

**BEFORE THE NATIONAL GREEN TRIBUNAL  
WESTERN ZONE BENCH AT PUNE**

**ORIGINAL APPLICATION NO. 54 OF 2018 (WZ)**

**IN THE MATTER OF:**

KASHINATH SHETYE & ORS

...APPLICANTS

VERSUS

RAUL SILVA RODRIGUES & ORS

...RESPONDENTS

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**FILED BY:**



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**NEW DELHI  
DATE: 23.09.2020**

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**RESPONSE TO THE REPORT OF THE JOINT INSPECTION COMMITTEE**

**MOST RESPECTFULLY SHOWETH:**

1. That the above titled Application was filed highlighting serious violations of the CRZ Notification, 2011 due to the illegal commercial operations as well as the illegal constructions by Respondents No. 2 and 3 in Survey No. 107/1, Cavelossim Village, Salcete Goa. It is pertinent to note that the said survey no. falls in the No Development Zone of River Sal.
2. That vide order dated 24.06.2020, this Hon'ble Tribunal had directed for constitution of a Committee consisting Goa SPCB, GCZMA and the Goa Biodiversity Board and directed the committee to visit the site and submit a factual and action taken report. At the outset, it is submitted that the report has completely failed to comply with the directions of this Hon'ble Court. The Committee has failed to consider the crucial document, i.e., the RSI Satellite Mapping of the entire CRZ-III region of Goa and have merely accepted the claims made by the violator, i.e. Respondent No. 2- Miguel Rodriguez.
3. That the Appellant's counsel received the report via email on the 24.08.2020. The present reply is being filed on behalf of the Applicants to the said report of the Committee. At the outset the Applicant denies the contents of the report unless the same is specifically admitted or is part of record. It is further brought to the notice of this Hon'ble Tribunal, that the Applicant had never received any notice regarding the inspection that allegedly took place on 4<sup>th</sup> August 2020. The Applicant is

constrained to make this statement, because the Report notes that there was no representation on behalf of the “complainant” during the site visit.

4. That it is pertinent to note that the Committee has failed to give its observations regarding the issues raised by the Applicants. In fact, has relied on an earlier site inspection of two GCZMA members, dated 17.10.2019 and have only relied on the statements made by the Respondent No. 3 who claimed to be the owner of the property and showed no documentary proof for the same.
5. Further, it has been stated in the report that the GCZMA had decided in its 215<sup>th</sup> Meeting that there was no need to issue any orders/directives for demolition, as the structures existing therein were prior to 1991, including the fish landing facility and have merely annexed the report dated 17.10.2019.

#### **PRELIMINARY SUBMISSIONS**

6. That the Appellant would like to make the following preliminary submissions:
  - i. The report dated 17.10.2019 failed to consider the following critical issues:-
    - a. The fact that the house nos. 366, 367, 368, 384, 385, 386 which was shown to be a part of Survey No. 107/1 by Mr. Miguel Rodriguez actually existed on Survey No. 109.
    - b. That subsequent to the orders of the Hon’ble High Court of Goa, the GCZMA had undertaken through M/s Remote Sensing Instruments (RSI), Hyderabad, a detailed cadastral level remote sensing mapping of the number of dwelling units and all other structures and constructions which were existing in the CRZ- III zone in Goa, village or town wise as on 19th February 1991 and increase in number thereof thereafter, year wise. The said document has been prepared on the basis of satellite imagery as well as the ground truthing and documents available in the official records with respect to permissions granted by various authorities. The said document, therefore is an important and crucial tool in deciding whether a given structure has come up before 1991 or after. It is pertinent to note that the details for Survey No. 107/1 of Village Cavelossim has been given in the said document. The said survey number clear shows that the structures in question have come up between 1994 and 1998. Thus, the said map makes it absolutely clear that the structures that have been illegally built

and expanded by the Respondents No 2 and 3 were not existing prior to 1991 and therefore, the same is clearly in violation of the provisions of the CRZ Notification, 2011. Further, the report does not mention any permissions for such structures which pertain to the years 1994- 1998.

A copy of the relevant parts of the RSI Report is annexed herewith as **ANNEXURE-1**

- c. Miguel Rodriguez is a hotelier and not a fisherman. This is made clear from the certificate of registration issued by the Department of Tourism, Goa for owning and running a hotel named “Joecons Beach Resorts” in Benaulim, Salcete, South Goa. A copy of the same is attached herewith as **ANNEXURE-2**
- ii. The above referred document clearly shows that he is not a member of the local traditional fisherfolk community. The veracity of the certificate dated 21.09.2018 from the Ramponkarancho Ekvott” is highly questionable. Further, the same has not been produced on record.
- iii. That the Report dated 17.10.2019 clearly shows that the structures in question are within the NDZ of River Sal. It is submitted that within the NDZ, only the following activities are permissible:-

