



सत्यमेव जयते

**Report of the  
Comptroller and Auditor General of India  
on  
Performance Audit of Conservation and Management of  
Coastal Ecosystems**



SUPREME AUDIT INSTITUTION OF INDIA  
लोकहितार्थ सत्यनिष्ठा  
Dedicated to Truth in Public Interest

**Government of Gujarat**  
*Report No 03 of the year 2022*  
**Performance Audit**

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Comptroller and Auditor General of India  
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**Government of Gujarat**

*Report No. 03 of the year 2022*

**Performance Audit**



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## *Preface*

This report for the year ended 31 March 2020 has been prepared for submission to the Governor of the State of Gujarat under Article 151 of the Constitution of India for being laid before the State Legislature.

The report contains significant results of the Performance Audit of “Conservation and Management of Coastal Ecosystems” relating to Forests and Environment Department for the period from 2015-16 to 2019-20. The audit has been carried out under the provisions of the Comptroller and Auditor General’s (Duties, Powers and Conditions of Service) Act, 1971 and the Regulations on Audit and Accounts, 2007 (amended in 2020) issued thereunder by the Comptroller and Auditor General of India.

The Performance Audit has been conducted in conformity with the Auditing Standards issued by the Comptroller and Auditor General of India.



## *Executive Summary*

Coastal areas comprise some of the most dynamic natural ecosystems of our planet. Coastal ecosystems including marshes, mangroves, near-shore coral reefs, seagrass beds, sandy beaches and dunes provide numerous benefits like livelihood through fisheries, protection from sea surges/ cyclones etc. At the same time, Coastal ecosystems are subject to a variety of anthropogenic threats including pollution, climate change, habitat alteration and overexploitation. Demographic pressure on coastal resources has increased over the past several decades. Sustainable Development Goal 14 (SDG 14) laid down by United Nations (UN) recognizes the significance of life under water and aims at conserving and sustainably using the oceans, seas and marine resources. India has a coastline of about 7,516 Kms, of which Gujarat has about 1,600 Kms covering 16 coastal districts.

Coastal Regulation Zone (CRZ) Notifications are issued from time to time under the Environment (Protection) Act, 1986 by the Ministry of Environment, Forest and Climate Change (MoEF&CC), Government of India (GoI) for the purpose of zoning, regulation, and conservation of coasts. The objectives of the Performance Audit (PA) were to review existing institutional mechanism for implementation of the CRZ Notification, CRZ and Environmental clearances granted to projects and post clearance monitoring, activities carried out under the Integrated Coastal Zone Management Project (ICZMP) and achievements under SDG-14. The PA covered the period from April 2015 to March 2020. For the purpose of Audit, 13 projects were selected based on investment and sectors as well as recommendations of experts. Further, all reported violation cases were selected for detailed scrutiny. Field Audit included examination of the records at the Gujarat Coastal Zone Management Authority (GCZMA), State Environmental Impact Assessment Authority (SEIAA), Gujarat Ecology Commission (GEC), Project Executing Agencies (PEAs) of ICZMP, and physical inspection of sites.

### **Institutional and Regulatory Framework**

There were delays in reconstitution of GCZMA, which has been mandated to prevent, abate and control environmental pollution in the coastal regulation zones of the State and to enquire into cases of the alleged violation of the provisions of the Environment (Protection) Act, 1986 and the CRZ Notification. Further, GCZMA failed to implement some of the important functions assigned to it. There was no dedicated staff for GCZMA and this affected the time taken in issuing recommendations for CRZ clearances. There was lack of transparency in displaying the requisite information on GCZMA's website. District Level Committees (DLCs) formed to ensure compliance of the CRZ Notification did not meet regularly. These committees also lacked guidance/direction from GCZMA. The State Government attributed under performance of DLCs to limited awareness among the DLC members about provisions of CRZ Notification. Apart from delays in finalisation of Coastal Zone Management Plans (CZMPs) for the coastal districts, these plans were also not prepared as per prescriptions of the CRZ Notification. An outcome-based



budget aligned to SDGs had not yet been prepared by the State Government. Moreover, data against the State specific indicators were not yet compiled and District Indicator Framework (DIF) was yet to be developed. Considering the above deficiencies in the Institutional and Regulatory Framework, following recommendations are made:

***Recommendation 1: The State Government may provide dedicated manpower to GCZMA for the effective management of the coastal environment.***

***Recommendation 2: The State Government may consider framing effective monitoring and reporting mechanism for GCZMA and DLCs.***

***Recommendation 3: The State Government may consider preparing Integrated Management Plan for the identified Critically Vulnerable Coastal Areas in the State.***

***Recommendation 4: The State Government may prioritise formulation of District Indicator Framework and start preparing outcome-based budget for effective monitoring of the National and State indicators of SDGs.***

### **Violations in the CRZ area**

Out of the 32 reported violations of provisions of the CRZ Notification/ Environment (Protection) Act, during the period covered in the PA, 14 cases remained to be resolved while four cases were *sub-judice*. GCZMA had neither kept proper records of complaints received nor framed any Standard Operating Procedure (SOP) for timely disposal of such complaints. Cases of violations of CRZ Notification of 2011 by Government departments/ municipal corporations/ autonomous bodies/ Public sector undertakings were noticed which included not obtaining CRZ clearances, mangroves destructions, and non-permissible activities in the CRZ area. This was indicative of the failure of GCZMA/ Government of Gujarat (GoG) to create awareness among various user departments regarding provisions of CRZ Notification. Large scale destruction of mangroves in CRZ I areas by Salt Pan lessees was noticed posing threat of extinction to the unique breed of “Kharai” camels which depend on the mangroves for their food. GCZMA had not evolved any robust mechanism to identify the illegal/ unauthorised constructions and operation and proliferation of unauthorised salt pan units in the CRZ areas. No mechanism exists in GCZMA for the periodic survey of coastline through remote sensing applications along with geo-referenced CZMP for identifying CRZ violations. It also failed to remove the illegal constructions brought to its notice. Untreated waste water was being discharged into the water bodies in the CRZ areas in contravention of the CRZ Notification 2011 due to shortage of sewage treatment capacity in the Urban Local Bodies. Based on the reported cases of violations, lack of concrete action on such cases and cases of unauthorised construction noticed by Audit through Google earth pro software, the following recommendations are made:

***Recommendation 5: The State Government may take appropriate action to preserve Mangroves to save the ‘Kharai’ breed of camels from extinction.***

***Recommendation 6: The State Government may consider establishing expert cells at the GCZMA/ DLC level to track activities along coasts through GIS tools. Further, a mechanism may also be devised for timely removal of encroachments and disposal of violation cases in the CRZ areas so as to preserve the coastal ecosystems.***

***Recommendation 7: The State Government may consider installing STPs across coastal ULBs of the State to ensure that untreated sewage is not released into water bodies.***

### **CRZ Clearance and Post Clearance Monitoring**

It was observed that in case of nine out of 13 projects selected under the PA, the Project Proponents (PPs) did not submit all pre-requisite documents. Lack of adequate internal control resulted in recommendation of these projects for CRZ/ Environmental clearances. Moreover, Environmental Impact Assessment (EIA)/ Environmental Management Plan (EMP) of certain projects were found to be prepared by consultants who were not accredited by the National Accreditation Board of Education and Training (NABET) for the given sector. Some of the EIA/ EMP were also found not prepared as per the Terms of Reference (ToR) issued by MoEF&CC or State Expert Appraisal Committee (SEAC) and/ or the generic structure as prescribed in the EIA Notification, 2006. GCZMA also did not verify compliance of the prescribed ToRs in EIA reports before recommending the projects for clearance. The SEIAA/ GCZMA did not insist on the Environmental Clearance (EC) in respect of a project falling in Ecologically Sensitive Area (ESA). Submission of half-yearly compliance reports in respect of the stipulated terms and conditions of the EC to the regulatory authority(s) concerned, was not ensured in all cases. This would impair the ability of regulatory agencies to notice and take steps to mitigate any negative impact on the coastal ecosystems. In view of deficiencies noticed in the process of recommending CRZ clearances and post clearance monitoring, the following recommendation is made:

***Recommendation 8: GCZMA may strengthen the evaluation process of project proposals and EIA reports to ensure that they adhere to all necessary pre-requisites before giving recommendation/ clearance.***

### **Integrated Coastal Zone Management Project (ICZMP)**

The marine field stations of the Gujarat Ecological Education and Research (GEER) Foundation and laboratories of the Gujarat Pollution Control Board (GPCB), developed under Capacity Building component of ICZMP, were not put to optimal use.

Third party evaluation was conducted for an area covering only 21 *per cent* of claimed mangroves plantation. This pointed out difference in the plantation claimed by the Project Executing Agencies (PEAs) and that observed through GIS technique. Audit, through use of GIS technique, observed a shortfall of 1,968.80 hectare in mangroves plantation out of reported plantation of 9,415 hectare at 33 sites.

Bid evaluation and selection of contractors in the procurements for Green Schools under Smart Eco- Village project were not carried out as per laid down procedure.

Optimal utilisation of the high cost Mobile Sea Water Treatment Vehicles (MSWTVs) could not be ensured due to absence of a concrete sustenance plan. In view of deficiencies noticed in the implementation of ICZMP and Smart Eco-Village project, the following recommendations are made:

***Recommendation 9: The State Government may fix responsibility of the agencies involved for the shortfall in mangroves plantation.***

***Recommendation 10: The State Government may take immediate action to utilise/ revive the idle MSWTVs so as to avoid further deterioration of these vehicles, which may render the expenditure wasteful.***

***Recommendation 11: The State Government may fix responsibility for not ensuring economy in the award of contracts under Smart Eco-Village project. It may also strengthen its monitoring mechanism to ensure that works are executed and items procured as per the prescribed standards.***

The detailed audit observations have been narrated in the relevant Chapters of this report.

# Chapter-1

## Introduction

### 1.1 Coastal Ecosystems

Coastal areas comprise some of the most dynamic natural ecosystems of our planet, where three main components—the hydrosphere, the lithosphere, and the atmosphere—meet and interact, forming interconnected systems. Coastal ecosystems including marshes, mangroves, near-shore coral reefs, seagrass beds, sandy beaches and dunes provide numerous benefits like livelihood through fisheries, protection from sea surges/ cyclones etc. These benefits have ensured that demographic pressure on coastal resources has increased over the past several decades. India has a coastline of about 7,516 Kms of which Gujarat has about 1,600 Kms covering 16 coastal districts.

Figure 1.1: Coastline of the State of Gujarat



Coastal ecosystems are subject to a variety of anthropogenic threats including pollution, climate change, habitat alteration and overexploitation. Sustainable Development Goal 14 (SDG 14) laid down by United Nations (UN) recognizes the significance of life under water and aims at conserving and sustainably using the oceans, seas and marine resources. The Ministry of Statistics and Programme Implementation (MoSPI) has developed the National Indicator Framework (NIF) for measuring the progress of the SDGs and associated targets in India.

Through this audit, an attempt had been made to assess the institutional mechanisms involved in the protection and management of coasts; extant regulations, and major initiatives in the State for the protection of the coastal environment and to analyse the major threats posed to the coastal ecosystems.

## 1.2 Environment Acts and Notifications for conservation of coastal ecosystems

Ministry of Environment, Forest and Climate Change (MoEF&CC) and Ministry of Earth Sciences (MoES) are the two nodal Ministries, which deal primarily with the coastal and ocean areas. The important Acts/ Regulations that deal with the conservation and management of coastal ecosystems are as under:

- **The Environment (Protection) Act, 1986:** It is an umbrella Act of all environmental Acts, Notifications, etc., containing provisions for protection, conservation, and management of the environment. It has provisions for penalising violations of environmental norms prescribed under the Act.
- **The Water (Prevention and Control of Pollution) Act, 1974:** The Act was enacted to deal with water pollution and to prohibit the discharge of untreated wastewater into land and water bodies and marine waters with jurisdiction up to five kilometres in the sea.
- **Environment Impact Assessment (EIA) Notification, 2006:** This Notification primarily deals with the mandatory undertaking of environmental impact assessment and obtaining Environmental Clearance (EC) for major infrastructural and service activities. The schedule to this Notification contains a list of category 'A' and 'B' projects requiring prior environment clearance.
- **Coastal Regulation Zone (CRZ) Notification:** MoEF&CC under the Environment (Protection) Act, 1986 issued a Notification (February 1991) declaring the coastal stretches of the sea on the landward side, up to 500 meters from the High Tide Line (HTL), minimum of 100 meters width from HTL of tidally influenced bays, estuaries, creeks, rivers and backwaters and land between the Low Tide Line (LTL) and HTL as Coastal Regulation Zone (CRZ). The management of CRZ is through various Notifications issued and enforced by Coastal Zone Management Authorities both at the Central and State level. This CRZ Notification of 1991 was superseded by Notifications of 2011 and 2019, respectively. CRZ Notification is implemented through the preparation of district-wise Coastal Zone Management Plans (CZMPs) by the authorized agency<sup>1</sup> and their approval by MoEF&CC. In Gujarat, CZMPs as per 2011 Notification were approved<sup>2</sup> in the years 2019 and 2020. Updating of CZMPs as per CRZ Notification 2019 was still pending (August 2022). Hence, CRZ Notification 2011 was adopted as audit criteria. Three main activities under CRZ Notification 2011 viz. Zoning, Regulation, and Conservation are discussed in the subsequent paragraphs.

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<sup>1</sup>Eight agencies were authorised by MoEF&CC.

<sup>2</sup>CZMPs of the 16 districts were approved by MoEF&CC in January 2019 and February 2020 and accepted by the State Government in January 2019 and July 2022.

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## **1.3 Institutional Mechanisms**

### ***1.3.1 Ministry of Environment, Forest and Climate Change***

The Impact Assessment Division in MoEF&CC, Government of India (GoI) while implementing the provisions of the Environment (Protection) Act, 1986 (EPA) regulates developmental activities in coastal areas falling within the CRZ. The roles of the MoEF&CC are as follows:

- Environmental appraisal of projects under the provisions of CRZ Notification and EIA Notification.
- Review and approval of the CZMPs.
- Constitution and strengthening of State Coastal Zone Management Authorities.
- Identification of ecologically sensitive areas and notifying those areas for their effective management and conservation.

The Ministry has constituted a National Coastal Zone Management Authority (NCZMA) at the Central Level with its headquarters at MoEF&CC and 13 Coastal Zone Management Authorities in the Coastal States/ Union Territories. The State Governments and the Union Territory Administration are also required to constitute District Level Committees in each coastal district under the Chairmanship of the District Magistrate concerned, containing at least three representatives of local traditional coastal communities, especially from the fisher folk.

### ***1.3.2 State Environmental Impact Assessment Authority***

The State Environmental Impact Assessment Authority (SEIAA) reviews proposals of category 'B' projects for environment clearance and CRZ clearance recommended by the State Level Expert Appraisal Committee (SEAC) and Gujarat Coastal Zone Management Authority (GCZMA) respectively. It also grants composite clearance involving both Environment Clearance (EC) and Coastal Regulatory Zone (CRZ) clearance.

### ***1.3.3 Gujarat Coastal Zone Management Authority***

GCZMA was constituted by MoEF&CC to take measures for the protection and improving the quality of the coastal environment and for preventing, abating, and controlling environmental pollution in the CRZ. It considers CRZ clearance applications of Category 'A' and 'B' projects (As per EIA Notification, 2006) and forwards them for approval to MoEF&CC and SEIAA respectively.

It also enquires into cases of alleged violation of the provisions of the EPA and CRZ Notification 2011 in the CRZ area.



### 1.3.4 District Level Committees

District Level Committees (DLCs) are required to be constituted in all coastal districts of the State under the Chairmanship of respective District Collectors. DLCs assist GCZMA and enquire into cases of alleged violations.

### 1.3.5 Ministry of Earth Sciences

Ministry of Earth Sciences (MoES) came into existence through a Presidential Notification dated 12 July 2006. National Centre for Coastal Research, Chennai is an attached office of MoES which *inter alia* monitors the seawater quality along the country's coastline.

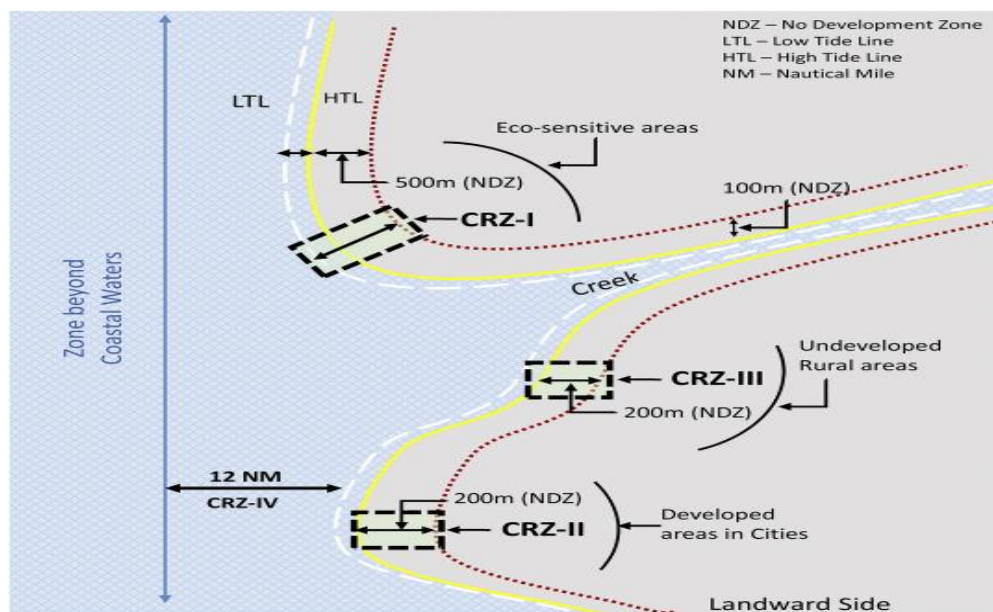
## 1.4 Coastal Regulation Zones and Clearance Process

After examining various aspects of a project, MoEF&CC grants CRZ clearance subject to the implementation of the stipulated environmental safeguards. The clearance process assigns specific roles to many of the institutions mentioned above. Clarity on the zone of CRZ in which the project is implemented is critical in arriving at a correct recommendation under the Notification. Zones given in the CRZ Notification 2011 are described below:

### 1.4.1 Coastal Regulation Zones

Under the CRZ Notification 2011, the coastal regulated areas are categorised under the following four categories:

Figure 1.2: Coastal Regulation Zones



**CRZ I** includes those areas which are ecologically sensitive and which form the geomorphological features and play a crucial role in maintaining the integrity of the coast.

**CRZ II** includes those areas within the existing municipal limits or other urban areas which are substantially built-up and have been provided with drainage, roads, and infrastructural facilities.

**CRZ III** includes the areas that are relatively undisturbed, and which do not belong to either CRZ I or II. This includes coastal zones in the rural areas, areas within the existing municipal limits, or other urban areas which are not substantially built up.

**CRZ IV** includes the area from LTL to twelve nautical miles on the seaward side and inland waters influenced by the tide.

**Areas requiring special consideration:** Such areas are identified to protect the critical coastal environment and difficulties faced by local communities. CRZ areas of (i) Greater Mumbai Municipal limits (ii) Goa and (iii) Kerala and other Critically Vulnerable Coastal Areas (CVCAs) such as Sundarbans region of West Bengal and Gulf of Kachchh are identified as areas requiring special consideration under this Notification.

#### 1.4.2 CRZ clearance process

The Project Proponent (PP) shall submit the project proposal to the State/UT CZMA concerned along with all the relevant documents prescribed in the CRZ Notification.

The State CZMA concerned shall examine the above documents as per the approved SCZMP and CRZ Notification and make recommendations within 60 days from the date of submission of the documents to the relevant approving authority. The approving authorities prescribed by statute are shown in **Table 1.1** below:

**Table 1.1: Category of projects and approving authority**

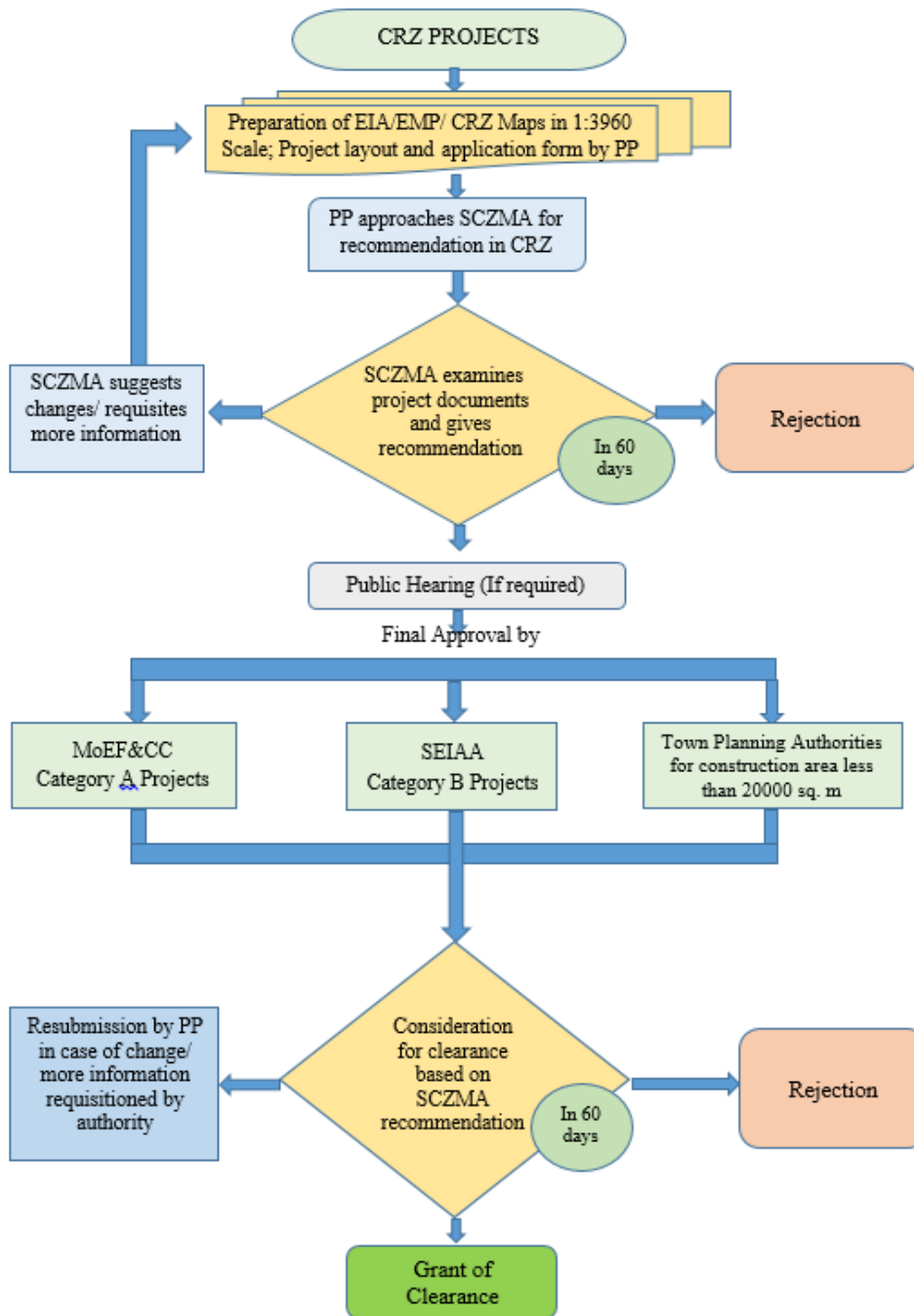
| Category of projects   | Authority to which the proposal is required to be sent for CRZ clearance |
|--|--|
| Category-A projects as per EIA Notification, 2006<br>Projects mentioned in Clause 4 (ii) of CRZ Notification, 2011 | MoEF&CC  |
| Category-B Projects as per EIA Notification, 2006  | SEIAA  |
| Projects in the CRZ II areas having less than 20,000 Sqm. construction area  | Town planning authorities  |

*Source: CRZ Notification, 2011*

MoEF&CC or the concerned State Government authority shall consider such projects based on the recommendations of the concerned State CZMA within 60 days. The CRZ clearance process flowchart is shown below:



Figure 1.3: CRZ clearance process



## 1.5 Integrated Coastal Zone Management Project

Integrated Coastal Zone Management (ICZM) approach considers all the sectoral activities that affect the coast and its resources. Further, it addresses environmental, economic, and social issues in an integrated manner. The GoI acknowledged the necessity of adopting an integrated and coordinated approach to the management of the coastal zone. An agreement was entered into by GoI with the World Bank, in 2010 for the ICZM project. The objective of the project was to assist the MoEF&CC to build capacity for the implementation of a

comprehensive ICZM approach in the country. For the pilot of the ICZM approach, three States *viz.* Gujarat, Odisha, and West Bengal were selected by the GoI.

Gujarat Ecology Commission (GEC) was selected as the State Project Management Unit (SPMU) for Gujarat. During 2010-20, ₹ 410.91 crore was incurred on the ICZM project in the State. It was funded by the World Bank, Government of India, and Government of Gujarat (GoG) with a share of 77, 13, and 10 *per cent* respectively. In the State, the following six agencies were selected as Project Executing Agency (PEA) for the ICZM Project:

- 1) GEC - for socio-economic development of villages and mangroves restoration.
- 2) Gujarat Pollution Control Board (GPCB)- for constructing a laboratory for monitoring coastal water pollution in the Gulf of Kachchh.
- 3) Gujarat Ecological Education and Research (GEER) Foundation - for Capacity Building and Coral Plantation.
- 4) Jamnagar Municipal Corporation - for constructing sewage treatment plant to reduce marine pollution.
- 5) Forest Circle, Kachchh, and Marine National Park and Marine Sanctuary (MNP&MS), Jamnagar- for conservation and protection of coastal resources, mangroves, and coastal ecosystem.
- 6) Bhaskaracharya Institute of Space Application and Geo-Informatics (BISAG)- for development of Gujarat Coastal Geo-Spatial Information system.

## 1.6 Audit Objectives

The Performance Audit of conservation and management of coastal ecosystems was conducted to assess whether:

- (i) an institutional mechanism exists in State to regulate the activities in CRZ areas as per the provisions of CRZ Notification 2011;
- (ii) CRZ clearances granted by the Government are as per due procedure and with due regard to the coastal environment and the post clearance monitoring mechanism is carried out effectively;
- (iii) the project development objectives under Integrated Coastal Zone Management Project (ICZMP) were successful; and
- (iv) the measures taken up by the Government towards achieving the targets under SDG-14 were effective.

## **1.7 Audit Criteria**

The following were adopted as Audit criteria for the Performance Audit:

- Environment (Protection) Act, 1986 and EIA Notification, 2006,
- CRZ Notification of 1991, 2011 and district wise CZMPs,
- General Financial Rules and World Bank Procurement Guidelines,
- National Indicators developed by MoSPI for SDG 14,
- Agenda and minutes of the meetings of GCZMA, SEIAA, and SEAC,
- EC and CRZ Clearance recommendations by GCZMA along with conditions,
- EC and CRZ Clearances granted by SEIAA/ MoEF&CC and conditions imposed therein,
- Project-specific records, including Terms of References, Environmental Impact Assessment (EIA) and Environmental Management Plans (EMPs), and
- Programme/ Project Reports in respect of ICZMP.

