DELINEATION AND LISTING OF MADH, ERANGAL, AKSA, MARVE, MANORI, CULVEM, AND GORAI PRECINCTS IN MUMBAI

STUDY CONDUCTED BY RIZVI COLLEGE OF ARCHITECTURE
CONSULTANCY CELL, MUMBAI
FOR MMR-HERITAGE CONSERVATION SOCIETY

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STAGE REPORT

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Contents

Introduction

The report is laid out as follows:

Information and Introduction in Chapter One.

Objectives and Stages of work are stated in Chapter Two.

Methodology is established in the Third chapter.

Intentions are recapitulated in the Fourth chapter.

Listing and Documentation is presented in the Fifth chapter.

Coastal Regulation Zone notification and its modifications are analysed vis-a-vis settlement pattern of coastal villages of Madh, Aksa, Erangal, Marve, Manori, Culvem and Gorai in the Sixth chapter.

Guidelines, recommendations and conclusions are prepared for in the final chapter.

The first chapter describes the origin, growth and development of the coastal villages of Mumbai City.

The fourth chapter highlights the process and the working structure of the research, followed by the fifth chapter that examines the built heritage and works on the listing of comprehensive values and compilation of the researched data.

The last two concluding chapters analyse the applicable policies from guidelines and recommendations.

In order to make the deliberations more lucid, it was essential to augment the survey and analysis of this stage with the introduction and delineation undertaken in the earlier stage of the study (sections repeated have been indicated with asterisk in the contents page).

Here I wish particularly to mention and express thanks to the following team members and consultants associated with this project.

Pankaj Joshi	Conservation/Project Consultant
Sachin Narkar	Group Co-ordinator
Anand Achari	Group Co-ordinator
Nishtha Dhingra	Architectural Assistant
Varsha Mudras	Architectural Assistant
Priyanka Singh	Architectural Assistant
Varsha Watane	Architectural Assistant
Sonali Kakodkar	Architectural Assistant

Gauri Pandit, for extending research material from her Thesis *"Manori, a village within a city."*

Akhtar Chauhan
Director,
Rizvi College of Architecture.

1

ORIGIN & GROWTH

1 Background, Origin and Growth

1.1 For centuries, the Bombay group of islands formed an outpost of the land-based Hindu powers in Western India, but remained outside the sphere of maritime commerce, which encompassed other seaports in the region such as Sopara, Thane, Kalyan and Chaul.

1.2 In mid fourteenth century, the island came under Muslim domination and passed into Portuguese hands two centuries later. The Portuguese merchants, who pioneered the direct European Sea trade with Asia, landed in India at the close of the fifteenth century.

1.3 Within a few decades, they had managed to control some of the sea routes and acquire small territories along the West Coast of India as crown colonies. Their chief centre of control in western India was Goa, with a subsidiary centre at the port city of Bassein (North of Bombay). The native settlements of Madh, Aksa, Erangal, Marve, Malavani, Manori, Culvem, Gorai, Uttan and Bhayander were directly under the administrative rule of Bassein.

1.4 At this time, Bombay island (which formed a part of the territories of Bassein), presented a scene of rural idyll and was treated as the 'Island of good life', with the name "Buon Bain" originating from "Good Bay" in Portuguese. Throughout the Portuguese rule, it remained relatively undeveloped administratively and commercially.

