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# DRAFT REPORT

## Integrated Island Management Plan (IIMP)

### As per ICRZ Notification 2019

#### Chowra Island, Union Territory of Andaman and Nicobar Islands

The Ministry of Environment, Forest and Climate Change, Government of India, New Delhi issued the Notification No. S.O.1242(E) dated 8<sup>th</sup> March, 2019, referred to as the Island Coastal Regulation Zone (ICRZ) Notification, 2019 in supersession of IPZ Notification 2011, declaring the designated areas as Island Coastal Regulation Zone (ICRZ), 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.

As per the provisions of the ICRZ Notification, 2019, the Department of Environment & Forest, Andaman & Nicobar Administration have entrusted the responsibility of preparation of the Integrated Island Management Plan (IIMP) to the National Centre for Sustainable Coastal Management (NCSCM), Chennai, which is an authorized agency approved by the Government of India, for the said purpose, vide Ministry of Environment & Forests Government of India order No. J-17011/8/92-IA-III dated 8<sup>th</sup> August, 2019. NCSCM, Chennai has completed the preparation of draft IIMP of Chowra Island as per the guidelines of ICRZ Notification 2019.

With this background, NCSCM has prepared the draft IIMP on 1: 10,000 scale as per the guidelines in the ICRZ Notification 2019.

#### **2. IIMP under ICRZ Notification 2019:**

Para 6 of ICRZ Notification 2019, the following provisions were given for the IIMP:

- (i) All the smaller Islands in Andaman and Nicobar and Lakshadweep, other than those listed under the ICRZ categories, shall also be covered under this Notification.
- (ii) These smaller islands shall be managed through the respective Integrated Island Management Plans (hereinafter referred to as the IIMP). Integrated Island Management Plans (IIMPs) shall be formulated by respective Union territory administration for all such Islands as per guidelines contained in Annexure-IV, and submitted to Ministry of Environment, Forest and Climate Change for approval at the earliest. Until and unless the IIMPs are framed, provisions of this Notification shall not come in force and the IIMPs as per provisions of IPZ Notification 2011 shall continue to be followed.

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- (iii) In view of the unique coastal systems and space limitations in these islands, a No Development Zone (NDZ) of 20 meters 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 of these islands may be repaired or reconstructed within 20 meters from the HTL and however, no new construction shall be permitted.
  - (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 NDZ limits subject to due environmental safeguards.
  - (c) Activities in the Coastal Water areas, inter-tidal zone and ecologically sensitive areas shall be permitted or regulated as in the ICRZ-I and ICRZ-IV areas under Para 4 of this Notification.
  - (d) Development in these Islands beyond 20 meters of HTL shall be governed by the respective IIMPs and local regulations, as applicable.

### **3. Guidelines for preparation of Integrated Island Management Plan (IIMP).**

Annexure-IVB of ICRZ notification 2019 provided the guidelines for preparation of Integrated Island Management Plan (IIMP) which are follows:

- (1) The Integrated Island Management Plan shall be prepared based on scientific methodology and appropriate coastal protection structures constructed/proposed to be constructed shall be indicated in addition to activities planned in the area and got approved by the concerned authority in the UT administration. Thereafter it shall be forwarded to the NCZMA for final approval.
- (2) The entire island including the aquatic area shall be considered for framing of the Integrated Island Management Plan (IIMP).
- (3) Integrated Island Management Plans shall be prepared indicating therein all present and future developments, conservation and preservation schemes with frame of ten years.
- (4) The Integrated Island Management Plan shall address vulnerability to human life and property based on elevation, geomorphology, sea level trends and horizontal line displacement and indicate suitable areas that are safe for locating dwelling units, infrastructure, and the like, and appropriate safeguards measures to protect the life and property of the local communities, infrastructure from natural hazards shall be indicated in the Integrated Islands Management Plan.
- (5) All the existing roads including the internal roads shall be strengthened, as these roads shall serve for the purpose of livelihood, communication, rescue, relief and evacuation measures during natural hazards.
- (6) Adequate cyclone shelters shall be earmarked and constructed on elevated areas or on stilts adjacent to populated areas.

