

MINUTES OF THE 244th MEETING OF THE EXPERT APPRAISAL COMMITTEE FOR PROJECTS RELATED TO COASTAL REGULATION ZONE HELD ON 30th SEPTEMBER, 2020

The 244th meeting of the Expert Appraisal Committee for projects related to Coastal Regulation Zone was held on 30/09/2020 through video conferencing due to prevalent pandemic situation. The members present are:

1.	Dr. Deepak Arun Apte	-	Chairman
2.	Shri S. Jeyakrishnan	-	Member
3.	Shri Manmohan Singh Negi	-	Member
4.	Shri Sham Wagh	-	Member
5.	Prof. Mukesh Khare	-	Member
6.	Prof. Ashok Kumar Pachauri	-	Member
7.	Dr. V. K. Jain	-	Member
8.	Dr. Manoranjan Hota	-	Member
9.	Dr. M.V. Ramana Murthy	-	Member
10.	Shri. R.P.S. Verma	-	Member
11.	Dr. H. Kharkwal	-	Member Secretary

Dr. Anuradha Shukla, Shri Rajesh Debroy and Ms Bindhu Manghat were absent.

In attendance: Dr. Saranya. P, Joint Director, MoEFCC and Dr. Bhawana Kapkoti Negi, Technical Officer, MoEFCC. The deliberations held and the decisions taken are as under:

2.0 CONFIRMATION OF THE MINUTES OF THE LAST MEETING.

The Committee having noted that the Minutes of the 242nd meeting are in order, confirmed the same with suggestions that in case any typographical/grammatical errors are noticed in due course, the same may be corrected suitably.

3.0 CONSIDERATION OF PROPOSALS:

FRESH PROPOSALS

3.1 Proposed development of 100 MLD Desalination Plant & Associated facilities (Pipeline) at Village Gundiyaali, Taluka Mandvi, District Kutch, Gujarat by M/s Kutch Seawater Desalination Private Ltd for Gujarat Water Infrastructure Limited (GWIL) - CRZ Clearance - reg. [IA/GJ/CRZ/171614/2020] [F.No. 11-44/2020-IA.III]

The proposal of M/s Kutch Seawater Desalination Private Ltd (KSDPL) is for development of 100 MLD Desalination Plant & Associated facilities (Pipeline) at Village Gundiyaali, Taluka Mandvi, District Kutch, Gujarat for Gujarat Water Infrastructure Limited (GWIL). The project proponent made a presentation and provided the following information:

- (i) The proposed project involves development of 100 MLD desalination plant and associated pipeline facilities at Village Gundiyaali, Taluka Mandvi, District Kutch, Gujarat.

- (ii) The proposed desalination plant will be managed by a SPV under M/s Shapoorji Pallonji and Company Private Limited (SPCPL) and M/s Aquatech Systems (Asia) Private Limited (ASAPL) on a Hybrid Annuity Model (HAM) for 25 years' concession agreement with GWIL.
- (iii) Marine facilities for the proposed project include the following:
- Intake pipeline laid & buried on the seafloor with intake head at 2200 m offshore
 - Outfall pipeline laid & buried on the seafloor with diffuser ports at 2700 m offshore
 - Sump with pump house on the land at 200 m inland from LFP
 - Plant with other facilities
- (iv) Details of Intake and Outfall Location:

<i>Location</i>	<i>Geographical Coordinates (WGS 84)</i>		<i>UTM Coordinates (Zone 42)</i>	
	<i>Latitude, N</i>	<i>Longitude, E</i>	<i>X (m)</i>	<i>Y (m)</i>
LFP	22°48'14"	69°24'44"	0542324	2521866
Intake				
Intake Distance = 2200 m from LFP Depth = 5 m CD; 9.1 m HHTL	22°47'09"	69°24'14"	0541515	2519820
Outfall				
Outfall diffuser Length=2700 m from LFP Depth= 6.4 m CD; 10.5 m HHTL	22°47'14"	69°24'34"	0540339	2520036
Distance between intake and outfall is 1200m				

- (iv) The proposed project falls in CRZ - IA, CRZ - IB, CRZ - III and CRZ IV A as per approved CZMP.
- (v) The length traversing the CRZ area is as under:

<i>S. No</i>	<i>Project details</i>	<i>CRZ classification</i>	<i>Length (m)</i>	<i>Total length (m)</i>
1	Proposed intake diffuser pipeline	CRZ-IA + CRZ-III (NDZ)	128	2200
		CRZ-IB	269	
		CRZ-IVA	1803	
2	Proposed outfall diffuser pipeline	CRZ-IA + CRZ-III (NDZ)	130	2700
		CRZ-IB	266	
		CRZ-IVA	2304	

- (vi) No ground water in the CRZ area will be extracted during the construction phase.
- (vii) Total power requirement of 25000 KWH shall be sourced from Paschim Gujarat Vij Company Ltd.
- (viii) The employment potential of the project is 220 persons.
- (ix) The total cost of proposed project is ₹1022 crores
- (x) Gujarat Coastal Zone Management Authority (GCZMA) has recommended the above proposal for clearance vide its letter No. ENV-10-2020-155-T dated 08th September, 2020.

2. The Committee noted that the proposal consists of seawater intake pipeline with intake head to draw 270 MLD seawater, Plant of 100 MLD with Collection sump and Pump house and outfall pipeline with 8 Diffuser ports to discharge 170 MLD brine reject. The Committee took note that the desalination plant is proposed in CRZ -IA area which is not permissible as per extant norms of the CRZ regulations. The Committee desired that the plant location may be shifted away from CRZ-IA and accommodated in the land allotted to M/s Kutch Seawater Desalination Private Ltd, as depicted in the CRZ map. The Committee decided that a revised proposal in change in the plant location duly endorsed by the Gujarat CZMA shall be submitted to the Ministry.

3. The Committee further observed that there are few inconsistencies in the species mentioned in the EIA report and desired that the same shall be addressed and a revised addendum in this regard shall be submitted to the Ministry. The Committee also suggested the project proponent to explore the conservation of turtle nesting in the region and, the feasibility of supplying some brine water (with necessary treatment so that it is suitable for bird health as well as for salt) to authorized salt pan agencies to felicitate setting up of a salt manufacturing unit in the area that might benefit migratory birds as they use the salt-pans as habitats for feeding and roosting.

4. Based on the deliberations held, the Committee decided that the proponent shall submit the following information / documents:

- (i) A revised proposal with respect to change in plant location away from CRZ-IA and duly endorsed by the concerned SCZMA shall be submitted.
- (ii) The project proponent shall explore the conservation of turtle nesting in the region and, the feasibility of supplying some brine water (with necessary treatment so that it is suitable for bird health as well as for salt) to authorized saltpan agencies to felicitate setting up of a salt manufacturing unit in the area that might also benefit migratory birds as they use the salt-pans as habitats for feeding and roosting.

Accordingly, the proposal was deferred for reconsideration at a later stage once the above information/documents are submitted to this Ministry.

3.2 Proposal for construction of Government Engineering College Building at Survey No.40/2(1) & 11/1(D), Varkund, Nani Daman from Government Engineering College, Daman - CRZ Clearance - reg. [IA/DD/CRZ/138367/2020] [F.No.11-45/2020-IA.III]

The proposal of Government Engineering College, Daman is for construction of Government Engineering College Building at Survey No.40/2(1) & 11/1(D), Varkund, Nani Daman. The project proponent made a presentation and provided the following information:

- (i) The proposal involves construction of Government Engineering College Building at Survey No.40/2(1) & 11/1(D), Varkund, Nani Daman.
- (ii) The proposed construction falls under CRZ-III (NDZ) area and a very small portion of the College building comes under intertidal zone of CRZ IB.
- (iii) The total plot area is 40589 sq. m. & Built-up Area 23527.73 Sq.m.

- (iv) The project involves construction of proposed one building of Circuit House at Nani Daman. The project comprises of a total of 168 rooms. Details are as under:

<i>S.No.</i>	<i>Particular</i>	<i>Phase -1</i>	<i>Phase -2</i>
1	No. of floors	B+G+2 floors	B+G+2 floors
2	No. of units	83 rooms	85 rooms
3	Description Nos. of rooms		
	Type 1 room: Class Room for 60 students	8 Nos.	10 Nos.
	Type 2 room: Tutorial room for 20 students	4 Nos.	2 Nos.
	Type 3 room: Seminar Room for 30 Students	0	3 Nos
	Type 4: Laboratory for 20 Students	23 Nos.	31 Nos.
	Type 5 Library	1 Nos.	0
	Type 6 room: Office / Administrative block	12 Nos.	0
	Type 7 Computer Centre	1 Nos.	0
	Type 8 Staff room/ Faculty room /Boys room/Girls room	10 Nos.	10 Nos.
	Type 9 Unit Blocks: Utility room	24 Nos.	20 Nos.
4	Maximum Height	Upto terrace level: 15.27 m	Upto terrace level: 15.27 m

- (iv) The total water requirement of 45 KLD and will be sourced from met through by PWD Water Supply Dept., Daman through pipeline/tanker.
- (v) The total quantity of wastewater generated is 33.75 KLD and is treated using Septic Tank / STP. The treated wastewater is proposed to be reused for irrigation of green belt & plantation.
- (vi) The ground coverage and floor wise FIS details of the project presented below

<i>No. of Floor</i>	<i>No. of Units/ Room</i>	<i>Permissible FSI (Sq.m)</i>	<i>FSI Used (Sq.m)</i>	<i>Total (Sq.m)</i>
B	12	1.1	0.07	3319.27
G	35	1.1	0.153	7186.48
1	32	1.1	0.144	6796.99
2	28	1.1	0.109	5143.99

- (vii) Total power requirement of 500 KWH which will be sourced from Daman Electricity Board.
- (viii) About 20 MT of the construction waste will be generated during construction phase and shall be managed as per Construction & Demolition Waste Management Rules, 2016.
- (ix) Rainwater Harvesting plan shall be prepared and implemented as details are given:
- No. of Storage: 3
 - Capacity of storage tank: 2.5 lakh liter.
 - No. of Recharge Pits: 5
 - Capacity of Pits: 0.25 MCM
- (x) The employment potential of the project is 20 persons during construction phase and 180 during operational phase.