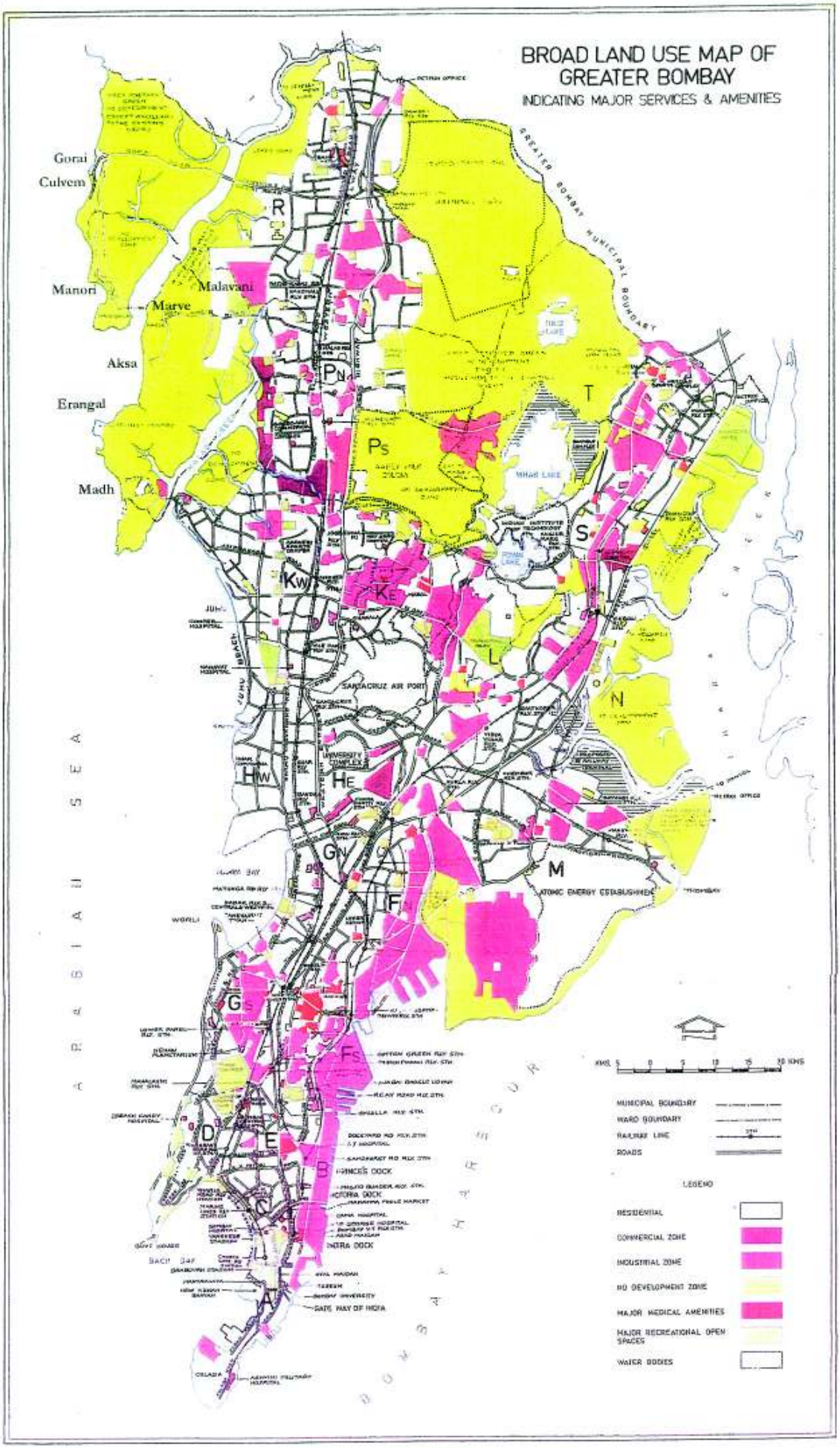
1.5 Under the Portuguese rule, the primeval animism and brahmanism, which formed the Koli and Bhandari religion, was exchanged for a debased form of Roman Catholicism, *mainly due to forcible conversion and coercion by Portuguese missionaries. Thus, a majority of the native Christians were from the Koli, Mahar, Kunbi, Bhandari and Agri communities.

Native fishing settlement at Manori
Source: RCACC (2002)

* Da Cunha G. (1900) remarks that: - *"Thousands of Indian families had been converted by the Portuguese to Christianity. They were the first fruits of the instruction and education imported to them by Portuguese priests, at a time moreover when there was hardly a Moslem, Hindu or Parsi able to understand the Roman Characters. They were the early instruments for spreading the influence of the new rule among the native of Western India or the first helpers in the expansion of European power throughout the country."*

