

**Minutes of the 96th Goa State Expert Appraisal Committee
(Goa-SEAC) meeting held on 12th July at 5.00 p.m. in the Conference Room
of the EIA Secretariat, O/o Goa State Pollution Control Board (GSPCB),
Patto-Panaji.**

The ninety sixth meeting of the Goa-SEAC was held on 12th July 2018 in the Conference room of the GSPCB at 5.00 p.m. under the Chairmanship of Prof. Suhas Godse. The list of members who attended the meeting is at Annexure – 1.

At the beginning Chairman welcomed the members and requested Secretary, SEAC to proceed as per the Agenda items (refer Annexure – 2).

1. Goa Solid Waste Management Cell application received dated 22/06/2018 for environmental clearance (EC) for proposed enhancement of existing capacity from [100 TPD (+25%) to 150 TPD (+25%)] with an existing infrastructure and machinery of the solid waste management facility of solid waste Management plant at Saligao, Bardez, Goa. Earlier Goa-SEIAA has granted EC for proposed enhancement in existing capacity from 100 TPD to 250 TPD +20%. During the said discussion Shri. Dominic Fernandes Expert member (Goa-SEAC) has recused himself from the discussion particularly during this agenda item.

Further, Committee perused the monthly performance reports including summary of performance standards as prescribed in the concession agreement. The committee also perused Environmental Monitoring for common Municipal solid waste Management facility (CMSWMF) at Calangute/Saligao in North Goa based on earlier EC issued by Authority.

The committee noted that MOEF & CC has issued the OM dated 7th November 2017 wherein the MOEF has clarified that the municipal solid waste management involves various steps like door to door collection, segregation, composting, refuse derived fuel (RDF) making waste to energy generation through waste to energy plants and disposal in scientific landfills. The above activities, except landfill site, if proposed as standalone activities are not covered under item 7 (i) of EIA Notification 2006, hence do not require prior EC. In the present case the PP proposes to enhance the handling and treatment of solid waste from 100 TPD to (150+/-25% TPD) with existing facilities based on the performance of the plant till date

without increase in addition of landfill area, hence environmental clearance (EC) is not required under the EIA Notification (2006), as amended.

Committee also noted that segregation of waste at solid waste plant has been increased from 30-40% to 70-80%, resulting in reduction of inert waste landfill from 7-8% to 3-4%.

However the committee decided to recommend enhancement and treatment of solid waste from 100 TPD to (150+/-25% TPD) with existing facility and infrastructure for a period of 24 months (2years) or commencement of operation of the proposed expansion facility to (250+20% TPD) for which Environmental Clearance has been granted vide letter dated (22nd January 2018) whichever is earlier.

2. As regard to compilation of Terms of References (ToRø) for the re-development of nine coastal jetties at Goa, a **proposal submitted by Captain of Ports (COP), Government of Goa**, Panaji on 24th May, 2018. The Committee decided to issue Terms of References (ToRø) for conducting Environmental Impact Assessment study for proposed redevelopment of jetties in Goa. TORø as discussed and approved by the Committee is annexed (**as Annexure A**).

1. The project proponent should carry out traffic management studies and assessment of impact of new traffic on the existing road infrastructure expected if any by the proposed development at all the proposed locations.
2. All jetties must have proper and adequately wide access roads so as not to hamper regular traffic/which will facilitate smooth traffic.
3. All jetties should have sufficient parking facilities and waiting shelter
4. The PP should identify alternate approach road and carry out assessment of parking facility and other infra structure facility at the locations including road connectivity by bus. The Project Proponent should clearly state the use of every jetty in detail and the facilities required v/s provided.
5. All jetties must have regular maintenance to keep them clean and neat. The PP shall give a proposed maintenance and upkeep schedule including scope of work for the same.
6. Assessment including solid waste generation, dustbins, toilet facility and treatment of waste including disposal of waste oil and other generated waste should be specified and these facilities should be provided to the commuters.

The meeting ended with vote of thanks to the Chair.

