

**PROCEEDINGS OF THE CHIEF EXECUTIVE OFFICER**

**KERALA INFRASTRUCTURE INVESTMENT FUND BOARD,**

**THIRUVANANTHAPURAM**

**Present:Dr. K. M. Abraham CFA**

**ORDER NO : WRD008-02/APR-6/2022/KIIFB Dated:21-03-2022**

**Sub:** KIIFB – Project: WRD008-02 -Construction of Groyne Fields in the severely eroded Coastal belt of Alappuzha District at Ottamassery, Kattoor-Pollethai, Kakkazham (Ambalappuzha) and Nellanickal (Vattachal) – Approval and Sanction of funding- Orders Issued.

**Read:** 1. G.O.(Rt)No.365/2021/WRD Dated 13/07/2021.

2. Minutes of the Executive Committee meeting of KIIFB held on 14.02.2022.

The Government, through the Revised Budget Speech for 2021-22, has announced a project for Rs.1500 Crore for the protection of vulnerable coastal reaches across Kerala (Conservation measures) through KIIFB funding. In-Principle Administrative Sanction, for the project '*Construction of Groyne Fields in the severely eroded Coastal belt of Alappuzha District at Ottamassery, Kattoor-Pollethai, Kakkazham (Ambalappuzha) and Nellanickal (Vattachal)*' has been accorded for Rs. 88.13 Crore, vide order Government Order read above, and entrusted M/s Kerala Irrigation Infrastructure Development Corporation Ltd (KIIDC) as the Special Purpose Vehicle.

The detailed project report submitted by SPV was then examined for compliance with KIIFB stipulations and evaluated for compliance with G.O.(Ms) No.315/2016/Fin dated 08.08.2016 and G.O.(Rt) No.69/2018/Fin Dated 24.02.2018 and has seen that the project satisfied the technical and financial parameters set for financial sanction from KIIFB.

The 20th EC meeting of KIIFB that held on 14th February 2022, after considering the proposal, granted approval for the project. Accordingly, sanction is accorded for funding the project: **"TRAN-21: WRD008-02: Construction of Groyne Fields in the severely eroded Coastal belt of Alappuzha District at Ottamassery, Kattoor-Pollethai, Kakkazham (Ambalappuzha) and Nellanickal (Vattachal)"**, to be implemented by M/s KIIDC Ltd [Special Purpose Vehicle] for a total outlay of **Rs.78,34,21,439/- (Rupees Seventy-Eighty Crore Thirty-Four Lakhs Twenty One Thousand Four Hundred and Thirty Nine only)**, with the following stipulations:

1. The tripartite agreement, as per KIIFB stipulations shall be entered, after which Technical Sanction shall be mandatorily issued by the TS authority.
2. The Technical Sanction shall be issued by the competent authority by ensuring the reasonableness of the rates adopted in the estimate by comparing with the rates of

equivalent items in PRICE. The detailed estimate shall also be checked against the designs, drawings and network diagrams developed for each project. Documentary evidence of these actions shall be communicated to KIIFB prior to acceptance of tenders.

3. The detailed estimate submitted shall be reviewed by the TS authority considering the applicability and correctness for the quantities estimated, the relevance of Cost Index and adherence of latest PRICE schedule.
4. The Technical sanction by the competent authority is mandatory before schedules are added to the Tripartite agreement.
5. The cost provisions for work alone shall be utilized for execution of work. The savings or anticipated savings from LA, QC, shifting utilities etc. shall not be re-appropriated for meeting expenditure of work proper.
6. While entrusting the maintenance activities to the contractor, it shall be ensured that the obligation under defect liability shall be performed without any additional cost. Hence no maintenance expenditure shall be considered under original work.
7. The SPV shall ensure that TS shall be issued only after ensuring all necessary statutory clearances including permission from concerned CRZ/Environmental authorities. All such clearances shall be communicated to KIIFB, prior to award of work to the contractor.
8. It is to be ensured that, if any repair work or improvement was executed at any of the stretches / seawall locations within the project earlier and is under defect liability period, TS shall not be issued for that portion of work.
9. TS Committee shall ensure that all Project Execution Document (as per KIIFB guidelines) shall be prepared and got it approved from KIIFB before awarding the work to the contractor.

