is available to set up such facilities, subject to recommendations of the Coastal Zone Management Authority and approval by the Central Government and in case the construction of such plant is inevitable in a mangrove area, a minimum three times the mangrove area affected or destroyed or cut during the construction process shall be taken up for compensatory plantation of mangroves.

**[10.4. Removal of sand bars in Coastal Regulation Zone:-** The sand bars in the intertidal areas shall be removed by the traditional coastal communities only through a non-mechanised manual method. The State Governments and Union territory Administration may permit such removal of sand in the specified time period in a particular area along with a specific quantity subject to conditions such as registration of local community persons permitted to remove the sand manually and shall be renewed on yearly basis.]<sup>9</sup>

[9. S.O. 5495 (E) dated 24<sup>th</sup> November, 2022, sub-paragraph inserted]

## **ANNEXURE-I**

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### **CONSERVATION, PROTECTION AND MANAGEMENT FRAMEWORK FOR ECOLOGICALLY SENSITIVE AREAS**

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The coastal and marine Ecologically Sensitive Areas (ESAs) and the geomorphological features play a vital role in maintaining the functions of the coast. Mangroves, beaches, coral reefs, etc., aid in controlling coastal erosion, shoreline change, saltwater intrusion and also serve as natural defence against coastal hazards such as storm surges, cyclones and tsunamis. The ESAs maintain the biological integrity of the coast by providing direct and indirect ecosystem services to the coastal livelihood. In addition, several invaluable archaeological and heritage sites are also located along the coast. Hence conservation and protection of the above areas, features and sites become necessary.

#### **1. General measures**

- (i) All ESAs shall be identified and boundary delineated by NCSCM using satellite data.
- (ii) The State Governments or Union territory Administrations through the authorised agencies shall prepare CZMP as per the guidelines contained in this notification highlighting the conservation and protection of the ESAs.
- (iii) Those activities permissible under this notification shall be included in the CZMP.

Specific conditions shall be adopted for the conservation, protection and management of each of the ESAs as under: -

#### **1.1 Mangroves:**

- (i) Mangroves declared as forest under the Forest (Conservation) Act, 1980 (69 of 1980).

Notwithstanding anything contained in this notification, such mangroves declared by the concerned State Governments or Union territory Administrations or Central Government as forest land under the Forest (Conservation) Act, 1980 (69 of 1980) shall attract the provisions of the said Act.

- (ii) Mangroves not declared under Forest (Conservation) Act, 1980:

- (a) Mangroves in Government land shall be protected based on a detailed plan to be prepared by the concerned State Governments or Union



territory administrations, and in case the mangrove area is more than 1000 square meters, a buffer of 50 metre along the periphery of mangrove area shall be provided. This buffer zone of 50 metre may be utilised for public facilities for developing parks, research facilities related to mangrove biodiversity, facilities for conservation and the like.

(b) Mangroves in private land will not require a buffer zone.

## **1.2 Corals and coral reefs and associated biodiversity:**

(i) Destruction of coral and coral reefs and the surroundings is a prohibited activity.

(ii) All coral and coral reefs shall be protected except for those small quantities required for research purposes.

(iii) Coral and coral reefs transplantation activities shall be through recognised research institutions wherever required for regeneration after obtaining necessary approvals under Wildlife (Protection) Act 1972 (53 of 1972).

(iv) The dead or destroyed or both coral areas shall be taken up for rejuvenation and rehabilitation. The conservation and protection of corals and coral reefs shall be taken up as follows:-

(a) active and live coral and coral reefs identified and delineated shall be declared and notified as ESA under Environment (Protection) Act 1986 (29 of 1986);

(b) it shall be ensured that no activities that are detrimental to the health of corals, coral reefs and its associated biodiversity, such as mining, effluent and sewage discharge, dredging, ballast water discharge, ship washings, fishing other than traditional non-destructive fisheries, construction activities and the like are taken up in and around the coral areas.

**1.3 The National Parks, marine parks, Sanctuaries, reserve forests, wildlife habitats and other protected areas declared under the provisions of Wild Life (Protection) Act, 1972 (53 of 1972), the Forest (Conservation) Act 1980 (69 of 1980) or Environment (Protection) Act 1986 (29 of 1986); including Biosphere Reserves shall be conserved and protected as follows:-**

- (i) Conservation and protection of the above mentioned areas shall be as per the provisions of the respective Acts, notifications or guidelines as the case may be.
- (ii) Efforts shall be made to increase the forest area in the coastal region in order to prevent loss of life and property from increased storms, tides and floods.
- (iii) The concerned State Governments or Union territory administrations shall provide for adequate funds for such measures to undertake shelter belt plantation or bio-shields with planting material suitable to the location.

#### **1.4 Salt marshes:**

The conservation and protection of salt marshes shall be as follows:-

- (i) The salt marsh areas shall be conserved and protected and efforts shall be made to promote the endemic biodiversity in the salt marshes.
- (ii) Only those activities required for overhead conveying or transmission of cables and underground laying of transmission line cables and so on, shall be permissible.
- (iii) Traditional fishing shall be permissible in salt marshes.
- (iv) Temporary tourism facilities around the salt marsh areas may be considered subject to adhering to norms laid down in the guidelines.
- (v) Certain salt marshes which have less biodiversity, identified by NCSCM and demarcated in Coastal Zone Management Plan can be considered for salt pan activities.

#### **1.5 Turtle nesting grounds shall be protected and conserved as follows:-**

- (i) Turtle nesting grounds identified by the concerned State Governments or Union territory administrations shall be protected as per Wildlife (Protection) Act of 1972.
- (ii) No activities shall be permitted in and around the turtle nesting ground including those causing light and sound pollution except for those required for conservation and protection of these sites.
- (iii) Strict management plans for protecting the turtle nesting grounds shall be undertaken and implemented by the concerned State or Union territory Authorities.

#### **1.6 Horse shoe crabs habitats shall be protected and conserved as follows:-**

- (i) The habitat identified shall be taken up for conservation and

protection.

(ii) No activities shall be taken up in and around these habitats which affect the horse shoe crab ecosystem.

**1.7 Sea grass beds shall be protected and conserved as follows:-**

(i) Identified sea grass beds shall be conserved and protected.

(ii) No developmental activities that have adverse effect on the sea grass bed shall be undertaken.

(iii) Efforts shall be made to propagate sea grass beds along the coastal waters where ever possible by States or Union territories as it acts as a carbon sink.

**1.8 Nesting grounds of birds shall be protected and conserved as follows:-**

(i) The nesting ground of birds including their local migratory route shall be protected. No developmental activities which have adverse impact on the nesting grounds and the migratory routes shall be undertaken including construction of wind mills, transmission lines and the like in the locality.

(ii) Efforts shall be made to increase the forest cover and mangrove cover including enriching the biodiversity of salt marsh and other coastal water bodies so as to provide for suitable habitat for the avifauna.

**1.9 Geo-morphologically Important Zones shall be protected and managed as follows:**

(i) **Sand dunes** identified shall be conserved and protected as follows:

(a) Sand dunes identified shall be notified under Environment (Protection) Act 1986;

(b) no developmental activities shall be permissible except for providing eco-friendly temporary tourism facilities on stilts such as walkways, tents and the like;

(c) mining of sand from sand dunes shall be prohibited activity except for the removal of atomic minerals with proper replenishment using the tailings or other suitable sand;

(d) no activities on the sand dunes shall be taken up that would lead to erosion/destruction of sand dunes;

(e) afforestation, if any, on the sand dunes shall be done only with native flora;

(f) the States or Union territory shall prepare management plans for

the demarcated sand dunes.

(iii) **Sandy beaches:**

(a) Mining of beach sand is prohibited except for manual mining of atomic minerals with proper replenishment using the tailings or other suitable sand.

(b) When the permissible developmental activities are taken up on the beaches if loss of beach in the neighbourhood is predicted, necessary beach nourishment to compensate for the losses shall be undertaken by the project authorities and its long term maintenance shall be ensured by them.

(c) The States or Union Territory shall prepare management plans for the demarcated beaches.

(iv) **Biologically active mudflats:**

(a) Biologically active mudflats shall be identified by NCSCM in association with State Governments or Union territory administrations.

(b) The States or Union territories shall prepare management plans for such demarcated biologically active mudflats.

**1.10 Areas or structures of archaeological importance and heritage value sites:**

(i) State Archaeological agencies shall be responsible for conservation and protection of all archaeological structures and heritage sites identified by the Archaeological Survey of India, as per the provisions of the respective Acts, notifications or guidelines.

(ii) No activities that are detrimental to the identified areas or structures of archaeological and heritage value shall be permitted.

(iii) It shall be ensured that these structures or areas are preserved and activities undertaken without changing the façade/plinth of such structures. Such structures could be considered for use in accordance with the relevant norms after undertaking careful designing of the interiors without changing the exterior architectural design of the structure.

**ANNEXURE-II****LIST OF PETROLEUM AND CHEMICAL PRODUCTS PERMITTED FOR  
STORAGE IN CRZ, EXCEPT CRZ-I A**

- (i) **Crude oil;**
- (ii) **Liquefied Petroleum Gas;**
- (iii) **Motor spirit;**
- (iv) **Kerosene;**
- (v) **Aviation fuel;**
- (vi) **High speed diesel;**
- (vii) **Lubricating oil;**
- (viii) **Butane;**
- (ix) **Propane;**
- (x) **Compressed Natural Gas;**
- (xi) **Naphtha;**
- (xii) **Furnace oil;**
- (xiii) **Low Sulphur Heavy Stock;**
- (xiv) **Liquefied Natural Gas;**
- (xv) **Fertilizers and raw materials for manufacture of fertilizers;**
- (xvi) **Acetic acid;**
- (xvii) **Monoethyleneglycol;**
- (xviii) **Paraxylene;**
- (xix) **Ethane;**
- (xx) **Butadine;**
- (xxi) **Methanol;**
- (xxii) **Caustic;**
- (xxiii) **Bitumen.**

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### **ANNEXURE-III**

#### **GUIDELINES FOR DEVELOPMENT OF BEACH RESORTS, HOTELS AND TOURISM DEVELOPMENT PROJECTS IN THE DESIGNATED CRZ AREAS**

##### **1. CRZ-II**

Construction of beach resorts or hotels in designated areas of CRZ-II for occupation of tourist or visitors shall be subject to the following conditions, namely: -

- (i) construction shall be permitted only to the landward side of an existing road or existing authorized fixed structures;
- (ii) live fencing and barbed wire fencing with vegetative cover may be allowed around private properties subject to the condition that such fencing shall in no way hamper public access to the beach;
- (iii) no flattening of sand dunes shall be carried out;
- (iv) no permanent structures for sports facilities shall be permitted except construction of goal posts, net posts and lamp posts;
- (v) construction of basement may be allowed subject to the condition that no objection certification is obtained from the State Ground Water Authority to the effect that such construction will not adversely affect the flow of groundwater in that area;
- (vi) the State Ground Water Authority shall take into consideration the guidelines issued by the Central Government before granting such no objection certificate;
- (vii) the quality of treated effluents, solid wastes, emissions and noise levels and the like, from the project area must conform to the standards laid down by the competent authorities including the Central or State Pollution Control Board and under the Environment (Protection) Act, 1986 (29 of 1986);
- (viii) necessary arrangements for the treatment of the effluents and solid wastes must be made and it must be ensured that the untreated effluents and solid wastes are not discharged into the water or on the beach; and no effluent or solid waste shall be discharged on the beach;
- (ix) if the project involves diversion of forest land for non-forest purposes,

clearance as required under the Forest (Conservation) Act, 1980 (69 of 1980) shall be obtained and the requirements of other Central and State laws as applicable to the project shall be met with and approval of the State or Union territory Tourism Department shall be obtained.

## **2. CRZ-III**

Construction of beach resorts and hotels in designated areas of CRZ- III for occupation of tourists or visitors shall be subject to the following conditions, namely: -

- (i) live fencing and barbed wire fencing with vegetative cover may be allowed around private properties subject to the condition that such fencing shall in no way hamper public access to the beach;
- (ii) no flattening of sand dunes shall be carried out;
- (iii) no permanent structures for sports facilities shall be permitted except construction of goal posts, net posts and lamp posts;
- (iv) construction of basement may be allowed subject to the condition that no objection certification is obtained from the State Ground Water Authority to the effect that such construction will not adversely affect flow of groundwater in that area;
- (v) the State Ground Water Authority shall take into consideration the guidelines issued by the Central Government before granting such no objection certificate;
- (vi) though no construction is allowed in the no development zone for the purposes of calculation of Floor Space Index, the area of entire plot including the portion which falls within the no development zone shall be taken into account;
- (vii) the total covered area on all floors shall not exceed 33 per cent of the plot size i.e., the Floor Space Index shall not exceed 0.33 and the open area shall be suitably landscaped with appropriate vegetal cover;
- (viii) the construction shall be consistent with the surrounding landscape and local architectural style;
- (ix) the overall height of construction up to the highest ridge of the roof, shall not exceed 9 metres and the construction shall not be more than two floors (ground floor plus one upper floor);
- (x) groundwater shall not be tapped within 200 metre of the High Tide Line; and within the 200 to 500metre zone it can be tapped only with the

concurrence of the Central or State Ground Water Board;

(xi) extraction of sand, leveling or digging of sandy stretches, except for structural foundation of building or swimming pool, shall not be permitted within 500 metres of the High Tide Line;

(xii) the quality of treated effluents, solid wastes, emissions and noise levels and the like, from the project area must conform to the standards laid down by the competent authorities including the Central or State Pollution Control Board and under the Environment (Protection) Act, 1986 (29 of 1986);

(xiii) necessary arrangements for the treatment of the effluents and solid wastes must be made and it must be ensured that the untreated effluents and solid wastes are not discharged into the water or on the beach; and no effluent or solid waste shall be discharged on the beach;

(xiv) to allow public access to the beach, at least a gap of 20 metres width shall be provided between any two hotels or beach resorts; and in no case shall gaps be less than 500 metres apart; and

(xv) If the project involves diversion of forestland for non-forest purposes, clearance as required under the Forest (Conservation) Act, 1980 (69 of 1980) shall be obtained and the requirements of other Central and State laws as applicable to the project shall be met with; and approval of the State or Union territory Tourism Department shall be obtained.

**Note:** Construction of beach resorts or hotels shall not be permitted in Ecologically sensitive areas (such as marine parks, mangroves, coral reefs, breeding and spawning grounds of fish, wildlife habitats and such other area as may be notified by the Central Government or State Government or Union territory administrations).



## **ANNEXURE-IV**

### **GUIDELINES FOR PREPARATION OF COASTAL ZONE MANAGEMENT PLANS**

#### **1. Demarcation of High Tide Line and Low Tide Line:**

Demarcation of High Tide Line (HTL) and Low Tide Line (LTL) as carried out by NCSCM for the entire coastline of the country, has been made available to the Coastal States or Union territories and only such demarcation of HTL and LTL shall be applicable for all purposes of this notification.

#### **2. Hazard Line:**

A 'Hazard line' has been demarcated by the Survey of India (SOI) taking into account the extent of the flooding on the land area due to water level fluctuations, sea level rise and shoreline changes (erosion or accretion) occurring over a period of time. The hazard line mapped by SOI has been shared with the coastal States or Union territories through NCSCM. The hazard line shall be used as a tool for disaster management plan for the coastal environment, including planning of adaptive and mitigation measures. With a view to reduce the vulnerability of the coastal communities and ensuring sustainable livelihood, while drawing the CZMP, the land use planning for the area between the Hazard line and HTL shall take into account such impacts of climate change and shoreline changes.

#### **3. Preparation of CZM Maps:**

(i) Base Maps of 1:25,000 scale shall be acquired from the Survey of India (SOI) and wherever 1: 25,000 maps are not available, 1: 50,000 maps shall be enlarged to 1: 25,000 for the purpose of base map preparation and these maps will be of the standard specification given below:-

**Unit:** 7.5minutesX7.5minutes

**Numbering:** Survey of India Sheet Numbering System

**Horizontal Datum:** Everest or WGS 84

**Vertical Datum:** Mean Sea Level(MSL)

**Topography:** Topography in the SOI maps will be updated using latest satellite imageries or aerial photographs

(ii) Coastal Zone Management (CZM) Maps of scale 1:25,000 shall be got prepared by any of the agencies identified by the Ministry of Environment, Forest and Climate Change vide its Office Order number J-17011/8/92-IA- III dated the 14<sup>th</sup> March, 2014 using the demarcation

of the High Tide Line or LTL, as carried out by NCSCM.

(iii) Various regulatory lines viz. at a distance of 20 metres, 50 metres, 200 metres and 500 metres from HTL respectively, as applicable in various CRZ categories, and the Hazard line shall be demarcated and transferred to the CZM maps.

(iv) HTL, LTL and CRZ boundaries, as applicable, shall also be demarcated in the CZM maps along the banks of tidal influenced inland water bodies.

(v) Classification of different coastal zones shall be done as per the CRZ notification and Standard national or international colour codes shall be used.

#### **4. Local level CZM Maps:**

(i) Local level CZM Maps are for the use of local bodies and other agencies to facilitate implementation of the Coastal Zone Management Plans.

(ii) Cadastral (village) maps in 1:3960 or the nearest scale, as available with revenue authorities shall be used as the base maps.

(iii) HTL, LTL, other CRZ regulatory lines and the Hazard line shall be demarcated in the cadastral maps and classifications shall be transferred into local level CZM maps.

#### **5. Classification of CRZ areas:**

(i) The CZM Maps shall clearly demarcate the land use plan of the area and map out the Ecologically Sensitive Areas (ESAs) or the CRZ-IA areas as per mapping made available by NCSCM to coastal State or Union territories. All such ESAs shall be appropriately demarcated with colour codes.

(ii) Buffer zone along mangrove areas of more than 1000 square metres shall be stipulated with a different colour distinguishing from the mangrove area. The buffer zone shall also be classified as CRZ-I area.

(iii) In the CRZ areas, the fishing villages, common properties of the fishermen communities, fishing jetties, ice plants, fish drying platforms or areas infrastructure facilities of fishing and local communities such as dispensaries, roads, schools, and the like, shall be indicated on the cadastral scale maps. States and Union territories shall prepare detailed plans for long term housing needs of coastal fisher communities in view of

expansion and other needs, provisions of basic services including sanitation, safety, and disaster preparedness.

(iv) The water areas of CRZ-IV shall be demarcated and clearly demarcated if the water body is sea, lagoon, backwater, creek, bay, and estuary and for such classification of the water bodies the terminology used by Naval Hydrographic Office shall be relied upon.

(v) The fishing Zones in the water bodies and the fish breeding areas shall be clearly marked.

(vi) In CVCAs, the land use maps shall be superimposed on the Coastal Zone Management Plan clearly demarcating the CRZ-I, II, III, IV.

(vii) The existing authorized developments on the seaward side shall be clearly demarcated.

(viii) The features like cyclone shelters, rain shelters, helipads and other infrastructure including road network may be clearly indicated on the CZM Maps for the purpose of rescue and relief operations during cyclones, storms, tsunami and the like.

(ix) Construction of buildings or other activities shall be permitted under the CZMP provided adequate arrangements are made for proper management and disposal of solid and liquid wastes in accordance with the environmental standards, rules and statutes, and under no circumstances, untreated effluents shall be disposed off in the coastal waters.

#### **6. Public consultations on CZMP:**

(i) The draft CZMP prepared shall be given wide publicity and suggestions and objections received in accordance with the Environment (Protection) Act, 1986. Public hearing on the draft CZMP shall be held at district level by the concerned CZMA.

(ii) Based on the suggestions and objections received the CZMPs shall be revised and approval of Ministry of Environment, Forest and Climate Change shall be obtained.

(iii) The approved CZMP shall be put up on the website of Ministry of Environment, Forest and Climate Change, concerned website of the State or Union Territory Coastal Zone Management Authority and hard copy made available in the Panchayat Office and District Collector Office.