- (xi) The total cost of proposed pipeline project is ₹58.5 crores
- (xii) Daman & Diu Coastal Zone Management Authority (DDCZMA) has recommended the above proposal for clearance *vide* their letter No. 33-EST-GEC/CRZ/2018-19/377, dated 6th November, 2019.

2. The Committee was informed that the instant project viz. construction of Government Engineering College Building in CRZ-III and CRZ-IB area is not a permissible activity as per the extant provisions of the CRZ regulations. *The CRZ regulations only permits construction of schools required for the local inhabitants may be permitted on a case to case basis by CZMA and not an engineering college.*

3. The Committee was further informed that as per Annexure III of the CRZ Notification, 2011, construction activities in CRZ III shall be subject to the following conditions: *“the total plot size shall not be less than 0.4 hectares and the total covered area on all floors shall not exceed 33 percent 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; and the overall height of construction upto 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)”*.

4. The Committee noted that the instant proposal viz. construction of Government Engineering College in CRZ-III (NDZ) with a FSI of 0.48 comprising of basement plus ground plus two floors and height of 15.27 m is not a permissible activity as per the extant norms of the CRZ regulations and accordingly, the Committee decided to reject the proposal.

3.3 Proposed Central Square Multimodal Integration and development of Central Station Area, Chennai at T.S.No.40/1,41,42,43/1,43/2,43/5,1269/4,1271/1,1271/2, Ward No:59, EVR Periyar Salai, Vepery Village, Chennai District by M/s Chennai Metro Rail Limited - CRZ Clearance- reg. [IA/TN/CRZ/157681/2020] [F.No.11-46/2020-IA.III]

The proposal of M/s Chennai Metro Rail Limited is for central square multimodal integration and development of Central Station Area, Chennai at T.S.No.40/1,41,42,43/1,43/2,43/5,1269/4,1271/1,1271/2, Ward No:59, EVR Periyar Salai, Vepery Village, Chennai District. The project proponent made a presentation and provided the following information:

- (i) The proposed construction work is to develop a central square accommodating world-class, state-of the art well landscaped pedestrian plaza, multi modal integration of intermodal transport facilities like existing central railway station, Chennai Central Metro Rail, sub urban railways, park-station, park-town station, bus-station and proposed bus-terminus along with basement parking facilities for commuters, off road parking bays, bus-bays, bays for private auto-rickshaws, two-wheelers / four wheelers and non-motorized transit (pedestrian traffic); sub-way facilities and passenger amenities related to this public infrastructure.
- (ii) The total development area of 27,228.86 Sq.m is located in Chennai Central area and is divided into three parts:
- Development area North of Ponnammallee road in front of Rippon building and adjacent to Victoria hall will be utilized for landscaping work consisting of 3137.25 m² (Plot-3) and 9824.05 m² (Plot-2), respectively.

- There will be construction of Ground + 31 storied building with three basements in Plot-1 with an area of 14267.56 m², south of Ponnammallee road with a total built up area of 144895.51 m².
- Over all built-up area including three plots is 148699.31 m².

(iii) The project falls in CRZ II area.

<i>S.No.</i>	<i>Description</i>	<i>CRZ area (sqm)</i>	<i>Non CRZ area (sqm)</i>	<i>Total area (sqm)</i>
1	Plot 1	1172.35	13095.21	14267.56
2	Plot 2	1337.42	8486.63	9824.05
3	Plot 3	-	3137.25	3137.25
Total site Extent		2509.77	24719.09	27228.86

- (iv) The project shall be developed in two phases. The phase-1 development consists of 3 basements and ground floor with total built-up area of 22943 sqm. Phase-2 development consists of first floor to 31st floor of block 1 and first floor to 11th floor of block 2 with total built-up area of 11205 sqm. The two blocks are connected from first floor to 11th floor.
- (v) Guindy National Park is located at 9 km from the project site. No forest land is involved in the proposed project.
- (vi) Total fresh water requirement of 465 KLD shall be met through Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB). The wastewater generated shall be treated in a STP of 690 KLD capacity using SBR technology and the treated water of 675 KLD shall also be reused in the project.
- (vii) Electrical power supply of 33 kV shall be sourced from CMRL Receiving Substation which is being constructed near the existing TNEB transformer near the Junction of Poonamallee High Road Raja Muthaiah Road.
- (viii) It is proposed to install standby DG sets to meet the total power requirements of the building. The generator shall be fitted with acoustic attenuators to limit the maximum sound pressure level as per CPCB at 1m in open ground space. The proposed ratings of DGs are: 1 x 1250 kVA (for 3 Basements +GF), 2 x 2000 kVA (for 1st floor to 24th floor), 1 x 2000 kVA (for 25th floor to 31th floor) respectively.
- (ix) The Chennai Metro Rail Limited station project will be residential and commercial campus, so the waste comprises of domestic sludge from STP, E-waste and horticulture waste. The estimated quantity of the total waste is approx. 7.41 ton/day (@ 0.3 kg per capita per day for staff and visitors, Kitchen waste, E-waste, STP sludge and landscape waste (for green belt) @ 5 kg/acre/day).
- (x) Biodegradable waste will be treated in organic waste converter. Non- biodegradable recyclable waste will be handed over to authorized recycler and inert waste will be transferred to the municipal landfill site. STP sludge as well manure obtained from organic waste converter will be used as manure for Horticulture work.
- (xi) No tree felling is involved in the proposed project.
- (xii) The employment potential of the project is 25 permanents and 1012 temporary workers during construction phase and 25 permanents and 13 temporary workers during operation phase.
- (xiii) The total cost of proposed pipeline project is ₹927 crores.
- (xiv) Tamil Nadu Coastal Zone Management Authority has recommended the above proposal for clearance vide their letter No. 3676/EC.3/2020-1 dated 6th March, 2020.

2. The Committee was informed that the proposed project attracts the provisions of the EIA Notification, 2006 and requires composite EC+CRZ clearance from the concerned SEIAA. The Committee noted that the multimodal integration and development comprises of construction of four blocks. Block No. A consist of three basement floors for parking, ground plus first floor for commercials, 2nd to 27th floor for office, 28th floor as service floor and 29th to 31st floor for Hotels. Block Nos. B, C, & D will provide ground plus six floors for car parking. The Committee also took note that the total built up area is 148699.31 sqm which includes 9660.72sqm for Hotels.

3. The Committee observed that the project site is located within 9 km of the Guindy National Park and desired necessary clearance shall be obtained from the Competent Authority. The Committee observed the inconsistency in the ambient air quality data presented by the project proponent and decided that one season air quality data needs to studied and presented to SEIAA Tamil Nadu, while the case is considered for environmental clearance.

4. Based on the deliberations held and information provided, the Committee agreed that the proposal may be forwarded for CRZ clearance to SEIAA Tamil Nadu, subject to the following conditions:

- (i) The clearance is subject to obtaining prior clearance from the Standing Committee of National Board of Wildlife, as may be applicable.
- (ii) One season air quality data needs to studied and presented to SEIAA, Tamil Nadu while the case is considered for environmental clearance.
- (iii) No groundwater shall be extracted to meet with the water requirements during the construction and/or operation phase of the project.
- (iv) No excavated material during the construction shall be dumped in water bodies or adjacent areas. The site shall be restored to its near original condition after completion of construction.
- (v) Any physical infrastructure setup during construction period shall be removed simultaneously with completion of laying of each segment of the project.
- (vi) The project proponent shall ensure that the guidelines for building and construction projects issued *vide* this Ministry's OM No.19-2/2013-IA.III dated 9th June, 2015, are followed to ensure sustainable environmental management.

AMENDMENT IN CRZ CLEARANCE:

3.4 Proposed ship repairing facility at Lavagan, Raigad District, Maharashtra by M/s Chowgule and Company Private Limited - Amendment in CRZ clearance - reg. [F.No. 11-54/2007-IA III]

The Ministry had accorded CRZ clearance to M/s Lavgan Dockyard Private Ltd. for the proposed ship repairing facility at Lavagan, Raigad District, Maharashtra *vide* its letter dated 1st April, 2009. Pursuant to the scheme of merger or amalgamation between M/s Lavgan Dockyard Private Limited and Chowgule and Company Private Limited *vide* order dated 18/06/2018 of Ministry of Corporate Affairs, the said CRZ clearance was transferred from M/s Lavgan Dockyard Private Ltd to M/s Chowgule and Company Private Limited *vide* Ministry's letter dated 3rd September, 2020.

2. M/s Chowgule and Company Private Limited has now sought amendment as detailed as under:

S.No.	Scope of work as per CRZ clearance dated 01.04.2009	Proposed amendment
1	Existing activity as per clearance dated 01.04.2009 <ul style="list-style-type: none"> ○ Provision of dry docking ships and docking rigs and floating structures, ○ Repair, refit and conversion of ships, rigs and floating structures and ○ Load out within yard premises 	To include following activity along with existing activity <ul style="list-style-type: none"> ○ Fabrication, commissioning and handling of offshore and onshore structures and modules and ○ Handling, dismantling and decommissioning of offshore and onshore structures and modules

3. The matter was discussed in detail and it was noted that the fabrication, commissioning and handling of offshore and onshore structures and modules & handling, dismantling and decommissioning of offshore and onshore structures and modules are proposed in addition to the existing activities. The Committee also observed that the above proposed amendment was recommended by MCZMA *vide* its letter No. CRZ-2020/CR-69/TC-4, dated 26th August, 2020.