Dr. Purushotam Pednekar _____ *Sd/-* _____

Dr. Nitin Sawant _____ *Sd/-* _____

Dr. Chandrashekhar Rivonker _____ *Sd/-* _____

Shri. Dominic Fernandes _____ *Sd/-* _____

Sd/-
Shri. Sanjeev Joglekar
(Secretary Goa-SEAC)

Sd/-
Shri. Suhas Godse
(Chairman Goa-SEAC)

Place: Patto, Panaji

Date: July 2018

ANNEXURE – I

List of members who attended the 96th Goa –SEAC meeting held on 12th July 2018

1. Shri. Suhas Godse, Taleigao - Chairman (Goa-SEAC)
2. Dr. Purushotam Pednekar, Mapusa - Member (Goa-SEAC)
3. Dr. Nitin Sawant - Member (Goa-SEAC)
4. Dr. Chandrashekhar Rivonker - Member (Goa-SEAC)
5. Shri. Dominic Fernandes - Member (Goa-SEAC)
6. Shri. Sanjeev Joglekar, Panaji - Secretary (Goa-SEAC)

Annexure A
Terms of Reference (TOR)
For Environmental Impact Assessment (EIA) for Tourist and Passenger Jetty

Objective

Terms of Reference (TOR) for preparation of Environmental Impact assessment (EIA) for jetty projects as per the EIA notification, 2006 has been devised to improve the quality of the reports and facilitate the decision making transparent and easy. TOR will help the project proponents and consultants to prepare report with relevant project specific data, which are informative, compact and easy to comprehend.

TOR for Tourist /passenger jetty projects is expected to cover all environmental related features.

General Information

Development of passenger jetty facilities can make a significant contribution to the economic development and the growth of maritime transport. At the same time it may also create adverse impacts on the surrounding environment. Jetty development may create a wide range of impacts on the environment through activities like construction work, dredging, reclamation, landfills, discharges from ships and other jetty related activities. Jetty development and operation should, therefore, be planned with careful consideration of their environmental impacts. The preparation of EIA report and implementation of EMP is essential for effectively managing these adverse effects.

EIA-EMP report should be based on maximum rated capacity of the project in terms of technology, equipment, manpower, resource use, etc. The report should be based on generic structure given in appendix III to the EIA notification 2006 for the project or its expansion based on proposed peak rated capacity. The report should incorporate the page numbers of various chapters, sections and sub-sections, tables, appendices, drawings and figures etc., with titles shall be clearly indicated under the heading contents.

Re development of jetties are classified as category B projects, subject to the

applicability of General Conditions as stipulated in the EIA Notification, 2006.

a. Introduction

This chapter should cover the following.

É Purpose of the project, project proponent, brief description of the project- name, nature, size, location of the project, its importance to the country and the region

É Land description- plot/ survey nos/ village, tehsil, district, state & extent of the Land.

É Profile of the project proponent, name and contact address with e-mail, implementing organization, organizational chart, project consultants etc.

É Whether the project attracts the provisions of General Conditions of EIA Notification 2006. If so applicability should be discussed.

É The proponent should confirm that the project meets the central/state/local environmental regulations and standards applicable for the project.

É Any litigation pending against the proposed project and/ or any direction/ order passed by any court of law against the project, if so, details thereof.

É In case of expansion/ modernization of the project, the environmental compliance status for the existing project should be explained.

2.0 Project Description

This chapter should cover the broader details of the basic activities, location, layout and implementation schedule of the project. Type of the project- new, expansion, modernization, re-development of jetty etc.

É Relevance of the project in the light of the existing development plans of the region.

É Project coverage, master plan, phasing and scope.

É Description of a project site, geology, topography, transport and connectivity, demographic aspects, socio, cultural and economic aspects, villages, settlements.

É Capacity of the jetty ancillary operations, housing, truck parking details etc.

É Technologies involved for design, construction, equipment and operation.

É Use of existing public infrastructure ó road, railway and inland waterway net works, water supply, electrical power etc.