## **1.8 Audit Scope**

The Performance Audit covered the period from April 2015 to March 2020. During January 2021 to October 2021, Audit examined the CRZ and related environmental clearances granted, the CRZ violation cases reported, action taken against each one of them, implementation of ICZMP in the State along with achievement in capacity building as envisaged and progress achieved by the State concerning SDG-14.

## **1.9 Audit Methodology**

An entry conference was held (January 2021) with the Additional Secretary, Forests & Environment Department (F&ED), Government of Gujarat; Principal Chief Conservator of Forest and Head of the Forest Force (PCCF&HoFF) and Member Secretary, GEC wherein the audit scope, methodology, and objectives were discussed. Field Audit included examination of records at GCZMA, SEIAA, GEC, Other PEAs of ICZMP, and physical inspection of sites. The Exit conference was held on 02 September 2022 at the level of Additional Chief Secretary, F&ED and Member Secretary, GEC. The replies of the Government and discussions of the Exit conference have been appropriately incorporated in the Report.

## 1.10 Audit Sampling

During the period 2015-20, ninety-two CRZ/ Composite clearances were recommended by GCZMA. These included recommendations for 40 Category “A” projects to MoEF&CC, 33 Category “B” projects to SEIAA, and 19 projects to the local town planning authorities. Sample selected for audit is tabulated as below:

**Table 1.2: Details of CRZ recommendations made by GCZMA during 2015-20**

| Description   | Category A project |                     | Category B project |                     | Town planning authorities | Total Clearance |
|---------------|--------------------|---------------------|--------------------|---------------------|---------------------------|-----------------|
|               | Only CRZ Clearance | Composite Clearance | Only CRZ Clearance | Composite Clearance |                           |                 |
| <b>Total</b>  | 25                 | 15                  | 17                 | 16                  | 19                        | 92              |
| <b>Sample</b> | 5                  | 3                   | 3                  | 2                   | 00                        | 13              |

*Source: Information provided by GCZMA*

The projects had been selected based on investment and sectors as well as recommendations of experts.

Further, during 2015-20, 12 complaints of violation of provisions of the Environment (Protection) Act, 1986/ CRZ regulations were reported to GCZMA. In addition to above, 20 complaints of violations were received directly by four<sup>3</sup> DLCs. These violation cases were inspected by GCZMA and/ or respective DLCs. All violation cases were selected for detailed scrutiny.

## 1.11 Acknowledgement

Audit acknowledges the cooperation and assistance extended by the F&ED, Gujarat Coastal Zone Management Authority, Gujarat Ecology Commission, and other project implementation agencies of ICZMP and staff at Secretariat and Regional Offices of Gujarat Pollution Control Board.

<sup>3</sup>Bharuch, Devbhumi Dwarka, Kachchh and Surat.



## Chapter-2

### Institutional and Regulatory Framework

#### ***A Snapshot***

*The institutional mechanism for the management of the coastal environment was brought into existence with wide-ranging mandate and powers. Detailed guidelines were also issued by MoEF&CC regarding the composition of such authorities. Audit observed that Gujarat Coastal Zone Management Authority (GCZMA) was not equipped with commensurate manpower for effective discharge of the responsibilities assigned to it. District Level Committees (DLCs) were either constituted belatedly or were not regular in their meetings and furnishing of the stipulated reports/ information to the GCZMA.*

*Coastal Zone Management Plans (CZMPs,) as a tool for the management of the developmental landscape, was not effective. It took almost seven years for the State to come up with approved CZMPs and all that while earlier CZMPs from 1991 were being relied upon for the management of the coastline. Further, the cadastral level data, which is of utmost importance for local planning authorities to regulate land use in their jurisdiction, was not prepared, rendering the micro-level management of developmental activities ineffective.*

*There was an urgent need to monitor the State Indicator Framework (SIF) against the fixed targets under SDG-14, to be achieved by 2022 and 2030 at the State level. The State was not preparing an outcome-based budget aligned to SDGs and was yet to develop the District Indicator Framework (DIF).*

*All these findings indicated ineffective institutional mechanism, tasked with huge responsibilities but equipped with insufficient resources.*

#### **Introduction**

The Environment (Protection) Act (EPA) of 1986 under Section 3(1) authorises Central Government to take all such measures as it deems necessary or expedient for protecting and improving the quality of the environment and preventing, controlling, and abating environmental pollution. Section 3(2)(v) of the Act further empowers the Government to notify areas wherein industries, operations or processes or class of industries, operations or processes are restricted or permitted subject to certain safeguards. Accordingly, Central Government promulgated the Coastal Regulation Zone (CRZ) Notification, 1991 for regulating activities in coastal stretches.

Clause 4 of the CRZ Notification, 1991 stated that the MoEF and the Government of State or Union Territory and such other authorities at the State or Union Territory levels, as may be designated for this purpose, shall be responsible for monitoring and enforcement of the provisions of the Notification within their respective jurisdictions.

In view of the Supreme Court of India's Order for setting up of National and State level Coastal Zone Management Authorities to ensure effective implementation of the Notification of 1991, the MoEF&CC under powers conferred by Section 3 of the EPA had constituted National Coastal Zone Management Authority (NCZMA) on 26 November 1998 for two years. After that NCZMA has been reconstituted from time to time till date<sup>1</sup>. The authority was empowered to coordinate actions of the State Coastal Zone Management Authorities (SCZMAs) and Union Territory Coastal Zone Management Authorities (UTCZMAs) under the Act, examine proposal for change in classification of CRZ areas, approve CZMPs, review cases of violation under the relevant Sections of EPA and issue directions as well as take actions accordingly.

Audit examined constitution of SCZMA in Gujarat, its functioning with reference to the CRZ Notification and subsequent guidelines by the MoEF&CC along with its mandate for CZMPs preparation and management of violations. Audit observations on these aspects are given below:

## **2.1 Formation of the Institutional Bodies**

In February 2005, the MoEF&CC issued detailed guidelines for the composition of the SCZMAs as well as the inclusion of non-official members, their backgrounds, and desired experiences. As per the guidelines, the SCZMAs would have one NGO, four expert members and 5-6 *ex-officio* members from various departments, such as pollution control boards, fisheries, environment, urban development etc. The Chairman of the Authority would be the Secretary, Environment Department of the concerned State.

Composition of District Level Committees (DLCs) is broadly governed in terms of Clause 6(C) of the CRZ Notification 2011, wherein, DLCs were to be established to assist SCZMA in enforcing and monitoring the CRZ Notification. The DLCs were to be formed under the Chairmanship of the District Magistrate concerned, consisting of at least three representatives of local traditional coastal communities and fisher folk.

Audit examined the status of Gujarat Coastal Zone Management Authority (GCZMA) and 16 DLCs in Gujarat State. Examination of issues related to the formation and composition of these institutional bodies (GCZMA and DLCs) revealed delays in formation of GCZMA, non-formation of DLCs and non-adherence to the prescribed composition for these institutional bodies, particularly with respect to experts, local communities, and key stakeholder departments. Consequences of such deviations are discussed in the succeeding paragraphs.

## **2.2 Constitution and Functioning of the Institutional Bodies**

Audit examined the constitution and functioning of GCZMA and DLCs against the mandate and detailed observations are as given below:

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<sup>1</sup> NCZMA was last reconstituted on 11 May 2022 for three years.

### 2.2.1 Constitution of GCZMA

Gujarat Coastal Zone Management Authority (GCZMA) was constituted (26 November 1998) by the MoEF&CC under the Environment (Protection) Act, 1986 to regulate and perform the functions in Gujarat as stipulated in CRZ Notification 1991. It is normally re-constituted once every three years as per prevailing CRZ Notification. GCZMA was last reconstituted in September 2019. It consists of 15 members<sup>2</sup> including Chairman and Member Secretary. Sixteen DLCs<sup>3</sup> under the Chairmanship of the concerned District Collectors were also constituted to assist the GCZMA.

GCZMA has the mandate to take measures for protecting and improving the quality of the coastal environment. The mandate also includes preventing, abating and controlling environmental pollution in the coastal regulation zones of the State. GCZMA is conferred with the powers to examine the proposals for change or modification in the classification of CRZ, enquire into cases of alleged violation of the provisions of the Environment (Protection) Act, 1986 and review the cases involving violations of the provisions of CRZ Notification 2011. GCZMA is authorised to collect scrutiny fees from the project proponent.

### 2.2.2 Delay in reconstitution of Gujarat Coastal Zone Management Authority

The first Gujarat Coastal Zone Management Authority (GCZMA) was constituted on 26 November 1998 for two years. Audit reviewed the reconstitution of GCZMA from 01 April 2015 to June 2021. The dates of reconstitution of GCZMA and the delay in its reconstitution are shown in **Table 2.1** below:

**Table 2.1: Details of reconstitution of GCZMA during 2015-20**

| Sl. No. | Date of re-constitution of GCZMA | Validity Period                        | Delay in reconstitution during 2015-20 |
|---------|----------------------------------|--|--|
| 1       | 16 October 2012                  | 16 October 2012 to 15 October 2015     | Not applicable                         |
| 2       | 18 March 2016                    | 18 March 2016 to 17 March 2019         | 154 days                               |
| 3       | 09 September 2019                | 09 September 2019 to 08 September 2022 | 175 days                               |

*Source: Notification for reconstitution issued by the MoEF&CC*

It can be seen from the above table that during 2015-20, there were delays of 154 days and 175 days respectively in reconstitution of GCZMA. Forests and Environment Department (F&ED), GoG was required to submit its recommendations i.e., name of members to be included in proposed reconstituted GCZMA to the MoEF&CC in advance, so that the MoEF&CC

<sup>2</sup>Additional Chief Secretary/ Principal Secretary/ Secretary (Forests and Environment Department), Chairman; Principal Chief Conservator of Forest (Wild Life); Vice Chairman and Chief Executive Officer (Gujarat Maritime Board); Member Secretary (Gujarat Pollution Control Board); Industries Commissioner; Chief Executive Officer (Gujarat Disaster Management Authority); Chief Town Planner Gujarat State; Member Secretary (Gujarat Ecology Commission); Commissioner of Fisheries; four expert members; a member from NGO and Director (Environment) (Source: MoEF&CC order dated 09 September 2019).

<sup>3</sup>Ahmedabad, Amreli, Anand, Bharuch, Bhavnagar, Devbhumi Dwarka, Gir Somnath, Jamnagar, Junagadh, Kachchh, Morbi, Navsari, Porbandar, Surat, Vadodara and Valsad.



could issue Notification for reconstitution before expiry of the existing term of the GCZMA.

As GCZMA was not reconstituted between 16 October 2015 to 17 March 2016 and 18 March 2019 to 08 September 2019, no project proposal could be recommended by GCZMA to SEIAA/ MoEF&CC for clearance during that period.

### 2.2.3 Functioning of GCZMA

The status of implementation of some of the important functions of the GCZMA as of March 2022 are as follows:

**Table 2.2: Some important functions of GCZMA and their status as of March 2022**

| Sl. No. | Functions assigned to GCZMA   | Implementation Status   |
|---------|---|---|
| 1       | To identify ecologically sensitive areas in the CRZ and formulate area-specific management plans for such identified areas.   | GCZMA is yet to formulate area-specific management plans.   |
| 2       | To identify coastal areas highly vulnerable to erosion or degradation and formulate area-specific management plans for such identified areas.   | GCZMA has not yet formulated area-specific management plans for such identified areas.                                  |
| 3       | To furnish a report on its activities at least once in six months to the National Coastal Zone Management Authority.  | Information related to the periodical reports was not available on record.  |
| 4       | To regularly review the functions of District Level Committees (DLCs).  | GCZMA has not reviewed the functioning of DLCs regularly.   |
| 5       | To Inquire into cases of alleged violations of the provisions of the EPA and/ or the rules made thereunder, and if found necessary in a specific case, issue directions under Section 5, file a complaint under Section 19 and take action under Section 10 of the EPA. | In many cases (as discussed in Chapter 3 of this Report), GCZMA failed to take effective actions against the violators. |

*Source: Information provided by GCZMA*

### 2.2.4 Staffing pattern in the GCZMA

MoEF&CC Notification (October 2012 and March 2016) for reconstitution of GCZMA stipulates that the State Government shall ensure that sufficient resources, manpower and funds are made available to GCZMA.

It was observed that GCZMA functions from the office of Environment Secretariat in F&ED, Gandhinagar as it does not have a separate Secretariat. There was no dedicated staff for GCZMA and only one official from the Environment Secretariat was given additional responsibility for work related to GCZMA. This affected the time taken in issuing recommendations for CRZ clearances as discussed in *paragraph 2.2.5*.

**Recommendation 1: The State Government may provide dedicated manpower to GCZMA for the effective management of the coastal environment.**

### 2.2.5 Delay in issuing recommendations for CRZ clearances for the projects

Clause 4.2(ii) of the CRZ Notification of 2011 states that the concerned CZMA shall examine the documents in accordance with the approved CZMP and

compliance with CRZ Notification and make recommendations within 60 days from the date of receipt of a complete application.

Audit test checked 18 projects, which were recommended by GCZMA to SEIAA/ MoEF&CC for CRZ/ composite clearances during the period 2015-20. Delays were observed on the part of GCZMA in scrutinising/ processing the project files, and by project proponents in submitting replies to queries and further documents to GCZMA as shown in **Table 2.3** below:

**Table 2.3: Time taken by GCZMA and project proponents between application and recommendation**

| Sl. No. | Particulars | Time taken from date of receipt of application to date of recommendation | Time attributable to |                | Delay attributable to GCZMA in excess of 60 days (Number of days) |
|---------|-------------|--|----------------------|----------------|---|
|         |             |  | Project Proponents   | GCZMA          |   |
| A       | B           | C  | D                    | E = (C-D)      | F = (E-60 days)   |
| 1       | 03 Projects | 40 to 55 days  | 0 days               | 40 to 55 days  | No delay  |
| 2       | 15 Projects | 98 to 1200 days  | 24 to 664 days       | 74 to 536 days | 14 to 476 days  |

*Source: Information compiled from concerned project files*

Thus, 15 out of 18 projects were recommended belatedly where the delay was attributable to GCZMA. Of the time taken by GCZMA as mentioned in table above, 26 to 260 days were consumed in processing the files and forwarding the recommendations to MoEF&CC/ SEIAA.

The GCZMA stated (August 2022) that delay was due to continuation of practice of submitting the project proposals to the State Government for its approval as per the provisions of the erstwhile CRZ Notification 1991. The Government further confirmed that as per the CRZ Notification, 2011 approval of the State Government was not required.

Thus, the redundant practice of obtaining State Government approval on recommendations for CRZ clearance contributed to the delay in processing of applications. Further, the State Government/ GCZMA did not offer any remarks on the other reasons for delay i.e., delay in vetting of the project proposal, etc.

### **2.2.6 Displaying or updating the information on the GCZMA Website**

Clause 4.2(vi) of CRZ Notification 2011 lays down that it shall be the responsibility of the CZMA to create a dedicated website and post on it the agenda, minutes, decisions taken, clearance letters, violations, action taken on the violations and court matters including the orders of the Court and the approved CZMPs of the respective State Government or Union territory.

The GCZMA hosts a website i.e., [www.gczma.org](http://www.gczma.org) which is designed and developed by Gujarat Info Petro Limited. GCZMA had conducted 59 meetings (till February 2022). Audit noticed that as of 28 February 2022, agenda of 22<sup>nd</sup> to 39<sup>th</sup> meetings of GCZMA and Minutes of 22<sup>nd</sup> to 59<sup>th</sup> meetings of GCZMA held between 30 May 2014 and 17 February 2022 were displayed on the website. Further, decisions taken by GCZMA, clearance letters, cases of CRZ

violations, action taken on the violations and Court matters were not displayed on the website of GCZMA.

Thus, the information displayed on GCZMA's website was not according to the requirements mentioned in the CRZ Notification.

The State Government/ GCZMA stated (August 2022) that website of GCZMA had been revamped for uploading the required information.

Audit verified (September 2022) that the required details have still not been uploaded on the website of GCZMA.

### 2.2.7 Functioning of the District Level Committees (DLCs)

As per Clause 6(C) of CRZ Notification 2011, the DLCs were required to be established to assist GCZMA. F&ED, GoG issued (14 October 2013) a Government Resolution (GR) for the constitution of DLCs in the coastal districts of Gujarat after the lapse of more than 33 months from the issuance of CRZ Notification 2011 (06 January 2011).

a) As per the GR issued by GoG, DLCs should meet regularly to review the compliance of the CRZ Notification. Audit reviewed the formation and functioning of DLCs in 16 coastal districts of Gujarat State with reference to the meetings held up to March 2021. The details are tabulated as under:

**Table 2.4: Details of DLCs for 16 Coastal Districts**

| Sl. No. | Name of Coastal District | Year of formation of DLC | Year of First Meeting | Total meetings held till March 2021 | Audit observation   |
|---------|--------------------------|--------------------------|-----------------------|-------------------------------------|---|
| 1       | Vadodara                 | 2021                     | 2021                  | 00                                  | DLC was formed in November 2021 i.e., after seven years of issuance of the GR.  |
| 2       | Ahmedabad                | 2014                     | 2014                  | 01                                  | Only one meeting of DLC (up to March 2021) was held in these four Districts.  |
| 3       | Anand                    | 2015                     | 2018                  | 01                                  |   |
| 4       | Devbhumi Dwarka          | 2014                     | 2019                  | 01                                  |   |
| 5       | Junagadh                 | 2015                     | 2015                  | 01                                  |   |
| 6       | Amreli                   | 2012                     | 2013                  | 05                                  | From the date of GR to March 2021, on an average not even one meeting of DLC was held per year in these five districts. |
| 7       | Bhavnagar                | 2012                     | 2013                  | 04                                  |   |
| 8       | Gir Somnath              | 2014                     | 2015                  | 04                                  |   |
| 9       | Valsad                   | 2014                     | 2014                  | 06                                  |   |
| 10      | Surat                    | 2015                     | 2015                  | 03                                  |   |
| 11      | Jamnagar                 | 2018                     | Nil                   | Nil                                 | DLC was formed after lapse of five years from the date of issue of GR and no meeting was held till 31 March 2021.       |
| 12      | Kachchh                  | 2015                     | 2017                  | 16                                  | At least one meeting per year was held in these five districts.   |
| 13      | Bharuch                  | 2014                     | 2014                  | 07                                  |   |
| 14      | Morbi                    | Not furnished            | 2015                  | 08                                  |   |
| 15      | Navsari                  | Not furnished            | 2013                  | 10                                  |   |
| 16      | Porbandar                | 2014                     | 2014                  | 10                                  |   |

Source: Information furnished by GCZMA

In addition to the above, Audit also noticed that three representatives of local traditional coastal communities and fisher folk were not included in DLCs of Surat and Jamnagar districts.

**b)** The GR dated 14 October 2013 stipulates powers and functions of DLCs whereby GCZMA is required to provide guidance/ direction to DLCs, collect information from DLCs and monitor them. However, no records relating to issuance of directions/ instructions by GCZMA to DLCs for effective implementation and monitoring of CRZ Notification were produced to audit. Further, the monthly reports and other reports prescribed in the GR *viz.* identification of violation in CRZ areas, areas identified by DLCs which need special conservation and protection measures, ecologically sensitive areas identified in CRZ by DLCs, reports of encroachments/ unauthorised structures in CRZ areas and action taken thereon etc., were also not available on record.

The State Government/ GCZMA accepted the audit observation and stated (August 2022) that one of the reasons for under performance of DLCs was limited awareness among the DLC members about provisions of CRZ Notification. It was further stated that the action plan was being framed to build capacity of DLCs for better implementation of CRZ Notification. However, GCZMA/ State Government did not provide any reasons for lack of monitoring of DLCs by GCZMA and non-submission of various reports by the DLCs to GCZMA.

***Recommendation 2: The State Government may consider framing effective monitoring and reporting mechanism for GCZMA and DLCs.***

### ***2.2.8 Delay in finalization of and deficiencies in Coastal Zone Management Plan***

CRZ area is delineated by the Coastal Zone Management Plan (CZMP) duly marked with High Tide Line (HTL), Low Tide Line (LTL), buffer zone, hazard line, zonation etc. of the coastal areas. CRZ Notification 2011 (January 2011) stipulates a detailed procedure for preparation of CZMP and the pre-requisites of CZMP. MoEF&CC authorised (December 1999) seven<sup>4</sup> agencies for the preparation of CZMP. The aforesaid 2011 Notification requires the coastal States and Union Territories to prepare CZMP by identifying and classifying the CRZ areas within the respective territories within 24 months from the issue of the Notification.

**a)** Forests & Environment Department (F&ED), Government of Gujarat (GoG) approached (between February 2012 and January 2014) these seven agencies to submit their proposals for preparation of CZMP but due to lack of response from six agencies and quoting of higher fees by the remaining one<sup>5</sup>, the F&ED could not carry out the demarcation of HTL and preparation of CZMP for Gujarat. Further, GoG requested MoEF&CC several times between

<sup>4</sup>1. Space Application Centre, Ahmedabad; 2. Centre for Earth Science Studies, Thiruvananthapuram; 3. Institute for Remote Sensing, Anna University, Chennai; 4. Institute for Wetland Management and Ecological Designs, Kolkata; 5. Naval Hydrographer's office, Dehradun; 6. National Institute of Oceanography, Goa and 7. National Institute of Ocean Technology, Chennai.

<sup>5</sup>Institute for Remote Sensing, Anna University, Chennai.

December 2013 and September 2015 to authorise Bhaskaracharya Institute of Space Application and Geo-Informatics (BISAG), Gandhinagar for the preparation of CZMP, which was not responded by MoEF&CC. In the meantime, in March 2014, MoEF&CC authorised National Centre for Sustainable Coastal Management (NCSCM) as an agency for the preparation of CZMP.

GoG awarded (August 2017) the work of preparing the CZMP for the State to NCSCM for ₹ six crore. The National Green Tribunal (NGT) directed (November 2017) all the States to submit draft CZMP to MoEF&CC by April 2018 and not to issue CRZ/ Environment Clearances till that time. Subsequently, draft CZMPs were submitted between November 2018 and July 2019 to MoEF&CC for approval. CZMPs of 14 districts were approved by MoEF&CC in January/ February 2019 and accepted by State Government in the same month. CZMPs for two districts namely Kachchh and Morbi were approved by MoEF&CC in February 2020, and accepted by the GoG in July 2022.

Thus, instead of assigning work to one of the authorised agencies, GoG insisted on authorisation of a new agency by the MoEF&CC. Though GoG was aware that NCSCM was declared as authorised agency in the year 2014, NCSCM was approached in 2016 and appointed only in 2017. Delay in submission of CZMP resulted in EC/ CRZ proposals for projects not getting approved between December 2017 and January 2019.

**b)** In addition to the above, Audit also noticed certain deficiencies in the CZMP as given below:

**1.** CRZ Notification 2011 requires marking of infrastructure facilities of local communities such as dispensaries, roads, and schools in CZMP on a scale of 1:25000. It also stipulates marking of fishing zones in the water bodies and the fish breeding areas in the CZMPs. However, as GoG did not provide raw data to NCSCM, the same were not marked.

**2.** CRZ Notification 2011, also stipulates preparation of local level CZMP on a scale of 1:3960 for the use of local bodies and other agencies to facilitate implementation of CZMPs. However, CZMPs prepared by the GoG on a scale of 1:25000 had not been converted (August 2022) to the scale of 1:3960 for use by local bodies and other agencies. During the public hearing of CZMPs, some stakeholders submitted that they could not understand the CZMP due to non-preparation of local level CZMP by the GoG. As such, these stakeholders could not raise objections/ give suggestions on the CZMP.

**3.** The 2011 Notification declared the Gulf of Kachchh and Gulf of Khambhat as Critically Vulnerable Coastal Areas (CVCA). CVCA is identified as an ecologically sensitive area that shall be managed through a process of consultation with local inhabitants who depend on its resources for their livelihood. As per the Notification, Integrated Management Plans (IMPs) are to be prepared for such CVCA's keeping in view the conservation and management of mangroves and the needs of local communities. The IMPs are

to be prepared in line with CZMP. Audit observed that no such IMPs were available for the Gulf of Kachchh and Gulf of Khambhat as of August 2022.

The State Government/ GCZMA stated (August 2022) that Gujarat has longest coastline among all other coastal States and has two gulf systems and number of creeks. In the absence of an authorised agency within the State, the State was dependent on NCSCM for preparation of CZMP.

The reply is not acceptable as CRZ Notification 2011, envisaged preparation and submission of CZMP to the MoEF&CC within 30 months of date of Notification (06 January 2011). The CZMPs of the State were approved by the MoEF&CC within 17 to 30 months from the date of assigning (August 2017) the task to NCSCM. Thus, delay was not on the part of NCSCM to prepare the CZMPs but was due to belated assignment of the task to NCSCM.

***Recommendation 3: The State Government may consider preparing Integrated Management Plan for the identified Critically Vulnerable Coastal Areas in the State.***

### 2.3 Sustainable Development Goal- 14 (Life Below Water)

SDG 14- 'Life below water' aims to conserve and sustainably use the oceans, seas and marine resources for sustainable development. This goal has been divided into 10 targets, out of which seven are 'outcome' (circumstances to be attained) targets and three are 'means of implementation' targets.



The Ministry of Statistics and Programme Implementation (MoSPI) developed the National Indicator Framework (NIF) for measuring the progress of SDGs and associated targets. On the lines of NIF, stakeholder coastal States were required to develop their own State Indicator Framework (SIF) for SDG -14.

#### 2.3.1 Status of implementation of SDG-14 in the State

GoG constituted seven Thematic Working Groups (TWG) in October 2016 and various committees and cells at State and district level in May 2019 to carry out the functions relating to SDGs. The District Level SDG Cells are headed by District Planning Officers for implementing all works related to SDGs and providing data to the district and State authorities.

(i) Out of the seven outcome targets, MoSPI developed 10 national indicators for five targets<sup>6</sup> while for the remaining two targets<sup>7</sup> the indicators were yet to be developed (November 2021). As the States were required to develop their own State Indicator Framework (SIF), GoG finalised and published (July 2018) "Gujarat: Sustainable Vision 2030" for implementation of SDGs in the State. The vision document customized State-specific 328 indicators which were aligned with respective SDGs. Gujarat had developed

<sup>6</sup> 14.1, 14.2, 14.3, 14.4 and 14.5.

<sup>7</sup> 14.6 and 14.7.



eight State specific indicators for the same five targets of SDG 14 while for the remaining two targets<sup>8</sup>, State specific indicators were yet to be developed (November 2021). Thus, Gujarat had already fixed targets to be achieved by 2022 and 2030, however, data against these State specific indicators were not yet compiled by the State Government (December 2021) except the data regarding increase in mangroves plantation.

(ii) The State has developed (February 2020) a web portal (gswift.gujarat.gov.in) consisting of a dynamic and interactive dashboard called G-SWIFT which covers all 26 Departments and 33 districts of the State. However, an outcome-based budget aligned to SDGs had not yet been prepared by the State Government (March 2022).

(iii) As per NITI Aayog report 'India Voluntary National Review 2020', District Indicator Framework (DIF) would enable addressing local aspirations and capturing details of ground-level performance, with focused monitoring of indicators and goals at the grassroots. Gujarat had not yet developed DIFs for SDGs. However, there is only one indicator<sup>9</sup> for SDG 14 for which data is available at the district level in the State.

