

Item Nos.01 -04

Court No. 1

**BEFORE THE NATIONAL GREEN TRIBUNAL  
EASTERN ZONE BENCH, FINANCE CENTRE  
KOLKATA**

**(By Hybrid Mode)**

Appeal Nos. 29 to 31/2022/EZ

Conservation Action Trust & Anr.

Appellants

Versus

The Ministry of Environment Forest  
& Climate Change & Ors.

Respondent(s)

**WITH**

Appeal No. 32/2022/EZ

Ashis Kothari

Appellant

Versus

The Ministry of Environment Forest  
& Climate Change & Ors.

Respondent(s)

Date of hearing: 03.04.2023

**CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON  
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER  
HON'BLE MR. JUSTICE B. AMIT STHALEKAR, JUDICIAL MEMBER  
HON'BLE MR. JUSTICE ARUN KUMAR TYAGI, JUDICIAL MEMBER  
HON'BLE DR. A. SENTHIL VEL, EXPERT MEMBER  
HON'BLE DR. AFROZ AHMAD, EXPERT MEMBER**

Appellant(s): Mr. Kaustav Dhar, Advocate a/w Ms. Ajeeya Choudhury, Advocate for the Appellant (in Appeal Nos. 29 to 31/2022/EZ)

Mr. A. Yogeshwaran, Advocate a/w Ms. Poongkhulali B., Advocate, Mr. Santanu Chakraborty, Advocate for the Appellant (in Appeal No. 32/2022/EZ)

Respondent(s): Ms. Aishwarya Bhati, ASG a/w Ms. Suhasini Sen, Advocate, Mr. Aman Jha, Advocate (in Virtual Mode), Mr. Apurba Ghosh, Advocate and Ms. Manisha Chava, Advocate for R-1

Mr. Vikramjit Banerjee, ASG a/w Mr. Shatadru Chakraborty, Advocate, Mr. Ramendu Agarwal, Advocate (in Virtual Mode), Mr. Dibesh Dwivedi, Advocate for R-2 & 3

Ms. Dhriti Banerjee, Director, ZSI (in Virtual Mode)

## ORDER

### **Preliminary – subject matter of appeals**

1. This order will deal with Appeal Nos. 29 to 32/2022/EZ as all the four Appeals pertain to Forest/Environmental Clearance (FC/EC) in respect of integrated **project (the project) by Andaman and Nicobar Islands Integrated Development Corporation (ANIDCO) in Great Nicobar Island**, the project proponent (PP), involving the following:-

- a. International Container Transshipment Terminal (ICTT)-14.2 Million TEU
- b. Greenfield International Airport (4000 Peak Hour Passengers-PHP)
- c. Township & Area development
- d. 450 MVA Gas and Solar based power plant over an extent of 16610 hectares (Ha) in the Great Nicobar Islands.

2. (a) is the main project of which (b) to (d) are integral parts.

3. Appeal No. 29/2022 is against Stage-I Clearance dated 27.10.2022 under the Forest (Conservation) Act, 1980 by MoEF&CC for diversion of 130.75 Sq. Km of forest land in the Great Nicobar Island. Appeal Nos. 30 to 32/2022, are against EC dated 04.11.2022 for the project by the MoEF&CC. **Appeal No. 29 to 31/2022 have been filed by Conservation Action Trust trust located at Bombay while Appeal No. 32/2022/EZ has been filed by one Mr. Ashis Kothari of Pune.** All the appeals came up for hearing on 11.01.2023 when notice was issued to the respondents including the MoEF&CC and the PP.

4. Challenge to the FC is inter-alia on the ground that impact of diversion of 130.75 Sq Km of pristine tropical rainforests on biodiversity, wildlife habitats and Tribals has not been considered. Crucial information

was withheld from Form-A. Forest land cannot be diverted for township and non-site specific projects. Mandatory process under the Forest Rights Rules has not been followed. PP being part of Andaman Administration could not have been associated with the impugned clearance. Forest dwelling community - Shompen (PVTG) and Coastal dwelling community Nicobarese (ST) have settlements in the area to be diverted and de-notified.

5. Challenge to the EC is inter-alia on the ground that appraisal conducted by the EAC is not in accordance with the EAC Notification dated 14.09.2006, EIA report has not been prepared as per ToRs, public hearing is vitiated, impact of the project on tribal population has not been considered, cumulative impact assessment has not been conducted. and ICRZ Notifications, 2019 have been violated. The project will result in destruction of forests, turtle nesting grounds, habitat of endangered endemic species, violation of the rights of indigenous communities in the Great Nicobar Island.

#### **Details of the project and conditions for the Impugned EC**

6. Perusal of impugned EC dated 04.11.2022 shows that the proposal for the project was considered in the 293<sup>rd</sup> meeting of EAC held on 24<sup>th</sup> – 25<sup>th</sup> March, 2022 and again in the 297<sup>th</sup> meeting of EAC held on 24<sup>th</sup> – 25<sup>th</sup> May, 2022. Based on the reply submitted to the queries raised by the EAC, the proposal is again placed in the 306<sup>th</sup> meeting of EAC held on 22<sup>nd</sup> – 23<sup>rd</sup> August, 2022. Some details of the project are mentioned as follows:

*“6. The proposed project fall under 7(e) Ports, harbours; 1 (d) Power Plant; and 8 (b) Township & Area Development project, Category A, Scheduled to the EIA Notification, 2006.*

*7. The total area required for the proposed project is 16610 ha. The proposed Project site is in not connected through any road. Currently, the access is through sea and air route only. Approach roads shall be developed within the Islands.*

8. No development is proposed on the western side of Galathea Bay in Phase I development apart from Defence area development, power plant and basic infrastructure to sustain defence and power plant site. Suggestion/opinion from MoD will be sought to finalise the buffer zones around Defence parcels. Buffer area of 500 mts from high tide line around Pemayya to be declared as Coastal Protection Area with stringent controls on any development within the area. Further, Alexandria Bay and Casuarina Bay are located far away and fall outside the project area on the western coast. All these areas including Pemayya Bay have been made part of the leatherback conservation plan. Adequate measures have been proposed for protection of nesting beaches and turtles.

9. A separate land use category “Special Use” has been included in the land use plan. The subcategories under “Special Use” are:

- a. National Memorial (Western tip of Galathea Bay),
- b. Defence Purpose (Western tip of Galathea Bay),
- c. Pemayya Buffer Area (Buffer area of 500m from HTL for safe nesting of Leatherback turtles).

10. xxx.....xxx.....xxx

11. The North South road of 55m ROW is the main arterial road connecting different pockets of development across the master plan area. It also serves as the key connector between the development on the eastern and western side of the master plan area and serves the overall function of distributing traffic and enabling access. The 55m RoW has been envisaged as an urban arterial road and the proposed design for this road is in compliance with guidelines for Urban Roads. The 55 m arterial road serves multiple functions enabling movements through different modes of transport including non-motorised transport i.e. cycles as well as pedestrians. Development within CRZ area will be in compliance with ICRZ Notification 2019.

12. The arterial road will be developed in a phased matter. In the first phase, 30 m ROW will be utilized and developed and the balance 25 m ROW will be reserved for future expansion for Bus Rapid Transit (BRT) or Light Rail Transit (LRT). Need for development of remaining 25 m RoW will be reviewed by the project monitoring committee on biodiversity before its construction and after full capacity utilization of 30m RoW and evaluation by CSIR-Central Road Research Institute (CRRI).

13 to 22...xxx.....xxx.....xxx

**23. WII has prepared the plan for conservation and long term monitoring of sea turtles of the Nicobar Islands along with the leatherback sea turtles for a period of 10 years primarily. The conservation plan will be implemented in two phases. Phase1 involves monitoring and nesting the population tracking the movements, identification of high use areas in the breeding sites and non-breeding regions, determining foraging areas**

**using stable isotopes, population genetic structure of leatherback turtles, assessing vulnerability of turtle nesting beaches and adoption of appropriate management strategies and multi stakeholders' involvement in the long-term conservation of sea turtles. Phase 2 of the conservation plan will develop effective site-specific actions for conservation of sea turtles.**

24. WII has been identified as a scientific agency to prepare and implement conservation plans for leatherback turtles and saltwater crocodiles. In the case of Nicobar Megapod, coordinated and collaborative research will have better outcome and in the larger interest of the endemic species of Nicobar megapode.

25. **For facilitating movement of wildlife between forest and the sea shore and for crossing the arboreal animals as well as for passage of snakes, crabs, crocodiles etc, safe wildlife corridors at 8 locations along the eastern side of the island connecting forest and seashore through via-ducts in the north south arterial road have been proposed and incorporated in the master plan. The locations of the proposed wildlife corridors i.e. via ducts have been selected based on the ground situation and inputs provided by ZSI and Department of Environment & Forest. The width of the corridor ranges from 250 meters to 1100 meters and the eastern side of the corridors via ducts towards the seashore would be maintained as green area and no development is proposed in the said areas.**

26. The port may place series of Ecological Marker Buoys for every 200 m along the proposed extended breakwater line. Also, Marker Booms may be connected in between the buoys. **Such arrangement will clearly mark the 'AREA TO BE AVOIDED TO AID TURTLES', warn restriction of the navigational route, thereby neither ships nor boats can enter the 'TURTLE NESTING AREA'. It would protect the turtles from the port operation.**

27. Shoreline change: The observed trend of the shoreline at the proposed project location reveals that the shoreline remains with not noticeable change over a period of 5 years from 2015 to 2020. The shoreline analysis shows that the project site at port is surrounded with elevated hill promontories and rocky shores.

28. Dredging and Reclamation: The total quantity of capital dredging for the development of port is about 17.7 million cu.m. MIKE 21-PA (Particle Analysis) module was used to identify a suitable location for dumping the dredge spoil and to understand the dispersion pattern of disposed material after dumping. The maximum increase in seabed level over the disposal area is about 0.03 m at the proposed dumping location. Due to availability of deeper water depth of 600m the change in bed level at the proposed disposal location due to dumping is

insignificant. The plume of suspended sediment after dumping tends to spread towards northeast to an extent of 1 km with an increase in seabed level of <0.008 m. Therefore, the proposed disposal location is found to be more ideal and it will not cause any adverse impact on the proposed port development facilities and the marine environment.

29. xxx.....xxx.....xxx

30. Cargo handling with dust control measures: Since the proposed port is International Container Transshipment Terminal (ICTT), there will be no dusty cargo, dry bulk cargo such as coal, iron ore or hazardous cargo, etc. will be handled at port. All the vehicles engaged for construction should have valid pollution check certificate as per the motor vehicle act. Further, any regulations related to vehicle emission issued by local government should also be adhered to. Generators and machineries are to be serviced and maintained regularly to avoid generation of dust and other air pollutants. Oil Spill Contingent Management Plan includes Boom containment, Spray of dispersant and Skimmers. No hazardous industries are envisaged at GNI however the containers may contain hazardous cargo, **Hazardous cargo shall be handled in accordance with ‘The Manufacture, Storage and Import of Hazardous Chemicals Rules, ACT 1989’.** Containers carrying hazardous cargo are labelled as Hazardous Cargos and stored at separate locations in the yard designated for the storage of hazardous cargo and a dedicated Nodal Officer will be appointed who will be responsible to check the compliance of the regulations from time to time. Hazardous waste like used oil, insecticide/ herbicides, paints, solvents, lubricants etc. would be generated from the project, the same hazardous substances will be securely stored at site before transportation, Double chamber Incinerator has been proposed to treat the possible hazardous waste generated from Port, Power plant and the Township.

31 to 32 xxx.....xxx.....xxx

33. Land acquisition and R&R issues: Total land acquisition required for project is approximately 421.57 ha. Total families affected is 379 and total affected population is 1761.

34. Revised ICRZ recommendations have been received via letter ‘No.PCCF/EPA/1/Vol-XVI/154, Andaman & Nicobar administration, Department of Environment and Forests, PCCF (CRZ&FC) / nodal officer, FCA&MS, A&NCZMA/ Van Sadan, Haddo, Port Blair, Dated 8<sup>th</sup> July, 2022.

35 xxx.....xxx.....xxx

36. Mangroves: **The Mangrove Conservation and Management Plan for Great Nicobar Island has been prepared by the Department of Environment and Forests, A&N Administration.**

The mangrove conservation plan is aimed at restoration and restocking of the tsunami impacted mangrove areas besides enhancement/enrichment through plantations. The plan also aims at improving the diversity of mangroves, its richness and stand density through proper assessment of distribution and status of mangrove species found in Great Nicobar Island along with the locations. The conservation plan addresses the strategies to restore and revive the mangrove areas through ecological restoration and enrichment planting.

**37. The Coral Conservation Plan prepared by ZSI addresses both, the conservation strategies for coral colonies around GNI as well as translocation strategies for ten (10) hectares of impacted corals. A total of 245 species of scleractinian corals under 53 genera and 15 families are recorded from seven sites including the Great Nicobar Island. No major coral reef exists within the work area of the project. However, scattered coral reefs are available at the peninsular part of the Galathea Bay. As part of the assessment for conservation and management of Coral reefs, the Coral cover required to be translocated from the proposed site is around 10 ha which includes around 20668 Coral colonies out of which approximately 16150 colonies will be translocated. The plan addresses the probable sites for translocation, the methodology, the coral colonies for transplantation, conservation and management of coral reefs both at the translocated sites, donor sites and other sites in Great Nicobar Islands.**

38. xxx.....xxx.....xxx

39. *Employment Potential: The project around 6,939 persons directly and 10,408 persons would be employed by 2025, around 24,734 persons directly, 37,101 persons indirectly would be employed by 2040 and 51,423 persons directly and 77,135 persons indirectly would be employed by 2052. Generally, locals are employed by the contractor.*

40. *Public Hearing: Public Hearing was conducted on 27.01.2022 at Community Hall, Gram Panchayat, Campbell Bay, Great Nicobar.*

**41. Benefits of the Project: Strategic benefits:- Strong presence in Indian Ocean Region to counter the pressure being built by foreign powers growing presence. Capturing the Strategic location to develop a new Economic hub in India Ocean region. Improving connectivity with Indian mainland and other global cities. Socio-economic benefits: Promoting sustainable tourism. The proposed ICTT will allow India to participate in the regional and global maritime economy by becoming a major player in cargo transshipment. A Mixed-use**

**urban development in the vicinity of these major infrastructure works will also be necessary to support quality of life for the residents that will generate and enable growth in the various economic sectors over time. This will require the development of simultaneous primary and secondary urban infrastructure networks such as roads, public transport, energy and electrical power, as well as water, wastewater, and storm water facilities and services, which will form the skeleton of the proposed township master plan. It is estimated that after the project is fully implemented, it has the potential to generate around 1,28,558 jobs opportunity. Socio-economic growth of local population. Development of social infrastructure supporting existing population and proposed population.**

42. WII suggested that the project can be undertaken however more intensive assessment/research is required on Leatherback Sea turtle and its movements to craft site-specific mitigation strategy and suggested 10-year road map to systematically implement mitigation measures. SACON and WII has provided 10-year plan to mitigate impacts on Nicobar Megapod.

43. EAC also noted that there are several other endemic flora and fauna and impact of the project on these species is mostly unknown. The EAC noted the scale of impacts the proposed project may have both on flora and fauna of GNI and native populations, however, considering the strategic nature of the integrated project as presented by the PP and taking into account the submission made by the project proponent had a detailed deliberation in its 306<sup>th</sup> meeting during 22<sup>nd</sup> – 23<sup>rd</sup> August, 2022 and recommended the proposal for grant of Environmental and CRZ clearance with the specific conditions, as mentioned below, in addition to all standard conditions applicable for such projects:

44. The Ministry of Environment, Forest and Climate Change has considered the proposal based on the recommendations of the Expert Appraisal Committee (Infrastructure, CRZ and other Miscellaneous projects and other co-opted members of Infra-2 EAC, members of Thermal EAC and NDS Committee) and hereby decided to grant Environmental Clearance and CRZ Clearance for the “Integrated development of International Container Transshipment Terminal (ICTT)-14.2 Million TEU, Township & Area development and 450 MVA Gas and Solar based power plant in 16610 ha. Great Nicobar Islands, Nicobar District by M/s Andaman and Nicobar Islands Integrated Development Corporation Ltd” under the EIA Notification, 2006 and ICRZ Notification, 2019 as amended, subject to strict compliance of the following specific conditions, in addition to all standard conditions applicable for such projects.