*“(iii) however, the following activities may be permitted in NDZ –*  
*(a) agriculture, horticulture, gardens, pasture, parks, play field, and forestry;*  
*(b) projects relating to Department of Atomic Energy;*  
*(c) mining of rare minerals;*  
*(d) salt manufacture from seawater;*  
*(e) facilities for receipt and storage of petroleum products and liquefied natural gas as specified in Annexure-II;*  
*(f) facilities for regasification of liquefied natural gas subject to conditions as mentioned in subparagraph (ii) of paragraph 3;*  
*(g) facilities for generating power by non conventional energy sources;*  
*(h) Foreshore facilities for desalination plants and associated facilities;*  
*(i) weather radars;*  
*(j) construction of dispensaries, schools, public rain shelter, community toilets, bridges, roads, provision of facilities for water supply, drainage, sewerage, crematoria, cemeteries and electric sub-station which are required for the local inhabitants may be permitted on a case to case basis by CZMA;*  
*(k) construction of units or auxiliary thereto for domestic sewage, treatment and disposal with the prior approval of the concerned Pollution Control Board or Committee;*  
***(l) facilities required for local fishing communities such as fish drying yards, auction halls, net mending yards, traditional boat building yards, ice plant, ice crushing units, fish curing facilities and the like;***  
*(m) development of green field airport already permitted only at Navi Mumbai.”*

(Emphasis Added)

It is submitted that the CRZ Notification permits only “local fishing communities” to undertake activities within the NDZ. In the present case, it is clear that Mr. Miguel Rodriguez is not a member of any local fishing community.

- iv. The site inspection report dated 17.10.2019 completely fails to consider the observations made in the show cause notice dated 15.10.2014 (**see Annexure A-3 of OA at pp. 49-54**) which were issued by the State Pollution Control Board clearly highlighting the illegal activities and violations by Respondent No. 2 and 3.
7. That it is submitted that the GCZMA ought not to have taken any decision regarding this issue, as the same was pending consideration before this Hon’ble Tribunal. It is pertinent to note that the GCZMA in its 215<sup>th</sup> meeting had simply relied on the site inspection reports as well as the fraudulent documents submitted by Miguel Rodriguez. It is further submitted that the GCZMA ought to have considered its own RSI mapping before concluding that the structures in question were existing before 1991.
8. That it is submitted that this Hon’ble Tribunal may reject the report filed by the Joint Inspection Committee as it has failed to comply with the directions of this Hon’ble Court and have simply relied on an earlier report of the GCZMA.

**APPLICANT**

**THROUGH**



**RITWICK DUTTA RAHUL CHOUDHARY MEERA GOPAL**  
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AFFIDAVIT

I, Kashinath Shetye, Aged about 52 years, S/o Late airam Shetye R/o House No. A-102, Raj Excellency, Patto, Ribandar, Goa do hereby solemnly affirm and state as under:-

1. That I am the Applicant No. 1 in the above titled Application and am I competent to swear this Affidavit.
2. That the contents of the accompanying response to the report of the Joint Inspection Committee and true and correct to the best of my knowledge and nothing material has been concealed therefrom.

  
DEPONENT

**VERIFICATION**

I, the deponent above-named, do hereby state on solemn affirmation that the contents of the paras 1 to 3 are true and correct to my knowledge and I believe the same to be true and that nothing material has been concealed therefrom.

Verified at Panaji on 23<sup>rd</sup> day of September 2020

  
DEPONENT

**TECHNICAL REPORT OF THE PROJECT**  
**ON**  
**CONSULTANCY SERVICES AND TO CONDUCT**  
**SURVEY AND INQUIRY IN CRZ-III OF GOA COAST**  
**2008**



BY



**REMOTE SENSING INSTRUMENTS, HYDERABAD**

## INTRODUCTION

Coastal systems are very fragile ecosystems which include ecologically sensitive features like mangroves, sand dunes and spawning ground of marine life, corals, wetland, marsh, swamp, bays, estuaries, creeks, bunds and backwater that are influenced by tidal action.

Mangroves and coral reefs act as a buffer zone against wave and tidal force for stabilizing and safe guarding the coast. Sand dunes are a sign of ecological equilibrium between powerful physical forces of the ocean and act as first line of defense to prevent monsoon storm, waves and cyclonic surges.

Rapidly increasing human population and industrial development along the coast have resulted in the degradation of coastal ecosystems. Expressing her serious concern Smt. Indira Gandhi, former Prime Minister has in a letter in 1981, to the Chief Ministers of all the coastal states directed that the beaches, because of their esthetic and environment value, have to be kept clear of all activities upto 500 meters from the highest water line.

Subsequently, Ministry of Environment and Forest, Government of India enacted the Coastal Regulation Zone (CRZ) notification issued under Environment Protection Act of 1986, which was notified through Gazette in 1991. Through this act, the coastal stretches of seas, bays, estuaries, creeks, rivers and back waters which are influenced by tidal action (in the landward side) upto 500 meters from the High Tide Line (HTL) and the land between Low Tide Line (LTL) and the HTL are declared as coastal regulation zone and imposed restrictions on setting up and expansion of Industries, operations or processes etc in the said Coastal Regulation Zone (CRZ). For the purposes of the notification the High Tide Line

means the line on the land upto which the highest waterline reaches during the spring tide. The notification also stipulates that High Tide Line shall be

demarcated uniformly in all parts of the Country by the demarcating authority or authorities so authorized by the Central Government in accordance with the general guide lines issued in this regards.

In the case of rivers, creeks and backwaters, the distance from HTL shall apply to either sides upto 100m or width of the river, creek or backwater, whichever is less. The point upto which the development is to be regulated along the rivers, creeks and backwaters shall be governed by the distance upto which the tidal effect of sea is experienced by them.