(iv) **Performance of Gujarat on indicators of SDG 14** - SDG 14 is related to marine ecosystems and therefore, it applies to nine coastal States only. The SDG India Index 2.0 (2019-20), published by NITI Aayog was the first report wherein the status of SDG 14 was reported. Gujarat, with a score of 23 out of 100, ranked last among nine coastal States implementing the SDG 14 and thus, stood at the bottom position in the aspirant category<sup>10</sup>. As per SDG India Index 3.0 (2020-21), Gujarat improved its performance from rank ninth to fourth with a score of 57 and was elevated to the Performer Category. Gujarat improved its performance against three targets<sup>11</sup>, against one target (14.1) the State was assessed for the first time during 2020-21, while there are no identified indicators in the NIF for the remaining three targets<sup>12</sup> against which the performance of the State could be assessed.

Thus, there was an improvement in 2020-21 as compared to 2019-20, in the performance of Gujarat in achieving the targets under SDG 14.

***Recommendation 4: The State Government may prioritise formulation of District Indicator Framework and start preparing outcome-based budget for effective monitoring of the National and State indicators of SDGs.***

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<sup>8</sup> 14.6 and 14.7.

<sup>9</sup> Percentage change in area under Mangroves (Target-14.2).

<sup>10</sup> Achiever (score: 100), Front Runner (score: 65-99), Performer (Score: 50-64), Aspirant (Score: 0-49).

<sup>11</sup> Target 14.2, 14.3, and 14.7.

<sup>12</sup> Target 14.4, 14.5, and 14.6.

## Chapter-3 Violations in the CRZ area

### *A Snapshot*

*Effective management of the coastline is crucial for the protection of the coastal environment. Audit came across situations where, the authorities solely relied on reported violations, wherein a complaint was received, and subsequent action envisioned. Even for these reported violations, there was no effective follow-up and review by the concerned authorities with a large number of violation cases still awaiting disposal.*

*There were many instances, where unauthorized developments had taken place in restricted CRZ areas (CRZ I and No Development Zone). However, no control mechanism was evolved by GCZMA to identify and prohibit such irregular developments. Further, there was a need to augment sewage treatment facilities in the coastal Urban Local Bodies (ULBs).*

### **Introduction**

GCZMA has the power to review cases of violation under the relevant Sections of the Environment (Protection) Act, 1986 (EPA) and issue directions as well as take action to regulate developmental activities in the CRZ area and enforce provisions of CRZ Notification. Such review of cases of violation can be taken up by the GCZMA *suo-moto* or based on a complaint made by any individual, representative body, or organisation. Audit sought the data from GCZMA on the number of violations reported during the audit period and action taken thereof and selected a sample to examine in detail. Audit also used GIS techniques to evaluate the extent and ground status of such violations. For select cases, physical verification was conducted in the presence of relevant officials from GCZMA/ GPCB to ascertain the status. In addition to the reported violations, Audit also identified cases that violate the provisions of CRZ Notification. For this purpose, Audit extracted approved CZMPs for the area and after geo-referencing the relevant frame from CZMP, the same had been overlaid on the last available ground scene. Detailed observations on these violations are given below:

### **3.1 Violations of the provisions of EPA and CRZ Notification**

GCZMA is empowered to inquire into cases of alleged violations of the provisions of the EPA and Rules made thereunder, or any other law related to objects of the said Act. It is also empowered to (a) direct all concerned planning authorities, field agencies and District Collectors to ensure compliance to the provisions of the CRZ Notification 2011 and (b) take suitable action in case of violation or non-compliance. It can also levy scrutiny fees, as per the “polluter pays” principle in consultation with F&ED.

Complaints of violations, received during 2015-20, by GCZMA or concerned DLCs and their status as of 30 September 2021 are shown in **Table 3.1** below:



**Table 3.1: Details of complaints received during 2015-20**

| Sl. No. | Complaints received at | Complaints received | Complaints resolved | Matter sub-judice | Matter unresolved | Audit observation at Paragraph |
|---------|------------------------|---------------------|---------------------|-------------------|-------------------|--------------------------------|
| 1       | GCZMA                  | 12                  | 06                  | 03                | 03                | Paragraphs 3.3 and 3.10        |
| 2       | DLC, Kachchh           | 10                  | 03                  | 00                | 07                | Paragraphs 3.4, 3.6 and 3.11   |
| 3       | DLC, Surat             | 03                  | 02                  | 01                | 00                | Nil                            |
| 4       | DLC, Bharuch           | 05                  | 03                  | 00                | 02                | Paragraphs 3.5 and 3.9         |
| 5       | DLC, Devbhumi Dwarka   | 02                  | 00                  | 00                | 02                | Paragraphs 3.7 and 3.8         |
|         | <b>Total</b>           | <b>32</b>           | <b>14</b>           | <b>04</b>         | <b>14</b>         |                                |

*Source: Information provided by GCZMA and DLCs*

Audit observations in respect of complaint redressal mechanism, unresolved complaints (except matters which are sub-judice) and role of GCZMA/ DLCs are discussed in the succeeding paragraphs:

### **3.2 Complaint redressal mechanism at GCZMA**

The cases of violations of the CRZ Notification 2011/ EPA are reported by the complainants directly to GCZMA or the concerned DLCs. Complaints regarding violations received by GPCB, State/ Central Government entities are also forwarded to GCZMA. In the applications filed with the National Green Tribunal (NGT), usually, complainants make GCZMA a respondent and/ or NGT orders GCZMA to take action/ submit a report in the matter. On receipt of complaints, GCZMA directs concerned DLC to take necessary action and furnish action taken report. The following general issues were noticed concerning the complaint redressal system in GCZMA.

- No complaint register was maintained with GCZMA to record the details of the complaints received, forwarded to DLCs, replies received from DLCs, replies provided to complainants and status of complaints.
- No Standard Operating Procedure (SOP) was devised by GCZMA prescribing timelines for initiating action, issuance of direction to DLCs, obtaining timely compliance reports from DLCs, conveying the redressal to complainants, and concerned authorities.
- No system of periodic review of complaints (quarterly/ six monthly/ annually) was found at GCZMA.
- GCZMA website did not have the feature to register and track down the complaint. Though a tab dedicated to “complaints” was available on its website, no information was available under it.
- No follow-up was done by GCZMA after notice was served to the violator by DLCs/ GPCB/ F&ED under EPA.

- No centralised database was maintained at GCZMA regarding complaints received by DLCs, action taken by them, and complaints forwarded to GCZMA for guidance, etc.

### 3.3 CRZ violation by Government Departments/ Autonomous bodies/ PSUs

Audit noticed that after the promulgation of CRZ Notification 2011, orientation programmes were organised by GCZMA/ Gujarat Ecology Commission (GEC) at the district level regarding the Notification. Further, officials of important user departments/ entities such as Industries and Mines Department, Gujarat Maritime Board, Town Planning and Valuation Department etc., are also *ex-officio* members of GCZMA. However, during 2015-20, the following cases of violations of CRZ Notification of 2011 by Government departments/ municipal corporations/ autonomous bodies/ Public sector undertakings were noticed during audit:

**Table 3.2: Details of CRZ violations by Government entities during 2015-20**

| Sl. No. | Subject  | Type of violation  | Violator  | Status as of August 2022   |
|---------|--|--|---|--|
| 1       | Construction of bridge on Narmada River at Bharuch City  | Not obtaining CRZ clearance  | Roads and Buildings Department (R&B Department)                   | Application for <i>post facto</i> clearance was pending with SEIAA.  |
| 2       | Construction of bridge on Tena River at Tena Village, district - Surat   | Not obtaining CRZ clearance and mangroves destruction                              |   | Carried out compensatory afforestation in 2018-19 based on recommendations of Committee formed after NGT order. Application for <i>post facto</i> clearance is pending with SEIAA.   |
| 3       | Construction of four bridges (Chandrasekhar Azad Bridge, Sardar Bridge, Cable-Stayed Bridge and Pal-Umra Bridge) in Surat city | Not obtaining CRZ clearance  | Surat Municipal Corporation (SMC)                                 | <i>Post facto</i> CRZ clearance was granted for cable-stayed bridge by MoEF&CC. <i>Post facto</i> CRZ clearance for the other three bridges were rejected (January 2020) by MoEF&CC. |
| 4       | Construction of solid waste transfer station, Village Kadifaliya, district-Surat   | Not obtaining CRZ clearance/ carrying out non-permissible activity in the CRZ area |   | SMC stopped the remaining construction activity.   |
| 5       | Construction of salt pan/ destruction of mangroves at Nani-Chirai-Moti Chirai and Jangi, Bhachau Taluka, district - Kachchh    | Not obtaining CRZ clearance  | Deendayal Port Trust (DPT)/ Revenue Department, GoG/lease holders | Matter unresolved. Discussed in Paragraph 3.4  |

| Sl. No. | Subject  | Type of violation   | Violator  | Status as of August 2022                      |
|---------|--|---|---|---|
| 6       | Substitution of a pipeline of CETP, Dahej-Vilayat Industrial Area, Bharuch | Not obtaining CRZ clearance for laying of pipeline in CRZ area. | Gujarat Industrial Development Corporation (GIDC) | Matter unresolved. Discussed in Paragraph 3.5 |
| 7       | Construction of Tourist Resort, Mandvi Taluka, district- Kachchh           | Carrying out non-permissible activity in the CRZ area           | Tourism Corporation of Gujarat Limited (TCGL)     | Matter unresolved. Discussed in Paragraph 4.9 |

Source: Information provided by GCZMA and DLCs

It can be observed from the above table that there were six bridges (Sl. No.1 to 3) out of which two were constructed by the R&B Department and four bridges were constructed by SMC without obtaining CRZ clearances. MoEF&CC made (06 March 2018) amendment in CRZ Notification 2011, wherein *post facto* CRZ clearance for permissible existing construction was allowed subject to receipt of such application on or before 30 June 2018. R&B Department applied (June 2018) for regularisation of two bridges (Sl. No.1 and 2), which was pending with SEIAA (July 2022). SMC applied (August 2017) for *post facto* CRZ clearance for cable stayed bridge which was granted by MoEF&CC in March 2019. In respect of the other three bridges, MoEF&CC delisted the applications of SMC, as they were not received before June 2018 with GCZMA recommendations. Subsequently, MoEF&CC issued (February 2021) Office Memorandum for *post facto* CRZ clearance by undertaking compensatory activities suggested by the concerned authorities. SMC, however, did not apply for regularisation as per the above OM of February 2021 as of August 2022.

Audit visited (25 August 2021) the site of violation of Sl. No. 4 and found abandoned/ unfinished structure constructed in the CRZ area. The SMC neither removed the structure nor applied for *post facto* CRZ clearance for carrying out permissible activity at that site. Violations mentioned at Sl. No.5 to 7 remained unresolved and are discussed in subsequent paragraphs.

Cases of non-compliance (Sl. No.1 to 6) were brought to the notice of GCZMA by the vigilant citizens. The possibility of more cases of violations in the CRZ area by Government/ Private Entities in the remaining districts cannot be ruled out. The above also indicates the failure of GCZMA/ GoG to create awareness among various user departments regarding provisions of CRZ Notification, 2011. Audit further observed that GCZMA did not have an expert cell with personnel well versed in Geographical Information System (GIS) tools to regularly track the changing landscape on the coastline and irregular developments.

### 3.4 Large scale mangroves destruction



“Kharai” breed of camels popularly known as “swimming camels” are a unique species found only in the State of Gujarat that live in a dual ecosystem of land and coast. Mangroves are a lifeline for this distinct breed and destruction of mangroves can threaten its existence.

Figure 3.1: “Kharai” breed camels

In February 2018, GCZMA received a complaint from Kachchh Camel Breeders Association (KCBA), Bhuj regarding large-scale destruction of mangroves at Nani-Chirai and Moti-Chirai areas of Bhachau Taluka, Kachchh by Salt Pan lessees. Besides making a complaint to DLC, KCBA filed (March 2018) an appeal before National Green Tribunal (NGT) regarding mangroves destruction. NGT passed an order directing (11 September 2019) F&ED to restore the mangroves within six months. It also directed F&ED, GCZMA and Revenue Department to inspect the site, remove obstruction, take action against the culprits by recovering cost of environmental damage and cost of restoration within one month from the order. GCZMA constituted a committee which carried out (July 2020) the analysis of the sites. The report of the committee revealed that 9,511 meters of bunds had been constructed and nearly 117 hectares of mangroves had been destroyed.

Audit analysis revealed that F&ED/ GCZMA did not take any action on the orders of NGT including restoration of the mangroves. The committee assessed the damage and recommended (July 2020) that GCZMA may issue directions to Deendayal Port Trust (DPT) and Revenue Department for removal of bunds. As such, no action for restoration of mangroves was taken even after nine months of NGT’s order. An Execution Application<sup>1</sup> was filed (May 2020) before the NGT by KCBA on which NGT further ordered (September 2020) that restoration work be executed expeditiously which may be overseen by a Joint Committee comprising F&ED and GCZMA. Further, the Committee was also asked to file a compliance report with the Chief Secretary, Gujarat within three months, which was not filed till September 2021.

Audit noticed that even against the new deadline of three months ending on 15 December 2020, no concrete action had been taken by GCZMA and F&ED even after one year (September 2021) from the date of NGT’s order. Further, although GCZMA directed DPT to carry out compensatory afforestation at the rate of three times of total mangroves destruction, nothing was found on record to indicate any action initiated for restoration of mangroves by F&ED/

<sup>1</sup>An application to the Court made in a pending execution petition, and includes an application of transfer of a decree.

GCZMA/ DPT (March 2022). This is indicative of lackadaisical efforts in ensuring compliance with NGT orders.

The destruction of these mangroves in CRZ I areas not only proves costly to ecosystems but also poses a threat of extinction to unique breed of “Kharai” camels which are dependent on the mangroves for their food.

***Recommendation 5: The State Government may take appropriate action to preserve Mangroves to save the ‘Kharai’ breed of camels from extinction.***

### **3.5 Disposal of treated effluent in CRZ IB area**

Gujarat Industrial Development Corporation (GIDC) obtained (April 2005) environmental and CRZ Clearance from MoEF&CC for laying of pipeline for disposal of treated effluent of Dahej-Vilayat Industrial area in the deep sea at a disposal location suggested by National Institute of Oceanography (NIO). Disposal was to be through 9 kilometres onshore pipeline network and 4.5 kilometres offshore sub-sea pipeline.

A complaint was received (11 March 2020) by DLC, Bharuch where in it was mentioned that the 4.5 kilometres offshore disposal pipeline was choked and a 600 metre pipeline from sea-coast was laid by GIDC without obtaining EC and CRZ clearance. DLC, Bharuch conducted (27 May 2020) site inspection and found that 600 meter pipeline from sea coast was discharging the treated waste water in the CRZ IB area which was near to breeding ground of fish like Hilsa, *M. Rosenbergi* and *Jinga* species found in the Narmada estuary. It was mentioned in the site inspection report that the disposal of effluents affects the breeding ground and as per Rule 6(8)(f) of the Gujarat Fisheries Rules, 2003, such fish species should be protected for their unique biological characteristics.

F&ED issued (July 2020) directions to GIDC to immediately stop effluent discharge through 600 meter offshore pipeline in CRZ IB area, and to start operation of 4.5 kilometres pipeline. It also directed GIDC to submit a detailed time-bound action plan for corrective action within 15 days.

Audit observed that GIDC submitted its action plan to F&ED on 16 September 2021 i.e., after more than one year from the date of the direction of F&ED. It was observed from the action plan that, GIDC was still discharging effluents at the same location in the CRZ IB area through 600 meter pipeline. GIDC also stated that it had issued tender for awarding contract for laying 1,200 metres onshore and 800 meter offshore pipeline with scheduled date of completion in May 2023. Audit further observed that GIDC had not applied for EC and CRZ clearance (August 2022) for laying of the above new pipelines. Further, no mention was found in the compliance report that the new location was selected based on a detailed study by NIO or any other competent expert agency.

Thus, it was apparent that DLC and GCZMA did not take any corrective action even after directions from the F&ED. Further, no assessment of damage in the marine ecosystems surrounding the present disposal point was conducted by DLC/ GCZMA. Consequently, no action to mitigate/ compensate the damage was taken by DLC/ GCZMA.



### 3.6 Illegal construction of Bunds and Saltpans in Biologically active coastal areas

Salt harvesting by solar evaporation of Sea Water is a permissible activity within the CRZ area including inter-tidal area (CRZ IB) and No Development Zone (NDZ) as per CRZ Notification, 2011. However, it is not a permissible activity in CRZ IA area (containing mangroves, corals, dunes, biologically active mudflats etc.).

In connection with an application for CRZ clearance for proposed salt production, the technical team of GCZMA visited (February 2015) Kukadsar Village of Kachchh district and noticed the existence of biologically active mudflats and sparse mangroves plantation on the proposed site. Though the proposed site was a potential area for mangroves, some of the land had already been converted into salt pans by the Project Proponent (PP) by creation of bund which blocked creeks and tidal water flow.

GCZMA directed (March 2015) DLC to investigate the construction of bunds for salt pans without permission, identify the violators and take necessary action. Regional Officer, GPCB, Kachchh (*ex-officio* Member Secretary, DLC, Kachchh) visited (April 2015) the area and reported to GCZMA creation of various salt pans by different parties through bunds which had resulted in depletion of the water in the area and damage to the mangroves. In view of the large-scale violation of CRZ Notification, GPCB issued (April 2015) notice to the project proponent to carry out activities only after obtaining CRZ clearance and in the meanwhile to remove bunds and ensure free flow of water in the creek for the conservation of mangroves. However, no action was taken by the GCZMA/ GPCB/ F&ED/ DLC against the other salt pan units in the area (September 2021).

Audit took satellite images with time series from Google earth pro software, of the violation area near Kukadsar - Bhadresar village during the month of May 2015 and September 2022, which are shown below:

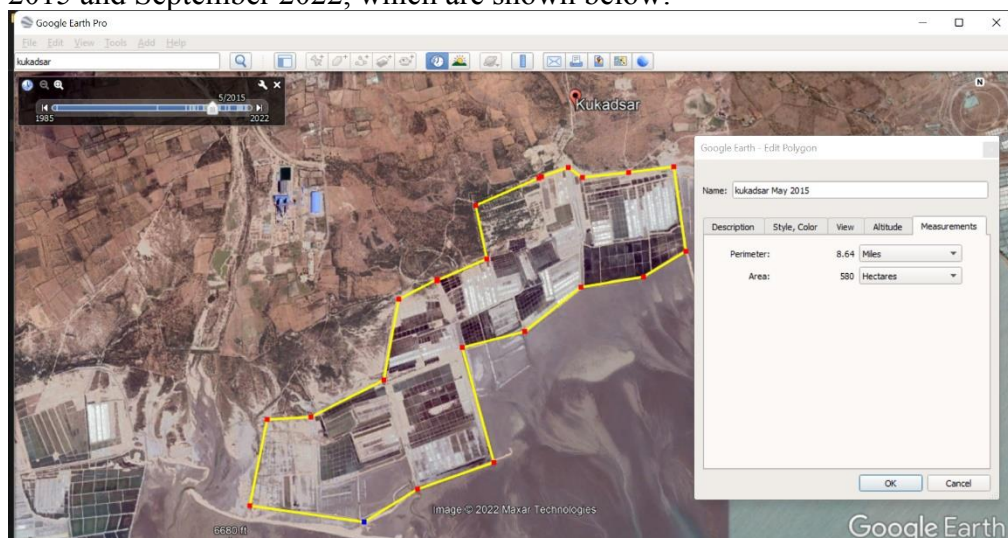
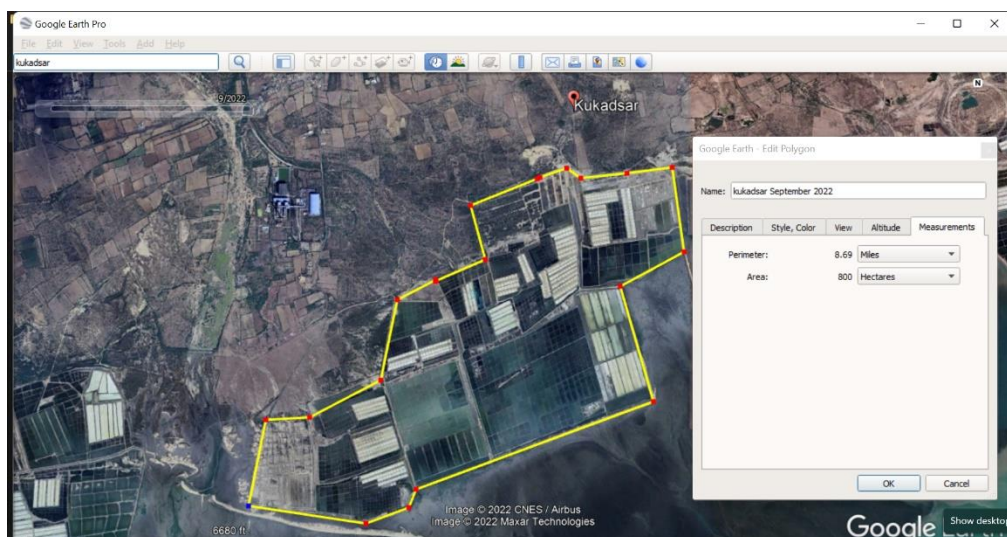


Figure 3.2: Satellite image of the site as on May 2015



**Figure 3.3: Satellite image of the site as on September 2022**

Comparing both the satellite images it can be seen that salt pan area at the site increased from 580 ha in May 2015 to 800 ha in September 2022 (latest image available on Google earth pro). Thus, additional salt pans were created in approximately 220 ha area at the site after May 2015.

Audit did not find any application for CRZ clearance for salt pan during 2011-2021 at GCZMA i.e. after issuance of the CRZ Notification of 2011. Thus, existing salt pan units of 580 ha and new salt pan units of approximately 220 hectare violated CRZ regulations and continued with the illegal activity.

Though the Technical Committee of GCZMA had opined in 2015 that the area is having biologically active mudflats and mangroves potential areas which may render the area classifiable under CRZ IA zone but no records were found with GCZMA/ DLC showing a detailed survey of the area for CRZ zonation or for declaring it a non-CRZ area. In the absence of detailed survey by GCZMA/ DLC, cropping up of salt pans in this area is a matter of concern. Thus, GCZMA/ DLC, Kachchh could not take appropriate action against the operation and proliferation of such salt pan units.

### **3.7 Illegal construction in CRZ area at Varvala village**

A complainant made four complaints between October 2018 and July 2019 regarding illegal construction within “No Development Zone” (NDZ) at old survey numbers 61, 68 and 76 of Varvala village, Okhamandal taluka, Devbhumi Dwarka district.

Site inspection by GPCB (July 2019) and committee formed by DLC (October 2019) confirmed construction of a hotel building, residential plot, sheds and water tanks within CRZ limits or NDZ. Audit observed that even after confirmation of illegal construction, DLC neither took any action under EPA nor did it submit its report to GCZMA. Analysis of the site through Google earth pro software revealed that the illegal construction still existed as of August 2022 which confirmed that no action to remove the illegal construction, noticed by the authorities in 2019, had been taken by the authorities as of August 2022.

### 3.8 Illegal construction in CRZ area at Okha

The District Magistrate and Collector (DM), Devbhumi Dwarka received (February 2017) a complaint regarding illegal construction in the CRZ area of Okhamandal taluka by one jetty owner. A team constituted (February 2017) by the DM visited (04 May 2017) the site and confirmed the presence of an illegally constructed wall of limestone and sand on both sides of a small island (*tekari*). The violator furnished (04 May 2017) an affidavit to the team stating that the illegal structure would be removed within 10 days, which was not done by him.

The Complainant made (June 2018) further complaint on the same issue to GCZMA which in turn directed the DLC to take necessary action after verification. GPCB officials visited (05 July 2018) the site and found the illegal construction of a 30 meter long jetty. GPCB officials instructed the violator to remove the structure and not to undertake such activity without prior approval. Regional Officer, GPCB submitted (20 July 2018) inspection report to the GCZMA and DM regarding the site visit. No further information regarding the case was available on the records of DLC or GCZMA. Images of the site captured from Google Earth pro software are as under:



Figure 3.4: Image is taken from Google earth pro (February 2016)



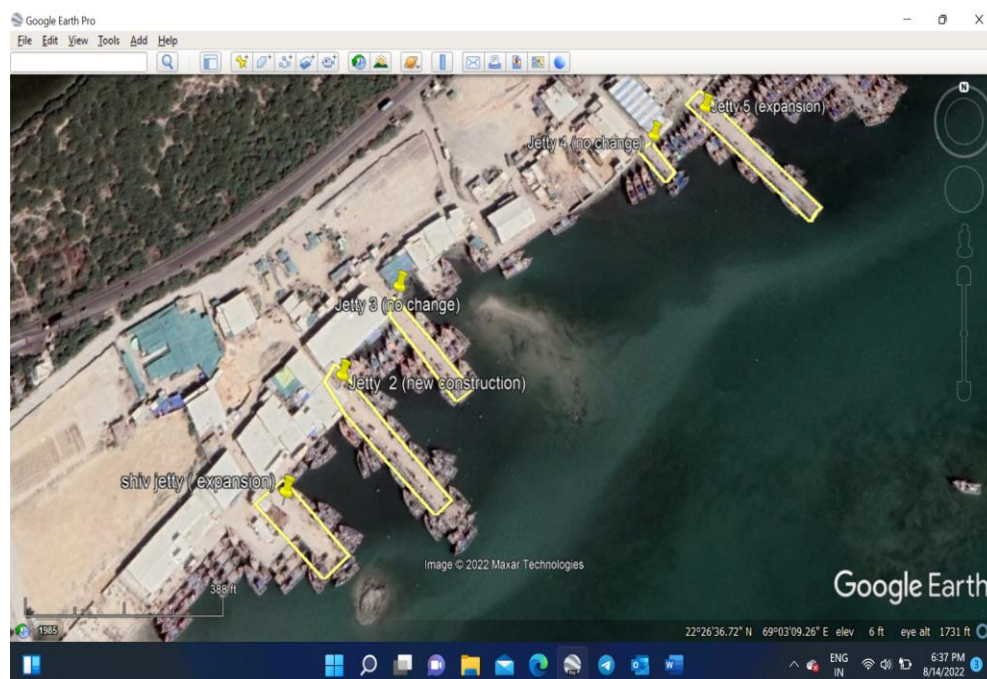


Figure 3.5: Image is taken from Google earth pro (August 2022)

Audit analysis of the images taken from Google Earth pro software revealed that one new jetty (Jetty 2) was constructed and two jetties (Shiv jetty and Jetty 5) were expanded subsequent to February 2016<sup>2</sup>, without any CRZ clearances and approval. Further, the structures were still present on the site as on August 2022.

The State Government/ GCZMA stated (August 2022) that clarification had been sought on the above issue from concerned DLC. Audit had pointed out the above violation in October 2021. However, GCZMA did not take any effective action (August 2022) except seeking clarification from the DLC.

### 3.9 CRZ violations by the salt manufacturer in Bharuch district

MoEF&CC's order dated 21 May 2002 and CRZ Notification 2011, permits salt works in CRZ IB zone, inter-tidal and No Development Zone. GCZMA also clarified (June 2015) that CRZ clearance is to be insisted only for the new salt works or expansion of salt works established after May 2002. CRZ Notification 2011 stipulates that groundwater shall not be tapped within 200 metre of the HTL. Within 200-500-metre zone groundwater can be tapped only with the concurrence of the Central or State Ground Water Board.