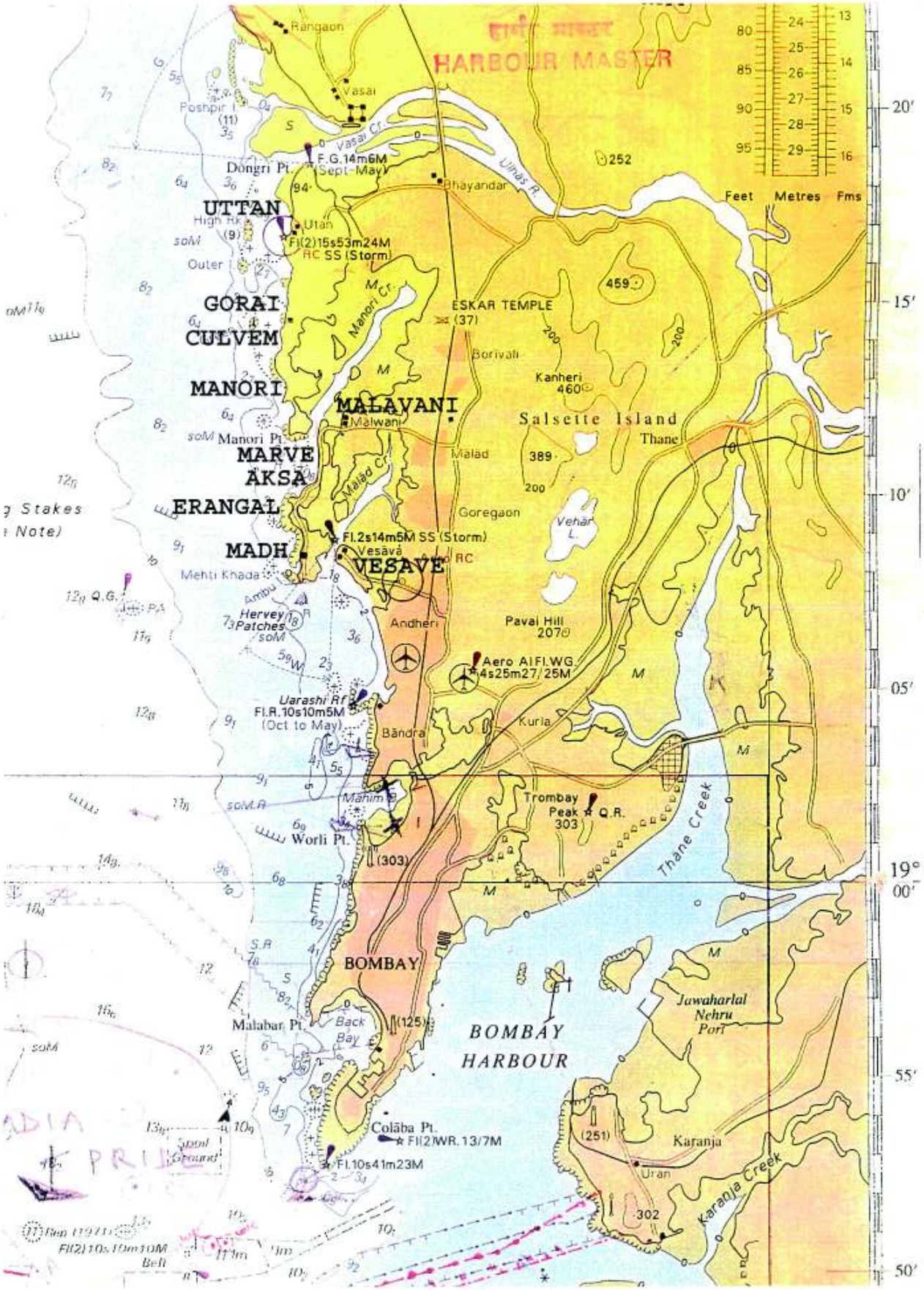
2

OBJECTIVES



Drg. 1 Broad Landuse map of Greater Bombay showing the location of the coastal villages of Mumbai.

Source Gazeteer of Greater Mumbai



Drg. 2 **Marine chart of Mumbai Metropolitan coastal Rrgion showing the location of the coastal villages of Mumbai.**

Source Harbour Master, MbPT, Mumbai (1997)

2 Objectives and Stages of Work

2.1 The main objectives of the project are as under: -

2.1.1 Identification of representative buildings, neighbourhoods and precincts of significant value.

2.1.2 Demarcation / delineation of the precinct boundaries based on value classification.

2.1.3 Listing and classification of buildings and groups into the existing grading system.

2.2 Stages of Work: -

2.2.1 Stage One intended to mobilise the research materials as well as completion of the base drawings for further survey. This stage also included a comprehensive photo-documentation of the area of study.

2.2.2 The Second Stage undertook extensive Value Classification survey and listing of representative buildings. This stage has also entailed Demarcation and Grading of Classified Precincts.

2.2.3 Interpretation and analysis of the collected data and formulation of architectural guidelines is accomplished in this stage of work.

2.2.4 The final stage shall include compilation of the study into a final presentation report.

3

METHODOLOGY

3 Methodology

3.1 The project was initiated with vectorisation and stitching of the Development Plan and City Survey Sheets of area more than 52 square kilometres. This formed the base data into one consolidated drawing as the notified zone stretched from city's K to P ward.
(Refer Drg. 3).