## **1.2 CLASSIFICATION OF COASTAL REGULATION ZONE AND DEVELOPMENT REGULATION:**

For regulating development activities, the coastal stretches within 500 meters of HTL on the landward side are classified into four categories namely:

### **Category – I (CRZ – I):**

Areas that are ecologically sensitive and important, such as national parks / marine parks, sanctuaries, reserve forests, wildlife habitats, mangroves, corals / coral reefs, areas close to breeding and spawning grounds of fish and other marine life, areas of outstanding natural beauty / historically heritage areas, areas rich in genetic diversity, areas likely to be inundated due to rise in sea level consequent upon global warming and such other areas as may be declared by the Central Government or the concerned authorities at the State / Union Territory level from time to time.

Area between Low Tide Line (LTL) and the High Tide Line (HTL).

### **Category – II (CRZ – II):**

The areas that have already been developed upto or close to the shoreline. For this purpose, “developed area” is referred to as that area within the municipal limits or in other legally designated urban areas which is already substantially

built up and which has been provided with drainage and approach roads and other infrastructural facilities, such as water supply and sewerage mains.

**Category – III (CRZ – III):**

Areas that are relatively undisturbed and those which do not belong to either Category – I or II. These will include coastal zone in the rural areas (developed and undeveloped) and also areas within Municipal limits or in other legally designated urban areas which are not substantially built up.

**Category – IV (CRZ – IV):**

Coastal stretches in the Andaman & Nicobar, Lakshadweep and small islands, except those designated as CRZ – I, CRZ – II or CRZ – III.

**Norms for Regulation of Activities:**

Development or construction activities in different categories of CRZ area shall be regulated by the concerned authorities at the State / Union Territory level, in accordance with the following norms.

**CRZ – I:**

No new construction shall be permitted in CRZ-I except

- (a) projects relating to Department of Atomic Energy and
- (b) Pipelines, conveying systems including transmission lines and
- (c) Facilities that are essential for activities permissible under CRZ-I.

Between the LTL and the HTL, activities as specified under paragraph (xii) may be permitted. In addition, between LTL and HTL in areas which are not ecologically sensitive and important, the following may be permitted: a) Exploration and extraction of Oil and Natural Gas b) Activities as specified under proviso of sub-paragraph (ii) of paragraph 2 and (c) construction of dispensaries, schools, public rain shelters, community toilets, bridges, roads, jetties, water supply, drainage, sewerage which are required for traditional inhabitants of the

Sunderbans Bio-sphere reserve area, West Bengal, on a case to case basis, by the West Bengal State Coastal Zone Management Authority.

**CRZ – II:**

- i) Buildings shall be permitted only on the landward side of the existing road (or roads approved in the Coastal Zone Management Plan of the area) or on the landward side of existing authorized structures. Buildings permitted on the landward side of the existing and proposed roads / existing authorized structures shall be subject to the existing local Town and Country Planning Regulations including the existing norms of Floor Space Index / Floor Area Ratio:  
Provided that no permission for construction of buildings shall be given on landward side of any new roads (except roads approved in the Coastal Zone Management Plan) which are constructed on the seaward side of an existing road.
- ii) Reconstruction of the authorized buildings to be permitted subject to the existing FSI / FAR norms and without change in the existing use.
- iii) The design and construction of buildings shall be consistent with the surrounding landscape and local architectural style.

**CRZ – III:**

- i) The area upto 200metres from the High Tide Line (HTL) is to be earmarked as 'No Development Zone'. No construction shall be permitted within this zone except for repairs of existing authorized structures not exceeding existing FSI, existing plinth area and existing density, and for permissible activities under the notification including facilities essential for such activities. An authority designated by the State Government / Union Territory Administration may permit construction of facilities for water supply, drainage and sewerage for requirements of local inhabitants. However, the following uses may be

- permissible in this zone – agriculture, horticulture, gardens, pastures, parks, play fields, forestry and salt manufacture from sea water.
- ii) Development of vacant plots between 200 and 500 meters of High Tide Line in designated areas of CRZ-III with prior approval of Ministry of Environment and Forests (MEF) permitted for construction of hotels / beach resorts for temporary occupation of tourists / visitors subject to the conditions as stipulated in the guidelines at Annexure – II.
  - iii) Construction / reconstruction of dwelling units between 200 and 500 meters of the High Tide Line (HTL) permitted so long it is within the ambit of traditional rights and customary uses such as existing fishing villages and gaothans. Building permission for such construction / reconstruction will be subject to the conditions that the total number of dwelling units shall not be more than twice the number of existing units; total covered area on all floors shall not exceed 33 percent of the plot size; the overall height of construction shall not exceed 9 meters and construction shall not be more than 2 floors ground floor plus one floor. Construction is allowed for permissible activities under the notification including facilities essential for such activities. An authority designated by State Government / Union Territory Administration may permit construction of public rains shelters, community toilets, water supply, drainage, sewerage, roads and bridges. The said authority may also permit construction of schools and dispensaries, for local inhabitants of the area, for those panchayats the major part of which falls within CRZ if no other area is available for construction of such facilities.
  - iv) Reconstruction / alterations of an existing authorized building permitted subject to (i) to (iii) above.