Office of the Collector, Bharuch allotted (August 2004) 1,098 acre land on lease to a unit for salt production at Khanpur village of Jambusar taluka. While disposing of a Special Civil Application to cancel the above lease agreement, High Court of Gujarat directed (February 2014) Collector, Bharuch to decide the case within four months. The site visit by a team of Revenue Department and DLC officials under the directions of the Collector, Bharuch revealed that the unit had closed storm water drainage of the nearby villages by constructing a bund and had started production of salt in the leased land without valid CRZ

<sup>2</sup>The nearest historical image of the site available (before February 2017) on Google Earth pro.

clearance. The unit was also extracting underground water through 17 bore wells for the production of salt which were situated between LTL and HTL and fell under the prohibited CRZ IB zone.

The Collector, Bharuch ordered (05 July 2014) the unit to remove bunds. However, the bunds were not removed by the unit even after three years of the order as observed by GPCB during its site visit in August 2017. Further, it was also noticed during the site visit of 2017 that another 2.5 kilometre long bund was constructed on the leased land while a drainage rivulet was constructed for the drainage of storm water. No further record was available with the DLC, Bharuch regarding any action taken in this case (September 2021).

Thus, despite violation of CRZ Notification by the unit; DLC, Bharuch did not take any action to prohibit the unauthorised activity.

### **3.10 Ship repairing activities carried out without obtaining CRZ clearance**

Based on the inspection report (05 April 2018) of DLC, Kachchh in respect of complaint received against five plot holders of Deendayal Port Trust (DPT) for carrying out activities without obtaining CRZ clearance, GCZMA directed (04 September 2018) DPT to take appropriate action in the matter and submit compliance report thereof.

DPT submitted (03 November 2018) that the matter is sub-judice with NGT and it had instructed the plot holders to stop activities at the site. Further, ACS, F&ED ordered (September 2018) for closure of these units and also directed electricity distribution company to disconnect power supply from these plots. Based on the action initiated in this case, NGT disposed of (December 2018) the matter.

The complainant again made (26 December 2018) a complaint to GPCB as well as GCZMA that despite NGT's order, barges were still beached towards seaside units and there were Diesel Generator sets and Welding Units installed at the plots. GPCB forwarded the same to GCZMA in March 2019. However, no record showing action taken by GCZMA based on this complaint was made available to audit. In May 2019, one more complaint was received regarding this. As per the Regional officer's inspection report (26 July 2019) of the site, barges were beached towards the seaside of units and welding sets were also observed. GPCB forwarded (03 September 2019) the inspection report to GCZMA for necessary action.

Audit noticed that even after the inspection report was submitted (September 2019) by GPCB to GCZMA, there was no record to suggest any action taken by GCZMA against such plot holders. During joint physical verification (April 2021) of the site by Audit with DLC officials, no ship repairing activity was noticed in Plot no. 1 and 2, however, such activity was observed in Plot no. 3 and 4 where Diesel Generator Sets were also being used. Audit also observed that in plot number 5, construction activity was going on.

Thus, despite NGT's order and multiple inspections, GCZMA/ DLC could not take appropriate action to prohibit the plot holders from undertaking activities before obtaining CRZ clearance.

The State Government/ GCZMA while accepting (August 2022) the audit observation stated that one case (plot no.1 and 2) had been recommended (June 2022) by GCZMA to the MoEF&CC under MoEF&CC regulation of February 2022 while other cases (plot 3 to 5) are under consideration with GCZMA. The fact remains that regularisation and clearance by MoEF&CC for Plot 1 and 2 and suitable action by GCZMA for plot 3 to 5 were pending (August 2022).

### 3.11 Impermissible activities in NDZ

Annexure III of the CRZ Notification, 2011 stipulates conditions for the development of beach resorts and/ or hotels in designated areas of CRZ II and CRZ III. Clause 1(a) of Annexure III stipulates that the project proponent shall not undertake any construction in NDZ i.e., within 200 metres in the landward side of the High Tide Line (HTL) and within the area between LTL and HTL in CRZ III.

Sub-committee of DLC, Kachchh conducted site investigation (December 2019) to verify complaints against three resorts constructed within the CRZ area in Mandvi and found that activities were going on without CRZ clearance as mentioned below:

**Table 3.3: Details of construction found during the site inspection on 20 December 2019 by DLC, Kachchh**

| Sl. No. | Name of Entity  | Activity | Construction observed   |
|---------|---|----------|---|
| 1       | Serena Beach Resort   | Resort   | 26 rooms, nine villas, one restaurant, one shop, two banquet halls, three offices, 15 staff rooms, one staff canteen and laundry room |
| 2       | TCGL (Project 2-discussed in detail under paragraph 4.9 of Chapter 4) | Resort   | Dining Hall, Kitchen, Office and 32 rooms   |
| 3       | HV Resorts  | Resort   | 11 rooms, four Bhunga rooms and one restaurant  |

*Source: Information taken from inspection report of DLC, Kachchh*

DLC issued (March 2020) notices to these entities under the EPA and instructed them to carry out activities only after obtaining CRZ clearance. However, no further records were found at DLC or GCZMA regarding any CRZ clearance application by these entities. Audit observed that all the activities mentioned in **Table 3.3** fall under NDZ and are not permissible as per the CRZ Notification, 2011. As such, instead of directing these entities to obtain CRZ clearance, DLC was required to assess the construction carried out in NDZ and get it removed at the cost of entities.

### 3.12 Construction without obtaining CRZ clearance

With the technology, it is possible to identify cases of violation, which had not been reported. Audit took the help of GIS tools and benchmarked the latest available ground scene in select hot spots of the State with the approved CZMP for the area, after duly geo-referencing the file.

Audit surveyed coastal areas of four districts viz. Kachchh, Porbandar, Surat, and Valsad through Google earth pro software. Audit identified 12 buildings in the CRZ areas (of three<sup>3</sup> districts), which were constructed after issuance of CRZ Notification, 2011. However, no CRZ clearances for the above buildings were found in the records of GCZMA. Five out of these 12 buildings were constructed within the NDZ of CRZ III area, where construction is not-permitted. Details of these 12 buildings are given in *Appendix-1*. The cases identified and pointed out by Audit here are not exhaustive. Audit observed that no mechanism exists in GCZMA for the periodic survey of coastline through remote sensing applications along with geo-referenced CZMP for identifying CRZ violations.

The State Government/ GCZMA stated (August 2022) that GCZMA was in process of identification of violations using various methodologies and technologies.

***Recommendation 6: The State Government may consider establishing expert cells at the GCZMA/ DLC level to track activities along coasts through GIS tools. Further, a mechanism may also be devised for timely removal of encroachments and disposal of violation cases in the CRZ areas so as to preserve the coastal ecosystems.***

### 3.13 Shortage of Sewage Treatment Plants (STPs) in Coastal Urban Local Bodies

The CRZ Notification, 2011 prohibits disposal of wastes and effluents into coastal waters and any existing practice of discharging untreated waste and effluents was required to be phased out within a period not exceeding two years i.e. by January 2013. Dumping of solid waste was required to be phased out within one year from the commencement of the Notification i.e. by January 2012. An Action Plan for dealing with pollution in coastal areas and waters is required to be made in a time-bound manner and submitted to MoEF&CC for technical and financial assistance.

Central Pollution Control Board (CPCB) published a report “National Inventory of Sewage Treatment Plants” in March 2021 wherein the rate of sewage generation was taken as 80 per cent of the water supply. As per the report, sewage generation for the State of Gujarat was estimated at 5,013 Million Litres

<sup>3</sup>Porbandar, Surat and Valsad.

per Day (MLD) and total treatment capacity (including proposed) was estimated as 3,378 MLD of 70 STPs.

Further, Centre for Environmental Planning and Technology (CEPT) University, Ahmedabad initiated (2009) “Performance Assessment System (PAS)” which is an actionable research for developing tools, methods and processes for performance assessment and improvement of urban water and sanitation. PAS covers 6 States including Gujarat and is a major repository of urban water and sanitation database in India.

Audit identified 33 Coastal Urban Local Bodies (21 ULBs as per CZMP 2011 and 12 ULBs situated within 15 kilometres from CRZ limits) and gathered data of STPs (a) installed (b) under installation and (c) under planning stage from the Annual Reports of Gujarat Pollution Control Board. Audit also obtained water supply data from the website of PAS and calculated sewage generation as 80 per cent of water supplied as per the CPCB formula. Summary of the estimated sewage generation and capacity of STPs of 33 coastal ULBs is tabulated as under:

**Table 3.4: Shortfall in sewage treatment capacity in coastal ULBs as of March 2021 (in MLD)**

| Sl. No. | Status of STPs                    | Number of ULBs | Installed STP Capacity | Wastewater Generation | Shortfall in treatment capacity |
|---------|-----------------------------------|----------------|------------------------|-----------------------|---------------------------------|
| 1       | Installed (sufficient capacity)   | 4              | 110.70                 | 58.48                 | 0                               |
| 2       | Installed (shortfall in capacity) | 4              | 1,157.50               | 1,321.52              | 164.02                          |
| 3       | Not planned                       | 17             | 0                      | 119.12                | 119.12                          |
| 4       | Under installation <sup>4</sup>   | 3              | 0                      | 46.08                 | 46.08                           |
| 5       | Under Planning Stage <sup>5</sup> | 5              | 0                      | 33.20                 | 33.20                           |
|         | <b>Grand Total</b>                | <b>33</b>      | <b>1,268.2</b>         | <b>1,578.4</b>        | <b>362.42</b>                   |

Source: Gujarat Pollution Control Board Report and PAS of CEPT

It can be observed from the above table that out of 33 ULBs, only eight ULBs were having STPs installed as of March 2021. Of these eight ULBs, four ULBs had shortfall in sewage treatment capacity of 164.02 MLD. In 17 ULBs though there was a requirement of STPs of 119.12 MLD, neither any STP was installed nor planned to be installed. In three ULBs, STPs with capacity of 40.22 MLD were under installation against the requirement of 46.08 MLD. It implied that even after installation of the planned STPs in these ULBs, the facility will not be sufficient to treat the present estimated sewage and might not meet the future requirements. In the remaining five ULBs, against the requirement of STPs of 33.20 MLD capacity, STPs with capacity of 51.98 MLD were under planning stage. Details of these 33 ULBs is given in *Appendix-2*.

Thus, there was an overall shortage of sewage treatment capacity of 362.42 MLD in 29 out of 33 Coastal ULBs of the State. This leads to the discharge of untreated water in CRZ areas in contravention to the provisions of CRZ

<sup>4</sup>Bharuch: 29.32 MLD, Bilimora: 8.30 MLD and Gandevi: 2.60 MLD (Total: 40.22 MLD).

<sup>5</sup>Khambhat: 15 MLD, Mahuva: 16.50 MLD, Mandvi (Kachchh): 8.20 MLD, Talaja: 5.80 MLD, Umargam: 6.48 MLD (Total: 51.98 MLD).

Notification, 2011, which adversely affects the coastal ecosystems and poses a threat to the aquatic animals due to depletion of oxygen in marine water and to human lives due to increased toxic elements in marine food.

***Recommendation 7: The State Government may consider installing STPs across coastal ULBs of the State to ensure that untreated sewage is not released into water bodies.***





## Chapter-4

### CRZ Clearance and Post Clearance Monitoring

#### A Snapshot

Audit observed many instances where GCZMA solely relied on the information given by the Project Proponent (PP) for projects which led to non-evaluation of impacts and absence of mitigation measures thereon. In many other projects, GCZMA left critical pre-requisites such as disaster management reports, risk assessment reports, NOC from GPCB etc., on the PP rather than making them a pre-condition before recommending for clearances. The EIA reports were found deficient in various aspects related to the identification of environmental risk and required mitigation measures. There were gaps in post-clearance monitoring by GCZMA and DLCs, in ensuring implementation of conditions stipulated in the clearance. The post-clearance monitoring mechanism was not effective as PPs failed to submit the half-yearly compliance reports.

#### Introduction

As mentioned in *paragraph 1.4.2* for obtaining the CRZ clearance for a project, the Project Proponent (PP) shall submit the project proposal along with the relevant documents to GCZMA for scrutiny and recommendation. GCZMA, after vetting of the proposal by the technical committee and discussions in its meetings, recommends it to the authority as mentioned in the table below:

**Table 4.1: Classification of projects for CRZ clearances**

| Category of projects   | Authority to which the proposal is required to be sent for CRZ clearance |
|--|--|
| Category-A projects as per EIA Notification, 2006<br>Projects mentioned in Clause 4 (ii) of CRZ Notification, 2011 | MoEF&CC  |
| Category-B Projects as per EIA Notification, 2006  | SEIAA  |
| Projects in the CRZ II areas having less than 20,000 Sqm.<br>construction area                                     | Town planning authorities  |

*Source: CRZ Notification 2011*

During the period 2015-20, ninety-two CRZ/ Composite clearances were recommended by GCZMA (40 to MoEF&CC, 33 to SEIAA and 19 to town planning authorities). Audit selected 13 projects (as specified in *Paragraph 1.10* of this Report) for detailed scrutiny, the description of which is given in *Appendix-3*.

Audit observations related to the 13 projects are discussed in the succeeding paragraphs:

#### 4.1 Technical vetting of the projects by the GCZMA and their final recommendation to SEIAA and MoEF&CC

CRZ Notification, 2011 stipulates that the PP shall apply to Coastal Zone Management Authority of the concerned State with the required documents<sup>1</sup> for seeking prior clearance. GCZMA scrutinises the project based on documents submitted, site visits, presentations by PP etc. Audit verified the documents of the 13 Projects as submitted by the PPs to the GCZMA for seeking CRZ/composite clearance. It can be seen from the *Appendix-3* that nine out of 13 PPs did not submit all pre-requisite documents, still their projects were recommended by the GCZMA for clearance. This shows lack of adequate internal control which resulted in recommendation of projects without proper vetting at GCZMA level.

The State Government/ GCZMA stated (August 2022) that the required documents might have been kept at some other place and not furnished to Audit.

The reply is not acceptable as the GCZMA could not produce these documents to Audit.

***Recommendation 8: GCZMA may strengthen the evaluation process of project proposals and EIA reports to ensure that they adhere to all necessary pre-requisites before giving recommendation/ clearance.***

#### 4.2 Accreditation of consultant for preparing EIA report

CRZ Notification, 2011 stipulates submission of rapid/ comprehensive Environmental Impact Assessment (EIA) report and Environmental Management Plan (EMP) by the PP along with Form 1 at the time of applying for CRZ clearance. EIA Notification, 2006 also stipulates submission of EIA report, if the project falls under category 'A' and 'B'. MoEF decided (December 2009) that all the consultants working in the area of EIA/ EMP preparation would be required to get themselves registered with the National Accreditation Board of Education and Training (NABET)/ Quality Council of India (QCI) and EIA/ EMP prepared by non-accredited consultants shall not be considered after June 2010.

Further, MoEF notified (18 March 2010) that (a) the Consultants would be confined in their consultancy, only to the accredited sectors and parameters for bringing in more specificity in the EIA document and (b) after accreditation, the Consultants would need to include a certificate in this regard in the EIA/ EMP Reports prepared by them.

Subsequently, Clause 13 was inserted in EIA Notification, 2006 through amendment (March 2016), which *inter alia* stipulated that a consultant shall be allowed to prepare EIA/ EMP in those sectors only for which it is accredited by

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<sup>1</sup>(i) Form 1 (ii) Environment Management Plan (iii) Project layout superimposed on CRZ map (iv) CRZ map covering 7 km radius around the project site (v) Rapid EIA report including marine and terrestrial component (vi) Disaster Management Report (vii) Risk Assessment Report (viii) CRZ map with HTL and LTL marked (ix) Map with CRZ Zones and Ecologically sensitive areas (x) No objection certificate from GPCB.

NABET. The status of accreditation of EIA/ EMP consultants for the 13 projects is shown in *Appendix-4*. Audit observed that:

1. In five projects (Sl. No. 1 to 5), EIA/ EMP was prepared by consultants who were not accredited by the NABET.
2. In one project (Sl. No. 6), the consultant was not accredited for the given sector.
3. In seven projects (Sl. No. 7 to 13), EIA/ EMP was prepared by the consultant accredited by the NABET. However, in two projects (Sl. No. 12 and 13) the consultant did not attach the accreditation certificate with the EIA/ EMP report.

While reviewing the minutes of GCZMA meetings, it was observed that in two projects<sup>2</sup>, GCZMA deferred recommendation until the PP submitted an EIA report prepared by consultant accredited by NABET. However, in the six cases (Sl. No.1 to 6), GCZMA did not insist on accreditation of EIA consultants in the relevant sector with NABET.

Thus, GCZMA could not ensure compliance to the MoEF&CC's Notification regarding accreditation of consultants. EIA and EMP report preparation by either non-accredited consultants or by the consultants not accredited in the relevant sector may lead to incorrect assessment of the negative environmental impact of the projects and may affect decision on relevant mitigation measures to be taken.

The State Government/ GCZMA stated (August 2022) that during the presentation by PP, it was ascertained that each EIA report had been prepared by NABET accredited consultant. It further stated that requisite certificate might not be part of report at the time of submission of details and there are certain activities which attract only the provisions of CRZ Notification. Hence, they may not require NABET accreditation certificate. However, the State Government/ GCZMA assured that accreditation of the Consultant with competent authority would be ensured during scrutiny of the projects in future.

The reply is not acceptable as GCZMA recommends the project to MoEF&CC or SEIAA, based on the category of project as per EIA Notification, 2006. EIA is also prepared as per the Notification. Hence, MoEF&CC directions regarding EIA preparation are applicable to the above projects. Further, Audit instead of relying solely upon attachment of certificate of NABET accreditation with EIA report, had independently verified accreditation of the Consultants at the time of submission of EIA report with the list of NABET accredited Consultants published for that period.

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<sup>2</sup>Ship building and fabrication yard by Efforts India Limited (deferred in 14<sup>th</sup> meeting held on 27 February 2012) and Desalination plant by Electrotherm (India) Limited (deferred in 15<sup>th</sup> meeting held on 30 March 2012).

### 4.3 Deficiencies observed in EIA report of the projects

For projects involving both Environment and CRZ clearances, EIA submitted by the Project Proponent (PP) was compared with Terms of Reference (ToR) issued by MoEF&CC or State Expert Appraisal Committee (SEAC) and the generic structure as prescribed in Appendix III to EIA Notification, 2006. In the case of Projects involving only CRZ clearance, as no ToR is issued, EIA submitted by PP was compared with the generic structure only. The discrepancies in EIA, observed with reference to the generic structure, are as follows:

**Table 4.2: Discrepancies in EIA reports in the test-checked projects**

| Sl. No. | Name of Chapter   | Description of the details not incorporated in EIA Report  | Name of the project/ PP which were non-compliant   |
|---------|---|--|--|
| 1       | Introduction  | Scope of the study – details of regulatory scoping carried out as per ToR  | <ul style="list-style-type: none"> <li>Development of Petroleum, Chemical and Petro-Chemical Investment Region (PCPIR) at Dahej, District Bharuch by Gujarat Industrial Development Corporation.</li> </ul>  |
| 2       | Project Description                                       | Proposed Schedule for approval and implementation  | <ul style="list-style-type: none"> <li>Common treated effluent disposal pipeline project at Vapi, district Valsad by Wel Treat Enviro Management Organization.</li> <li>Laying of treated effluent disposal pipeline and diffuser system for disposal of treated wastewater at Marine outfall point in Gulf of Kachchh at Mithapur, Devbhumi Dwarka by Tata Chemicals Limited.</li> </ul>  |
| 3       | Anticipated environmental impacts and mitigation measures | Mitigation measures  | <ul style="list-style-type: none"> <li>Construction of marine bridge between Beyt Dwarka and Okha by Roads and Buildings Department.</li> </ul>  |
| 4       | Environment Monitoring Program                            | Technical aspects of monitoring- the effectiveness of mitigation measures (including measurement methodologies, frequency, location, data analysis, reporting schedules, emergency procedures and detailed budget and procurement schedules) | <ul style="list-style-type: none"> <li>Development of Petroleum, Chemical and Petro-Chemical Investment Region (PCPIR) at Dahej, District Bharuch by Gujarat Industrial Development Corporation.</li> <li>Discharge of 10 MLD industrial effluent in Bhavnagar creek, Bhavnagar by Madhu Silica Private Limited.</li> <li>Laying of treated effluent disposal pipeline and diffuser system for disposal of treated wastewater at Marine outfall point in Gulf of Kachchh at Mithapur, Devbhumi Dwarka by Tata Chemicals Limited.</li> <li>Construction of marine bridge between Beyt Dwarka and Okha by Roads and Buildings Department.</li> <li>Additional Saltworks (2,395.15 acres) located at village Kalatalav and Narmad, taluka and district Bhavnagar by Nirma Limited.</li> </ul> |
| 5       | Summary and Conclusion                                    | Overall justification for the implementation of project and  | <ul style="list-style-type: none"> <li>Construction of marine bridge between Beyt Dwarka and Okha by Roads and Buildings Department.</li> </ul>  |

|   |                                   | explanation as to how adverse effects have been mitigated                                   |  |
|---|-----------------------------------|---|--|
| 6 | Disclosure of consultants engaged | Names of the consultants engaged with their brief resume and nature of consultancy rendered | <ul style="list-style-type: none"> <li>• Discharge of 10 MLD industrial effluent in Bhavnagar creek, Bhavnagar by Madhu Silica Private Limited.</li> <li>• Additional Saltworks (2,395.15 acres) located at village Kalatalav and Narmad, taluka and district Bhavnagar by Nirma Limited.</li> </ul> |

*Source: Information taken from EIA Report of respective projects*

It can be seen from the above table that PPs did not incorporate the required details as per the generic Structure of the EIA document. However, the above projects were recommended by GCZMA for CRZ clearance. Observations related to non-preparation of EIA as per ToR are discussed in ensuing paragraphs.

The State Government/ GCZMA while accepting the observation stated (August 2022) that GCZMA scrutinized application *prima facie* considering CRZ aspects and did not look in much depth the other terrestrial EIA aspect due to limitation of manpower, infrastructure etc. The State Government/ GCZMA further assured to take care of this aspect in future.

#### 4.4 Specific issues on EIA reports of the projects

Audit compared the EIA reports submitted by PP with various Notifications/ Orders issued by MoEF&CC. Project- wise specific observations are discussed below:

##### 1. Expansion of Adani Petronet (Dahej) Port at Dahej, District Bharuch by Adani Petronet (Dahej) Port Private Limited

The EMP did not contain details of post monitoring of sediment quality, phytoplanktons, zooplanktons and benthos in and around the project site.

Environment policy approved by the Board of Directors and system of reporting of violations/ non-compliances by the Company to its Board of Directors and stakeholders at large were not incorporated in EIA Report.

##### 2. Development of Petroleum, Chemical and Petro-Chemical Investment Region, (PCPIR) at Dahej, District Bharuch by Gujarat Industrial Development Corporation

Condition number (iv) of the ToR issued (December 2013) to PP for the project stipulated that the latest data should be used for the preparation of EIA studies. In this regard, the Office Memorandum issued (22 March 2010) by MoEF&CC stipulated that the EIA/ EMP Report should be submitted with primary data not older than three years. However, the PP submitted data older than three years in EIA Report at various places<sup>3</sup>. Audit observed that GCZMA did not insist on the latest data while reviewing the EIA.

<sup>3</sup>Chapter 3 of the EIA report (August 2015) of the project, viz. "Description of Environment" contained baseline data regarding Air Environment (for the year 2010, 2013 and 2014), Noise Environment (no period mentioned), Water Environment (the year 2010), Land Environment (no period mentioned) and Biological Environment (Horticulture: 2009-12 and fisheries: 2005-08).

**3. Laying of treated effluent disposal pipeline and diffuser system for disposal of treated wastewater at marine outfall point in Gulf of Kachchh at Mithapur, Devbhumi Dwarka by Tata Chemicals Limited**

Mangroves near the project site were reported in the EIA. However, the EIA did not mention the impact of the project on mangroves in terms of health and genetic biodiversity.

EIA submitted in May 2016, contained data for the year 2009-10 or older, however, GCZMA did not insist on the latest data.

**4. Modification of existing jetty and expansion of isolated storage facility at Dahej, Bharuch by Gujarat Chemical Port Terminal Company Limited**

Conditions number 4 (project implementation schedule), 11 (berthing facility and vessels details), 24 (treated and untreated waste water), 27 (air pollution control measure), 57 and 58 (firefighting and prevention mechanism) and 64 (green belt development) of the ToR issued in September 2014 by SEAC were not complied in EIA Report. In spite of this, the GCZMA did not insist on compliance with the above terms before recommending the project to SEIAA for clearance.

**5. Revival of existing jetty with liquid storage terminal, pipeline, road connectivity at Gandhidham, Kachchh, by Ahir Salt and Allied Product Private Limited**

Initial ToR for this project was issued by SEAC in May 2015. SEAC asked (November 2015) the PP to also consider model ToRs mentioned in the MoEF&CC's Technical Guidance Manual (TGM) for isolated storage and handling of hazardous chemicals (project category 6(b)) and Ports and Harbours (project category 7(e)) besides ToR of May 2015 in the preparation of EIA report.

Audit verified the EIA submitted by the PP with the TGMs of MoEF&CC and found that 9<sup>4</sup> and 14<sup>5</sup> points of the TGM for project categories 6(b) and 7(e) respectively were not included in EIA Report.

GCZMA did not insist on the inclusion of the above points in the EIA report and recommended the project for CRZ clearance to SEIAA.

<sup>4</sup>a) Technologies involved for design, construction, equipment and operation (b) Hydrographic charts of the offshore area giving general morphology of the coastal stretch to a scale of 1: 50000 (c) Bed Sediment Contamination (d) Sea Harbour Water Quality (e) Marine/ Coastal Ecology (f) Socio-Economic and Occupational Health Environment (g) Solid Waste Disposal Facilities (h) Public Utilities and (i) Assessment of anticipated impact of the project construction/ operation on the coastal hydrology on account of port construction.

<sup>5</sup>i) domino effects of storage tanks, ii) specific control equipment, iii) infrastructure facilities, iv) compliance to previous ECs, v) litigations against project, vi) air quality, vii) baseline monitoring network, viii) monitoring network, ix) leak detection programme, x) occupation safety and health protection, xi) monitoring agencies, xii) socio economic development activities, xiii) socio economic influence on local community and xiv) administrative and technical organizational structure for post project monitoring.



#### **6. Construction of residential project ‘Sun city’ at Barbodhan village, Surat by Pramukh Organisers LLP**

EIA report was prepared by PP based on the ToR. Audit noticed that point number 6 (project implementation schedule), 10 (service and commercial units and amenities), 30 (solid waste facilities), 35 (tree plantation/ removal/ transplantation), 40 (ground water recharge plan) and 47 (financial outlay for EMP) of the ToR were not included in the EIA report.

Thus, EIA reports were not prepared by PPs as per the ToRs prescribed by MoEF&CC/ SEAC and GCZMA also did not verify compliance of the prescribed ToRs in EIA reports before recommending the project for clearance. This would impact the quality of EIA/ EMP report of the projects and weaken the process to conserve the coastal ecosystem.