#### **7. Revision of Coastal Zone Management Plans:**

(i) Whenever there is a doubt, the concerned State or Union territory

**Coastal Zone Management Authority shall refer the matter to the National Centre for Sustainable Coastal Management who shall verify the CZMP based on latest satellite imagery and ground truthing.**

**(ii) If required, the rectified map shall be submitted to Ministry of Environment, Forest and Climate Change for consideration.**

**\*\*\*\*\***

## **ANNEXURE-V**

### **PROJECT INFORMATION DETAILS**

#### **1. PROJECT DETAILS**

- A. Project Name**
- B. Survey No./Village/Co-ordinates**
- C. District**
- D. State**
- E. Whether the proposal is for(Select relevant field)**
  - (i) Fresh Clearance under CRZ**
  - (ii) Amendment to an already issued CRZ clearance**
  - (iii) Extension of validity of an already issued CRZ clearance**
- F. Name of the Applicant**
- G. Address of the Applicant**
- H. Contact details(Telephone nos. and e-mail address)**
- I. Cost of the project(Rs in crores)**

#### **2. BENEFITS OF THE PROJECT**

- A. Details of Project Benefits**
- B. Employment Likely to be Generated(Yes/No)**

**If Yes,**

- (i) Total Manpower Requirement**
- (ii) Permanent Employment(Numbers)**
- (iii) Temporary Employment(Numbers)**
- (iv) Temporary Employment-During Construction(Numbers)**
- (v) Temporary Employment-During Operation(Numbers)**

#### **3. DESCRIPTION OF THE PROJECT UNDER CONSIDERATION**

**(Select the Category of the project):**

- A. Resort/Buildings/civic amenities**
  - (i) Total area/Built-up area(in sqm.)**
  - (ii) Height of structure**
  - (iii) FSI ratio**
  - (iv) Name of concerned town planning authority/Panchayat etc.**
  - (v) Details of provision of car parking area**
- B. Coastal Roads/Roads on Stilt**

- (i) **Area of land reclamation**
- (ii) **Estimated quantity of muck/earth for reclamation**
- (iii) **Traffic carrying capacity**
- (iv) **Dimensions of road**
- C. Pipelines from thermal power blow down**
- (i) **Length of pipeline**
- (ii) **Length traversing CRZ area**
- (iii) **Depth of excavation**
- (iv) **Width of excavation**
- (v) **Length of pipeline from seashore to deep sea**
- (vi) **Depth of outfall point from surface of sea water (vii)Temperature of effluent above ambient at disposal point**
- D. Marine Disposal of Treated Effluent through pipelines**
- (i) **Location of intake/ outfall**
- (ii) **Depth of outfall point**
- (iii) **Length of pipeline**
- (iv) **Length traversing CRZ area**
- (v) **Depth of excavation**
- (vi) **Width of excavation**
- (vii) **Length of pipeline from shore to deep sea/creek**
- (viii) **Depth of outfall point from surface of water**
- (ix) **Depth of water at disposal point**
- (x) **BOD, COD, TSS, oil and grease, heavy metals in the effluent**
- E. Facility for storage of goods/chemicals**
- (i) **Name of chemical**
- (ii) **End use of the chemical**
- (iii) **No. of tanks for storage**
- (iv) **Capacity of tanks**
- F. Offshore structures**
- (i) **Exploration or development**
- (ii) **Depth of seabed**
- (iii) **No. of rigs**
- (iv) **No. of platform**

- (v) Details of group gathering stations

**G. Desalination Plant**

- (i) Capacity of desalination
- (ii) Total brine generation
- (iii) Temperature of effluent above ambient at disposal point
- (iv) Ambient salinity
- (v) Disposal point

**H. Mining of atomic minerals**

- (i) Capacity of mining
- (ii) Type of mineral to be extracted
- (iii) End use of the mineral
- (iv) Government order for mining lease/exploration and approved mining plan details
- (v) Extent of mining lease area

**I. 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) Whether discharge is in seawater/creek? If yes
  - Distance of marine outfall point from shore/from the tidal river bank
  - Depth of outfall point from seawater/river water surface
  - Depth of seabed/riverbed at outfall point

**J. Lighthouse**

- (i) Total ground area of foundation/platform
- (ii) Height of the structure

**K. Wind Mills**

- (i) Capacity(MW)
- (ii) Height of the windmill
- (iii) Diameter of the windmill
- (iv) Length of blade
- (v) Speed of rotation
- (vi) Transmission lines(overhead or underground)

**L. Others**

- (i) Please specify with salient features
- (ii) Upload relevant Documents(upload PDF only)

**4. PROJECT LOCATION AS PER CRZ CLASSIFICATION** (If project site falls in different/multiple CRZ categories the same may also be elaborated)

**5. CLAUSE OF CRZ NOTIFICATION UNDER WHICH PROJECT IS A PERMISSIBLE/REGULATED ACTIVITY**

**6. MANDATORY FIELDS FOR PROJECT ASSESSMENT**

**A. CRZ map in 1:4000 scale indicating HTL, LTL demarcation and distance of the nearest project boundary (in meters) from HTL to be stated**

- (i) Upload Map(kml file)

**B. Project layout superimposed on CRZ Map 1:4000 scale with classification of project location including other notified ESAs prepared**

- (i) Upload Map(kml file)

**C. CRZ map 1:25000 scale covering 7km radius around Project site**

- (i) Upload Map(kml file)

**7. PROJECT LOCATED IN (Select Type)**

- (i) Non eroding Coast
- (ii) Low and Medium eroding coast
- (iii) High eroding Coast

**8. DETAILS OF FOREST/MANGROVES LAND INVOLVED (YES/NO) IF YES**

- (i) Detail of area diverted
- (ii) Forest clearance to be submitted(Upload document)
- (iii) No. of trees to be cut under the project
- (iv) Compensatory afforestation plan to be submitted (Upload document)

**9. DISTANCE OF PROPOSED PROJECT FROM ESA/MARINE PARK/WILDLIFE SANCTUARY**

- (i) Within 10 kilometre radius from the project site(Yes/No) If YES
  - Permission from NBWL to be submitted(Upload document)

**10. NOC OR CONSENT TO ESTABLISH FROM STATE/UT POLLUTION CONTROL BOARDS OBTAINED (YES/NO)**

**If YES**



- (i) Copy of NOC to be provided(Upload document)
- (ii) Conditions imposed to be stated(Upload document)
- 11. Environment Impact Assessment (EIA) studies (relevant fields to be filled)**
  - A. Terrestrial studies:**
    - (i) Summary details of EIA(Terrestrial) Studies
    - (ii) Upload Recommendation made in EIAs(Upload document)
    - (iii) State period of Study
  - B. Marine Studies**
    - (i) Summary details of EIA(Marine) Studies
    - (ii) Upload Recommendation made in EIAs(Upload document)
    - (iii) State period of Study
- 12. DISASTER MANAGEMENT PLAN/NATIONAL OIL SPILL DISASTER CONTINGENCY PLAN (if applicable)**
- 13. PROJECT INVOLVING DISCHARGE OF LIQUID EFFLUENTS:**
  - (i) Capacity of Sewage Treatment Plant
  - (ii) Quantity of effluent generated
  - (iii) Quantity of effluent treated
  - (iv) Method of treatment and disposal
- 14. PROJECT INVOLVING DISCHARGE OF SOLID WASTE:**
  - (i) Type of solid waste
  - (ii) Quantity of solid waste generated
  - (iii) Method of disposal
  - (iv) Mode of transport
- 15. WATER REQUIREMENT in kilolitres per day(KLD)**
  - (i) Quantity of water required
  - (ii) Source of water
  - (iii) If Groundwater(Upload a copy of approval from Central Ground Water Authority or other authorised body)
  - (iv) If other Source(Upload a copy of permission from competent authority)
  - (v) Mode of transport
  - (vi) Commitment of water supply(Upload document)
- 16. DETAILS OF WATER TREATMENT AND RECYCLING (If any) (Multiple Entries Allowed)**

**Type/Source Quantity of Wastewater Generated (Kilos Litre per Day) Treatment Capacity (Kilos Litre per Day)**

**Treatment Method Mode of Disposal**

**Quantity of Discharged Water (Kilos Litre per Day)**

**Quantity of Treatment Water used in Recycling/Reuse (Kilos Litre per Day)**

**17. DETAILS OF RAINWATER HARVESTING**

- (i) No. of Storage tanks
- (ii) Total capacity of tanks
- (iii) No. of Recharge Pits
- (iv) Capacity of pits

**18. ENERGY REQUIREMENT AND SOURCES**

- (i) Total Power Requirements(kwh)
- (ii) Source
- (iii) Upload Copy of Agreement(upload pdf only)
- (iv) Standby Arrangement(Details)

**19. ENERGY EFFICIENCY/SAVING MEASURES**

- (i) Source/Mode
- (ii) Details of savings

**20. RECOMMENDATION OF STATE COASTAL ZONE MANAGEMENT AUTHORITY**

- (i) Upload Copy of CZMA recommendations(Upload pdf only)
- (ii) Compliance status of the Conditions Imposed

**21. WHETHER PROPOSAL ATTRACTS EIA NOTIFICATION, 2006.(Yes/No) If YES,**

- (i) The category thereof
- (ii) Status of proposal for EC(as applicable)

**22. SOCIAL AND ENVIRONMENTAL ISSUES AND MITIGATIONS**

**MEASURES SUGGESTED INCLUDING BUT NOT LIMITED TO R&R, WATER, AIR, HAZARDOUS W ASTES, ECOLOGICAL ASPECTS, ETC. (Brief Details to be Provided)**

**23. DETAILS OF COURT CASES Whether there is any Court Cases pending against the project and/or land in which the project is proposed to be set up? (Yes/No)**

**If Yes, Pending or Disposed (Select relevant)**

- (i) Name of the Court (Supreme Court, High Court, National Green Tribunal)
- (ii) Case No.
- (iii) Case Details
- (iv) Orders/Directions of the court, if any and its relevance with the proposed project (Upload document)

**24. ADDITIONAL INFORMATION, If any**

**UNDERTAKING:** 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, 2011 has been concealed therefore.

**Name and Signature of the applicant:**

**Date:**

\*\*\*\*\*

# OFFICE MEMORANDUM/ CIRCULAR/ORDER

(Upto 16.10.2024)



- Guidelines for Updation of Coastal Zone Management Plan (CZMP) prepared as per CRZ Notification, 2011 to align it with CRZ Notification, 2019 [F.No. 12-1/2019-IA. III dated 26<sup>th</sup> June 2019]
- Institutes/Agencies for preparation/updation of Coastal Zone Management Plans (CZMPs)/Island Coastal Regulation Zone (ICRZ) plans / Integrated Island Management Plans (IIMPs) in line with CRZ/ICRZ Notifications, 2019 [No. J-17011/8/92-IA.III dated 8<sup>th</sup> August, 2019]
- Amendment in guidelines for Updation of Coastal Zone Management Plan (CZMP) prepared as per CRZ Notification, 2011 to align it with CRZ Notification, 2019 [F.No. 12-1/2019-IA. III (E-122245) dated 26<sup>th</sup> October, 2021]
- Deployment of Artificial Reef Modules made of concrete in the Sea [F.No. 19-84/2020-IA.III dated 27<sup>th</sup> July, 2022]
- Issues related to preparation of Coastal Zone Management Plan of Kerala as per the CRZ Notification, 2019 [F.No. IA3-12/7/2021-IA.III (153017) dated 7<sup>th</sup> September, 2022]
- Original Application Number 04 of 2013 with Appeal Number 18 of 2017 titled as C.H. Balamohan Versus Union of India and Ors. in the Special Bench, National Green Tribunal, Southern Zone, Chennai [F.No. 3-65-2017-IA. III dated 8<sup>th</sup> September, 2022]
- Procedure for Clearance of Permissible Activities as per the CRZ Notification, 2019 / ICRZ Notification, 2019 [F.No. IA3-12/1/2022-IA.III dated 29<sup>th</sup> November, 2022]
- Clarification regarding the definition of the word “existing” mentioned in para 5.2 (ii) of CRZ Notification, 2019 [F.No. 19-27/2015-IA. III (E-871) dated 18<sup>th</sup> September, 2024]
- CZMPs of all 10 Coastal districts of Kerala i.e. Kasaragod, Kannur, Kozhikode, Malapuram, Thrissur, Ernakulam, Kottayam, Alappuzha, Kollam and Thiruvananthapuram as per CRZ Notification, 2019 [F.No. IA3-12/7/2021-IA.III (E-153017) dated 16<sup>th</sup> October, 2024]

**F.No.12-1/2019-IA.III**  
**Government of India**  
**Ministry of Environment, Forest and Climate Change**  
**(IA.III Section)**

Indira Paryavaran Bhawan  
JorBagh Road, New Delhi-3  
Dated: 26<sup>th</sup> June, 2019

**OFFICE MEMORANDUM**

**Sub: Guidelines for Updation of Coastal Zone Management Plan (CZMP) prepared as per CRZ Notification, 2011 to align it with CRZ Notification, 2019 – reg.**

The CRZ Notification, 2011 has been superseded by the CRZ Notification issued vide Notification No. G.S.R. 37(E), dated the 18<sup>th</sup> January, 2019 (herein referred to as the CRZ Notification, 2019). In accordance with para 6 of the CRZ Notification, 2019, the coastal State Governments and Union territory Administrations are required to revise or update the Coastal Zone Management Plans (CZMPs) of their respective state or UT, as per the provisions contained in the CRZ Notification, 2019. In this regard, I am directed to enclose herewith the guidelines for facilitating the state government/UT administrations in updation of the CZMPs.

2. This issues with the approval of Competent authority.

(Dr. Saranya P)  
Deputy Director (CRZ)

To,

- i. The Secretary (Environment & Forests) of Coastal States (Gujarat, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, West Bengal, Odisha) & Administrators of Puducherry & Daman & Diu
- ii. The Member Secretary of Coastal States (Gujarat, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, West Bengal, Odisha) & Administrators of Puducherry & Daman & Diu
- iii. The Director, National Centre for Sustainable Coastal Management (NCSCM), Chennai
- iv. The Director, Space Application Centre, Ahmedabad
- v. The Director, Centre for Earth Science Studies, Thiruvananthapuram
- vi. The Director, Institute for Remote Sensing, Anna University, Chennai
- vii. The Director, Institute for Wetland Management and Ecological Designs, Kolkata
- viii. The Director, National Institute of Oceanography (NIO), Panjim, Goa
- ix. The Director, National Institute of Ocean Technology (NIOT), Chennai
- x. The Director, Naval Hydrographer's Office, Dehradun

**GUIDELINES FOR UPDATION OF COASTAL ZONE MANAGEMENT PLAN (CZMP)  
PREPARED AS PER CRZ NOTIFICATION, 2011 TO ALIGN IT WITH CRZ NOTIFICATION,  
2019**

## **1. BACKGROUND**

The Government of India had declared certain coastal stretches of the country as Coastal Regulation Zone (CRZ) vide Notification No. S.O.19 (E), dated the 6<sup>th</sup> January, 2011 (referred to as the CRZ Notification, 2011). As per para 5 of the aforesaid CRZ Notification, the coastal State Governments and Union territory (UT) administrations were entrusted with the preparation of Coastal Zone Management Plans (CZMPs) for their respective states/ Uts through the agencies authorized by the Ministry of Environment, Forest and Climate Change (MoEFCC). The CZMPs thus prepared have been approved by the Central Government in the Ministry of Environment, Forest and Climate Change and are currently followed for appraisal and subsequent approvals of developmental projects attracting the provisions of CRZ.

The CRZ Notification, 2011, has been superseded by the CRZ Notification issued vide Notification No. G.S.R. 37(E), dated the 18<sup>th</sup> January, 2019 (herein referred to as the CRZ Notification, 2019). In accordance with para 6 of the CRZ Notification, 2019, the coastal State Governments and Union territory Administrations are entrusted with revision or updation of Coastal Zone Management Plans (CZMPs) of their respective state or UT, as per the provisions contained in the CRZ Notification, 2019. The guidelines given hereunder have therefore been issued for facilitating the state government/UT administrations in updation of the CZMPs.

## **2. GENERAL GUIDELINES**

- a) All coastal States and Union territory administrations shall update their respective CZMPs (which was prepared based on the CRZ Notification 2011), as per the provisions contained in the CRZ Notification, 2019, and after its updation and finalization following due procedures shall submit to the MoEFCC for its final approval at the earliest.
- b) The CZMP shall be updated or revised by any of the authorised agencies identified by the MoEFCC, using the demarcation of the High Tide Line, LTL, ESA, CVCA as carried out by NCSCM, Chennai and Hazard line as demarcated by the Survey of India.

c) The coastal states and union territories shall prepare draft CZMP on 1:25,000 scale identifying and classifying the CRZ areas within their respective territories in accordance with the guidelines given in Annexure-IV to the CRZ notification issued vide Notification No. G.S.R. 37(E), dated the 18<sup>th</sup> January, 2019 and these guidelines.

### **3. STEPS FOR PREPARATION OF CZMP**

#### **a) Base data: HTL, LTL, ESAs, Hazard line, CVCA & CZMP**

High Tide Line (HTL), Low Tide Line (LTL), Ecologically Sensitive Areas (ESAs), and Critically Vulnerable Coastal Areas (CVCAs) demarcated by the National Centre for Sustainable Coastal Management (NCSCM), Chennai, and the 'Hazard line' as demarcated by the Survey of India (Sol), shall be used by the states/Uts in preparation/updating the CZMPs, as required under the provisions of the CRZ Notification, 2019. The CZMP database (shapefiles etc.) prepared as per the CRZ Notification, 2011 which have been scrutinized by the Technical Scrutiny Committee, finalized by the National Centre for Sustainable Coastal Management (NCSCM) and approved by the MoEFCC, shall be used as the base for revision or updating of the CZMP, as per the provisions contained in the CRZ Notification, 2019.

#### **b) Data to be provided by the States/Uts to the authorized agencies**

i) Database of the CZMPs prepared and approved based on CRZ notification 2011, including HTL, LTL, ESAs, CVCA, Hazard line and coastal landuse, along with hard copies/pdf of approved CZMP and landuse maps.

ii) Details of village-wise survey numbers pertaining to government land, in the format (bearing Taluk name, Village name, Survey No./Part Survey No. etc.) for deciding/enabling ease in demarcation of buffers around mangrove areas.

iii) Digitized geo-referenced Census village boundary maps in shapefile format as per 2011 census base and the corresponding 2011 census (population) data of villages in digital/soft copy/xls format for demarcation of CRZ-IIIA and CRZ-IIIB areas.

iv) Stakeholder data such as Municipal maps, Notifications for legally designated urban areas etc., for new CRZ-II areas, fishing Zones in the water bodies and fishing village boundaries, breeding and spawning grounds of fish and the like, for updating the CZMP, as applicable.

- v) Infrastructure facilities such as roads, jetty, port, fish landing centers, etc.
- vi) Existing authorised structures on the seaward side and features like cyclone shelters, rain shelters, helipads and other infrastructure including road network for the purpose of rescue and relief operations during cyclones, storms, tsunami and the like.

c) **CRZ buffers**

The CRZ limits will be revised or updated as per provisions contained in the CRZ notification, 2019, as follows:

No Development Zone (NDZ)/Buffers of tidally influenced waterbodies (water bodies influenced by tidal effects from sea in the bays, estuaries, rivers, creeks, backwaters, lagoons, ponds that are connected to the sea)	50 meters or width of the creek, whichever is less
NDZ for CRZ-IIIA areas (sea front)	50 m
NDZ for CRZ-IIIB areas (sea front)	200 m
NDZ for inland islands in the coastal backwaters and islands along the mainland coast	20 m

d) **Processing of Census data**

All census maps and the corresponding census data of 2011 of all rural or urban areas demarcated in the CZMPs prepared as per CRZ Notification 2011, will have to be analyzed for computing the corresponding density of population for each village.

All rural or urban areas with population more than 2161 per sq. Km will be classified as CRZ-IIIA and the remaining CRZ-III areas will be classified as CRZ-IIIB. After demarcation of CRZ-IIIA and CRZ-IIIB areas, the Census maps shall be taken out of the CZMP and will be kept in the database separately. Only Cadastral maps with Survey No. information shall be superimposed to the CZMP. CRZ-II areas demarcated in the CZMPs prepared as per CRZ Notification 2011, need to be retained as such, without any change. However, new CRZ-II areas, if any, may be added.

e) **CRZ Classifications**

Updating of CRZ classifications such as CRZ-I, CRZ-II, CRZ-IIIA, CRZ-IIIB and CRZ-IV shall be done as per the guidelines given Annexure-IV to the CRZ notification, 2019.



The water areas of CRZ-IV shall be clearly demarcated as to whether the water body is sea, lagoon, backwater, creek, bay, and estuary etc. For such classification of the water bodies, the terminology used by Naval Hydrographic Office shall be relied upon.

The fishing Zones in the water bodies and the fish breeding areas shall be clearly marked.

In CVCAs, the land use maps shall be superimposed on the CZMP clearly demarcating the CRZ-I, II, III, IV.

The existing authorised developments on the seaward side shall be clearly demarcated.

The features like cyclone shelters, rain shelters, helipads and other infrastructure including road network shall be clearly indicated on the CZMP for the purpose of rescue and relief operations during cyclones, storms, tsunami and the like.

**f) CRZ areas falling within municipal limits of Greater Mumbai**

In order to protect and preserve the 'green lung' of the Greater Mumbai area, all open spaces, parks, gardens, playgrounds indicated in development plans within CRZ-II areas, shall be categorised as 'No Development Zone' and the same shall be accordingly demarcated.

**g) Public consultation of draft CZMP updated or revised based on CRZ Notification, 2019**

(i) The draft CZMP so updated or revised shall be published in the websites of the concerned CZMAs of the states/Uts and also given wide publicity soliciting suggestions and objections.