Estimated water budget for the proposed project- during construction/ operation Stages.

Estimated cost of development of the project, environmental cost, funding agencies i.e., whether governmental or on the basis of BOT etc.

Details of land acquisition, rehabilitation of communities / villages present status of such activities.

Resources, manpower and time frame etc órequired for project implementation

Essential Maps to be provided with application a map specifying locations of the state, district and project location.

A map of project area and 10 km area from boundary of the proposed/existing project area, delineating protected areas notified under the wild life (Protection) Act, 1972 / critically polluted areas as notified by the CPCB from time to time / notified eco sensitive areas / inter state boundaries and international boundaries.

A map covering aerial distance of 15 km on the landward side from the proposed project boundary delineating environmental sensitive areas as specified in column no 9(iii), Form I of EIA notification dated 14th Sep 2006.

Land use map of the study area to 1: 25,000 scale based on recent satellite imagery of the project area and 10 kms from the proposed project boundary delineating the cropping pattern, wastelands, forest area and built-up areas, water bodies, human habitation and other surface features such as railway tracks, ports, airports, roads, NH, major industries etc.

Site lay out plan of the proposed development shall be submitted to a scale of 1:5000, clearly marking the layout of breakwaters, navigation channels, harbour basin, effluent disposal point, administrative and operational buildings, utilities, town ships, greenbelt, dredged material disposal, etc. Boundaries of the proposed jetty shall be shown therein with latitude and longitude.

Area drainage contour map of the project area and 2-5 km from the proposed project area shall be clearly indicated. In case of any proposed diversion of nallah/canal/river, same shall also be shown in the map Hydrographic charts of the offshore area giving general morphology of the coastal stretch to a scale of 1:50,000 shall be submitted

covering water depth up to 10m beyond the maximum proposed dredging depths of the project and covering a distance of 5 km along the coast from the project limits on both sides.

The CRZ maps indicating the High Tide Level (HTL), Low Tide Level (LTL), demarcated by one of the seven authorized agencies and the project lay out superimposed on the map should be submitted on 1:5000 scale map. This map shall be recommended by the state/Union Territory GCZM authority.

a. Analysis of alternatives (Technology & Sites)

In case, the scoping exercise results in need for alternatives this chapter shall include:

Description of various alternatives like locations or layouts or technologies studied.

- Description of each alternative.
- Summary of adverse impacts of each alternative.
- Selection of alternative.
- Description of the Environment.

4.0 Study Area

As a primary requirement of EIA process, the proponent should collect primary baseline data in the project area as well as in the area falling 5 km from the proposed project boundary and secondary data should be collected within 15 kms aerial distance from the project boundary, as specifically mentioned at column 9(iii) of Form I of EIA Notification 2006. The study areas mentioned in this document shall be considered for guidance purpose but the exact study area for different environmental attributes (water, air, noise, soil, etc) is to be submitted considering the proposed activities and location, along with proper reasoning, for review and approval by the expert appraisal committee.

4.1 Land Environment

4.1.1 Land.

Availability of land for earmarking for the tourist /passenger jetty without causing a due hardship to local habitat and their socio cultural and economic aspects is very

important. Data on the land availability is to be ascertained from local authorities, revenue records etc. Justification for the proposed quantum of the area is to be given.

Topography

Baseline data to be given on description of existing situation of the land at the proposed project area including description of terrain hill slopes coastal and inland topography, coastal features (lowland, beaches, littoral areas, shoal areas), terrain features, slope and elevation. Study of land use pattern, habitation, cropping pattern, forest cover, environmentally sensitive places etc, by employing remote sensing techniques (if available) and also through secondary data sources.

Geology

Baseline data to be provided on rock types, regional tectonic setting (reported fractures/faulting, folding, warping), and history of any volcanic activity, seismicity and associated hazards, mainly in the coastal area. Information on quarry yields, strengths of rock, distance of quarries from habitat, restrictions for quarrying, environmental controls, statutory permissions etc., should be provided.