- (7) The existing and as well new schools, market areas and other public facilities (excluding public toilets) where large number of public congregate, shall normally be located on safe areas preferably in elevated areas or protected areas shall be suggested.
- (8) Along the seaward side sufficient bio-shield with local vegetation, trees including mangroves shall be planted and other soft protection measures.
- (9) Sand dunes, being natural barrier in the event of flooding, shall be conserved and maintained or regenerated by planting shrubs or through appropriate measures.
- (10) There shall be no restriction with regard to traditional fishing by local communities including installation of fish aggregating device as recommended by the Islands Administrations.
- (11) The mining of construction material, especially sand from deep sea bed (beyond fifteen meters depth), after undertaking proper scientific studies may be permitted in the Plan;
  - (i) The alternative construction material, such as, bamboo, local forest products may be identified and used;
  - (ii) The other materials, like, metal, hollow brick blocks, and the like, shall be imported from the mainland.
- (12) Emphasis shall be given for use of non-conventional energy resources especially, wind, solar and tidal energy, desalination, water recycling, and use of local products.
- (13) Early warning system shall be provided for cyclone, tsunami, and the like, and an evacuation and relief measure plan in case of disasters shall be built preferably into the Integrated Islands Management Plan.
- (14) Necessary provision shall be made in the Integrated Islands Management Plan for relocation and rehabilitation of people displaced due to natural disasters.
- (15) Integrated Islands Management Plan shall also include the areas under habitation and make plan for future development.
- (16) No developmental activities shall be permitted in the area under reserve forests, protected forests, national parks and sanctuaries notified under the Forests (Conservation) Act, 1980 (69 of 1980) or the Wildlife (Protection) Act, 1972 (53 of 1972) and the areas protected under the Environment (Protection) Act, 1986 (29 of 1986).
- (17) The dwelling units or infrastructure of local communities as are existing at the time of preparation of Plan shall not be displaced.
- (18) Repair of existing buildings or infrastructure including reconstruction activities shall be allowed.
- (19) IIMP shall be prepared in 1:25,000 scale map for macro level planning and 1:10000 scale or cadastral scale for micro level planning.
- (20) The High Tide Line demarcated by NCSCM, Chennai shall be used for all purpose while preparation of the Plan.

#### 4. Preparation of Integrated Island Management Plan

The draft IIMPs maps on 1:10,000 scale has been prepared in accordance with the guidelines given in Annexure-IVB of the ICRZ notification, 2019. These are submitted to Department of Forest, Government of Andaman and Nicobar for website publication and public hearing. The draft IIMP maps to be modified based on the suggestion and comments as per the provision of ICRZ notification 2019. The modified maps are to be submitted to MoEF&CC, Government of India for approval.

#### 5. Methodology for Preparation of Integrated Island Management Plan

##### 5.1. Base data: HTL, LTL, ESA, ICRZ and IIMP:

High Tide Line (HTL), Low Tide Line (LTL), and Ecologically Sensitive Areas (ESAs), demarcated by NCSCM, Chennai, were used for preparation the IIMPs, as required under the provisions of the ICRZ Notification, 2019. Apart from this, hydrographic charts of the Naval Hydrographic Office, Toposheets of the Survey of India, and Satellite image were used.

##### 5.2. Field mapping and map preparation

The use of satellite imagery in combination with field mapping provides better results in the preparation of maps for IIM Plans. At the same time, various locational and spatial errors that could get magnified in large scale maps such as cadastral maps were minimised through appropriate approaches.