## **SPECIFIC CONDITIONS**

- I. All the recommendations mentioned in the wildlife conservation plans and Tribal welfare plans below shall be implemented in time bound manner. The compliance to the recommendations as per schedule shall be submitted along with 6 monthly compliance reports to the regional office of MoEF&CC.**
- A. Leatherback Sea Turtle:** Proposal submitted by Wildlife Institute of India (WII) was considered by the EAC and following recommendations are provided to ensure conservation of Leatherback along with other species of sea turtles such as Hawksbill, Green, Loggerhead and Olive Ridley in Andaman and Nicobar Islands with focus of Nicobar group of Islands. EAC has following specific recommendations-
- a. The budget estimated by WII needs to be revised as the project life-cycle is for 30 years till year 2052, however, the proposal of WII is only for 10 years. Therefore, WII need to revise proposal for 30 years along with budgetary provisions and implementation timeline and submitted to PP within 15 days of the grant of EC. Based on the revised proposal sent by WII corresponding amount for first 10 years will be released by PP within 3 months of submission of proposal which would enable WII to undertake uninterrupted research and conservation interventions on Leatherback and other species of sea turtles such as Hawksbill, Green, Loggerhead and Olive Ridley. Accordingly, the Committee informed PP to revise the EMP provisions. The provision for WII would be over and above the cost required by forest department. The costing should include costs of additional resources such as human resource, vehicles, mechanized boats, 200 additional satellite tags and monitoring costs over entire lifecycle of the proposed project etc as stated below. Project tenure of WII should be consistent with the holistic development plan for GNI and thus will be till the completion of the final phase of the same in the year 2052 and not limited to 10 years. The financial allocation in the proposal of WII should be such that the satellite tagging studies can be started immediately and have adequate and uninterrupted financial resources to continue the conservation work on Leatherback Sea Turtles. If any additional funds are required at a later stage or for post project development monitoring work, those will be made available by PP to WII. Project monitoring committee as stated in 3.10.3(VI) will review the project progress through biannual meetings and additional financial requirements in due course.
  - b. 20% of nesting population of Leatherback Sea Turtle or minimum 150 satellite tags (Argos-linked FastGPS Platform Terminal Transmitter with DIVE sensors), whichever is higher, to be deployed to Leatherback Sea Turtle in GNI and Nicobar Islands and Little Andaman in the first 5 years phase by WII. Of these 150 tags, minimum 50 tags to be deployed in the first year so that the sea turtle movement data will be available for the PP to monitor construction activity. For rest of the nesting individuals, flipper tags to be deployed.

- c. 20 satellite tags each for Green Sea Turtle, Hawksbill Sea Turtle and Olive Ridley Sea Turtle to be deployed in the first 5 years phase.
- d. Provision for 10 satellite tags for Loggerhead Sea Turtle should be made in case if nesting females are noticed in A&N
- e. Considering the vast research area, additional manpower especially research associate and field assistants needs to be incorporated in the proposal of WII including dedicated units for Great Nicobar, Little Nicobar and Little Andaman
- f. One additional mechanized engine Dingy for the inter-island movement including boatman, boat running and maintenance cost be included in the WII proposal. All three mechanized dingy (2 for forest dept and one for WII) to be exclusively dedicated to sea turtle research and monitoring
- g. Holistic development will include data and recommendation from WII, ZSI, SACON and BSI studies in the deliberations and directions of the monitoring committee as stated in 3.10.3(VI) and plans maybe modified accordingly if found necessary in the interest of all species of sea turtles with focus of Leatherback Sea Turtle and other flora and fauna of GNI. Additional measures may be considered by the Committee if found essential.
- h. Zero nest predation approach must be ensured by the state forest department to achieve highest possible survival of Leatherback, Hawksbill, Olive Ridley and Green Sea Turtle. Community based nest monitoring and protection programme should be initiated from year 2022 nesting season. The budget for the same will be submitted by state forest department to PP. This will be over and above the budget for WII proposal.
- i. Domestic dog population control through sterilization to be explored with priority.
- j. Accordingly, WII is advised to revise the proposal and implementation plan within 15 days and send the same to EAC and MoEFCC for record and to PP for release of first 10 years installment within three months.
- k. A&NFD will ensure implementation of conservation measures as recommended by WII.

**B. Nicobar Megapod:** The endemic Nicobar Megapod is a keystone species of Nicobar group of islands. From the enclosure no 17 provided by PP it is clear that about 51 active nests of Nicobar Megapod are present within the proposed project areas of which appx 30 will be permanently destroyed. In this context, the PP has submitted two proposals towards understanding of habitat utilization and microhabitat and conservation of remaining population of this endemic species in the Nicobar region. The approach and methodology for both is similar in nature. However, WII alongside the population monitoring also suggested disease prevalence study. After careful consideration, EAC suggested SACON and WII in close collaboration will undertake comprehensive studies and conservation measures for endemic Nicobar Megapod. Project tenure should be consistent with the holistic development plan for GNI and thus will be till the completion of the final phase of the same in the year 2052 and not limited to 10 years. Accordingly, SACON and WII shall submit two full proposals to PP with a copy to MoEFCC and EAC within 15 days of grant of EC and CRZ clearance. The SACON will undertake

studies for population ecology, meta populations, disease surveillance and translocation of endemic Nicobar Megapod and WII will study population genetics and Satellite tagging studies. SACON and WII is advised to develop full proposals with sufficient budgetary provisions and timeline. Based on the revised proposal sent by SACON and WII corresponding amount for first 5 years will be released by PP within 3 months of submission of proposal which would enable SACON and WII to undertake uninterrupted research and conservation interventions on endemic Nicobar Megapod. A&NFD will ensure implementation of conservation measures as recommended by SACON and WII. This cost is over and above the cost required by A&NFD. If any additional funds are required at a later stage or for post project development monitoring work, those will be made available by PP to SACON. Accordingly, the Committee informed PP to revise the EMP provisions.

- C. **Saltwater Crocodile:** PP submitted the proposal by WII and A&N State Forest Department towards addressing issue of saltwater water crocodile conservation and conflict mitigation. Project tenure should be consistent with the holistic development plan for GNI and thus will be till the completion of the final phase of the same in the year 2052. Accordingly, WII and A&N Forest Department should revise the proposal with budget allocation and timeline and submit it to the PP with a copy to MoEFCC and EAC within 15 days from the grant of EC and CRZ clearance. The Committee direct PP for the release the first five years budget payment to WII and A&N Forest Department for the study and conservation measures for Saltwater Crocodiles within 3 months from the grant of EC & CRZ Clearance. If any additional funds are required at a later stage or for post project development monitoring work, those will be made available by PP to WII. Accordingly, the Committee informed PP to revise the EMP provisions
- D. **Impact of invasive species on native flora:** To understand the impact and to develop prevention of invasives in to the wild, a specific action plan is required. Accordingly, the Committee suggested that a detailed proposal consistent with the holistic development plan for GNI and thus will be till the completion of the final phase of the same in the year 2052 along with budgetary provisions shall be developed by Botanical Survey of India (BSI) and submitted to the PP with a copy to MoEFCC and EAC within three months of grant of EC and CRZ clearance. The Committee direct PP for the release the first five years budget payment to BSI within three months from the grant of EC and CRZ clearance to undertake immediate work on this very important subject, develop robust guidelines in the first year and monitor the impact of invasives on native endemic and endangered flora as the project development progress. If any additional funds are required at a later stage or for post project development monitoring work, those will be made available by PP to BSI. Accordingly, the Committee informed PP to revise the EMP provisions. A&NFD will ensure implementation of conservation measures as recommended by BSI.
- E. **Impact on inter-tidal flora and fauna:** The ZSI report emphasize rich biodiversity of the inter-tidal region of GNI.

Several parts of this region will be either directly reclaimed or used for other infrastructure such as road on stilts, and other permissible activities within CRZ. Accordingly, the Committee suggested that a detailed proposal consistent with the holistic development plan for GNI and thus will be till the completion of the final phase of the same in the year 2052 along with budgetary provisions shall be developed by Zoological Survey of India (ZSI) and submitted to the PP with a copy to MoEFCC and EAC within 15 days of grant of EC and CRZ clearance. The Committee direct PP for the release the first five years budget payment to ZSI within three months from the grant of EC and CRZ clearance to undertake immediate work to undertake the detailed baseline documentation and further monitoring of the same during entire implementation phase of the holistic development plan. ZSI should also document shift in the inter-tidal community with each phase of the project is being implemented so as to understand the impact and develop mitigation strategies. Accordingly, the Committee informed PP to revise the EMP provisions. A&NFD will ensure implementation of conservation measures as recommended by ZSI.

**F. Nicobar Macaque, Robber Crab and other endemic bird species of Great Nicobar:** For conservation of Nicobar Macaque, Robber Crab and other endemic bird species of Great Nicobar the Committee suggested that a detailed proposal consistent with the holistic development plan for GNI i.e. till the completion of the final phase of the same in the year 2052 along with budgetary provisions shall be developed by SACON and submitted to the PP with a copy to MoEFCC and EAC within 15 days of grant of EC and CRZ clearance. The Committee direct PP for the release the first five years budget payment to SACON within three months from the grant of EC and CRZ clearance to undertake detailed baseline documentation, conservation intervention and further monitoring of the same during entire implementation phase of the holistic development plan. Accordingly, the Committee informed PP to revise the EMP provisions. A&NFD will ensure implementation of conservation measures as recommended by SACON.

**G. Mangrove Restoration:** PP provided the Committee a proposal submitted by A&N forest department for the conservation and restoration of mangroves. EAC agreed to the proposal and directed PP to release the amount mentioned in the proposal to A&N state forest department within 3 months of grant of EC and CRZ.

**H. Coral translocation: Zoological Survey of India provided detailed plan for coral translocation with a budget of 55 Crore. EAC noted that the budget is only for 10 years while the project lifecycle is for 30 years.** It also does not include several components that will be necessary for this complex work. Accordingly, the Committee advised ZSI to submit revised proposal with budget provisions to PP with copy to Ministry and EAC. Committee also direct ZSI to include translocation of endangered Giant Clams (*Tridacnasp*) in the same proposal with necessary budget provisions. Project tenure should be consistent with the holistic development plan for GNI and thus will be till the completion of the final phase of the same in the year 2052 and not for 10 years. The Committee direct PP for the release the first five

*years budget payment to ZSI within three months from the grant of EC and CRZ clearance to undertake the uninterrupted work of preparation of new translocation sites and actual translocation of coral heads and giant clams (Tridacnasp) from 10 ha project impact areas as stated in the proposal before project work begins on ground. ZSI will maintain systematic data on translocated coral colonies with GPS tags to each colony to monitor its survival. The proposal may be finalized based on the EMP and consultation with PP. A&NFD will ensure implementation of conservation measures as recommended by ZSI.*

**I. Welfare of local tribal population of Shompen and Nicobaris:**

*The project activities shall not disturb Shompen tribe and their habitations. Clear demarcation of the land shall be done for specific purpose of land use in the vicinity of project area such that habitations of the tribal shall not be intervene. Budgetary provisions for the same shall be made in the EMP report and expenditure in this regard shall be maintained on records. For the protection and safety purpose of community, security & surveillance mechanism shall be in place with geo-fencing cum surveillance towers nearby Tribal settlements.*

***All the considerations will be undertaken by Department of Tribal Welfare (DTW) as per the Andaman and Nicobar Islands (Protection of aboriginal Tribes) Regulation, 1956. (Commonly known as PAT Regulation), Policy on Shompen Tribes. Accordingly, the Committee suggested that a detailed proposal for 50 years along with budgetary provisions shall be developed by Department of Tribal Welfare (DTW) and submitted to the PP. The Committee direct PP for the release the first 10 years budget payment to DTW within three months from the grant of EC and CRZ clearance to undertake immediate work and to undertake the detailed baseline documentation and further monitoring of the same during entire implementation phase of the holistic development plan. Accordingly, the Committee informed PP to revise the EMP provisions.***

**Other Specific Conditions**

- II. *PP should construct all weather good quality two research stations within one year from the grant of EC and CRZ clearance (one each in Campbell Bay and Kamorta) with office space and accommodation facilities. Campbell station should have accommodation facility for 40 research team members (ten double occupancy rooms, and four dormitories) while Kamorta accommodation facility will be for 10 research team members (two double occupancy rooms, and two dormitories). PP will maintain at its own cost both the research stations for the entire project duration. The research station will be exclusively used and shared by WII, BSI, SACON and ZSI teams and other invited scientists. In the meantime, PP will make arrangements of accommodation of researchers at their own cost through the provisions provided in the respective budgets.*
- III. *WII will be overall in-charge of the station and will appoint a focal person (through the funds allocated to them under various components) to oversee the smooth running of the above centers. WII*

*should make adequate financial provision for the same in their proposals under overall administrative costs.*

- IV. *After the completion of the project i.e. after 2052, the research station will be handed over to the A&N Forest Department and maintained by them and will be provided exclusively to the researchers involved with the biodiversity studies of the region and forest department staff for on ground conservation work.*
- V. *PP will also separately provide funds to A&N forest department for complete oversee of the conservation and mitigation work, infrastructure and operation costs towards implementation of Leatherback Sea Turtle, Nicobar Megapod, Saltwater Crocodile management and other endemic flora and fauna conservation. Proposal for the same will be developed by A&N Forest Department. This amount will be over and above the cost recommended for WII (Leatherback Sea Turtle, Salt-water Crocodile related work and Nicobar Megapod); SACON ( Nicobar Megapod, Nicobar Macaque, Robber Crab and other endemic bird species of Great Nicobar); Zoological Survey of India (for coral and Giant Clam translocation and restoration work, inter-tidal flora and fauna work); Botanical Survey of India (for invasive species related work); A&N Forest department (for mangrove restoration and supervision of work of WII, SACON, BSI and ZSI); and A&N Tribal Welfare Department (for welfare, protection and other measure for Shompen and Nicobarese). All these funds will be provided by the PP as stated in the specific conditions and within stated time stipulated from sr. no A to I upon receiving the EC and CRZ so that respective agencies can initiate uninterrupted conservation action, research and monitoring while the project is being implemented.*

### **Monitoring Committee**

- VI. *PP will establish three independent Monitoring Committees to oversee the implementation of Environmental Management Plan. Each committee must meet twice a year and undertake one site visit each year. The committees will take review of progress of work of respective areas and implementation of mitigation measures and advise further on its implementation. Minutes of the meetings, site visit reports by these committees and recommendation of the same will be included in the implementation plans of each institute and PP. Proceedings of each Committee will be uploaded on the A&N state forest department website under a specific link provide to the project at GNI. One committee will be to oversee the pollution related matters and measures and its implementation. Second committee is to oversee the implementation of biodiversity related conditions. Third committee will oversee welfare and issues related to Shompen and Nicobarese. Following specific composition of the committees are stipulated. The tenure of the committee will be till the completion of final phase of Holistic Development Plan. However, tenure of every individual expert in each of the Committee shall not exceed three years, and accordingly committees should be reconstituted every three years. The budget allocation of 10 Crore is provided to meet the expanses of the committee meetings. For the first three years following:*