(ii) The draft CZMP shall be submitted by the State Government or Union territory to the concerned Coastal Zone Management Authority for appraisal, including appropriate consultations, and recommendations thereof. Public hearing on the draft CZMP shall be held at district level by the concerned CZMA, as stipulated in para 6 (i) of Annexure-IV of the CRZ Notification, 2019.

(iii) Based on the suggestions and objections received, the draft updated CZMPs shall be finalised and submitted by the state Governments/UT administrations for final approval of MoEFCC.

**h) Technical Scrutiny Committee**

The updated CZMP prepared as per CRZ Notification, 2019 shall be submitted for

scrutiny by the Technical Scrutiny Committee constituted by the National Centre for Sustainable Coastal Management (NCSCM), Chennai. The Technical Scrutiny Committee shall make its recommendations to the NCZMA for an appropriate decision.

**i) CZMP Report**

A CZMP report will be prepared and in the format given in **Annex-1**, enclosed to these guidelines.

**j) CZMP maps and Coastal landuse maps**

CZMP maps and Coastal landuse maps will be prepared as per the instructions/check-list issued to all the authorized agencies/States/ Uts by the Technical Scrutiny Committee at NCSCM, Chennai, during the scrutiny of CZMPs prepared as per CRZ Notification 2011. The check-list is enclosed to these guidelines as **Annex-2**.

**k) Approval of CZMP:**

The state Governments or Union territory administrations shall submit the draft updated Coastal Zone Management Plan and the draft CZMP, finalized at the State or UT level along with a request for its final approval to MoEFCC. The same shall be referred by MoEFCC for a technical scrutiny by the Committee constituted for the task by NCSCM, Chennai. On receipt of the recommendation of the Technical Scrutiny, it shall be placed for consideration and decision of the NCZMA.

(iii) The approved CZMP shall be thereafter put up on the website of the concerned State or Union Territory Coastal Zone Management Authority and hard copy shall be made available in the offices of the Panchayat and District Collector. It may also be uploaded in the website of the MoEFCC.

**l) Environment management plan of ESAs**

A detailed environment management plan for ecologically sensitive areas shall be formulated within 6 months of the approval of CZMP prepared based on CRZ Notifications 2019 by the states and Union territories, as per guidelines given in **Annexure-1** of CRZ Notification 2019.

**m) Critically Vulnerable Coastal Areas (CVCAs)**

For all the CVCAs mentioned in sub-paragraph 3.1 of the CRZ Notification 2019, Integrated Management Plans (IMPs) shall be prepared, which shall, inter alia, 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 and the IMPs will be prepared in line with the guidelines for preparation of Coastal Zone Management Plan.

#### **4. LOCAL LEVEL CZMP**

Local level CZM Maps shall be prepared for the use of local bodies and other agencies to facilitate implementation of the Coastal Zone Management Plans. Cadastral (village) maps in 1:3960 or the nearest scale, as available with revenue authorities shall be used as the base maps.

HTL, LTL, other CRZ regulatory lines and the Hazard line shall be demarcated in the cadastral maps and classifications shall be transferred into the local level CZMP.

In the CRZ areas, the fishing villages, common properties of the fishermen communities, fishing jetties, ice plants, fish drying platforms or areas infrastructure facilities of fishing and local communities such as dispensaries, roads, schools, and the like, shall be indicated on the cadastral scale maps. States and Union territories shall prepare detailed plans for long term housing needs of coastal fisher communities in view of expansion and other needs, provisions of basic services including sanitation, safety and disaster preparedness.

#### **5. TIME LINE FOR UPDATION OR REVISION OF CZMP**

The State Governments / UT administration shall take up the updation or revision of CZMPs approved as per CRZ Notification, 2011, to align with the CRZ Notification, 2019 at an early date and not later than six months from the date of issue of this guidelines.

#### **6. REVISION OF COASTAL ZONE MANAGEMENT PLANS**

(i) Whenever there is a doubt or a likely disparity noticed in the CZMP, the concerned State or Union territory Coastal Zone Management Authority shall refer the matter to MoEFCC for a modification/rectification of the CZMP along with valid reasons for the same. The MoEFCC shall refer the matter to the National Centre for Sustainable Coastal Management (NCSCM) for verification based on latest satellite imagery and ground truthing for possible modification/rectification in the CZMP.

(ii) The rectified map shall be submitted to Ministry of Environment, Forest and Climate Change for consideration of approval.

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## **Template for CZMP REPORT**

### **Contents**

#### **Executive Summary**

#### **1. INTRODUCTION**

- 1.1. CZMP Planning Process
- 1.2. Development of a coastal database and information system
- 1.3. Generation of CZMP maps

#### **2. THE STATE OF .....**

- 2.1. Demography and socio economic activities
- 2.2. Coastal Geomorphology and Ecosystem
- 2.2. Marine Fishery Resources
- 2.3. Biodiversity of coastal district wise
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#### **3. PURPOSE & SCOPE OF CZMPS**

#### **4. COASTAL ZONE MANAGEMENT PLANS**

##### **4.1. Demarcation of High Tide Line (HTL) and Low Tide Line (LTL) (as per manual)**

- a) Landward (monsoonal) berm crest for beaches
  - b) Seawall/revetments/embankments
  - c) Permanent Vegetation Line
  - d) Coastal sand dune / paleo-aeolian dune
  - e) Mangroves
  - f) Rocks, Headlands, Cliffs
  - g) Influence of Tidal action
- ##### **4.2 Demarcation of Ecologically Sensitive Areas**

#### **5. ECOLOGICALLY SENSITIVE AREAS/COASTAL LANDUSE**

- 5.1. Mangroves
- 5.2. Coral Reefs
- 5.3. Reserve Forests
- 5.4. Sand Dunes
- 5.5. Salt marsh
- 5.6. Nesting Ground of Birds
- 5.7. Archaeologically important and Heritage Sites
- 5.8. Seagrass
- 5.9. Mud flats
- 5.10. Turtle Nesting Grounds
- 5.11. Inter-Tidal Zone
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- 9.1. CRZ categories (Taluk wise) of State/ UT
- 9.2. Sheet wise ESAs and CRZ categories

**10. CONCLUSION**

Annexure-I: Brief note annexed to draft CZMP

Annexure-II: Field photographs

Annexure-III: Village and survey number wise CRZ categories

Annexure-IV: Public consultation issues and their resolution

Annexure-V: Data sources (list of urban area, panchayat, fishing villages ward etc.)

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Annex-2

**CHECK-LIST FOR PREPARATION OF CZMP MAPS AND COASTAL LANDUSE MAPS**

1. Two sets of maps shall to be provided viz:
  - (i) CZMP map depicting different CRZ categories; and
  - (ii) Coastal land use maps (i.e. land use map used to define CZMP) categories along with the year in which it was prepared.
2. Maps of Ecologically Sensitive Areas (ESAs) provided by NCSCM are to be integrated with the coastal land use map.
3. The title of the CZMP maps should read as 'Coastal Zone Management Plan (CZMP)'.
4. The coastal land use and CZMP maps shall be prepared according to the "Manual on Demarcation of High Tide Line and Low Tide Line and Preparation of CZMP of the Coast of India".
5. The land use classes up to level II classification such as Habitation/settlement, Agriculture, open areas etc., as given in the 'HTL Manual', will also be depicted in the coastal land use map along with the ESAs.
6. Color codes and symbols standardized by NCSCM, Chennai shall be provided to all authorized agencies for finalizing the CZMPs.
7. Indexing for all the states shall be standardized e.g. South to North, Left to Right etc.
8. Boundary of CRZ category should be continuous for seaside and creek side. It should be single/continuous line to clearly indicate the regulation boundary.
9. If legally designated urban areas other than municipality area are included in CRZ-II category, details in the form of supporting Government notification/act/rules are to be provided in the CZMP report.
10. Classification accuracy and geometric accuracy of the coastal land use maps must be quantitatively ascertained based on standard protocol.
11. Suggestions/recommendations received during the public consultation and action taken should be attached to the report as *annexure*. These suggestions/objections are to be classified into various categories such as those pertaining to HTL/ESA/CRZ classification/general complaints etc.
12. Only the boundary of the CVCA resource areas demarcated by NCSCM need to be provided in the CZMP.

13. The Integrated Management Plan (IMP) will be prepared separately by NCSCM in consonance with the state government and local community concerned in conserving the resource areas. IMPs may be prepared within a time frame of 6 months from the date of approval of CZMP. The IMP shall be submitted for approval of MoEFCC for implementation.
14. The role of community in resource management in the CVCA shall be within the governing laws of the State/Central Government.
15. All layers used in the preparation of draft CZMP maps shall be given to NCSCM as soft copy (shape file format) for overlaying Hazard Line and boundaries of CVCA (if applicable).
16. Sand dunes falling outside CRZ boundary should be shown in the land use map.
17. CVCA falling outside CRZ boundary should be shown in the land use map.
18. Edges of CZMP and land use maps of all states/Uts should be adjusted with those of the neighboring states/Uts.
19. Ecological Sensitive Zones (ESZ) around the Marine National parks notified by the Government should be incorporated in the CZMP.

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**No. J-17011/8/92-IA-III  
Government of India  
Ministry of Environment & Forests  
(IA-III Division)**

Indira Paryavaran Bhawan  
Jorbagh Road, New Delhi-3

Dated 8<sup>th</sup> August, 2019

**OFFICE MEMORANDAM**

**Sub: Institutes/Agencies for preparation/updation of Coastal Zone Management Plans (CZMPs)/ Island Coastal Regulation Zone (ICRZ) plans/Integrated Island Management Plans (IIMPs) in line with CRZ/ICRZ Notifications, 2019 – reg.**

In supersession of this Ministry's OM of even number, dated 14<sup>th</sup> March, 2014, the Institutes/agencies given here under are hereby authorised for preparation/updation of Coastal Zone Management Plan (CZMPs)/ Island Coastal Regulation Zone (ICRZ) plans/ Integrated Island Management Plans (IIMPs) in accordance with the provisions of the CRZ Notification, 2019 issued vide G.S.R. 37 (E), dated 18.01.2019 and Island Protection Zone Notification issued vide S.O. 1242 (E) dated 08.03.2019.

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

2. The preparation/updation of the aforesaid plans mentioned above, shall be carried out as per the general guidelines issued by this Ministry vide OM No. 12-1/2019-IA.III dated 26.06.2019.

This issues with approval of the Secretary (EF&CC).

(W.Bharat Singh)  
Director (CRZ)

To

1. The Secretary (Environment & Forests) of Coastal States of Gujarat, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, West Bengal, Odisha and Administrators of Andaman and Nicobar Islands, Puducherry, Lakshadweep, Daman & Diu.
2. The Member Secretaries, Coastal Zone Management Authorities of Gujarat, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, West Bengal,



Odisha and UT of Andaman and Nicobar Islands, Puducherry, Lakshadweep and Daman & Diu.

3. All the above authorised agencies

*Copy for information to:*

1. PS to Minister for Environment, Forest and Climate Change
2. PS to MoS (EF&CC)
3. PPS to Secretary (EF&CC)
4. PPS to AS (RSP)/ AS (AKJ)
5. PPS to JS(RKS)/JS (AKN)/JS(GM)/JS(RS)
6. Website of MoEF&CC
7. Guard File

**F.No.12/1/2019-IA.III (E-122245)**  
**Government of India**  
**Ministry of Environment, Forest and Climate Change**  
**IA.III Section (CRZ)**

Indira Paryavaran Bhawan  
JorBagh Road  
New Delhi-110003  
Dated: 26<sup>th</sup> October, 2021

**OFFICE MEMORANDUM**

**Subject: Amendment in guidance – for Updation of Coastal Zone Management Plan (CZMPs) prepared as per CRZ Notification, 2011 to align it with CRZ Notification, 2019 – regarding.**

This is in continuation to this Ministry's Office Memorandum of even no., dated 26/06/2019, wherein the guidelines for preparation of Coastal Zone Management Plan's (CZMPs) prepared as per CRZ Notification, 2011 to align it with CRZ Notification, 2019, was issued.

2. Based on recommendations of National Coastal Zone Management Authority (NCZMA) in its 43<sup>rd</sup> meeting held on 16/08/2021, the paragraph 5 of Annexure I shall include Eco-Sensitive Zone (ESZ) amongst other Ecologically sensitive areas to be demarcated in the CZMP, as per CRZ Notification, 2019 and read as under:

**5. ECOLOGICALLY SENSITIVE AREAS/COASTAL LANDUSE**

- 5.1. Mangroves**
- 5.2. Coral Reefs**
- 5.3. Reserve Forests**
- 5.4. Sand Dunes**
- 5.5. Salt marsh**
- 5.6. Nesting Ground of Birds**
- 5.7. Archaeologically important and Heritage Sites**
- 5.8. Seagrass**
- 5.9. Mud flats**
- 5.10. Turtle Nesting Grounds**
- 5.11. Inter-Tidal Zone**
- 5.12. Salt pan/Aquaculture ponds**
- 5.13. Eco-Sensitive Zone (ESZ)**

3. This issues with approval of the Competent Authority.

(Dr. H. Kharkwal)  
Additional Director (CRZ)

To,

1. The Secretary (Environment & Forests) of Coastal States (Gujarat, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, West Bengal, Odisha) & Administrators of Puducherry & Daman & Diu
2. The Member Secretary of Coastal States (Gujarat, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, West Bengal, Odisha) & Administrators of Puducherry & Daman & Diu
3. The Director, National Centre for Sustainable Coastal Management (NCSCM), Chennai, Tamil Nadu.
4. The Director, Space Application Centre, Ahmedabad
5. The Director, Centre for Earth Science Studies, Thiruvananthapuram
6. The Director, Institute for Remote Sensing, Anna University, Chennai, Tamil Nadu
7. The Director, Institute for Wetland Management and Ecological Designs, Kolkata
8. The Director, National Institute of Oceanography (NIO), Panjim, Goa
9. The Director, National Institute of Ocean Technology (NIOT), Chennai, Tamil Nadu
10. The Director, Naval Hydrographer's Office, Uttarakhand.

Copy for information to:

- a. PS to Minister for Environment, Forest and Climate Change
- b. PS to MoS (EF&CC)
- c. PPS to Secretary (EF&CC)
- d. PPS to AS (RA)
- e. PPS to JS (SKB)
- f. Website of MoEFCC
- g. Guard file

Dr. H. Kharkwal  
Additional Director (CRZ)

**F.No.IA3-12/7/2021-IA.III (153017)**  
**Government of India**  
**Ministry of Environment, Forest and Climate Change**  
**IA.III Section (CRZ)**

Indira Paryavaran Bhawan  
JorBagh Road  
New Delhi-110003

Dated: 7<sup>th</sup> September, 2022

To

The Secretary (Environment)  
Environment Department, Government of Kerala  
Directorate of Environment & Climate Change (DoECC)  
4<sup>th</sup> Floor, K.S.R.T.C Bus Terminal Thampanoor  
Thiruvananthapuram, Kerala – 695001

**Sub: Issues related to preparation of Coastal Zone Management Plan of Kerala as per the CRZ Notification, 2019 – reg.**

Sir,

This has reference to the DO letters from Chief Secretary, Government of Kerala dated 2<sup>nd</sup> December, 2021, 31<sup>st</sup> May, 2022 & 26<sup>th</sup> July, 2022 and communications dated 14<sup>th</sup> June, 2022 from the Environment Department, Government of Kerala.

2. The matters related to preparation of Coastal Zone Management Plan (CZMP) of Kerala as per the CRZ Notification, 2019 was placed in the 45<sup>th</sup> meeting of the National Coastal Zone Management Authority (NCZMA) held on 1<sup>st</sup> September, 2022.

3. The Government of Kerala made a presentation related to their CZMP as per 2019 Notification and pointed out that the term 'legally urban areas' is not defined under the CRZ Notifications and therefore, 'Urban Areas' designated by Acts or Rules or the Census Towns as per 2011 Notification ought to be considered as 'Legally Designated Urban areas'. The Solid Waste Management Rules, 2016 notified by the Ministry vide S.O 1357 (E), dated 8<sup>th</sup> April, 2016 under the E(P) Act, 1986, mentions, "Census Town" means the Urban Area as defined by the Registrar General and the Census Commissioner. The State of Kerala opined that the 'Census Town' as defined in the Ministry's Solid Waste Management Rules, 2016 may be considered as 'legally designated urban areas' for the purposes of the CRZ Notification, which is also notified under the E(P) Act.

It was informed that 66 Panchayats included in Kerala's notification of 2011 and 175 Panchayats included in Kerala's notification of 2021 were notified as Census Towns. It was submitted that 175 Panchayat notified by Government of Kerala as 'Legally designated Urban Areas' be considered for the purposes of classification under CRZ-II as per the CRZ Notification, 2019.

4. In this regard, based on recommendations of the 45<sup>th</sup> meeting of the National Coastal Zone Management Authority held on 01/09/2022, it is to inform that 66 Category-I Coastal Grama Panchayats notified before the issue of CRZ Notification, 2019 can be considered as 'other existing legally designated urban areas' as per the CRZ Notification, 2019 i.e. existing as on the date of issue of CRZ Notification, 2019.

Such Category – I Panchayats meeting the criteria of built up area and developmental infrastructure could be considered for classification as falling under CRZ-II area.

However, the Kerala Government shall provide all the infrastructure facility in the proposed area as per the norms of Municipality and shall prepare detailed Disaster Management and Mitigation Plans. The areas specified by the Department of Atomic Energy in the proposed aforementioned 66 Coastal Panchayats shall not be categorised as CRZ-II, and shall be classified as CRZ-IIIA or CRZ-IIIB, as per the norms, and such areas shall be contiguous in nature.

5. This issues with the approval of the Hon'ble Minister, EFCC.

Yours faithfully,

(Amardeep Raju)  
Scientist 'E'

Copy to:

1. The Member Secretary, Kerala Coastal Zone Management Authority, 4<sup>th</sup> Floor, KSRTC Bus Terminal, Thampanoor, Thiruvananthapuram – 1, Kerala
2. Deputy Director General of Forests (C), Integrated Regional Office, Bengaluru, Ministry of Environment Forest and Climate Change, Regional Office (XZ), KendriyaSadana, 4<sup>th</sup> Floor, E&F Wings, 17<sup>th</sup> Main Road, Koramangal II Block, Bangalore – 560034, Karnataka
3. The Director, National Centre for Sustainable Coastal Management, Anna University Campus, Chennai-600025, Tamil Nadu-600025
4. Office Copy / Guard File

(Amardeep Raju)  
Scientist 'E'

**Urgent**  
**NGT Matter**

**F.No.3-65-2017-IA-III**  
**Government of India**  
**Ministry of Environment, Forest and Climate Change**  
**IA.III Section (CRZ)**

Indira Paryavaran Bhawan  
JorBagh Road  
New Delhi-110003  
Tele:011-20819371  
E-mail:h.kharkwal@nic.in  
Dated: 8<sup>th</sup> September, 2022

**OFFICE MEMORANDUM**

**Sub: Original Application Number 04 of 2013 with Appeal Number 18 of 2017 titled as C.H.Balamohan Versus Union of India and Ors. In the Special Bench, National Green Tribunal, Southern Zone, Chennai-reg.**

This is regarding order of Hon'ble NGT dated 11.04.2022 in Original Application Number 04 of 2013 with Appeal Number 18 of 2017 titled as C.H. Balamohan Versus Union of India and Ors. Before the Special Bench, National Green Tribunal, Southern Zone, Chennai. The matters involve common issue of protection of stretches of coastal line affected by the human induces erosion caused by hard structures.

2. As per the (enclosed) order dated 11.04.2022, Hon'ble Tribunal has inter-alia directed Chief Secretaries of the Coastal States / Uts to finalise the Coastal Zone Management Plan (CZMP) and get them approved by MoEF within 2 months. The approved CZMP shall contain parameters as listed in the CRZ 2019 Notification including High, Medium and Low erosion stretches for such erosion prone areas.

3. A copy of the above-said order dated 11.4.2022 is enclosed for perusal and necessary action.

**(F)** This issues with the approval of competent authority.

**(Amardeep Raju)**  
**Scientist 'E'**

**Encl: As above**

**To,**

- 1. Chief Secretaries of the Coastal States/Uts.**

2. The Director, National Institute of Ocean Technology (NIOT), Chennai, Tamil Nadu.
3. The Director, National Centre for Sustainable Coastal Management (NCSCM), Anna University, Chennai, Tamil Nadu.