The State Government/ GCZMA stated (August 2022) that GCZMA scrutinized applications *prima facie* as per CRZ Notification and recommended them to MoEF&CC/ SEIAA for final CRZ clearance. It was further stated that it was responsibility of MoEF&CC/ SEIAA to verify every aspect of procedures for preparing EIA report.

The reply is not acceptable as MoEF&CC/ SEIAA considers projects for clearance based on the recommendation of GCZMA and it is the responsibility of GCZMA to verify the detailed aspects of EIA before recommending it to MoEF&CC/ SEIAA.

#### **4.5 Construction of Marine bridge between Beyt Dwarka and Okha**

State Highway expansion projects in hilly terrain (more than 1,000 metre above Mean Sea Level) and/ or ecologically sensitive areas are classified as Category ‘B’ Projects in EIA Notification, 2006. The Notification prescribes prior Environment Clearance (EC) for such projects. Further, CRZ Notification of 2011 classifies Marine Parks as an ecologically sensitive area.

The project of construction of marine bridge between Beyt Dwarka and Okha was taken up by the Jamnagar Division of Roads and Buildings Department. The project being in an Ecologically Sensitive Area (ESA), required composite clearance i.e., CRZ as well as environment clearance from SEIAA. However, the project proponent applied (June 2017) only for CRZ clearance instead of composite clearance. EC is necessary for assessing the impact of the proposed projects on environment and people so that steps to mitigate such impact may be taken. GCZMA recommended (August 2017) the project to SEIAA for CRZ clearance, which was granted on 24 August 2017. The project was in-progress in August 2021.

Thus, the SEIAA/ GCZMA did not insist on the EC though the project was falling in ESA.

The State Government/ GCZMA stated (August 2022) that it is the responsibility of PP to obtain all regulatory clearances and GCZMA imposed a



condition that PP shall obtain all necessary permissions from different departments/ authorities.

The reply is not acceptable as GCZMA recommends the project to SEIAA/ MoEF&CC based on the category of the project mentioned in EIA Notification, 2006 which prescribes for obtaining EC for the project falling under ESA. Thus, before recommending the project for CRZ clearance, GCZMA should have ascertained the category of the project and ensured that related statutory requirements were complied with. Further, as the PP did not apply for the EC, the EIA was prepared without obtaining ToR from the SEAC. GCZMA vetted the project details including EIA considering it as normal CRZ clearance proposal without emphasizing on ESA status.

#### 4.6 Submission of compliance report by Project Proponent

CRZ Notification 2011 requires the PP to submit half-yearly compliance reports in respect of the stipulated terms and conditions of the EC to the regulatory authority(s) concerned on 1<sup>st</sup> June and 31<sup>st</sup> December of each calendar year. Such compliance reports submitted by the PP are required to be published in the public domain and displayed on the website of the concerned regulatory authority. Further, SEIAA/ MoEF&CC also require the PP to display the compliance report in respect of all the clearances on its website. Audit verified (September 2021) compliance to the above clauses/ conditions in respect of 12 out of the 13 test-checked projects<sup>6</sup> from the date of clearance of the project to September 2021. The findings are detailed in *Appendix-5* and summarised as under:

**Table 4.3: Status of submission of Compliance Reports by PPs and display thereof on website as on 30 September 2021**

| Particulars of Compliance Reports  | No. of reports required to be submitted/ uploaded | No. of reports actually submitted/ uploaded | No. of PPs | Sl. No. of Appendix-5 |
|--|---|---|------------|-----------------------|
| <b><i>Status of reports submitted</i></b>  |   |   |            |                       |
| All reports submitted  | 28  | 28  | 3          | 10 to 12              |
| No reports submitted   | 50  | 0   | 5          | 1 to 5                |
| Lesser number of Reports submitted   | 39  | 30  | 4          | 6 to 9                |
| <b><i>Status of uploading of submitted reports on website of PPs</i></b>               |   |   |            |                       |
| Reports submitted and uploaded on website of the PP                                    | 28  | 28  | 3          | 9,11 and 12           |
| Reports submitted but not uploaded on website of the PP                                | 30  | 0   | 9          | 1 to 8 and 10         |
| <b><i>Status of uploading of received reports on website MoEF&amp;CC and SEIAA</i></b> |   |   |            |                       |
| Reports submitted but not uploaded on website of the MoEF&CC and/ or SEIAA             | 58  | 0   | 12         | 1 to 12               |

*Source: Information provided by GCZMA/ PPs and websites of the MoEF&CC, SEIAA and the PPs*

Thus, five PPs (Sl. No. 1 to 5) were non-compliant and four PPs (Sl. No. 6 to 9) were partially compliant to the conditions related to submission of compliance

<sup>6</sup>Out of the 13 selected projects, one project had been delisted after obtaining required clearance.

reports. Further, nine PPs (Sl. No. 1 to 8 and 10) did not upload the compliance reports submitted by them on their website. Non-compliance by PPs would impair the ability of regulatory agencies to notice and take steps to mitigate any negative impacts on the coastal ecosystems.

The State Government/ GCZMA stated (August 2022) that monitoring the compliance is primarily responsibility of the Integrated Regional Officer of MoEF&CC and GCZMA is only a recommending authority.

The reply is not acceptable as CRZ Notification 2011 stipulates maintenance of half-yearly compliance reports by GCZMA and to provide a copy of the same to any person, on application to GCZMA. Further, GCZMA also stipulates condition in its recommendation letter to SEIAA/ MoEF&CC regarding submission of compliance report to GCZMA by PP. In every clearance letter issued by SEIAA/ MoEF&CC, it is mentioned that PP has also to comply with the condition stipulated by GCZMA in its recommendation letter.

#### **4.7 Post Clearance monitoring of the projects**

While recommending the project, GCZMA stipulates several conditions to be complied with by the PP before and during the construction and operational phase of the projects. Similarly, MoEF&CC and SEIAA also stipulate several conditions in the clearance letter which are to be complied with by the PPs.

Audit observed that out of 13 test checked projects, in seven projects, PPs did not comply with the conditions mentioned in the EC/ CRZ clearance granted by the regulatory authorities. Observations related to non-compliance of conditions are mentioned in the *Appendix-6*. Non-compliance to these key conditions adversely impact the surrounding ecosystems of the projects and indicate inefficient monitoring by regulatory authorities.

The State Government/ GCZMA stated (August 2022) that as per EIA Notification and various Guidelines issued by MoEF&CC, Regional Office of MoEF&CC and State Pollution Control Board are nodal agencies to verify compliance of conditions prescribed by various authorities.

The reply is not acceptable as Regional Officers of GPCB are member secretaries of concerned DLC and as per CRZ Notification, DLCs in the State were constituted to assist GCZMA. Compliance reports are required to be sent to GCZMA as well as DLC by the PP. On receipt of the compliance report from the PP, GCZMA can direct DLCs to verify impact of non-compliance of conditions by PP on the CRZ area.

#### **4.8 Disposal of treated wastewater through open channel in intertidal zone of the Gulf of Kachchh at Mithapur**

The chemical manufacturing plant of Tata Chemicals Limited (TCL) at Mithapur generates treated wastewater from its various processes which was being discharged (17 August 2021) into the Gulf of Kachchh through an open channel in the intertidal zone. The above channel was passing through the

eco-sensitive zone and releasing the effluents in Marine National Park and Marine Sanctuary (MNP&MS)<sup>7</sup>.

In order to comply with the standards issued (June 2011) by MoEF&CC for releasing waste water from soda ash industries, TCL proposed laying discharge pipeline of 3,758 metres, out of which 2,504 metres was passing through the MNP&MS and 362 metres through Eco-Sensitive Zone (ESZ). The laying of pipeline in MNP&MS required use of 11.2680 ha of the MNP&MS Area, which required sanction under the Wild Life (Protection) Act, 1972. TCL submitted the necessary proposal to the In-Charge, MNP&MS in January 2015 and the in-principle Forest Clearance (Stage I) was obtained (22 February 2019) from MoEF&CC.

Meanwhile, TCL approached (05 May 2016) GCZMA for CRZ clearance for laying of treated effluent disposal pipeline and diffuser system for disposal of treated wastewater at marine outfall point in Gulf of Kachchh at Mithapur. On recommendations of GCZMA (28 June 2016), MoEF&CC granted (10 July 2017) the clearance.

The CRZ clearance was subject to obtaining prior approval for diversion of forest land (mangroves) under the Forest (Conservation) Act, 1980 before the commencement of work. During joint field visit by Audit with officials of DLC, Jamnagar on 17 August 2021, it was noticed that even though in-principle Forest Clearance (Stage I) was obtained in February 2019, the project was yet to be implemented due to non-receipt of Final Forest Clearance (Stage II) from MoEF&CC. Audit noticed that due to non-implementation of the project, treated effluents were being discharged through an open channel by the PP as can be seen in the following image (taken on 17 August 2021).



**Figure 4.1: Treated wastewater being discharged through open channel at marine outfall point in Gulf of Kachchh at Mithapur**

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<sup>7</sup>Situated along the southern coast of Gulf of Kachchh in Devbhumi Dwarka, Jamnagar and Morbi Districts.

It is pertinent to mention that in the management plan of MNP&MS for the period 2007-08 to 2016-17, it was mentioned that release of effluents by the PP in the MNP&MS through an open channel was causing heavy deposition, which is gradually turning the area difficult to reclaim. While processing Stage I clearance, Chief Conservator of Forest (CCF), MNP&MS opined (February 2015) that protected area in the Mithapur has seagrass vegetation which is a feeding ground for threatened species like Dugong and Sea Turtles. He further mentioned that after implementation of the project, the effluents will be directly drained into the sea and the inter-tidal ecosystem will be protected. Audit observed that the mandate of GCZMA is also to conserve the marine ecosystem of the State. However, after recommending (June 2016) the project to MoEF&CC for CRZ clearance the issue of pursuing Forest Clearance (Stage I and II) from MoEF&CC, was never discussed in any of the 27 GCZMA meetings held between June 2016 and August 2021.

The release of the treated effluents through an open channel in the MNP&MS area may drastically affect the inter-tidal organisms and the coastal ecosystem of MNP&MS.

#### **4.9 Development of tourist facilities and accommodation at Mandvi by Tourism Corporation of Gujarat Limited**

The Tourism Corporation of Gujarat Limited (TCGL), approached (09 July 2013) GCZMA for CRZ clearance for development of a beach resort (Project-1) with the facility of 80 cottages and supporting infrastructure at Mandvi, Kachchh. GCZMA recommended (29 January 2014) to the MoEF&CC to grant CRZ clearance. MoEF&CC granted the clearance in March 2015.

During the joint site visit by Audit with the officials of DLC, Kachchh (October 2021), Audit noticed that the proposed project activities were not being carried out as the project did not commence. Further, Audit observed that another resort (Project-2) was functioning, approximately 500 meters on the west side of the site of Project-1. Through satellite images on Google earth pro software, it was ascertained that this project (Project-2) was constructed after April 2017.

Scrutiny of records of TCGL revealed that work order for Project-2 was issued in December 2016 and the work was completed in April 2019. The main components of the above work were (a) Construction of 32 tented accommodations (b) a Dining Hall (c) Other infrastructure and (d) Parking and pathway.

CRZ Notification, 2011 restricts the PP from undertaking any construction within 200 metres on the landward side of HTL and within the area between LTL and HTL i.e. No Development Zone (NDZ). GCZMA while recommending (January 2014) Project-1 and MoEF&CC while granting CRZ clearance (March 2015) had banned TCGL from carrying out any construction activity in the NDZ. TCGL had also furnished an undertaking for the same.



The following Google earth pro images of Project-2 shows construction activity carried out after April 2017, status as of September 2022 and distance from the coastline.

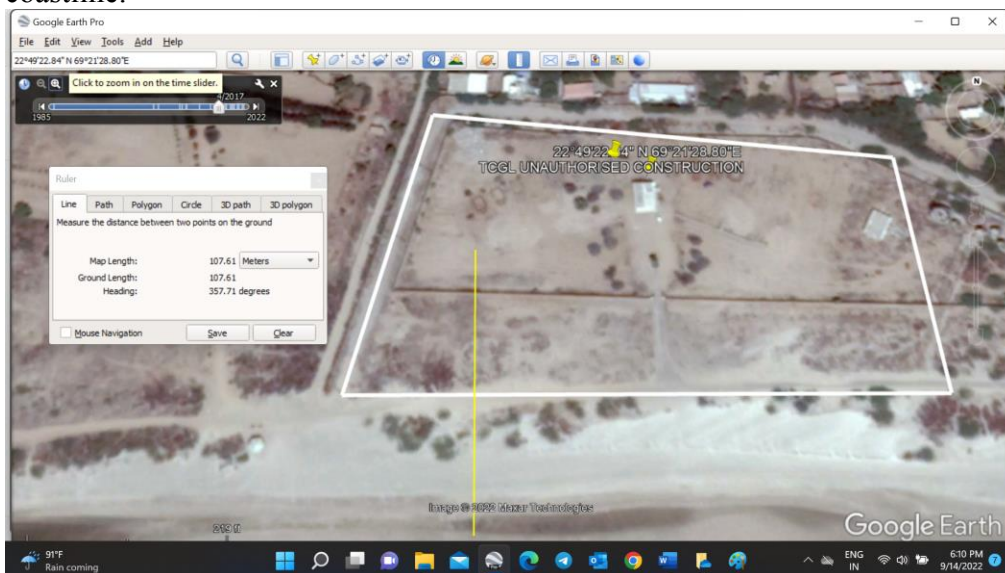


Figure 4.2: No structure at (22°49'22.84"N 69°21'28.80"E) location (April 2017)

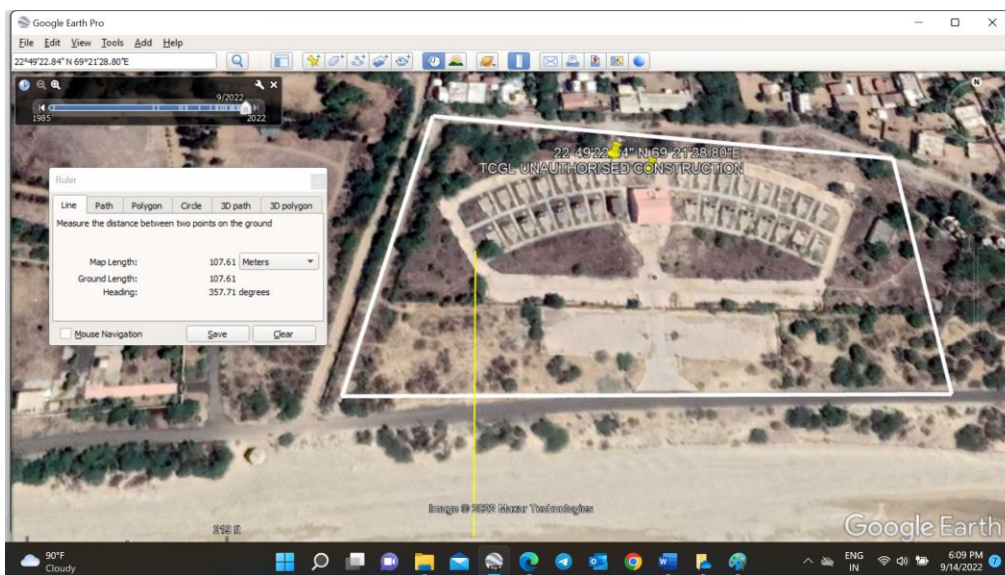


Figure 4.3: Structure of Project-2 constructed within 200-meter from the coastline at the location (22°49'22.84"N- 69°21'28.80"E) as of September 2022

From the above images it was clear that Project-2 was constructed in the NDZ by TCGL. Since Project-2 was not among the projects recommended by GCZMA for CRZ clearance, the activities carried out by TCGL in the project site, were without obtaining CRZ clearance. Thus, carrying out a project without obtaining CRZ clearance and that too in the NDZ may adversely affect the coastal ecosystem.

The State Government/ GCZMA stated (August 2022) that verification of violation was under progress and suitable action would be initiated.

#### 4.10 CRZ clearances for constructions of less than 20,000 Sqm area in CRZ II

CRZ II areas are the areas that have been developed<sup>8</sup> up to or close to the shoreline. In the earlier CZMP prepared as per CRZ Notification 1991, CRZ II areas were declared in three municipal areas of Gujarat *viz.* Veraval, Bharuch and Porbandar. Any projects falling under CRZ II area of the above three municipal areas were vetted by GCZMA first and then recommended to the concerned local bodies for granting CRZ clearance.

In pursuance of CRZ Notification 2011, district wise CZMPs (except Kachchh and Morbi districts) were approved by MoEF&CC and accepted by GoG in January/ February 2019. As per these CZMPs, CRZ II areas were declared in additional 11 towns/ municipal areas<sup>9</sup>. However, GCZMA had not issued any instructions to these 11 local bodies to direct PPs to submit the proposal for vetting and recommendation for CRZ clearance. Hence, not a single CRZ clearance proposal was received at GCZMA between March 2019 and September 2021 relating to development activities under these local bodies. Thus, possibility of unregulated development activities being carried out in the CRZ areas falling under above 11 local bodies cannot be ruled out.

The State Government/ GCZMA stated (August 2022) that CZMP are published on the website of GCZMA and DLC in each coastal district had been formed. It further stated that based on the audit observation, GCZMA had issued (August 2022) letters to all the concerned ULBs regarding prior requirement of CRZ clearance for carrying out construction activity in the CRZ II area of these ULBs. The fact remains that GCZMA informed the ULBs after more than three years from the approval of CZMP which implied that development activities comprising less than 20,000 Sqm in CRZ II areas remained unmonitored and unregulated by the GCZMA during this period.

<sup>8</sup>“Developed area” is referred to as that area within the existing municipal limits or in other existing legally designated urban areas which are substantially built-up and have been provided with drainage and approach roads and other infrastructural facilities, such as water supply and sewerage mains.

<sup>9</sup>1. Jafraabad (Amreli) 2. Khambhat (Anand) 3. Bhavnagar 4. Dwarka (Devbhumi Dwarka) 5. Salaya (Devbhumi Dwarka) 6. Jamnagar 7. Mandvi (Kachchh) 8. Bilimora (Navsari) 9. Chhaya (Porbandar) 10. Surat 11. Umbergaon (Valsad).





## Chapter-5

### Integrated Coastal Zone Management Project

#### ***A Snapshot***

*Instruments purchased for capacity building of GEER Foundation and GPCB were not put to optimum utilization. There was vast difference in mangroves plantations claimed by the Project Executing Agencies (PEAs) and as observed through GIS by audit. However, no third-party evaluation of the mangroves plantation was conducted by GEC for plantation carried out during 2012-19. ICZMP activities were carried out without getting approval of Procurement Plan and activity schedule from the World Bank.*

*There were deficiencies in planning of works, preparation of estimates, selection of contractors, and terms and conditions of the contract agreements during the process of awarding the respective contracts. The works were not executed as per the standards prescribed in the contracts and instances such as use of substandard materials, assets not being optimally utilised etc. were noticed. Monitoring by the GEC and TPI agency was found inadequate. The GEC instead of getting substandard works set-right by the contractors simply made deductions for the same. Further, no penal action was taken against the contractor for fraudulent claims.*

*During joint inspection by audit team with the Department officials, cases of assets in dilapidated condition/ incomplete works/ non-execution of works as per contract etc. were noticed.*

#### **Introduction**

Integrated Coastal Zone Management Project (ICZMP) addresses environmental, economic and social issues in an integrated manner. A financing agreement for ICZMP was entered into by Government of India (GoI) with the World Bank in 2010.

The objectives of ICZMP were capacity development in a sustainable coastal management approach for India's coastal zones and piloting integrated coastal zone management approaches in three States, viz. Gujarat, Orissa and West Bengal.

#### **5.1 Project cost for Gujarat**

Gujarat Ecology Commission (GEC) was designated as the State Project Management Unit (SPMU) for implementation of ICZMP in Gujarat. The ICZMP phase I for Gujarat with World Bank assistance was approved by the GoI in March 2010. Additionally, on 5 March 2019, MoEF&CC approved the proposal for 'Livelihood Improvement through Smart Eco Villages' (SEV) under ICZMP (apart from Phase I), to be implemented by GEC. The component

wise details of outlay approved, expenditure incurred and availability of funds are as under:

**Table 5.1: ICZMP- Approved outlay, expenditure incurred and funds availability**

(₹ in crore)

| Sl. No. | Name of Component | Outlay approved originally | Revised approved outlay | Expenditure incurred | Funds received and available with the SPMU |
|---------|-------------------|----------------------------|-------------------------|----------------------|--|
| 1       | Phase I           | 298.34                     | 387.17                  | 336.62               | 336.62                                     |
| 2       | SEV               | --                         | 117                     | 74.29                | 53.35                                      |
|         | <b>Total</b>      | <b>298.34</b>              | <b>504.17</b>           | <b>410.91</b>        | <b>389.97<sup>1</sup></b>                  |

Source: Information provided by GEC

Thus, SPMU had booked an expenditure of ₹ 410.91 crore as on 31 March 2020, when the Project was officially closed. Against this, the funds actually available with the SPMU was only ₹ 389.97 crore. Remaining expenditure of ₹ 20.94 crore was incurred under SEV without availability of funds, and was thus yet to be paid to the contractors (August 2022).

## 5.2 Implementation of phase I of ICZMP in Gujarat

A Detailed Project Report (DPR) was prepared (February 2009) by WAPCOS Limited for Phase I of the ICZMP for the Gulf of Kachchh having four components<sup>2</sup>. Memoranda of Understanding (MoU) were entered into (April 2010) between SPMU and Project Executing Agencies (PEAs) i.e., Gujarat Ecological Education and Research (GEER) Foundation, Gujarat Pollution Control Board (GPCB), Jamnagar Municipal Corporation (JMC) and Marine National Park and Marine Sanctuary (MNP&MS) for the activities to be carried out during the period from April 2010 to March 2015 which was extended up to March 2020. Activities assigned and outcomes achieved by the SPMU and the four PEAs with expenditure incurred as of 30 September 2021, are shown in *Appendix-7*. Audit found that most of the activities envisaged in the DPR had been carried out by the PEAs/ SPMU. Out of these activities, Audit reviewed the capacity building and mangroves plantation activities carried out by the PEAs, and the SEV implemented by the SPMU. The audit observations are discussed in the succeeding paragraphs.

<sup>1</sup>World Bank: ₹ 293.65 crore, GoI: ₹ 49.58 crore, GoG: ₹ 37.77 crore, Interest earnings: ₹ 8.97 crore

<sup>2</sup>Component A- Coastal Resources Conservation and Management.

Component B- Coastal Environment Monitoring and Conservation.

Component C- Socio-Economic Development.

Component D- Integration of Geo-Spatial Information.

### 5.2.1 Mangroves Plantation under ICZMP

Mangroves form one of the most important ecosystems of coastal and marine areas. The Mangroves restoration would also lead to conserving marine biodiversity of the Gulf of Kachchh, especially Corals. Under ICZMP; 19,551 hectare mangroves were planted by various agencies as mentioned below:

**Table 5.2: Mangroves plantation done under ICZMP during 2010-2019**

| Sl. No. | Name of District | Period  | Name of Agency                            | Mangroves Planted (in Ha) |
|---------|------------------|---------|---|---------------------------|
| 1       | Jamnagar         | 2010-15 | Marine National Park and Marine Sanctuary | 3,901                     |
| 2       | Kachchh          | 2010-16 | Forest Circle, Kachchh                    | 12,500                    |
| 3       | Rajkot           | 2013-14 | Forest Department                         | 500                       |
| 4       | Bhavnagar        | 2013-14 |   | 1,000                     |
| 5       | Bharuch          | 2018-19 | Gujarat Ecology Commission                | 1,550                     |
| 6       | Navsari          | 2011-12 |   | 100                       |
|         |                  |         | <b>Total</b>                              | <b>19,551</b>             |

*Source: Information provided by GEC*

SPMU entrusted the task of evaluating the mangroves planted at 67 sites during 2010-12 at Jamnagar and Kachchh coasts to Gujarat Institute of Desert Ecology (GUIDE). GUIDE measured (January-June 2014) plantation at 62 out of 67 sites using GIS techniques based on coordinates furnished by GEC. GUIDE reported (December 2014) that against the 4,125.92 hectare plantation as per record, actual plantation was only 1,859.61 hectare. GUIDE also carried out physical verification of all the 67 sites to assess survival rate of mangroves based on approved (December 2012) ICZM scale<sup>3</sup> and categorised 24 sites as 'Good', 27 sites as 'Average' and 16 sites as 'Poor'. Thus, only 39 per cent of the 67 mangroves sites measured by GUIDE fell under 'Good' category.

On reporting of the discrepancy between mangroves areas as per record and as measured by the GUIDE, the GEC instructed (October 2015) the jurisdictional Chief Conservator of Forest (CCF), Kachchh to reconcile the figures with GUIDE within one month. However, neither any reconciliation report of the CCF nor any follow-up by GEC was found on record. Subsequently, GEC asked (April 2017) the CCF, Kachchh to reconcile the discrepancy in GIS coordinates pointed by BISAG in its study report (conducted as per direction of GEC) on the mangroves plantation done between 2010 to 2016. The CCF, Kachchh informed (December 2017) GEC that overlapping was found only on 1.56 per cent of the claimed mangroves plantation (7,800 hectare) instead of 9.22 per cent as reported by BISAG.

Audit observed that the GEC ought to have reconciled the discrepancies reported by BISAG either on its own or through a third party evaluation. However, GEC accepted the self-verification of the jurisdictional CCF regarding correctness of the mangroves plantation done by itself. This involved conflict of interest as the authority which did the plantation verified the discrepancies itself.

<sup>3</sup>'Good' (More than 75 per cent *otla* (raised bed) with a minimum of five surviving saplings), 'Average' (50 to 75 per cent *otla* with minimum five surviving saplings) and 'Poor' (less than 50 per cent *otla* with minimum five surviving saplings).

Audit observed that GEC did not make any efforts to reconcile the anomalies reported by two different agencies. Third party evaluation was conducted for an area covering only 21 *per cent* of claimed mangroves plantation which also pointed out difference in the plantation claimed by the PEAs and that observed through GIS technique. However, no third-party evaluation was carried out by GEC to ascertain veracity of the claimed area of plantation or survival rate thereof for the remaining mangroves plantation.

In view of the above, Audit reviewed 13,522 hectare out of 14,116 hectare mangroves planted during 2012-19, in 45 sites with an area of more than 100 hectare, through GIS technique. It was observed that there was no shortfall in the mangroves plantation on 4,107 hectare as reported at 12 sites; however there was a shortfall of 1,968.80 hectare in mangroves plantation out of reported plantation of 9,415 hectare at 33 sites.

The State Government/ GEC did not furnish any response on the anomalies pointed by audit in the area of mangroves plantation and non-conduct of third party inspection. However, during Exit Conference held on 02 September 2022 the Member Secretary, GEC stated that there was a need to carry out third party inspection of the mangroves plantation.

***Recommendation 9: The State Government may fix responsibility of the agencies involved for the shortfall in mangroves plantation.***

### ***5.2.2 Capacity building of institutions***

A project for capacity building of the GEER Foundation at an estimated cost of ₹ 15.74 crore was undertaken wherein a central laboratory and five marine field stations were established between July 2013 and June 2016. During the physical verification (October 2021) of two of the marine field stations at Mandvi and Jamnagar, Audit observed that as against four<sup>4</sup> persons required to be deployed at each field station, only one person at Mandvi and two persons at Jamnagar field station were found on roll. Further, out of 25 instruments installed at Mandvi, 21 instruments were intermittently operated only for checking and calibration and were never used for the intended purpose i.e., to study the physio-chemical parameters of soil and water of the intertidal area of the Gulf of Kachchh. Similarly, out of the 15 instruments provided at Jamnagar, 12 instruments remained unused after April 2019. Thus, the marine field stations were not put to optimal use.