#### 6. Integrated Island Management Plan for Chowra Island of the Nicobar administrative District as per ICRZ notification 2019

##### 6.1. Location

Chowra Island is a small inhabited island belongs to Nancowry tehsil of Nicobar District. Entire island is declared as a tribal reserve. It is located to the north of Teresa island. The geographical location of these islands is between Latitude 8° 28'13.148"N to Longitude 93° 2'6.014"E, and Latitude 8° 26'20.858"N to Longitude 93° 3'33.642"E. The total area of Chowra Island is 3.2 Sq. Mile as per the notification (No. 37/67/F. No. G./635. Vol. III) of forest department, U.T of Andaman and Nicobar Administration

##### 6.2. IIM Plan for Chowra Island:

- a) As per the ICRZ notification 2019, the Chowra Island fall under the Integrated island management due to its small area is 5.69 km<sup>2</sup>.
- b) Total length of HTL of Chowra Island is 9.69 km.
- c) The IIMP of Chowra Island consists of the following three maps:
  - (i) Integrated Island Management plan (IIMP)
  - (ii) Coastal land use Map
  - (iii) Geomorphological Map

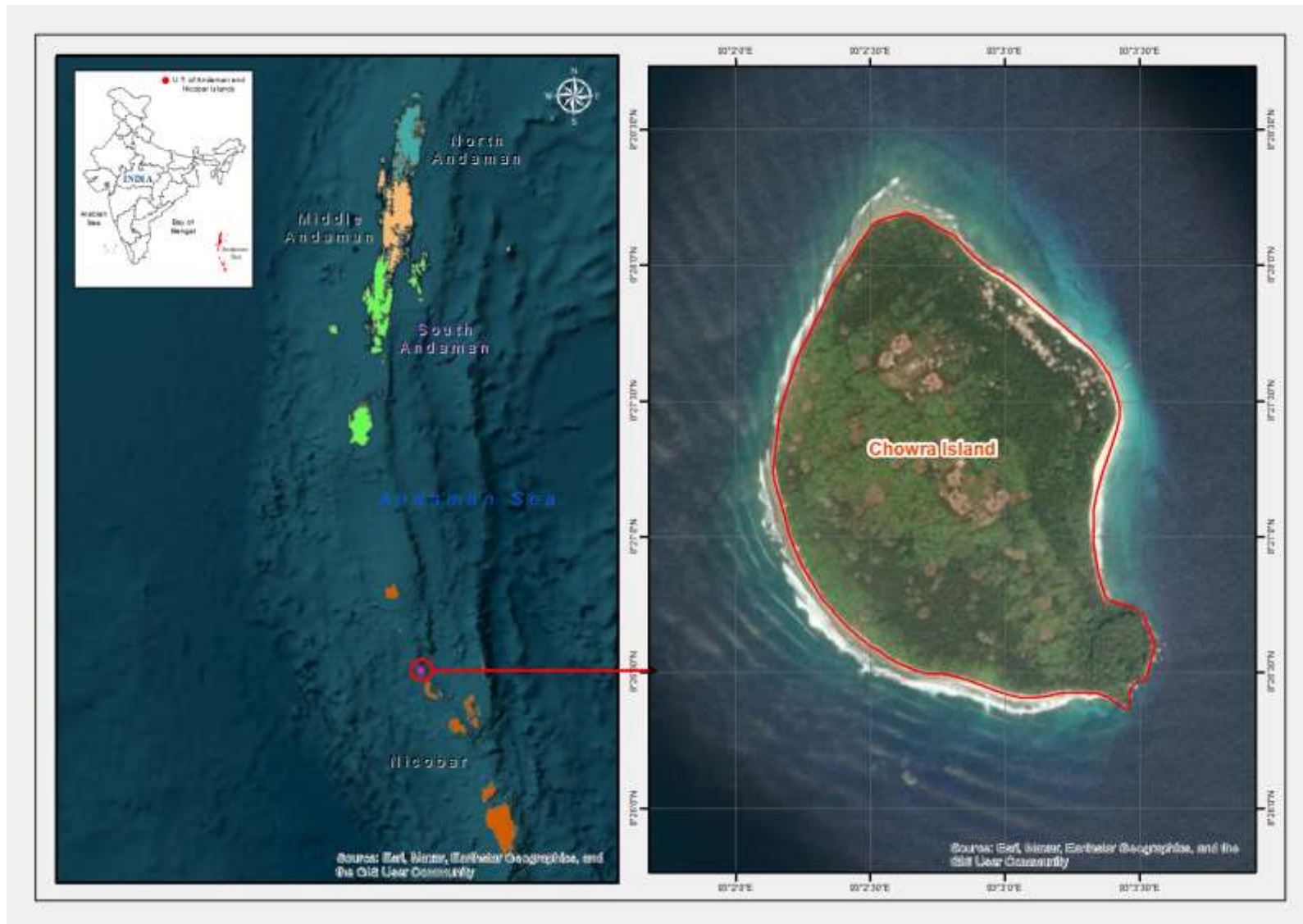
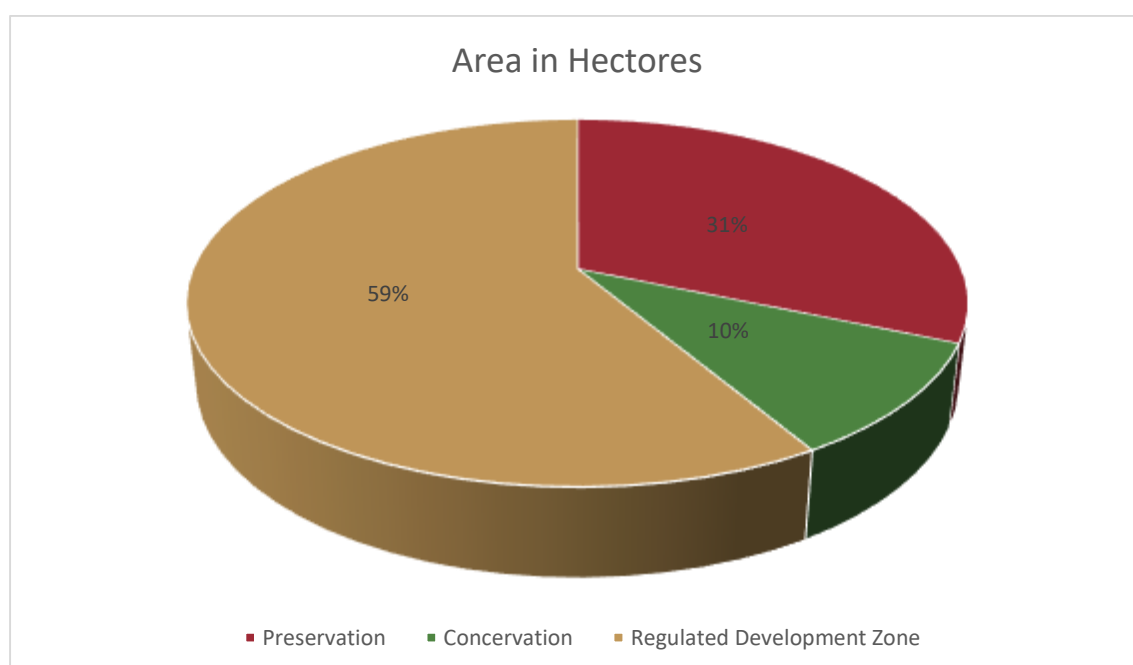


Figure 1. Location map of Chowra Island

d) The IIMP for Chowra Island has been classified into:

- I. **Preservation Zone:** The preservation zone includes coral reefs. Total area under the preservation zone is 293.98 Ha.
- II. **Conservation Zone:** The conservation zone includes sandy beach, sand sheet, Edged Rock, Sheet rock with dead coral. The total area of the conservation zone is 94.19 Ha.
- III. **Regulated Development Zone:** Includes Buildings, agricultural land, ponds, Forest or Vegetation, Road, and Tank or Pond etc. The total area of regulated development zone is 548.56 Ha. Area statistics of different zone of Chowra Island is shown in figure 2.