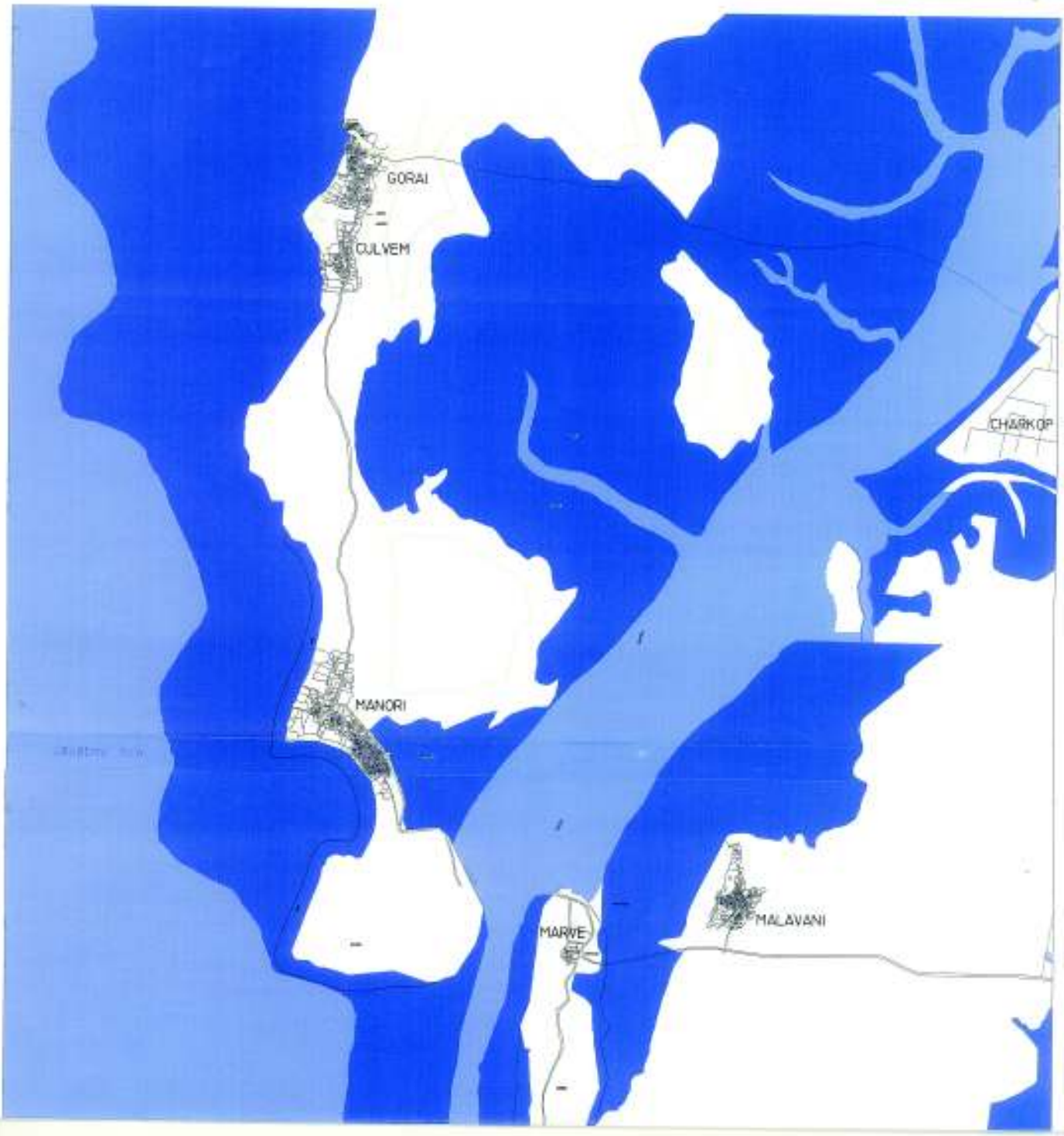
3.2 In order to acquire and consolidate the information to be collected for the representative examples of each of the gaothan areas, it was felt necessary to evolve a set of questions through a medium of survey sheets. A reference numbering system was followed to ease identification and cataloguing of buildings.