The State Government/ GEC stated (August 2022) that due to non-availability of staff, the instruments could not be put to use. However, the GEER Foundation was in the process of recruiting permanent staff for the field stations.

Similarly, the laboratory infrastructure of the GPCB was to be enhanced by purchase of scientific analytical instruments. GPCB developed one laboratory each at Gandhinagar, Bhuj, Jamnagar and Rajkot. GPCB procured 18 instruments for Central Laboratory, Gandhinagar. During the joint physical

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<sup>4</sup>Lab Technician/ JRF, Lab Assistant, Field Assistant and Watchman

verification (October 2021) of Central laboratory, Gandhinagar by Audit with the officials of GPCB, it was observed that one instrument<sup>5</sup> costing ₹ 0.74 crore was never used though procured in April 2017. Similarly, HRGC-HRMS<sup>6</sup> costing ₹ 2.52 crore was purchased in March 2015 but used only between January 2018 and June 2019. Similarly, X-Ray Diffractometer (XRD) costing ₹ 0.97 crore, purchased in March 2015, was used in 2016-17 only. The Comprehensive Maintenance Contracts (CMC) of HRGC-HRMS and XRD instruments had also lapsed in May 2019. Thus, the instruments were not being optimally used rendering the expenditure incurred unfruitful.

The State Government/ GEC stated (August 2022) that CMC of these instruments would be renewed. No response was furnished for not using the instruments optimally.

### 5.3 Smart Eco-Village Project

The World Bank informed (October 2018) GEC regarding extension of ICZMP and investment of ₹ 120 crore to ₹ 140 crore on livelihood improvement in 112 villages (Kachchh: 104, Navsari: 08). The World Bank asked GEC to prepare project proposal depicting linkage of expected outcomes to the activities proposed, institutional arrangement for implementation and sustenance of the project and cost estimates. The World Bank also asked to start conducting baseline survey simultaneously.

Accordingly, GEC (which acted as both SPMU and PEA for the project) carried out a quick survey from 26 to 30 October 2018 for 112 villages and divided them into seven clusters<sup>7</sup>. GEC submitted (01 January 2019) project proposal to the World Bank for the “Livelihood Improvement through Smart Eco-Village project” (SEV) with an outlay of ₹ 122 crore. Subsequently, MoEF&CC approved (05 March 2019) the smart eco-village project with an outlay of ₹ 117 crore. The activities envisaged and carried out in the 112 villages by GEC are shown in *Appendix-8*.

#### 5.3.1 Project proposal, procurement plan and actual project implementation

The project proposal submitted (January 2019) by GEC consisted of four outcomes having seven outputs to be achieved through 32 activities (*Appendix-9*). GEC sent (March 2019) procurement plan with an outlay of ₹ 115 crore and implemented various activities under SEV between September 2019 and March 2020. Comparison of activities envisaged in the project proposal with procurement plan and actual execution is given in *Appendix-9* and summarized below:

<sup>5</sup>Micro Digital Balance.

<sup>6</sup>High Resolution Gas Chromatograph (HRGC)- High Resolution Mass Spectrometer (HRMS).

<sup>7</sup>(i) Dayapar (Kachchh): 22 villages (ii) Naliya (Kachchh): 22 villages (iii) Anjar (Kachchh): 17 villages (iv) Jamnagar: 11 villages (v) Morbi: 13 villages (vi) Dandi (Navsari): 08 villages and (vii) Dwarka (Devbhumi Dwarka): 19 villages.

**Table 5.3: Activity wise proposal, procurement plan and actual work executed under SEV as on (31 March 2020)**

(₹ in crore)

| Description of Activities  | Project proposal |               | Procurement Plan |               | Execution        |                            |                         |
|--|------------------|---------------|------------------|---------------|------------------|----------------------------|-------------------------|
|  | No of Activities | Amount        | No of Activities | Amount        | No of Activities | Amount of Contract Awarded | Amount of Work executed |
| (A) Included in proposal, procurement plan and also executed                   | 13               | 79.76         | 10               | 69.26         | 11               | 43.11                      | 35.22                   |
| (B) Included in proposal but neither included in procurement plan nor executed | 15               | 37.18         | 00               | 00            | 00               | 00                         | 00                      |
| (C) Included in proposal and procurement plan but not executed                 | 4                | 5.06          | 02               | 10.00         | 00               | 00                         | 00                      |
| (D) Not included in proposal but included in plan and executed                 | 00               | 00            | 04               | 21.60         | 04               | 31.66                      | 30.88                   |
| (E) Neither included in proposal nor in procurement plan but was executed      | 00               | 00            | 00               | 00            | 04               | 9.44                       | 8.19                    |
| (F) Not included in proposal but included in plan, however, not executed       | 00               | 00            | 04               | 14.14         | 00               | 00                         | 00                      |
| <b>Grand total</b>   | <b>32</b>        | <b>122.00</b> | <b>20</b>        | <b>115.00</b> | <b>19</b>        | <b>84.21</b>               | <b>74.29</b>            |

Source: Project Proposal, Procurement Plan and other Information furnished by GEC

As can be seen from the **Table 5.3**, against 32 activities envisaged in the project proposal, 20 activities were included in the procurement plan which were not as per the originally proposed activities.

Further, the procurement plan was also not executed as proposed. It can be observed from **Table 5.3** that six activities (shown at (C) and (F)) which were envisaged in the procurement plan were not executed whereas four activities (shown at (E)) were executed without being envisaged in the project proposal or procurement plan. In the case of 14 activities (shown at (A) and (D)) there was variation between procurement plan and execution.

The GEC/ State Government did not furnish any remarks on the non-synchronization between project proposal, procurement plan and actual execution. However, during Exit Conference held on 02 September 2022, the Member Secretary, GEC agreed that there were discrepancies in the procurement process.

### 5.3.2 Not adhering to World Bank guidelines on procurement plan

Procurement Manual (2013) for ICZMP issued by Society of Integrated Coastal Management<sup>8</sup> (SICOM) stipulates that the World Bank's Procurement Guidelines of January 2011 will be applicable for procurement under the

<sup>8</sup>Society of Integrated Coastal Management (SICOM) is a registered society under the aegis of the MoEF&CC. It is the designated National Project Management Unit for planning, management, execution, monitoring and implementation of ICZMP.



project. These guidelines emphasize the need for preparation of a realistic Procurement Plan for a project which should include various aspects like a brief description of goods and works, proposed methods of procurement, time schedule for key procurement activities, etc.

As per Procurement Manual, procurement action can be initiated after receipt of no objection from the World Bank to the Procurement Plan (PP) and Procurement Activity Schedule (PAS) as submitted by the SPMU. Any procurement done outside the PP will be ineligible for reimbursement.

GEC sent (19 March 2019) a PP of ₹ 115 crore containing only broad items which was not as per the World Bank prescribed format. Further, GEC did not submit PAS along with the PP. Moreover, GEC without obtaining NOC from the World Bank for PP and PAS, awarded contracts worth ₹ 84.21 crore and incurred expenditure of ₹ 74.29 crore for executing activities under SEV up to 31 March 2020. The ICZMP (Phase I and SEV) was declared as closed by the World Bank on this date.

MoEF&CC asked (28 December 2020) GEC to submit the final PP and cost table of the closed project which was submitted by GEC on 05 January 2021. As discussed in paragraph 5.1, for phase I of ICZMP, GEC had funds of ₹ 389.97 crore from which it incurred expenditure of ₹ 336.62 crore and had unspent balance ₹ 53.35 crore. Under SEV, GEC incurred expenditure of ₹ 74.29 crore up to 31 March 2020. GEC utilised the unspent balance of ₹ 53.35 crore lying under Phase I of ICZMP to make payments for the expenditure incurred under SEV Project. Even after routing the savings from Phase I of ICZMP to SEV Project, ₹ 20.94 crore were yet to be paid to the contractors by GEC as on the date of closure of ICZMP (31 March 2020). MoEF&CC informed (15 April 2021) GEC that shortfall of funds may be met from State Government funds as the ICZM Project is closed.

The State Government/ GEC did not offer any remarks on the deficiencies in the submission of the PP and PAS and consequent possible burden on State exchequer due to non-receipt of funds from the World Bank.

### **5.3.3 Adoption of different methods for awarding contracts**

Procurement Manual 2013 prescribes threshold limit (as revised in February 2017) for adopting different methods of bidding whereby National Competitive Bidding<sup>9</sup> (NCB) is to be adopted for procurement of Goods and equipment valued between US \$ one lakh and 30 lakh and for construction work between US \$ two lakh and two crore. In case, value of procurement/ work is below the bracket prescribed for NCB, Shopping Method (SM)<sup>10</sup> can be adopted whereas for procurement/ work above the threshold prescribed for NCB, International

<sup>9</sup>NCB is the competitive bidding procedure normally used for public procurement in the country and may be the most efficient and economical way of procuring goods or works, by their nature and scope. The procedures shall provide for adequate competition to ensure reasonable prices. The method to be used in the evaluation of tenders and the award of contracts shall be made known to all bidders and not be applied arbitrarily.

<sup>10</sup>Shopping Method is a procurement method based on comparing quotations obtained from several national/ international suppliers/ contractors, usually at least three to ensure competitive prices.

Competitive Bidding (ICB)<sup>11</sup> shall be adopted. Further, World Bank's Procurement Guidelines (January 2011) stipulate that open competition is the basis for efficient public procurement allowing the borrowers to select the most appropriate method.

GEC formed activity wise packages of villages and awarded 92 contracts worth ₹ 74.84 crore under SEV. Of these 92 contracts, 33 contracts amounting to ₹ 10.44 crore were having contract value lower than threshold limit of NCB. Details of remaining 59 contracts is given below:

**Table 5.4: Details of contracts awarded through NCB and SM under SEV during September 2019 to March 2020**

(₹ in crore)

| Activity                                  | Total No. of Contracts | Total Contract Value | SM applied       |                | NCB applied      |                |
|---|------------------------|----------------------|------------------|----------------|------------------|----------------|
|   |                        |                      | No. of Contracts | Contract value | No. of Contracts | Contract value |
| Alternative energy development activity   | 4                      | 4.35                 | 3                | 0.47           | 1                | 3.88           |
| CCTV                                      | 12                     | 5.87                 | 5                | 3.00           | 7                | 2.87           |
| Clean and green village activities        | 11                     | 11.88                | 11               | 11.88          | 0                | 0.00           |
| Green School                              | 11                     | 8.84                 | 11               | 8.84           | 0                | 0.00           |
| Public Address (PA) system                | 4                      | 1.73                 | 4                | 1.73           | 0                | 0.00           |
| Recharge Well                             | 5                      | 2.17                 | 0                | 0.00           | 5                | 2.17           |
| Roof rain water harvesting system (RRWHS) | 11                     | 14.36                | 9                | 10.48          | 2                | 3.87           |
| Water desalination plant                  | 1                      | 14.91                | 0                | 0.00           | 1                | 14.91          |
| <b>Total</b>                              | <b>59</b>              | <b>64.11</b>         | <b>43</b>        | <b>36.40</b>   | <b>16</b>        | <b>27.70</b>   |

Source: Information furnished by GEC

It can be seen from **Table 5.4** that 16 contracts valuing ₹ 27.70 crore and 43 contracts valuing ₹ 36.40 crore were awarded through NCB and SM respectively to multiple parties. Considering the overall contract value of each activity, the GEC had the option to treat execution of the respective activity in all the selected villages as one item of procurement/ work and go for NCB. However, GEC preferred to award the contracts package wise and in the process opted for SM instead of NCB in majority of the cases. Audit observed that this was also inconsistent with Central Vigilance Commission's guidelines that award of contract through open competitive bids should remain the most preferred mode of tendering. Audit compared on test-check basis, the average rates received for procurement of two items through SM and NCB methodology, which revealed as under:

<sup>11</sup>ICB is generally adopted where the supplies need import and/ or foreign firms are expected to participate.

**Table 5.5: Comparison of items procured through SM and NCB****(Amount in ₹)**

| Item  | Contract awarded through SM |                 |              | Contract awarded through NCB |                 |              | Difference in price of the item |
|-------|-----------------------------|-----------------|--------------|------------------------------|-----------------|--------------|---------------------------------|
|       | No. of contracts            | Number of items | Average rate | No. of contracts             | Number of items | Average rate |                                 |
| CCTV  | 5                           | 333             | 90,150       | 7                            | 490             | 56,500       | 33,650                          |
| RRWHS | 9                           | 1,675           | 62,600       | 2                            | 695             | 55,720       | 6,880                           |

*Source: Information furnished by GEC*

Audit analysis revealed that the above contracts were awarded by the GEC between January-March 2020 and were similar/ same in nature and execution period. Had the GEC adopted NCB in all these packages or had considered activity of installing CCTV/ RRWHS as single package instead of different packages and adopted NCB, it could have saved approximately ₹ 2.26 crore<sup>12</sup>. Thus, awarding of contracts through SM method proved uneconomical.

The State Government/ GEC stated (August 2022) that the procurement plan was prepared considering the geographical locations of villages, distance among the villages and accordingly contracts were split to make them commensurate with World Bank guidelines. The State Government/ GEC asserted that this was done to ensure quality of the works and adhere to the time schedule. It was further stated that the World Bank had also not objected to these splitting of contracts in its post-procurement assessment.

The reply of the Government/ GEC is not convincing as no detailed procurement plan was prepared and quality of the works was not satisfactory as discussed in the subsequent paragraphs. Thus, in spite of having knowledge of the threshold limits prescribed by the World Bank for procurement/ works, the GEC adopted procurement methods arbitrarily.

During Exit conference (02 September 2022), the Government agreed with the audit observation and opined that there should be proper justification for awarding the contracts.

#### **5.3.4 Procurement of items for Green Schools**

The concept of Green School was introduced in Europe in the 1990s. The World Summit on Sustainable Development (WSSD) in Johannesburg in 2002 catalysed the efforts to bring about a shift from ‘educating about the environment’ to ‘educating for sustainability’. A “Green School” is identified with those elements and practices that inculcate environmental sensitivity and promote environmental sustainability through various environment-friendly means that encourage judicious use of resources. Establishment of smart (Green) schools was envisaged as one of the 19 activities under SEV. The activity included procurement of 12 different items as detailed in the following table:

<sup>12</sup>CCTV: ₹ 1.12 Crore (333 x ₹ 33,650) plus RRWHS: ₹ 1.15 crore (1,675 x ₹ 6,880 ).

**Table 5.6: Details of items procured under ‘Green School’ activity**

(₹ in lakh)

| Sl. No. | Name of item                           | Numbers acquired | Estimated cost | Actual cost   |
|---------|--|------------------|----------------|---------------|
| 1       | 2MP CCTV Camera                        | 278              | 51.43          | 81.82         |
| 2       | Water cooler- 150 Litres               | 28               | 21.00          | 32.56         |
| 3       | Fire Extinguisher for fire safety- 2KG | 28               | 4.20           | 7.45          |
| 4       | Junior/ Senior Mathematical lab kit    | 28               | 21.00          | 21.21         |
| 5       | Rotary Drum Composter                  | 28               | 21.00          | 20.53         |
| 6       | Children Play Area Equipment           | 28               | 124.60         | 127.07        |
| 7       | Solar LED Street Light of 12 W         | 85               | 15.89          | 12.75         |
| 8       | Basic outdoor PA Setup                 | 114              | 27.29          | 32.97         |
| 9       | Classroom Projector                    | 17               | 16.15          | 11.50         |
| 10      | HDPE Wastewater Container of 120 Ltr   | 108              | 4.86           | 4.62          |
| 11      | PV Solar Plant of 3KW                  | 28               | 43.26          | 43.26         |
| 12      | Smart Auto Digital Board               | 16               | 82.40          | 76.20         |
|         | <b>Total</b>                           |                  | <b>433.08</b>  | <b>471.94</b> |

The observations relating to procurements of items for Green Schools have been narrated in the succeeding paragraphs.

#### 5.3.4.1 Selection of contractors

Twenty eight schools of 27 villages were conceptualised as ‘Green Schools’ for supply and installation of various items<sup>13</sup> under eight packages. GEC identified six bidders arbitrarily and invited quotations under SM for the particular package from any three of them. In the process, four bidders were awarded contracts for execution of the eight packages. Audit observed that this was not justified as except one firm, all other three firms were engaged in landscaping and construction activities and did not have any experience in supplying all the above indented products.

The tender documents specified conditions for technical and financial qualification of bidders including past experience. However, it was observed that neither any of the bidders provided documents in support of past satisfactory performance of similar nature of works/ supplies nor bid evaluation reports were prepared by the GEC. Since the works/ goods were of different nature and technologies, no bidder could have possibly undertaken all the activities unless the bidder acts as an agent/ middleman for the goods. In absence of submission of required documents and bid evaluation, it could not be established that the bidders were manufacturer/ authorised agency for the respective items. This might have resulted in quotations on higher side as detailed in the succeeding paragraph.

<sup>13</sup>CCTV camera, water cooler, fire extinguisher, Mathematical lab, Children Play area, Public Address (PA) setup, Classroom Projector, Solar Plant etc.

### 5.3.4.2 Purchases made at higher rates

GEC installed Public Address (PA) system in all 28 schools. It was observed that in case of Morbi and Dandi clusters (11 schools), the estimates were prepared and contracts were awarded based on the number of speakers/ horns (97 numbers) to be provided in each classrooms with the PA Setup. While in case of Dwarka and Jamnagar clusters (17 schools), common PA systems (17 numbers) were installed in the school campus. This implied that there was no standardisation of work in the schools based on the utility/ cost effectiveness of the individual PA system. As a result, it was observed that the cost incurred for installation of PA system in the schools at Morbi and Dandi clusters (₹ 24.07 lakh for 11 schools) was high as compared to the other two clusters (₹ 8.90 lakh for 17 schools).

GEC informed (August 2022) that the estimates for items to be procured under 'Green School' component were prepared by the consultant appointed by it. Audit ascertained market rates of 'smart interactive display' and 'Rotary Drum Composter' from Government e-Market place (GeM) portal on which GEC was registered. Audit also obtained the rates of the supply and installation order in respect of children play area at Rampar Village, Kachchh District executed by GEC under "Smart Shala" work as part of ICZMP during the same period. A comparison of work orders issued and market rates is shown below:

**Table 5.7: Comparative statement of work order rates viz.-a-viz. market rates obtained by Audit**

(₹ in lakh)

| Sl. No. | Cluster             | Item supplied                     | Brand    | Work order rate per item | Rate compared with         | Rate for comparison |
|---------|---------------------|-----------------------------------|----------|--------------------------|----------------------------|---------------------|
| 1       | Dandi               | Smart interactive display 75 inch | Techno   | 4.65                     | GEM                        | 1.54                |
| 2       | Jamnagar            |                                   | Techno   | 5.15                     | GEM                        | 1.54                |
| 3       | Morbi               |                                   | Newline  | 4.55                     | GEM                        | 1.88                |
| 4       | Dandi, Morbi,       | 200 Litres Rotary Drum Composter  | Spintech | 0.60 to 0.95             | GEM                        | 0.09 to 0.21        |
| 5       | Jamnagar and Dwarka | Children Play Area                | Generic  | 4.25 to 5.00             | Concurrent purchase by GEC | 2.22                |

*Source: Information furnished by GEC*

As seen from the **Table 5.7**, work order rates of the above items were considerably higher in comparison to the rates on GeM and rates of concurrent procurement at other site. GEC could have ensured economy in execution of these works had it opted for NCB instead of SM.

The State Government/ GEC stated (August 2022) that the quotations were invited from bidders already identified as per previous experience of GEC during garden development work under other project.

The reply of the State Government/ GEC is not convincing as the bidders were to be identified and properly evaluated as per requirements of the Green School component. Further, the estimates prepared by the consultant were also not conforming to the prevailing market rates.

#### **5.3.4.3 Grid connectivity of Solar plant**

Solar plants of 3 KW capacity in each of the 28 Green Schools with average cost of ₹ 1.55 lakh (aggregating to ₹ 43.26 lakh) were installed in March 2020. Audit team carried out joint inspection at nine schools with officials of GEC in October 2021 and found that though the solar panels were installed in March 2020, grid connectivity was not established as of 30 September 2021 in three<sup>14</sup> schools and established belatedly i.e. after June 2021 in six<sup>15</sup> schools. Hence, solar panels remained unutilised for want of grid connectivity in these nine inspected schools out of 28 schools.

The GEC stated (August 2022) that out of 28 schools, 21 schools have been connected to grid.

The reply of the GEC confirmed that remaining seven schools were still to be connected to grid.

#### **5.3.5 Construction work at Green schools**

GEC awarded three contracts (two in Dwarka, one in Jamnagar cluster) for construction work in 17 'Green Schools' worth ₹ 411.83 lakh to a single contractor. Tender conditions required use of material of relevant specification. The contractor was responsible to replace the defective material brought on site or materials used in the work being found defective at a later date. The contractor submitted (March to June 2020) total claim of ₹ 410.63 lakh through Bills which was also certified (March to June 2020) by the Third Party Inspection (TPI) agency. However, while processing the Bills, GEC noticed (June 2020) that the Contractor had not executed the work as per specifications. For example, instead of installing 10,000 litre modular tank with precast structure (costing ₹ 174.25 lakh), the contractor installed PVC tanks costing ₹ 25.50 lakh only. Hence, after further field inspection, GEC approved only ₹ 219.61 lakh against the claim of ₹ 410.63 lakh. This was not in order since as per contract conditions the contractor was required to set right the defective works at its own cost to ensure quality of work.

Moreover, in spite of the established fact that the contractor had not executed works as per specification, and had raised fraudulent claim of ₹ 191.02 lakh in collusion with TPI, GEC did not take any legal/ penal action against the contractor as well as TPI.

The State Government/ GEC stated (August 2022) that acting upon the audit observation, the TPI had been black-listed. However, GEC did not offer any remarks regarding action taken against the contractor.

#### **5.3.6 Development of Gardens**

GEC developed 10 gardens (six in Dwarka, three in Jamnagar and one in Morbi cluster) under the SEV. It was observed that against the projected cost of

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<sup>14</sup>Rasulnagar (Jamnagar district), Goriyali (Devbhumi Dwarka district) and Varshamedi (Morbi District).

<sup>15</sup>Jangi Girls and Boys school (Kachchh district), Balachadi and Khara-beraja (Jamnagar District) and Mojap and Tupani (Devbhumi Dwarka district).



₹ 2.74 crore as per the SoR issued by the Roads and Buildings (R&B) Department, GoG; gardening work was awarded by GEC at the cost of ₹ 8.42 crore. Further observations regarding operation and maintenance of gardens have been discussed in the following paragraphs.

### **5.3.6.1 Operation and Maintenance of the Gardens**

Of the 10 works of Garden development, six<sup>16</sup> work orders of Dwarka cluster included Operation and Maintenance (O&M) of landscape area of all plantations for six months for ₹ 94.18 lakh. No such O&M conditions were incorporated in tenders of other four works relating to Jamnagar and Morbi clusters. This indicated that GEC did not assess the requirement of maintenance for all the works and failed to adopt a uniform policy for O&M of the Gardens developed under the project.

It was further observed that GEC made 90 *per cent* payment to the agency in advance (₹ 84.76 lakh) prior to completion of the six months O&M period. Further, no agreement for handing over to and/ or maintenance of developed Garden by the concerned Gram Panchayat was found on record after completion of six-month period, to ensure sustenance of the developed gardens.

The State Government/ GEC stated (August 2022) that the gardens were handed over to the concerned Gram Panchayat for future O&M as per Exit Plan.

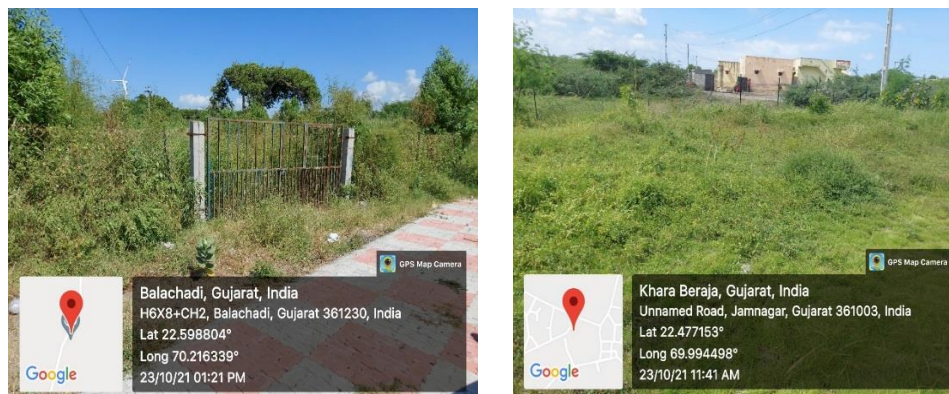
The reply is not convincing as no Exit Plan were found on record. Further, no response was furnished regarding inflated O&M costs, authenticity of the O&M bills with regard to maintenance done by the contractor and non-inclusion of O&M clause in other four garden works.

### **5.3.6.2 Joint inspection of Gardens**

Audit team visited (October 2021) eight gardens of Jamnagar (03) and Devbhumi Dwarka (05) district. It was observed that most of the gardens were not well maintained, the lawns were damaged and unwanted weeds and plants had grown. The following photographs indicate the status of the gardens:

<sup>16</sup>Tupani, Mojap, Shamlasar, Padli, Goriyali and Mulvel.

**Figure 5.1: Photographs (October 2021) of gardens developed under ICZMP at Balachadi and Khara-Beraja villages of Jamnagar cluster**



Though, work order of the five<sup>17</sup> gardens of Dwarka cluster included construction of boundary wall and installation of water tank. Except village Mojab, no compound wall was observed during joint inspection and water tank was not observed in any of the gardens. However, payment was made to the contractor against these items. This was a financial irregularity which remained unnoticed due to inadequate physical verification by the GEC. Incidentally, the work of garden development was executed by the same contractor who had made fraudulent claim against modular tank with precast structure as discussed in *paragraph 5.3.5*.

The State Government/ GEC stated (August 2022) that appropriate deductions had been made for the works which remained unexecuted.

The facts remain that the Audit scrutiny revealed that no amount had been deducted for these aspects from the bills raised by the contractor while making payments.

### **5.3.7 Installation of CCTVs**

The work of installation of CCTVs through 12 packages was executed at a cost of ₹ 5.87 crore. In six packages (Jamnagar package 1 and 2 and Morbi package 1 to 4), the contractors changed the scope of work without approval of GEC and did overhead wiring instead of stipulated underground cabling. Overhead cables tend to get damaged easily and are prone to theft as compared to the underground cables.

It was further noticed that work orders included providing and fixing of Poles in all packages except three packages<sup>18</sup>. In the absence of such provision in these three packages, the contractors installed the CCTVs on the electricity poles without obtaining permission from the electricity distribution company. Apart from creating a legal situation regarding right to use, this also poses risk to life during repairs and maintenance of these CCTVs.

<sup>17</sup>Mojap, Tupani, Mulvel, Goriyali and Padli villages.

<sup>18</sup>Package 1 to 3 of Kachchh cluster.