4. In view of the information provided above, the Committee agreed that the request of M/s Chowgule and Company Private Limited for inclusion of the above proposed activities. The Committee therefore recommended that the Ministry may carry out the necessary amendment.

3.5 Proposal for widening and improvement of 2 lane to 4/6 lane of NH-47 from Cherthala to Thiruvananthapuram, Kerala by M/s NHAI - Amendment & Extension of validity of CRZ clearance - reg [F.No.10-35/2010-IA.III]

The proposal of M/s NHAI for amendment and extension of validity in the CRZ clearances issued *vide* letter of even nos. 10-35/2010-IA.III dated 30th December, 2013 and 13th October, 2014 was considered by the EAC(CRZ) in its earlier meetings held on 26th June, 2018 and 31st August, 2018. The Committee was appraised that the Committee in its earlier meeting held on 31/08/2018 in-principle agreed upon the amendment to the CRZ clearances dated 30/12/2013 and 13/10/2014 subject to obtaining the specific clauses of CRZ clearance issued earlier, which needed amendments from M/s NHAI. The above information was provided by M/s NHAI only on 08/06/2020.

2. The Committee took note that the Kerala CZMA has forwarded its recommendation on the instant proposal for extension of validity and amendment in the above said CRZ clearances *vide* their letters dated 11/08/2020 and 29/09/2020 respectively.

3. The amendments sought by M/s NHAI are detailed as under: -

CRZ clearance as per letter dated 30/12/2013

<i>Sr. No.</i>	<i>Point no. as per CRZ Clearance given</i>	<i>Description as per CRZ clearance letter</i>	<i>Amendment required</i>
1.	Point No. 2	<p>It is interalia, noted that the proposal involves development of 2-lane Alappuzha bypass of length 6.80 km and 2-lane Kollam bypass of length 13 km on NH-47 in the State of Kerala.</p> <p>Both the bypasses and standalone projects to be constructed on EPC (Engineering, Procurement & Construction) mode. The topography along the project road is open and plain. The project includes:</p>	<p>It is interalia, noted that the proposal involves development of 6-lane Alappuzha bypass of length 6.70km and 6-lane Kollam bypass of length 12.9km on NH-47 in the State of Kerala.</p> <p>Both the bypasses will be constructed as part of widening and improvement of 2 lane to 6 lane of NH-47 (New NH-66) from Cherthala to Thiruvananthapuram, Kerala. The topography along the project road is open and plain. The project includes:</p>
2.	Point No.2, Sub-section (i)	<p>Alpuzha Bypass: The total length of the proposed bypass is 6.8 km (km 408.10 to Km 414.9).</p> <p>The ROW is 45m (except in beach portion of 1.1km length where available ROW is 19.6m to 26.3m). 2 nos. of ROBs once at Thamboli section km 410.70 and other at Punnapura section at km 412.83.</p> <p>The carriageway is 2 lane with paved shoulder (length 3.6km) & elevated road covering ROBs and beach portion (length 3.2 km). Main carriageway width is 12m. 14 nos. of culverts, 3 vehicular, 2 major and 4 minor junctions are proposed.</p> <p>There is no Wildlife Sanctuary / National Park / any other protected area involves. There is also no reserve/protected forest along the project road. The proposed alignment passes through coastal region of Alappuzha municipality and falls under CRZ II. This alignment is landward site of HTL and has no impact on water body.</p>	<p>Alpuzha Bypass: The total length of the proposed bypass is 6.700 km (km 408.200 to km 414.900).</p> <p>The ROW is 45m. There are 2 nos. of ROBs, one at Thamboli section km 410.29 and other at Punnapura section at km 412.889.</p> <p>The carriageway will be 6 lane with service roads. The length of elevated section is 3.32 km. Main carriageway width is 12 m. 4 nos. of culverts, 1 minor bridge are proposed.</p> <p>There is no Wildlife Sanctuary / National Park / any other protected area involves. There is also no reserve/protected forest along the project road. The proposed alignment passes through coastal region of Alappuzha municipality and falls under CRZ IB & II. This alignment is landward side of HTL and has no impact on water body.</p>
3.	Point No.2, Sub-section (iii)	<p>Kollam Bypass: The total length of the proposed bypass is 13km (km 486.5 to km 499.5).</p>	<p>Kollam Bypass: The total length of the proposed bypass is 12.9 km (km 486.650 to km 499.550).</p>

		<p>The ROW is 45 m. The carriageway is 2 lanes with paved shoulder. Main carriageway width is 12m, 5 nos. of new culverts are proposed, 3 major bridges, 1 vehicular underpass of size 12x5.5 m at cross road km 489.700, 3 nos. of major bridges at km 487.6 - length 617 km at km 490.185-length 95m and at km 492.265 – length 826.5 are proposed, 5 major junctions are proposed for improvement.</p> <p>The proposed road alignment crosses through Ashtamudi Kayal and through CRZ III Thirkkadavur Panchayat.</p>	<p>The ROW is 45m. The carriageway will be 6 lanes with service roads. Main carriageway width is 12m. 3 major bridges at km 487.618-length 620m, at km 490.273-length 95.1m and at km 492.340-length 826.62m are proposed.</p> <p>The proposed road alignment crosses through Ashtamudi Kayal and through CRZ III in Thirikkadavur Panchayat.</p>
4.	Point No. 3	<p>The length of these two proposed standalone bypasses of 2-lane on NH-47</p> <p>in Kerala is less than 100km each and no additional land acquisition is involved besides the bypasses are passing through only Kerala State. The Kerala Coastal Zone Management Authority has recommended the project vide letter no. 72/A3/11/KCZMA/S&TD dated 18/10/2011.</p>	<p>Both the bypasses will be constructed as part of widening and improvement of 2 lanes to 6 lanes of NH-47 (New NH-66) from Cherthala to Thiruvananthapuram</p> <p>in Kerala is less than 100 km each and no additional land acquisition is involved besides the bypasses are passing through only Kerala State. The Kerala Coastal Zone Management Authority has recommended the project vide letter no. 72/A3/11/KCZMA/S&TD DATED 18/10/2011.</p>

CRZ clearance as per letter dated 13/10/2014

<i>Sr. No.</i>	<i>Point no. as per CRZ Clearance given</i>	<i>Description as per CRZ clearance letter</i>	<i>Amendment required</i>
1.	Point No. 2	<p>It is interalia, noted that the proposal involves widening and improvement of 2 lanes to 4/6 lane of NH-47 from Cherthala to Thiruvananthapuram in the State of Kerala.</p> <p>The project road starts in Cherthala at existing km 379.100 in Alappuzha district passes through kollam district and then ends at km 551.900 (proposed km 548.000) in Thiruvananthapuram.</p> <p>Existing RoW is 30m and proposed ROW is 45m. Existing length of the project road is 172.8km and proposed is 169.448 km. Proposed length excluding</p>	<p>It is interalia, noted that the proposal involves widening and improvement of 2 lanes to 4/6 lane of NH -47 from Cherthala to Thiruvananthapuram in the State of Kerala.</p> <p>The project road starts in Cherthala at existing km 379.100 in Alappuzha district, passes through Kollam district and then ends at proposed km 549.800 in Thiruvananthapuram.</p> <p>Existing RoW varies from 24-45m. Existing length of the project road is 172.8 km and proposed is 170-700km.</p>