### 1.3 COASTAL ECOSYSTEM OF GOA:

The coastal zone of Goa is characterized by sandy stretches and an intricate network of water bodies across lowlands. The sea front is marked by a combination of beaches, rocky shores and headlands. Out of 105km long coast, more than 70km comprise linear and wide sandy beaches all backed by 1 to 10 meters high dunes; sandy pockets and secluded coves backed by rocky cliff are also found (Mascarenhas). The coastal plain, 20 to 35km in width, consists of lowlands traversed by seven major and four minor river systems that experience tides. Small islands, shoals and mangrove swamps are observed within water bodies.

In accordance with Coastal Regulation Zone (CRZ) act 1991 stipulations, Goa State Committee for Coastal Environment (GSCCE) was assigned the job of preparation of Coastal Zone Management plans classifying coastal stretches as CRZs. The plans prepared were approved by the MOEF in September 1996, after incorporating the information on delineation of eco-sensitive areas along the coastal stretches of Goa generated by National Institute of Oceanography (NIO). This is the prevailing law, that governs development activities along the coasts, rivers and back waters of Goa. It was amended twice in January and July, 1997 respectively.

Sand dune ecosystems are ecologically sensitive and geomorphologically fragile systems. They are vulnerable to stress and acts as nature's first line of defense against oceanic forces. Sand dunes were not mentioned in the notification. They were included in CRZ-I after the NIO have requested the MOEF for the same.

Goa Coast Line remained pristine till early 1970's. Human pressure on the coastal ecosystem started in the 1970s when tourism became a major source of revenue. This resulted in 80% of the urban growth being located along the coastal taluks. There has been a proliferation of hotels, resorts, residential flats, dwellings, small restaurants, beach side bars, roads and beach shacks along the

coast. This has resulted in dense population, deterioration of the quality of life, loss of biodiversity and adverse effects on beaches, dunes mangroves, water bodies and 'Khazan lands' – (reclaimed lowlands).

The main purpose CRZ notification was to control and minimize environmental damage to coastal ecosystem. The Goa State Committee for coastal environment was empowered to enforce the provision of the notification. Despite this, blatant violation of CRZ provision through anthropogenic activities have resulted in severe negative impacts on coastal ecosystem like rapid elimination of sand dunes, damage to dune vegetation, increasing mobility of sand, transport of sand islands, instability of dunes, denudation of hill slopes, deposition of sediments into estuaries, progressive built up of plastic litter, reduction in mangroves, wetlands and breeding grounds of marine life, localized shore line erosion and seasonal salt water ingress.

Courts have intervened in coastal matters following complaints and petitions from citizens and NGO's. Timely judicial intervention has, to some extent, preserved the sanctity of the coastal zones.

#### **1.4 BACKGROUND FOR THE PROJECT:**

The Hon'ble High Court of Bombay at Goa, vide judgment in Writ Petition nos... 422/98 & 99/99 has issued directions to the Government of Goa through its Chief Secretary, respondent no. 3 and Chief Town Planner, Town & Country Planning Department (TCP), Government of Goa, respondent no. 4 to comply with the following directions as regards to the Coastal Regulation Zone-III is concerned in the State of Goa.

The synopses of the said judgment are:

- To conduct survey and inquiry as regards the number of dwelling units and all other structures and constructions which were existing in the CRZ-

III zone in Goa, village or town wise as on 19<sup>th</sup> February 1991 and increase in number thereof thereafter, year wise

- To identify on the basis of permissions granted for construction of the dwelling unit, which are in excess of double the units with regard to those, which existed on 19<sup>th</sup> February 1991.
- To identify all types of structures and constructions made in CRZ III zone except the dwelling units, after 19<sup>th</sup> February, 1991 in the locality comprised of the dwelling units and to take action against the same for their demolition in accordance with the provisions of the law.
- To identify the open plots in CRZ – III zone which are available for construction of hotels and to frame appropriate policy / regulation for utilization thereof before they are being allowed to be utilized for such construction activities.
- Till and until the survey and inquiry is completed as directed above no new license for any type of construction in CRZ III zone shall be issued or granted and no new structure of whatsoever nature shall be allowed to be constructed in CRZ-III zone except repairs and renovation of the existing houses which shall be subject to the appropriate order on completion and result of the survey and inquiry to be held as directed above and this should be specifically stated in the licenses to be granted for the purpose of repairs and / or renovation of existing houses.
- The survey and inquiry should be conducted as expeditiously as possible and should be concluded preferably within a period of six months and in any case by 30<sup>th</sup> May, 2007 and report in that regard should be placed before the court in the first week after the summer vacation of 2007, for necessary further order, if any.
- All the records relating to the survey and the inquiry should be made available to the public and in that regard a website should be opened and the entire material should be displayed on the website (respondent no. 3)

In order to comply with the High Court directive, the Goa Coastal Zone Management Authority (GCZMA) desired to outsource the work to qualified Consultants / Agency.

GCZMA has accordingly circulated the Terms of Reference (ToR) and Request for Proposal (RFP) indicating the Scope of Work to firms who expressed interest in doing the work and asked for tender proposals.