4.1.4 Soil

Soil data including type, classification, characteristics, soil properties etc., are important from engineering considerations for design of structures, green belt development etc. Changes in parameters of soil also may affect plantation and vegetative growth, which in turn may endanger the health of local habitat. Baseline data of the soil, results of investigations carried out to be provided for the project area.

4.1.5 Meteorological Data

Meteorological data covering the following should be incorporated in the EIA report. The data for at least a 10 year period should be presented from the nearest meteorological station, except for the history of cyclones and tidal surges for which 100 year data is required. Wind speed and direction.

- Rainfall

- Relative humidity
- Temperature
- Barometric pressures
- History of cyclones

4.2 Water Environment

4.2.1 Ground water

Baseline data of ground water including data of pH, dissolved solids, suspended solids, BOD, DO, coli-form bacteria, oil, heavy metals is to be collected at least for one season. Usage purpose of the ground water, if any, is to be indicated.

Baseline data of ground water including data of pH, dissolved solids, suspended solids, BOD, DO, coli-form bacteria, oil, and heavy metals is to be collected at least for one season. Usage purpose of the ground water, if any, is to be indicated.

4.2.2 Surface Water

Baseline data on location of surface water like lagoons, lakes, tidal inlets, streams, rivers, their details, present quality and their utility, if any, is to be provided. Details of water bodies in the project area shall be described specifically. Water quality is to be monitored for one season.

4.3 Marine Environment

4.3.1 Coastal Hydrology/geomorphology

Coastal hydrology requires collection of oceanographic data during the study period, covering the following parameters:

- Tides
- Waves (wind waves and swells)
- Storm surges
- Current
- Salinity
- Sea/Estuarine water temperature

- Suspended load, and
- Sea/Estuarine bed bathymetry

Baseline oceanographic data should extend at least to depths more than 10m of proposed deepening of the harbour approach and basin as per master plan proposed. A study on likely changes in the sediment transport and littoral drift due to the construction of port particularly the breakwater should to be taken up. Details of mangroves, marshes and other coastal vegetation, sand dunes, coastal stability, seismic characteristics, history of any endangered species, coastal erosion and shoreline changes should be furnished.

4.3.2 Bed sediment contamination

Baseline data on bottom sediments and the associated bottom biota and other physical habitat, at the proposed project area and the neighbourhood areas has to be collected and analyzed.

4.3.3

Sea/Harbour Water Quality

Baseline data shall be collected on chemical parameters in the estuarine water and in the proposed jetty area for understanding hydro chemical characteristics in the marine environment (such as river water temp, BOD, DO, pH, TSS, salinity, heavy metals, etc).

4.4 Biological Environment

4.4.1 Marine/Coastal Ecology

Baseline data of aquatic flora and fauna at the project area, including the coastal area is to be ascertained by proper surveys including mangroves and marshes and other coastal vegetation, sand dunes. Data on coastal stability, seismic characteristics, history of any endangered species, coastal erosion, shoreline changes, if any, is also necessary.

4.4.2 Flora and Fauna in the neighbourhood.

Details on secondary data on the existing flora and fauna in the study area as well as 15km from its boundary, carried out by an university/institution under the relevant discipline (such as BSI, ZSI, WII, etc) shall be included in the list of flora and fauna along with classification as per Schedule given in the Wild Life Protection Act, 1972 (for fauna) and in the Red Book Data (flora) and a statement clearly specifying whether the study area forms a part of an ecologically sensitive area or migratory corridor of any endangered fauna.

4.5 Air Environment

Base line data of ambient air parameters namely RSPM, nitrogen dioxide, sulphur dioxide, should be monitored.

This data should be collected in an area extending at least 5 km from the project boundary by observation at a number of locations. Specific importance should be attached to areas in close proximity of project say up to 1 km. One season data should be monitored other than monsoon as per the CPCB Norms. One station should be in the up-wind/ non-impact/ non-polluting area as a control station.

4.6 Noise

Baseline data on noise pollution at the project area and the neighbourhood up to 1km or nearest residential areas is to be monitored as per the CPCB norms.