	<p>Allapuzha (6.8km) and Kollam (13 km) bypasses is 149.648.</p> <p>Out of the total length 14.33km 9 excluding Kollam and Alappzuha bypass) passes through CRZ area across Vamanapuram river on Attingal bypass (165m in length), Itthikara river (205m in length), Ashtamudi Kayal (648m in length) Needakara bridge to Chavara coast (3614m in length), T.S. canal (163m in length), Kanneti Thodu(262m in length), Pathiyoor Thodu (76m in length), Thottapally-Kakkazham coast (9165 m in length) and Ponnamveli Thodu(35m in length).</p> <p>The project road is proposed to be improved and widened from 2 lanes to 4 lanes divided carriageway with provision of Attingal bypass from 523.500-534.500 (length 11km).</p> <p>Proposed road configuration is 7.5m carriageway including 0.5m median side strip, 1.5m paved shoulder, 1m earthen shoulder and 4.5m central median.</p> <p>Within CRZ boundary, 2 minor bridges and 5 major bridges are to be retained with addition of 2-lanes, 1 new major bridge, 1 new VUP and 1 new major 1 new PUP to be constructed,</p> <p>13 culverts are to be retained with improvement and an elevated structure of 1.46 km (km 423.672 to km 435.22) is to be constructed in Thottappally-kakkazham coast across Ambalapuzha town.</p> <p>The total 2258 trees (1689 tree falling with in ROW and 569 between ROW and PROW) fall within the CRZ boundary of the proposed road.</p> <p>Main species include Badam, Veka (Sirish), Mahagoni, Veppu (Neem), Gulmohar, Eucalyptus, Tekki, Perumaram, Coconut, Betul Nut, Cashew nut,</p>	<p>Out of the total length, 19.866 km passes through CRZ area across Vamanapuram river on Attingal bypass (137m in length), Itthikara river (188m in length), Kandachira Kayal (Ashtamudi) 1136m in length), Kureepuzha Kayal (Ashtamudi) 298m in length),Ashtamudi Kayal (Thrikkadavur) (712 m in length), Ashtamudi Kayal (589 m in length), Neendakara to Chavara Coast (3724m in length), T.S. canal (182m in length), Kanneti Thodu (265m in length), Thottapally –Kakkazham coast (9179 m in length), Alappzuha sea coast (3319m in length) and Ponnamveli Thodu (37 m in length).</p> <p>The project road is proposed to be improved and widened from 2 lanes to 4/6 lanes divided carriageway with provision of Attingal bypass from 523.500-534.400 (length 10.9km).</p> <p>Proposed Road configuration is 7.5m carriageway including 0.5m median side strip, 2.0m paved shoulder and 0.5 to 3.0 m central median.</p> <p>Within CRZ boundary, 3 minor bridges and 5 major bridges are to be retained with addition of 2-lanes and 1 new LVUP to be constructed,</p> <p>13 culverts are to be retained with improvement, 1 new culvert to be constructed, 1 ROB approach of 74m and 1 flyover of 910m is to be constructed at Ambalapuzha Junction.</p> <p>Total 15562 trees (including bypasses) are likely to be affected.</p> <p>Main species include Badam, Veka (Sirish), Mahagoni, Veppu (Neem), Gulmohar, Eucalyptus, Tekki, Perumaram, Coconut, Betul Nut, Cashew nut, Tamarind and Mango Trees.</p>
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		<p>Yezhilam pala, Rian tree, Tamarind and Mango Trees.</p> <p>It is proposed to acquire 257 ha out of which 60.65 ha of land will be acquired in CRZ area categorized as CRZ land ward of HTL. 42.90 ha of CRZ fall in Alappuzha district, 0.53 ha in Trivendrum and 17.22 ha in Kollam district.</p> <p>Tidal water area or CRZ IV consists of 2.9 ha. No Mangroves are present in the CRZ area to be acquired.</p> <p>Land use pattern of the project corridor has 70% coverage of vegetation, 21% as built up, 3% as beach area, Agriculture as 2.93% and water bodies as 2.87%.</p> <p>Total water requirement for construction period is 4329 KLD and will be source from surface (30%) and ground (70%) supplemented with harvested rain water.</p> <p>The total project cost is ₹3491.59 Crore including environment management budget of ₹3.89 Crore and R&R budget of ₹747.965 Crores.</p>	<p>It is proposed to acquire 257 ha out of which 60.65 ha of land will be acquired in CRZ area categorized as CRZ land ward of HTL. 55.63 ha of CRZ fall in Alappuzha district, 0.66 ha in Trivendrum and 31.71 ha in Kollam district (including Alappuzha and Kollam bypasses).</p> <p>No Mangroves are present in the CRZ area to be required</p> <p>Tidal water area or CRZ IV consists of 9.17 ha (including Alappuzha and Kollam bypasses). No Mangroves are present in the CRZ area to be required</p> <p>Land use pattern of the project corridor has 26% coverage of vegetation, 16.5 % as built up, 0.1% as beach area, Agriculture as 26% and water bodies as 30% (including Alappuzha and Kollam bypasses).</p> <p>Total water requirement for construction period is 1599480 KL and will be source from surface (30%) and ground (70%) supplemented with harvested rain water.</p> <p>The total project cost is ₹4605.69 Crore including environment management budget of ₹31.169 Crore and R&R budget of ₹1438 Crores.</p>
2.	Point No. 3	<p>.....The only power plant within the 100km of project road is at Kayamkulam and it runs on diesel, so fly ash is not being used.....</p>	<p>..... There are 4 coal based power plants within the 300km of project road, so fly ash shall be used in the project as per provisions of fly ash notification.</p>

4. The Committee took note that the proposed amendment involves cutting of 15562 trees (including bypasses) and desired that the compensatory afforestation plan shall be prepared and implemented by the State Forest Department. The Committee also desired that the detailed compensatory afforestation plan shall be submitted to this Ministry for records.

5. The Committee reiterated its stand as taken in its earlier meeting held on 31/08/2018 and agreed for the request of M/s NHA for widening and improvement of 2 lane to 4/6 lane of NH -47 from Cherthala to Thiruvananthapuram, including 6 laning of Alappuzha bypass and Kollam bypass as part of widening project, in the State of Kerala for inclusion of the above proposed amendments. The Committee therefore recommended that the Ministry may carry out the necessary amendment.

RECONSIDERATION

3.6 Proposed Development of 100 MLD Desalination Plant at Rahiyad, Village. Dahej, District Bharuch by M/s Gujarat Industrial Development Corporation (GIDC) - CRZ Clearance - reg. [IA/GJ/CRZ/160230/2020][[F.No.11-39/2020-IA.III]

The proposal of M/s Gujarat Industrial Development Corporation (GIDC) Development of 100 MLD Desalination Plant at Rahiyad, Village. Dahej, District Bharuch. The project proponent made a presentation and provided the following information:

- (i) The proposal involves setting up of 100 MLD Desalination Plant at Rahiyad, Dahej, Bharuch, Gujarat. The plant is designed with 5 SWRO Filtration and 4 BWRO trains.
- (ii) The seawater transfer pumps will deliver the cleaned seawater to the pre-treatment system. (4W+2S) Vertical Turbine pump sets are installed sized to pump the total required feed flow to the desalination plant through GRP pipeline. The seawater supply system includes stop logs & Guide frames; travelling screen; screen wash pumps; seawater transfer pumps; and gas chlorination system.
- (iii) The allocated land by GIDC is 24.73 hectares which is presently a barren land.
- (iv) The capacity of desalination plant will be 100 MLD and Intake volume of 331 MLD and brine generation of 231 MLD. The ambient salinity will be at 25 PPT.
- (v) Length of intake pipeline will be 440 m from LFP and at outfall length will be 950 m from LFP. Depth of outfall point 1.0 m (LLTL) & 9.3 m (HHTL) and intake point (2.0 m) LLTL & 10.3 m (HHTL). Depth 11.3 m above CD and width of excavation will be 20 m.
- (vi) Project site is a barren land and surrounded by buildup area, industries, land with and without scrubs & mudflats.
- (vii) Project site falls in CRZ IB, CRZ III and CRZ IV B per approved CZMP and CRZ Notification 2011.
- (viii) Details of marine facilities location are as:

Location	Geographical Coordinates	
Intake	Latitude, N	Longitude, E
LFP – Intake pipeline	21°41'08.533"	72°40'29.999"
Intake pipeline at offshore	21°40'55.441"	72°40'23.636"
Outfall		
LFP – Outfall	21°41'09.316"	72°40'04.771"
Outfall diffuser	21°40'39.891"	72°39'55.055"

- (ix) The area of land requirement used for constructing 100 MLD SWRO plant are as follows:

S.No.	Facilities	Total area (sqm)
1	Area of SWRO	60873.9
2	Area of reservoir	56971.5
3	Area of settled water storage tank and pump house	472.6
4	Area of intake arrangement	5256.5
Total area		123574.5

- (x) The total water requirement during construction phase will be 25 KLD which will be sourced from GIDC.

- (xi) Total Power requirement is 24.5 MVA for the desalination plant and will be sourced from Dakshin Gujarat Vij Company Ltd, Gujarat Electricity Board.
- (xii) The employment potential of the project is 200 persons including both skilled and unskilled during construction phase (max. 360 Nos for 4-5 months) and about 40 persons during operation phase.
- (xiii) The total cost of proposed pipeline project is ₹881.19crores.
- (xiv) Gujarat Coastal Zone Management Authority (GCZMA) has recommended the above proposal for clearance *vide* its letter No. ENV-10-2020-40-T Cell dated 27th July, 2020.

2. The Committee in its earlier meeting held on 27/08/2020 had desired for the following information /documents for its examination before the proposal is recommended for clearance from CRZ perspective:

- (i) *The project proponent shall submit a revised proposal with an intake pipeline system instead of intake channel and duly endorsed by the State Coastal Zone Management Authority.*
- (ii) *The project proponent shall explore the feasibility of supplying some brine water (with necessary treatment so that it is suitable for bird health as well as for salt) to authorized saltpan agencies to facilitate setting up of a salt manufacturing unit in the area that might also benefit migratory birds as they use the salt-pans as habitats for feeding and roosting.*

3. On submission of the above said documents the matter was placed for reconsideration in the said meeting. The Committee noted that the proposal was revised comprising of 2 no's of buried pipeline of size 2.0 metre dia. HDPE pipeline and gravity drawal of water with top of pipe at +1.4 m CD and + 4.5 m CD respectively. The revised proposal also includes 2 Intake heads with 15 mm screens at mouth on both pipeline and 3 Maintenance Deck with approach bridge at +12.0 m CD of width 4 metre on top of 900 mm dia and concrete bored cast in situ piles of 160 nos. The Committee also took note that the revised proposal was duly endorsed by the GCZMA *vide* its letter No. ENV-10-2020-40-T Cell dated 23rd September, 2020.

4. In so far as the feasibility of setting up of salt pans for migratory birds is concerned, the project proponent informed the Committee that the vacant area within the allotted plot will be utilized as salt pans. The project proponent also committed to explore feasibility of supplying brine water to industries/salt farms shall be considered in future.

5. Based on the deliberations held the Committee recommended the project for CRZ clearance subject to the following conditions:

- (i) No groundwater shall be extracted to meet with the water requirements during the construction / operation phase of the project.
- (ii) No excavated material during the construction shall be dumped in water bodies or adjacent areas.
- (iii) The project proponent shall ensure that the temporary structures installed for laying of pipe lines are removed within one months of accomplishment of the work.
- (iv) The project proponent shall explore the feasibility of supplying some brine water (with necessary treatment so that it is suitable for bird health as well as for salt) to authorized saltpan agencies to facilitate setting up of a salt manufacturing unit in the area that might also benefit migratory birds. The project proponent may take assistance of organisations like SACON, who has vast experience in the subject.

- (v) Porous concrete blocks shall be utilised as anchorage as may be applicable as these promotes growth of encrusting flora and fauna within few years of its installation.