*Figure 2. Area statistics of different zone of Chowra Island*

Different zones such as preservation zone, conservation zone, regulated development zone, etc., would have different regulations as provided in the ICRZ notification, 2019. The IIMP map also includes existing infrastructure.

- (1) The Geomorphology map depicts different geomorphological features and ecologically sensitive areas located in the seaward of High Tide Line such as corals reefs, sandy beach, sand sheet, edged rock and sheet rock with dead corals.

**Table 1. Area statistics of different geomorphological features of Chowra Island**

Features	Area in Ha.
Corals & coral reefs	293.98
Edged Rock	9.94
Sandy Beach	20.44
Sand sheet	15.68
Sheet Rock with Dead Corals	26.70

- (2) Coastal land use depicts different land use features located in the landward of High Tide Line such as Road, Agriculture Land, Buildings, Forest or Vegetation, Helipad, Jetty, Open Space, Pond and Tank or Pond etc.

**Table 2. Area statistics of different land use features of Chowra Island**

Features	Area in Ha.
Protected Forest	567.78
Agriculture Land	535.58
Buildings	5.37
Forest or Vegetation	24.48
Helipad	0.71
Jetty	0.14
Open Space	1.63
Pond	0.04
Tank or Pond	2.20

*Protected Forest overlap with the other landuse features in the table.2*

- (3) Following future projects have been received from A & N Administration:
- Construction of Passenger shed at Chowra Island.
  - Augmentation of power, revamping of distribution system and renewable power project at Chowra Island.
- (4) Regulation of activities in preservation, conservation and regulated developmental zones are given in Annexure -I

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## Note:

- I. The digitization of revenue land records is currently in progress, and the land records for many villages have yet to be digitized. Boundary reconciliation issues between forest and revenue lands remain unresolved in many cases. Additionally, instances of missing revenue surveys have come to light, and in few instances, cases related to land conversion are currently sub-judice. To resolve these issues, the Ministry of Environment, Forest and Climate Change (MoEF&CC) may be approached for the revision of ICRZ/IIM Plans once the digitized data becomes available. The National Centre for Sustainable Coastal Management (NCSCM) will be involved in verifying all such cases for revision, in accordance with the ICRZ Notification 2019.
- II. Eco-tourism shall be carried out as per para 4 II (a), para 4 IV (vi), para 4 V (viii) of the ICRZ Notification, 2019, Eco-tourism activities in identified stretches/beaches are permitted subject to such eco- tourism plans featuring in the approved ICRZ Plans. However, while carrying out Eco-tourism activities in Reserve Forest areas, in addition to the provisions of ICRZ Notification 2019, the provisions of Para 2, (1), (b), (iv) and (vii) of the Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980, as well as Para 1.2, (ii) of the Consolidated Guidelines issued under the Adhiniyam, 1980, shall take into consideration.
- III. Land use changes and conversions of revenue land are ongoing processes that sometimes lead to legal disputes, with many cases currently sub judice. To resolve these issues, the ANZMA will take appropriate actions based on orders from the Revenue Authority or the Courts.
- IV. In Cases of missing survey numbers ANZMA may take appropriate actions based on factual reports from the revenue authority, in accordance with the provisions of the ICRZ Notification 2019
- V. All future development projects and tourism projects that have not yet been envisaged shall be appraised by ANZMA on a case-by-case basis, within the purview of the ICZR Notification 2019. However, in the case of eco-tourism plans that are not currently envisaged, ANZMA shall approach the MoEF&CC to consider revising the ICZR Plan to incorporate these plans, in consultation with the NCSCM.
- VI. To resolve the issue of revenue survey numbers located within reserve forests, ANZMA shall take appropriate action on case by case basis on the ground verification report, conducted by Revenue and Forest Authority.