- i. **Committee to oversee pollution related matters** – The Committee will be chaired by Member Secretary of State Pollution Control Board. The other members of the committee should include representative from CPCB, one national reputed expert each in the field of air, noise, water, solid waste and soil pollution. The committee will also include representative of Chief Wildlife Warden not below the rank of CF, representative of PP, representative of Niti Aayog, representative of collector, representative of disaster management unit, representative from Central/State-UT Ground Water Authority and one member of EAC-CRZ and Infra 1 Committee.
  - ii. **Committee to oversee biodiversity related matters** – The Committee will be chaired by PCCF (WL) A & N Forest Department. The other members of the committee must include directors of WII, SACON, ZSI, and Botanical Survey of India, representative of PP, representative of Niti Aayog, representative of collector, Director, CSIR-National Botanical Research Institute, two independent and nationally recognized scientists in the field of terrestrial and marine biodiversity, Director-Deep Sea Mission of GoI and one member of EAC-CRZ and Infra 1 Committee with biodiversity expertise.
  - iii. **Committee to oversee welfare and issues related to Shompen and Nicobarese-** The Committee will be chaired by the Collector. The other members of the committee should include Director - A & N Tribal Welfare Department, PCCF and HoFF-A&N, Director of department of health, two independent and nationally reputed individual experts on Shompen and Nicobarese, representative of PP, representative of Niti Aayog, representative of A&N Administration and one member of EAC-CRZ and Infra 1 Committee.
- VII. **Western Flank of the Galathea Bay:** Along the western flank of Galathea Bay no development will be allowed in Phase 1 and 2 of the projects except defence related infrastructure (pocket 10 in the master plan) or any activity that is strategic and national defence point of view important in nature. A buffer of 500 meters from HTL on both the sides of the flank shall be maintained in any case. Infrastructure related to Gas-based power plant as shown in the development plan (pocket 9) will be allowed. Institutional areas marked in pocket 9 and 10 will not be allowed at this location. It needs to be shifted within pocket 1 to 7. Tourism will not be permitted along the western flank of Galathea Bay in any phases. Pemayya Bay and all other Leatherback nesting sites on the western parts of GNI must remain no development zones as these sites are likely to be used by Leatherback Sea Turtles as alternate sites due to impact of ICTT at Galathea Bay. All major nesting beaches in Great Nicobar Islands including Alexandria Bay, Casuarina Bay, Pemayya Bay, Dogmar will be protected by establishing protection camp, sea turtle hatcheries and kept under 24X7 surveillance and monitoring from nesting till hatching season each year. No development and tourism will be allowed on these shores. Besides, in GNI nesting of Leatherback turtles also have been reported in East of Indira point, West of Indira Point, Koshindon, Laxmi Nagar, North of Alexandria, South of Alexandria, North of Dogmar, South of Dogmar, Pulo Bed, PuloKunji, re Pinsuot, Renhong, Safed Balu, Patatiyo and South of Galathea. These sites will be kept disturbance free with no tourism activity or infrastructure

*development. WII studies will provide further insight in to it and can be further incorporated in the management plan of Leatherback and other sea turtles at GNI.*

- VIII. No withdrawal of water from Galathea River is permitted. Galathea River must remain free of any recreational activity. No ground withdrawal of freshwater will be permitted. Drinking water will be exclusively augmented through two reservoirs proposed along with capacity augmentation of existing freshwater storage facilities at GNI.*
- IX. Construction activity shall be carried out strictly according to the provisions of the ICRZ Notification, 2019. No construction works other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area.*
- X. All the recommendations and conditions specified by the Andaman Nicobar Coastal Zone Management Authority (ANCZMA) vide letter dated 8<sup>th</sup> July, 2022 shall be complied with.*
- XI. Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974. The project proponent shall comply with the air pollution mitigation measures as submitted.*
- XII. The Project proponent shall ensure that no creeks or rivers are blocked due to any activities at the project site and free flow of water is maintained.*
- XIII. Necessary approvals to be taken during implementation and commissioning from statutory bodies concerned.*
- XIV. Shoreline should not be disturbed due to dumping. Periodical study on shore line changes and coastal geomorphology shall be conducted and mitigation measures like living shoreline carried out in line with conservation plan. The details shall be submitted along with the six monthly monitoring report to the regional office of MoEFCC.*
- XV. No trees will be cut at one go. These will be done in phased manner and depending on the progress of the work on an annual basis. Plan for cutting of trees should be developed by PP and got approved from state forest department. All trees which are exceptionally tall and old in age shall be safeguarded, as far as possible. A&NFD will mark all such trees and submit the species wise list to the Ministry and EAC and the regional office of MoEFCC before the infrastructure activities take place.*
- XVI. Trees with nesting holes of endemic owls to be identified and geo-tagged with the help from SACON. Such trees shall be safeguarded, as far as possible.*
- XVII. Some of the township clusters seems to have several defence installations abutted by commercial and tourism infrastructure thus PP shall obtain the recommendations from the Ministry of Defence and as suggested by them buffer zone will be maintained in between the defence installation and township cluster, commercial and tourism infrastructure.*



- XVIII. *The arterial road shall be developed in a phased matter. In the first phase, 30 m ROW shall be utilized and developed and the balance 25 m ROW shall be reserved for future expansion for Bus Rapid Transit (BRT) or Light Rail Transit (LRT). Need for development of remaining 25 m RoW will be reviewed by the project monitoring committee on biodiversity before its construction and after full capacity utilization of 30m RoW and evaluation by CSIR-Central Road Research Institute (CRRI). During that period the 25 m RoW shall be maintained in “as it is” condition.*
- XIX. *In the western coast of Galathea Bay excluding the defence installation and power plant, a buffer area of 500 mts from high tide line around Pemayya may be declared as Coastal Protection Area with no development within the area.*
- XX. *Safe wildlife corridors at eight (8) locations along the eastern side of the island connecting forest and seashore through via-ducts (elevated crossings) on the north south arterial road shall be provided. In addition to wildlife corridors, culverts and canopy crossings will be provided at appropriate locations for movement of wildlife. The chainage wise locations of the wildlife corridors has been identified by ZSI and Department of Environment & Forest. The width of the corridor ranges from 250 m to 1100 m and the eastern side of the corridors towards the seashore would be maintained as green area. SACON and WII may further suggest additional corridors and canopy crossings based on the data available with them and proposed studies. Representative of A&FFD will physically monitor that the same are implemented as stipulated in the EIA-EMP.*
- XXI. *The Mangrove Conservation and Management Plan for Great Nicobar Island has been prepared by the Department of Environment and Forests, A&N Administration with the budget of Rs.7.5 crores for mangrove conservation and management as part of EMP. PP shall strictly implement the same. The conservation plan shall adhere the strategies to restore and revive the mangrove areas through ecological restoration and redensification.*
- XXII. *No dredging activity should be taken in Rocky areas to avoid any type of Disaster. Dredge management plan with automatic monitoring sensors in port area, reclamation area to contain the impact of dredge spoil on marine ecosystem to be developed and to be overseen by nationally reputed institution such as NIOT or NIO.*
- XXIII. *All illumination for ICTT, Gas-based power plant and other infrastructure adjacent to sea turtle nesting areas must be in conformity with international standards and sea turtle friendly. No other type of illumination would be permitted. WII will develop illumination policy for the entire infrastructure and PP will ensure its implementation.*
- XXIV. *Dredging, sea reclamation activity for ICTT should take into account nesting and hatching time of sea turtles. Also it should be strictly following Dredging protocol and operational protocol as prepared by IUCN experts and Species Survival Commission’s Marine Turtle Specialist Group and revision, scrutiny, and follow-up of the processing time to time as per the expert opinion.*

- XXV. Movement of the ships within Galathea Bay once the ICTT is operational should take into account the movement of Leatherback Turtles. WII satellite data will aid ICTT operators to monitor movement and accordingly plan operations to avoid sea turtle collision risks. One scientist from WII and representative of A&NFD will be on boarded by ICTT operators for the environment monitoring cell as a part of their standard operating procedures. Adequate financial provisions be made by ICTT to meet the costs of both environmental cell and requirements of WII scientists including long term satellite tagging of Leatherback Sea Turtles.
- XXVI. Installation of deflectors to be done to clear turtles from the path of the suctioning equipment. Underwater silt/sediment dispersal preventing curtains to be deployed to avoid deposition of silt on sandy shores.
- XXVII. PP must explore and use non-conventional sources of energy in the form of solar, wind or tidal energy to bridge the deficit, if needed.
- XXVIII. A & N administration should establish within six month a Special Medical Unit along with state of art infrastructure, medicines and qualified medical staff at GNI to monitor human induced diseases due to expected influx of large population both domestic and international. All mechanism must be in place to ensure that Shompen and Nicobarese are not exposed to the risks related to introduced diseases. SOP and Guidelines will be developed by the Special Medical Unit for the same within 6 months from the grant of EC&CRZ. A provision of 100 Crore is recommended and PP is advised to accordingly revise EMP and submit the same to the Ministry and EAC within 30 days from the grant of EC and CRZ. PP is also directed to make these funds available for A&N Administration within 3 months from grant of EC and CRZ. Any additional funds required will be provided through special provisions by A&N Administration.
- XXIX. Forest department will establish hatcheries to ensure minimum 90% survival of hatchlings with onset of coming nesting season for Leatherback and other sea turtles, as presented during the EAC. Systematic data will be maintained for the same and reported to the regional office of the Ministry on annual basis.
- XXX. The existing island human population should be protected and if needed, ensure to provide the compensation instead of their agricultural/ residential Lands. The census of local as well as population from mainland should be documented.
- XXXI. Optimum number (minimum 2) of road side monitors (CAAQMS) at appropriate distance from the kerb of the road shall be fixed following the CPCB criteria to monitor biogenic VOCs, NO<sub>x</sub> and PM<sub>2.5</sub>.
- XXXII. Disposal of hazardous waste material would not be allowed in GNI including batteries, pesticides, organochlorines etc.
- XXXIII. The waste generated during construction and operation period of the project shall be managed as per the prevailing regulations on management of solid waste, plastic waste, e-waste, bio-medical waste, C&D waste and hazardous wastes issued in 2016 by the Ministry. The waste shall be segregated and should be

*recycled/reused as per the regulatory provisions. No Municipal Landfills will be allowed in GNI. All rejects after the recycle/reuse of waste must be transported to mainland for its safe disposal. A separate application for TSDF shall be made to the Ministry in case of establishment of TSDF at GNI.*

*XXXIV. For the first 5 years (Phase-I) of the project, power demand shall be met through Diesel Generators (DG). Phase I of project shall include construction and commissioning of 50MVA gas based power plant and floating solar power plant in water reservoirs. The combined installed capacity to 90 MVA through diesel and gas based power will further augmented by 20 MVA through first phase of solar power from 6<sup>th</sup> year. During 10-15 years (Phase-II), the power generation shall be augmented to 220 MVA by increasing the installed capacity of Gas based power plant to 150 MVA and increasing the Solar power generation by additional 50 MVA taking total Solar power generation to 70 MVA. During 15 – 30 years (Phase III) the Gas based power plant capacity shall be increased to 300 MVA and Solar power plant shall be augmented to 100 MVA.*

*XXXV. Additional storage facility for 7000 kl fuel, 4 ha of additional land at GNI has been provided considering the existing fuel storage capacity is inadequate to cater to increased fuel demand during construction. The area for the storage and hazard mitigation measures as stated in the revised EIA-EMP be followed strictly.*

*XXXVI. All the facilities such as port, powerplant and township etc., to be designed to withstand seismic and Tsunami hazard and detailed plan should be submitted to monitoring committee.*

*XXXVII. As stated by PP, a total number of 102 active mounds of Nicobar Megapode and their locations in GNI have been mapped by ZSI. Out of the 102 mounds, only 19 mounds are falling in the project area. Further, it is seen that several mounds are falling in the green area of the development and the same will be protected. SACON will thoroughly map exact locations of all such mounds falling in the green areas of development and A&N forest department will ensure that these are not disturbed during project development and accordingly advised to define safe buffer areas as advised by SACON for each mound and to be designated as NDZs.*

*XXXVIII. A&N Administration should develop tourism policy for GNI considering ecological sensitivities of the island. The tourism development will be guided by the GNI Tourism Policy. PP has to ensure that tourism development is consistent to this policy.*

*XXXIX. PP will establish a modern nature and science information center at GNI in consultation with National Council of Science Museum, Kolkatta (NCSM) an autonomous society under the Ministry of Culture, Government of India. PP is advised to write to NCSM seeking further assistance and develop a full proposal within 3 months from grant of EC&CRZ. All costs necessary for developing the center will be made available by PP. The center can also act as capacity building for operators of various infrastructure components of GNI holistic development. Accordingly, the Committee informed PP to revise the EMP provisions.*

- XL. *Use of vehicles or any recreational means on Sea Turtle nesting beaches will be strictly prohibited. Such beaches will be clearly marked as no-use zones by A&NFD. These will also be included in the Tourism Policy of GNI.*
- XLI. ***Three new sanctuaries are notified by A&N administration as follows towards mitigation measures. It will be ensured that these remains as sanctuaries with no further scope of denotification for any purposes.***
- a. ***Leatherback turtle sanctuary of 13.75 sq.km at Little Nicobar Island***
  - b. ***The entire Menchal Island of 1.29 sq.km as a Megapode Sanctuary.***
  - c. ***The entire Meroe Island of 2.73 sq.km as a Coral Sanctuary.***
- XLII. ***The recommendation from Standing Committee of NBWL under the Wildlife (Protection) Act, 1972 should be obtained, if applicable.***

**STANDARD CONDITIONS:**

**A. International Container Transshipment Terminal (ICTT)**

**I. Statutory compliance**

- (i) *Construction activity shall be carried out strictly according to the provisions of ICRZ Notification, 2019 and the Coastal Zone Management Plan as drawn up by the State/UT Government. No construction work other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area.*
- (ii) *All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Coast Guard, Civil Aviation Department shall be obtained, as applicable by project proponents from the respective competent authorities.*

**II. Air quality monitoring and preservation:**

- (i) *The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM10 and PM2.5 in reference to PM emission, and SO2 and NOx in reference to SO2 and NOx emissions) within and outside the project area at least at four locations, covering upwind and downwind directions.*
- (ii) *Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed emission standards.*

- (iii) *Shrouding shall be carried out in the work site enclosing the dock/proposed facility area. This will act as dust curtain as well achieving zero dust discharge from the site. These curtain or shroud will be immensely effective in restricting disturbance from wind in affecting the dry dock operations, preventing waste dispersion, improving working conditions through provision of shade for the workers.*
- (iv) *Dust collectors shall be deployed in all areas where blasting (surface cleaning) and painting operations are to be carried out, supplemented by stacks for effective dispersion.*
- (v) *The Vessels shall comply the emission norms prescribed from time to time.*
- (vi) *Diesel power generating sets proposed as source of backup power should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use of low sulphur diesel. The location of the DG sets may be decided with in consultation with State Pollution Control Board.*

### **III. Water quality monitoring and preservation:**

- (i) *The Project proponent shall ensure that no creeks or rivers are blocked due to any activities at the project site and free flow of water is maintained.*
- (ii) *Appropriate measures must be taken while undertaking digging activities to avoid any likely degradation of water quality. Silt curtains shall be used to contain the spreading of suspended sediment during dredging within the dredging area.*
- (iii) *No ships docking at the proposed project site will discharge its on-board waste water untreated in to the estuary/ channel. All such wastewater load will be diverted to the proposed Effluent Treatment Plant of the project site.*
- (iv) *Measures should be taken to contain, control and recover the accidental spills of fuel and cargo handle.*
- (v) *Total fresh water use shall not exceed the proposed requirement as provided in the project details. Prior permission from competent authority shall be obtained for use of fresh water.*
- (vi) *A certificate from the competent authority for discharging treated effluent/ untreated effluents into the Public sewer/ disposal/ drainage systems along with the final disposal point should be obtained.*
- (vii) *No diversion of the natural course of the river shall be made without prior permission from the Ministry of Water resources.*
- (viii) *All the erosion control measures shall be taken at water front facilities. Earth protection work shall be carried out*