**Dr. K. M. Abraham CFA**

To

**Chief Executive Officer**

The Additional Chief Secretary to Government, Water Resources Department

The Managing Director, M/s KIIDC Ltd

The Additional Chief Secretary (Finance)

F&A Division, KIIFB

Inspection Authority (AIW/TIW), KIIFB

Stock File /Office Copy /Nodal Officer ([www.kiifb.kerala.gov.in](http://www.kiifb.kerala.gov.in))

Forwarded / By Order

  
Project Coordinator



*Defining the Future*

**DETAILED APPRAISAL REPORT**

**DETAILED PROJECT REPORT ON**

**CONSTRUCTION OF GROUYNE FIELDS IN THE SEVERELY ERODED  
COASTAL BELT OF ALAPPUZHA DISTRICT AT OTTAMASERRY,  
KATTOOR - POLLETHAI, KAKKAZHAM (AMBALAPUZHA), AND  
NELLANICKAL (VATTANCHAL)**

Rep No. AR-2022-TRAN21-WRD008-02

Date: 02.02.2022



The Detailed Appraisal Report (DAR) is prepared based on the DPR, estimate, drawings, and other available supporting documents received on 01/02/2022 for appraisal and meeting held on 31-01-2022 with KIIFB and SPV.

## 1. SALIENT FEATURES

### 1.1 Project details in brief:

Project details	Comments
<b>Salient Features</b>	
• Project Name	Construction of Groyne Fields in the Severely Eroded Coastal Belt of Alappuzha District at Ottamaserry, Kattoor - Pollethai, Kakkazham (Ambalapuzha), and Nellanickal (Vattanchal)
• District	Alappuzha
• Taluk	1. Ottamaserry : Cherthala Taluk 2. Kattoor - Pollethai : Ambalapuzha Taluk 3. Kakkazham : Ambalapuzha Taluk 4. Nellanickal (Vattanchal) : Karthikapally Taluk
• Constituency	1. Ottamaserry : Cherthala 2. Kattoor - Pollethai : Alappuzha 3. Kakkazham : Ambalapuzha 4. Nellanickal (Vattanchal) : Harippad
• Department/Client	Water Resources Department
• SPV	Kerala Irrigation Infrastructure Development Corporation Ltd (KIIDC)
• Report Prepared by	Kerala Irrigation Infrastructure Development Corporation Ltd (KIIDC)
• Budget Speech Reference	Budget speech ref Para no. 35 of the Revised Kerala Budget 2021-22
• Project outlay	Rs. 78.34 Cr
• Administrative sanction	As per G.O.(Rt)No.365/2021/WRD dated 13/07/2021 for Rs. 88.129Cr,
<b>Requirement &amp; Demand Analysis</b>	
• Nature of project (New Scheme / Existing Scheme)	New scheme

Detailed Appraisal Report - Construction of groyne fields in the severely eroded coastal belt of Alappuzha District at Ottamaserry, Kattoor - Pollethai, Kakkazham (Ambalapuzha), and Nellanickal (Vattanchal)

<b>Functional Details</b>			
<ul style="list-style-type: none"> <li>Proposed components</li> </ul>	<ul style="list-style-type: none"> <li>Construction of New Groynes</li> </ul>		
	Sl. No.	Location	No. of Groynes
	1.	Ottamaserry	7
	2.	Kattoor - Pollethai	9
	3.	Kakkazham	8
4.	Nellanickal (Vattanchal)	3	
<b>Engineering Design</b>			
<ul style="list-style-type: none"> <li>Subsoil investigation</li> </ul>	A preliminary investigation report provided in the DPR.		
<ul style="list-style-type: none"> <li>Foundation</li> </ul>	Sl. No.	Location	Geotextile layer of 1.5 to 10mm thick and filter layer of 1 to 10 kg stones of 0.30m thick
	1.	Ottamaserry	
	2.	Kattoor - Pollethai	
	3.	Kakkazham	
	4.	Nellanickal (Vattanchal)	
	Reach 1- Vattachal to Nellanickal- Reach 2 - Kallikkad to Arattupuzha		
<ul style="list-style-type: none"> <li>Drawings attached</li> </ul>	Longitudinal and cross -sections of Groynes		
<b>Financial Estimate</b>			
<ul style="list-style-type: none"> <li>Cost Index</li> </ul>	41.53% as per DSR 2018		
<ul style="list-style-type: none"> <li>Detailed estimate</li> </ul>	Prepared in PRICE software as per DSR 2018		
<b>Cost Benefit Analysis</b>	4.547		
Project Duration	21 months		

1.2 The DPR submitted by KIIFB is to construct groyne-field consisting of 27 groynes of different lengths for the coasts of Ottamaserry, Kattoor, Ambalappuzha and Vattachaal (Nellanickal) of Alappuzha District.