After technical evaluation of the tender proposals by a high level committee headed by the Chief Secretary, M/s Remote Sensing Instruments (RSI), Hyderabad was selected for the job and a Letter of Intent (LoI) was issued to them to undertake “turn key” job, using appropriate methodology, latest technology approach and credible data for generating a spatial and non-spatial database for the CRZ area, for the entire coastal stretch in the first phase. In addition, in the second phase, the database shall also be developed for the rivers, creeks and backwaters (governed by the distance upto which the tidal affect of sea is experienced) in the State of Goa, as the case may be and as recorded in the Goa Coastal Zone Management Plan issued by the MoEF vide no. J-17011/12/92-1A-III dated: 27<sup>th</sup> September, 1996.

The components of the spatial and non-spatial database should be synergized and integrated in a user-friendly GIS environment, with capability of updation. Further more, the database shall be efficient so that the user can obtain information at a click on a button through a quick, efficient and accurate retrieval system, developed and customized for the purpose. The data sought shall be at different levels such as, State, District and Taluk. Revenue village (ward/vaddo), Municipal (Block-Towns) areas and the following information is required to be provided.

- Number of structures, type of structures / dwelling units (defined as a family residential house) existing as on 19<sup>th</sup> February, 1991.
- Survey numbers of each structure / dwelling unit in no development zone and CRZ areas as on the date of survey of the coast and the rivers / estuaries.
- Number of dwelling units in a given survey number
- Number of structures other than dwelling units as on 19/02/1991
- Number of increase in structures / dwelling units year wise, after 19/02/1991, till 13/10/2006
- Nature of the structures / dwelling units, resorts, commercial establishments, religious places, etc, with detailed survey numbers with the use of the structures
- Areas, which are ecologically sensitive such as mangroves, corals / coral reefs, sand dunes, sanctuaries, areas of breeding grounds of marine life etc.

### **1.5 SCOPE OF WORK:**

1. Generating a spatial and non-spatial database for the CRZ-III area for the entire coastal stretch in the first phase and for the rivers, creeks and backwaters in the second phase using appropriate methodology, latest technology approach and credible data.
2. Integration of spatial and non-spatial databases in a user friendly GIS environment with capability of updation and accurate retrieval system at State, District, Taluk, Revenue village (ward / vaddo), Municipal (Block – Towns ) levels through customized software
3. Provision of the following information:
  - a) Number of structures, type of structures / dwelling units (defined as a family residential house) existing as on 19<sup>th</sup> February, 1991.

- b) Survey numbers of each structure / dwelling unit in no development zone and CRZ areas as on the date of survey of the coast and the rivers / estuaries.
  - c) Number of dwelling units in a given survey number
  - d) Number of structures other than dwelling units as on 19/02/1991.
  - e) Number of increase in structures / dwelling units year wise after 19/02/1991, till 13/10/2006
  - f) Nature of the structures / dwelling units, resorts, commercial establishments, religious places, etc with detailed survey numbers with the use of the structures. Areas, which are ecologically sensitive such as mangroves, corals / coral reefs, sand dunes, sanctuaries, areas of breeding grounds of marine life etc.
4. Mapping and quantification of the temporal variations / changes in dwelling units / structures from 1991 and calendar year there after upto 13/10/2006.
5. Collection of following attribute information for dwelling units / structure
- Year of construction
  - License for repairs and renovation if old structure (1991)
  - Plot size
  - Area of structure (Plinth area and appropriate floor area)
  - Nature of structure: House, bungalow, row houses (single, double floor etc.) & Commercial complex, religious, school, industry, etc
  - Owner of the dwelling unit / plot / structure
  - House number and tax receipts paid
  - Details of permissions / approvals granted by Village Panchayat / Municipal authorities & Town and Country Planning / PDA's
  - Documents related to issue of Sanads and Change of land use / zone

- Appropriateness of the structure in relation to the purpose and use / activity approved.
- Details of approvals issued for construction / renovation / repairs subsequent to the issue of directives by the Hon'ble High Court
- Details of approvals confirming to the development controls viz the zoning regulations and the building by-laws as per the approving authority / plan: eg outline development plan, regional plan, CZM plan or any other plan in force in the said area
- Miscellaneous
- Existence of compound wall and type of wall
- Open / bore / tube well existence

### **1.6 DELIVERABLES:**

A comprehensive digital GIS database on 1:1000 / 1:500 or detailed expression scale maps, linked to attribute information in respect of every unit / structure mapped / recorded.

- Digital map containing the CRZ – III line including the High Tide Line, 200m and 500m corridors
- The digital map of NDZ along the bank of the rivers / estuaries, creek and backwaters – governed by the distance up to which the tidal affect of sea is experienced
- Digital map containing all base map features including transport networks (road / rail), man made built up structures, drainage and water bodies and different administrative boundaries eg. State, District, Taluka, Revenue village, Municipality etc natural / watershed boundaries
- Digital map of dwelling units / structures and other constructions mapped indicating the building use, corresponding to the year of construction / approval, from 1991 and calendar year thereof.

- Digital map of dwelling units / structures and other constructions mapped, indicating the building use corresponding to whether approved, unauthorized or documents not available
- Digital information map of open plots / spaces
- Data analysis of maps derived from the GIS database
- Digital Geo-referenced cadastral map containing village and parcel boundaries
- Geo-referenced satellite remote sensing data / any other data used in mapping with the CRZ vectors superimposed
- The hosted web page shall be accessible to general public. However classified information (as directed by the State Government) shall not be hosted
  
- The database should preferably be compatible with the existing hard ware, including drivers available with the GoG (as available with DSLR / TCP)

Geo-referenced temporal satellite data with CRZ vectors superimposed will be generated as outputs.