*to avoid erosion of soil from the shoreline/boundary line from the land area into the marine water body.*

**IV. Noise monitoring and prevention:**

- (i) Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.*
- (ii) Noise from vehicles, power machinery and equipment on-site should not exceed the prescribed limit. Equipment should be regularly serviced. Attention should also be given to muffler maintenance and enclosure of noisy equipments.*
- (iii) Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.*
- (iv) The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time.*

**V. Energy Conservation measures:**

- (i) Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;*
- (ii) Provide LED lights in offices and project areas.*

**VI. Waste management:**

- (i) Shoreline should not be disturbed due to dumping. Periodical study on shore line changes shall be conducted and mitigation carried out, if necessary. The details shall be submitted along with the six monthly monitoring reports.*
- (ii) Necessary arrangements for the treatment of the effluents and solid wastes must be made and it must be ensured that they conform to the standards laid down by the competent authorities including the Central or State Pollution Control Board and under the Environment (Protection) Act, 1986.*
- (iii) The solid wastes shall be managed and disposed as per the norms of the Solid Waste Management Rules, 2016.*
- (iv) Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Waste Management Rules, 2016.*
- (v) A certificate from the competent authority handling municipal solid wastes should be obtained, indicating the*

*existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project.*

- (vi) Used CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination.*
- (vii) Oil spill contingency plan shall be prepared and part of DMP to tackle emergencies. The equipment and recovery of oil from a spill would be assessed. Guidelines given in MARPOL and Shipping Acts for oil spill management would be followed. Mechanism for integration of terminals oil contingency plan with the overall area contingency plan under the co-ordination of Coast should be covered.*

**VII. Green Belt:**

- (i) Green belt shall be developed in area as provided in project details with a native tree species in accordance with CPCB guidelines.*
- (ii) Top soil shall be separately stored and used in the development of green belt.*

**VIII. Marine Ecology:**

- (i) Dredging shall not be carried out during the fish breeding and spawning seasons.*
- (ii) Dredging, etc shall be carried out in the confined manner to reduce the impacts on marine environment.*
- (iii) The dredging schedule shall be so planned that the turbidity developed is dispersed soon enough to prevent any stress on the fish population.*
- (iv) A detailed marine biodiversity management plan shall be prepared through the NIO or any other institute of repute on marine, brackish water and fresh water ecology and biodiversity and submitted to and implemented to the satisfaction of the State Biodiversity Board and the CRZ authority. The report shall be based on a study of the impact of the project activities on the intertidal biotopes, corals and coral communities, molluscs, sea grasses, sea weeds, sub-tidal habitats, fishes, other marine and aquatic micro, macro and mega flora and fauna including benthos, plankton, turtles, birds etc. as also the productivity. The data collection and impact assessment shall be as per standards survey methods and include underwater photography.*
- (v) Marine ecology shall be monitored regularly also in terms of sea weeds, sea grasses, mudflats, sand dunes, fisheries, echinoderms, shrimps, turtles, corals, coastal vegetation, mangroves and other marine biodiversity components including all micro, macro and mega floral and faunal components of marine biodiversity.*

- (vi) *The project proponent shall ensure that water traffic does not impact the aquatic wildlife sanctuaries that fall along the stretch of the river.*

## **B. Township & Area development**

### **I. Statutory compliance:**

- (i) *The project proponent shall obtain all necessary clearance/ permission from all relevant agencies including town planning authority before commencement of work. All the construction shall be done in accordance with the local building byelaws.*
- (ii) *The approval of the Competent Authority shall be obtained for structural safety of buildings due to earthquakes, adequacy of firefighting equipment etc. as per National Building Code including protection measures from lightening etc.*
- (iii) *The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1980, in case of the diversion of forest land for non-forest purpose involved in the project.*
- (iv) *The project proponent shall obtain Consent to Establish/ Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.*
- (v) *The project proponent shall obtain the necessary permission for drawl of ground water/ surface water required for the project from the competent authority.*
- (vi) *All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department shall be obtained, as applicable, by project proponents from the respective competent authorities.*
- (vii) *The provisions of the Solid Waste Management Rules, 2016, e-Waste (Management) Rules, 2016, and the Plastics Waste Management Rules, 2016, shall be followed.*
- (viii) *The project proponent shall follow the ECBC/ECBC-R prescribed by Bureau of Energy Efficiency, Ministry of Power strictly.*

### **II. Air quality monitoring and preservation:**

- (i) *Notification GSR 94(E) dated 25.01.2018 of MoEF&CC regarding Mandatory Implementation of Dust Mitigation Measures for Construction and Demolition Activities for projects requiring Environmental Clearance shall be complied with.*
- (ii) *A management plan shall be drawn up and implemented to contain the current exceedance in ambient air quality at the site.*
- (iii) *The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g.*



- PM10 and PM2.5) covering upwind and downwind directions during the construction period.*
- (iv) Diesel power generating sets proposed as source of backup power should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use of low sulphur diesel. The location of the DG sets may be decided with in consultation with State Pollution Control Board.*
  - (v) Construction site shall be adequately barricaded before the construction begins. Dust, smoke & other air pollution prevention measures shall be provided for the building as well as the site. These measures shall include screens for the building under construction, continuous dust/ wind breaking walls all around the site (at least 3-meter height). Plastic/tarpaulin sheet covers shall be provided for vehicles bringing in sand, cement, murrum and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site.*
  - (vi) Sand, murrum, loose soil, cement, stored on site shall be covered adequately so as to prevent dust pollution.*
  - (vii) Wet jet shall be provided for grinding and stone cutting.*
  - (viii) Unpaved surfaces and loose soil shall be adequately sprinkled with water to suppress dust.*
  - (ix) All construction and demolition debris shall be stored at the site (and not dumped on the roads or open spaces outside) before they are properly disposed. All demolition and construction waste shall be managed as per the provisions of the Construction and Demolition Waste Management Rules 2016.*
  - (x) The diesel generator sets to be used during construction phase shall be low sulphur diesel type and shall conform to Environmental (Protection) prescribed for air and noise emission standards.*
  - (xi) The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution. Low sulphur diesel shall be used. The location of the DG set and exhaust pipe height shall be as per the provisions of the Central Pollution Control Board (CPCB) norms.*
  - (xii) For indoor air quality the ventilation provisions as per National Building Code of India.*

### **III. Water quality monitoring and preservation:**

- (i) The natural drain system should be maintained for ensuring unrestricted flow of water. No construction shall be allowed to obstruct the natural drainage through the site, on wetland and water bodies. Check dams, bio-swales, landscape, and other sustainable urban drainage systems (SUDS) are allowed for maintaining the drainage pattern and to harvest rain water.*
- (ii) Buildings shall be designed to follow the natural topography as much as possible. Minimum cutting and filling should be done.*

- (iii) *Total fresh water use shall not exceed the proposed requirement as provided in the project details.*
- (iv) *The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, MoEF&CC along with six monthly Monitoring reports.*
- (v) *A certificate shall be obtained from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed, the quantity of water allotted to the project under consideration and the balance water available. This should be specified separately for ground water and surface water sources, ensuring that there is no impact on other users.*
- (vi) *At least 20% of the open spaces as required by the local building bye-laws shall be pervious. Use of Grass pavers, paver blocks with at least 50% opening, landscape etc. would be considered as pervious surface.*
- (vii) *Installation of dual pipe plumbing for supplying fresh water for drinking, cooking and bathing etc and other for supply of recycled water for flushing, landscape irrigation, car washing, thermal cooling, conditioning etc. shall be done.*
- (viii) *Use of water saving devices/fixtures (viz. low flow flushing systems; use of low flow faucets tap aerators etc) for water conservation shall be incorporated in the building plan.*
- (ix) *Separation of grey and black water should be done by the use of dual plumbing system. In case of single stack system separate recirculation lines for flushing by giving dual plumbing system be done.*
- (x) *Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.*
- (xi) *The local bye-law provisions on rain water harvesting should be followed. If local bye-law provision is not available, adequate provision for storage and recharge should be followed as per the Ministry of Urban Development Model Building Byelaws, 2016. Rain water harvesting recharge pits/storage tanks shall be provided for ground water recharging as per the CGWB norms.*
- (xii) *A rain water harvesting plan needs to be designed where the recharge bores of minimum one recharge bore per 5,000 square meters of built up area and storage capacity of minimum one day of total fresh water requirement shall be provided. In areas where ground water recharge is not feasible, the rain water should be harvested and stored for reuse. The ground water shall not be withdrawn without approval from the Competent Authority.*
- (xiii) *All recharge should be limited to shallow aquifer.*
- (xiv) *No ground water shall be used during construction phase of the project.*
- (xv) *Any ground water dewatering should be properly managed and shall conform to the approvals and the guidelines of the CGWA in the matter. Formal approval shall be taken from the CGWA for any ground water abstraction or dewatering.*
- (xvi) *The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project*

- proponent. The record shall be submitted to the Regional Office, MoEF&CC along with six monthly Monitoring reports.
- (xvii) Sewage shall be treated in the STP with tertiary treatment. The treated effluent from STP shall be recycled/re-used for flushing, AC make up water and gardening. As proposed, no treated water shall be disposed in to municipal drain.
  - (xviii) No sewage or untreated effluent water would be discharged through storm water drains.
  - (xix) Onsite sewage treatment of capacity of treating 100% waste water to be installed. The installation of the Sewage Treatment Plant (STP) shall be certified by an independent expert and a report in this regard shall be submitted to the Ministry before the project is commissioned for operation. Treated waste water shall be reused on site for landscape, flushing, cooling tower, and other end-uses. Excess treated water shall be discharged as per statutory norms notified by Ministry of Environment, Forest and Climate Change. Natural treatment systems shall be promoted.
  - (xx) Periodical monitoring of water quality of treated sewage shall be conducted. Necessary measures should be made to mitigate the odour problem from STP.
  - (xxi) Sludge from the onsite sewage treatment, including septic tanks, shall be collected, conveyed and disposed as per the Ministry of Urban Development, Central Public Health and Environmental Engineering Organization (CPHEEO) Manual on Sewerage and Sewage Treatment Systems, 2013.

#### **IV. Noise monitoring and prevention:**

- i. Ambient noise levels shall conform to residential area/commercial area/industrial area/silence zone both during day and night as per Noise Pollution (Control and Regulation) Rules, 2000. Incremental pollution loads on the ambient air and noise quality shall be closely monitored during construction phase. Adequate measures shall be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB / SPCB.
- ii. Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.
- iii. Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.

#### **V. Energy Conservation measures:**

- i. Compliance with the Energy Conservation Building Code (ECBC) of Bureau of Energy Efficiency shall be ensured. Buildings in the States which have notified their own ECBC, shall comply with the State ECBC.
- ii. Outdoor and common area lighting shall be LED.
- iii. Concept of passive solar design that minimize energy consumption in buildings by using design elements, such as building orientation, landscaping, efficient building envelope, appropriate fenestration, increased day lighting design and thermal mass etc. shall be incorporated in the building design. Wall, window, and roof u-values shall be as per ECBC specifications.

- iv. *Energy conservation measures like installation of CFLs/LED for the lighting the area outside the building should be integral part of the project design and should be in place before project commissioning.*
- v. *Solar, wind or other Renewable Energy shall be installed to meet electricity generation equivalent to 1% of the demand load or as per the state level/ local building bye-laws requirement, whichever is higher.*
- vi. *Solar power shall be used for lighting in the apartment to reduce the power load on grid. Separate electric meter shall be installed for solar power. Solar water heating shall be provided to meet 20% of the hot water demand of the commercial and institutional building or as per the requirement of the local building bye-laws, whichever is higher. Residential buildings are also recommended to meet its hot water demand from solar water heaters, as far as possible.*

## **VI. Waste Management:**

- i. *A certificate from the competent authority handling municipal solid wastes, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project shall be obtained.*
- ii. *Disposal of muck during construction phase shall not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.*
- iii. *Separate wet and dry bins must be provided in each unit and at the ground level for facilitating segregation of waste. Solid waste shall be segregated into wet garbage and inert materials.*
- iv. *Organic waste compost/Vermiculture pit/Organic Waste Converter within the premises with a minimum capacity of 0.3 kg /person/day must be installed.*
- v. *All non-biodegradable waste shall be handed over to authorized recyclers for which a written tie up must be done with the authorized recyclers.*
- vi. *Any hazardous waste generated during construction phase, shall be disposed off as per applicable rules and norms with necessary approvals of the State Pollution Control Board.*
- vii. *Use of environment friendly materials in bricks, blocks and other construction materials, shall be required for at least 20% of the construction material quantity. These include Fly Ash bricks, hollow bricks, AACs, Fly Ash Lime Gypsum blocks, Compressed earth blocks, and other environment friendly materials.*
- viii. *Fly ash should be used as building material in the construction as per the provision of Fly Ash Notification of September, 1999 and amended as on 27<sup>th</sup> August, 2003 and 25<sup>th</sup> January, 2016. Ready mixed concrete must be used in building construction.*
- ix. *Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Waste Management Rules, 2016.*

- x. *Used CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination.*

### **VII. Green Cover:**

- i. *A minimum of 1 tree for every 80 sqm of land should be planted and maintained. The existing trees will be counted for this purpose. The landscape planning should include plantation of native species. The species with heavy foliage, broad leaves and wide canopy cover are desirable. Water intensive and/or invasive species should not be used for landscaping.*
- ii. *Topsoil should be stripped to a depth of 20 cm from the areas proposed for buildings, roads, paved areas, and external services. It should be stockpiled appropriately in designated areas and reapplied during plantation of the proposed vegetation on site.*

### **VIII. Transport**

- i. *A comprehensive mobility plan, as per MoUD best practices guidelines (URDPFI), shall be prepared to include motorized, non-motorized, public, and private networks. Road should be designed with due consideration for environment, and safety of users. The road system can be designed with these basic criteria.*
  - a. *Hierarchy of roads with proper segregation of vehicular and pedestrian traffic.*
  - b. *Traffic calming measures.*
  - c. *Proper design of entry and exit points.*
  - d. *Parking norms as per local regulation.*
- ii. *Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to applicable air and noise emission standards be operated only during non-peak hours.*
- iii. *A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.*

**C. 450 MVA Gas and Solar based power plant.**

**I. Statutory Compliance**

- i. Part C of Schedule II of Municipal Solid Wastes Rules, 2016 dated 08.04.2016 as amended from time to time shall be complied for power plants based on Municipal Solid Waste.
- ii. The recommendation from Standing Committee of NBWL under the Wildlife (Protection) Act, 1972 should be obtained, if applicable.
- iii. No Objection Certificate from Ministry of Civil Aviation be obtained for installation of requisite chimney height and its siting criteria for height clearance.
- iv. Groundwater shall not be drawn during construction of the project. In case, groundwater is drawn during construction, necessary permission be obtained from CGWA.

**II. Air quality monitoring and Management:**

- i. Stacks of prescribed height shall be provided with continuous online monitoring instruments for SOX, NOx and Particulate Matter as per extant rules.
- ii. Exit velocity of flue gases shall not be less than 20-25 m/s. Mercury emissions from stack shall also be monitored periodically.
- iii. Continuous Ambient Air Quality monitoring system shall be set up to monitor common/criteria pollutants from the flue gases such as PM10, PM2.5, SO2, NOX within the plant area at least at one location. The monitoring of other locations (at least three locations outside the plant area covering upwind and downwind directions at an angle of 120° each) shall be carried out manually.
- iv. Appropriate Air Pollution Control measures (DEs/DSs) be provided at all the dust generating sources including sufficient water sprinkling arrangements at various locations viz., roads, excavation sites, crusher plants, transfer points, loading and unloading areas, etc.

**III. Noise pollution and its control measures:**

- i. The Ambient Noise levels shall meet the standards prescribed as per the Noise Pollution (Regulation and Control) Rules, 2000.
- ii. Persons exposed to high noise generating equipment shall use Personal Protective Equipment (PPE) like earplugs/ear muffs, etc.
- iii. Periodical medical examination on hearing loss shall be carried out for all the workers and maintain audiometric record and for treatment of any hearing loss including rotating to non-noisy/less noisy areas.