1.3 The project aims to improve the coastal stability and protection through raising/constructing groynes at 4 stretches in Alappuzha District.

## **2. REQUIREMENT/DEMAND ANALYSIS**

2.1 The proposed area is vulnerable to coastal erosion and the people nearby faces a lot of hardship during the monsoon season.

Detailed Appraisal Report - Construction of groyne fields in the severely eroded coastal belt of Alappuzha District at Ottamaserry, Kattoor - Pollethai, Kakkazham (Ambalappuzha), and Nellanickal (Vattanchal)



- 2.2 It is mentioned in the report that the buildings present are closely packed, and the coastal roads are under the threat of sea erosion.
- 2.3 The seawall was not found as an effective solution where longshore drift plays a dominant role in coastal erosion and this effect can be neutralized by providing bulb groynes in middle stretches where energy dissipation will be balanced.
- 2.4 The Department of Ocean Engineering, Indian Institute of Technology, Chennai had conducted a detailed study along the seacoast to suggest suitable shore protection measures and has proposed the construction of 27 number of groyne field at 4 stretches from Nellanickal at south to Ottamassery at the North.
- 2.5 In the DPR, it is mentioned that no stakeholders meeting is conducted for the proposed project.

### **3. FUNCTIONAL DESIGN**

---

- 3.1 The functional design of the project is based on the report received from the IITM, Chennai. In the report, it is proposed to construct groyne fields using different sizes of stones for filter and core layers and tetrapod weighing 2T and 5T as armour layers.
- 3.2 The proposed project comprises of 7 nos. of groynes at Ottamassery, 9 nos. of groynes at Kattoor-Pollethai, 8nos. of groynes at Ambalappuzha and 3 nos. of groynes at Vattachal of Alappuzha District.
- 3.3 The proposed project includes:
  - Construction of groyne fields including installation of weigh bridges with PCs, night vision camera near the site for weighing and documenting the weight of stones.
  - Providing tamper proof GPRS for tracking the vehicles (lorries).
  - Providing helicam survey and 24 hr CCTV surveillance for periodical mapping of the progress of the work.
  - Provision for restoring the coastal road to original profile after the completion of the project.
  - Utility removal and relocation.
- 3.4 At Ottamassery, a series of 7 - two groynes of length 30m, two groynes of length 59m, two groynes of length 75m and one groyne of length 100m has been proposed.
- 3.5 At Kattoor-Pollethai, a series of 9 groynes -four groynes of length 39m, four groynes of length 50m and one groyne of length 80m has been proposed.



- 3.6 At Ambalappuzha, a series of 8 groynes - two groynes of length 50m, two groynes of length 90m, and four groynes of length 120m has been proposed.
- 3.7 At Nellanical, a series of 3 groynes - two groynes of length 59m and one groyne of length 75m has been proposed.
- 3.8 The proposed groyne section consists of an armour layer (2T tetrapod), armour layer (5T tetrapod), under layer (300-500kg stones), core layer (100-300kg stones), toe mount layer (300-500 kg stones), filter layer (1-10kg stones) and geo textile layer.
- 3.9 As per the report of IIT, all groynes may be constructed simultaneously to avoid probable local erosion
- 3.10 The present profile of sea walls along the coast was found dilapidated the high waves were generally seen intruding towards the land side.
- 3.11 The seawall was not found as an effective solution, where the long shore drift plays a dominant role in coastal erosion.
- 3.12 The long shore drift effect can be neutralized by providing bulb groynes in middle stretches where the energy dissipation will be balanced.
- 3.13 Transition groyne field is suggested for the project.
- 3.14 A groyne field can effectively be utilized to rectify the problem of erosion and to set an added advantage by way of regaining the lost beach.