3.7 Proposed development of Suheli Island villas, Eco Tourism projects imitated under Island Development Agency by M/s Lakshadweep Tourism Development Corporation Ltd (SPORTS) - CRZ Clearance - reg. [F.No.11-15/2020 IA-III] [IA/LD/CRZ/144232/2020]

3.8 Proposed development of Kadmat Island villas, Eco Tourism projects imitated under Island Development Agency by M/s Lakshadweep Tourism Development Corporation Ltd (SPORTS) - CRZ Clearance - reg. [F.No.11-16/2020 IA-III] [IA/LD/CRZ/144178/2020]

3.9 Proposed development of Minicoy Island villas, Eco Tourism projects imitated under Island Development Agency by M/s Lakshadweep Tourism Development Corporation Ltd (SPORTS) - CRZ Clearance - reg. [F.No.11-17/2020 IA-III] [IA/LD/CRZ/144207/2020]

Dr. M. V. Ramana Murthy rescued himself on principle that NIOT advises SPORTS on important issues of environment and also receive financial assistance and may not be appropriate for him to provide comments on the item.

The above three pilot tourism project proposals are considered in sequel since issues are similar and the proposal belong to the same project proponent. These proposals of Society for Promotion of Natural Tourism and Sports (SPORTS) now known as Lakshadweep Tourism Development Corporation Ltd. is for development of water villas, land villas and eco-tourism projects and initiated by Island Development Agency, Government of India. Adviser (NRE), Niti Aayog, Managing Director of SPORTS, and Group Head (SFD), NIOT along with other officials SPORTS and NIOT were also present in the meeting.

2. A brief background of the proposed projects in the three islands of Lakshadweep viz. Suheli, Minicoy and Kadmat was made by Managing Director, SPORTS and it was informed that the UT Administration and NITI Aayog having recognized the economic potential of tourism sector in the islands through the project had undertaken preparation of concept development plans and detailed master plans for Holistic development of Package-III Islands (Minicoy, Bangaram, Thinnakara, Cheriya and Suheli Islands) in Lakshadweep. That assessments and stakeholder consultations were also conducted under the project and it clearly reflected that tourism is the key driver for socio-economic progress of these islands. Islands like Bangaram, Thinnakara, Minicoy, and Kadmat already have a presence of some tourist activities with basic supporting infrastructure facilities which paves way to further expand the potential of tourism in Lakshadweep Islands.

3. It was also informed that as a part of recommendations under the aforementioned project on Holistic Development of Islands, several projects were proposed for many islands to boost the overall development of the islands and ensure sustainable progress of the islanders. Tourism being the prime sector, included proposals for several hospitality projects and other recommendations to engage tourists over a longer duration of time through provision of variety of activities in the project islands. Amongst these, three anchor projects at Suheli, Minicoy and Kadmat are being taken up as pilot projects under PPP based development model. These projects include beach and water villa based premium resorts in the islands. It was stated that

considering the sensitive nature of these islands, Detailed Project Reports (DPR) has been formulated with an intention to guide the development process of this mentioned premium pilot resort project in the islands and also provide clear development guidelines to the successful private developer, with ultimate objective of aiming to boost tourism in the islands without adversely impacting the sanctity of its ecosystem.

4. The Committee was informed that Lakshadweep Islands is an archipelago comprising of 36 coral islands in total, of which 10 islands are Agatti, Amini, Andrott, Bitra, Chetlat, Kadmat, Kalpeni, Kavaratti, Kiltan and Minicoy. From the tourism perspective, Kavaratti, Kalpeni, Minicoy, Kadmat, Agatti and Bangaram Islands are regarded as the major tourist focal islands in Lakshadweep Islands. Out of these, a few islands offer water-based recreational activities such as diving, snorkeling, and other water sports. However, the focal point and the distinctive features of these islands of Lakshadweep are its natural landscapes, sandy beaches, turquoise blue lagoons and sea, abundant floral and faunal species and a relaxed, soothing and serene lifestyle of these islands, which, in unison, reciprocate in providing an unmatched travel and living experience to the tourists. And in this sense, the Island Water Villa Resort at Suheli, Kadmat and Minicoy Islands will further supplement and grow the tourist potential and offer an exclusive experience to the tourist with more variety of tourist activities in a sustainable and responsible manner. Among the project islands in Lakshadweep, Suheli has very strong potential to be developed as an international tourist destination. Owing to its large land and lagoon area juxtaposed with its rich and complex cultural realm, the Island has tremendous scope to be explored as a global tourism destination.

5. The project proponent stated that at present, Maldives, Bora Bora, Moorea, Caribbean and Tahiti are the select few locations which have some of the world's best and most famous of such resorts. The concept of Island Water Villa resorts has never been explored in India before. Considering the vast untapped tourism potential of Lakshadweep – the Coral Paradise of India – as well as the natural setting that is considered ideal for the establishment of such resorts in the three island provides an opportunity to carve a small but significant share in this niche market segment.

6. The project proponent further informed that this proposed resort projects are planned to be a mix of land-based beach villas and lagoon-based water villas (often termed as over-water bungalow) to offer a significant investment opportunity to qualified private investors. It was also stated that during the process of market assessment conducted by NITI Aayog and suggestions received during the investors meet, typical water-villa resorts in other destinations around the world offer a bouquet of services and accommodation options, including beach villas, and water villas, in addition to other facilities such as spa, wellness center, gymnasium, banquets, etc. and hence combination of water and beach villas as a single project was agreed unanimously by all stakeholders. That furthermore, this integration also enabled suitable packaging of land based and water-based components (including shared infrastructure wherever possible) would also ease the packaging of land-based and water-based components as a single PPP project in these islands.

7. It was stated that the islanders including the Panchayat have full support of the proposed project and a number of stakeholder's consultations have been undertaken in this regard. It was also stated that utmost concerns of the social character of the island will be kept in implementing the project. It was further stated that 75% of the employment generated will be locals. The project proponent made a presentation and provided the following information for the three project proposals:

(A) **SUHELI:**

- i) Suheli Cheriyakara Island is one among the 26 uninhabited islands of Lakshadweep groups with a total land area of about 0.4 Sq.km and a lagoon of about 78.6 Sq.km.
- ii) The proposed development of the Island water villa resort is a mix of both land-based Beach villas and Lagoon-based water villas (Over-water bungalow) over an area of 9.283 ha.
- iii) Details of total land area and built-up area are as follows:

S.No	Description	Land Area (ha.)	Water Area (ha.)	Total (ha.)
1.	Area	03.823	06.00	9.823
2.	Built-up area	0.9945	0.6300	1.6245

- iv) Total 110 keys are proposed as part resort development, of which 50 keys are water villa and 60 keys of beach villas.
- v) The detailed classification of villas are as follows:

Villa Type	Number of units
No of Beach Villas	45 Duplex villas, 15 single villas
No of Water Villas	48 suites, 2 presidential suites

- vi) Details of built-up components within the island water villa resort will be as follows:

Project Component	On Land	On Water
Public Space	Reception Restaurant Banquet Facilities Retail Bar	Spa & Wellness Centre
Private Space	Beach Villa Single Beach Villa Duplex Beach Villa Staff Accommodation	Water Villa Presidential Suite
Infrastructure	Rain Water Harvesting Tanks Sanitation Zone – STP, OWC, etc DG Sets Desalination Plant Solar panel Control Unit Water Treatment Plant Roads	Floating Solar Panels

- viii) The proposed desalination plant (SWRO technology) will be established with a capacity of 82 KLD. The plant is proposed on the shore towards east side with a foot print of 100 sqm with facilities of intake and storage tank with a capacity of 82 KLD.

Parameter	Value	Remarks
Distance of intake structure from shore.	70 m	Metallic lantern at 3 m depth
Distance of outfall point from the plant.	2300 m	Multiport diffuser at 3 m depth (200 m on land)

Area of desalination facility	100 sq.m	On land
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S.No	Plant	Intake	Outfall
Coordinates	10°02'44.70" N 72°17'10.57" E	10°02'46.36" N 72°17'08.99" E	10°01'51.32" N 72°18'8.93" E
Distance from Shore w.r.t LTL (m)	-	70	2300
Depth (m) w.r.t CD		3	>800
Pipe Diameter (mm)		100 Brine outlet with single-port diffusor	

- ix) Discharge outfall is proposed around 500 m from the shoreline towards the eastern side lagoon area.
- x) The infrastructure details of the proposed project are as follows:

<i>Item</i>	<i>Quantity</i>	<i>Treatment/storage/disposal method</i>
<i>Water and sanitation</i>		
Total Water Requirement (Fresh water + Recycled water)	213 KLD	
Total Fresh Water Requirement <i>70% through desalination plant 30% through rainwater harvesting</i>	116.5 KLD	Desalination plant capacity (RO technology) 82 KLD Rainwater Treatment Plant capacity: 35 KLD
Rainwater storage tanks capacity <i>(considering dry period of 120 days)</i>	4.5 ML	No. of over ground tanks: 6 No. of tanks under stilts: 390
Wastewater generated	102 KLD	STP capacity: 112 KLD Technology: MBBR Treatment effluent quality: BOD <3 mg/L, COD <10 mg/L
Recycled water	96.9 KLD	Recycled water is used in flushing, HVAC makeup water, DG set cooling tower, Landscaping and Horticulture.
Wastewater discharge (during monsoons)	29 KLD	It shall be transported from the treated water sump to the RO reject sump where it shall be mixed along with the brine reject from RO plant. During monsoon (lean period) the RO plant is also expected to operate at lower capacity. Given that the transport is seasonal and expected to be significantly low (with a peak capacity 29 KLD), the transfer from treated water sump to RO reject sump shall be carried out using dedicated motor driven tanker of 3 KLD capacity with pump / motor for pumping in/out through multiple trips. No separate pipeline shall be laid. The distance from the treated water sump to RO reject sump is 250m within the project area.