**IV Human Health Environment:**

- i. Bi-annual Health check-up of all the workers is to be conducted. The study shall take into account of chronic exposure to noise which may lead to adverse effects like increase in heart rate and blood pressure, hypertension and peripheral vasoconstriction and thus increased peripheral vascular resistance. Similarly, the

- study shall also assess the health impacts due to air polluting agents.
- ii. *Baseline health status within study area shall be assessed and report be prepared. Mitigation measures should be taken to address the endemic diseases.*
  - iii. *Impact of operation of power plant on agricultural crops, large water bodies (as applicable) once in two years by engaging an institute of repute. The study shall also include impact due to heavy metals associated with emission from power plant.*
  - iv. *Sewage Treatment Plant shall be provided for domestic wastewater.*

#### **V. Risk Mitigation and Disaster Management:**

- i. *Storage facilities for auxiliary liquid fuel such as LDO and HFO/LSHS shall be made as per the extant rules in the plant area in accordance with the directives of Petroleum & Explosives Safety Organisation (PESO). Sulphur Content in the liquid fuel should not exceed 0.5%.*
- ii. *Ergonomic working conditions with First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.*
- iii. *Safety management plan based on Risk Assessment shall be prepared to limit the risk exposure to the workers within the plant boundary.*
- iv. *Regular mock drills for on-site emergency management plan and Integrated Emergency Response System shall be developed for all kind of possible disaster situations.*

#### **D Public hearing and human health issues:**

- (i) *The work space shall be maintained as per international standards for occupational health and safety with provision of fresh air respirators, blowers, and fans to prevent any accumulation and inhalation of undesirable levels of pollutants including VOCs.*
- (ii) *Workers shall be strictly enforced to wear personal protective equipments like dust mask, ear muffs or ear plugs, whenever and wherever necessary/ required. Special visco-elastic gloves will be used by labour exposed to hazards from vibration.*
- (iii) *In case of repair of any old vessels, excessive care shall be taken while handling Asbestos & Freon gas. Besides, fully enclosed covering should be provided for the temporary storage of asbestos materials at site before disposal to CTSDF.*
- (iv) *Safety training shall be given to all workers specific to their work area and every worker and employee will be engaged in fire hazard awareness training and mock drills which will be conducted regularly. All standard safety and occupational hazard measures shall be implemented and monitored by the concerned officials to prevent the*
- (v) *occurrence of untoward incidents/ accidents.*
- (vi) *Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.*

- (vii) *Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.*
- (viii) *Occupational health surveillance of the workers shall be done on a regular basis.*

**E. Environment Responsibility:**

- (i) *The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest /wildlife norms/ conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.*
- (ii) *Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.*
- (iii) *Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.*

**F. Miscellaneous:**

- (i) *The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.*
- (ii) *The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.*
- (iii) *The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.*
- (iv) *The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.*



- (v) *The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.*
- (vi) *The criteria pollutant levels namely; PM2.5, PM10, SO2, NOx (ambient levels) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.*
- (vii) *The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.*
- (viii) *The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.*
- (ix) *The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.*
- (x) *No further expansion or modifications in the project shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).*
- (xi) *Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.*
- (xii) *The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory under the provisions of the Environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.*
- (xiii) *The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.*
- (xiv) *The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/ monitoring reports.*
- (xv) *The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.”*

## **Appellants' contentions**

7. Main contentions in the appeal are that the project will have adverse impact on rich bio-diversity of the area and damage the habitats of the

endangered species. Galathea bay is nesting ground for birds and the area is also part of CRZ-IA & IB. Location of port is expressly prohibited in CRZ-IA area, having presence of huge number of coral colonies. It will also lead to erosion of the coast. **Only one season data has been taken as against requirement of taking data for three seasons for comprehensive impact assessment**, studies have not been conducted as per ToR, turtle nesting sites will be disturbed, harm will be caused to dolphins and other species by dredging, consideration of sea level rise has also not been kept in mind. In power plant, apart from generation of power by solar and gas sources, 15% generation of power will be by diesel. Impact of combustion of diesel has not been considered. The area is a part of seismic zone-V having potential for disasters which aspect has not been considered. As per government policy, Shompen tribes and Nicobari communities have to be kept isolated which aspect has not been considered, ignoring Forest Rights Act, 2006 and Andaman and Nicobar Islands (Protection of Aboriginal Tribes) Regulation, 1956. EIA is not by accredited consultancy. There are two national parks - Campbell Bay National Park (in the North) and Galathea National Park (in the South) which will be adversely impacted.

#### **Stand of the respondents**

8. Stand of the MoEF&CC is that the proper appraisal has been conducted by the EAC in its meetings. EAC comprised not only members of Infra-I sector but also Member Secretaries of the Infra- II sector, Thermal sector and Nuclear, Defence and Strategic (NDS) sector, Coastal Regulation Zone (CRZ) sector for comprehensive appraisal of the various components of the Project both before grant of the ToR and thereafter at the time of appraisal for grant of the EC/CRZ Clearance. The project proponent was awarded detailed Terms of Reference with

18 specific ToRs for the ICTT, 23 specific ToRs for the Airport, 12 specific ToRs for the Township and Area Development Project and 52 specific ToRs for the Gas and Solar Based Power Plant, in addition to Special Conditions and all standard ToR conditions as applicable to such projects. A public hearing was held involving 138 participants on 27.01.2022. EIA Report was received on 7.03.2022. Thereafter, the project was again deliberated upon at the 293rd, 297th and 306th meetings of the EAC, before the Environmental Clearance was finally accorded on 4.11.2022. The Environmental Clearance accorded contains as many as 42 specific conditions dealing with each component of the project, in addition to all standard conditions applicable to each component dealing with statutory compliances, air quality monitoring and preservation, water quality monitoring and preservation, noise monitoring and preservation, energy conservation measures, waste management, green belt, marine ecology, transport, human health environment and mitigation and disaster management. Out of these specific conditions, the first condition itself comprises of 9 further sub-conditions dealing with (i) Leatherback Turtles (ii) Nicobar Megapode (iii) Saltwater Crocodile (iv) Impact of invasive species on native flora (v) Impact on inter-tidal flora and fauna (vi) Nicobar Macaque, Robber Crab and other endemic bird species of Greater Nicobar (vii) Mangrove Restoration (viii) Coral translocation and (ix) Welfare of local tribal population of Shompen and Nicobarese. PP has been asked to undertake studies as follows:-

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- (i) *Independent evaluation of impact of proposed port site at Galathea Bay by engaging a nationally recognized institute such as Zoological Survey of India ("ZSI") or Salim Ali Centre for Ornithology and Natural History ("SACON") or the Wildlife Institute of India ("WIT") or a consortium of these institutes.*

- (ii) *Independent study for the assessment of biodiversity and Wildlife value of all alternative port sites by engaging nationally reputed institutes like WII, ZSI, SACON or the Indian Institute for Science ("IISc").*
- (iii) *Comprehensive study of the impact of dredging and reclamation and port operations by ZSI, SACON or WII or a consortium of these institutes*
- (iv) *A specific study on the impact of the proposed development on migratory birds by ZSI, SACON or WII covering both inward and return migration period.*
- (v) *Involvement of an independent organization with specialized skill such as IIT, NIOT, NCCR, NIO, etc. for technical aspects of site selection of the port as well reputed research institutes such as WII, ZSI, SACON for ecological assessment.*
- (vi) *In addition to the above, the Project Proponent also undertook multiple studies through reputed agencies during the preparation of an environmentally sound Environmental Management Plan ("EMP") such as: Marine Ecological Conservation of Island Fauna Diversity and Marine Ecological Studies, Comprehensive conservation plan for Nicobar Megapode, an assessment of the Environmental sensitiveness of sea turtle nesting beaches of the Great Nicobar island, Environmental Baseline Data Monitoring, Socio-Economic Survey, Environmental Impact Assessment Study, Topographic survey through helicopter mounted LIDAR and OLS Survey, Mathematical Modelling Study, Oceanographic Study, Hydrographic Survey and Bathymetric & Geophysical Survey, Soil Investigation Study, Traffic & Market Analysis for Port."*

9. It is further stated that there are stringent conservation and mitigation measures keeping in mind the need to balance the defence and strategic requirements of the Nation along with the seminal importance that is owed to the biodiversity and natural habitat of the region. Some of such measures are:-

- (i) *WII would establish a long-term field research unit in the Andaman & Nicobar specifically for undertaking uninterrupted turtle research and carrying out necessary conservation interventions if required*
- (ii) *WII and SACON would undertake comprehensive conservation measures for the endemic Nicobar Megapod, and two fail proposal for the same are to be submitted to the Project Proponent with a copy to the Answering Respondent.*

- (iii) *The Project Proponent would release funds within three months to the WII and A&N Forest Department for conservation measures for saltwater crocodiles*
- (iv) *SACON would develop a detailed proposal for the conservation of the Nicobar Macaque, Robber Crab and other endemic bird species of Great Nicobar, which would then be implemented by the Project Proponent.*
- (v) *Over and above all other conservation proposals, the Project Proponent is to separately provide funds to the A&N Forest Department for the complete oversee of the conservation and mitigation work, infrastructure and operation costs towards implementation of Leatherback Sea Turtle, Nicobar Megapod, Saltwater Crocodile management and other endemeic flora and fauna conservation.*
- (vi) *Three independent monitoring committees are to be established by the Project Proponent for implementation of the Environment Management Plan, i.e. - one committee would oversee all pollution related matters, one committee would oversee the implementation of biodiversity related conditions and the third committee would oversee welfare and issues related to the Shompen and Nicobarese tribal populations.*
- (vii) *Safe wildlife corridors at 8 locations along the eastern side of the island would be created.*
- (viii) *The Mangrove Conservation and Management Plan for Greater Nicobar Island prepared by the A&N Administration would be adhered to.*
- (ix) *The Coral Conservation Plan prepared by Zoological Survey of India (ZSI) addresses both the conservation strategies for coral colonies around Great Nicobar Island (GNI) as well as translocation strategies for ten hectares of impacted corals.*
- (x) *Various restrictions on dredging, construction activity, waste management, disease control etc. have all be provided for within the Environmental Clearance.”*

10. The Tribals were duly represented at the public hearing and they will not be displaced. **The EAC has inter alia noted that - (i) the project will not disturb or displace any Shompen/Nicobari tribal or their habitation (ii) there will be a clear demarcation of land so that there is no scope of conflict arising in future, and (iii) the habitat rights of the tribal persons will be duly taken care of as per the provisions of Forest Rights Act in the unlikely event that any issue in this regard should arise. Further, the Environmental Clearance mandates that**

**Project Proponent constitutes a specific committee to oversee all issues related to welfare of the Tribal population.**

11. Further, **the project area does not fall within the boundary of any National Park or Wildlife Sanctuary or their Eco-Sensitive Zones and therefore, the project is not proposed to be established in any Eco Sensitive Zone of any Protected Area contrary to what has been claimed in the present appeal.** The Project Proponent further submitted that the project site is outside the Ecologically Sensitivity Zone (ESZ) notified around the two National Parks. The EAC, therefore directed the Project Proponent that **parts of the proposed master plan for Ports which are falling within CRZ IA and IB areas shall be excluded from the revised layout of master plan in order to safeguard the ecological sensitive areas of the coastal areas.** Inland Coastal Regulation Zone plans of Great Nicobar island as per ICRZ Notification, 2019 has been approved by the answering Respondent vide letter dated 1st June, 2021 i.e. before the grant of EC/CRZ clearance.

12. The diversion of forest for the instant project is as per the provisions of the National Forest Policy, 1988, which says that in hills and in mountain regions, the aim should be to maintain two-third of the area under forest cover. **Despite the diversion of proposed forest land for this project in Great Nicobar Island, the remaining forest cover still be more than two-third of the geographical area of island.** Moreover, if the proposed area with respect to the entire forest area of the A&N island is considered, it amounts to only 1.82%. It is also respectfully submitted that the area proposed for development is approximately 18% of the total area in Great Nicobar island. Remaining area of 82% covered under Protected Forests, National Parks, Eco Sensitive Zones and Biosphere Reserve and managed for conservation

of biodiversity at ecosystem, species and genetic levels. Thus, 82% of Great Nicobar Island will be protected and conserved to take care of ecosystem structure, functions and services. The Answering Respondent is also monitoring the steps being taken towards Compensatory Afforestation in this regard. Stage- 1 Clearance under the Forest Conservation Act, 1980 has been correctly accorded. In this regard, the answering Respondent respectfully submits that the proposal received from the UT administration was placed before the Forest Advisory Committee (FAC) in its meeting held on 21.09.2022. Keeping in view the strategic nature of the project, the meeting of the FAC was held separately and the minutes of the said meeting are therefore not available in public domain.

13. **Stand of the PP** is that the **project is for holistic development of Great Nicobar Island in view of its strategic, security and socio economic benefits.** It will transform the Island into a hub of port led development. NITI Aayog has studied and planned the holistic development of identified Islands. A&N Administration vide order dated 28.07.2020 appointed Andaman Nicobar Island Integrated Development Corporation Ltd. (ANIIDCO) as Project Proponent for development of various projects in question. On 18.12.2020, the NITI Aayog appointed a qualified Technical Consultant for preparation of Master Plan for Holistic of Great Nicobar Island who carried out land suitability assessment, eco sensitivity analysis, and carrying capacity assessment to delineate all environmentally sensitive areas and to provide a development suitability map of the Island. Accordingly, **EIA study has been undertaken to identify and analyse impact of the project on the environment and suggest various mitigation measures to ensure that the development takes place with minimal environmental and social impact.** Further, in compliance of the

Terms of Reference (ToR) issued by MoEF&CC vide letter dated 25.05.2021, assistance of technical organizations/institutions with expertise in ecological and biodiversity studies such as ZSI, WII, SACON etc. was taken for ecological assessment and their studies/ reports are part of the EIA report. As per the terms & conditions of grant of EC & CRZ Clearance vide letter dated 4.11.2022, wildlife conservation plans have been prepared for leatherback sea turtle, nicobar megapode, salt water crocodile, inter tidal flora 86 fauna, mangroves, nicobar macaque, robber crab, other endemic bird species and corals in consultation with Wildlife Institute of India (WII), Zoological Survey of India (ZSI), Salim Ali Centre for Ornithology and Natural History (SACON), Botanical Survey of India (BSI) and Institute of Forest Management (IIFM). Fund for the wildlife conservation plans shall be released to the institutes by the Respondent No. 2. Further, as per the terms & conditions of grant of EC & CRZ Clearance, three independent committees have been set upto oversee pollution related matters, biodiversity and welfare & issues related to Shopmen and Nicobarese tribes. The Government of India (GOI) has adopted a proactive policy aimed at transforming the Andaman and Nicobar Islands (A&N Islands), as an economic hub. Strategically located, the A&N Islands, larger than several island countries in themselves, are an asset in India's cultural, economic and strategic calculus. **The project will strengthen India's presence in the Andaman Sea and in Southeast Asia; and will create an economic hub with a major cargo transshipment terminal and a global tourism destination. The location of the project, besides being of strategic importance, presents immense opportunities to further strengthen India's trading position in the world by developing an International Transshipment terminal. A new transshipment port at GNI can be competitive because of the cost savings that shippers can realize using feeder ships to service ports around the rim of the Bay of Bengal.**



**A new port at GNI highlights its locational advantages over competing ports in the region for accessing ports in Bay of Bengal region.** The importance of the said project would further be evident from the following facts:

- a) The Andaman and Nicobar Islands constitute just 0.2 per cent of India's landmass but account for 30 per cent of the country's 200-nautical-mile Exclusive Economic Zone (EEZ).
- b) Great Nicobar Island is the largest of the Nicobar group of Islands which represents a huge, strategically located land mass in the Bay of Bengal, whose economic potential and strategic importance is enormous.