3.3 Refer Drg. 4 for sample sheet format for listing special buildings / representative examples.

	Card No.	Location Plan
	Zone	
	Plot No.	
	Plot Area	
	B U Area	
	Date	
	Record by	
	Review by	
	Int Ext	
	Ph.Ref	

1.0		Denomination	
1.1	Name of Premises		
1.2	Earlier Name (If Any)		
1.3	Built In (Age)		
2.0		Access	
2.1	Main		
2.2	Subsidiary		
3.0		Ownership pattern	
3.1	Present		
3.2	Past (If Any)		
3.3	Status	Owner / Tenant / Trust / Society / other	
4.0		Use	
4.1	Present		Past
4.2	Usage		
5.0		Significance & Value Classification	
5.1	Architectural Description		
5.2	Townscape		
5.3	Intrinsic		
5.4	Values		Grade
6.0		Topography	
6.1	Floors		
6.2	Attic floor		
7.0		Demography	
7.1	No.	Male Female	
8.0		Construction	
8.1	Plinth		
8.2	Walls		
8.3	Floor		
8.4	Stairs		
8.5	Openings		
8.6	Roofing		
8.7	Articulation		
8.8	Finishes		
8.9	Compound/Fence / Gate		
8.10	Curtilege / out buildings		
9.0		Services & Utilities	
10.0		Condition	
10.1	Plinth		
10.2	Walls		
10.3	Floor		
10.4	Stairs		
10.5	Openings		
10.6	Roofing		
10.7	Articulation & Finishes		
10.8	Services		
10.9	Outbuildings		
10.10	Overall condition	Good fair poor extremely poor	
11.0		Transformation	
11.1	Form		
11.2	Structure		
11.3	Articulation & Finishes		

Drg. 4 **Sample survey sheet**
Source RCACC (2001)


GORAI
CULVEM
CHARKOP
MANORI
MARVE
MALAVANI

Drg. 3 Plan of the coastal villages of Mumbai
Source RCACC (2001)

NORTH

LEGENDS:-

CRZ I

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RIZVI College of Architecture
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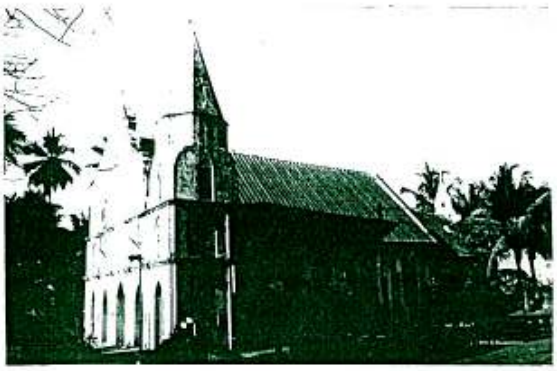
4

BUILT
ENVIRON

South-East End Bounded by Hillock
Source: RCACC

Beach / Fish Drying Ground to West and South West
Source: RCACC



Madh Church Landmark on Northern Extremity
Source: RCACC

4 Study and Analysis of the Present Built Environment

4.1 Aesthetic survey of the Study Area:

4.1.1 The area under study, which lies to the north-west of the Island City, is stretched across K (west), P (north) and R wards.

4.1.2 This includes the gaothan areas of Madh, Erangal, Aksa, Marve, Manori, Culvem, Gorai and Malavani.

4.1.3 Analysis of the areas to the effects of physical perceptible objects, an aesthetic survey, highlights the contents of gaothan and its constituent elements.

4.1.4 The physical forms have been classified into five types of elements, viz. - paths, edges, districts, nodes and landmarks (Lynch 1960).