## CHAPTER - 2

### METHODOLOGY

The scope of the project envisages identification of structures / dwelling units that existed prior to enactment of CRZ act in 1991 and the structures and dwelling units that came up subsequently, calendar year wise upto October, 2006 when the Goa Bench of Bombay High Court delivered its judgement.

Gleaning through the village records, one can get information about the structures and their year of construction, provided the constructions were made with the approvals from competent authorities like town and country planning authority, GCZMA and respective village Panchayats. Following the boom in tourism industry, many structures have come up in the CRZ even without necessary approvals.

Under the circumstances the only way to identify all the structures / dwelling units that existed on a particular date is by interpretation of aerial photographs and satellite imagery of high spatial resolution of different years if available.

#### 2.1 AVAILABILITY OF DATA:

In the year 1991, satellite data available around the World was generally of coarse spatial resolution (10m and above). Fortunately 2m resolution data of the project area collected in March, 1991 through Russian satellite was available. The date of data acquisition almost coincides with the date of enactment of CRZ act in February, 1991.

Aerial photographic coverage of the project area is available for 1993 in the form of 1:40000 scale photos.

Indian Remote Sensing Satellite IC had a LISS IV sensor which collected data with 5.8m resolution. Coverage for the entire project area was available for the years 1998, 1999 and 2002 only.

Digital Globe's QuickBird satellite data of (62cm spatial resolution) covering the project area is available for the year 2003-04.

Though IKONOS (1 m. resolution) satellite was launched in 2000, data covering entire project area is available only for 2005.

CARTOSAT-1 stereo data of 2.5m resolution is available for the year 2006, for the entire project area.

Thus for the period 1991 to 2006 satellite / air photos data availability of the project area is as follows.

1991	-	Russian Satellite Data	-	2m. Resolution panchromatic
1993	-	Aerial Photos	-	1:40000 scale (black & white)
1998	-	IRS ID LISS IV	-	5.8m. Panchromatic
1999	-	IRS ID LISS IV	-	5.8m. Panchromatic
2002	-	IRS ID LISS IV	-	5.8m. Panchromatic
2003 – 2004	-	QuickBird	-	0.62m. Multi-spectral
2005	-	IKONOS	-	1.0m. Multi-spectral
2006	-	CARTOSAT-1	-	2.5m. Stereo panchromatic

Details of satellite imagery and aerial photographs used in the first and second phases are given in Table-1

## CHAPTER - 6

### ANALYSIS

Analysis of the results of the first phase study in the CRZ-III (between 200m and 500m from the HTL towards land) along the entire Goa Coast showed that in almost all the 35 villages the number of structures / dwelling units have increased compared to the situation at the time of enactment of CRZ legislation in 1991.

The increase has been very significant in Querim, Arambol, Mandrem and Morjim villages in Pernem taluk, Anjuna, Candolim and Calangute villages in Bardez taluk, Colva, Benaulim, Varca and Cavelossim villages in Salcete taluk and Cola, Agonda, NagorcemPalolem, Poingunim and Loliem villages in Canacona taluk.

The changes are less spectacular in Mormugao and Quepem taluks with major increases recorded in Vasco town, Chicolna, Velsao, Arossim and Cansaulim villages in Mormugao taluk and Naquerim village in Quepem taluk.

Door to door field survey, covering all the structures / dwelling units, to collect ownership and other details, evoked a meager response possibly because majority of the owners did not have requisite permissions for construction.

Analysis of second phase work showed that in the CRZ-I of Tiracol river maximum number of structure (117) have come up in Pernem village. In other villages also there has been some increase in the number of structures after 1991.

Along Chapora river also there has been significant increase in the number of structures after 1991 in the CRZ-I of the villages Morjim, Agarwada, Parcem, Dargalim, Ozorim, Colvale, Camurlim, Anjuna, Sirlim, Pirna, Nadora and Assagao. In other villages the increase in the number of houses is marginal.

The villages Ibrampur, Durnacem and Menurem villages did not register any increase.

Along Mandovi river significant increase in number of structures in the CRZ-I is recorded in the villages Narora-Bich, Narora, Candola, Capro, Cumbrarjua, Goltim, Nerul, Orgao, Pale, Penhadefranca, Pilao, Resimagos, Usgao and Panaji, Marginal increase in the number of structures after 1991, is noticed in almost all other villages.