4.7 Existing Solid Waste Disposal facilities

Details of authorized municipal solid waste facilities, biomedical treatment facilities and hazardous waste disposal facilities in the area should be inventorized, in case if it is proposed to utilize the same

4.8 Socio-economic and Occupational Health Environments

Baseline data at the project area shall include the demography, particularly on human settlements, health status of the communities, existing infrastructure facilities in the proposed area and area of impact due to the proposed activity. Present employment

and livelihood of these populations, awareness of the population about the proposed activity shall also be included.

4.9 Public Utilities

Base line data of existing public utility infrastructure shall be ascertained and reported to assess the impacts of the project on these public utilities in order to incorporate desired methods in the EMP and monitor the same during the construction as well as operational phases of the proposed jetty.

5.0 Anticipated Environmental Impacts and Mitigation Measures

This Chapter should describe the likely impact of the project on each of the environmental parameters, methods adopted for assessing the impact such as model studies, empirical methods, reference to existing similar situations, reference to previous studies, details of mitigation methods proposed to reduce adverse effects of the project, best environmental practices and conservation of natural resources. The identification of specific impacts followed with mitigation measures should be done for different stages i.e., location of the jetty, ship traffic including discharges from vessels etc.

5.1 Land Environment

5.1.1 Land

Anticipated Impacts:

Impact of project construction/operation on the land requirement / land use pattern should be assessed. Affect of future growth of the jetty facility. Impact on the public utilities arising out of the utilities for the project activities and impact on the natural drainage system are equally important. Prediction of impacts should include impacts on the existing infrastructures like road network, housing, ground water/surface water etc., and loss of productive soil and impact on natural drainage pattern.

Mitigation Measures:

Mitigation measures to reduce adverse effects like adopting soil improvement

techniques and adopting suitable design methods to reduce land requirement. Where land acquisition and consequential R&R methods are called for, it should be implemented duly adhering to the norms and complying with pertinent statutory requirements for such land acquisition. Strengthening of road and rail network infrastructure to handle the increase in traffic and truck parking arrangements, integration of jetty development with the local land use plan should be planned.

5.1.2 Topography, geology and soil

Anticipated Impacts:

Impact of port construction/operation on the topography due to activities like depletion of hills due to large scale quarrying, filling of low lying area with dredged spoil and borrowed material, damage to existing vegetation/green belt and plantation, changes in land use patterns, disturbance to existing protected areas like mangroves, forests and environmentally sensitive areas/zones should be assessed

Flooding due to filling up of low-lying areas should be assessed. Impacts on the surrounding land use pattern, on infrastructure like housing, ground water, etc should be assessed.

Impact of the project construction on the geology and vice-versa should to be studied in detailed. Impact of project construction/operation on the soil parameters, probability of settlement, subsidence, slides, surface drainage, leachets etc., are to be estimated.

Mitigation Measures:

Mitigation measures to reduce adverse effects include study of alternative sites, improving green belt, obtaining construction materials from other sources, usage of alternative construction materials like fly ash, where possible; storm water management etc. Adopting soil improvement techniques and adopting suitable design methods, ground covering etc.

5.2 Water Environment

5.2.1 Ground Water

Anticipated impacts:

Discharge of trade effluent and sewage and its impact. Impact of project construction/operation on the ground water on account of leachets, run off from Material, percolation, sea water/ river water intrusion etc.,

Mitigation measures:

Mitigation measures to reduce adverse effects like impervious paving the impervious roads, lined drains, routing surface drainage to settlement tanks/pits etc.

Treatment of effluent, recycle/ reuse and disposal should be planned. Groundwater study on leaches should be carried out periodically and should be correlated with baseline data. Remedial measures should be taken in case of any deviation. Based on the total water budget of the project, the use of ground water should to be reviewed and alternatives to be presented.