The GEC while accepting the audit observations stated (August 2022) that underground cabling could not be done due to RCC structures and amount paid to the contractors was adjusted accordingly.

The reply of the GEC indicated that the scope of work was arrived at without conducting ground survey and analysing requirements of the specific sites.

#### **5.3.7.1 Joint inspection of CCTV Surveillance System**

Audit team carried out joint inspection (October 2021) of CCTVs with GEC officials in 10 villages<sup>19</sup> of four districts where 175 CCTVs were installed during January to March 2021. During joint inspection it was noticed that 152 out of these 175 cameras stopped working within a period of six to nine months of installation. As reported by the villagers during joint inspection, of these 10 villages, eight<sup>20</sup> had registered complaints to the contractor; however, the CCTVs were not repaired/ replaced (October 2021). It indicated that no proper exit plan was in place for sustenance of the project. It was further observed during joint inspection (October 2021) that underground cable laid (February 2020) at Hamusar village of Jamangar Cluster, was damaged by another contractor of GEC during construction (March 2020) of Sewage Treatment Plan (STP). Due to the above damage, CCTVs were not operational in Hamusar village as well. Thus, most of the CCTVs in above 11 villages were non operational.

The State Government/ GEC stated (August 2022) that the CCTVs were handed over to the concerned Gram Panchayat for future O&M as per exit plan.

The reply is not convincing as no Exit Plan was found on record.

#### **5.3.8 Mobile Sea Water Treatment Vehicles**

GEC awarded (September 2019) contract for providing and operating seven Mobile Sea Water Treatment Vehicle (MSWTV) for ₹ 12.56 crore through NCB for treatment of sea water into potable water. The agency supplied MSWTVs during January to March 2020 which were commissioned in September 2020. As per the contract, the purchase cost included operation and maintenance of the MSWTVs for a period of one year by the agency. However, Audit noticed that in the contract, important conditions regarding performance such as (i) Quantity of water to be treated and supplied (ii) penalty provision for non/ under-supply of treated water, were not incorporated. It was observed that against capacity to treat 20,000 to 80,000 litre water in a day per MSWTV, the agency had supplied 5,000 to 7,000 litre water per day per MSWTV. Thus, due to non-incorporation of the quantity of treated water to be provided in the contract agreement, optimal utilisation of the MSWTVs could not be ensured.

The State Government/ GEC accepted (August 2022) the audit observation.

<sup>19</sup>Jamnagar (Balachadi, Rasulnagar, Khara-beraja), Dwarka (Tupani, Goriyali, Padli, Mulvel, Khatumba), Morbi (Varshamedi) and Kachchh (Jangi).

<sup>20</sup>Jamnagar (Balachadi, Rasulnagar, Khara-beraja), Dwarka (Tupani, Goriyali, Padli, Mulvel, Khatumba).

### 5.3.8.1 Joint inspection of Mobile Sea Water Treatment Vehicles



During joint inspection (October 2021) of MSWTV at two<sup>21</sup> out of seven villages with GEC officials, it was noticed that the vehicles were lying idle. Panchayat officials and operator confirmed that operation of vehicles was discontinued by the contractor after completion of O&M period of one year in September 2021.

Figure 5.2: MSWTV

Audit further observed that as per procurement agreement (September 2019), three years Comprehensive Annual Maintenance Contract (CMC) for ₹ 2.35 crore (to be paid on quarterly basis) for the seven MSWTV was to commence after one-year warranty and operation period (September 2021). However, GEC did not pay the CMC charges rendering GEC at the risk of bearing cost of repairs/ spare parts in the event of malfunctioning/ damage to the MSWTV.

The State Government stated (August 2022) that GEC was planning to handover the MSWTV to the Corporates under Corporate Social Responsibility (CSR) activities.

The reply confirms that a concrete plan for the sustenance of the MSWTVs was yet to be chalked out which was required to be in place at the time of procurement of these high cost equipment.

***Recommendation 10: The State Government may take immediate action to utilise/ revive the idle MSWTVs so as to avoid further deterioration of these vehicles, which may render the expenditure wasteful.***

### 5.3.9 Roof Rain Water Harvesting System

In 24 villages through 11 packages 2,257 RRWHS were constructed at a cost of ₹ 9.91 crore. Audit observed (October 2021) that in 21 villages hand pumps were not installed and in 18 out of the above 21 villages, waste water chambers were also not constructed. Further, rain water harvesting filters (24 villages), pipes (15 villages), Cast Iron (CI) main holes (02 villages) and hand pumps (02 villages) installed were of sub-standard quality. However, instead of insisting upon replacement of sub-standard material as stipulated in the tender condition, GEC decided to deduct the cost difference for the sub-standard work while making payment to the contractors. Mere deduction of cost difference was not sufficient as sub-standard items would compromise durability and utility of the RRWHS. These deficiencies also highlighted that monitoring of on-going works by the GEC and TPI agency was inadequate to ensure quality of the work.

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<sup>21</sup>Rampar village of Kachchh district and Goriyali village of Devbhumi Dwarka district.

The State Government/ GEC stated (August 2022) that works remained incomplete due to closure of the project. It was further stated that maintenance of the constructed assets was the responsibility of the individual households. Further, applicable deductions had been made from the bills of the contractors for inferior quality of works.

The reply indicates that the works were not properly planned keeping in view the deadline of the ICZMP. Moreover, no efforts were made to set right the inferior quality of works and ensure sustenance of the created assets.

***Recommendation 11: The State Government may fix responsibility for not ensuring economy in the award of contracts under Smart Eco-Village project. It may also strengthen its monitoring mechanism to ensure that works are executed and items procured as per the prescribed standards.***

Ahmedabad  
The

(VIJAY N. KOTHARI)  
Accountant General (Audit-II), Gujarat

*Countersigned*

New Delhi  
The

(GIRISH CHANDRA MURMU)  
Comptroller and Auditor General of India





## Appendix-1

(Reference: Paragraph 3.12)

### Details of unauthorised construction without obtaining CRZ clearance

| Sl. No. | District  | Description of assets     | Name of village | Latitude and Longitude of assets       | Construction carried out between | Approximate distance from the shoreline (in meter) |
|---------|-----------|---------------------------|-----------------|--|----------------------------------|--|
| 1.      | Surat     | Unknown building          | Surat           | 21°7'7.44"N<br>and<br>72°42'24.52"E    | 03/2015 to<br>05/2018            | 90*  |
| 2.      | Porbandar | Fern Leo Resort           | Madhavpur       | 21°15'46.32"N<br>and<br>69°57'5.89"E   | 01/2017 to<br>11/2018            | 146  |
| 3.      | Valsad    | 3 Multi Storied buildings | Udwada          | 20°29'0.64"N<br>and<br>72°52'5.21"E    | 12/2009 to<br>11/2015            | 365  |
| 4.      |           | Marine Police Station     | Nargol          | 20°12'57.23"N<br>and<br>72°45'1.21"E   | 04/2013 to<br>11/2015            | 386  |
| 5.      |           | Seaview apartment         | Nargol          | 20°13'48.81"N<br>and<br>72°44'51.57"E  | 04/2013 to<br>11/2018            | 375  |
| 6.      |           | Unknown building          | Udavada         | 20°29'8.58"N<br>and<br>72°51'58.90"E   | 11/2017 to<br>02/2019            | 66   |
| 7.      |           | Unknown building          | Umarsadi        | 20°30'48.28"N<br>and<br>72°53'20.84"E  | 01/2019 to<br>02/2021            | 340  |
| 8.      |           | Taluka panchayat          | Umbargaon       | 20°11'32.12"N<br>and<br>72°44'58.12"E  | 04/2016 to<br>10/2017            | 384  |
| 9.      |           | Court                     | Umargam         | 20°11'30.33"N<br>and<br>72°44'53.02"E  | 10/2013 to<br>10/2017            | 233  |
| 10.     |           | Unknown building          | Umbergaon       | 20° 9'42.31"N<br>and<br>72°44'39.48" E | 10/2013 to<br>11/2017            | 326  |
| 11.     |           | Unknown bungalow          | Umbargaon       | 20° 9'41.30"N<br>and<br>72°44'31.09"E  | 04/2016 to<br>02/2021            | 82   |
| 12.     |           | Valsad bungalow-1         | Valsad          | 20°35'18.15"N<br>and<br>72°53'51.68"E  | 11/2014 to<br>11/2018            | 120  |

\* Distance from the creek



## Appendix-2

(Reference: Paragraph 3.13)

Sewage treatment availability *vis-a-vis* requirement in coastal ULBs

(Figures in MLD)

| Sr. No. | Name of ULB      | Coastal ULB as per CZMP or within 15 km from CRZ area | Status of STP | Capacity       | Water Supply as per PAS | Estimated Waste water generation | Shortfall     |
|---------|------------------|---|---------------|----------------|-------------------------|----------------------------------|---------------|
| 1       | Vapi             | 10 km   | Installed     | 63.53          | 35.50                   | 28.40                            | 0.00          |
| 2       | Dwarka           | Coastal ULB   | Installed     | 7.40           | 3.00                    | 2.40                             | 0.00          |
| 3       | Pardi            | Coastal ULB   | Installed     | 4.75           | 4.60                    | 3.68                             | 0.00          |
| 4       | Valsad           | Coastal ULB   | Installed     | 35.02          | 30.00                   | 24.00                            | 0.00          |
|         | <b>Total (A)</b> |   |               | <b>110.70</b>  | <b>73.10</b>            | <b>58.48</b>                     | <b>0.0</b>    |
| 1       | Gandhidham       | Coastal ULB   | Installed     | 30             | 50.90                   | 40.72                            | 10.72         |
| 2       | Jamnagar         | Coastal ULB   | Installed     | 70             | 118.00                  | 94.40                            | 24.40         |
| 3       | Bhavnagar        | Coastal ULB   | Installed     | 75             | 165.00                  | 132.00                           | 57.00         |
| 4       | Surat            | Coastal ULB   | Installed     | 982.50         | 1318.00                 | 1054.40                          | 71.90         |
|         | <b>Total (B)</b> |   |               | <b>1157.50</b> | <b>1651.90</b>          | <b>1321.52</b>                   | <b>164.02</b> |
| 1       | Mundra-Baroi     | 0 km  | Not planned   | 0              | 2.20                    | 1.76                             | 1.76          |
| 2       | Okha             | 0 km  | Not planned   | 0              | 3.00                    | 2.40                             | 2.40          |
| 3       | Bhachau          | 10 km   | Not planned   | 0              | 9.50                    | 7.60                             | 7.60          |
| 4       | Una              | 10 km   | Not planned   | 0              | 7.00                    | 5.60                             | 5.60          |
| 5       | Rajula           | 15 km   | Not planned   | 0              | 4.00                    | 3.20                             | 3.20          |
| 6       | Ranavav          | 15 km   | Not planned   | 0              | 3.40                    | 2.72                             | 2.72          |
| 7       | Kodinar          | 5 km  | Not planned   | 0              | 3.50                    | 2.80                             | 2.80          |
| 8       | Maliya-Miyana    | 5 km  | Not planned   | 0              | 7.40                    | 5.92                             | 5.92          |
| 9       | Veraval Patan    | Coastal ULB   | Not planned   | 0              | 30.00                   | 24.00                            | 24.00         |
| 10      | Chorvad          | Coastal ULB   | Not planned   | 0              | 2.80                    | 2.24                             | 2.24          |
| 11      | Jafrabad         | Coastal ULB   | Not planned   | 0              | 3.40                    | 2.72                             | 2.72          |
| 12      | Mangrol          | Coastal ULB   | Not planned   | 0              | 8.20                    | 6.56                             | 6.56          |
| 13      | Navsari-Vijalpor | Coastal ULB   | Not planned   | 0              | 48.50                   | 38.80                            | 38.80         |
| 14      | Porbandar-Chhaya | Coastal ULB   | Not planned   | 0              | 6.00                    | 4.80                             | 4.80          |
| 15      | Salaya           | Coastal ULB   | Not planned   | 0              | 4.50                    | 3.60                             | 3.60          |

| Sr. No. | Name of ULB      | Coastal ULB as per CZMP or within 15 km from CRZ area | Status of STP      | Capacity     | Water Supply as per PAS | Estimated Waste water generation | Shortfall     |
|---------|------------------|---|--------------------|--------------|-------------------------|----------------------------------|---------------|
| 16      | Sikka            | Coastal ULB   | Not planned        | 0            | 4.00                    | 3.20                             | 3.20          |
| 17      | Sutrapada        | Coastal ULB   | Not planned        | 0            | 1.50                    | 1.20                             | 1.20          |
|         | <b>Total (C)</b> |   |                    | <b>0</b>     | <b>148.90</b>           | <b>119.12</b>                    | <b>119.12</b> |
| 1       | Gandevi          | 15 km   | Under installation | 2.60         | 4.00                    | 3.20                             | 3.20          |
| 2       | Bharuch          | Coastal ULB   | Under installation | 29.32        | 45.70                   | 36.56                            | 36.56         |
| 3       | Bilimora         | Coastal ULB   | Under installation | 8.30         | 7.90                    | 6.32                             | 6.32          |
|         | <b>Total (D)</b> |   |                    | <b>40.22</b> | <b>57.60</b>            | <b>46.08</b>                     | <b>46.08</b>  |
| 1       | Mahuva           | 10 km   | Under planning     | 16.50        | 13.80                   | 11.04                            | 11.04         |
| 2       | Talaja           | 13 km   | Under planning     | 5.80         | 3.50                    | 2.80                             | 2.80          |
| 3       | Khambhat         | Coastal ULB   | Under planning     | 15           | 14.00                   | 11.20                            | 11.20         |
| 4       | Mandvi (Kutch)   | Coastal ULB   | Under planning     | 8.20         | 9.00                    | 7.20                             | 7.20          |
| 5       | Umargam          | Coastal ULB   | Under planning     | 6.48         | 1.20                    | 0.96                             | 0.96          |
|         | <b>Total (E)</b> |   |                    | <b>51.98</b> | <b>41.50</b>            | <b>33.20</b>                     | <b>33.20</b>  |

## Appendix-3

(Reference: Introduction of Chapter 4 and Paragraph 4.1)

Projects recommended for clearance by GCZMA

| Sl. No.  | Name of the Project<br>Project Proponent  | Date of<br>Clearance | Status of the<br>Project (as of<br>31 August<br>2021)         | Rapid EIA <sup>1</sup> | Disaster<br>Management<br>Report | Risk<br>Assessment<br>Report | CRZ<br>map<br>with<br>HTL<br>and<br>LTL<br>marked | Map with CRZ<br>Zones<br>Ecologically<br>sensitive areas | NOC from<br>GPCB |  |
|--|---|----------------------|---|------------------------|----------------------------------|------------------------------|---|--|------------------|--|
|  |   |                      |   |                        |                                  |                              |   |  |                  | Composite Clearance Category 'A' Projects (Clearance by MoEF&CC) |
| 1  | Widening and improvement of the existing highway to 2-lanes paved shoulder/ 4 lane/ 6 lane of Bhavnagar- Pipavav- Porbandar-Dwarka Section of NH-8E<br>National Highways Authority of India | 25-Oct-16            | Under construction phase.                                     | ✓                      | ✓                                | ✓                            | ✓   | ✓  | ✓                | ✓  |
| 2  | Expansion of Adani Petronet (Dahej) Port Private Limited at Dahej, District Bharuch<br>Adani Petronet (Dahej) Port Private Limited  | 14-Oct-16            | Under construction phase.                                     | ✓                      | ✓                                | ✓                            | ✓   | ✓  | ×                | ×  |
| 3  | Development of Petroleum, Chemical and Petro-Chemical Investment Region (PCPIR) at Dahej, District Bharuch<br>Gujarat Industrial Development Corporation                                    | 14-Sep-17            | Under construction phase.                                     | ✓                      | ✓                                | ✓                            | ✓   | ✓  | ✓                | ✓  |
| CRZ Clearance Category 'A' Projects (Clearance by MoEF&CC) |   |                      |   |                        |                                  |                              |   |  |                  |  |
| 4  | Development of Greenfield Beach Resort at Mandvi, Kachchh<br>Tourism Corporation of Gujarat Limited   | 12-Mar-15            | Not Commenced   | ✓                      | ×                                | ×                            | ×   | ×  | ×                | ×  |
| 5  | Nuclear Power Plant, village Mithi Viridi, district Bhavnagar<br>Nuclear Power Corporation of India Limited   | 03-Mar-15            | The project was delisted <sup>2</sup> by MoEF (27 March 2017) | ✓                      | ✓                                | ✓                            | ✓   | ✓  | ✓                | ✓  |

<sup>1</sup> Including Marine and terrestrial component.<sup>2</sup> Government of Gujarat had not started the Land acquisition process for this project despite the award of ToR in 2011 hence the application for grant of environmental clearance was delisted/ rejected in March 2017.

|   |  |           |                            |                           |   |   |   |   |   |   |   |   |
|---|--|-----------|----------------------------|---------------------------|---|---|---|---|---|---|---|---|
| 6   | Discharge of 10 MLD industrial effluent in Bhavnagar creek, Bhavnagar<br>Madhu Silica Private Limited  | 29-Jun-15 | Operational since May 2017 | Submitted only Marine EIA | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 7   | Common treated effluent disposal pipeline project at Vapi, district Valsad<br>M/s Wel Treat Enviro Management Organization   | 05-Sep-16 | Not Commenced              | ✓                         | ✓ | ✓ | ✓ | × | ✓ | × | ✓ | ✓ |
| 8   | Laying of treated effluent disposal pipeline and diffuse system for disposal of treated wastewater at Marine outfall point in Gulf of Kachchh at Mithapur, Devbhumi Dwarka<br>Tata Chemicals Limited | 10-Jul-17 | Not Commenced              | Submitted only Marine EIA | × | ✓ | × | × | ✓ | × | ✓ | ✓ |
| <b>Composite Clearance Category 'B' Projects (Clearance by SEIAA)</b> |  |           |                            |                           |   |   |   |   |   |   |   |   |
| 9   | Modification of existing Jetty and expansion of isolated storage facility at Dahej, Bharuch<br>Gujarat Chemical Port Terminal Company Limited  | 27-Jan-16 | Under construction phase.  | ✓                         | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 10  | Revival of Existing Jetty with Liquid Storage Terminal, Pipeline Road Connectivity, Gandhidham, Kachchh<br>Ahir Salt and Allied Product Private Limited  | 01-May-17 | Under construction phase.  | ✓                         | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | × |
| 11  | Construction of residential project 'Sun city' at Barbodhan village, Surat<br>Pramukh Organisers LLP   | 01-May-17 | Not Commenced              | ✓                         | × | ✓ | ✓ | ✓ | × | ✓ | ✓ | × |
| <b>CRZ Clearance Category 'B' Projects (Clearance by SEIAA)</b>       |  |           |                            |                           |   |   |   |   |   |   |   |   |
| 12  | Construction of marine bridge between Beyt Dwarka and Okha Road and Building Department  | 24-Aug-17 | Under construction phase.  | Submitted only Marine EIA | × | × | × | × | × | × | ✓ | ✓ |
| 13  | Additional Saltworks (2,395.15 acres) located at village Kalatalav and Narmad, taluka and district Bhavnagar<br>Nirma Limited  | 28-Apr-17 | Under construction phase.  | ✓                         | × | × | × | × | × | × | × | ✓ |



## Appendix-4 (Reference: Paragraph 4.2)

### Accreditation of consultants preparing EIA/ EMP

| Sl. No. | Name of Project  | EIA consultant  | Period of EIA/ EMP | EIA/ EMP        | Sector description  | Project activity and Category as per EIA Notification, 2006 | Accreditation                               |                                    |                         |   |
|---------|--|---|--------------------|-----------------|---|---|---|------------------------------------|-------------------------|---|
|         |  |   |                    |                 |   |   | With NABET at the time of report submission | Certificate attached with EIA/ EMP | For the relevant sector | A certificate with annexure mentioning sector |
| 1       | Discharge of 10 MLD industrial effluent in Bhavnagar creek, Bhavnagar  | Indomer Coastal Hydraulics (P) Ltd., Chennai                                | December 2013      | Only Marine EIA | 36- Common Effluent Treatment Plant   | Category B - 7 (h)  | No  | No                                 | No                      | No  |
| 2       | Nuclear Power Plant at village Mithivirdi, Dist Bhavnagar  | Engineers India Limited, Gurgaon  | June 2013          | Both            | 5 - Nuclear power projects and processing of nuclear fuel                   | Category A - 1(e)   | No  | No                                 | No                      | No  |
| 3.      | Pipeline and Diffuser System for Disposal of Treated wastewater at Marine outfall point suggested by NIO, Mithapur, Okha, Devbhumi Dwarka            | CSIR-National Institute of Oceanography (CSIR-NIO)                          | June 2012          | Marine EIA only | 36- Common Effluent Treatment Plant   | Category B - 7 (h)  | No  | No                                 | No                      | No  |
| 4       | Widening and improvement of the existing highway to 2-lanes paved shoulder/ 4 lane/ 6 lane of Bhavnagar- Pipavav- Porbandar- Dwarka Section of NH-8E | STUP Consultant Pvt. Ltd., Kolkata  | December 2012      | Both            | 34 - Highways, Railways, transport terminals, mass rapid transport systems  | Category A -7 (f)   | No  | No                                 | No                      | No  |
| 5       | Additional Saltworks (2,395.15 acres) located at village Kalatalav&Narmad, Ta. & Dist. Bhavnagar   | NIO   | December 2011      | Marine EIA only | 14-Soda ash Industry  | Category B - 4(e)   | No  | No                                 | No                      | No  |
| 6       | Development of Petroleum, Chemical and Petro-Chemical Investment Region (PCPIR) at Dahej, Vagara, District Bharuch (Gujarat)                         | CSIR- National Environmental Engineering Research Institute (NEERI), Nagpur | August 2015        | Both            | 31- Industrial estate/ area/ park<br>38 - Building and construction project | Category A - 7(c)<br>Category B - 8 (a)                     | Yes   | Yes                                | No                      | No  |

| Sl. No. | Name of Project   | EIA consultant                                  | Period of EIA/EMP | EIA/EMP         | Sector description   | Project activity and Category as per EIA Notification, 2006 | Accreditation                               |                                   |                         |   |
|---------|---|---|-------------------|-----------------|--|---|---|-----------------------------------|-------------------------|---|
|         |   |   |                   |                 |  |   | With NABET at the time of report submission | Certificate attached with EIA/EMP | For the relevant sector | A certificate with annexure mentioning sector |
|         |   |   |                   |                 | 39 – Township and area development project   | Category B – 8 (b)  |   |                                   |                         |   |
| 7       | CETP along river Kolakupto deep sea via Kolak Estuary, Vapi   | Kadam Environment Consultant                    | June 2013         | Both            | 36- Common Effluent Treatment Plant  | Category B - 7 (h)  | Yes   | Yes                               | Yes                     | No  |
| 8       | Modification of existing Jetty and expansion of isolated storage facility at Dahej, Bharuch           | Kadam Environment Consultant                    | April 2015        | Both            | 33- Ports, harbours, breakwaters and dredging  | Category A -7 (e)   | Yes   | Yes                               | Yes                     | Yes   |
| 9       | Revival of Existing Jetty with Liquid Storage Terminal, Pipeline Road Connectivity, Gandhidham, Kutch | Kadam Environment Consultant                    | September 2016    | Both            | 33- Ports, harbours, breakwaters and dredging<br>28 - Isolated storage & handling of Hazardous chemicals | Category A -7 (e)<br>Category B – 6 (b)                     | Yes   | Yes                               | Yes                     | Yes   |
| 10      | Residential (Subplot Type) purpose project 'Sun city' at Barbodhan Village, Olpad Taluka, Surat       | Kadam Environment Consultant                    | October 2016      | Both            | 39- Township and area development project  | Category B – 8 (b)  | Yes   | Yes                               | Yes                     | Yes   |
| 11      | Expansion of Adani Petronet (Dahej) Port Private Limited Dahej, Bharuch District Gujarat              | Cholamandalam MS Risk Services Limited, Chennai | March 2015        | Both            | 33- Ports, harbours, breakwaters and dredging  | Category A -7 (e)   | Yes   | Yes                               | Yes                     | Yes   |
| 12      | Construction of marine bridge between Beyt and Okha, Dwaraka  | Envision Enviro Technologies Pvt. Ltd., Surat   | June 2017         | Marine EIA only | 38 – Building and construction project   | Category B – 8 (a)  | Yes   | No                                | Yes                     | No  |
| 13      | Development of Greenfield Beach Resort at Mandvi, Distt. Kutch, Gujarat                               | San Envirotech Pvt., Ahmedabad                  | July 2013         | Only EMP        | 38 – Building and construction project<br>39- Township and area development project                      | Category B – 8 (a)<br>Category B – 8 (b)                    | Yes   | No                                | Yes                     | No  |

**Appendix-5**  
**(Reference: Paragraph 4.6)**  
**Submission of compliance reports by Project Proponents**

| Sl. No | Project Proponent                              | Project   | Clearance Date    | No. of compliance reports due as of September 2021 | Compliance reports submitted | Displayed on the website of |                |  |
|--------|--|---|-------------------|--|------------------------------|-----------------------------|----------------|--|
|        |  |   |                   |  |                              | PP                          | SEIAA/ MoEF&CC |  |
| 1      | National Highway Authority Limited             | Widening and improvement of the existing highway to 2-lanes paved shoulder/ 4 lane/ 6 lane of Bhavnagar- Pipavav- Porbandar-Dwarka Section of NH-8E | 25 October 2016   | 10   | 00                           | No                          | No             |  |
| 2      | Tourism Corporation of Gujarat Limited         | CRZ clearance for the proposed development of Greenfield Beach Resort at Mandvi, Distt. Kutch, Gujarat  | 12 March 2015     | 13   | 00                           | No                          | No             |  |
| 3      | Weltreat Enviro Management Limited             | Common treated effluent disposal pipeline project along river Kolakupto deep sea via Kolak Estuary, Vapi  | 05 September 2016 | 10   | 00                           | No                          | No             |  |
| 4      | Pramukh Organisers LLP                         | Residential (Subplot Type) purpose project 'Sun city' at Barbodhan Village, Olpad Taluka, Surat   | 01 May 2017       | 09   | 00                           | No                          | No             |  |
| 5      | R&B Department                                 | Construction of marine bridge between Beyt and Okha, Dwaraka  | 24 August 2017    | 08   | 00                           | No                          | No             |  |
| 6      | Gujarat Industrial Corporation Limited (PCPIR) | Development of PCPIR at Dahej, Bharuch  | 14 September 2017 | 08   | 07                           | No                          | No             |  |
| 7      | Madhu Silica limited                           | Discharge of 10 MLD industrial effluent in Bhavnagar creek, Bhavnagar   | 29 June 2015      | 12   | 09                           | No                          | No             |  |
| 8      | Ahir Salts Limited                             | Revival of Existing Jetty with Liquid Storage Terminal, Pipeline Road Connectivity, Gandhidham, Kutch   | 01 May 2017       | 09   | 05                           | No                          | No             |  |
| 9      | Adani Petronet Limited                         | Phase III expansion of Adani PetronetDahej Port Private Limited   | 14 October 2016   | 10   | 09                           | Yes                         | No             |  |
| 10     | Nirma Limited                                  | Additional Saltworks (2846.15 acres) located at village Kalatalav&Narmad, Ta. & Dist. Bhavnagar   | 28 April 2017     | 09   | 09                           | No                          | No             |  |
| 11     | Gujarat Chemical Port Company Limited          | Modification of existing Jetty and expansion of isolated storage facility at Dahej, Bharuch   | 27 January 2016   | 11   | 11                           | Yes                         | No             |  |
| 12     | Tata Chemicals Limited                         | Pipeline and Diffuser System for Disposal of Treated wastewater at Marine outfall point suggested by NIO, Mithapur, Okha, Devbhumi Dwarka           | 10 July 2017      | 08   | 08                           | Yes                         | No             |  |
| 13     | Nuclear Power Corporation of India Limited     | Mithivirdi Nuclear Power Plant at village Mithivirdi, Dist Bhavnagar  | 03 March 2015     | Project delisted                                   |                              |                             |                |  |