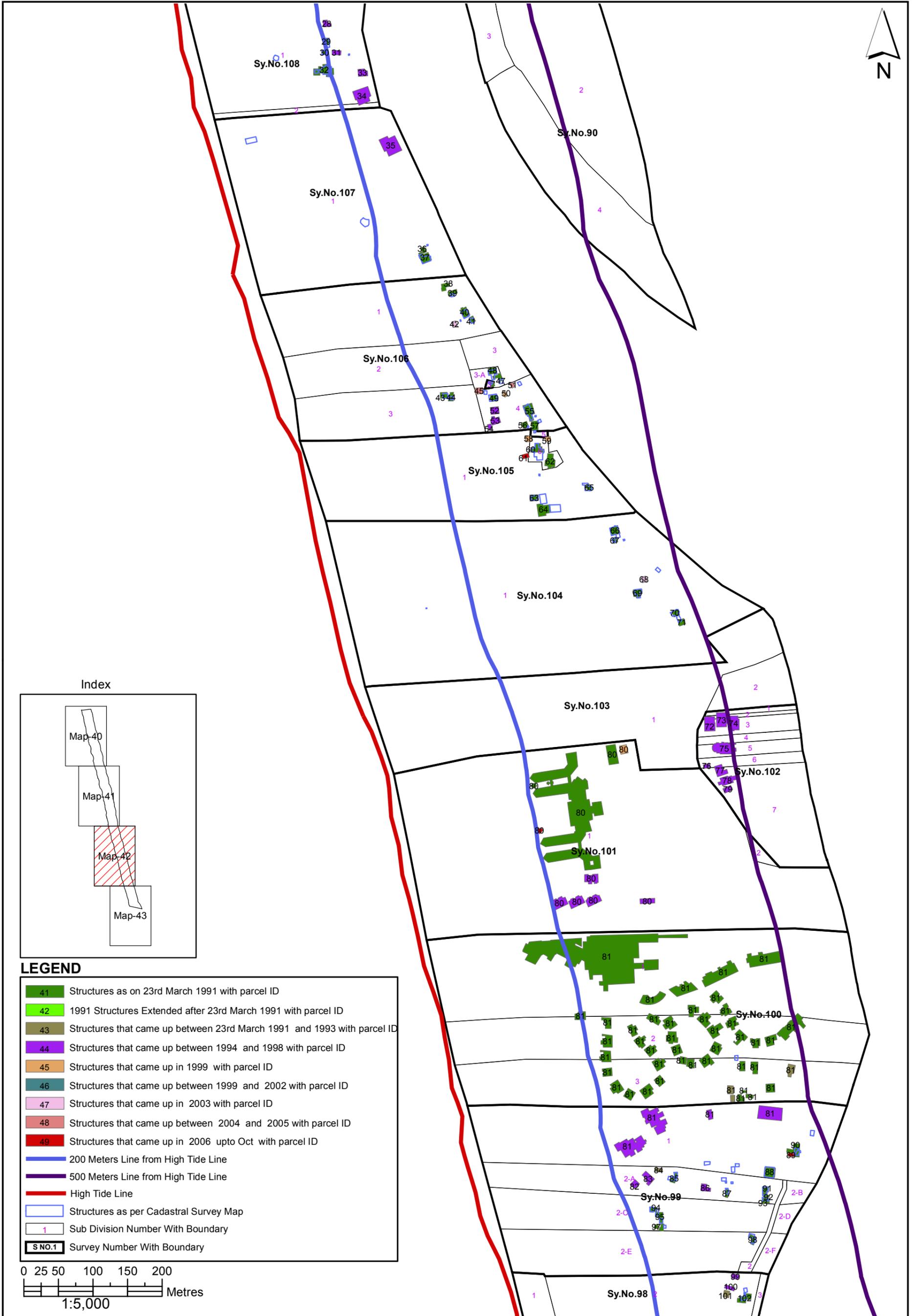
Along Zuari river significant increase in the number of structures in the CRZ-I is noticed in Bambolim, Bamdora, Calapur, Cortalim, Dabolim, Goa, Velha, Loritilim, Marcaim, Quelossim, Rachol, Somcoale and Taleigaon villages. In other villages the increase in number of structures is marginal. In a few villages no few structures were constructed after 1991.

Along Sal river very high increase (>75%) in the number of structures in the CRZ-I is recorded in Cavelossim and Velim villages with minor increases in other villages.

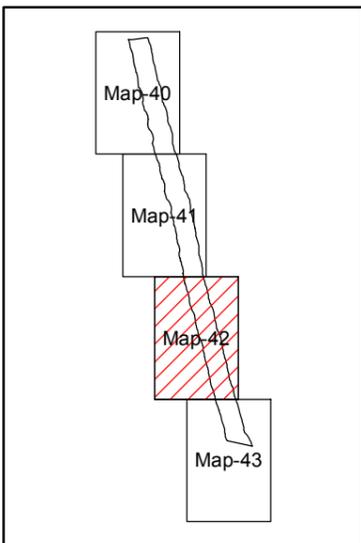
Along Talpona river major increase in the number of structures in the CRZ-I is found mostly in Nagorcem-Palolem and Paringerinim with a small increase in Canacona.