Solid Waste		
Waste during Construction phase <ol style="list-style-type: none"> 1. Inert Metallic waste 2. Solid waste 3. Normal debris 	104 kg/day 52 kg/day 300 kg/day	<ul style="list-style-type: none"> • Temporary toilets with attached septic tanks to be constructed for construction workers • Waste will be collected and handed over to licensed vendors. • Normal debris will be utilized for land filling/levelling at the site
Waste during operation phase <ul style="list-style-type: none"> • Biodegradable waste <ul style="list-style-type: none"> - STP sludge • Non-biodegradable waste 	275 kg/day 165 kg/day 19 kg/day 110kg/day	<ul style="list-style-type: none"> • Organic waste processor capacity: 100 kg/day • Co-composting process to be adopted for sludge and biodegradable waste. Manure will be used in landscaping and gardening. • Non-biodegradable waste to be sent to mainland <p>Developer's responsibilities:</p> <ul style="list-style-type: none"> • Adhere to all existing regulatory framework • Furnish legal agreement with registered scrap dealers for safe disposal of waste. • Promoting efficient packaging and decreasing import of plastic into the island. • Encourage locals to pick beach litter and plastics providing them with money in exchange by the resort developers.
Power		
Total power requirement (50% from solar PVs and 50% of DG sets)	5.2 MU	Floating & rooftop Solar power plant: 1.7 MW <ul style="list-style-type: none"> • Floating solar PV – 0.68 MW • Rooftop solar PV – 1.02 MW Diesel power plant: 0.71 MW

- xi) A total of 220 people will be permanently employed during the operation phase of the project and out of which, 154 will be native islanders (70%). The accommodation for the workers are proposed within the project site.
- xii) Temporary employment during both construction and operation phase of the project are 100 and 10 respectively.
- xiii) The employment likely to be generated is for 330 persons.
- xiv) The proposed development will not impact the pristine nature of the island ecosystem and sustained voluntary conservation measures will be undertaken.
- xv) The total cost of the project is about ₹247.0 crores.
- xvi) The Lakshadweep Coastal Zone Management Authority has recommended the above proposal for clearance vide their letter No. 9/5/2019-S&T (Part.I), dated 25/02/2020.

(B) KADMAT:

- i) Kadmat Island is the fourth largest inhabited island in the Lakshadweep groups with a total land area of about 3.12 Sq.km and a lagoon of about 18.1 Sq.km.
- ii) The proposed development is a mix of both land-based beach villas and Lagoon-based water villas, comprising of land based villas of 5.557 ha and water area 6.0 ha.
- iii) Height of structure will be 12 m and FSI ratio will be 0.09 as per the governing Town Planning regulations.
- iv) Total 110 keys are proposed as part resort development, of which 35 keys of water villa and 75 keys of beach villas. In beach villas, 57 Duplex villas, 18 single villas will be and in water villas 33 suites and 2 presidential suites are proposed.
- v) Details of built-up components within the island water villa resort will be as follows:

Project Component	On Land	On Water
Public Space	<ul style="list-style-type: none">• Reception• Restaurant• Banquet Facilities• Retail• Bar	<ul style="list-style-type: none">• Spa & Wellness Centre
Private Space	<ul style="list-style-type: none">• Beach Villa<ul style="list-style-type: none">➤ Single Beach Villa➤ Duplex Beach Villa• Staff Accommodation	<ul style="list-style-type: none">• Water Villa• Presidential Suite
Infrastructure	<ul style="list-style-type: none">• Rain Water Harvesting Tanks• Sanitation Zone – OWC, STP, etc.• DG Sets• Desalination Plant• Solar panel Control Unit• Water Treatment Plant• STP• Roof top solar panels	<ul style="list-style-type: none">• Floating Solar Panels

- vi) Total water requirement is estimated to be 213 KLD. Fresh water requirement of 117 KLD proposed to be met from desalination plant (70%) and rain water harvesting (30%).
- vii) Rainwater storage tanks capacity of 4.5 ML is proposed to be installed with 6 over ground tanks and 390 tanks under stilts, considering dry period of 120 days.
- viii) A desalination plant and rainwater harvesting system is proposed with capacities of 82 KLD and 35 KLD respectively.
- ix) A desalination plant is proposed in Kadmat Island with the capacity of treating 24 KLD. However, there is an additional requirement of 58 KLD more in order to meet the water requirement of the resort. Therefore, a combined desalination plant of 82 KLD is proposed using SWRO technology.

Parameter	Value	Remarks
Distance of intake structure (m)	140	Metallic lantern at 3 m depth

Distance of outfall pipe (m)	440	Multiport diffuser at 60 m depth
Area of desalination facility (sqm)	100	On land (NDZ)

S.No	Plant	Intake	Outfall
Coordinates	11°11'0.12"N 72°45'42.66"E	11°11'1.48"N 72°45'36.80"E	11°10'56.78"N 72°45'59.83"E
Distance from Shore w.r.t LTL (m)	-	140	440
Depth (m) w.r.t CD		1.5	2
Pipe Diameter (mm)		100 Brine outlet with single-port diffusor	

- x) Discharge outfall is proposed around 500 m from the shoreline towards the eastern side open sea, beyond the fringing coral reefs, at a depth of 60 m.
- xi) The total waste water generated from the resort will be 102 KLD, which will be treated in a Moving Bed Biofilm Reactor (MBBR) based STP of capacity 112KLD. Treated wastewater of capacity 97 KLD will be recycled for various non-potable purposes such as greenbelt development, flushing, DG set cooling water, etc. Only during monsoon season, 29 KLD of treated waste water shall be transported from the treated water sump to the RO reject sump where it shall be mixed along with the brine reject from RO plant. During monsoon (lean period) the RO plant is also expected to operate at lower capacity. Given that the transport is seasonal and expected to be significantly low (with a maximum of 29 KLD), the transfer from treated water sump to RO reject sump shall be carried out using dedicated motor driven tanker of 3 KLD capacity with pump / motor for pumping in/out through multiple trips. No separate pipeline shall be laid. The distance from the treated water sump to RO reject sump is 300m within the project area.
- xii) The solid waste generated will be as follows:

<i>Solid waste</i>	<i>Quantity</i>	<i>Treatment/Storage/disposal</i>
Waste during construction phase <ul style="list-style-type: none"> Inert metallic waste Solid waste Normal debris Used oil 	104 kg/day 52 kg/day 300 kg/day 0.3 kg/month	<ul style="list-style-type: none"> Temporary toilets with attached septic tanks to be constructed for construction workers Solid waste will be collected and handed over to licensed vendors Normal debris will be utilized for land filing/levelling at the site
Waste during operation phase <ul style="list-style-type: none"> Biodegradable waste <ul style="list-style-type: none"> STP sludge Non-biodegradable waste 	275 kg/day 165 kg/day 19 kg/day 110kg/day	<ul style="list-style-type: none"> Organic waste processor capacity: 100 kg/day Co-composting process to be adopted for sludge and biodegradable waste. Manure will be used in landscaping and gardening. Non-biodegradable waste to be sent to mainland <p>Developer's responsibilities:</p> <ul style="list-style-type: none"> Adhere to all existing regulatory framework

		<ul style="list-style-type: none"> • Furnish legal agreement with registered scrap dealers for safe disposal of waste • Promoting efficient packaging and decreasing import of plastic into the island • Encourage locals to pick beach litter and plastics providing them with money in exchange by the resort developers.
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- xiii) Power requirement will be meet by the solar panels (50%) and DG sets (50%). Total power requirement of the facility is 5.2 MU, with a split-up of 0.71 MW from DG Sets and 1.7 MW from floating (0.68 MW) and rooftop (1.02 MW) solar panels.
- xiv) A total of 220 people will be permanently employed during the operation phase of the project, out of which, 154 will be native islanders (70%).
- xv) Temporary employment during both construction and operation phase of the project are 100 and 10 respectively.
- xvi) The employment likely to be generated is for 330 persons.
- xvii) The total cost of the project is about ₹240 crores.
- xviii) The Lakshadweep Coastal Zone Management Authority has recommended the above proposal for clearance vide their letter No. 9/5/2019-S&T(Part.I), dated 25/02/2020.

(C) MINICOY:

- i) The project for development of Island Water Villa Resort at Minicoy, Union Territory of Lakshadweep.
- ii) Minicoy is the second largest inhabited island in the Lakshadweep. Minicoy is located at the southern limit of the Lakshadweep archipelago.
- iii) The proposed project in the Minicoy Island will be developed in two sites on the southern portion of the island.
- iv) Total area (land area 8.54 ha and water area 6.00 ha) will be 14.54 ha and Built-up area (land area 13702.5 sqm and water area 5020 sqm) is about 1.8722 hectares. Height of structure will be 12 m and FSI ratio will be 0.13 as per the governing town planning rules/ regulations.
- v) Detailed classification of Villas are as follows:

Villa Type	Number of units
Land Parcel 1	
No. of Beach Villas	28 Duplex villas, 26 single villas
Land Parcel 2	
No. of Beach Villas	41 Duplex villas, 15 single villas
No. of Water Villas	40

- vi) Details of built-up components within the island water villa resort will be as follows:

Project Component	On Land	On Water
Public Space	Reception Restaurant	Spa & Wellness Centre

	Banquet Facilities Retail Bar	
Private Space	Beach Villa Single Beach Villa Duplex Beach Villa Staff Accommodation	Water Villa Presidential Suite
Infrastructure	Rain Water Harvesting Tanks Sanitation Zone – STP, OWC, etc DG Sets Desalination Plant Solar panel Control Unit Water Treatment Plant	Floating Solar Panels

- vii) The project location falls in ICRZ-II and the Water villa falls in Conservation Zone, as per the approved IIMP.
- viii) The proposed desalination plant will be established at site 1 with a capacity of 114 KLD using SWRO technology.