Copy for information to:

1. Sr.PPS to JS (SKB)
2. Office file/Guard file.

(Amardeep Raju)  
Scientist 'E'

Item Nos. 3 & 4

(Court No.1)

**BEFORE THE NATIONAL GREEN TRIBUNAL  
SPECIAL BENCH**

(By Video Conferencing)

Original Application No. 04/2013 (SZ)

WITH

Appeal No.18/2017 (SZ)

C.H.Balamohan

Applicant

Versus

Union of India and Ors

Respondent(s)

Date of hearing: 11.04.2022

**CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON  
HON'BLE MR. JUSTICE K. RAMAKRISHNAN, JUDICIAL MEMBER  
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER  
HON'BLE MR. JUSTICE PUSHPA SATHYANARAYANA, JUDICIAL MEMBER  
HON'BLE DR. SATHYAGOPAL KORLAPATI, EXPERT MEMBER  
HON'BLE PROF. A SENTHIL VEL, EXPERT MEMBER**

O.A. No. 04/2013 (SZ)

For Applicant(s) : Mr. A. Yogeshwaran, Advocate

For Respondent(s): Mr. G.M. Syed Nurullah Sheriff, Advocate for R1 & R5.  
Dr. D. Shanmugananthan, Advocate for R6 to R8  
Mr. V. Balamurugan and Mr. Alex, Advocates for R9, R10, R12, R20  
Ms. Suvitha, Advocate for R13  
Mrs. Madhuri Danti Reddy, Advocate for R16  
Mr. V.K. Rema Smrithi, Advocate for R17

Appeal No. 18/2017 (SZ)

For Applicant(s) : Mr. A. Yogeshwaran, Advocate

For Respondent(s): Mr. G.M. Syed Nurullah Sheriff, Advocate for R1 & R2.  
Dr. D. Shanmugananthan, Advocate for R3



## **ORDER**

1. This order will deal with O.A. No. 04/2013 (SZ) and Appeal No. 18/2017 (SZ) as the both matters involve common issue of protection of stretches of coastal line affected by the human induces erosion caused by hard structures.

### **Introductory**

2. O.A. No. 04/2013 (SZ) was filed on 17.01.2013 raising the grievance of destruction of Puducherry and Tamil Nadu Coastal Environment due to construction of hard structures causing continuous erosion of the coast. It is submitted that not only the stretch in question but most parts of Indian Coastline – both on the East and West Coast are under the influence of the Littoral Drift.
3. Appeal No. 18/2017 (SZ) has been preferred against CRZ Clearance dated 06.10.2016 granted by the SEISS, Tamil Nadu for proposed construction of series of 19 Groynes from Ennore to Ernavoorkuppam in Madhavaram Taluk of Thiruvallur District, Tamil Nadu, by the Public Works Department (WRD). The clearance has been granted subject to orders of this Tribunal in OA 04/2013. The said appeal was filed on 28.2.2017 and was admitted for consideration on 10.03.2017. To appreciate the issues involve, we may refer to some of the averments in the O.A.

### **Main contentions of the Applicant/Appellant**

4. According to the applicant there is large scale human induced erosion and destruction. The Littoral Drift varies from one coastal compartment (or sediment cell) to another. Within each of these coastal compartments, the undisturbed coastal environment and habitat is usually in a state of equilibrium. For such a state of equilibrium to exist within a coastal compartment, the “sedimentary budget” within a compartment needs to be maintained. The sedimentary budget is something that has been arrived at and is determined by the prevailing natural phenomena along a particular coast. Just like the water level in a river is maintained and determined by the “water budget” of its catchment area, similarly the “sediment budget” of the “river of sand” along the coast is determined by the related factors within its sediment cell.

5. When the “sedimentary budget” within a coastal compartment is disturbed and upset, i.e. when the natural movement of sand is disturbed and interrupted for example by man-made coastal structures, a cascading effect takes place along the shores of a given sediment cell. When a coastal structure is erected in the path of freely moving sand along the coast, the structures prevent the natural flow of sand in the same manner as a dam across the path of river interrupts the flow of water. In such an instance one part of the coast gets an excess of sand and the other side on the down-drift is starved of sediment. The side that is starved of sediment starts and keeps eroding as long as fresh input of sand is not provided.
6. Because coastal compartments and sediment cells are large, often larger than artificial boundaries such as politically determined state boundaries, one sediment cell may overlap two neighbouring states. This is particularly true along the East coast of India, where for instance stretches of coastline of the States of Tamil Nadu and Puducherry are part of the same coastal compartment and sediment cell. This is particularly relevant in the case of Puducherry as its territory is fragmented and surrounded by the territories of Tamil Nadu. Thus, if the sediment budget within a coastal compartment that is shared by two states is upset, the impact of such interference will be felt across states.
7. The environmental destruction caused by the construction of hard structures on the coastline which negatively affect the coastal processes, the environment and the communities is a problem that is not confined to either the Union Territory of Puducherry, or to the State of Tamil Nadu. Rather, it is a situation in which the negligence and/or mismanagement of one government causes destruction both within its jurisdiction and within the neighbouring jurisdiction. **Because the damaging effects of these hard structures transcend state and union territory boundaries,** responsibility for preventing such damage rests equally with the Union Government of India, as well as with the governments of the Union Territory of Puducherry and Tamil Nadu.
8. The Puducherry Region of the Union Territory of Puducherry and large parts of the Tamil Nadu coastline, are situated on the east coast of India which has a sandy coastline and is therefore vulnerable to human – induced change and is thus ecologically sensitive and fragile. The coastal geomorphology and related

ecosystems play a large and vital role in the economic development of the region, providing a large number of functions and services, from sustaining ecology, traditional fishing communities to attracting visitors to Puducherry's tourism industry. The severe and rapidly worsening coastal erosion is damaging the subsistence based, sustainable and lucrative sectors of the local economy making the affected region increasingly ecologically, socially and economically vulnerable.

9. Over the past two decades, Puducherry has suffered large scale coastal erosion induced by imprudent, ad hoc and unscientific construction of hard structures on the coast which have a constant, negative impact which is felt and aggravated with every single day that goes by. This problem of human-induced coastal erosion has not been addressed by the Government of Puducherry. Instead, the coastal management measures adopted so far have only transferred and aggravated the problem of erosion down the coast to the neighbouring state of Tamil Nadu which has been facing the same ever-increasing problems of human-induced coastal erosion since over a decade.
10. The problem of large scale and rapid coastal erosion in Puducherry started in and around 1986 with the construction of an artificial harbour in Ariyankuppam estuary, situated 1.5 km to the south of the Puducherry town. The harbour was meant to provide an artificial channel from the open sea into the Ariyankuppam estuary to provide a safe entrance for barges and other sea-going crafts. The Harbour was finally commissioned in 1993.
11. To keep the mouth of the harbour open to the sea, two breakwaters were constructed to the south and north of the harbour mouth, at either side of Ariyankuppam estuary. As a result, the northward flow of sediment along the coast was blocked at the southern breakwater, starving the coast to the north of the harbour of sand and causing severe erosion of the coast. The construction of breakwaters in the Puducherry harbour thus commenced the process of coastal erosion and, as a consequence, several kilometres of beach in Puducherry Town has been completely lost.
12. The process of massive erosion caused by the harbour construction was not unexpected. To the contrary, it was expressly anticipated by the studies and recommendations by Centre for Water Power and Resource Studies ("CWPRS")

and Consulting Engineering Services Private Limited (“CES”), which advised the Government of Puducherry while the project was still in the planning stage. Those studies accurately predicted that the breakwaters at the harbour entrance could cause massive erosion to the north of the harbour, as the structure would block the natural, incessant migration of sand. The studies further predicted that sand would accumulate to the south of the breakwater and the harbour entrance would silt up due to littoral drift. The consultants warned that constant maintenance and dredging was required to clear the harbour mouth, to keep it open. The studies recommended that sand dredged from harbour mouth must be used for sand nourishment to the beaches north of the harbour in order to mitigate the negative impacts caused by the blockage of sand by the harbour breakwaters. The consultants further concluded that continuous sand by-passing whereby sand blocked and accumulating at the southern breakwater would be mechanically transferred across the harbour mouth and allow it to resume its northward flow up the coast was required to prevent and mitigate erosion of the coastline north of the harbour, where the town of Puducherry Town as well as several fishing hamlets are situated. An elaborate system of mechanical sand by-passing with dredges to pump sand from the south side of the harbour to the north side, was therefore adopted when the port was constructed in order to mitigate the negative impacts of coastal erosion.

13. The planned process and system for mitigation which consisted of mechanical sand by-passing and beach nourishment was never efficiently operated by the Government of Puducherry as the system was never fully or properly implemented. Since 1993, when the Ariyankuppam harbour was formally commissioned and became fully operational, it is estimated that out of the total amount of maintenance dredging to be undertaken by the Government of Puducherry, less than about 25% of the total required volume of sand has been dredged till now. However, less than that (it is estimated about 50%) was used to nourish the beaches as the dredged sand was instead wrongfully either used for land reclamation, disposed of into the deep sea or pilfered by illegal sand miners. As a consequence, the massive human-induced erosion predicted by CWPRS and CES occurred precisely as they said it would, completely wiping – out 10 kilometers of beautiful and important sandy beach along the historic

promenade of Puducherry town, the fishing hamlets of Kuruchikuppam, Vaithikuppam, Solai Nagar in Puducherry and the fishing hamlets of Soudanikuppam, Nadu Kuppam, Thandirayan Kuppam and Chinnamudaliarchavadi Kuppam in Tamil Nadu. Other coastal communities further to the north are also witnessing the shrinking of their beaches as the human-induced erosion threateningly moves northwards.

14. In 2002, long after the beach in Puducherry town has disappeared, following several representations made by members of the civil society as well as by experts, the Government of Puducherry instituted a program of sand by-passing and artificial beach nourishment, using sediment dredged from the harbour to provide northward flowing sand. Within a short period of time, small areas of beach began to re-form adjacent to the town. However, unfortunately this program was not sustained and the new areas of beach quickly disappeared when artificial nourishment ended.
15. The massive erosion process unleashed by construction of the harbour did not stop with the evisceration of the sand beach. Without the presence of the beach and its corresponding off-shore sand bar, the waves which once formed some distance from shore and broke gently on the slope of the beach now crashed directly onto the once-dry land. Goubert Avenue, more commonly known in Puducherry as “Beach Road”, which runs for 1.5 kilometres along the shore where the sandy beach used to stretch, was threatened as the land beneath it was undermined by the ongoing erosion. Because of scouring of sand below the promenade, the road started to crack and crumble and had to be entirely re-laid.
16. With the natural flow of sand blocked at the harbour and the system of sand bypass neglected, the erosion which eliminated the beach now threatened the very heart of Puducherry town, including the very government offices, the Chief Secretariat, in which the decision to build the ill-considered harbour was originally taken. Instead of activating the sand by-passing system to mitigate the erosion and nourish the beaches as originally intended, the government of Puducherry chose to create a rip-rap seawall along Beach road, dumping crores of tonnes of massive rocks, trucked – in from quarries in Tamil Nadu to “defend” the town against further erosion.

17. In August 2001, a Preliminary Report submitted by NIOT-IIT to the Govt. of Puducherry proposed the construction of groynes along the coast of the Puducherry Town. This proposal was opposed by members of civil society groups as it was deemed to be detrimental to the coastal environment. A second opinion on the proposed project was sought by the Government. This proposal was subsequently shelved and thankfully never saw the light of day.
18. A groyne is an impermeable wall extending perpendicularly from land into the sea. Along the Puducherry coast the objective of a groyne is to capture the northward moving sand along the southern side of the groyne. Indeed, tiny scalloped beaches have formed along the massive groynes; but these small gains have come at an enormous cost. Just as the breakwater at the harbour trapped sand to the south and caused massive erosion to the north, the groynes rapidly accelerated the northward process of coastal erosion.
19. Clearly, groynes were faulty as a solution as they would only succeed in moving erosion northwards and were no substitute for beach nourishment. Several groups were opposed to this wasteful and environmentally unsustainable exercise and sought scientific opinion to buttress what was clearly common sense. In October 2001 DELFT TECHNICAL UNIVERSITY in their expert opinion to INTACH, Pondicherry on NIOT's proposal stated that the NIOT's proposal did not prevent structural erosion in the area north of the groyne field nor did it take away the causes of siltation of the harbour entrance. The University further suggested that more studies were needed to be undertaken, an Integrated Coastal Zone Management Plan had to be prepared and alternative solutions such as sand bypassing and beach nourishment to mitigate the coastal problems was to be explored. Although all of this information and suggestions were shared with concerned Government authorities no suitable action was taken.
20. In April 2002, a civic group called Citizens Forum of Pondicherry also raised objections to this proposal. The construction of groynes was opposed as the groynes would merely transfer the erosion northwards and not solve the root cause of the problem, the disruption of the littoral drift by the harbour. They instead suggested that detailed studies should be undertaken which included the redesigning of the harbour entrance. They also objected to the NIOT/IIT's

concept of conducting trails in the Ocean at the detriment of the environment. Heeding to all this criticism, the Government of Pondicherry sought a second opinion from Danish Hydraulics (hereinafter referred to as "DHI").

21. Subsequently on October 2002, a Coastal Erosion Study was conducted by Study Group CF01 of DHI and they concluded as follows:

- Sand by-passing is the best solution
- Construction of groynes is not a favourable solution

The study Group also recommended that:

- Viability of the harbour project was to be investigated
- Preparation of an ICZMP
- Dredging and by-pass were to be monitored closely.

DHI proposed to:

- Conduct site visit and review data
- Assess annual sediment balance
- Conduct preliminary design of Port entrance
- Optimize port entrance layout
- Prepare design for shoreline management scheme
- Prepare guidelines for dredging and re-nourishment.

22. However, no suitable action was taken. Between 2002 and 2003, the Government of Puducherry constructed 6 kilometers of seawall along the Puducherry coast, at a cost of several crores of rupees. The decision to abandon the planned and existing mitigating measures of sand by-passing and beach nourishment in favour of seawalls were undertaken without conducting and detailed, comprehensive studies and were therefore undertaken on a purely ad hoc, arbitrary and unscientific manner. The construction of seawalls was undertaken in total disregard of the observation and recommendations made by Dr.Z.S.Tarapore and Dr. Vaidyaraman both erstwhile Directors of the CWPRS which were fully familiar with the design of the Puducherry harbour and Ariyankuppam.

23. On 21 February 2003, Mr.P.P.Vaidyaraman, retired Director of CWPRS, who was part of the design team of the Puducherry harbour at Ariyankuppam wrote to the GoP following his visit to Puducherry shortly after sand by-passing and beach nourishment had been undertaken at the Puducherry harbour. Mr. Vaidyaraman was not only extremely pleased with the results of beach nourishment, but also

made several suggestions for the continuation of sand by-passing and beach nourishment which he stated should be replicated at several of the other Indian ports as well. However, few of his suggestions were implemented.

24. While the “hard structure” of the seawall has had the limited superficial effect of keeping the erosion from penetrating onto Beach Road, it accelerated two other erosion processes. First, the surf which now crashed against the hard barrier of the seawall carved-out and scoured the sea floor that was once safely beneath the sand beach. This would come to have dire effects on the quality of the drinking water in Puducherry, creating a short path for saline intrusion into the town’s aquifers. It would also prevent any future beach from forming along that stretch of coast because the sea floor was now too deep and unstable to retain migrating sand, even if it had been allowed to flow as nature had intended.
25. The second erosion process accelerated by the seawall was to the north of the construction. At the end of the hard structure, the long shore currents form a powerful eddy, scooping-out the “unprotected” land in deep pockets of erosion. Thus began a vicious cycle of erosion and defence, more-erosion and more 76nitiall. As the seawall transferred and spread the problem of erosion northward up the coast, more and more beach was lost, more village land fell into the sea, and the disaster migrated further-and-further. Puducherry’s coastal erosion problem had now become Tamil Nadu’s problem as well.
26. In 2003 Tamil Nadu PWD initiated its own “hard structure” protection measures, in response to the erosion to its fishing villages caused by the hard structures built by its southern neighbour. Seawalls were built in Nadukuppam, then in Sothanaikuppam during 2005-2006, as the coastal erosion was forced northward. Today, these seawalls extend all the way to Kottakuppam and Chinnamudalaiyar Chavadi and Tamil Nadu is passing the problem back to Puducherry, as the erosion now reaches the Union Territory enclave at Pillaichavadi and beyond.
27. The fishing villages along the coast to the north of Puducherry town lost more than just beach and village land as the erosinary process crept northward. They also lost their industry. As the seawall lengthened, fishermen could no longer launch their traditional skiffs and catamarans. The beaches from which they launched their boats into the sea and landed their catch back on land were gone.



It is impossible to launch from the steep seawall, which has also affected the livelihoods of the fishing communities in several other ways as the beaches are also used to dry fish, repair nets and carry out several other related activities. Fishing communities complained to the Government of Puducherry that without beaches to fish from, their livelihoods were lost.

28. In 2004, Dr. Z. S. Tarapore, retired director of CWPRS, who was part of the design team of the Puducherry harbour at Ariyankuppam wrote to the GoP following his visit to Puducherry and warned the GoP against construction of groynes. He warned that the construction of groynes was a “dangerous proposition” since the groynes would only transfer the problem of erosion further down drift, where there were heavily populated areas. Among other things he suggested to undertake “a massive nourishment programme” to control the problem of erosion to the north of the harbour. During the same time, in his address to the 6<sup>th</sup> CPDAC (Coastal Protection & Development Advisory Committee of the Central Water Commission), in the year 2004, the problem of erosion was discussed and it suggested that groynes and seawalls were not the answer. The erstwhile Chief Secretary of Puducherry advocated that “cost-effective and environment friendly technologies” should be adopted to address the on-going problem of erosion. During the 10<sup>th</sup> CPDAC meeting it was once again emphasized that “coastal protection works and the coastal zone management should not think only of the sea walls as a protection measure to protect the shoreline but also adopt other new technologies which preserve the beaches and ecology as well.”

29. In 2004, the Tsunami struck the East coast of India. The coastal populations of the Puducherry region did not suffer much damage as most of the inhabited areas were located in areas that were significantly elevated from the level of the sea. However, with an abundance of funds flowing into the Government’s coffers, as a knee-jerk reaction and a populist measure, large amounts of money were spent to enlarge the seawalls along the Puducherry coast instead of spending those funds on the much required and planned beach nourishment that would have restored the beaches and protected the Puducherry town and coastal villages more effectively against any future Tsunamis.

30. In spite of expert views on the dangers of constructing groynes and the necessity of conducting detailed studies off the coast, the PWD drew a fresh proposal to construct groynes along the Pondicherry coastline. In November 2006, a 50 m long groyne was constructed just adjacent and north of the New Pier. From enquiries it was learnt that this groyne was built without any environmental clearance and its construction was abruptly halted upon enquiries.
31. Notwithstanding the severe erosion along the coasts of Puducherry, the Government of Puducherry did not resume the dredging and sand bypass operations that might restore some portion of beach to its coastline. Instead, under pressure from fishing villages to artificially recreate sandy beaches from which to fish, both the Government of Puducherry and the Government of Tamil Nadu began building groynes at intervals along the coast in 2005.
32. In April 2007, the Government of Tamil Nadu constructed two large groynes at Thadirayankuppam. The southern groyne is 100 m long and the northern groyne is 170 m long. These groynes triggered severe erosion of the coastline to the north. About 70 m wide beach was lost in the same year to the north of the groyne. Since the construction of these groynes, about 2.5 acres of beach has been lost severely affecting the villages of Chinnamudaliarchavadi Kuppam and Bommayarpalayam. The village of Chinnamudaliyarchavdi Kuppam lost several homes as a result of the human-induced erosion. Several other private and public properties have also been damaged.
33. On 20<sup>th</sup> July 2007, members of civil society groups met the officials of PWD & Port Secretary, Mr. Anbarasu and discussed the urgency for the Pondicherry Government to resume dredging and sand nourishment activities at Pondicherry Harbour entrance. When queried about the status of the proposed construction of groynes, Mr. Anbarasu stated that there was no definite proposal and he was seriously considering dredging and sand nourishment.
34. In July and August of 2007, elected representatives from the seven fishing villages of Anichankuppam, Chinnamudaliarchavady, Koonimedu, Mudhaliarkuppam, Nadukuppam, Notchikuppam and Pudhukuppam, which are located in the Kottakuppam and Marakanam Blocks of the Villupuram District wrote to the Hon'ble Chief Ministers of Puducherry and Tamil Nadu and also submitted resolutions to inform them about their plight caused by the human

induced erosion of the coast and also demanded that the beaches in front of their villages be restored so that they may pursue their livelihoods. Being located to the north of Puducherry and seeing the human induced erosion spread towards their beaches they were understandably deeply concerned about the future of their coastal environment and their livelihoods that depended on it. However, no action was taken to fulfil their demands and needs.