#### **4. ENGINEERING DESIGN**

---

- 4.1 The ocular/reconnaissance survey, hydro-geological survey and onshore soil investigation surveys have been conducted.
- 4.2 The length of groynes and elevation, and the spacing between successive Groynes is determined according to local wave energy and beach slope.
- 4.3 For groyne design, wave characteristics in full season in a year and littoral drift and accompanying distribution of sediments transported to on shore and offshore were considered.
- 4.4 The bathymetry chart was used for numerical model study and the study area considered is 4.85 km along the shoreline.
- 4.5 The wave data (wave height, wave period and wave direction) from wave atlas given for deep waters were used for this study
- 4.6 Numerical model and an inhouse developed wave model were used for the study and analysis of shoreline evolution by the IITM



- 4.7 The seabed profile is generally noted as coarse sand to fine silt and without any major clay content beneath the seabed.
- 4.8 In the soil investigation report for the boring, taken along the shore stretch of each site, it is said that report is preliminary in nature and two boreholes in each groyne location will be taken for the accurate determination of the subsoil for design of the groynes before the commencement of work.
- 4.9 Numerical model studies have been conducted to predict the shoreline evolution due to the shore-connected structures has been used to predict the shoreline changes due to the proposed groynes.
- 4.10 Provisions are made for the installation of weigh bridges having HD cameras with night vision.
- 4.11 Helicam survey are provided for periodic mapping of the progress of work.
- 4.12 Providing tamper proof GPRS for tracking the vehicles (lorries) including employing an external agency for tracking and documentation.
- 4.13 Design of groyne sections has been provided in the report with sample calculations.
- 4.14 A brief specification of the works is also mentioned in DPR.

## 5. O&M STRATEGY

---

- 5.1 After the completion of construction works, the project will be handed over to Irrigation Department.
- 5.2 The maintenance activities to be done by Irrigation Department are mentioned in the DPR.
- 5.3 The defect liability period of the structure is 5 years.

## 6. FINANCIAL ESTIMATES & COST PROJECTIONS

---

- 6.1 The estimate has been prepared in PRICE based on DSR 2018 with the corresponding Cost Index as published by Govt of Kerala for Alappuzha (41.53%).
- 6.2 The following are the various heads considered in the estimate:

SPECIFICATION	Estimated Cost as per DPR (₹)	Recommended Cost (₹)	Remarks
Appendix A - Construction of Groyne fields in Kakkazham- Valanjavazhy in Ambalappuzha Constituency from	26,63,01,461	26,63,01,461	Recommended subject to the

Detailed Appraisal Report - Construction of groyne fields in the severely eroded coastal belt of Alappuzha District at Ottamaserry, Kattoor - Pollethai, Kakkazham (Ambalappuzha), and Nellanickal (Vattanchal)





CH: 77.85 to CH: 80.05, Alappuzha District			observation under 17.14.
Appendix B- Construction of Groyne field between Arackal Pozhi and Vazhakootam Pozhi from CH:121.63 to CH:122.83 (old CH: 99.60- CH:100.80) in Kattoor-Pollethai, Alappuzha Constituency, Alappuzha District	15,28,65,376	15,28,65,376	
Appendix C - Construction of groyne fields at Ottamassery between CЕСP No. 921 to 926 in Cherthala Constituency, Alappuzha District	12,71,46,542	12,71,46,542	
Appendix D - Construction of groyne field at Nellanickal in Vattachal from CH:55.20 to CH:55.70 in Haripad Constituency, Alappuzha District	6,84,50,553	6,84,50,553	
Providing tamper proof GPRS for tracking the vehicles (lorries) including employing an external agency for tracking and documentation	1,00,00,000	1,00,00,000	
Providing helicam survey and 24hr CCTV surveillance for periodical mapping of the progress of the work	1,00,00,000	1,00,00,000	
Provision for restoring the coastal road to the original profile after the completion of the project	2,00,00,000	2,00,00,000	
Utility shifting	1,80,00,000	1,80,00,000	
GST @ 18% for construction works	11,06,57,508	11,06,57,508	
<b>Total</b>	<b>78,34,21,439</b>	<b>78,34,21,439</b>	

**Recommended cost - Rs. 78,34,21,439** (Subject to change considering the comments under 17.14.)

## 7. REVENUE STREAMS

7.1 It is stated in the DPR that since the project is meant for coastal area protection, there is no direct chance to recover cost incurred for the project.

Detailed Appraisal Report - Construction of groyne fields in the severely eroded coastal belt of Alappuzha District at Ottamaserry, Kattoor - Pollethai, Kakkazham (Ambalapuzha), and Nellanickal (Vattachal)



7.2 The beaches formed in the coastal area and the space available between the Groynes could be utilized for many activities such as tourism, embarkation of fishing boats, fishing markets and accessories etc. which are some of the innovative ideas for additional revenue generation.