14. It is further stated that the project plan ensures that both development and environment go hand in hand. It is stated that the appeals are focusing only on environment without considering development. Both are to be considered. Reference has been made to judgement in Citizens For Green Doon and Others Versus Union of India and Others (2021 SCC OnLine SC 1243) pertaining to the Char Dham project. It is further stated that only 166.1 sq. km of area is proposed for development which is approximately 2% of the total area of A & N Islands. Further, 130.75 sq. km of forest area is proposed to be diverted for the project which is only approximately 1.82% of the total forest area of A & N Islands. A&N Administration is allowed to accept and process the Forest Clearance applications through offline mode as per Ministry's letter dated 12.06.2015. The PP filed online Terms of Reference (ToR) application to MoEF&CC on 03.03.2021 which was considered in the meeting of the Expert Appraisal Committee (EAC) and ToR was issued on 25.05.2021. The draft Environmental Impact Assessment (EIA) report was uploaded on the MoEF&CC portal on 24.12.2021. The public hearing on the draft EIA report

was held on 27.01.2022. Final EIA report, after incorporating the written suggestions/ objections and public hearing, was uploaded on the MoEF&CC portal on 07.03.2022. The EAC in its meeting held on 24.03.2022, considered the proposal and MoEF&CC on 4.11.2022 granted EC & CRZ clearance. A comprehensive EIA study was undertaken by QCI-NABET accredited consultants to evaluate environmental impact and identifying mitigation measures for the project. The following studies were undertaken as part of the EIA study by various technical organizations:

- Marine Ecological Conservation of Island Fauna Diversity and Marine Ecological Studies.
- An assessment of the Environmental sensitiveness of sea turtle nesting beaches of the Great Nicobar Island.
- Environmental Baseline Data Monitoring, Socio-Economic Survey, Environmental Impact Assessment Study.
- Topographic survey through helicopter mounted LIDAR and OLS Survey.
- Mathematical Modelling Study.
- Oceanographic Study, Hydrographic Survey and Bathymetric & Geophysical Survey.
- Soil Investigation Study.
- Traffic & Market Analysis for Port.

**As part of the EIA study, alternate site analysis for Port, Airport and Power Plant were undertaken and requirement for power, water and solid waste management were worked out.** Thereafter, baseline environmental studies for air, water, noise & ecological attributes were undertaken. **Mathematical modelling was undertaken for the Port project for shoreline changes, transportation study was undertaken for working out details of road network, impact assessment**

**&mitigation measures for land environment, reclamation, change in coastline/shoreline, air emissions, noise pollution, waste water, solid waste, social ecology, coral reef, etc. were worked out; risk assessment study was undertaken for Port, Airport, Power Plant considering earthquake, tsunami, cyclone for preparation of management plan. Information and data obtained during the course of these studies were part of the comprehensive EIA report submitted to MoEF&CC.** The Pollution Control Committee (PCC) uploaded the draft EIA report on the website of A&N Administration and after due publicity in local and mainland newspapers, broadcasting the information regarding public hearing in All India Radio (AIR) and Doordarshan, conducted public hearing on the draft EIA report on 27.01.2022 at 11.00 am in the community hall, Gram Panchayat, Campbell Bay, Nicobar District under the chairmanship of Deputy Commissioner (Nicobar). 138 participants including tribals, settlers, representatives of Tribal Council and Andaman Adim Janjati Vikas Samiti attended the public hearing alongwith the officials of A & N Administration. Written comments were received from 12 organizations/persons and 14 persons gave their comments during public hearing. All the written comments and verbal comments received during the public hearing were responded and the reply is part of the EIA report. The final EIA report after incorporating the written suggestions/objections and public hearing was uploaded on the MoEF&CC portal on 07.03.2022. Detailed site alternative analysis has been undertaken as part of EIA to identify the best location for Port, Airport and Power Plant. **Alternate site analysis has been carried out as part of EIA wherein multi criteria analysis of alternate site have been undertaken considering factors like land development, cost risk, dredging requirement, environmental issues, tribal, breakwater, etc. which is mentioned under Analysis of Alternatives under**

**Chapter 5 of the EIA report. As per the alternate site analysis, Galathea Bay appears to be the most feasible in terms of technical, environmental and financial parameters, and was thus selected for further detailed evaluation.**

15. The proposed development is integrated in nature and includes port, airport, power plant and all supporting infrastructure within the township. The township development provides all social and infrastructure amenities required to support the proposed development. The trunk infrastructure thus proposed spreads from North of Campbell Bay to Galathea Bay including seven revenue villages within project boundary. **As the availability of non-forest land is very limited in Great Nicobar Island and to have the integrated and strategic development of the island, forest land is required for which the diversion of forest land was proposed.** Residential township is required to cater to the requirement of personnel engaged in defence and Port development and therefore cannot be considered as standalone development. For the integrated development of GNI, only 130.75 sq. km of forest land is proposed for diversion which is around 1.82% of the existing forest area of A & N Islands. **Effectively only 7.11 sq. km Tribal Reserve area will be required for de-notification for the project which is only 0.21% of the total tribal reserve area of A & N Islands and thus 743.96 sq. km of the Great Nicobar Island will remain protected as Tribal Reserve.** Section 3 of A&N (Protection of Aboriginal Tribes) Regulation, 1956 empowers A&N Administration to declare reserve Tribal area specifying the limits of such area. Accordingly, the Empowered Committee of UT Administration has recommended de-notification of Tribal Reserve and Ministry of Tribal Affairs vide letter dated 18.11.2020 has given no objection for the proposal for de-notification of tribal reserve area in Great Nicobar Island subject to compliance under

Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006. The Andaman & Nicobar Coastal Zone Management Authority (ANCZMA) meeting convened for recommending CRZ Clearance for various projects in A&N Islands held on 17.03.2022, the Principal Secretary (Environment & Forests) has attended the meeting and on 27.06.2022, the Commissioner-cum-Secretary (E&F) has attended member of the ANCZMA. Both the officers were not holding the charge of Managing Director of ANIIDCO (2<sup>nd</sup> Respondent). With regard to Forest Clearance, it is submitted that the A & N Administration had vide Order No. 639 dated 28.07.2020 designated the 2<sup>nd</sup> Respondent as the project proponent of various projects in GNI. As part of the recommendation of the State Govt. for diversion of forest land, the then Commissioner-cum-Secretary (E&F) had recommended the Holistic Development proposal of GNI on 07.10.2020. During that period **the then Commissioner-cum-Secretary (E & F) was not holding any charge in the office of the 2<sup>nd</sup> Respondent. Thus, there is no conflict of interest contrary to what has been alleged by the applicant in the present appeals.**

16. The MoEF&CC vide letter dated 01.06.2021 has conveyed its approval of the ICRZ Plans for the Great Nicobar Island as per ICRZ 2019. Para 5 (III)(A) of the ICRZ 2019 mandated that the draft ICRZ plans shall be prepared in 1:25000 scale and accordingly NCSCM has prepared the draft ICRZ maps in 1:25000 scale. After receipt of ICRZ map, the same was published in print and electronic media for wide publicity and for obtaining claims/suggestion/views from general public and other stakeholders. Public hearing on the draft Island Coastal Regulation Zone (ICRZ) Plan was also conducted. The ICRZ Plan of the Great Nicobar Island as per the ICRZ Notification 2019 was finalized after following the due process and after consulting the stakeholders in a fair and f transparent manner.

17. **As per the guidelines of Forest (Conservation) Act, 1980 formulated by the MoEF&CC dated 22.05.2019, the states/UTs having forest land of more than 75% of their respective total geographical area, shall not be insisted upon for providing non-forest land for raising compensatory afforestation and the same may be taken up in any other state/UT having deficient forest land/cover and having land bank for CA.** Since, the UT of Andaman 86 Nicobar Islands is having recorded forest cover of more than 75% of the geographical area, the compensatory afforestation is proposed to be raised in other States in conformity with the aforesaid guideline formulated by the MoEF&CC and in view of the fact that sufficient non-forest land for the purpose is not available in this UT. The project area does not fall within the boundary of any National Park or Wildlife Sanctuary or their Eco-Sensitive Zones. Therefore, the project is not proposed to be established in any Eco Sensitive Zone of any Protected Area contrary to what has been claimed in the present appeals.

### **Rejoinder**

18. The appellants have filed rejoinders reiterating their stand in the main appeal.

### **Consideration by the Tribunal**

19. We have heard learned counsel for the appellants – M/s Kaustav Dhar and A. Yogeshwaran and learned ASGs for the respondents - Ms. Aishwarya Bhati for MoEF&CC and Mr. Vikramjit Banerjee for ANIIDCO Ltd. and perused the record. We have given due consideration to the rival submissions already set out above.

20. Issue for consideration is whether the impugned FC/EC are liable to be interfered with either on account of failure of the authorities in following laid down procedure or on account of adverse impact on environment rendering the project unviable on anvil of sustainable development principle.

21. As already mentioned, main contentions on behalf of the appellants are that the area is rich in bio-diversity. It is covered by CRZ IA as per ICRZ Notification, 2019 where port is expressly prohibited. It has Mangroves, Corals and Coral reefs, Turtle nesting grounds, nesting ground of birds. It has high eroding stretches of critical habitats for turtle nesting, comprehensive EIA based on three seasons data has not been prepared, EIA report by Vimta, ZSI etc is not even a Rapid EIA, incorrect information in Form – I vitiates the EC, EIA report does not conform to TOR, no assessment of impact on biodiversity has been done in the EIA report, Public hearing is vitiated, impact of the project on Tribals has not been assessed, Wildlife clearance has not been taken, Port and Power plant are Red category activities prohibited in ESZ and Forest land cannot be diverted for township.

22. As against above, the stand of MoEF&CC and the PP is that the project is of great defence, national security and strategic significance for holistic development of Great Nicobar Island. It will strengthen India's presence in the Andaman Sea and in Southeast Asia and create an economic hub with a major cargo transshipment terminal and a global tourism destination. It presents immense opportunities to further strengthen India's trading position in the world by developing an International Transshipment terminal. A new transshipment port at GNI can be competitive because of the cost saving that shippers can realize using feeder ships to service ports around the rim of the Bay of Bengal. A

new port at GNI highlights its locational advantages over competing ports in the region for accessing ports in Bay of Bengal region. The airport will be developed as a joint military-civil dual use airport under the operational control of Indian Navy. There has been comprehensive evaluation by the EAC of Infra-I Sector with the association of Infra-II Sector, Thermal Sector, Nuclear Defence and Strategic (NDS) Sector, Coastal Regulation Zone (CRZ) Sector. Detailed ToRs were issued and public hearing was held with participation of 138 persons. EC has specific and general conditions ensuring protection of environment in every possible manner. Further studies will be conducted by relevant Institutions apart from taking conservation and mitigation measures with no disturbance to the tribal or eco-sensitive areas like National Park, Wildlife Sanctuaries with no damage to corals or mangroves. Since more than 75% area is on the forest, requirement of compensatory afforestation in the same area does not apply under the declared policy of the State.

23. During the hearing, Dr. Dhriti Banerjee, Director, Zoological Survey of India (ZSI) appeared by V.C. and explained that corals can be protected. Environmental impact can be sustainably managed. On being required, she has filed her specific statement as follows:

*“The assessment made by ZSI revealed that the environmental impact can be managed sustainably to restore the pristine ecosystem though proper conservatory measures and have suggested long term environmental management plans for that area.*

***A total of 309 species of scleractinian corals under 66 genera, 19 families are recorded from Great Nicobar Island based on the comprehensive studies for last 14 years across all the coastal areas of this island. However, it has been noted that no major coral reef exists within the work area of the project. Only scattered coral reefs are available at the peninsular part of Galathea Bay. As per the detailed analysis, the environmental status and physicochemical status of the sampling sites are conducive to the oligotrophic environment. Hence, the overall benthic community of Galathea Bay is different from other major reefs. The size of the colonies reported from Galathea Bay is relatively small and most of the***



**species are found scattered with small growth forms which may be due to the presence of an extremely high cover of algae (51.75%). The high density of Halimeda sp. growing in Galathea Bay is known for its quick growth rate and deposit of calcium on a higher scale.**

**During the construction in seafront areas, the marine ecosystem may be affected especially wherever there are coral reefs. The development of jetties and ports along the coastal areas is likely to have an impact on the entire benthic cover including coral reefs, seagrass, and seaweed habitats along with associated faunal communities.**

**Even though there are no coral reefs in the proposed site, coral reefs are recorded in the adjoining areas of the proposed project site. However, as a precautionary measure, to avoid damage to the corals by any means, it is a prerequisite to translocate the corals from the Galathea Bay adjoining up to the depth limit of 15 m.**

**Any coral colonies which are presumed to be get impacted by the proposed construction has been recommended by ZSI to be translocated to a suitable place where similar environment as well as topographic features prevails in the Great Nicobar.**

**Reef restoration and coral relocation due to coastal development and/or dredging, are among the most common reasons for transplantation and is world-wide solution, which could be easily executed in Great Nicobar in alternate suitable offshore habitats. Successful coral reef restoration has previously been accomplished by ZSI in Gulf of Kachchh and the transplanted corals had >90% survival and effectively transformed into a functional coral reef.**

**Rehabilitation, restoration and development of new reef areas by modern technologies can lead to protection and conservation of reef and reef associated fauna of Great Nicobar.”**

24. ANZMA recommendations dated 8.7.2022 have also been filed which inter-alia are as follows:

**“The effective ICRZ areas involved in various activities of the project are given as under.**

S. No	Name of the Activity	Total area in Sq.km	ICRZ I		ICRZ III		ICRZ IV	
			IA	IB	NDZ	50-100M	IVB	IVA
1	Port	7.39	0.67	0.38	0.00	0.00	0.18	0.62
2	Airport	8.49	0.58	0.82	0.38	0.10	0.14	0.56
3	Power Plant	0.39	0.00	0.00	0.00	0.00	0.00	0.00
4	Township Defence	12.60	0.81	1.43	0.02	0.00	0.07	0.20

5	Township Other Landuse	137.27	4.93	5.92	1.69	0.45	2.50	3.55
6	Port reclamation area	2.27	0.06	0.11	0.00	0.00	0.00	2.10
7	Airport Reclamation on area	0.71	0.02	0.08	0.04	0.00	0.32	0.02
	<b>Total</b>	<b>169.08</b>	<b>7.07</b>	<b>8.74</b>	<b>2.13</b>	<b>0.55</b>	<b>3.21</b>	<b>7.05</b>

**The project proponent submitted the revised area falling under various categories of ICRZ and the details are as follows.**

Sr. No	Activity	Area in Sq.km	ICRZ I		ICRZ III		ICRZ IV	
			CRZ IA	CRZ IB	NDZ	5'-100m	IVB	IVA
1	Port (ICIT)	7.39	0.57	0.25	0	0	0.18	0.62
2	Airport	8.45	0.60	0.82	0.38	0.1	0.14	0.56
3	Power Plant	0.39	0.00	0.00	0	0	0	0
4	Township (Defence)	12.6	0.81	1.43	0.02	0	0.07	0.2
5	Township (other landuses)	137.27	5.03	6.05	1.69	0.45	2.5	3.55
<b>Total</b>		<b>166.1</b>	<b>7.01</b>	<b>8.55</b>	<b>2.09</b>	<b>0.55</b>	<b>2.89</b>	<b>4.93</b>
A	Port (reclamation area)	2.27	0.06	0.11	0	0	0	2.1
B	Airport (reclamation area)	0.71	0.00	0.33	0.04	0	0.32	0.02
<b>Total (including reclaimed area)</b>		<b>169.08</b>	<b>7.07</b>	<b>8.74</b>	<b>2.13</b>	<b>0.55</b>	<b>3.21</b>	<b>7.05</b>

*It is mentioned that the revised effective area ICRZ involved in the project includes the same area of 7.07 sq.km in ICRZ IA and 8.74 Sq.km in ICRZ IB, 2.13 Sq.km in ICRZ III NDZ, 0.55 Sq.km in ICRZ III, 3.21 sq.km in ICRZ VI B and 7.05 Sq.km in ICRZ IVA. The only difference in the revised effective area mentioned by the project proponent is 0.57 sq.km and 0.25 sq.km instead of 0.67 sq.km and 0.38 sq.km in ICRZ IA and IB respectively in case of Port and 5.03 sq.km and 6.05 sq.km instead of 4.93 sq.km and 5.92 sq.km in ICRZ IA and IB respectively in the case of township (other land uses). In case of Airport reclamation, there is no CRZ IA involved and the area involved in ICRZ IB is 0.33*

sq.km, 0.04 sq.km in NDZ of ICRZ III, 0.32 sq.km in ICRZ IV B and 0.02 Sq.km in ICRZ IV B. The proposed activities are permissible in ICRZ areas as per ICRZ notification 2019 as the Greenfield Airport Project is part of holistic Development of GNI project is now for Defence, Strategic, National Security, and Public Purpose.