35. Following public outcry by several environment groups the construction of other groynes that were also planned was stopped. On Nov.3<sup>rd</sup> 2007 a public consultation meet was held in Auroville between Government officials of Puducherry, Tamil Nadu in the presence of experts (Governmental and Nongovernmental) and civil society groups. The following solutions and measures were unanimously agreed upon and proposed:

**Immediate-**

- a. Active sand by-passing system for nourishment and restoration of beach immediately north of Puducherry harbour.
- b. Undertake model studies urgently to arrive at the best method of restoring the eroding beaches of Puducherry and Tamil Nadu. Study the impact of groyne fields with and without artificial nourishment, before embarking on new measures
- c. Remodel the harbour entrance for maximizing natural sand by-passing:
  - i. initially for the existing fishing harbour
  - ii. Later for proposed deep water commercial harbour

**Long Term:**

- d. Restoration to include artificial nourishment, as universally accepted
- e. Investigate off-shore sand deposits for nourishment
- f. Identify suitable sand nourishment equipment to operate in wave environment

**Administrative:**

- g. Coastal Zone Management Authorities (CZMA) of Tamil Nadu and Puducherry to coordinate and take up the issue of coastal erosion jointly
- h. Initiate Puducherry component of Integrated Coastal Zone Management Plan (ICZMP), in conjunction with Tamil Nadu's ICZMP.

i. Funds to be provided for modelling and hydrographic survey

36. On 7<sup>th</sup> December 2007, Mr.C.V.Shankar IAS, Officer on Special Duty (RR) & Project Director (ETRP & TEAP), GoTN who had attended the consultation meet on 3<sup>rd</sup> Nov. 2007 wrote to the GoP with regards to proposed construction of groyne field from Kuruchikuppam to Solai Nagar. He requests that this should be undertaken only after the preparation of a comprehensive plan for the coastline, that is sustainable, livelihood sensitive and eco-friendly.
37. On 26<sup>th</sup> December 2007, the Pondicherry Government inaugurated Capital Dredging, to be taken up at Harbour Entrance. However, when the capital dredging operations began it was shockingly and disappointingly learnt that the dredged sand was being disposed of in deep waters, off shore outside the littoral zone and not used for beach nourishment. Ironically, during the inauguration of capital dredging operations that was held with much fanfare at the New Pier premises, large banners publicizing Beach Nourishment were displayed in spite of the fact that no beach nourishment was being undertaken.
38. On 27<sup>th</sup> December 2007, members of civil society held meetings with the Port Director of Pondicherry and expressed disappointment that the sand dredged from the harbour entrance was being dumped into the deep waters instead of being used for beach nourishment. Members of civil society met the officials of Pondicherry port and the Secretary, PWD on 28<sup>th</sup> December 2007 on the issue of sand nourishment not being undertaken. The officials promised to look into the issue but however on 1<sup>st</sup> January 2008 the construction of groyne at Kuruchikuppam was resumed without any environmental clearance.
39. In January 2008, representations were made to the Secretary, MoEF about the on-going problem of human-induced erosion along the Pondicherry-Tamil Nadu coastline. The Secretary wrote to the GoP asking them to discuss matters of erosion with GoTN in order to find a viable solution and save the beaches. In total disregard of the observations, recommendation and conclusions of the Nov. 2007 meet, the Govt. of Puducherry initiated a project of construction of groynes along the coast of Kuruchikuppam and Solai Nagar. With construction of groynes continuing to damage the coastline, Jesuratinam, convenor of Coastal Action Network from Nagapattinam filed a writ petition in the High Court at Chennai

(W.P. No. 1452 of 2008) seeking a Writ of Mandamus, directing the Government of Puducherry (a) to forbear from constructing groyne fields in the coastal region of Puducherry, (b) to conduct appropriate scientific studies for development of a sustainable and comprehensive coastal management plan for the restoration of the Puducherry/Tamil Nadu coastline, and (c) to frame a suitable scheme to ensure the coastal areas of Puducherry and Tamil Nadu was are protected from erosion. The Government of Tamil Nadu was also a respondent to that petition.

40. This writ petition was disposed on 13 February 2008, after the learned pleader for Government of Puducherry declared in open court that the activity of construction of groyne field would not be undertaken without the prior permission from the Ministry of Environment and Forestry, Government of India. On this representation by the Government of Puducherry, the High Court dismissed the petition and made no orders with respect to the incidental and ancillary prayers. However, contrary to the undertaking given in Court, construction has begun without obtaining environmental clearance, causing grave irreversible damage.

41. Following the above writ petition, the MoEF constituted a three member committee to visit the Puducherry site proposed for groyne construction. The Committee visited Puducherry on 11<sup>th</sup> and 12<sup>th</sup> June 2008 and subsequently reported that as a long-term measure, the GoP should seriously consider sand by-passing of the required amount of sand as this was likely to mitigate the problem of erosion. The committee also suggested that a study covering both Puducherry and adjacent Tamil Nadu coast should be undertaken by a reputed organization. Neither of these have been implemented so far.

42. At the national level, coastal erosion has also been become an increasingly pressing issue with every coastal state facing some form of coastal erosion or the other.

43. In April 2009 the Asian Development Bank prepared a report for itself and the Government of India for India's sustainable coastal protection and management. In this report, the following significant points are made:

**Change of Philosophy:**

"The change to sustainable and soft engineering measures for protection needs to be supported by an effective institutional framework including the

Government at different levels, communities and also the private sector. To achieve the necessary levels of support required a shift in Government policy with a clear mandate for the concerned organisations. A key technical issue is the diagnosis and identification of appropriate solutions for coastal protection works. The projects presently being implemented in the states are based almost entirely on the continued expansion and rehabilitation of rock protection works. This type of development is and will continue to have very serious environmental and social implications. There is a need to completely reshape the approach and philosophy to planning, design and implementation of coastal erosion works. Soft solutions for erosion control are now well developed and are already beginning to be implemented in India. There is need to help and guide a well-planned and programmed transition process as well as ensure the planning and designs for the proposed investment program meet the highest standard of environmentally and socially appropriate solutions. There is also a need to identify and address the causes of erosion, frequently these are mandate and the most appropriate solution is to address the cause rather than the effect. This requires an integrated and coordinated approach to the planning and development of all coastal infrastructure and shoreline users.”

**Sector assessment:**

“The coastal protection strategy in India is synonymous with a prime objective to protect the land; the concept of protecting the beach and the environment are relatively new concepts; coastal protection is not perceived within the wider context of the economic development of the coastline. The most frequently applied methods for coastal protection have been through the use of hard structures such as seawalls and groynes. Despite many failures and environmental damage seawalls and groynes have continued to be constructed which in many cases has simply shifted the problem to neighbouring coastal areas or left the real problem to be solved by future generations. As the pressure on the coastal zone due to human-induced activities as well as relative sea level rise keeps expanding, there is an urgent need to find sustainable solutions for coastal protection.”

“There is general awareness of the impacts of hard structures. Rock wall comes easily and soft solutions are largely untried and the technologies are not well understood. The continued use of hard technologies for coastal protection are being questioned by decision makers and there is now a widespread interest and realization of a need to change to softer and appropriate solutions. The move to softer solutions although an easy and acceptable solution in principle but in practice requires significant behavioural changes by all those involved. The transition from hard to soft structures will require an integrated program of awareness, training, capacity building and other support initiatives.”

“Presently measures to manage coastal erosion have generally been designed as a local emergency measures rather than sustainable and economically beneficial perspective. The most frequently applied protection methods are hard structures such as seawalls or groynes. Such interventions provide only land protection, and do not address the root cause of the problem; in many cases the protection structures actually accelerate erosion resulting in major losses of the beach.”

**Institutional arrangements:**

“Central Water Commission (CWC), the technical arm of MoWR is the apex agency for shoreline protection/coastal erosion works in the country. CWC implements coastal protection works through two Directorates viz. The Coastal Erosion Directorate (CED) and the Beach Erosion Directorate (BED). The activities of the two directorates are not well coordinated and lateral communication between the two peer bodies is virtually non-existent. The apparent lack of an integrated approach to coastal erosion problems stems from this structural imbalance.”

**Policy:**

“A major weakness in the current sector oriented sector development is the difficulty of addressing the processes and impacts of one sector on another. A prime cause of erosion is the interaction of coastal infrastructure on the natural coastal processes. To help this horizontal coordination is proposed to establish

the CWC and the State Executing Agencies (SEA) as the lead group at National and State levels to coordinate coastal infrastructure activities. At National level the leading organisation should be the CWC. The CWC remit is presently restricted to erosion control but there is a key requirement for the coastal erosion directorate to take on a wider coordination role of all coastal infrastructure works including erosion control, ports and harbours, dredging etc. At the State Level it is proposed to establish a Coastal Infrastructure Management Unit (CIMU) within the State Executing Agencies. This unit would be given a mandate to coordinate all coastal infrastructure programs.”

“There is requirement for a policy document to support the process of shoreline management planning. The policy document for shoreline management planning should include:

- (i) Charging the Coastal District Authorities to prepare Shoreline Management Plans (in coordination with the State Executing Agencies) over an agreed period. The shoreline plans would be advisory and non-statutory. The plans would be participative involving the stakeholders and local level stakeholders in the primary planning, as well as lateral involvement of different government departments/sector agencies.
- (ii) Increasing the mandates of the SEA and the CWC to take on a lead coordination role in the overall coastal management specifically to coordinate and guide the development and management of all coastal infrastructure.
- (iii) Ensuring that all shoreline developments and interventions are properly studied and subject rigorous technical analysis including numerical modelling. Projects should be supported by environmental assessments.”

44. In June 2009 an expert committee of the MoEF published the report “Final Frontier – Agenda to protect the ecosystem and habitat of India’s coast for conservation and livelihood security.” In this report the committee noted that currently, the shoreline of the country is undergoing a major change because of a large number of port and harbour projects. These projects involve large quantities of dredging, shore protection works, breakwaters, and reclamation.



Experts are unanimous that each structure would impact the shoreline-particularly the beach formation. Already, many of these infrastructure projects have caused significant shoreline changes-like in Ennore, Puducherry, Alibag, Digha and Dahej. It is also observed that the shoreline is being impacted adversely by mining projects and by interventions like the building of shore-protection structures like groynes. The Committee was of the view that these developments have all led to serious threats to the coast, as especially beaches face severe erosion and shorelines are visibly changing. Given that the Central and state governments propose to construct several ports and harbours all along the shore in the coming years, these projects could have irreversible adverse impacts on the coast. The Committee recommended the following;

“The government must immediately study the cumulative impacts of the individual projects on the coastline, pending which there should be a moratorium on expansion of existing ports and initiation of new projects.”

45. Subsequently, in 2009 the MoEF assigned to the Ministry of Earth Sciences (MoES) to conduct a study for identifying the coastal stretches with regard to human-induced erosion/accretion caused by construction of shore protection measures and breakwaters of ports. Based on the discussions held with MoES, the study was initiated in two phases namely – (a) phase-I to submit a report based on existing data/information by 15<sup>th</sup> October, 2009; (b) phase – II of the study involves micro level analysis that would be carried out for the entire country for the purpose of examining shoreline changes due to existing projects and identify suitable sites for development.

46. In October 2009, ICMAM and INCOIS, MoES, submitted a joint report to the MoEF in which they stated that:

“Coastal structures constructed for port operations and coastal protections works interface with the littoral transport are found the most common cause of coastal erosion.”

“A groyne just shifts the erosion problem to the downstream area...” The more efficient the groyne field is in protecting the shoreline within the groyne field, the more lee side erosion will be experienced downstream.”

“When a breakwater is built on the shoreline it interferes with the littoral drift budget and the results are sedimentation and shoreline impact. Like a groyne, the breakwater acts as a blockage of the littoral transport, whereby it causes trapping of sand on the upstream side in the form of an accumulating sand file, and the possible bypass causes sedimentation in the entrance. The sedimentation requires maintenance dredging and deposition of the dredged sand. The result is a deficit in the littoral drift budget which causes lee side erosion along the adjacent shoreline.”

“The major interventions which lead to morphological impact are listed as:

Coastal structures of any kind, which by their occupation directly impact the transport processes and thereby the coastal morphology. Such structures are typically the Ports and marinas, active coastal protection structures (groynes, breakwaters and all other structures occupying part of the foreshore and/or the shoreface), passive coastal protection structures (revetments, seawalls etc. which fix the coastline), reclamations and dikes, inlet jetties at tidal inlets and sea works at river mouths, embankments for bridges/runways, intake/outlet structures crossing the littoral zone.”

The report also stated that about 23% or as much as 1248 km of shoreline along the Indian main land is affected by various degree of erosion varying from minor, moderate to severe.

47. In May 2010, the Department of Science, Technology and Environment (DSTE) and the Puducherry Coastal Zone Management Authority (PCZMA) of the Government of Puducherry held a consultation meeting on “Restoration and Protection of Puducherry Coastline” which was attended by various Government Departments, experts from the National Institute of Ocean Technology (NIOT), Anna University, members of the Auroville Foundation and of Civil society. As reported in the Minutes of the Meeting “There was a consensus among the participants on the need to protect and nourish the coast of Puducherry and the adjoining areas by adopting site specific coastal protection and restoration

techniques after carrying out scientific studies and in consultation with all stakeholders including fishermen community.” However, no concrete measures have been implemented to date.

48. A May 2010 document of the CWPRS states that of the various methods used for protection of the coast such as seawalls, revetments, bunds, groynes, offshore breakwaters, etc., the nourishment beach is the best method that should be used for shore protection. However, due to other considerations beach nourishment is still seldom used. Later in the same year, the Indian Journal of Geo-Marine Science publishes a paper on coastal erosion and mitigation methods. The author of that study concludes “The recent trends in coastal erosion mitigation is shifting towards soft, innovative, and pro-active methods, since the hard methods have their own repercussions on coastal land and beaches such as down-drift erosion, high cost, poor aesthetics etc. Hard structures such as seawalls and revetments, stop erosion of coastal lands, but refocus the erosion onto the beach. A number of soft methods are available now for erosion mitigation and are being used popularly all over the world. They are very eco-friendly, cheap and construction-friendly too. They may be necessarily adopted on a larger scale in the future erosion mitigation projects, and choice of the particular solution depending upon the local hydrodynamics and site conditions.”
49. In October 2010, the PWD, GoP had commenced a sea wall project along the coast of Chinnakalapet Village, Puducherry without obtaining prior clearance under the Coastal Regulation Zone Notification, 1991. The site was inspected by members of the Puducherry Coastal Zone Management Authority and direction was issued on 13.10.2010 to the Chief Engineer, PWD under Section 5 of Environment Protection Act, 1986 to stop the sea wall construction immediately and submit necessary application to PCZMA for obtaining the Coastal Regulation Zone Clearance. PWD has complied and stopped the work. No further work has taken place since then.
50. In the month of November 2010 an official of the MoEF from the Southern Regional Office at Bangalore assessed the state of the coast of Puducherry in relation to the development of fishing harbour at Murthykuppam as it was being opposed by civil society groups. In this report it was observed that “For the old

fishing harbour, it was informed that even though, on some earlier occasions, some of the concerned authorities have attempted to address the problem of coastal erosion, the measures taken for the old harbour remains inadequate and not comprehensive since the attempts made were too small and were on piecemeal basis, thus the efforts are not successful in controlling the erosion problems. In the new fishing harbour also a similar situation is arising. Now it is high time for the Government of Puducherry to prepare and launch a detailed implementation plan after due consultations with experts and by integrating all the concerned departments & stake holders for properly managing the coastline and to solve the issues arising out of developments which are taking place in the coast line of Puducherry and adjoining Tamil Nadu.”

51. In the month of December 2010, the Project Implementation Agency for the Emergency Tsunami Reconstruction Project (PIA, ETPR) of the GoP issued a Tender for “Maintenance Dredging Works at Ariyankuppam River and the Sea Mouth for Puducherry Fishing Harbour” as part of the reconstruction and modernization of fishing harbour at Puducherry. The related maintenance dredging operations began in 2011 and are still continuing to date. However, while the dredging contractor is required to dispose the dredged material in the ocean, the dredged material was instead dumped on the land and within the harbour limits. The dredged sand, estimated to be amounting to about 1,50,000 cubic meters is still lying on the land instead of being returned to the littoral drift. This subtraction of coastal sediment from the sedimentary budget of the Puducherry-Tamil Nadu coastal compartment and sediment cell is resulting in erosion of the coastline. Several representations to put the sand back into the sea to nourish the beaches have been made but no action has been taken till date.

52. In January 2011 the Puducherry PWD issued an Expression of Interest (EOI) for erosion control and reclamation of Puducherry beach with “soft solutions” such as geo tubes, clearly stating that all conventional “hard” measures such as “boulders, tetra pods, etc.,” were excluded from the chosen solutions, as deemed harmful for the coastal environment. Additionally, it is stated that the proposed solution should have a short-term and long term perspective plan to ensure better coastal environment. Moreover, the proposed solutions should involve the

authorities of neighbouring state and stake holders. Most importantly the consultant should “ensure that there is no adverse impact to the coastline due to the implementation of the project.” This point is emphasized in the EOI repeating that “there is need to ensure that this does not affect the adjoining features of the coast line both in the state of Tamil Nadu and Puducherry.” Finally, during the post-construction stage, the project proponent is supposed to achieve the objectives of coastal protection and reclamation in a “holistic manner.” By undertaking such a project, the Government of Puducherry should be able to address its coastal erosion problems while ensuring that the neighbouring state and areas of Tamil Nadu not only do not get affected but also benefit from it.

53. On 18<sup>th</sup> August 2011 the Hon'ble Minister for Public Works Department, Govt. of Tamil Nadu writes to the Hon'ble Chief Minister of the Govt. of Puducherry to apprise him that the lack of sand by-passing and its effect on the littoral drift at the Ariyankuppam Harbour in Puducherry has caused severe erosion of the neighbouring Tamil Nadu coastline, as a result of which in the year 2006, 200m of beach was eroded, several homes were destroyed and the life of a child was lost. The Hon'ble Minister draws the attention to an earlier letter from the Govt. of Tamil Nadu in which the GoP is requested not to continue construction of groynes without proper technical studies as it is likely to further affect the Tamil Nadu shoreline. He also informs that the proposed Deep Water Port would have a catastrophic effect on the shoreline of Villupuram District. He also requests the GoP to start sand by-passing and to desist going ahead with the proposed Deep Water Port without obtaining the prior consent of the GoTN so that Tamil Nadu coastline is not further affected. On 29<sup>th</sup> November 2011, a second letter is sent to remind the GoP to start sand by-passing at the harbour and to stop further interruption of Littoral Drift that would take by construction of the proposed Deep Water Port which would further affect the Tamil Nadu coast and go against his Govt's Interests.

54. On 29<sup>th</sup> Dec. 2011, the Secretary, Port Department, GoP held a stakeholder's meeting on restoration of Puducherry coastline as reported in the Minutes of the Meeting circulated on 23<sup>rd</sup> Feb 2012. During that the Secretary suggested that “all should work for a sustainable solution to the problems of erosion.” The Chief Engineer, PWD-cum Director of Ports-responded that “the PWD was called by the

MoEF and had suggested that Geotubes be put up along the Puducherry coast towards restoring the coastline.” During the meeting “all agreed that the rejuvenation of the lost beaches is of vital importance since it would not only help the fishermen but also facilitate tourism.” Towards concluded, the Secretary assured that “a long term sustainable solution to the restoration of the coastline of Puducherry [was] for the benefit of one and all.”

55. On 2<sup>nd</sup> February 2012 the Government of Puducherry constituted the Evaluation Committee for Assessing the consultant for the coastal protection work in Puducherry using Geotextile tubes. This committee is yet to meet.
56. In March 2012 the MoEF wrote to the Government of Tamil Nadu to enquire about the construction of groynes along the Chinnamudalyar Chavadi Kuppam coast based on a complaint against the proposed groynes that was made by the NGO Pondy CAN. No action was taken.
57. In its September 2012 report, the National Institute of Ocean Technology (NIOT) stated the following with regard to the groynes constructed in Puducherry and Tamil Nadu: “It is recognised that groynes should be used only to maintain existing conditions, rather than enhancing beach volume or eliminating erosion... But this should be used only after exhausting all other available options for restoration.” The report also stated:

“There is need for a well-defined plan that seeks to treat the shoreline and the issue of erosion in a more integrated, sustainable and strategic manner.”

“It is recommended to have a total and common shoreline management plan for the entire Puducherry and the adjacent Tamil Nadu coast so that short-term and long-term strategies can be drawn considering the coast in total. The short-term strategies required at specific sites can be designed and integrated in long-term strategies, if a shoreline management plan is prepared.”

“As Puducherry is known for its tourism/recreation, it is advisable to restore the natural beach by implementing beach nourishment... The above option will not only help in gaining a natural beach but also help in controlling the erosion of the northern coast. The detailed design of beach nourishment

scheme can be worked out based on discussions. Also, eco-friendly techniques and “soft engineering measures” to stabilize the coast could be implemented along with beach nourishment for retaining the sane and to restore the ecological functions and services that are provided by sandy beach ecosystems as well as enhance livelihood opportunities for the fishing communities and increase value to the coast.” “A long term and permanent solution can be found if both the Tamil Nadu and Puducherry Governments jointly work towards a common, long-term and sustainable shore restoration strategy. Short-term solutions may need to be implemented, but these have to take into account the long-term solutions and should be “no-regret” “solution.” “The general principle of “working with nature” would be a better approach for cost-effective and sustainable coastal protection measures. Puducherry needs to consider modern protection practices which achieve a more effective and sustainable means of coastal protection while also addressing local amenity and economic development aspects. It is most important to ensure that the natural movement and flow of sediment along the shoreline is maintained.”