<i>Parameter</i>	<i>Value</i>	<i>Remarks</i>
Distance of intake structure (m)	300	Metallic lantern at 3 m depth
Distance of outfall pipe (m)	500	Multiport diffuser at 60 m depth
Area of desalination facility (sqm)	100	On land (NDZ)

S.No	Plant	Intake	Outfall
Coordinates	8°16'32.18" N 73°01'06.88" E	8°16'24.15"N 73°01'00.85"E	8°16'17.70"N 73°00'58.79"E
Distance from Shore w.r.t LTL (m)	-	300	500
Depth (m) w.r.t CD		3	10
Pipe Diameter (mm)		100 Brine outlet with single-port diffusor	

- ix) Discharge outfall is proposed around 700 m from the shoreline towards the eastern side open sea, beyond the fringing coral reefs, at a depth of 60 m.
- x) The infrastructure details of the proposed project are as follows:

Sector	Quantity		Treatment/Storage/disposal
	Site 1	Site 2	
Water and Sanitation			
Total water requirement	108 KLD	187 KLD	
Fresh water requirement (70% through desalination plant) (30% through rainwater harvesting)	60.5 KLD	102.5 KLD	Desalination plant capacity (RO technology): 114 KLD Rainwater treatment plant capacity: <ul style="list-style-type: none"> • Site 1: 18 KLD • Site 2: 31 KLD

Rainwater storage tanks capacity (total) (considering dry period of 120 days)	7 ML		No. of over ground tanks: <ul style="list-style-type: none"> • Site 1: 7 tanks • Site 2: 6 tanks No. of tanks under stilts: 570 <ul style="list-style-type: none"> • Site 1: 180 • Site 2: 390
Wastewater generated	50 KLD	89 KLD	STP capacity: site 1- 60KLD Site 2- 99 KLD Technology: MBBR Treatment effluent quality: BOD <3 mg/L, COD <10 mg/L
Recycled water (treated wastewater)	47.58 KLD	84.59 KLD	Used for various non-potable purposes such as greenbelt development, flushing, DG set cooling water, etc
Wastewater discharge (during monsoon)	Nil	25 KLD	25 KLD from Site 2 shall be transported from the treated water sump to the RO reject sump where it shall be mixed along with the brine reject from RO plant. During monsoon (lean period) the RO plant is also expected to operate at lower capacity. Given that the transport is seasonal and expected to be significantly low (with a maximum of 25 KLD), the transfer from treated water sump to RO reject sump shall be carried out using dedicated motor driven tanker of 3 KLD capacity with pump / motor for pumping in/out through multiple trips. <i>No separate pipeline shall be laid.</i> The distance from the treated water sump to RO reject sump is 2000m from Site 2 to the RO reject sump located in Site 1.
<i>Solid waste</i>			
Waste during construction phase <ul style="list-style-type: none"> • Inert metallic waste • Solid waste • Normal debris • Used oil • Demolition waste 	44 kg/day 22 kg/day 100 kg/day 4 kg/month 463000 kg	77 kg/day 39 kg/day 200 kg/day 8 kg/month Nil	<ul style="list-style-type: none"> • Temporary toilets with attached septic tanks to be constructed for construction workers • Solid waste will be collected and handed over to licensed vendors

			<ul style="list-style-type: none"> • Normal debris will be utilized for land filing/levelling at the site
Waste during operation phase <ul style="list-style-type: none"> • Biodegradable waste - STP sludge • Non-biodegradable waste 	135 kg/day 81 kg/day 19 kg/day 54kg/day	240 kg/day 144 kg/day 17 kg/day 96 kg/day	<ul style="list-style-type: none"> • Organic waste processor capacity: 100 kg/day • Co-composting process to be adopted for sludge and biodegradable waste. Manure will be used in landscaping and gardening. • Non-biodegradable waste to be sent to mainland <p>Developer's responsibilities:</p> <ul style="list-style-type: none"> • Adhere to all existing regulatory framework • Furnish legal agreement with registered scrap dealers for safe disposal of waste • Promoting efficient packaging and decreasing import of plastic into the island • Encourage locals to pick beach litter and plastics providing them with money in exchange by the resort developers.
Power			
Total power requirement (50% from solar PVs and 50% of DG sets)	6.4 MU		Solar power plant (total capacity): 2.15 MW <ul style="list-style-type: none"> • Floating solar PV: 0.85 MW • Rooftop solar PV: 1.3 MW Diesel power plant: 0.96 MW

- xi) A total of 21 trees will be removed from the proposed project site. A compensatory greenbelt involving native species has been proposed as part of the project.
- xii) The employment likely to be generated is for 440 persons.
- xiii) The total cost of the project is about ₹319 crores.
- xiv) The Lakshadweep Coastal Zone Management Authority has recommended the above proposal for clearance vide their letter No. 9/5/2019-S&T (Part.I), dated 25th February, 2020.

8. The Committee in its earlier meeting held on 26th February, 2020 had desired for a site visit during March 19-23, 2020 to Suheli and Kadmat Islands by a Sub-Committee comprising of Chairman, EAC Dr. Deepak Apte; Dr. V.K. Jain, Member (EAC); Shri Prabhakar Singh, Member (EAC) and representative of the Ministry and desired for a revised marine EIA report

including preservation and conservation measures proposed to be adopted for the turtles, solid waste disposal plan, details if any on loss in primary productivity due to shading caused by water villas and floating solar panels, kind of water sport activities that will be undertaken.

9. The Committee was not able to undertake the site visit due to COVID-19 pandemic and pending restrictions on domestic travel till July, 2020. Also, in wake of reconstitution of EAC (CRZ), the matter was again deliberated in its meeting held on 30/07/2020 and the Committee desired that the proposed site visit shall be planned for early October 2020, depending on the status of restrictions at Kochi, Bengaluru and Kavaratti during the time. However, considering that the COVID cases still rising across states and that Lakshadweep till date remained COVID free, it will be too much of a risk to local population to undertake the visit by members who are based at various locations. The Committee observed that during the period since the last deliberation, additional information was provided by NIOT that was sought by EAC(CRZ) and modified EMP accordingly.

10. On submission of the additional information on the marine EIA report addressing concerns of the EAC(CRZ) in its earlier meeting held on 26/02/2020, the matter was placed for reconsideration in the said meeting.

11. The Committee further noted that the project proponent proposed following water sport activities as under: -

<i>Water sport activities</i>	<i>Kadmat and Suheli (No.of activities/day)</i>	<i>Minicoy (No. of activities/day)</i>
Diving- shallow	25-30	30-35
Diving- deep sea	10-20	15-20
Snorkelling	40-50	50-60
Jet ski	2-3 crafts (15-20 activities)	2-3 crafts (15-20 activities)
Speed boat ride	2-3 boats (15-20 activities)	2-3 boats (15-20 activities)
Glass bottom boat ride	2-3 boats (5-8 trips)	2-3 boats (5- 10 trips)
Other water activities such as Kayaking, banana boat ride, knee boat ride, yatching sailing, wind surfing etc.	100-150	100-150

The Committee was of opinion that the speed boat rides and Jet Ski for recreation will have too much of a collision risk to sea turtles which use shallow lagoon and sea grass areas for foraging and cannot be allowed. Speed boats can be purely used for goods transport through designated navigation channels and that too with speed restrictions especially inside lagoon areas. The Committee therefore desired that the project proponent shall not undertake speed boat and Jet Ski rides as a part of water sport activity.

Further, the Committee desired that the project proponent needs to clearly define and demarcate diesel storage areas for the generator along with its spillage prevention plan. The project proponent needs to also provide details of provision for loading and unloading of diesel at the location.

12. Regarding Solid Waste Management, the project proponent stated that the resort will have following onsite facilities such as Segregation chamber- where waste is separated into biodegradable and non-biodegradable; Organic Waste Processor - to compost food waste and

garden waste. Non-biodegradable waste is sold to authorised recyclers /dealers. It was further stated that it shall be mandated through project concessionaire agreement between project developer and Project Management Agency (PMA) / SPORTS that the project proponent shall adhere to proposed mechanism for solid waste management. They shall adhere to the provisions of all existing regulatory framework and furnish legal agreement with registered scrap dealer(s) for safe disposal of segregated waste for obtaining No Objection Certificate (NOC) from the Lakshadweep Pollution Control Committee (LPCC) for commencing operation of the establishment. Furnish legal agreement with any authorised dealer from Kavaratti or mainland India to handle and dispose the waste generated during construction phase for obtaining NOC from LPCC for Establishment before commencing construction. The proponent shall install Organic Waste Processor to compose organic waste generated in the precinct.

13. The Committee was further informed that as an alteration to treating the toilet waste (human waste) in the proposed STP, the concept of Non-filling Green Bio-septic tanks will be considered. These septic tanks will be bio-digester where human waste up to 99.9% will be digested by Anaerobic Microbial inoculum filled in these bio-tank and gets converted into reusable water and methane gas. The treated water can be re-used for other non-potable use as purposed and the produced methane gas can be used as cooking fuel in the resort.

14. The Committee further took note that the proposed development of Eco Tourism projects imitated under Island Development Agency involve tree cutting as detailed below:

<i>S.No.</i>	<i>Island</i>	<i>No. of trees present</i>	<i>No. of trees proposed to be cut</i>
1	Kadmat	236	18
2	Minicoy	79	21
3	Suheli	121	24

The Committee desired that the compensatory plantation should be purely of native species found on these islands and no exotic species will be used for the same and shall be monitored by the Forest Department of Lakshadweep Administration.

15. The Committee noted that these islands have nesting of three species of sea turtle and that the project sites require to be monitored annually. The Committee was also told that design of lagoon villas is such that adequate spacing among piles and clear water front areas shall be provided so that there is no hindrance to turtle navigation or nesting activity. The Committee was informed by the project proponent that sand dunes and sand dune vegetation will not be disturbed under any circumstances.

17. The project proponents also proposed establishment of Suheli Conservation Reserve covering Suheli Valiakara, Suheli Pitti (Suheli Sand bar), and important coral reef, Giant Clam, sea grass and sand flats within Suheli Lagoon.