**Recommendation:**

**Taking into consideration of the above facts namely the revised ICRZ area involved in the holistic development of Great Nicobar Island and the green field airport project is for defence, strategic, National Security and public purpose, ANZMA further recommends the project with revised ICRZ area involved in the project as above. The conditions stipulated in the earlier meeting dated 17.03.2022 and communicated vide letter No. PCCF/ EPA/ 1 / Vol-XVI/ 653 dated 22.03.2022 continue to remain valid and the project proponent has to follow those conditions while executing/implementing the project.”**

25. Copy of report of July 2021 prepared by ZSI has also been placed on record with following executive summary:

**“Executive Summary**

1. The Andaman and Nicobar Islands comprise an accurate chain of 836 islands, islets and rocky outcrops (including 649 islands and 187 rocks and rocky islands), spreading in a linear distance of around 900 km in the Bay of Bengal and the Andaman Sea between latitudes 06° and 14°N and longitudes 92° and 94° E.
2. The archipelago has a total land area of 8249 sq km and a coastline of 1962 km. The Andaman Islands and Nicobar Islands are distinctly separated by the wide Ten Degree Channel which is about 150 km wide and 400 fathoms deep. The Andaman group consists of more than 324 major islands with an area of 6408 sq km and the Nicobar group comprises 24 major islands with the landmass of 1841 sq km.
3. The Andaman and Nicobar Islands have a Continental Shelf of 35,000 sq km with an EEZ of 0.6 million sq. km, includes the ecologically enriched faunal and floral diversities.
4. The Great Nicobar Island is the southernmost landmass in Andaman and Nicobar Archipelago. The total area of this island is 1044 km<sup>2</sup>. It is a tropical and sub-tropical moist broadleaf forest biome and located in the Indo-Malayan biogeographic zone. The Great Nicobar Biosphere Reserve (GNBR) of this island is one of the 11 Biosphere Reserves declared under the Man and Biosphere Programme of Ministry of Environment, and Forests, Government of India and UNESCO.
5. Great Nicobar Biosphere Reserve (GNBR) was declared on 6<sup>th</sup> January 1989 by the Government of India Order No. J-22010/14/89-CSC. The GNBR is comprised of Campbell Bay National Park in the north and Galathea National Park in the south. GNBR spread 885 km<sup>2</sup> in two zones. A total area of

705 km<sup>2</sup> has been designated as Core Zone, and 180 km<sup>2</sup> is Buffer Zone.

6. *The President of India is acting through the NITI Aayog, Government of India for holistic development of Great Nicobar Island.*
7. *As per the Vision Document prepared by NITI Aayog, a contiguous stretch of land is required in the south-eastern and south-western part of the island, which has a narrow strip ranging from 1.83 km to 3.8 km in the eastern side and 1.3 km to 5.4 km in the western side from the Galathea National Park which also happens to be the Protected Forest and Tribal Reserve.*
8. *In the eastern side, the NITI Aayog has proposed to construct an Airport, requiring 21.64 sq. km of land at the south eastern part and construction of Rapid Mass Transit System originating from Campbell Bay and terminating somewhere in the western part and running parallel to the coastline. In the southern part, besides the development of a major Transshipment Port, the area is also earmarked for future strategic Defence use in view of the developing geo-political scenario in the area. The south-western and western part of Great Nicobar Island outside the Galathea National Park are narrow and proposed to be used as Free Trade Zone as ancillary to the trans-shipment port leaving little area for declaration of ESZ and thereby the Committee recommended finalization of the ESZ notification of Galathea National Park. The proposed holistic development includes 1) Tourism and Hospitality; 2) Jetty and Marina; 3) Mixed use area; 4) Airport; 5) Port & 6) A Marina for Eco-Tourism.*
9. *AECOM is currently undertaking environmental monitoring for the Great Nicobar Island which is one of the largest islands in Andaman and Nicobar archipelago. In consultation with the concerned UT Administration and the concerned central ministries, it has been decided to undertake the holistic development of the Great Nicobar Island.*
10. *In view of this, AECOM, 9<sup>th</sup> Floor, Infinity Tower-‘C’, DLF Cyber City, DLF Phase-2, Gurgaon-122 002 has approached the Zoological Survey of India, Headquarters, Kolkata by electronic communication through an e-mail with the subject ‘Andaman Project’ dated 14<sup>th</sup> December 2020 to undertake ‘Rapid Environmental Impact Assessment studies on Marine Ecology for the Master Plan of Development of Great Nicobar Island’ to fulfill the requirement of Environmental and CRZ clearance from the Ministry of Environment, Forest and Climate Change, Government of India. Hence the present study has been executed.*
11. *Along the intertidal stations of the coastal waters of Great Nicobar Island, Station GB 1 (Galathea beach) witnessed the highest concentration of silicate (3.567 µg/ml) while station RB 1 (Rajiv Nagar Beach) had the least silicate concentration (2.131µg/ml).*
12. *The average phytoplankton abundance in the marine waters of sampling stations of Great Nicobar Island is about 24400 no./L (no. of organisms per litre). The phytoplankton abundance ranges from a maximum of 34200 no./L in the*

- station GB3 M to a minimum of 15200 no./L at station LB2 IT.
13. The two major groups of phytoplankton observed are diatoms and mixotrophic (photosynthetic) dinoflagellates. The abundance of diatoms is much higher than the dinoflagellates across all stations, both in the intertidal and marine coastal study sites. This data is supported by the overall high silicate concentrations in the study area.
  14. In terms of phytoplankton diversity, station LB M is the most diverse. Mixotrophic dinoflagellate diversity is high in Lakshman Beach stations, while diatom diversity is high in Galathea Bay stations.
  15. The average microzooplankton abundance in the marine waters of sampling stations of Great Nicobar Island is about 19033 no./L (no. of organisms per litre). The microzooplankton abundance ranges from a maximum of 20800 no./L in the station GB3 M to a minimum of 16900 no./L at station LB3 IT.
  16. The major microzooplankton groups recorded from the study area are Ciliophora, heterotrophic Dinoflagellata, Foraminifera, Radiolaria and larval forms of Copepoda, Decapoda, Bivalva to name a few. In the intertidal stations the larval forms, especially copepod nauplii and bivalve larvae dominate the numbers, followed by foraminiferans (except in Galathea beach stations, where ciliates are the dominant group).
  17. A total of 17 groups of organisms or taxa were obtained in zooplankton collection namely, Copepoda, Ostracoda, Amphipoda, Decapoda, Siphonophora, Decapoda larvae, Polychaete, Polychaete larvae, Mollusca, Mollusca larvae, Appendicularia, Thaliacea, Cumacea, Cladocera, Chaetognatha, fish/invertebrate eggs and fish larvae. Copepods comprised the major portion of the mesozooplankton biomass.
  18. A total of 92 species of mesozooplanktons were recorded from the study among which Copepoda showed the maximum species diversity. Copepoda comprised of 34 species, Ostracoda comprised of 9 species, Euphausiacea comprised of 12 species, Decapoda constituted of 5 species, Chaetognatha constituted of 9 species, Anthoathecata constituted of 2 species, Siphonophorae constituted of 4 species, Amphipoda and Pteropoda comprised of 2 species each, Appendicularia comprised of 4 species and Thaliacea comprised of 9 species.
  19. A total of 309 species of scleractinian corals under 66 genera, 19 families (including two genera under Scleractinia Incertae Sedis) are recorded from Great Nicobar Island. The present database of scleractinian species is prepared based on the available literature and studies made by the present author during period of last 12 years.
  20. Among the recorded 309 species, 66 species are under threatened category (2 species are under Endangered and 64 species are under Vulnerable categories) as per the category and criteria of IUCN (2021), while 90 species are recorded under Near Threatened, 135 species are under Least Concern and 9 species are under Data Deficient categories, whereas 9 species are under not evaluated category.

21. *A total of 245 species of scleractinian corals under 53 genera, 15 families (including 2 genera under Scleractinia Incertae Sedis) are recorded from seven sites including the proposed project site of Great Nicobar Island during the present study. A maximum of 117 species have been documented from Galathea Bay followed by 111 species from Sastri Nagar, 107 species from Campbell Bay, 102 species from Laxman Beach, 76 species from Gandhi Nagar, 25 species from Anderson Bay, and only 15 species Laxmi Nagar.*
22. *Thorough studies were carried out at the seven study locations of Great Nicobar Island to estimate the benthic cover. Maximum 39.27% of live coral cover was recorded from Campbell Bay region followed by 30.81% from Gandhi Nagar, 25.59% from Sastri Nagar, 24.10% from Laxman Beach, 19.92% from Anderson Bar, 17.46 from Galathea Bay, and the minimum of 13.45% from Laxmi Nager. Among the other algae, a maximum of 51.75% was recorded from Galathea Bay while the minimum of 5.52% from Anderson Bay.*
23. *The present study indicates a total of 491.7975 hect. reef areas across the seven study areas including 116.4173 hect. of reef areas at the Galathea Bay which is distributed up to the maximum extent of 1200m (perpendicular) from the coastline while most of the reefs are scattered in distribution within the limit of a mean distance of 500m, whereas the reef areas of Sastri Nagar are recorded with a total distributional cover of around 103.8703 hect. along with the mean distributional range from the coast is 250m (perpendicular) along with the maximum of 500m, while Laxman Beach represents the minimum of 34.4921 hect. Of reef areas within the mean proximity of 150m from the coast while the maximum distributional ranges are within 350m.*
24. *Great Nicobar Island is the land of two indigenous tribal population viz. Shompen and Nicobarese.*
25. *Shompens live in small groups in dense interior forests of the island and are entirely dependent on forest resources and sea products for their sustenance. They probably migrated into this area, several hundred years ago from nearby Malaysian regions. The Mongoloid Shompen Tribe, about 219 in number, is living within the Biosphere Reserve. They are shy in nature and avoid contact with outsiders. They live around and along the perennial freshwater rivers and constructs huts using palm and pandanus leaves. The Shompens are hunters and food gatherers leading a semi-nomadic life with stone-age civilization. They cultivate yams, pandanus, coconuts, arecanuts, bananas etc. They maintain small herds of pigs and also hunt wild pigs with spears and fish with harpoons.*
26. *The Nicobarese are horticulturists, are the second indigenous tribe, situated in mostly coastal areas of Great Nicobar Biosphere Reserve. Coconut, pandanus, banana, papaya, yam and other starchy roots and tubers are their principal items of crop. They also depend for food on hunting and fishing. Pig rearing is an important traditional practice of Nicobarese.*
27. *The Nicobarese live in villages located along the coast. The huts are made of wooden logs, stems of areca palm, coconut palm etc. while the roof is thatched with grass, canes,*

*bamboo and coconut leaves. At present, their traditional beliefs and customs are changing and modern education and Government jobs are readily accepted if they are in their own place.*

28. *According to the data of Botanical Survey of India, approximately 600 species of flora reported from Great Nicobar Island. Among them, 86 species of plants found endemic to Great Nicobar Island. Of which 28 species are exclusively reported from Great Nicobar Island, while 18 species identified from entire Nicobar group of Islands and 40 species recorded from Andaman and Nicobar Islands. Considerable number of plant species reported from Great Nicobar Island has ethno-botanical significance*
29. *A total of 695 species of fauna with the endemism of 158 species, which is equivalent to 22.73% have been reported from Great Nicobar Island.*
30. *A total of 48 vertebrates, recorded as endemic to Andaman and Nicobar Islands, were found in Great Nicobar Island during the study period. Among them 3 species are mammals, 36 species are birds, 7 species are reptiles and 2 species are amphibians.*
31. *This reserve is home for several endemic and endangered species including Nicobar Megapode *Megapodius nicobariensis*, Edible-nest Swiftlet *Aerodramus fuciphagus*, Nicobar Tree Shrew *Tupaia nicobarica*, Long-tailed Macaque *Macaca fascicularis*, Saltwater Crocodile *Crocodylus porosus*, Giant Leatherback Sea Turtle *Dermochelys coriacea*, Reticulated python *Pythonreticulatus* and Coconut Crab *Birgus latro*.*
32. *The Saltwater Crocodile is a common species throughout the Andaman and Nicobar Islands. Population estimates of saltwater crocodiles in Great Nicobar Island are about 6 adults and 3 sub-adults-based on questionnaire. It was sighted at Indira Point, Mahar Nallah, Gandhi Nagar, Shastri Nagar, and Galathea Bay.*
33. *Out of the five species of turtles recorded from mainland coast of India, the leatherback turtle *Dermochelys coriacea* (Vandelli, 1764) is well known for its nesting in the Andaman and Nicobar Islands. Leatherback turtles nesting have been recorded mainly on the long and wide beaches at the mouth of the Dagmar and Alexandira rivers on the west coast and at the mouth of the Galathea River along its south eastern coast.*
34. *Globally, leatherback turtle status according to IUCN is listed as Vulnerable. The Northeast Indian leatherback subpopulation nests primarily in the Andaman and Nicobar Islands of India, in some parts of Sri Lanka and to a lesser extent in Thailand. The first documentation of leatherback turtle nesting in the Great Nicobar Island was by Dr. Satish Bhaskar in 1978-79 and subsequently by other researchers including A&NB Forest Department and NGOs and institutions in the Andaman & Nicobar Islands. The leatherback nesting population in the Nicobar is one of the four colonies that exceeds 1000 individuals in the Indo-Pacific, and hence of global significance.*
35. *The southern bay of Great Nicobar is Southeast Asia's largest leatherback turtle nesting site. In Galathea bay nesting, egg*

- laying and hatchling are more for Leatherback turtle compared to the other regions of Great Nicobar Island. In current year, estimation of the number of hatchlings is not completed; hence the number is not mentioned.
36. The number of nestings, eggs laid and number of hatchlings has been increasing over past four years. The number of hatchlings increases at a rate of 21 % from 2018 to 2019 while it increases at a rate of 147 % from 2019 to 2020. The nesting leatherback populations of this species have also shown an increase in the trend in Galathea Bay. It is estimated that the succession rate of hatchlings of leatherback turtle are 59% in 2018; 60% in 2019 and 63.5% in 2020. The hatchling process has not completed for this year and hence not enumerated and presented.
  37. The Nicobar Megapode *Megapodius nicobariensis abbotti* (Oberholser, 1919) is an endemic bird species in the Nicobar group of Islands. According to the IUCN, this species was listed as Vulnerable (Birdlife International, 2000) and as per Govt. of India, Schedule-I of the Wildlife Protection Act (1972). As per the survey by ZSI, there are ~ 100 active mounds were recorded and ~ 202 megapodes were detected during the point-transect and playback surveys *Megapodius nicobariensis abbotti* occurs in all of the southern group of islands, it was estimated that 7 active mounds and 14 breeding pairs in Galathea.
  38. The Long-Tailed Macaque *Macaca fascicularis umbrosus* (Miller, 1902) is the only non-human primates found on Nicobar group of Islands. In 2000, a total of 88 groups, having a mean size of 36 monkeys, were recorded in Great Nicobar, Little Nicobar and Katchal Islands. However, in 2006 a total of 40 groups, including 814 monkeys were recorded in Great Nicobar, Little Nicobar and Katchal Islands while assessing the impact of the Tsunami on the Long-Tailed Macaque of Nicobar Islands. This is the only primate in the Nicobar Islands, and is listed in Schedule I of the Indian Wildlife (Protection) Act, 1972.
  39. The coconut crab or Robber crab or Palm thief (*Birgus latro* (Linnaeus, 1767)) is the largest terrestrial arthropod in the World (which is related to hermit crabs and lobsters). The crab is named because it is associated with coconut tree. It is listed as Schedule – I, Part - I under Wildlife Protection Act, 1972. The coconut crab populations are threatened with extinction in the Nicobar group of Islands, except for Menchal Island due to human predatory practices.
  40. Prediction of Environmental Impacts, Environmental Management Plan and Recommendations are given in detail in the report for the proposed 14.2 Million TEU (Twenty Feet Equivalent Unit) ICTT Port, (main project), Airport (4,000 Peak hour passenger, Category 4F), Township and Area Development for 14,960 Ha and Power Plant (405 MVA Gas + Diesel) (Additional 45 MVA from solar power will be included in total power generation.”