“The beach restoration will primarily benefit the coastal dwellers living along the Puducherry and nearby Tamil Nadu coast including fishing households, the owners, operators and employees of fishing boats, hotels and other tourism related businesses and their employees. But mostly it will benefit all the residents of this peaceful coastline whose young children have never even seen its beautiful beaches.”

58. The report “The Challenged Coast of India” published in October 2012 also points out with regard to the performance of the groynes that were built along the Soundanikuppam – Thandiriayankuppam coast that for every square meter of beach that has been artificially gained with the use of groynes, about 4 square meters of beach space is damaged and lost on the down drift side of the groynes. Therefore, it is unequivocally demonstrated that groynes are causing more damage to the coast and that they are exacerbating the problem of erosion.

59. Neither the Government of Puducherry nor the Government of Tamil Nadu examined any available options for beach restoration. Mechanical sand bypass was not implemented. More importantly, there is no record that the Government of Puducherry ever considered the simplest, most effective way to restore the beaches, end the massive erosion of village land into the sea, restore the livelihoods of the local fishing communities, and reverse the trend of increasing saline infiltration into the local aquifers; to remove the damaging harbour at Ariyankuppam and allow the natural flow of sand to resume. When one compares the insignificant economic benefit conferred by the harbour with the enormous economic, social and environmental cost of the ravaged coastline for 18 kilometers to the north (and moving ever – northward as hard structures proliferate), it is astonishing that the Government of Pudhucherry never considered this obvious alternative.
60. A comprehensive plan for coastal protection has not yet been considered in spite of the fact that both the Governments of Puducherry and Tamil Nadu are fully aware that the erosion is spreading northwards. Instead of taking proactive measures to mitigate the erosion, the erosion is instead allowed to go on, increase and further degrade the coastal environment. Both the governments jump into action only when it is too late and the erosion of the coast has become a manmade disaster in which the homes and livelihoods of the coastal communities have been destroyed. It is only in such belated circumstances that the concerned Government authorities resort to the construction of seawalls as emergency measures. Under these disastrous circumstances, the concerned authorities justify the construction of seawalls as their only option available. Such tardy actions, ad hoc-ism and poor planning and negligence only results in the destruction of greater extent of the coastal environment.
61. The destruction of sandy beaches represents a very significant economic loss to Puducherry's tourism industry and to the traditional fishing industry all along the damaged coast. It is estimated that thousands of traditional fishermen have been unable to pursue their livelihoods since the beaches were lost and seawalls have come up; and thousands more are now forced to launch their boats from places outside their own villages. An estimated 300 acres of land mass has been taken by the sea, including numerous houses and other buildings in coastal



villages. The governments of Puducherry and Tamil Nadu have spent hundreds of crores of rupees dumping boulders to create riprap seawalls and groynes. In addition to the environmental and aesthetic loss to the immediate coastline, this construction activity entails collateral environmental damage to the mountains from which the boulders are quarried and the energy used to transport them from mountain to seaside. The hard structures on the coastline have radically transformed the morphology and morphodynamics of the coast and intertidal marine zone. This has far-reaching consequences for the entire ecosystem.

62. The endangered Olive Ridley sea turtles which are listed under Schedule I of the Indian Wildlife Protection Act (1972) nest along the Puducherry-Tamil Nadu coastline. Olive Ridleys are known to return to their natal beaches to lay their eggs. But when man-made structures have been built in the place of their nesting beaches, as is the case in Puducherry and Tamil Nadu, these structures prevent sea turtles from continuing their innate life cycles. Coastal structures therefore directly threaten and further endanger sea turtles by reducing suitable nesting habitat and displacing turtles into less-than-optimal nesting areas. The destruction of the natural beach space and habitat by human induced erosion followed by the armouring of the coast with seawalls and groynes makes it impossible for sea turtles to make their nests on the beaches. The as hoc and unscientific construction of seawalls and groynes along the coast is therefore directly endangering the existence of sea turtles.

63. The armouring of the coast with seawalls and groynes also results in the destruction of intertidal habitat that is required by marine flora and fauna such as planktons, crustaceans, bi-valves, molluscs, other invertebrates and even fishes. These flora and fauna also form part of the marine food chain which supports fish stocks. The destruction of inter-tidal habitat therefore impacts large numbers of marine species and ecosystems.

64. Without the beach providing the crucial sandy buffer between the sea and the land, erosion of the seabed at the coastal margin has resulted in salt water infiltration into the local aquifers. The Central Ground Water Board has reported that the ground water development in the Puducherry region is rather very high and no further groundwater development is to be encouraged. On the other hand, there is an urgent need of regulation of over-exploitation, protection and

augmentation of ground water resources to recharge the depleted aquifer systems. An assessment of the vulnerability of seawater intrusion in Puducherry coastal region is indicating that both the northern and southern coasts of the Puducherry region are vulnerable to seawater intrusion. As the groundwater resources of the Puducherry region are already stressed, the increase of seawater intrusion due to human induced coastal erosion has to be avoided at all costs.

65. The increased salinity in Puducherry's fresh water has resulted in hundreds of hectares of farm land becoming fallow. In addition to ruining the taste of the local drinking water, increased salinity is well-known to cause kidney disease. Several of the shallow wells along the coast on which the local communities depend for their freshwater requirements have already turned saline. The loss of freshwater resources is causing severe hardship to the local communities as they have to find alternative sources of freshwater.
66. It is also important to note that at the national level the coastline also represent the boundary of the nation and its territories. The indiscriminate, uncontrolled, and unnatural alternation of the coastline is resulting in the uncontrolled alteration of the national boundary, both on land as well as offshore, of the international maritime border and that of the Exclusive Economic Zone (EEZ). This is something that has political and economic implications which are of national concern.
67. The seawalls and groynes are being built without any carrying capacity studies. The coastal environment of the Puducherry-Tamil Nadu region is already heavily and to a large extent impacted by the ongoing human induced erosion of the coast caused by the Puducherry harbour. Further armouring of the coast with seawalls and groynes will only result in reducing the carrying capacity of the coastal environment beyond the point of self-sustainability.
68. The coastal environment is a highly dynamic and therefore complex environment to manage. Experience has shown that the less one interferes with coastal processes, the lower is the likelihood of having coastal management problems. Across the world, increasingly the scientific community is of the opinion that particularly on the coast it is preferable to "work with Nature" rather to try to "fight against Nature." This approach is also akin to the approach of the

Precautionary Principle which advocates that if the coastline is eroding, particularly due to human induced causes, it is preferable to address the root causes of the problem and try to return to the original, natural, stable state of the coastline, rather than to attempt to re-engineer the coastal environment which results in perpetual alteration of the coastal environment with all its accompanying negative impacts.

69. Despite the recognition by the Union and State Governments, as well as that of related Government agencies such as the CWPRS and the NIOT, private and professional consultancy firms, local communities, civil society groups that “soft” engineering measures such as beach nourishment, which are environmentally and socially friendly and increasingly adopted world-wide, should be adopted to tackle coastal erosion, especially to mitigate and reverse human induced coastal erosion, there is however a lack of well-defined scientific and technically sound processes and systems for sand nourishment of eroding beaches which the Government and their respective agencies can follow or implement. As a result of the lack of such well-defined processes and systems, Governments and their agencies fall back upon past experience, even though it is obsolete and go about “business as usual.” In this regard, it is also important to note that the “business as usual” favours vested interests, such as the consultants who get to design more and more coastal structures as they cause more and more erosion, the quarry owners, the transporters and the contractors who keep on benefiting as long as coastal structures need to be built even though it is at the cost of the coastal environment.
70. Seeing the unwillingness of concerned agencies to restore and nourish the beaches, very often the local communities that have at first lost their livelihoods when their beaches have eroded, eventually get desperate when nothing is done to control the erosion particularly when they start losing their habitations. As a last and desperate measure to save their homes, these communities start to demand that their homes be immediately protected in whichever way possible, even with the use of hard structures such as seawalls and even if it is at the cost of the coastal environment. The measures, particularly those that are environmentally destructive, that are demanded in a state of desperation by the

local communities and followed out of popular demand are not necessarily the best for their livelihoods, the environment, the society at large and the future generations, especially in the long term.

71. Since the construction of the harbour, seawalls and groynes commenced in Puducherry and Tamil Nadu, numerous civic groups, including Coastal Action Network, have complained to the Government of Puducherry and Government of Tamil Nadu and warned of the worsening environmental and economic disaster. Both governments have ignored these warnings and continued to build hard structures, in the Cuddalore, Puducherry and Villupuram Districts, disrupting the natural flow of coastal sediment, damaging their own coast and their neighbour's in complete disregard of the economic, social, and environmental consequences of this construction.
72. The Government of Tamil Nadu currently proposes to build a series of 12 more groynes from Chinnamudalaiyar Chavadi to Bommiyarpalayam, as well as additional seawalls and groynes to the south of Puducherry, as far south as Cuddalore. Some of the work has already commenced. The Government of Tamil Nadu has not sought or been given prior permission and approval by the Ministry of Environment and Forests, Government of India to construct these groynes.
73. On or about 18 November 2012, the Government of Tamil Nadu began dumping rocks on the coast at Chinnamudalaiyar Chavadi, thereby commencing construction of a planned 180m groyne. This activity will cause further damage to the coastline, and to the lives and livelihoods of those who live along the coastline, if it is allowed to proceed. The Government has without considering the hazards of undertaking such activity has commenced and is continuing with the construction of the groyne, the fact that the detriment caused to the coastal environment is not limited only to that particular sector has not, even been considered. No proper environmental impact assessment has been done by the concerned authorities, in violation of governing laws and violating rights guaranteed under Article 21 of the Indian Constitution. The economic consequences of the damage caused by the construction of the groyne will be disastrous.
74. On 27<sup>th</sup> December 2012 the Puducherry Coastal Zone Management Authority (PCZMA) wrote to the MoEF requesting it to impress upon the Government of

Tamil Nadu to refrain from undertaking as hoc coastal protection measures such as seawalls and groynes without consulting and taking the consent of the Government of Puducherry and required CRZ clearance. The PCZMA also expressed its apprehensions that the proposed and on-going coastal protection measures erected in adjacent Tamil Nadu would cause erosion of the Puducherry coastline. Moreover, the PCZMA also expressed the need to follow the recommendations of the stated NIOT report which suggests that a common shoreline management plan for the entire Puducherry and adjacent Tamil Nadu should be prepared so that short-term and long term strategies can be drawn considering the coast in total.

75. According to the CRZ Notification 211, Section 3,(iv), activities that disturb the natural course of seawater such as for erosion control are prohibited if constructed without an Environmental Impact Assessment study. Section 4.2 (i) (c) of the same notification also states that the procedure for clearance of such activities should be undertaken after 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. The seawalls and groynes being built by the GoTN at Chinnamudalaiyar Chavadi Kuppam and in Villupuram District and Devanampattinam in Cuddalore District are being undertaken without an EIA, neither with a comprehensive EIA with cumulative studies and without consultation with the State Governments and Union Territory Administration and are therefore in violation of CRZ Notification 2011.

76. According to the Environmental Impact Assessment Notification 2006, the construction of seawalls and groynes being built by the GoTN at Chinnamudalaiyar Chavadi Kuppam and in Villupuram District and Devanampattinam in Cuddalore District are classified as "Category A" projects as they fall within 10 km of the inter-state boundary and would therefore require an EIA. The natural flow of sediment and beach sand along the coast is an essential phenomenon and process which supports natural habitats, flora and fauna, human populations and their fundamental right to life and livelihood. Coastal sediment is a public good that forms the very foundation of the sandy coastal environment, without which none of the sandy coastal environments can be sustained. The human

induced loss of sediment from the coast and the resulting erosion and destruction of coastal habitats therefore directly results in the violation of the fundamental right to life and livelihood of all that which is dependent on coastal sediment. Just as water, food, air, light, etc., are an essential part of the life and livelihood of every citizen of this country, similarly coastal sediment is equally an essential public good which is a part of the life and livelihood of all that which depends on the coastal environment. Numerous representations on the above issues described above, particularly such as the human induced coastal erosion, mitigation and restoration through sand nourishment, restoration of the sandy beach ecosystems and the livelihoods of the local communities etc., spanning a period of more than a decade have been made by several citizen and civil society groups. However, not only is even being aggravated by adhoc, unscientific and unsustainable coastal management measures which are arbitrary and illegal. The Respondents have not undertaken any scientific studies with regard to the exacerbation of erosion due to the groynes already constructed, and erosion is rapidly progressing with no intervention to prevent the same on the part of the statutory authorities.

77. On 29<sup>th</sup> Sep 2012, a representation was submitted to the District Collector, Cuddalore, the 2<sup>nd</sup> applicant submitted representation to several authorities including the respondents herein. On 06<sup>th</sup> Jan 2012, a representation was submitted to the Government of Tamil Nadu, requesting them to refrain from construction of groynes. On 20<sup>th</sup> Nov 2012 and 12<sup>th</sup> Dec 2012, further representations were made by the applicants to the authorities, requesting them to take appropriate action. However, no reply has been received from the authorities and the damage caused to the environment due to the indiscriminate construction of hard structures along the coast continues to this day.

#### **Stand of Puducherry Coastal Zone Management Authority (PCZMA) and MoEF&CC**

78. Replies have been filed by contesting respondents. It is not necessary to refer to all the replies. It will suffice to refer to the affidavit filed by Puducherry Coastal Zone Management Authority (PCZMA) on 06.10.2021 and the reply filed by the MoEF&CC. PCZMA refers to comprehensive Shoreline Management Plan (SMP) for Puducherry in May, 2015 by the National Institute of Ocean Technology

(NIOT), Ministry of Earth Sciences, after monitoring the coastal processes responsible for the shoreline changes from 2012. The SMP was submitted to the MoEF&CC. NIOT designed a hybrid solution for the first time in the country with two reefs and sand nourishment for restoring the eroding beach along Puducherry town. The proposed hybrid solution involved the following:-

- (i) Construction of one Nearshore Wedge Reef opposite to the Chief Secretariat on the north end of Puducherry town foreshore, with the crest at Chart Datum.
- (ii) Construction of one Offshore Reef placed at the south end, at 300 m north of the pier, with the crest at 1 m above Chart Datum
- (iii) Sand nourishment using 4,50,000 m<sup>3</sup> of sand between northern and southern reef along the coastline of Pondicherry Town and Gandhi Statue

79. The above project has been adopted in Puducherry for which CRZ Clearance has been granted.

80. The executive summary in the report of the NIOT is as follows:-

*“Many beaches along East coast of India are subjected to erosion, which threatens habitat, property, public infrastructure, and the tourist industry. Loss of sand can be attributed natural changes (sea level rise, storms, and more recently persistent low pressures due to climate change) and man-made activities (harbours, jetties, seawalls, groins, dredging of tidal inlets and damming of rivers). Pondicherry coast is not exceptional and after construction of Pondicherry harbour, coast north of harbour is subjected to sea erosion. Initially, sand bypassing was carried out by harbour authorities to prevent down drift erosion and to maintain channel free from siltation. Later, discontinuing of sand bypassing due to various technical reasons, lead to erosion of Pondicherry city. UT Pondicherry and Tamil Nadu State Government resorted to short term measures to protect the coast from erosion. Seawall of length 6 Km was constructed by UT Pondicherry, which covers city of Pondicherry and the coastal stretch (2 km) from Sodhanikuppam to Thanthriyankuppam was protected groin field combined with seawall by Tamil Nadu government. The erosion problem shifted further north, Chinnamudaliyar Chavadi and Chinnakalapettai village in UT Pondicherry were also protected by seawall. As on date, 8 km length of the coast was protected by seawall and groin field along Pondicherry coast by UT*

**Pondicherry and Tamil Nadu Government. The above solutions could protect the coast under threat but the authorities and stake holders need an integrated long-term solution for protection of coast and restoration of natural beach.**

**Since, the available information on Pondicherry coast is not sufficient for working out suitable strategies; NIOT was consulted by both Pondicherry and Tamil Nadu government to work out long term/ shore term strategies for management of coast from erosion and impact of cyclones. NIOT has initiated studies to evolve strategies for protection of Pondicherry coast under the project “Demonstration of Shore Protection Measures through Pilot project”, with financial support from Ministry of Earth Sciences. NIOT has taken up task of developing strategies for protection of Pondicherry coast with objectives: 1) Assessment of status of existing protection measures and its performance 2) To understanding the processes responsible for shoreline changes through monitoring waves, tides, currents, sediment characteristics and coastal morphology 3) Analysis of long/short term trends of shoreline along Pondicherry coast and 4) Development of shore protection measures through numerical models. The first three activities were completed and documented in the present report. The final report with strategies for protection of coast will be arrived at based on the discussion with the governments of Tamil Nadu and UT Pondicherry and stake holders.**

**The study aims at understanding various dynamical aspects of coast (water level variations, currents & circulation, tides, waves, bathymetric variations, sediment transport, shoreline changes etc.) to develop hind cast, now cast and forecast models on shoreline changes in priority areas for identification of vulnerable areas of erosion/accretion to arrive at remedial measures for protection of coastline from natural and human perturbations. The strategy proposed in the present study aims at obtaining a comprehensive picture on shoreline changes along Pondicherry coast and to take remedial measures for shoreline management along the stretch.**

**The study area with coastline length of 18 km was divided into four distinct zones, namely 1) Pondicherry harbour and adjoining areas, 2 km 2) Pondicherry**



city, protected by seawall, 6km 3) Groin field, 2 km and 4) Open coast, 8 km. The shoreline changes in these four zones were analysed using remote sensing data and field measurements. The result indicate that the average rate of erosion and accretion is 4m/yr and 5m/yr respectively and the coast needs immediate attention for its protection from natural causes or man-made activities. The estimated rate of net drift would be in the order of 0.28 – 0.30 million cum, which needs to be confirmed by detailed shoreline monitoring.

Coastal processes responsible for shoreline changes were monitored during 2012, where data on winds, waves, tides, currents, sediments, bathymetry etc. were collected between Pondicherry Port and Kalapettai village, covering a coastline of 18 km. Seasonal variations on water levels, wave climate, currents and circulation sediment transport, shoreline changes etc. were studied. The measurements made indicated that the tide propagates from south to north. Currents measured upto a depth of 20 m were found to be seasonal, northerly during SW monsoon and southerly during NE monsoon. The average currents during SW and NE monsoon would be 0.3m/s and 0.5 m/s. The near shore currents generated by waves follow pattern of coastal current in Tamil Nadu coast, which is added advantage in developing snore protection measures. Wave climate indicate that 70% of the waves approach the coast from SE direction and the remaining 30% from NE direction.

