

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
	Total	32	14	04	14	

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 Application¹ 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/

¹An 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 Salt pans 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:

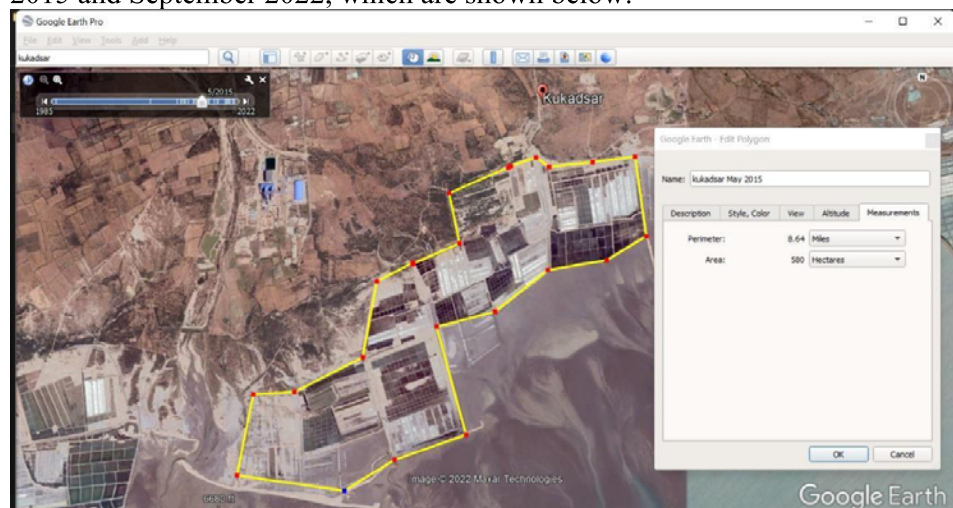


Figure 3.2: Satellite image of the site as on May 2015

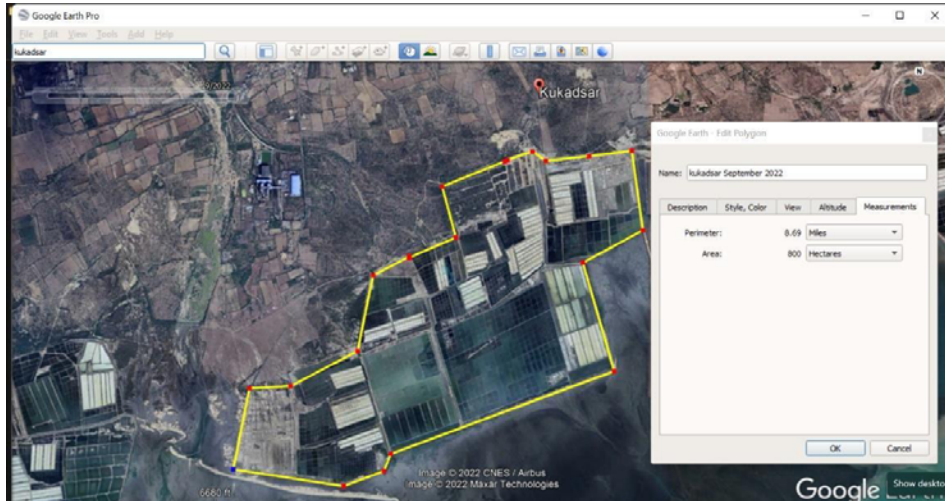


Figure 3.3: Satellite image of the site as on September 2022

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:

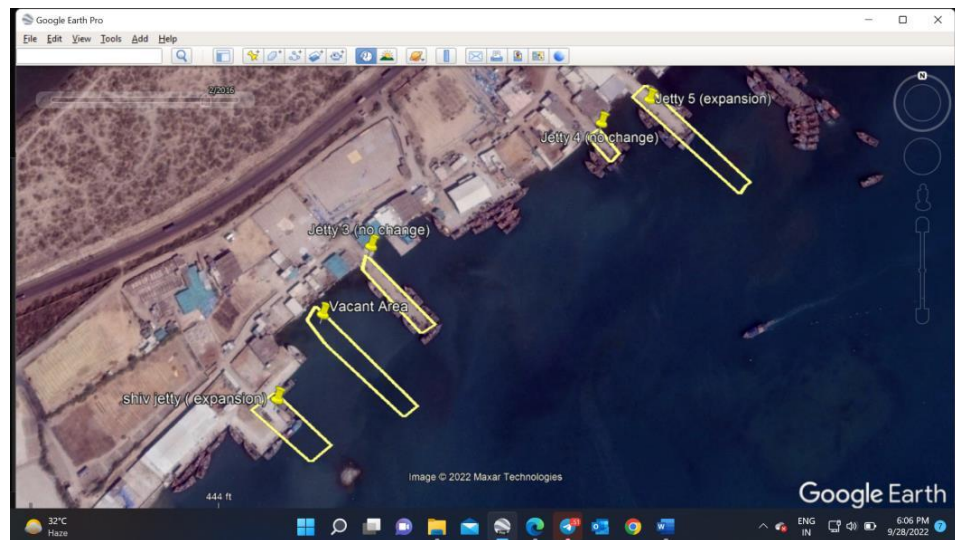


Figure 3.4: Image is taken from Google earth pro (February 2016)

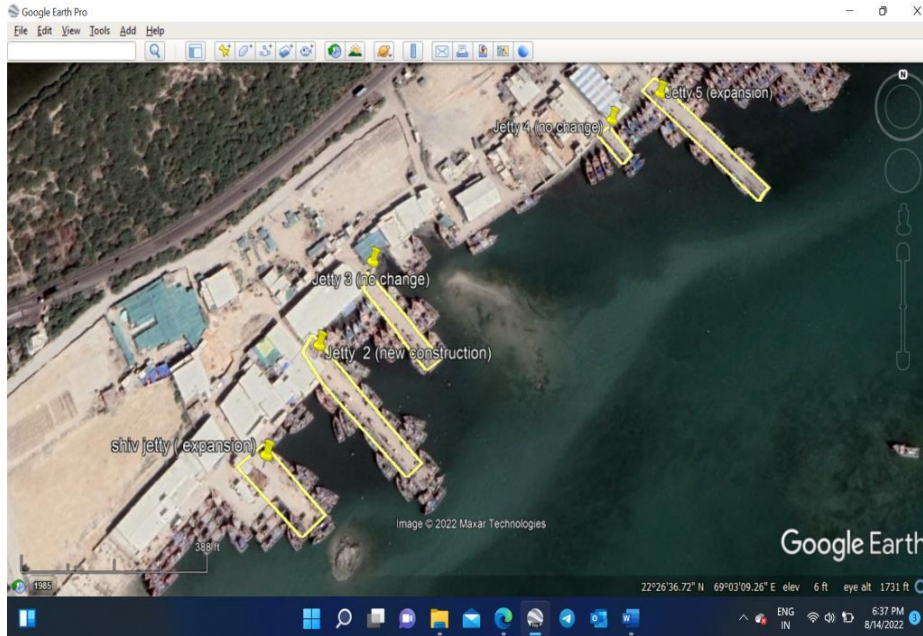


Figure 3.5: Image is taken from Google earth pro (August 2022)

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 2016², 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

²The 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 three³ 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

³Porbandar, 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 ⁴	3	0	46.08	46.08
5	Under Planning Stage ⁵	5	0	33.20	33.20
	Grand Total	33	1,268.2	1,578.4	362.42

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

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

⁵Khambhat: 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.