## **Finding**

**26.** From above resume, it is patent that the project has great significance not only for economic development of the island and surrounding areas of strategic location but also for defense and national security. Even the appellants have not joined issue on these aspects. **While the Tribunal's consideration is confined to material on record, we have also noted (without any comment) media reports that the area is located in China's 'string of pearls' strategy<sup>1</sup> which is sought to be countered by Indian Authorities under India's 'Act East' policy. Indian Ocean has emerged as a key intersection zone of Indian and Chinese strategic interests. There are further media reports of huge poaching of environmental marine resources of Andaman by poachers from Myanmar for which number of people have been arrested. Poaching activities include destruction of corals, killing of sharks, taking away of valuable fishes<sup>2</sup>. The project will help bridge infrastructural gap in island and promote international trade saving huge amount on transshipment cargo<sup>3</sup>.**

27. In view of above, what remains to be seen is whether the project is compliant with the mandatory environmental norms.

## **Forest Clearance**

28. As regards forest clearance, it is seen that forest cover in the area is more than 75%. While forest is of great significance in tackling air pollution and climate change, development cannot be totally ignored. There is hardly

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<sup>1</sup> <https://idsa.in/askanexpert/why-has-india-necklace-diamonds-strategy-indian-ocean-region>

<sup>2</sup> <https://www.reuters.com/article/environment-india-poaching-andaman-dc-idUSDEL4606520070607>  
<https://link.springer.com/article/10.1007/s11852-018-0640-y>

<sup>3</sup> <https://www.financialexpress.com/business/infrastructure-government-to-build-international-container-transshipment-port-in-great-nicobar-island-2961754/>  
<https://economictimes.indiatimes.com/news/economy/infrastructure/centre-prepares-for-rs-41000-crore-international-transshipment-port-at-great-nicobar-island/articleshow/97379332.cms>

any development in the area. There is need not only for economic development but also national security. These factors are not shown to be irrelevant. There is no conflict of interest as such. There is policy permitting afforestation outside the State if forest cover is more than 75%. Thus, no case is made out to interfere with the FC, considering the countervailing public interest in allowing diversion of forest land for the project which is subject to all relevant conditions. In *Lafarge Umiam Mining (P) Ltd. v. Union of India*, (2011) 7 SCC 338, it was observed :

*“ .. Time has come for us to apply the constitutional “doctrine of proportionality” to the matters concerning environment as a part of the process of judicial review in contradistinction to merit review. It cannot be gainsaid that utilisation of the environment and its natural resources has to be in a way that is consistent with principles of sustainable development and intergenerational equity, but balancing of these equities may entail policy choices. In the circumstances, barring exceptions, decisions relating to utilisation of natural resources have to be tested on the anvil of the well-recognised principles of judicial review. Have all the relevant factors been taken into account? Have any extraneous factors influenced the decision? Is the decision strictly in accordance with the legislative policy underlying the law (if any) that governs the field? Is the decision consistent with the principles of sustainable development in the sense that has the decision-maker taken into account the said principle and, on the basis of relevant considerations, arrived at a balanced decision? Thus, the Court should review the decision-making process to ensure that the decision of MoEF is fair and fully informed, based on the correct principles, and free from any bias or restraint. Once this is ensured, then the doctrine of “margin of appreciation” in favour of the decision-maker would come into play.”*

29. Considering the above, we do not find any ground to interfere with the FC.

### **Environmental Clearance**

30. Issues in this regard are alleged violation of ICRZ, 2019 for locating the port in prohibited area, ignoring soil erosion, damage to corals, wildlife habitats and tribals. Further issue is compliance of laid down procedure under the EIA notification, including public hearing. While it is true that EIA procedure is mandatory, it does not however follow that hyper technical

approach should be adopted ignoring ground realities about need of the country for development and national security. Every developmental activity is bound to have some adverse impact on environment but if impact can be mitigated and advantages to the society are greater, such project have to be allowed in larger public interest. In the present case, laid down procedure has been followed, public hearing held, EIA prepared, EAC evaluation undertaken, wildlife habitats protection, Tribal welfare considered and necessary conservation measures planned. MoEF&CC and the PP have stated that area proposed to be part of Port, falling in prohibited area as per CRZ notification will be left out, there will be no coverage of eco sensitive areas, corals will be protected and all other necessary measures taken.

31. The legal position has been discussed inter-alia in *G. Sundarrajan vs. Union of India & Ors.*<sup>4</sup> as follows:

*“238.1. In Intellectuals Forum, Tirupathi v. State of A.P. and others<sup>5</sup>, it has been held that merely asserting an intention for development will not be enough to sanction the destruction of local ecological resources. What is required to be prescribed is the principle of sustainable development and find a balance between the developmental needs and the environmental degradation.*

*238.2. In Bombay Dying & Mfg. Co. Ltd. (3) v. Bombay Environmental Action Group and others<sup>6</sup>, while dealing with the concept of sustainable development and planned development vis-à-vis Article 21 of the Constitution, a two-Judge Bench has opined thus:- (SCC p. 521)*

*“25l. It is often felt that in the process of encouraging development the environment gets sidelined. However, with major threats to the environment, such as climate change, depletion of natural resources, the eutrophication<sup>7\*</sup> of water systems and biodiversity and global warming, the need to protect the environment has*

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<sup>4</sup> (2013) 6 SCC 620

<sup>5</sup> (2006) 3 SCC 549

<sup>6</sup> (2006) 3 SCC 434

<sup>7</sup> \* **Ed.:** Eutrophication of a water body is phenomenon that can impel a great deal of algae and other plankton or other plant life to reproduce quickly and lead to extermination of other aquatic life such as fish. Eutrophication occurs when excessive nutritional substances such as nitrogen and phosphorus are discharged into lakes, reservoirs and gulfs, etc.

*become a priority. At the same time, it is also necessary to promote development. The harmonisation of the two needs has led to the concept of sustainable development, so much so that it has become the most significant and focal point of environmental legislation and judicial decisions relating to the same. Sustainable development, simply put, is a process in which development can be sustained over generations. Brundtland Report defines “sustainable development” as development that meets the needs of the present generations without compromising the ability of the future generations to meet their own needs. Making the concept of sustainable development operational for public policies raises important challenges that involve complex synergies and trade offs.”*

238.3. In *M.C. Mehta v. Union of India and others*<sup>8</sup>, while stating about sustainable development and the needs of the present without compromising the ability of the future generation to meet their own needs, this Court has expressed thus:- (SCC pp. 166-67, para 46)

*“46. ... The definition of “sustainable development” which Brundtland gave more than 3 decades back still holds good. The phrase covers the development that meets the needs of the present without compromising the ability of the future generation to meet their own needs. In *Narmada Bachao Andolan v. Union of India*<sup>9</sup> this Court observed that sustainable development means the type or extent of development that can take place and which can be sustained by nature/ecology with or without mitigation. In these matters, the required standard now is that the risk of harm to the environment or to human health is to be decided in public interest, according to a “reasonable person’s” test. [See *Chairman Barton: The Status of the Precautionary Principle in Australia* (Vol. 22, 1998, *Harv. Envtl. Law Review*, p. 509 at p. 549-A) as referred to in para 28 in *A.P. Pollution Control Board v. Prof. M.V. Nayudu*<sup>10</sup>.]”*

238.4. In *Tirupur Dyeing Factory Owners Association v. Noyyal River Ayacutdars Protection Association and others*<sup>11</sup>, while dealing with the concept of sustainable development, the Court has observed as under:- (SCC p. 747, para 26)

*“26. The concept of “sustainable development” has been explained that it covers the development that meets the needs of the person without compromising the ability of the future generation to meet their own needs. It means the development, that can take place and which can be sustained by nature/ecology with or without mitigation. Therefore, in such matters, the*

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<sup>8</sup> (2004) 12 SCC 118

<sup>9</sup> (2000) 10 SCC 664

<sup>10</sup> (1999) 2 SCC 718

<sup>11</sup> (2009) 9 SCC 737

*required standard is that the risk of harm to the environment or to human health is to be decided in public interest, according to a “reasonable person’s” test. The development of the industries, irrigation resources and power projects are necessary to improve employment opportunities and generation of revenue, therefore, cannot be ignored. In such eventuality, a balance has to be struck for the reason that if the activity is allowed to go on, there may be irreparable damage to the environment and there may be irreparable damage to the economic interest. A similar view has been reiterated by this Court in T.N. Godavarman Thirumulpad (104) v. Union of India<sup>12</sup> and M.C. Mehta v. Union of India<sup>13</sup>.”*

238.5. In *T.N. Godavarman Thirumalpad (through K.M. Chinnappa) v. Union of India and others*<sup>14</sup>, this Court observed that: (SCC p. 628, para 35)

*“35. It cannot be disputed that no development is possible without some adverse effect on the ecology and environment, and the projects of public utility cannot be abandoned and it is necessary to adjust the interest of the people as well as the necessity to maintain the environment. A balance has to be struck between the two interests. Where the commercial venture or enterprise would bring in results which are far more useful for the people, difficulty of a small number of people has to be bypassed. The comparative hardships have to be balanced and the convenience and benefit to a larger section of the people has to get primacy over comparatively lesser hardship.”*

238.6. In *Narmada Bachao Andolan v. Union of India and others*<sup>43</sup>, a three-Judge Bench, while dealing with the public projects and policies, has opined that the court does not become the approving authority of such policies. Thereafter, the Bench observed thus:- (SCC p. 763, para 234)

*“234. ... Normally such decisions are taken by the Government after due care and consideration. In a democracy welfare of the people at large, and not merely of a small section of the society, has to be the concern of a responsible Government.”*

239. *I have referred to the aforesaid pronouncements only to highlight that this Court has emphasized on striking a balance between the ecology and environment on onehand and the projects of public utility on the other. The trend of authorities is that a delicate balance has to be struck between the ecological impact and development.*

240. *The other principle that has been ingrained is that if a project is beneficial for the larger public, inconvenience to smaller number of*

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<sup>12</sup> (2008) 2 SCC 222

<sup>13</sup> (2009) 6 SCC 142

<sup>14</sup> (2002) 10 SCC 606

*people is to be accepted. It has to be respectfully accepted as a proposition of law that individual interest or, for that matter, smaller public interest must yield to the larger public interest. Inconvenience of some should be bypassed for a larger interest or cause of the society. But, a pregnant one, the present case really does not fall within the four corners of that principle. It is not a case of the land oustees. It is not a case of “some inconvenience”. It is not comparable to the loss caused to property.*

241. *I have already emphasized upon the concept of living with the borrowed time of the future generation which essentially means not to ignore the intergenerational interests. Needless to emphasize, the dire need of the present society has to be treated with urgency, but, the said urgency cannot be conferred with absolute supremacy over life. Ouster from land or deprivation of some benefit of different nature relatively would come within the compartment of smaller public interest or certain inconveniences. But when it touches the very atom of life, which is the dearest and noblest possession of every person, it becomes the obligation of the constitutional courts to see how the delicate balance has been struck and can remain in a continuum in a sustained position. To elaborate, unless adequate care, caution and monitoring at every stage is taken and there is constant vigil, life of “some” can be in danger. That will be totally shattering of the constitutional guarantee enshrined under Article 21 of the Constitution. It would be guillotining the human right, for when the candle of life gets extinguished, all rights of that person perish with it. Safety, security and life would constitute a pyramid within the sanctity of Article 21 and no jettisoning is permissible. Therefore, I am obliged to think that the delicate balance in other spheres may have some allowance but in the case of establishment of a nuclear plant, the safety measures would not tolerate any lapse. The grammar has to be totally different.*

242. *I may hasten to clarify that I have not discussed anything about the ecology and environment which has been propounded before us, but I may particularly put that the proportionality of risk may not be “zero” regard being had to the nature’s unpredictability. All efforts are to be made to avoid any man-made disaster. Though the concept of delicate balance and the doctrine of proportionality of risk factor gets attracted, yet the same commands the highest degree of constant alertness, for it is disaster affecting the living. The life of some cannot be sacrificed for the purpose of the eventual larger good.”*

## **Conclusion**

32. We are of the opinion that there can be no two views about need for adequate studies of adverse impact on coral reefs, mangroves, turtle nesting sites, bird nesting sites, other wildlife, of erosion, disaster management and other conservation and mitigation measures. ICRZ 2019 has to be duly complied with about the location of the Port. Tribal rights and their rehabilitation has to be ensured. Compensatory

Afforestation/mangrove plantations have to be as per forest policy. Stand of the respondents shows that such studies have already been undertaken and further studies are proposed. The respondents are committed to comply with the ICRZ 2019 and tribal rights. They have also planned compensatory afforestation and mangrove plantations. Thus, by and large the project is compliant and EC does not call for interference.

33. However, there are some unanswered deficiencies pointed out by the appellants which need to be addressed. By way of instance, it is pointed out that out of 20668 coral colonies, 16150 are proposed to be translocated without any mention of threat to remaining 4518 coral colonies. It is pointed out that ICRZ Regulations prohibit destruction of corals. Further, data collected for impact assessment is only of one season as against requirement of three seasons. It is also shown that part of the project is in CRZ IA area where Port is prohibited. These aspects may call for revisiting the EC by a High-Powered Committee (HPC) which we propose to constitute. The same will be headed by Secretary, MoEF&CC, GoI. Other members will be Chief Secretary, Andaman & Nicobar, Zoological Survey of India, Botanical Survey of India, Central Pollution Control Board, nominee of Vice Chairman of Niti Aayog, nominee of Secretary, Ministry of Shipping and Director, Wildlife Institute of India. Secretary, MoEF&CC may appoint a nodal officer, not below the rank of Joint Secretary, for facilitating functioning of the Committee. The Committee may meet within two weeks from today and finalise its proceedings within two months. It will be open to the Committee to associate any other institution/expert. In the light of report of the Committee, the EC or its conditions may be re-looked into by the competent authority. Till then, further work in pursuance of impugned EC may not proceed except for the work which may not be of irreversible nature.

The appeals will stand disposed of accordingly.

A copy of this order be forwarded to Secretary, MoEF&CC, GoI, Chief Secretary, Andaman & Nicobar, Zoological Survey of India, Botanical Survey of India, CPCB, Vice Chairman of Niti Aayog, Secretary, Ministry of Shipping and Director, Wildlife Institute of India by e-mail for compliance.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

B. Amit Sthalekar, JM

Arun Kumar Tyagi, JM

Dr. A. Senthil Vel, EM

Dr. Afroz Ahmad, EM

April 03, 2023  
Appeal Nos. 29 to 32/2022/EZ  
SN+DV+AB