Pondicherry, known for tourism/recreation, has lost its natural beach due to construction of seawall. **It is advisable to restore natural beach by implementing beach nourishment. Initial estimates indicate that sand to extent of 3.0 million cum need to be placed north of harbour for length of 600 m near the Gandhi statue. The above option not only helps in gaining natural beach but also helps in controlling the erosion of northern coast. The detailed design of beach nourishment scheme can be worked based on the discussions. Also, eco-friendly techniques and “soft engineering measures” could be implemented along with beach nourishment for retaining of sand and also to restore ecological functions of the coast.**

*Short-term solutions may need to be implemented, but these solutions have to take into account the long-term solutions and should be “no-regret” solutions.*

*A long-term and permanent solution can be found if both the Tamil Nadu and Pondicherry governments jointly work towards a common, long-term and sustainable shore restoration strategy.”*

81. Summary and recommendations in the report are as follows:-

**“Summary and Recommendations**

*The coast along Pondicherry and the adjacent areas of the Villupuram district has been experiencing severe erosion for the past 20 years. Natural causes interception of littoral drift by the harbour at Ariyankuppam village, Pondicherry constructed in 1990 and the subsequent construction of coastal defence structures such as seawalls and groins caused erosion in this and groins regions. Pondicherry and Tamil Nadu governments made several attempts to protect the coast under threat using options like seawalls and groins. Though these protection measures have offered some relief to the coast under threat, adjacent parts of coast areas are eroding, more unstable and are constantly under threat.*

*There is a need for a well-defined plan that seeks to treat the shoreline and the issue of erosion in a more integrated, sustainable and strategic manner. This can be achieved by a Shoreline Management Plan (SMP), which considers the issues at a reasonable scale and focuses on restoring the natural sandy beaches. Policy makers, engineers and stakeholders seek a long term solution to restore the sandy beaches of this entire affected region. The basic questions which need to be answered and understood before attempting any such coastal restoration scheme are following:*

- 1. Present status of coast (geomorphic setting and functional performance of already implemented protection measures)*
- 2. Coastal processes along this coast in relation to proposed coastal restoration schemes.*

3. *Priorities of policy makers and stakeholders*
4. *Requirements of stakeholders*
5. *Economical, environmental and social sustainability of proposed restoration measures.*

*Considering the above, the overall objective of the coastal restoration project should be to address the coastal economically viable restoration works using environmental and socially appropriate solutions. This report describes the present status of the coast and the performance of existing coastal protection schemes. The data on sea bathymetry, land topography, hydrodynamics (tides, waves, currents and sediment characteristics) and shoreline changes was collected for analysing the coastal processes. A joint meeting with Tamil Nadu and Pondicherry governments is required to draw strategies for coastal restoration measures where various technical alternatives can be analysed in relation to the priorities of the government keeping in view that the solution adopted should be sustainable, long term and permanent without affecting the coastline located further north.*

*The analysis of long-term shoreline change data indicate that the average rate of shoreline recession and progression over a period of 30 years is in order of 4 m/yr and 5 m/yr respectively. However, localized shoreline change rates recession specifically, of 5 m/yr in a season were observed. However, the rate of shoreline change and /or erosion is dependent on a gradient of sediment transport along the coast, which is dependent on configuration of the coast, near shore current and availability of the sediments.*

*The 18 km length of coastline of Pondicherry was divided into four zones for analysis. The first zone (Zone A) covering a length of 3.5 km represents the zone of direct influence of the Pondicherry harbour. The sand has accumulated up to the tip of the south breakwater with maximum accretion of 180 m and the sediment started bypassing to the north. The northern side of the harbour is protected by a seawall and sediment deposition is noticed, during the NE monsoon due to the southerly drift. The maximum erosion is about 40 m at distance of 600 m from north breakwater from 1991 to 2000. The second zone (Zone B – 4km), which is part of Pondicherry township*

*is protected by a seawall. Securing at the foot of the seawall is noticed during active monsoon. The third zone (Zone C – 2.5 km) is protected by a series of disjointed groins. These groins were constructed during 2005-2007 and accretion to an extent of 90 m is noticed at northern longest groin located at Thathiriyankuppam indicate availability of sediments along the Pondicherry coast during both monsoons.*

*The CWPRS (1978) has reported that the net drift was estimated to be about 500,000 cu.m. at the time of design of Pondicherry Harbour but the present estimated rate of net drift by us would be in the order of 2,00,000 – 2,80,000 cu.m, which needs to be confirmed by detailed shoreline monitoring. The coast north of longest groin at Chinnamudaliyar Chavadi village has experienced increased erosion and shoreline recession during 2008 to an extent of 70 m. South of this coast regained some lost material during 2012 due to southerly drift and bypassing of sediments from the groin with a net accretion of 20 m. The Zone D with a length of 8 km is not protected by major scheme and maximum erosion observed 1991-2010 is around 25m. A sea wall of length 165 m was constructed at village Chinnakalapettai to protect the coast from erosion.*

*The following are major observations for arriving at coastal restoration strategies for both the Pondicherry and adjacent Tamil Nadu coast.*

- *Pondicherry has been known as a beautiful beach town. The beaches here, particularly along the famous beach road were used for all kinds of activities by a large cross-section of people. Children chased crabs and looked for interesting shells. The famous Masi Magam festival of Pondicherry relied on the big beach where the chariots of all the gods from all the temples near and far would come. With the beach almost gone and the rocky sea wall, all these little everyday pleasures of each and every resident of Pondicherry and all those who throng to its shores, have been snatched away.*
- *The basic objective of shore restoration projects moderate the life-term average erosion rate and shoreline change from man-made causes, which can be achieved only if the natural dynamics of the coast is well understood.*

- *The medium term analysis of shoreline change data from 1991-2012, indicate that this region needs immediate attention.*
- *Protection schemes till date have been implemented in isolation both in Pondicherry and Tamil Nadu, a common phenomenon even in developed countries. This has happened because of various constraints like scientific/engineering understanding of nature, economics of the scheme to be implemented, institutional issues, lack of interstate coordination and acceptance by stakeholders. It is recommended that short-term and long-term strategies can be drawn considering the coast in total by Pondicherry and Tamil Nadu Government. The short-term strategies required at specific sites can be designed and integrated in long-term strategies, if a shoreline management plan is prepared.*
- *Pondicherry harbour is causing a deficit in sediment supply to the northern coast. Sand bypassing carried out by harbour authorities for certain period could maintain the beach north of the harbour. Later, discontinuing the sand bypassing resulted in loss of beaches in the northern coast. The recent analysis of satellite data suggests that parts of the littoral sediments are bypassed naturally to northern coast. While designing the shore restoration scheme for Pondicherry coast, the configuration of harbour and its relation to natural bypassing of sand at harbour should be studied.*
- *Pondicherry wave climate is influenced by both the SE and NE waves with occasional cyclonic storms crossing the coast. The maximum surge level observed above the tide is 0.7m with a tidal range of 1.2m. The waves approaches from SE direction from April-September with mean direction 135 deg, while during NE monsoon, the direction is 90 deg. The coastal currents are seasonal, directed to north during SW monsoon and south during NE monsoon. The average currents during SW and NE monsoon would be 0.3m/s and 0.5 m/s. The near shore currents generated by waves follow similar pattern like coastal currents in Tamil Nadu coast, which is an added advantage in developing common shore restoration measures. A detailed study conducted at Vellar estuary and Ennore shows shoreline change governed by wave climate and tidal influence is insignificant. Low pressure systems like events of 2007 can cause significant damage to coast and some of its changes could be permanent. The*

*coastal protection scheme seawall built along the Pondicherry town for length of 6 km need to be assessed carefully to avoid further damage during cyclone or low pressure periods.*

- *Pondicherry is known for its tourism/recreation, it is advisable to restore the natural beach by implementing beach nourishment. At Ennore, sand dredged from harbour to an extent of 3.5 million cum was placed, on north of harbour to prevent down drift erosion. The performance of beach nourishment was assessed based on long-term data at Ennore which shows nourishment has supplied sand to northern coast for period of 5 years and coastline was stable even after the construction of harbour. Initial estimates indicate that sand to the harbour for length of 600m near the Gandhi statue. The above option will not only help in gaining a natural beach but also help in controlling the erosion of the northern coast. The detailed design of beach nourishment scheme can be worked out based on discussions. Also eco-friendly techniques and “soft engineering measures” to stabilize the coast could be implemented along with beach nourishment for retaining the sand and to restore the ecological functions and services that are provided by sandy beach ecosystems as well as enhance livelihood opportunities for the fishing communities and increase value to the coast.*
- *A long term and permanent solution can be found if both the Tamil Nadu and Pondicherry Governments jointly work towards a common long-term and sustainable shore restoration strategy.*
- *Short-term solutions may need to be implemented, but these have to take into account the long-term solutions and should be “no-regret” solutions.*
- *Worldwide there is now increasing examples of replacement of hard structures like seawalls with softer options such as beach nourishment, sand bypassing, dune planting and offshore submerged reefs. Thus, the general principle of “working with nature” would be a better approach for cost-effective and sustainable coastal protection measures. Pondicherry needs to consider modern protection practices which achieve more effective and sustainable means of coastal protection while also addressing local amenity and economic development aspects. It is most important to ensure that the natural movement and flow of sediment along the shoreline is maintained.*

- ***All shore protection schemes should be monitored scientifically under technical guidance of expert institutes by Tamil Nadu and Pondicherry governments for improvement in its performance. The crest of berm data collected by Tamil Nadu PWD do not cover any location along Pondicherry coast. The closest locations considered for analyzing the data along this coast are Devanampattinam and Oyyalikuppam at South and north of Pondicherry respectively.***
- ***Given the social and economical importance of the Pondicherry beaches, the coastal restoration option should consider the protection of land, buildings, ground water, ecology, livelihoods and public and private infrastructure against future loss and damage caused by erosion and storms.***
- ***The beach restoration wil primarily benefit the coastal dwellers living along the Pondicherry and nearby Tamil Nadu coast including fishing households, the owners, operators and employees of fishing boats, hotels and other tourism related businesses and their employees. But mostly it will benefit all the residents of this peaceful coastline whose young children have never even seen its beautiful beaches. No one expected that waves due to monsoon or cyclone take away the natural beach.”***

#### **Reply of MoEF&CC**

82. Reply of the MoEF&CC dated 02.02.2021 deals with the status of updation/revision of CZMPs as follows:-

***“2. That in exercise of the powers conferred by the sub-section (1) and clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986 read with clause (d) of the sub-rule 5 of the Environment (Protection) Rules, 1986, Ministry of Environment and Forest had notified the Coastal Regulation Zone Notification, 1991 on 19<sup>th</sup> February, 1991, which, inter-alia, provided classification of Coastal Regulation Zone (hereinafter referred to as CRZ) areas and norms for regulating developmental activities therein. This Notification was subsequently amended from time to time.***

**3. That it is submitted that in supersession of the CRZ Notification, 1991, the Coastal Regulation Zone Notification, 2011 was notified on 6 January, 2011 for regulation of developmental activities along the coastal stretches and to ensure the livelihood security to the fisher communities and other local communities, living in the coastal areas, to conserve and protect coastal stretches.**

**4. The validity of the Coastal Zone Management Plans (hereinafter referred to as CZMPs) approved under CRZ Notification 1991 was extended from time to time, the last such extension being upto 31.07.2018, pending preparation and subsequent approval of fresh CZMPs under the CRZ Notification, 2011. All the developmental activities in the CRZ areas of coastal states were required to be regulated as per the above mentioned notifications and within the framework of approved CZMPs.**

**5. It is humbly submitted that the CZMPs of all coastal States except State of Goa has been approved under the provisions of the CRZ Notification, 2011.**

**6. That it is submitted that in supersession of the CRZ Notification, 2011, the Coastal Regulation Zone Notification, 2019 was notified on 18<sup>th</sup> January, 2019 for regulation of developmental activities along the coastal stretches and to ensure the livelihood security to the fisher communities and other local communities, living in the coastal areas, to conserve and protect coastal stretches, specifically focused on conservation and management plans of Ecologically Sensitive Areas (ESAs) which did not feature in the CRZ Notification, 2011.**

**7. It is humbly submitted that the High Tide Line (HTL) has been mapped out and standardized for the entire coast of the country unlike the TL earlier allowed to be demarcated by one of the seven authorised agencies, that too only for identified stretches/sites, and thereby bringing in standardization and authenticity and removing arbitrariness.**



**8. It is submitted that the Hazard Line for the entire coast of the country has also been mapped and is required to be incorporated in CZMPs of the coastal States or Union territories.**

**9. it is humbly submitted that the CRZ Notification, 2019 shall however, come in force only after the respective CZMP framed to the CRZ Notification, 2011 have been revised/updated by the States/Uts, as per the provisions of the new Notification and approved by the Ministry of Environment, Forest & Climate Change. Para 6 (i) of CZR notification, 2019 inter alia states as under:**

**“All coastal States and Union territory administrations shall revise or update their respective coastal zone management plan (CZMP) framed under CRZ Notification, 2011 number S.O 19 (E), dated 6<sup>th</sup> January, 2011, as per provisions of this notification and submit to the Ministry of Environment, Forest and Climate Change for approval at the earliest and all the project activities attracting the provisions of this notification shall be required to be appraised as per the updated CZMP under this notification and until and unless the CZMPs is so revised or updated, provisions of this notification shall not apply and the CZMP as per provisions of CRZ Notification, 2011 shall continue to be followed for appraisal and CRZ clearance to such projects.”**

**Before finalising the CZMP concerned State/Union Territories/Coastal Zone Management Authorities are required to adopt due procedure in preparation of CZMPs as stipulated in Para 6 (ii) of CRZ Notification, 2019 which includes public consultation. Para 6 (iii) of said notification inter alia states as under:**

**“The coastal States and Union territories shall prepare draft CZMP in 1:25000 scale map indentifying and classifying the CRZ areas within the respective territories in accordance with the guidelines given in Annexure-IV to this notification, which involve public consultation.”**

A true copy of CRZ Notification, 2019 is annexed herewith and marked as Annexure-R/1.

10. It is humbly submitted that the National Centre for Sustainable Coastal Management (hereinafter referred to as NCSCM) made a presentation on the status of the updation/revision of CZMPs prepared based on provisions of CRZ Notification, 2019, in the 40<sup>th</sup> meeting of National Coastal Zone Management Authority (NCZMA) held on 28.08.2020, as under:

S.No	State/UT	Status of Approved CZMP 2011	Status of Draft CZMP 2019	Agency preparing CZMP 2019	Time Required to Complete
1	Maharashtra	Approved	COMPLETED <u>Public hearing completed</u> in all districts other than Palghar and Sindhudurg districts	NCSCM	COMPLETED
2	Odisha	Approved	COMPLETED <u>Public hearing completed</u>	ORSAC/SAC	COMPLETED
3	Andhra Pradesh	Approved	80% work completed including Buffering of CRZ boundaries	NCSCM	4 MONTHS-DEC 2020
4	Karnataka	Approved	50% work completed including buffering of CRZ boundaries	NCSCM	4 MONTHS-DEC 2020
5	Puducherry	Approved	30% work completed including buffering of CRZ boundaries	NCSCM	3 MONTHS-NOV 2020
6	Daman&Diu	Approved	50% work completed including buffering of CRZ boundaries	NCSCM	3 MONTHS-NOV 2020
7	Tamil Nadu	Approved	20% work completed	NCSCM	5 MONTHS-JAN 2021
8	Gujarat	Approved	20% work completed	NCSCM	6 MONTHS-FEB 2021
9	Kerala	Approved	In progress being monitored by Kerala High Court	NCSCM	Status to be obtained from NCESS
10	West Bengal	Approved	Pending. Status not known	IESWM	Status to be obtained from IESWM
11	Goa	Draft published	Pending	Not known	Amendments to

		in website for public hearing. Revision based on amendment in progress (NCSCM)			CRZ Notification 2011 notified on 1 <sup>st</sup> May 2020
12	Andaman & Nicobar Islands	ICRZ plans: 9 Islands IIM Plans: 5 Islands Approved	ICRZ Plans of Great Nicobar & Little Andaman Islands completed and submitted to ANZMA for public hearing	NCSCM	6 MONTHS-FEB 2021
13	Lakshadweep Islands	Approved	Revision of IIMPs of Suheli, Kadamat & Minicoy Islands in progress	NCSCM	6 MONTHS-FEB 2021

11. It is humbly submitted that the answering Ministry is yet to receive the draft CZMPs updated/revised as per the provisions of the CRZ Notification, 2019 from all the coastal State Governments for further consideration and approval.

12. It is further humbly submitted that the CRZ Regulations are to be implemented and monitored including violations thereof by the concerned State Coastal Zone Management Authority in accordance with the proved CZMPs of the respective region of the coastal state."

#### Consideration of the Issue, finding and Directions

83. We have given due consideration to the issue of protection of the beaches from human induced erosion caused by hard structures. It is a fact that these hard structures may prevent erosion at the said stretch temporarily but the adverse impact of such measures are felt upstream or downstream where erosion starts. Thereby such hard measures only transfer the problem of shoreline change until and unless a holistic study is undertaken keeping in view that sediment cells and appropriate scientific measures taking into consideration both soft and hard. The problem exhaustingly highlighted by the applicant, noted above raises substantial question of environment. We are satisfied that the same needs to be addressed by all coastal States/Uts for protection of beaches from human induced erosion caused by hard structures. We find that Puducherry model of SMP based on report of NIOT submitted in March 2015 addresses the issue comprehensively and can be adopted subject to any suitable change based on

further study in terms of the recommendations in the said report. As suggested in the report, there is need to replace hard structures like seawalls, groynes etc. with softer options such as beach nourishment, sand bypassing, dune planting, offshore submerged reef, etc. Thus, the general principle of “working with nature” would be a better approach for cost-effective and sustainable coastal protection measures. There is no objection to the said model by any of the appearing parties. Further, the Tribunal also notes that depiction of high, medium and low erosion stretches along the coast line is mandatory in the CZMPs. The CRZ Notification, 2019 regulates foreshore developmental activities based on these parameters as well. Like ports and harbours are prohibited in high erosion stretches. We also note that inspite of the CRZ Notification being issued in Jan, 2019, the CZMPs have not been finalised and approved for 11 State/UT. This is gross violation of Hon’ble Supreme Court judgement in Indian Council for Enviro Legal.. vs Union of India & Ors., (1996) 5 SSC 281. Accordingly, we direct Chief Secretaries of the coastal State/UT to finalise the CZMP and get them approved by MoEF within 2 months. The approved CZMP shall contain the parameters as listed in the CRZ 2019 Notification including High, Medium and Low erosion stretches for such erosion prone areas. SMP shall be prepared as illustrated by NIOT for such erosion prone areas. We further direct preparation/updation of their SMPs for such identified eroding stretches shown in the CZMPs within six months. Pending preparation/updation of such SMPs by the Coastal States/Uts, no further hard structures for erosion control be raised or constructed.

The application is disposed of.

A copy of this order be forwarded to al the Coastal States/Uts and MoEF&CC for compliance by e-mail.

**Appeal No. 18/2017(SZ)**

84.As noted earlier challenge in the appeal is to the proposed construction of series of 19 Groynes from Ennore to Ernavoorkuppam in Madhavaram Taluk of Thiruvallur District, Tamil Nadu by the Public Works Department (WRD). The main ground challenge of the CRZ Clearance is that construction of groynes in coastal area has adverse impact by obstructing littoral drift. The impunged

clearance ignores this aspect. The impunged CRZ clearance itself mentions that the same is subject to further orders in O.A. 04/2013 which was pending on the date when CRZ Clearance was granted.

85. While dealing with the O.A. No. 4/2013 (SZ), we have approved the report of the NIOT recommending preparation of SMP which should be environmentally compatible, in the manner suggested and discussed above. We have also directed all the Coastal States/Uts in the Country to prepare their respective SMPs accordingly. The impunged CRZ Clearance is not sustainable in view of above discussion. The same is accordingly set aside without prejudice to fresh clearance being granted in accordance with the approved SMP.

The appeal is allowed in above terms.

Adarsh Kumar Goel, CP

K. Ramakrishnan, JM

Sudhir Agarwal, JM

Pushpa Sathyanarayana, JM

Dr. Satyagopal Korlapati, EM

Prof. A. Senthil Vel, EM

April 11, 2022

O.A.No. 04/2013(SZ)

With Appeal No. 18/2017 (SZ)

A

**F.No.19-84/2020-IA.III  
Government of India  
Ministry of Environment, Forest and Climate Change  
IA-III Section (CRZ)**

Indira Paryavaran Bhawan  
JorBagh Road  
New Delhi-110003  
Dated: 27<sup>th</sup> July, 2022

**OFFICE MEMORANDUM**

**Subject: Deployment of Artificial Reef Modules made of concrete in the Sea – reg.**

The Ministry has received communications from State Coastal Zone Management Authorities seeking guidance on Deployment of Artificial Reef Modules made of concrete in the Sea.

2.The Ministry has sought the comments of National Centre for Sustainable Coastal Management (NCSCM). The NCSCM has mentioned that as per the CRZ Notification 2011/2019, activities impugning on the sea and tidal influenced water bodies will be regulated and permitted or regulated project activities attracting the provisions of this notification shall be required to obtain CRZ clearance prior to their commencement. Deployment of sample artificial reef modules made of concrete in the sea requires rapid assessment of the possible impact of the concrete material used and the presence of the artificial reef on the marine environment and monitoring program including ecological, socio-economic and fishery aspects to evaluate the reef's after-effects after the deployment, as part of the CRZ clearance process.

3.Based on the communications received from the State CZMA and considering the opinion provided by the NCSCM, the matter was referred to the Expert Appraisal Committee (CRZ) by the Ministry.

4.The proposal was considered by the EAC (CRZ), in its meeting held on 26/05/2022 through video conferencing. The Committee made detailed deliberations on the proposal. The Committee noted that the Ministry had issued CRZ Notifications with a view to ensure livelihood security to the fisher communities and other local communities, living in the coastal areas, and 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 and sea level rise due to global warming. As per para (8) (IV) of the CRZ Notification, 2011, in CRZ-IV areas, the activities impugning on the sea and tidal influenced water bodies will be regulated except for traditional fishing and related activities undertaken by local communities. The proposed activity is for enhancing the fishery resources in the sea and is being practiced in the coastal areas since many years.

The Committee after detailed deliberations noted that the proposed activity does not require any prior permissions as per the CRZ Notification, 2011. However, in order to avoid conflict with other activities, the concerned CZMA may issue general guidelines for undertaking such activities incorporating, amongst others, the following terms and conditions:

- i. The artificial modules/structures shall not be deployed in or over the natural living coral reef or sea-grass areas, if any.
- ii. These structures shall not hinder the navigational channel or the monitoring stations/units deployed in the sea.
- iii. The CZMA/Fisheries Department undertake monitoring and analyse the changes in biodiversity/fisheries and seabed morphology after complete deployment through necessary studies.
- iv. There shall be encouragement for use of green artificial modules/reef structures to utilize marine resources in a sustainable way.