Taluka	Village Name	Survey No	Sub - division No	1991	1993	1998	1999	2002	2003	2005	2006
SALCETE	Betalbatim	104	2	0	0	10	0	0	0	0	0
SALCETE	Betalbatim	104	1	0	0	1	0	0	0	0	0
SALCETE	Betalbatim	104	5	0	0	1	0	0	0	0	0
SALCETE	Betalbatim	96	2	0	3	1	0	0	0	0	0
SALCETE	Betalbatim	99	2	0	0	2	0	0	0	0	0
SALCETE	Betalbatim	104	3	0	0	4	0	0	0	0	0
SALCETE	Betalbatim	70	1	0	1	1	0	0	0	0	0
SALCETE	Betalbatim	99	6	0	1	3	0	0	0	0	1
SALCETE	Betalbatim	104	9	0	0	2	0	0	0	0	0
SALCETE	Betalbatim	99	13	0	0	0	0	0	0	0	2
SALCETE	Betalbatim	99	14	0	0	0	0	0	0	0	2
SALCETE	Betalbatim	99	15	0	0	0	0	0	0	0	2
SALCETE	Betalbatim	99	5	0	0	1	0	0	0	0	0
SALCETE	Betalbatim	127	3	0	0	0	0	0	0	0	1
SALCETE	Betalbatim	138	2	1	0	0	0	0	0	0	0
SALCETE	Cavelossim	109	1	88	13	59	0	0	0	0	0
SALCETE	Cavelossim	108	1	3	0	4	0	0	0	0	0
SALCETE	Cavelossim	109	2	3	0	0	0	0	0	1	0
SALCETE	Cavelossim	122	3	0	0	0	0	1	0	0	0
SALCETE	Cavelossim	97	2	2	0	0	0	0	0	0	0
SALCETE	Cavelossim	96	A	5	0	0	0	0	0	0	2
SALCETE	Cavelossim	97	3	1	3	0	0	0	0	0	0
SALCETE	Cavelossim	101	1	3	0	5	1	0	0	0	1
SALCETE	Cavelossim	133	-	0	1	0	0	0	0	0	0
SALCETE	Cavelossim	95	1	1	0	0	0	0	0	0	0
SALCETE	Cavelossim	109	1-"E"	0	0	1	0	0	0	0	0
SALCETE	Cavelossim	109	1-"D"	0	0	1	0	0	0	0	0
SALCETE	Cavelossim	109	1-E	0	0	1	0	0	0	0	0
SALCETE	Cavelossim	99	1	2	0	4	0	0	0	0	1
SALCETE	Cavelossim	100	1	9	0	0	0	0	0	0	0
SALCETE	Cavelossim	102	7	0	0	3	0	0	0	0	0
SALCETE	Cavelossim	102	6	0	0	1	0	0	0	0	0
SALCETE	Cavelossim	109	1-F	0	0	1	0	0	0	0	0
SALCETE	Cavelossim	104	1	5	0	0	0	0	1	0	0
SALCETE	Cavelossim	99	2-A	5	1	3	0	0	0	0	0
SALCETE	Cavelossim	107	1	2	0	1	0	0	0	0	0
SALCETE	Cavelossim	109	1-"M"	0	1	1	0	0	0	0	0
SALCETE	Cavelossim	109	1-"I"	0	0	2	0	0	0	0	0
SALCETE	Cavelossim	100	3	16	3	0	0	0	0	0	0
SALCETE	Cavelossim	100	2	18	0	0	0	0	0	0	0
SALCETE	Cavelossim	105	6	2	0	0	1	0	0	0	0
SALCETE	Cavelossim	105	1	3	0	0	1	0	0	0	1
SALCETE	Cavelossim	106	4	4	0	3	1	0	0	2	0
SALCETE	Cavelossim	106	3-A	2	0	0	0	0	0	0	0
SALCETE	Cavelossim	106	1	4	0	0	0	0	1	0	0

STRUCTURES IN CRZ - III (200Mt TO 500 Mt FROM H T L) Cavelossim VILLAGE

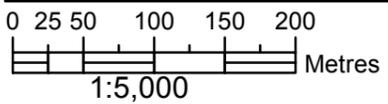


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LEGEND

- 41 Structures as on 23rd March 1991 with parcel ID
- 42 1991 Structures Extended after 23rd March 1991 with parcel ID
- 43 Structures that came up between 23rd March 1991 and 1993 with parcel ID
- 44 Structures that came up between 1994 and 1998 with parcel ID
- 45 Structures that came up in 1999 with parcel ID
- 46 Structures that came up between 1999 and 2002 with parcel ID
- 47 Structures that came up in 2003 with parcel ID
- 48 Structures that came up between 2004 and 2005 with parcel ID
- 49 Structures that came up in 2006 upto Oct with parcel ID
- 200 Meters Line from High Tide Line
- 500 Meters Line from High Tide Line
- High Tide Line
- Structures as per Cadastral Survey Map
- 1 Sub Division Number With Boundary
- S NO.1 Survey Number With Boundary





DEPARTMENT OF TOURISM  
GOVERNMENT OF GOA  
PANAJI-GOA

**GOA**

FORM V  
(See Rule 3)

**Certificate of Registration**  
**"Hotel"**

Certificate No: HOTS000141

A Category

This is to certify that Miguel Rodrigues resident of H.No. 1795/H Calvaddo, Benaulim, Salcete, South Goa-403716 has been registered under the Goa Registration of Tourist Trade Act, 1982 to carry on the business of HOTEL under the name and style JOECONS BEACH RESORTS located at H.No-1795/H. Calvaddo, Benaulim, Salcete, South Goa-403716 having 101 No. of Rooms.

This certificate is valid upto 31-Mar-2018

Place: Department Of Tourism, South Zone Office

Issue Date: 05-Feb-2018

Prescribed Authority

Rajesh A Kale

Deputy Director

**ENDORSEMENT**

Sr No	Date of Inspection	Name of Official	Signature of Official
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\* This certificate is valid upto the validity of the NOC of the Gram Panchayat/Municipal Council .

\* This certificate provided by Department of tourism is merely to show that this activity is registered under Goa Registration of Tourist trade Act 1982, for the current activity financial year. This certificate should not be used as a legal document or as any ownership document to any court or department.

Public Information Officer (SI)  
Department of Tourism