## **8. COST BENEFIT ANALYSIS**

---

8.1 Detailed cost benefit analysis in the prescribed format/method is not furnished

8.2 The impact of the proposal has been listed in the report as:

- Prevent coastal erosion which in turn aids navigation
- Protects land from the effect of flood
- Protects coconut plantation, residential and other buildings, cattle, and assets used for fish catching.
- Generate employment opportunities and thereby improve the level of income and standard of living of the farmers.
- Creates and maintains a wide area of beach or sediment on its updrift side, which reduces erosion on the other side.
- Acts as a physical barrier to stop sediment transport in the direction of longshore drift.

8.3 The cost and benefit are calculated based on the total loss accounted for 10 years from 2002-2011 collected from the District Collector Alappuzha. Losses is calculated as benefit for a span of five years. Cost Benefit ratio is 4.547.

## **9. VALUE ENGINEERING OPTIONS**

---

9.1 Tetrapod and quarry stones are proposed to be used in the construction which ultimately require quarrying large quantity of stones. Alternate cost effective and environment friendly construction methods/technology need be explored.

## **10. IMPLEMENTATION SCHEDULE & WBS**

---

10.1 The DPR mentions the duration of work as 21 months.

10.2 Detailed work breaks down schedule/bar chart for the project execution is not provided in the report.



## **11. PROJECT MANAGEMENT ORGANIZATION STRATEGY**

---

- 11.1 Kerala Irrigation Infrastructure Development Corporation (KIIDC) has section offices for monitoring and supervising the work. Assistant Executive Engineer, Executive Engineer and Superintending Engineer will be in charge for monitoring the progress of work. The organisation set up is explained in the DPR.
- 11.2 It is mentioned in the report that proposals have been submitted to Government for the creation of posts exclusively for attending to works funded by KIIFB.
- 11.3 As per the report project implementation shall be monitored by latest management tools.

## **12. CONTRACT MANAGEMENT STRATEGY**

---

- 12.1 KIIDC has been adopting e-tender system. KIIDC will be tendering the work by inviting quotes from contractors registered with e-procurement wing of Government of Kerala on item rate basis.
- 12.2 A brief description regarding the specifications and requirements, tender documents, evaluating tenders, awarding the contract, service delivery management, contract administration, assessment of risk, contract closure etc., have mentioned in the DPR.

## **13. STATUTORY CLEARANCES**

---

- 13.1 It is mentioned in the DPR that no specific statutory clearances are required.
- 13.2 No further details about statutory clearances to be obtained is mentioned.

## **14. ENVIRONMENTAL ASPECTS & SUSTAINABILITY**

---

- 14.1 It is mentioned that for coastal protection structure, no specific environmental impact study is contemplated.
- 14.2 The report is silent about environmental impact study and environmental management plan.



## **15. QUALITY MANAGEMENT PLAN**

---

- 15.1 KIIDC has its own quality manual and quality assurance inventories. The KIIDC team will ensure that the works executed in the project follows KPWD quality control manual.
- 15.2 The quality control mechanism will follow a three-tier testing. In first tier contractor must carry out required tests at his own cost during work. Second tier is done by KIIDC as per PWD manual/ specified in contracts. Third tier will comprise of technical audit by an external agency/ expert empanelled for the purpose after the construction of a project is completed.

## **16. RISK ASSESSMENT AND MITIGATION MEASURES**

---

- 16.1 Risk management during the contract period comprises those activities associated with identifying and controlling the risks that may potentially affect the successful fulfilment of the contract.
- 16.2 The major risks identified to the contract are listed in the DPR such as lack of capacity of supplier, increase in total of price to purchaser, supplier staff change, Market fluctuations for commodities, Deterioration in the supplier 's financial standing etc.
- 16.3 Issues that will be considered for effective management are mentioned.

## **17. REMARKS AND INFERENCES**

---

- 17.1 The DPRs contain necessary details including item wise abstract, detailed estimate etc.
- 17.2 The parameters studied about the demand are in favour of the proposed projects.
- 17.3 The functional design is matching with the requirement and demand along with the standards.
- 17.4 The O& M strategy proposed is satisfactory.
- 17.5 The detailed estimates based on DSR 2018 is furnished in the DPR.
- 17.6 The CBR value of proposed project is 4.54.
- 17.7 IITM in their report recommends simultaneous advancement of the groynes to make its function optimal. Accordingly, the sequence of construction of the project is crucial in its successful implementation. IITM must be consulted before starting the construction as it depends on the direction of littoral drift which is essential.



17.8 The project management organization plans seem satisfactory.

17.9 The contract management plans are provided in the DPR.

17.10 It has been reported that no statutory clearances are required for groynes as it is strengthening the coast from tidal attached.