5.2.2 Surface Water

Anticipated impacts:

Impact of jetty operations on surface water sources, impact on utility of surface water resources by the neighbouring colonies, impact on surface water flow (ex. flooding) due to anticipated obstructions, etc

Mitigation measures:

Careful site selection and jetty design should be planned to minimize impacts due to changes in current patterns and other coastal hydrology. Model experiments or computer simulations of these changes are useful in developing an appropriate design. Shore protection works like construction of sea walls, groynes, sand by passing or beach nourishment should be studied.

5.3.2 Bed sediment contamination

Anticipated impacts:

Impact of the project construction/operation on the bed sediment contamination on

account of jetty construction/operations is to be assessed by suitable empirical/model studies.

Mitigation measures:

A survey of contamination of bottom sediments should be undertaken before construction.

5.3.3 Sea/Harbor Water Quality

Anticipated impacts:

Impact of the project construction/operation on the river/sea water quality on account of jetty construction is to be assessed by suitable empirical/model studies.

Mitigation measures:

Proper collection and disposal of liquid and solid waste from shore establishment and ships should be planned.

5.4 Biological Environment

Anticipated impacts:

Impacts of the project construction/operation on the marine/coastal ecology on account of jetty construction should be assessed by suitable empirical/model studies.

Impacts due to floodlights on the nesting of sea turtles and other species should be studied.

Mitigation measures:

Mitigation measures to reduce adverse effects should be provided.

5.5 Air Environment

Anticipated Impacts:

Impact of project construction/operation on the ambient air quality on account of emissions of dust as well as emission of gases from equipment deployed for construction should be assessed.

Prediction due to emissions from the ships in the jetty area/ emissions due to increased traffic, emission inventory for critical pollutants with and without mitigation measures, prediction of the impact due to the existing activity on the proposed project,

prediction of impacts due to sanctioned/on going projects in the surrounding area on the proposed project and the ambient environment shall be carried out.

Mitigation measures:

Mitigation measures proposed during the construction stage should include dust suppression measures by suitable techniques. Mitigation measures proposed during the operation stage should include alternative solutions such as closed conveyor system, closed silos, mitigation measures to lower the emissions from the ships and green belt development.

5.6 Noise Pollution

Anticipated impacts:

Impact of project construction/operation on the noise and vibration on account of construction equipment, road traffic.

Mitigation measures:

Mitigation measures to reduce adverse effects should be provided.

5.7 Solid Waste Management

Anticipated impacts:

Impact due to non-hazardous and hazardous solid waste generated during the construction and operational stages should be assessed.

Mitigation measures:

Mitigation measures to comply the norms should be planned. Options for minimization of solid waste and environmentally compactable disposal/ recycling of waste to conserve natural resources should be planned. Management and disposal of temporary structures, made during construction phase should be planned.

5.8 Socio-economic and Occupational Health Environment

Anticipated impacts:

Predicted impact on the communities of the proposed activity. Details of public and

private land in the proposed and immediate surroundings socio-economic status of the affected owners of the private land shall be properly complied. Present status of health, housing, public utilities, commercial structures and transportation should be collected. Impact of the project on socio cultural aspects should be assessed. Socio-economic impacts due to displacement of fishing settlements and population influx due to increased activities should be assessed.

Mitigation measures:

Mitigation measures to reduce adverse effects including satisfactory R&R methods should be planned.

6.0 Environmental Monitoring Program

This Chapter shall include details of environmental monitoring programme. It should include the technical aspects of monitoring the effectiveness of mitigation measures (including measurement methodologies, data analysis, reporting schedules, emergency procedures, detailed budget & procurement schedules).