## Appendix-6

(Reference: Paragraph 4.7)

### Non-compliance to conditions of EC/ CRZ clearance by the Project Proponents

| <b>1. Development of proposed Petroleum, Chemical and Petro-Chemical Special Investment Region (PCPIR) by Gujarat Industrial Development Corporation</b>   |   |
|--|---|
| <b>Requirement</b>   | <b>Status-(September 2021)</b>  |
| A firm and time-bound action plan for the conservation of mangroves and mudflats in the CRZ area, as a critical component of the EMP, shall be prepared through an identified institute of repute.<br><b>(Condition no. 4. I (vii) of CRZ clearance)</b>           | Though the clearance to this project was granted in September 2017, ToR for preparation of action plan was issued by PCPIR to identified institute in December 2020 only. |
| A detailed scientific study for Coastal Management Plan shall be prepared by an expert institution of repute and implemented by all the stakeholders. <b>(Condition no. 4. I (ix) of CRZ clearance)</b>  | Not prepared by PP.   |
| Preparation of environmental policy by the PP and its approval by its Board of Directors. It also mentions broad contents to be included in the said environmental policy.<br><b>(Condition no. 38 of CRZ clearance)</b>   | Not prepared by the PP.   |
| <b>2. Laying of treated effluent pipeline and disposal of effluent into Bhavnagar creek</b>  |   |
| <b>Requirement</b>   | <b>Status (September 2021)</b>  |
| Online monitoring sensors shall be provided at an outlet in the industry and at the creek outfall.<br><b>(Specific condition no.4 of CRZ clearance)</b>  | No monitoring sensors were provided.  |
| PP has to carry out massive plantation including Mangroves plantation in 25-hectare land in consultation with GEC/ Forest Department and submit an action taken report in this regard to F&ED/ MoEF&CC.<br><b>(Condition no. 5 of GCZMA recommendation letter)</b> | No plantation was carried out to date by the PP.  |
| <b>3. Laying of pipeline along the river Kolak up to deep sea for CETP in Village Morai, Vapi</b>  |   |
| <b>Requirement</b>   | <b>Status (September 2021)</b>  |
| PP was required to set up a separate environmental management cell for effective implementation of the stipulated environmental safeguards under the supervision of a Senior Executive.<br><b>(Special Condition no. 28 of the CRZ clearance)</b>                  | The PP did not set up the cell.   |
| <b>4. Laying of treated effluent disposal pipeline and diffuser system for disposal of treated wastewater at marine outfall point in Gulf of Kachchh at Mithapur</b>   |   |
| <b>Requirement</b>   | <b>Status (September 2021)</b>  |
| A comprehensive EIA Report shall be prepared and submitted to GCZMA.<br><b>(Condition no. 10 of GCZMA recommendation letter)</b>   | Not submitted by PP.  |

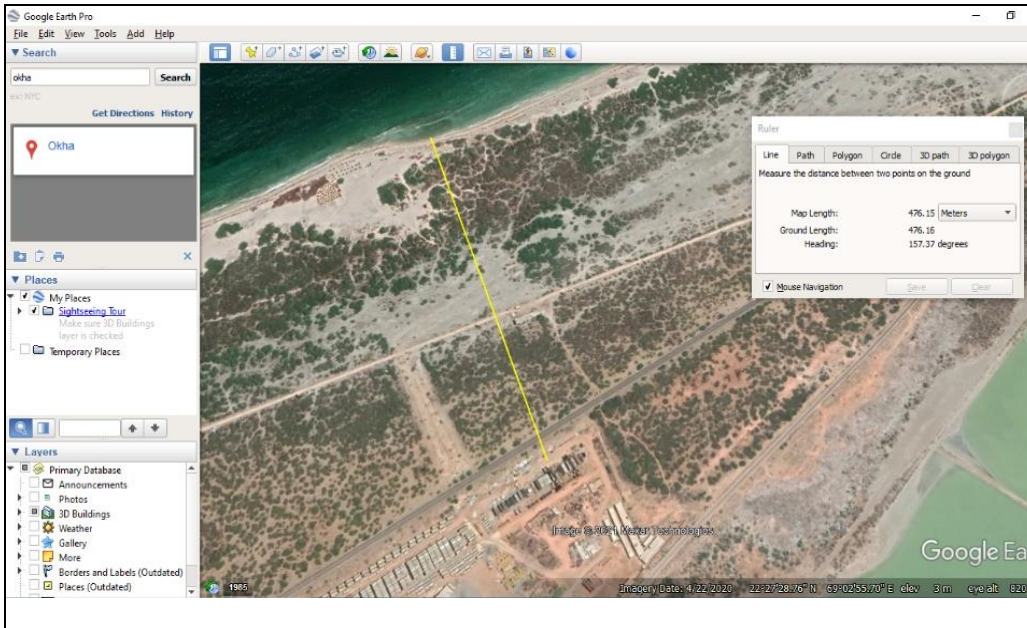
|   |  |
|---|--|
| Submission of annual environment audit reports to GCZMA ( <b>Condition no. 19 of GCZMA recommendation letter</b> )  | Not submitted by PP.   |
| Baseline data for Marine and coastal biodiversity of Poshitra Bay should be developed and monitored bi-annually with a specific focus on seagrass beds, and endemic species Sakura Eolis Gujaratica and Anteaolidiella Poshitra.<br>( <b>Special condition no. 21 of the clearance letter</b> ) | Baseline studies were not conducted by PP.   |
| <b>5. Revival of existing jetty with liquid storage terminal, pipeline, road connectivity, railway line and sidings at Gandhidham, Kachhh</b>   |  |
| <b>Requirement</b>  | <b>Status (September 2021)</b>   |
| PP had to obtain all necessary permissions from different Government Departments/ Agencies before commencing their activities. GPCB granted Consolidated Consent and Authorisation (CCA) for laying of only five pipelines <sup>1</sup> ,<br>( <b>Condition no. 5 of clearance letter</b> )     | During the site visit, audit noticed that PP had laid six pipelines <sup>2</sup> each of 1,800 metre length.<br>Thus, PP laid and operated an additional pipeline without obtaining CCA from GPCB. |
| The PP has to carry out mangroves plantation in a 50-hectare area in consultation with the GEC/ F&ED within two years from the date of commencement of the project.<br>( <b>Condition no. 23 of the clearance letter</b> )  | No plantation (August 2021) was carried out by the PP.   |
| PP shall take up massive green belt development activity in consultation with GEC/ F&ED/ GEER Foundation and submit a comprehensive plan to the Forest Department/ SEIAA. ( <b>Condition no. 22 of the clearance letter</b> )   | PP neither consulted F&ED/ GEC/ GEER Foundation nor submitted any comprehensive plan.  |
| Amounts of ₹ 20.67 lakh and ₹ 2.51 lakh included as Capital cost and Maintenance cost respectively for green belt development as per EMP, were to be spent.<br>( <b>Paragraph 9.8 of EIA report submitted by the PP</b> )   | It did not incur any expenditure for massive green belt development till date.   |
| <b>6. Additional salt works (2,395.15 Acres) located at Village Kalatalav and Narmad, Bhavnagar</b>   |  |
| <b>Requirement</b>  | <b>Status (September 2021)</b>   |
| Carrying out mangroves plantation in 50-hectare area.<br>( <b>Condition No. 16 of GCZMA recommendation letter</b> )<br>PP shall carry out mangroves plantation in an additional 50-hectare area.<br>( <b>Specific condition number 15 of clearance letter by SEIAA</b> )                        | PP has not complied with both the conditions till date .   |
| PP shall commission a comprehensive EIA through a reputed institute.<br>( <b>Condition no.10 of GCZMA recommendation letter</b> )   | Not prepared   |

<sup>1</sup> 1 pipeline of 12", 2 pipeline of 10", 1 pipeline of 8" and 1 pipeline of 14" of 1,800 metre length out of 3,000 metre of each pipeline.

<sup>2</sup> 2 pipeline of 12", 2 pipeline of 10", 1 pipeline of 8" and 1 pipeline of 14" of 1,800 metre length out of 3,000 metre of each pipeline.



|  |  |
|--|--|
| PP shall regularly carry out studies on environmental surveillance covering the status of mangroves and other coastal and marine ecosystems in the vicinity through the reputed institute and submit the report every year to the F&ED.<br><b>(Specific condition no. 7 of clearance letter)</b> | No such study was carried out by the PP.   |
| Submission of annual environmental audit report indicating the changes concerning the baseline environmental quality in the coastal and marine environment by the PP to FED and SEIAA. <b>(Other condition no.57 of clearance letter)</b>  | Not complied by the PP till date (August 2021).  |
| <b>7. Construction of marine bridge between Beyt Dwarka and Okha by the Jamnagar Division of Roads and Buildings Department</b>  |  |
| <b>Requirement</b>   | <b>Status/ observations by audit during a joint site visit of Construction camp and project (August 2021)</b>                                  |
| PP shall set up a separate environmental management cell with qualified personnel for environment monitoring and management during the construction and operational phases of the project.<br><b>(Condition no. 55 of the CRZ clearance)</b>   | No such cell was created by PP.  |
| Consent to Establish (CTE) and Consent to Operate (CTO) to be taken by the PP from GPCB.<br><b>(Specific Condition no. 2 of CRZ Clearance)</b>   | A Ready-Mix Concrete Plant was established at the construction camp by the PP without obtaining CTE or CTO.                                    |
| Permission for Non-agricultural use for the land to be obtained.<br><b>(Condition no. 2 of CRZ clearance)</b>  | Construction camp was established on agricultural land. Permission for Non-agricultural use was not obtained.                                  |
| Records related to the monitoring of fugitive emissions in the work area are required to be maintained.<br><b>(Specific Condition no. 34 of CRZ Clearance)</b>   | Such records were not maintained.  |
| Used oil to be sold to registered recyclers only.<br><b>(Specific condition no. 39 of CRZ clearance)</b>   | PP stated that used oil was being sold to local vendors and not registered recyclers.  |
| Annual environment audit reports indicating changes, if any with respect to the baseline environmental quality in the coastal and marine environment to be submitted to F&ED by the PP.<br><b>(Specific Condition no. 53 of CRZ Clearance)</b>   | An annual environment audit after the commencement of construction was not carried out.  |
| Construction/ installation of settling ponds and oil receptors to prevent the entry of the surface runoff from fuel and other contaminants into the marine water and other surface water bodies along the corridor.<br><b>(Special condition no. 6 of CRZ Clearance)</b>                         | No such settling ponds and/ or oil receptors were observed at the project site.  |
| Construction Camp shall be kept outside the CRZ area.<br><b>(Specific Condition no. 16 of CRZ Clearance)</b>   | Audit observed that part of the construction camp falls under CRZ III area as can be seen from the image of the construction camp shown below. |



**Image of the construction camp, (distance from Sea: 476 metre) as taken from Google Earth pro software (August 2021)**

**8. Construction of Residential project ‘Sun City’ at Barbodhan village, Surat by Pramukh Organizers LLP**

PP submitted a CRZ map and superimposed the project site on this map. Some parts of the construction area proposed by PP was falling within CRZ III. GCZMA did not insist for a revision in project layout and simply sought an undertaking from the PP regarding not carrying out any construction activity in the CRZ III. The same condition was inserted by GCZMA in its recommendation letter to SEIAA.

## Appendix-7

(Reference: Paragraph 5.2)

### PEA-wise Activities carried out under ICZMP

| Name of PEA   | Activities to be carried out  | Status (September 2021)   |
|---|---|---|
| <b>GEER Foundation</b>  | Capacity Building of GEER Foundation  | GEER Foundation established a Central laboratory at Gandhinagar and five marine field stations <sup>1</sup> . Observation related to not utilising instruments optimally at Mandvi and Jamnagar Field Station are discussed at paragraph 5.2.1.   |
|   | Biophysical monitoring of Gulf of Kachchh (GoK)                               | GEER Foundation carried out studies about the flora and faunal diversity in the GoK, Kachchh and submitted three reports (July 2017, January 2018 and March 2019) to SPMU.  |
|   | Carrying out experimental coral transplantation                               | GEER Foundation carried out experimental coral transplantation of 852 fragments at four different locations <sup>2</sup> in the Marine National Park and Marine Sanctuary (MNP&MS) in the GoK in five phases during March 2012 to January 2015.   |
| <b>Gujarat Pollution Control Board (GPCB)</b>                           | Capacity building of GPCB by providing Sophisticated Analytical Instruments   | GPCB developed the State of Art Laboratory (SARL) at Gandhinagar, Bhuj, Jamnagar and Rajkot and procured 18 sophisticated Scientific Analytical Instruments for the Central laboratory at Gandhinagar. Observation related to underutilisation of some of the instruments are discussed at paragraph 5.2.1.   |
|   | Monitoring of Physico-chemical parameters of coastal water of Gulf of Kachchh | GPCB carried out monitoring of Physico-chemical parameters of coastal water of Gulf of Kachchh and submitted its reports to SPMU in July 2017 and March 2018.   |
| <b>Jamnagar Municipal Corporation (JMC)</b>                             | Construction of Sewerage Treatment Plant (STP) at Jamnagar                    | JMC engaged (October 2013) a firm on PPP basis to construct 70 MLD STP and operate and maintain it for a period of 15 years. The STP was commissioned in August 2016. However, as the firm did not construct ancillary network within two years from the date of commissioning, operation and maintenance of STP was transferred (December 2020) to Gujarat Water Supply and Sewerage Board (GWSSB). JMC also forfeited (July 2021) the bank guarantee of the earlier firm. |
| <b>Marine National Park and Marine Sanctuary, Jamnagar (MNP&amp;MS)</b> | Mangroves Plantation  | During the year 2010-11 to 2014-15, MNP&MS carried out a total of 3,900-hectares mangroves plantation (1,025 hectares on island and 2,875 hectares on coastal area) at a total of ₹ 659.38 crore.   |
|   | Coral Reef Restoration  | Total 927 fragments of Coral were transplanted between 2013-14 to 2015-16 at  |

<sup>1</sup> Bhavnagar, Jamnagar, Mandvi (Kachchh), Mangrol (Gir Somnath), and Surat.

<sup>2</sup> Dedeka-Mundeka, Goose, Narara and Poshitra.

|  |  |   |
|--|--|---|
|  |  | Pirotan, Narara and Mithapur region of the Gulf of Kachchh. Further, 4,540 samples of local coral species were also transplanted in the area of the Gulf of Kachchh. As per report of Zoological Survey of India (July 2017), high survival rates of (more than 95 <i>per cent</i> ) native coral species were recorded in all restoration sites.   |
|  | Eco-tourism Development                                | Three activities <sup>3</sup> were supposed to be carried out. Out of which Oceanarium development project did not materialise, as no party could be identified even after three attempts through international competitive bidding. Further, the work of development of the Coral watch trail and Mangroves canopy walk was not carried out by MNP&MS considering potential harm to coral and mangroves due to anthropogenic activities. |
|  | Eco-Development in villages around the Gulf of Kachchh | Entry-point eco-development activities like construction of individual toilets, internal roads, vented causeway, check dam, multipurpose cyclone relief centre, solar light etc., were carried out in the villages located near MNP&MS.   |
|  | Sea Turtle conservation programme                      | One Hatchery already existed at Madhupur (Porbandar) from which 52,734 eggs were collected and 43,108 turtles (Hatching ratio 82 <i>per cent</i> ) were released between 2009-10 and 2020-21. Further, a new turtle Hatchery was started (October 2012) at Okhamadhi (MNP&MS, Jamnagar) in which out of 69,684 eggs collected, 55,749 turtles (Hatching ratio-80 <i>per cent</i> ) were released between 2012-13 and 2020-21.             |
|  | Conservation awareness and education programme         | Total ₹ 5.42 crore was utilised for awareness materials.  |

<sup>3</sup> (i) Oceanarium development (ii) Development of Coral watch trail (iii) Development of Mangroves canopy walk.

**Appendix-8**  
(Reference: Paragraph 5.3)

**Activities executed under Smart Eco Villages project**

(₹ in crore)

| Sl. No. | Type of work  | Total units  | No. of villages out of 112 villages | Total contract value | Total work done |
|---------|---|--------------|-------------------------------------|----------------------|-----------------|
| 1       | Alternative energy development activity                         | 2,757        | 98                                  | 4.35                 | 4.25            |
| 2       | Animal husbandry activities                                     | 108          | 75                                  | 3.27                 | 2.66            |
| 3       | CCTV  | 841          | 67                                  | 6.12                 | 5.14            |
| 4       | Clean and green village activities (Development of Gardens)     | 1,022        | 22                                  | 12.74                | 12.86           |
| 5       | Construction for community development                          | 9            | 9                                   | 0.79                 | 0.61            |
| 6       | Construction for water conservation                             | 22           | 22                                  | 2.48                 | 2.30            |
| 7       | Consultancy work  | --           | --                                  | 4.39                 | 3.37            |
| 8       | Development and establishment of Liquid Waste management system | 2            | 2                                   | 1.43                 | 1.40            |
| 9       | Development and establishment of Solid Waste management system  | 3            | 3                                   | 0.95                 | 0.30            |
| 10      | Development of fodder plots                                     | 25           | 25                                  | 2.26                 | 2.08            |
| 11      | Establishment of smart (Green) schools                          | 31           | 30                                  | 9.13                 | 9.07            |
| 12      | Fishing sheds   | 8            | 8                                   | 0.71                 | 0.67            |
| 13      | MSME units  | 27           | 10                                  | 0.81                 | 0.81            |
| 14      | Public Address system   | 48           | 48                                  | 1.73                 | 1.65            |
| 15      | Recharge well   | 102          | 37                                  | 2.30                 | 1.20            |
| 16      | RO plant  | 9            | 9                                   | 0.79                 | 0.79            |
| 17      | Roof rainwater harvesting System                                | 2,257        | 44                                  | 14.71                | 9.91            |
| 18      | Salinity prevention activities                                  | 3            | 3                                   | 0.34                 | 0.32            |
| 19      | Water desalination plant  | 7            | 7                                   | 14.91                | 14.90           |
|         | <b>Grand Total</b>  | <b>7,281</b> |                                     | <b>84.21</b>         | <b>74.29</b>    |



### Appendix-9

(Reference: Paragraph 5.3.1)

#### Comparison of activities envisaged in project proposal with procurement plan and actual execution

(₹ in lakh)

| Outcome Number | Outcome   | Output number | Output   | Activity number | Activity   | Outlay | Mentioned in Procurement Plan   |                                | Work done                      |                                |                                |
|----------------|---|---------------|--|-----------------|--|--------|---|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
|                |   |               |  |                 |  |        | Procurement Plan (PPA) Number   | Outlay                         |                                | Contract Amount                |                                |
| 1              | Enhance the capacity of community to restore and manage the coastal natural resources for sustainable smart-eco village development | 1.1           | Development of Ecological Resources to sustain & manage the coastal natural resources for coming generations | 1.1.1           | Identification and quick survey about the natural coastal resources of the village | 56     | PPA 16  | 721                            | 439.43                         | 336.90                         |                                |
|                |   |               |  | 1.1.2           | Enhancement of natural resources of village  | 336    | PPA 7, 8, 12, 13 and 19   | Included in 1.1.2.1 to 1.1.2.4 | Included in 1.1.2.1 to 1.1.2.4 | Included in 1.1.2.1 to 1.1.2.4 | Included in 1.1.2.1 to 1.1.2.4 |
|                |   |               |  | 1.1.2.1         | Water conservation and management  | 1,288  | PPA 13  | 250                            | 229.50                         | 119.74                         |                                |
|                |   |               |  |                 |  |        | PPA 19  | 1,000                          | 1,470.74                       | 991.52                         |                                |
|                |   |               |  |                 |  |        | Not included in PP  | Nil                            | 247.81                         | 229.94                         |                                |
|                |   |               |  | 1.1.2.2         | Fodder development   | 784    | PPA 12  | 420                            | 226.30                         | 208.04                         |                                |
|                |   |               |  | 1.1.2.3         | Salinity reduction and abatement   | 672    | PPA 8   | 1,250                          | 33.74                          | 31.71                          |                                |
|                |   |               |  | 1.1.2.4         | Other infrastructure development   | 784    | PPA 7   | 485                            | 70.56                          | 67.43                          |                                |
|                |   |               |  | 1.1.3           | Imparting technical skills to villagers for sustainable management of resources    | 784    | Not included in PP  | Nil                            | Nil                            | Nil                            |                                |
|                |   |               |  | 1.2             | Conservation & Long-Term Management of Coastal & natural                           | 1.2.1  | Prepare long term management plan for coastal and natural resources of the villages - | 68                             | Not included in PP             | Nil                            | Nil                            |



| Outcome Number | Outcome   | Output number | Output   | Activity number | Activity  | Outlay | Mentioned in Procurement Plan   |        |                    | Work done |     |     |     |     |
|----------------|---|---------------|--|-----------------|---|--------|---|--------|--------------------|-----------|-----|-----|-----|-----|
|                |   |               |  |                 |   |        | Procurement Plan Activity (PPA) Number  | Outlay | Contract Amount    |           |     |     |     |     |
| 2              | Build the capacity of communities to enhance their livelihood & socio-economic status | 2.1           | resources of the village                           |                 | Implementation of long-term management plan   |        |   |        |                    |           |     |     |     |     |
|                |   |               |  | 1.2.2           | Creation of Corpus fund for management of coastal and other natural resources - Preparation of rules and regulation for use of Corpus | 546    | Not included in PP  | Nil    | Nil                | Nil       |     |     |     |     |
|                |   |               |  | 2.1.1           | Identification of need for development of skill   | 25     | Not included in PP  | Nil    | Nil                | Nil       |     |     |     |     |
|                |   |               |  | 2.1.2           | Imparting need-based skill development trainings for the community to enhance their livelihood  | 210    | Not included in PP  | Nil    | Nil                | Nil       |     |     |     |     |
|                |   |               |  | 2.1.3           | Development of special skilled manpower considering nearby Industries requirement   | 175    | Not included in PP  | Nil    | Nil                | Nil       |     |     |     |     |
|                |   |               |  | 2.1.4           | Employment creation for skilled manpower  | 140    | Not included in PP  | Nil    | Nil                | Nil       |     |     |     |     |
|                |   | 2.2           | Improvement of Education and IT infrastructure for |                 |   | 2.1.5  | Skill development program for women to enhance or promote art and craft skill for enhancement of livelihood | 250    | Not included in PP | Nil       | Nil | Nil |     |     |
|                |   |               |  |                 |   | 2.1.6  | Micro enterprise development for women in art and craft   | 200    | Not included in PP | Nil       | Nil | Nil |     |     |
|                |   |               |  |                 |   | 2.2.1  | Baseline assessment and need identification   | 20     |                    |           |     |     |     |     |
|                |   |               |  |                 |   | 2.2.2  | Identifications of books and its procurement  | 30     |                    |           |     |     |     |     |
|                |   |               |  |                 |   |        |   |        |                    |           |     |     | 104 |     |
|                |   |               |  |                 |   |        |   |        |                    |           |     |     |     | 896 |

| Outcome Number | Outcome  | Output number | Output                              | Activity number | Activity   | Outlay | Mentioned in Procurement Plan  |        |                 | Work done |          |          |
|----------------|--|---------------|-------------------------------------|-----------------|--|--------|--|--------|-----------------|-----------|----------|----------|
|                |  |               |                                     |                 |  |        | Procurement Plan Activity (PPA) Number   | Outlay | Contract Amount |           |          |          |
| 3              | Development of Coastal Clean & Green Villages to achieve Eco-Smart Village Concept | 3.1           | betterment of socio-economic status | 2.2.3           | Library infrastructure development including IT  | 120    |  |        |                 |           |          |          |
|                |  |               |                                     | 2.2.4           | Establishment of Information Technology Infrastructures within village for E governance system | 336    |  |        |                 |           |          |          |
|                |  |               |                                     | 3.1.1           | Feasibility assessment of solid waste and liquid waste generation in the village               | 116    | PPA 9  | 800    | 94.80           | 29.88     |          |          |
|                |  |               |                                     | 3.1.2           | design and establishment of solid waste management infrastructure                              | 200    |  |        |                 |           |          |          |
|                |  |               |                                     | 3.1.3           | distribution of waste bins and establishment of collection system                              | 200    |  | Nil    | Nil             | Nil       |          |          |
|                |  |               |                                     | 3.1.4           | Collection, segregation and disposal mechanism development                                     | 240    |  | Nil    | Nil             | Nil       |          |          |
|                |  |               |                                     | 3.1.5           | design and establishment of liquid waste management infrastructure                             | 200    |  | PPA 11 | 143.21          | 140.04    |          |          |
|                |  | 3.2           | Development of Green Villages       | 3.2.1           | Creation of Village Level Environment for clean village, clean Gujarat & Clean India concept   | 3.1.6  | maintenance of solid waste management and reuse of water                               | 280    |                 | Nil       | Nil      | Nil      |
|                |  |               |                                     |                 |  | 3.1.7  | awareness creation and communication material development for clean and green villages | 300    |                 | Nil       | Nil      | Nil      |
|                |  |               |                                     |                 |  |        | creation of plantation and Gardens within villages                                     | 180    | PPA 18          | 200       | 1,273.51 | 1,285.83 |

| Outcome Number | Outcome  | Output number | Output                                       | Activity number | Activity   | Outlay        | Mentioned in Procurement Plan          |              |                 | Work done       |  |
|----------------|--|---------------|--|-----------------|--|---------------|--|--------------|-----------------|-----------------|--|
|                |  |               |  |                 |  |               | Procurement Plan Activity (PPA) Number | Outlay       | Contract Amount |                 |  |
|                |  |               |  |                 | with concept of carbon-neutral villages  |               |  |              |                 |                 |  |
|                |  |               |  | 3.2.2           | maintenance of plantation and Gardens  | 180           | Not included in PP                     | Nil          | Nil             | Nil             |  |
|                |  |               |  | 3.2.3           | creation of horticulture in village Cross-roads  | 120           | Not included in PP                     | Nil          | Nil             | Nil             |  |
| 4              | Establishment of Micro-enterprises to build the smart villages pillars | 4.1           | One Village One Entrepreneurship Development | 4.1.1           | preparation of secondary research reports for creation of smart enterprises in village | 336           | PPA 10                                 | 1,000        | 80.97           | 81.04           |  |
|                |  |               |  | 4.1.2           | Establishment of various micro-Enterprises   | 2,240         | PPA 10                                 |              |                 |                 |  |
|                |  |               |  | 4.1.3           | development of market linkages and fund generation for micro-Enterprises               | 784           | PPA 10                                 |              |                 |                 |  |
|                |  |               |  |                 |  | <b>12,200</b> |  | <b>7,926</b> | <b>4,310.57</b> | <b>3,522.07</b> |  |

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