17.11 It has been reported that, being a coastal protection structure, no specific environmental impact study or EIA clearance is contemplated.

17.12 The quality management plans are acceptable.

17.13 The risk identification and management plan seem to be satisfactory.

17.14 **TS authority shall ensure that the following documents are prepared, and corrections effected prior to the sanction:**

- Bathymetry survey chart followed for design and estimation is taken during October 2020. Fresh bathymetry may be taken and drawing, and estimates revised accordingly.
- The cross and longitudinal section drawings, with levels and detailed measurements for each layer (component wise) of the proposed structure and detailed quantity calculation based on the same as per PRICE3 format shall be obtained. Quantities shall be worked out based on measurements/levels.
- Boreholes along the alignment of breakwaters and revision of design if changes occur.
- Impact of groyne field system on the adjacent shoreline for 5km north and south to be detailed.
- Site specific marine geotechnical investigation shall be conducted, and result incorporated in the design.
- Site specific sediment transport model may be prepared instead of littoral drift pattern recorded in the literature.
- Detailed topographic survey map with geocoordinates shall be prepared
- The design details, detailed specification, and strength property requirement for the proposed geotextile layer, for the specific work and installation condition shall be obtained from IIT.
- Higher size tetrapod is proposed instead of armour stones of lesser size. Further, as per the design, trunk portion may require tetrapod less than 2t and head portion less than 5t tetrapod. The present proposal is to be reviewed from the point of cost effectiveness and structural requirement.



The engineering design documentation may be corrected accordingly. The detailed design calculation shall be supplemented.

- Different specifications, data analysis, component wise cost is followed by the two SPVs (KSCADC & KIIDC) for the same nature of construction/structure. A unified specification and rate for each item shall be approved by a competent authority.
- For earth work excavation relevant MORTH ITEM shall be followed and provision for dredging shall be deleted.
- Details of existing groyne is missing, and repair work may be separately taken up and provision included in the original work shall be reviewed. As the defect liability period is 5 years it shall be ensured whether the repairs are within the said period.
- In the absence of detailed measurements and supporting details, quantities are not verified. Fresh drawings with detailed measurements and quantities are to be obtained, based on current bathymetry.
- WBS as per KIIFB guidelines shall be furnished.
- LS provisions for utility shifting shall be substantiated with detailed estimate.
- No details regarding the restoration of coastal road are furnished and the amount of 2 crores proposed is to be verified based on actual requirement if any., as tetrapod cast at site are mostly proposed.
- CBA shall be furnished with supporting details as prescribed in the KIIFB guidelines.
- For providing tamper proof GPRS for tracking vehicles Rs. 1 Cr and Helicam survey and CCTV surveillance another 1 Cr. are proposed. The amount proposed is very high and to be reviewed. Software of very less cost is effectively used by other agencies executing the same nature of work and applicability of the same of the same may be examined.

## **18. RECOMMENDATIONS AND SUGGESTIONS**

---

18.1 The project may be considered for funding by KIIFB subject to the execution of tripartite agreement.

18.2 The amount to be considered for sanction works out to be **Rs. 78,34,21,439.**



- 18.3 The detailed estimate submitted shall be reviewed by the TS authority considering the applicability and correctness of items in chapter 6 above, the relevance of Cost Index and adherence of latest PRICE schedule.
- 18.4 The Technical Sanction shall be issued by the competent authority by ensuring the reasonableness of the rates adopted in the estimate by comparing with the rates of equivalent items in the PRICE. The detailed estimate shall also be checked against the designs and drawings developed.
- 18.5 The Technical sanction by competent authority is mandatory before schedules are added to the Tripartite agreement.
- 18.6 The cost provisions for work alone shall be utilized for execution of work. The savings or anticipated savings from LA, QC, demolition etc. shall not be re-appropriated for meeting expenditure of work proper.
- 18.7 While entrusting the maintenance activities to the contractor, it shall be ensured that the obligation under defect liability shall be performed without any additional cost. Hence no maintenance expenditure shall be considered under original work.
- 18.8 SPV shall ensure that the technical sanction shall be issued only after ensuring the availability of all necessary statutory clearances including permission from concerned CRZ / Environmental authorities. All such clearances shall be communicated to KIIFB, prior to award of work to the contractor.
- 18.9 It is to be ensured that if any repair work or improvement was executed at any of the stretches within the project earlier and is under its defect liability period, TS shall not be issued for that portion of work.