18. The Committee desired that a monitoring sub-committee comprising of Chairman of EAC, two subject expert Members of EAC and a representative of the Ministry shall be constituted to monitor the implementation of projects in Kadmat, Minicoy and Suheli Islands during the construction and operation phases for ensuring the compliance of stipulated conditions. *The tenure of the said sub-committee shall be upto one year from the date of commercial operation of the resorts.* The Committee also desired that the monitoring sub-committee shall conduct a periodic review (at least two in a year) including site visits of the project and suggest additional adequate environmental safeguards, as may be necessary and for

incorporation in the clearance issued (if so), as the project is first of its kind in India. These visits shall be felicitated and intimated by the project proponent and Lakshadweep administration.

19. The Committee was also of opinion that the project proponent shall rope in reputed institutes like CSIR-NIO, NIOT or any such institutes/agencies to oversee the construction and implementation of the proposed projects in Kadmat, Minicoy and Suheli Islands.

20. Based on the detailed deliberations held and documents produced, the Committee recommended the projects in Kadmat, Minicoy and Suheli Islands for CRZ clearance subject to the following conditions:

Construction phase:

- (i) The project proponent shall rope in reputed institutes like CSIR-NIO, NIOT or any such institutes/agencies to oversee the construction and implementation of the proposed project in Kadmat, Minicoy and Suheli Islands.
- (ii) No villas shall be built on ecologically sensitive areas / habitats such as coral reefs, seagrass and turtle nesting sites.
- (iii) The project proponent shall use/adopt sea turtle friendly illumination on the seaward side of its structures at all sites.
- (iv) The Lakshadweep Administration shall establish and notify Suheli Conservation Reserve within six months covering Suheli Valiakara, Suheli Pitti (Suheli Sand bar), and important coral reef, sea grass and sand flats areas within Suheli Lagoon and some parts of open reef flats and reef slopes. Buffer areas for the Conservation Reserve shall also be identified and notified by Forest Department of Lakshadweep.
- (v) The project proponent and Lakshadweep administration shall ensure that the traditional access of local community and islanders to the use of island and lagoon for livelihood at Suheli, Kadmat and Minicoy should remain intact and unaffected.
- (vi) Compensatory plantation will be made of exclusively of native species found in Lakshadweep and shall be monitored by the Forest Department of Lakshadweep Administration.
- (vii) Construction and labour movement will be restricted during sea turtle nesting time especially at Suheli. Labour will not be allowed under any circumstances to visit Suheli Valiakara and Suheli Pitti or other reef areas.
- (viii) The Project proponent needs to clearly define and demarcate diesel storage areas for the generator along with its spillage prevention plan. Project proponent need to also provide details of provision for loading and unloading of diesel at the location
- (ix) The project proponent shall provide adequate spacing among piles and clear water front areas in turtle nesting sites
- (x) The project proponent shall not disturb the dune vegetation in the project site at any cost.
- (xi) No permanent labour camp, machinery and material storage shall be allowed in CRZ area.
- (xii) There shall be no dressing or alteration of the sand dunes present in the vicinity and the same shall be kept undisturbed. No alteration of natural features including landscape changes shall be undertaken for beautification, recreation and other such purpose.

- (xiii) The project proponent shall ensure adequate basic needs and health care facilities are provided to the workers during the construction phase.
- (xiv) The monitoring sub-committee as stated in Sr. no. 18 shall periodically review the construction phase to ensure the ecologically sensitive areas are undisturbed during the process, as committed by the project proponent and suggest additional environmental safeguards, as may be applicable
- (xv) Department of Environment and Forest and department of science and technology of Lakshadweep Administration shall develop coral reef, endangered Giant Clams and sea grass restoration plan at all three islands including its implementation along with financial provisions and submit the same to *the Expert Appraisal Committee within 6 months.*
- (xvi) Department of Environment and Forest and department of science and technology of Lakshadweep Administration shall develop sea turtle conservation plan at all three islands along with financial provisions and submit the same to the Committee within 6 months. This should include but not limited to phased removal of tetrapod in key sea turtle nesting areas in due consultation with NIOT. Nature based solution be used and encouraged to prevent or mitigate erosion related issues.

Operation phase:

- (i) As committed by project proponent, the beaches shall be designated as “No Plastic Zone” and the disposables and one-time plastic waste shall be prohibited in the Minicoy, Kadmat and Suheli Islands through regulatory checks in the project contract.
- (ii) The project proponent shall not undertake speed boat and Jet Ski rides as a part of water sport activity.
- (iii) As committed by the project proponent, the toilet waste (human waste) shall be treated/degraded using the concept of Non-filling Green Bio-septic tanks.
- (iv) The project proponent shall not dispose any waste in island and/or lagoon area. The project proponent shall ensure that an inbuilt mechanism for management of solid waste is in place which shall be a pre-requisite for obtaining CTO under Air and Water Acts from the Lakshadweep PCC.
- (v) Ground water shall not be extracted for operation of the project.
- (vi) Discharge of treated wastewater (from STP shall be discharged into RO reject sump only during monsoon season (June to September). As committed by the project proponent, the treated wastewater shall be reused/recycled completely except monsoon season.
- (vii) The monitoring sub-committee as stated in Sr. no. 18 shall periodically review the implementation of project including site visit and suggest additional environmental safeguards, as may be applicable.
- (viii) The project proponent shall ensure disaster risk reduction strategy is in place
- (ix) The project proponent shall dispose the used batteries/used oils or any hazardous substances to the mainland in the designated hazardous waste disposal facilities and not in any Islands of Lakshadweep.
- (x) Department of Environment and Forest of Lakshadweep Administration shall do annual sea turtle population monitoring and report to concerned Regional Office of MoEFCC.
- (xi) Coral reef, endangered Giant Clams and sea grass restoration plan shall be implemented as developed by Forest department at all three islands by Lakshadweep Administration and report to concerned Regional Office of MoEFCC.

MISCELLANEOUS

3.10 Report of the Expert Appraisal Committee on Comprehensive Shoreline Protection Management Plan for Coast of Tamil Nadu - reg.

In compliance to the directions of the National Green tribunal in the matter of Application No.4 of 2014: C.H. Balamohan Vs Union of India & Ors., the Ministry of Environment, Forest and Climate Change had constituted an Expert Committee for examination and making time bound recommendation to the National Coastal Zone Management Authority (NCZMA), on “Comprehensive Shoreline Protection Management Plan for Tamil Nadu Coast” submitted by Government of Tamil Nadu. The Expert Committee submitted its report on 29.03.2019 and the same was placed before the EAC (CRZ), herein referred to as the Committee, for its observations.

2. The Committee noted the observations and recommendations made in the aforesaid report of the Expert Committee as follows:

- (i) The IIT team explained that they have considered various options, both soft and hard for protection of coast from erosion. They have also indicated the long term effects of both the hard and soft solutions in a general way. For the purpose of study IIT have divided the coast line into 73 reaches. Further they have identified the vulnerable stretches and protected stretches.
- (ii) The conceptual solutions provided in the “Comprehensive Shoreline Protection Management Plan for Tamil Nadu Coast” prepared by IIT Madras can be used for guidance. A detailed study to be conducted before implementation of any coastal protection measures. The detailed shore protection measures should be innovative and environmentally friendly to minimize the cross impacts on adjacent areas. these detailed protection measures should also address impact on climate change and sea-level change.
- (iii) While conducting detailed study during preparation of DPR, sediment cell approach to be followed as detailed by NCSCM.
- (iv) Shoreline change maps prepared by NCSCM and NCCR may be used as basis for developing shore protection schemes in the State.
- (v) The detailed shore protection measures should be as per CRZ Notification 2011 and subsequent amendments thereon.
- (vi) Implications of Coastal Economic Zone (CEZ) development under SAGARMALA needs to be taken care suitably, while preparing detailed coastal protection measures.
- (vii) Preparation of ICMP for the State of Tamil Nadu has been undertaken with detailed analysis. The current shoreline management plan with conceptual solutions should be integrated into ICZMP.
- (viii) The “Comprehensive Shoreline Protection Management Plan for entire Tamil Nadu coast” prepared by IIT Madras has already been circulated to line departments of Government of Tamil Nadu and also various stakeholders. However, the implementation of coastal protection structures in the border areas of Tamil Nadu with State of Andhra Pradesh, Kerala and U.T of Puducherry may have implications in their territory also. Hence Department of Environment, Govt. of Tamil Nadu to circulate the “Comprehensive Shoreline Protection Management Plan for entire Tamil Nadu coast” prepared by IIT Madras to the above states and UT.

3. The Committee in its earlier meeting held on 21.05.2019 desired that the comments/suggestions from the neighbouring states viz. State Governments of Andhra Pradesh, Kerala and UT of Puducherry shall be made available by the Tamil Nadu Government

for further consideration. The Committee was informed that the Tamil Nadu Government vide letter dated 13/07/2020 requested Ministry to approve the plan, pending the comments from the state Governments of Andhra Pradesh, Kerala and Puducherry.

4. The matter was placed for reconsideration before the Committee for their observations. The Committee desired that a reminder from the Ministry shall be sent to state Governments of Andhra Pradesh, Kerala and Puducherry to provide their comments/views on the said plan within 3 months i.e. on or before December, 2020. The Committee also desired that a Sub-Committee shall visit the sensitive coastal areas of Tamil Nadu for examination before implementation of coastal protection measures. In addition, the Committee also reiterated that shoreline change maps prepared by NCSCM and NCCR may be used as basis for developing any shore protection schemes in the State. The Committee therefore declined to further deliberate on the subject and recommended that the matter be placed to the Committee, upon receipt of the comments of the concerned state governments.

4.0 Any other item with the permission of the Chair.

There being no agenda item left, the meeting ended with a vote of thanks to the Chair.