- ÉSummary matrix of environmental monitoring, during construction and operation stage
- ÉRequirement of monitoring facilities
- ÉFrequency, location, parameters of monitoring
- ÉCompilation and analysis of data, comparison with base line data and compliance to accepted norms and reporting system
- ÉPlantation monitoring program

7.0 Additional Studies

Specific condition Studies identified by the proponent and the Regulating Authority	Study required

<p>Authority Studies identified by the public and other stake holders Risk Analysis and Disaster Management Plan (DMP)</p>	<p>Public hearing with the issues raised by the public and the response of the project proponent in tabular form shall be discussed</p> <ul style="list-style-type: none"> ÉRisk analysis ÉSafety measures for handling bulk liquid substances ÉPersonal protection equipment ÉDisaster management Plan (DMP) ÉOil spill contingency plan ÉEmergency response procedures <p>Natural resource Plan of action for conservation of natural resources such as conservation and utilization of fly ash and other suitable waste materials availability Optimization for the construction of the project. Dredged material utilization and disposal plan should be furnished.</p>
<p>R & R action plans</p>	<p>Water Conservation measures should be addressed. Energy efficiency measures in the activity arte to be drawn up. Detailed R&R plan with data on the existing socio-economic status of the population in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternative livelihood concerns/employment and rehabilitation of the displaced people, civil and housing amenities being offered, etc and the schedule of the implementation of the project specific R&R Plan. Details of provisions (capital & recurring) for the project specific R&R Plan</p>
<p>Specific studies requirement depending on the site and activity proposed shall be Discussed.</p>	

8.0 Project benefits

This chapter shall include benefits accruing to the locality, neighbourhood, region and nation as a whole. It should bring out details of benefits by way of: Improvements in the physical infrastructure by way addition of project infrastructure, ancillary industries that may come up on account of the project. Improvements in the social infrastructure like roads, railways, townships, housing, water supply, electrical power, drainage, educational institutions, hospitals, effluent treatment plants improved waste disposal systems, improved environmental conditions, etc.

Employment potential óskilled; semi-skilled and unskilled labour both during construction and operational phases of the project with specific attention to employment potential of local population as well as necessity for imparting any specialized skills to them to be eligible for such employment in the project on a long term basis i.e., during operational and maintenance stages of the project and other tangible benefits like improved standards of living, health, education etc.

9.0 Environmental cost benefit analysis

If recommended by the Expert Appraisal Committee at the scoping stage, this chapter shall include the environmental cost benefit analysis of the project.

10. Environmental Management Plan (EMP)

Summary of potential impacts & recommended mitigation measures. Allocation of resources and responsibilities for plan implementation. Administrative and technical setup for management of environment. Institutional arrangements proposed with other organizations/Govt. authorities for effective implementation of environmental measures proposed in the EIA. Safe guards/mechanism to continue the assumptions/field conditions made in the EIA Environmental specifications for contractors should cover the required safeguards during the design and construction stage.

11.0 Summary & Conclusion (Summary EIA)

It shall be a summary of the full EIA report condensed to ten A-4 size pages at the maximum. It should necessarily cover in brief the following chapters of the full EIA report: Introduction/Project description/Description of the environment//Anticipated environmental impacts & mitigation measures/Additional studies/Environmental monitoring programme/Project benefits/Environmental management plan /Disclosure of consultants engaged.

12. Disclosure of consultants engaged

This chapter shall include the names of the consultants engaged with their brief resume and nature of consultancy rendered.

Enclosures

Feasibility report/Form I/Photos of proposed project site, impact areas.

Additional compliances by Goa-SEAC based on site specific observations.

7. The project proponent should carry out traffic management studies and assessment of impact of new traffic on the existing road infrastructure expected if any by the proposed development at all the proposed locations.
8. All jetties must have proper and adequately wide access roads so as not to hamper regular traffic/which will facilitate smooth traffic.
9. All jetties should have sufficient parking facilities and waiting shelter
10. The PP should identify alternate approach road and carry out assessment of parking facility and other infra structure facility at the locations including road connectivity by bus. The Project Proponent should clearly state the use of every jetty in detail and the facilities required v/s provided.
11. All jetties must have regular maintenance to keep them clean and neat. The PP shall give a proposed maintenance and upkeep schedule including scope of work for the same.

12. Assessment including solid waste generation, dustbins, toilet facility and treatment of waste including disposal of waste oil and other generated waste should be specified and these facilities should be provided to the commuters.