## Annexure – I

### List of Activities Prohibited, permitted and Regulated in preservation, conservation and regulated developmental zones

SL. No	Activities	Preservation Zone			Conservation Zone			Regulated Development Zone			Remarks
		Prohibited	Permitted	Regulated	Prohibited	Permitted	Regulated	Prohibited	Permitted	Regulated	
		1	Mining of corals (both alive and dead) in the sea and beaches	✓			✓				
2	Mining of sand on beaches			✓			✓			✓	Non-eco sensitive area and subject to environmental safeguard
3	Coral removal for Construction /Widening of Navigation channels	✓			✓						
4	Boating for transport			✓			✓				To be established in areas identified in IIMPs. If not specified in IIMPs, locations to be identified by the administration based on environmental safeguard and studies
5	Boating for tourism and water sports and photography			✓			✓				To be established in areas identified in IIMPs. If not specified in IIMPs, locations to be identified by the administration based on environmental safeguard and studies
6	Boating for fishing			✓			✓				
7	Diving, snorkeling and coral viewing thro glass bottom boats for tourism			✓			✓				Limited number of boats with tourists. No Out-Board Motor (OBM) operation in tourist boats near coral reef areas

8	Limited impact Scientific research		✓	☐		✓					Limited diving and collection of very few specimens for taxonomic purposes only
9	Collection of ornamental fishes for Government aquarium			✓			✓				Only species that is abundant to be collected in small numbers. Rare and endangered species should not be collected
10	Collection of ornamental fishes for commercial purposes	✓			✓						
11	Any type of construction including observation towers etc for defence and security purposes			✓			✓			✓	
12	Buoys to collect data on met and environmental parameters and marker buoys			✓			✓				Limited in number and not to be anchored in hard coral areas.
13	Beaching or fishing craft or any other craft in major turtle nesting areas as decided by the ANFD	✓			✓						To be prohibited during the turtle nesting season in major turtle nesting areas located outside the protected area network by the ANFD
14	Activities that facilitate preservation of corals		✓			✓					
15	Disposal of untreated sewage or effluents and Disposal of solid wastes including fly ash, industrial waste, medical waste, non-biodegradable waste, and the like	✓			✓						
16	Setting up of new industries and expansion of existing industries	✓			✓					✓	
17	Boating with OBM in seagrass beds	✓			✓						
18	Boating without OBM on coral reef & seagrass beds			✓			✓				-Use of row boat only and subject to environmental safeguard.
19	Cutting of mangrove vegetation	✓									
20	Grazing in mangrove areas	✓									
21	Fishing in mangrove water			✓							To regulate mesh size of nets to prevent fishing of juveniles

22	Collection & destruction of seagrass	✓									
23	Eco-tourism activities such as mangrove walk, tree huts, nature trails, etc in identified area mention in the IIMP plan			✓			✓			✓	To be established in areas identified in IIMPs. If not specified in IIMPs, locations to be identified by the administration based on environmental safe guard and studies
24	Construction of Road and widening of Road in identified area mention in the IIMP plan.			✓			✓			✓	To be established in areas identified in IIMPs. If not specified in IIMPs, locations to be identified by the administration based on environmental safe guard and studies
25	Setting of food processing industries with waste treatment methods/plants	✓			✓					<input type="checkbox"/> ✓	To be established in areas identified in IIMPs. If not specified in IIMPs, locations to be identified by the administration based on environmental safe guard and studies
26	Construction /Widening of Navigation channels			✓			✓				To be established in areas identified in IIMPs. If not specified in IIMPs, locations to be identified by the administration based on environmental safe guard and studies
27	Construction of passenger jetties, breakwater for ports and slip ways for boat repair and other facilities that require water front	✓					✓			✓	To be established in areas identified in IIMPs. If not specified in IIMPs, locations to be identified by the administration based on environmental safe guard and studies
28	Traditional use of marine resources including fishing and allied	<input type="checkbox"/>				✓	<input type="checkbox"/>		✓		
29	Collection of ornamental fishes for Public aquaria and Scientific research and also other organisms for scientific research	<input type="checkbox"/>		✓			✓				Limited collection depending on population of target organism
30	Collection of ornamental fishes for brood stock in commercial culture	<input type="checkbox"/>		✓	<input type="checkbox"/>		✓				Limited collection permitted and requires permission from concerned department of A&N Admin for every collection