5. In view of the above, considering the objectives and provisions of the CRZ notifications and based the recommendations of the EAC, it is clarified that the proposed activity does not require any prior permission as per the CRZ Notification, 2011 or 2019 and IPZ Notification, 2011 or ICRZ Notification, 2019. However, concerned CZMA may issue general guidelines for undertaking such activities as recommended by the Expert Appraisal Committee.

6. This issues with approval of the Competent Authority.

(Dr.H. Kharkwal)  
Scientist 'E' (CRZ)

To,

1. All the State's/UT's Coastal Zone Management Authority

**Copy to:-**

- 1. The Director, IA (Policy) / The Director (SCMD)/ The Director (NCSCM)**
- 2. PS to HMEFCC/PS to HmoS**
- 3. PPS to Secretary/PPS to AS(TK)/PPS to JS (SKB)**
- 4. All Senior Officers in the Ministry**
- 5. Website/PARIVESH/Guard file**



**F.No.IA3-12/1/2022-IA.III**  
**Government of India**  
**Ministry of Environment, Forest and Climate Change**  
**IA-III Section (CRZ)**

Indira Paryavaran Bhawan  
JorBagh Road, New Delhi-110003  
Dated: 29<sup>th</sup> November, 2022

**OFFICE MEMORANDUM**

**Subject: Procedure for clearance of permissible Activities as per the CRZ Notification, 2019 / ICRZ Notification, 2019 – regarding.**

The Ministry issued the Coastal Regulation Zone (CRZ) Notification, 2019 on 18<sup>th</sup> January, 2019 and the Island Coastal Regulation Zone (ICRZ) Notification, 2019 on 8<sup>th</sup> March, 2019 in supersession of the CRZ Notification, 2011 and the IPZ Notification, 2011 respectively. The Ministry specified the procedure for clearance as per the CRZ/IPZ Notification, 2011 vide Office Memorandum dated 26<sup>th</sup> April, 2022. The Ministry has also rolled out a fully computerised PARIVESH portal for application, appraisal and approval of projects requiring various clearances at the State and Central level. Therefore, in order to remove redundancy and bring in greater clarity in delegation of powers as per the provisions of the CRZ/ICRZ Notification, 2019, the following procedure shall be followed henceforth for appraisal and approval of projects requiring CRZ or combined Environmental Clearance (EC) and CRZ clearances under the said notifications.

**2.The procedure for clearance of permissible activities as per the CRZ Notification, 2019 and ICRZ Notification, 2019 shall as under:-**

(i) The project proponents shall apply on PARIVESH portal (<https://parivesh.nic.in/>) along with the following set of documents for seeking prior clearance under the CRZ/ICRZ Notification, 2019 to the concerned State or the Union Territory Coastal Zone Management Authority (CZMA):-

- (a) Project summary details as per Annexure – V to the notification
- (b) Rapid Environment Impact Assessment (EIA) Report including marine and terrestrial component, as applicable, except for building construction projects or housing schemes.

- (c) Comprehensive EIA with cumulative studies for projects, (except for building construction projects or housing schemes with built-up area less than the threshold limit stipulated for attracting the provisions of the EIA Notification, 2006) if located in low and medium eroding stretches, as per the CZMP to this notification.
- (d) Risk Assessment Report and Disaster Management Plan, except for building construction projects or housing schemes with built-up area less than the threshold limit stipulated for attracting the provisions of the EIA Notification, 2006.
- (e) CRZ map in 1:4000 scale, drawn up by any of the agencies identified by the Ministry using the demarcation of the HTL or LTL, as carried out by NCSCM.
- (f) Project layout superimposed on the CRZ map duly indicating the project boundaries and the CRZ category of the project location as per the approved CZMP under this notification.
- (g) The CRZ map normally covering 7 km radius around the project site also indicating the CRZ-I, II, III and IV areas including other notified ecologically sensitive areas.
- (h) "Consent to Establish" or No Objection Certificate from the concerned State Pollution Control Board or Union territory Pollution Control Committee for the projects involving treated discharge of industrial effluents and sewage, and in case prior consent of Pollution Control Board or Pollution Control Committee is not obtained, the same shall be ensured by the proponent before the start of the construction activity of the project, following the clearance under this notification.

(ii) The concerned State / Union Territory Coastal Zone Management Authority (CZMA) shall examine the above documents in accordance with the approved Coastal Zone Management Plan (CZMP) / Island Coastal Regulation Zone (ICRZ) Plans or Integrated Islands Management Plan (IIMP) in accordance with the procedure laid down and make recommendations as per the provisions of CRZ Notification, 2019 / ICRZ Notification, 2019, clearly specifying the permissibility, section / clause of the notification permitting the project/activity, to the concerned authority as under:-

S.No	Scenario as per the CRZ Notification, 2019	Clearance	Approving Authority	Procedure
<b><i>Projects requiring only CRZ clearance</i></b>				
1	a.All development activities	Standalone	Ministry	Application at

	<p>or projects in CRZ-I and CRZ – IV areas except those mentioned at S.No. 2(a) below.</p> <p>b.All construction activities related to project of Department of Atomic Energy or National Defence or Strategic or Security importance, except those mentioned at S.No. 2(a) and 2 (b) below.</p> <p>c.Projects in CRZ-II and III, which also traverse through CRZ-I or CRZ-IV or both</p> <p>d.Construction of sewage treatment plants in CRZ-I for the purpose of treating the sewage from the municipal area of Greater Mumbai</p>	CRZ		<p>CZMA by the PP</p> <p>↓</p> <p>Recommendation of CZMA</p> <p>↓</p> <p>Application in the Ministry</p> <p>↓</p> <p>Recommendation of EAC (CRZ)</p> <p>↓</p> <p>Clearance by the Ministry</p>
2	a.Standalone jetties, salt works, slipways, Temporary structures and erosion Control Measures (like Bunds, Seawall, Groynes, Breakwaters, Submerged reef, Sand nourishment, etc.) located in CRZ-I and CRZ-IV	Standalone CRZ	CZMA	<p>Application at CZMA by the PP</p> <p>↓</p> <p>Clearance by the CZMA</p>

	<p>b. Permissible and regulated activities which fall purely in CRZ-II and CRZ-III areas</p> <p>c. All construction activities related to projects of Department of Atomic Energy or National Defence or Strategic or Security importance mentioned at S.No. 2(a) and 2(b)</p>			
3	Building and construction projects located in CRZ area, which is not attracting the provisions of the EIA Notification, 2006	Standalone CRZ	State/UT Planning Authority	<p>Application at CZMA by the PP</p> <p>↓</p> <p>Recommendation of CZMA</p> <p>↓</p> <p>Approval by concerned State's or UT's Planning Authorities</p>
4	Self-dwelling units upto a total built up area of 300 sq.mts	Standalone CRZ	Local Authority	<p>Application at concerned Local Authority by the PP</p> <p>↓</p> <p>Approval by the Local Authority</p>
<b>Projects requiring CRZ clearance and also Environmental Clearance (EC) as per the EIA Notification, 2006</b>				

5	<p>a.Any project located in CRZ area that requires EC under Category 'A'</p> <p>b.All construction activities related to projects of Department of Atomic Energy or National defence or Strategic or Security importance that requires EC under Category 'B'</p>	Combined EC & CRZ	Ministry	<p>Application at CZMA by the PP</p> <p>↓</p> <p>Recommendation of CZMA</p> <p>↓</p> <p>Application for EC+CRZ at concerned sector of the IA Division of Ministry</p> <p>↓</p> <p>Comments of CRZ Sector in the Ministry</p> <p>↓</p> <p>Recommendation of EAC for EC+CRZ</p> <p>↓</p> <p>Clearance (combined) by Ministry (EC+CRZ)</p>
6	Any project located in CRZ area that requires EC under Category 'B' except construction activities related projects of Department of Atomic	Combined EC + CRZ	SEIAA	<p>Application at CZMA by the PP</p> <p>Recommendation of CZMA</p> <p>↓</p>

	Energy or National Defence or Strategic or Security importance			Recommendation of CZMA ↓ Application in the concerned SEIAA ↓ Recommendation of SEAC for EC & CRZ ↓ Clearance by SEIAA (EC & CRZ)
Special dispensation given to the Island areas, Municipal limits of Greater Mumbai and Critical Vulnerable Coastal Areas, not falling in the above categories shall be as specified in the Notification				
(Refer clause 4,5,7,8 and 10 of the CRZ Notification, 2019)				

S.No	Scenario as per the ICRZ Notification, 2019	Clearance	Approving Authority	Procedure
<b>Projects requiring only ICRZ clearance</b>				
1	a.All development activities or projects in ICRZ-I and ICRZ – IV areas except those mentioned at Para 2(a) below.  b.All construction activities related to projectes of	Standalone ICRZ	Ministry	Application at CZMA by the PP ↓ Recommendation of CZMA ↓

	<p>Department of Atomic Energy or National Defence or Strategic or Security importance, except those mentioned at S.No. 2(a) and 2 (b) below.</p> <p>c.Projects in ICRZ-II and III, which also traverse through CRZ-I or ICRZ-ICRZ-IV or both</p>			<p>Application in the Ministry</p> <p>↓</p> <p>Recommendation of EAC (CRZ)</p> <p>↓</p> <p>Clearance by the Ministry</p>
2	<p>a.Standalone jetties, salt works, slipways, Temporary structures and erosion Control Measures (like Bunds, Seawall, Groynes, Breakwaters, Submerged reef, Sand nourishment, etc.) located in ICRZ-I and ICRZ-IV</p> <p>b.Permissible and regulated activities which fall purely in ICRZ-II and ICRZ-III areas</p> <p>c.All construction activities related to projects of Department of Atomic Energy or National Defence or Strategic or Security importance mentioned at S.No. 2(a) and 2(b)</p>	Standalone ICRZ	CZMA	<p>Application at CZMA by the PP</p> <p>↓</p> <p>Clearance by the CZMA</p>
3	Building and construction	Standalone	State/UT	Application at

	projects located in ICRZ area, which is not attracting the provisions of the EIA Notification, 2006	ICRZ	Planning Authority	<p>CZMA by the PP</p> <p>↓</p> <p>Recommendation of CZMA</p> <p>↓</p> <p>Approval by concerned UT's Planning Authorities</p>
4	Self-dwelling units upto a total built up area of 300 sq.mts	Standalone ICRZ	Local Authority	<p>Application at concerned Local Authority by the PP</p> <p>↓</p> <p>Approval by the Local Authority</p>
<b>Projects requiring ICRZ clearance and also Environmental Clearance (EC) as per the EIA Notification, 2006</b>				
5	<p>a.Any project located in ICRZ area that requires EC under Category 'A'</p> <p>b.All construction activities related to projects of Department of Atomic Energy or National defence or Strategic or Security importance that requires EC under Category 'B'</p>	Combined EC & ICRZ	Ministry	<p>Application at CZMA by the PP</p> <p>↓</p> <p>Recommendation of CZMA</p> <p>↓</p> <p>Application for EC+CRZ at concerned sector of the IA Division of Ministry</p>



				<p>↓</p> <p><b>Comments of CRZ Sector in the Ministry</b></p> <p>↓</p> <p><b>Recommendation of EAC for EC+CRZ</b></p> <p>↓</p> <p><b>Clearance (combined) by Ministry (EC+CRZ)</b></p>
6	Any project located in CRZ area that requires EC under Category 'B' except construction activities related projects of Department of Atomic Energy or National Defence or Strategic or Security importance	Combined EC + CRZ	SEIAA	<p>Application at CZMA by the PP</p> <p>Recommendation of CZMA</p> <p>↓</p> <p>Recommendation of CZMA</p> <p>↓</p> <p>Application in the concerned SEIAA</p> <p>↓</p> <p>Recommendation of SEAC for EC &amp; CRZ</p> <p>↓</p>

				Clearance by SEIAA (EC & CRZ)
(Refer clause 4,6,7 and 8 of the ICRZ Notification, 2019)				

3. The State/UT CZMA shall forward its recommendation on the permissible activities as per the CRZ Notification, 2019 / ICRZ Notification, 2019 to the concerned authorities, clearly mentioning the CRZ area in which the project is located / passing through, section / clause under which the activity is permissible, conditions if any, and along with all the statutory documents as mentioned in para 2(i) above.

4. In case, the CZMA 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 Ministry for consideration.

5. In case the Coastal Zone Management Authorities (CZMA) are not in existence due to delay in their reconstitution or any other reasons, then it shall be responsibility of the Department of Environment in the State Government or Union Territory Administration, for providing comments and recommendation to the proposals in terms of the provisions of the said notification, to the concerned authority, as the case may be.

6. The category A projects requiring comments of the CRZ Sector shall be forwarded along with all the statutory documents as mentioned in para 2(i) before consideration of the project by the Sectoral EACs. The Sectoral Eac shall appraise the project composite EC and CRZ clearance based on the comments of the CRZ Sector and CZMA recommendations. In case, the Sectoral EAC is same for appraisal of the projects for both EC and CRZ clearance, the comments of the CRZ sector need not be required.

7. This issues with the approval of the Competent Authority.

(Dr. H. Kharkwal)  
Scientist 'E' (CRZ)

To

1. The Principal Secretary, Environment Department of Coastal State's/UT's

2. The Chairman, SEIAA of Coastal State's/UT's
3. The Chairman, SEAC of Coastal State's/UT's
4. The Chairman, SCZMA/UTCZMA
5. The Member Secretary, SCZMA/UTCZMA
6. The Chairman, EAC's (MoEFCC)
7. The Director (IA-Policy) / The Director (PARIVESH / CPC), MoEFCC
8. The Member Secretary, All EAC (IA-Divisions), MoEFCC

**Copy to:**

1. PS to MEF / PS to MoS (EF&CC)
2. PPS to Secretary, EFCC
3. PPS to DGF&SS
4. PPS to AS (TK) /PPS to AS (RS)/ PPS to AS (NPG)
5. Sr.PPS to JS (SKB), PPS to JS (NKS) / JS (SM) / JS (NP)
6. All Officers of IA Division
7. Technical Director (NIC)
8. NIC/IT for uploading on website

**(Dr. H. Kharkwal)**  
**Scientist 'E' (CRZ)**

**F.No.19-27/2015-IA. III(E-871)**  
**Government of India**  
**Ministry of Environment, Forest and Climate Change**  
**IA-III Section (CRZ)**

Indira Paryavaran Bhawan  
JorBagh Road  
New Delhi-110003  
Dated: 18<sup>th</sup> September, 2024

**OFFICE MEMORANDUM**

**Subject: Clarification regarding the definition of the word “existing” mentioned in para 5.2 (ii) of CRZ Notification, 2019 – regarding.**

The Ministry is in receipt of request to clarify the definition of the word ‘existing’ mentioned in para 5.2 (ii) of CRZ Notification, 2019. As per para 5.2 (ii) of CRZ Notification, 2019, construction of buildings for residential purposes, schools, hospitals, institutions, offices, public places etc. shall be permitted only on the landward side of the existing road or on the landward side of existing authorised fixed structures, but does not explicitly defined in the word “existing”.

2.In this regard, attention is drawn to para 5.2 (ii) of CRZ Notification, 2019, which states that “the norms for the Floor Space Index (FSI) or Floor Area Ratio (FAR) shall be that which is prevailing as on the date of this notification, i.e., 18/01/2019. Further in order to categorise ‘Legally designated Urban Areas’ in Kerala as per provisions of CRZ Notification, 2019, the word “Existing” in para 2.2 of the CRZ Notification, 2019 has been also interpreted by NCZMA as “existing as on the data of issue of CRZ Notification 2019” in its 45<sup>th</sup> meeting held on 01/09/2022.

3.Comments were received in this regard from National Centre for Sustainable Coastal Management (NCSCM) has also submitted its report after examination stating that the word “existing” in para 5.2 (ii) of CRZ Notification, 2019 may be interpreted as on the date of issue of CRZ Notification 2019, i.e., 18/01/2019.

4.In view of above, the Ministry hereby clarifies that the word “existing” mentioned in para 5.2 (ii) of CRZ Notification, 2019 shall be interpreted as existing on the date of issue of CRZ Notification 2019 i.e., 18/01/2019.

5.This is issued with the approval of the Competent Authority.

(Dr.H.Kharkwal)  
Scientist ‘E’ (CRZ)  
Email: [h.kharkwal@nic.in](mailto:h.kharkwal@nic.in)

**To:**

- 1. Chairperson/Member Secretaries of all Expert Appraisal Committees**
- 2. Chairperson/Member Secretaries of all SEIAAs/SEACs**
- 3. Chairperson/Member Secretaries of all SCZMAs**
- 4. Chairperson/Member Secretaries of all SPCBs/PCCs**
- 5. All Officers of IA Division**

**Copy for information to:**

- 1. PS to Hon'ble MEF&CC**
- 2. PS to Hon'ble MoS, EF&CC**
- 3. PSO to Secretary, EF&CC**
- 4. PPS toss(TK)/AS (SG)**
- 5. Website/MoEF&CC/Guard File**

**F.No.IA3-12/7/2021-IA.III (E-153017)**  
**Government of India**  
**Ministry of Environment, Forest and Climate Change**  
**IA-III Section (CRZ)**

Indira Paryavaran Bhawan  
JorBagh Road  
New Delhi-110003  
Dated: 16<sup>th</sup> October, 2024

To,

The Principal Secretary,  
Department of Environment,  
Government of Kerala,  
Thiruvananthapuram – 695001, Kerala  
Email: [secy.envt@kerala.gov.in](mailto:secy.envt@kerala.gov.in)

**Subject: CZMPs of all 10 Coastal districts of Kerala i.e. Kasargod, Kannur, Kozhikode, Malapuram, Thrissur, Ernakulam, Kottayam, Alappuzha, Kollam and Thiruvananthapuram as per CRZ Notification, 2019 – regarding.**

Sir,

This has reference to letter No. B3/10/2019-Envt, dated 31/08/2024 seeking the approval of Coastal Zone Management Plan (CZMPs) of all 10 Coastal districts of Kerala i.e. Kasargod, Kannur, Kozhikode, Malapuram, Thrissur, Ernakulam, Kottayam, Alappuzha, Kollam and Thiruvananthapuram districts, drawn as per the provisions of the Coastal Regulation Zone Notification, 2019.

2. In this regard, it is to inform that considering the recommendations of the Technical Scrutiny Committee meeting held at NCSCM, Chennai on 01/03/2024 and based on the recommendations of the National Coastal Zone Management Authority (NCZMA) in its 47<sup>th</sup> meeting held on 23/09/2024, the Ministry of Environment, Forest and Climate Change hereby conveys its approval for CZMPs of all 10 Coastal districts of Kerala i.e. Kasargod, Kannur, Kozhikode, Malapuram, Thrissur, Ernakulam, Kottayam, Alappuzha, Kollam and Thiruvananthapuram, as per CRZ Notification, 2019
3. The approved CZMPs all 10 Coastal State of Kerala as per the CRZ Notification, 2019 shall be signed by all concerned and copy of the same shall be made available in public domain through the website of Kerala CZMA within the period of one month.
4. Further, it is to inform that all the proposals received henceforth for CRZ Clearance shall be considered as per CRZ Notification, 2019 only. However,

pending proposals, as on date of this letter under CRZ Notification, 2011, if any, may be considered at the discussion of the Project Proponent.

5. This issues with the approval of the Competent Authority

Yours faithfully,

(Dr.H.Kharkwal)

Scientist 'E' (CRZ)

Email: [h.kharkwal@nic.in](mailto:h.kharkwal@nic.in)

Copy to:

1. The Member Secretary, Kerala Coastal Zone Management Authority, Directorate of Environment & Climate Change, 4<sup>th</sup> Floor, KSRTC Bus Terminus, Government of Kerala, Thiruvananthapuram – 695001, Kerala Email: [kczmasandtd@gmail.com](mailto:kczmasandtd@gmail.com)
2. Deputy Director General of Forests (C), Integrated Regional Office (IRO), Ministry of Environment Forest and Climate Change, Regional Office (XZ), Kendriya Sadan, 4<sup>th</sup> Floor, E&F Wings, 17<sup>th</sup> Main Road, Koramangal II Block, Bangalore – 560034, Karnataka Email: [rosz.bng-met@nic.in](mailto:rosz.bng-met@nic.in)
3. The Director, National Centre for Sustainable Coastal Management, Anna University Campus, Chennai-600025, Tamil Nadu, Email: [director@ncscm.res.in](mailto:director@ncscm.res.in)
4. Office Copy / Guard File / Website of the Parivesh Portal

Dr.H.Kharkwal  
Scientist 'E' (CRZ)