31	Deployment of Fish aggregating devices in the sea.			✓			✓				To avoid areas near corals (as it may attract Ornamental fishes also) in the sea. Such devices need not to be deployed. Lacks clarity. Please check
32	Beach landing of fishing crafts and tourist boats	✓					✓				To be away from turtle nesting grounds and prohibited during the turtle nesting season
33	Construction of resorts/restaurants/storage facilities and tourism related buildings, on stilts in the sea between coast and outer edge of coral reefs	✓			✓					✓	To be established in areas identified in IIMPs. If not specified in IIMPs, locations to be identified by the administration based on environmental safe guard and studies
34	Reclamation of backwater/creeks and sea for any purpose except for laying of seawater pipelines and construction of cold water sumps for desalination and power plants	✓			✓						Structures and pipelines for desalination plants are recommended only in non-coral reef and mangrove areas.
35	Widening of roads	✓					✓			✓	
36	Weather radars			✓			✓			✓	
37	Storage of non-hazardous cargo such as edible oil, fertilizers, food near the port	☐		✓			✓			✓	
38	Activities that facilitate conservation of natural habitats including vegetation			✓		✓				✓	
39	Disposal of treated sewage in coastal water except in coral reef areas			✓			✓				
40	Eco-tourism activities on beaches including beach shacks.	☐		✓			✓				To be established in areas identified in IIMPs. If not specified in IIMPs, locations to be identified by the administration based on environmental safe guard and studies
41	Construction of Road	✓					✓			✓	To be established in areas identified in IIMPs. If not specified in IIMPs, locations to be identified by the

											administration based on environmental safe guard and studies
42	Setting of small-scale industries including food processing industries with waste treatment methods/plants, power plants including solar power plants and windmills	<input type="checkbox"/> ✓					✓			✓	
43	Establishment of hotels, tourist accommodation, resorts and other buildings relating to tourism	✓					✓			✓	
44	Construction of dwelling units, Govt buildings (office guest houses etc), public utilities, educational institutions, dispensaries, auditorium), places of religious worships and commercial buildings auditorium), places of religious worships and commercial buildings	✓					✓			✓	
45	Agriculture and horticulture					✓			✓		
46	Construction/expansion of air strips and helipads									✓	To be established in areas identified in IIMPs. If not specified in IIMPs, locations to be identified by the administration based on environmental safe guard and studies
47	Centralized Boat Parking and Fish Landing	✓					✓			✓	
48	Floating jetties	✓					✓			✓	
49	Establishment and Deployment of floating solar and allied facilities	✓					✓				
50	Offshore Wind Power Turbines	✓					✓				

52	Development of Beach front facilities and construction	✓					✓			✓	
53	Beach Sport facilities	✓					✓			✓	
54	Pipelines, Conveying Systems including Transmission Lines			✓			✓			✓	
55	Desalination Plants, Foreshore and Associated Facilities	✓					✓			✓	To be established in areas identified in IIMPs. If not specified in IIMPs, locations to be identified by the administration based on environmental safe guard and studies

**Note:** Any activities not mention in the above list, the same will be cleared based on the IIMP zones it falls as per the ICRZ notification, 2019, EIA notification, 2006 and relevant law need to be followed.

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