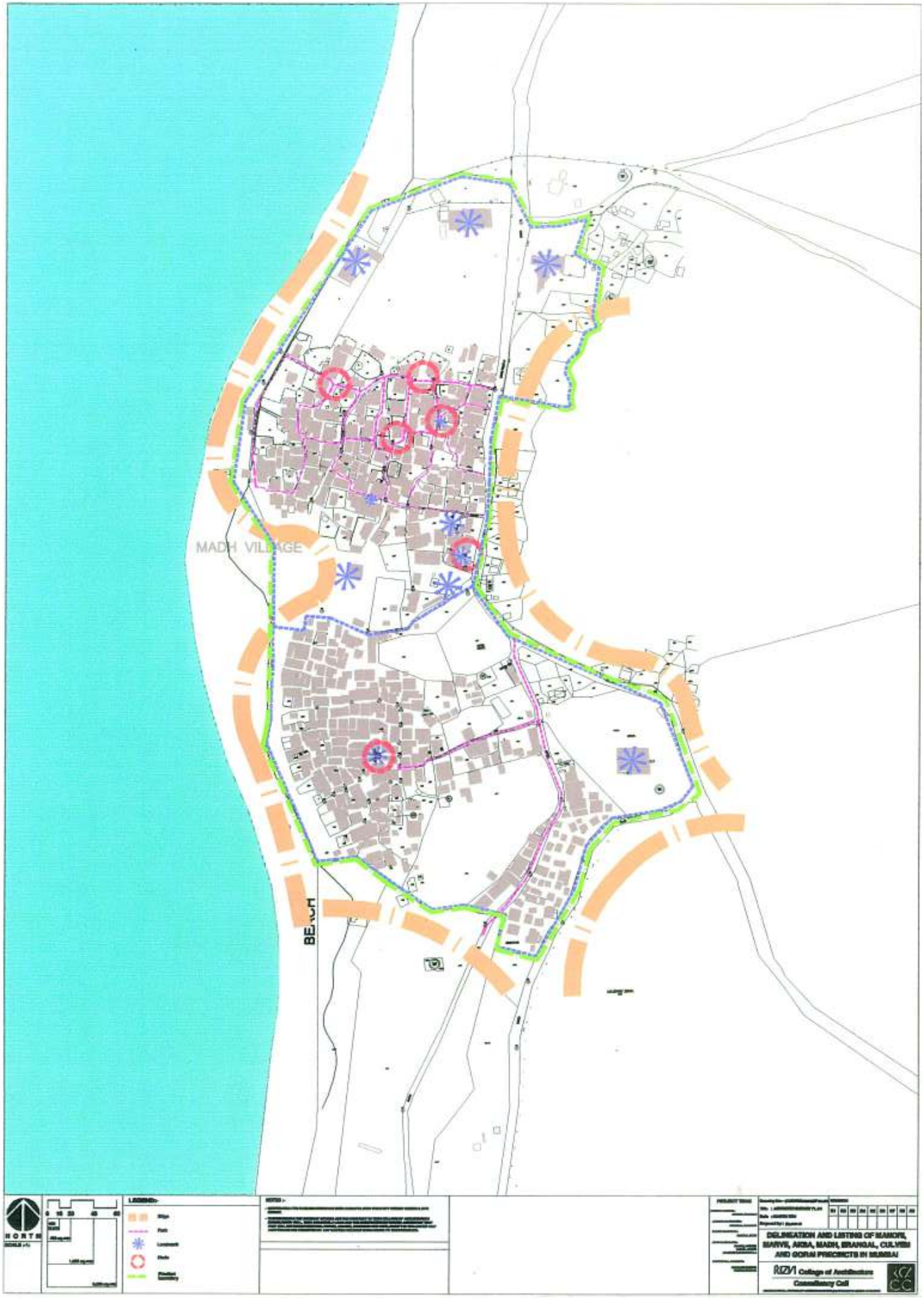
4.1.5 Madh village: -

On studying the settlement of Madh and identifying the above stated elements, it becomes distinct that the settlement is physically bound by the Arabian Sea on the west and a main road stretching north-south, connecting the coastal villages. (Refer Drg. 5)

4.1.5.1 Malad-Madh road is the major path connecting all the coastal villages.

4.1.5.2 The Arabian Sea forms the edge on the western side. Towards the north are open grounds. The south-east is bound by a hillock, which is a defence land. The south-west has open grounds.

4.1.5.3 Landmarks like the ice factory, the church, temples, along with some smaller landmarks like wells and shrines impart the area its way finding values.



Drg. 5 Aesthetic survey of Madh village precinct

Source RCACC (2001)

Erangal Village signboard
Source: RCACC (2002)

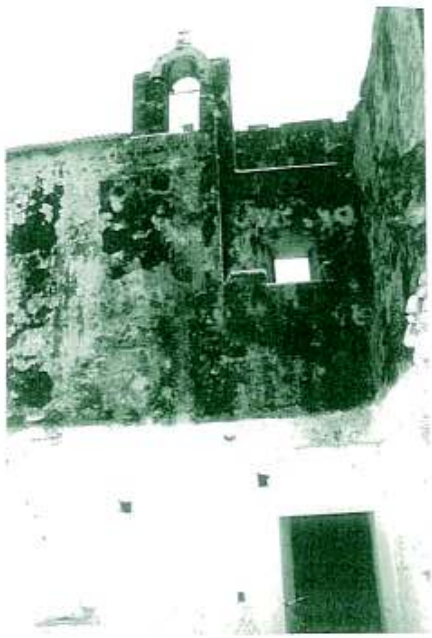
4.1.6 Erangal village: -

The Erangal Gaothan is located on the waterfront, positioned between Madh and Aksa villages. (Refer Drg. 6)

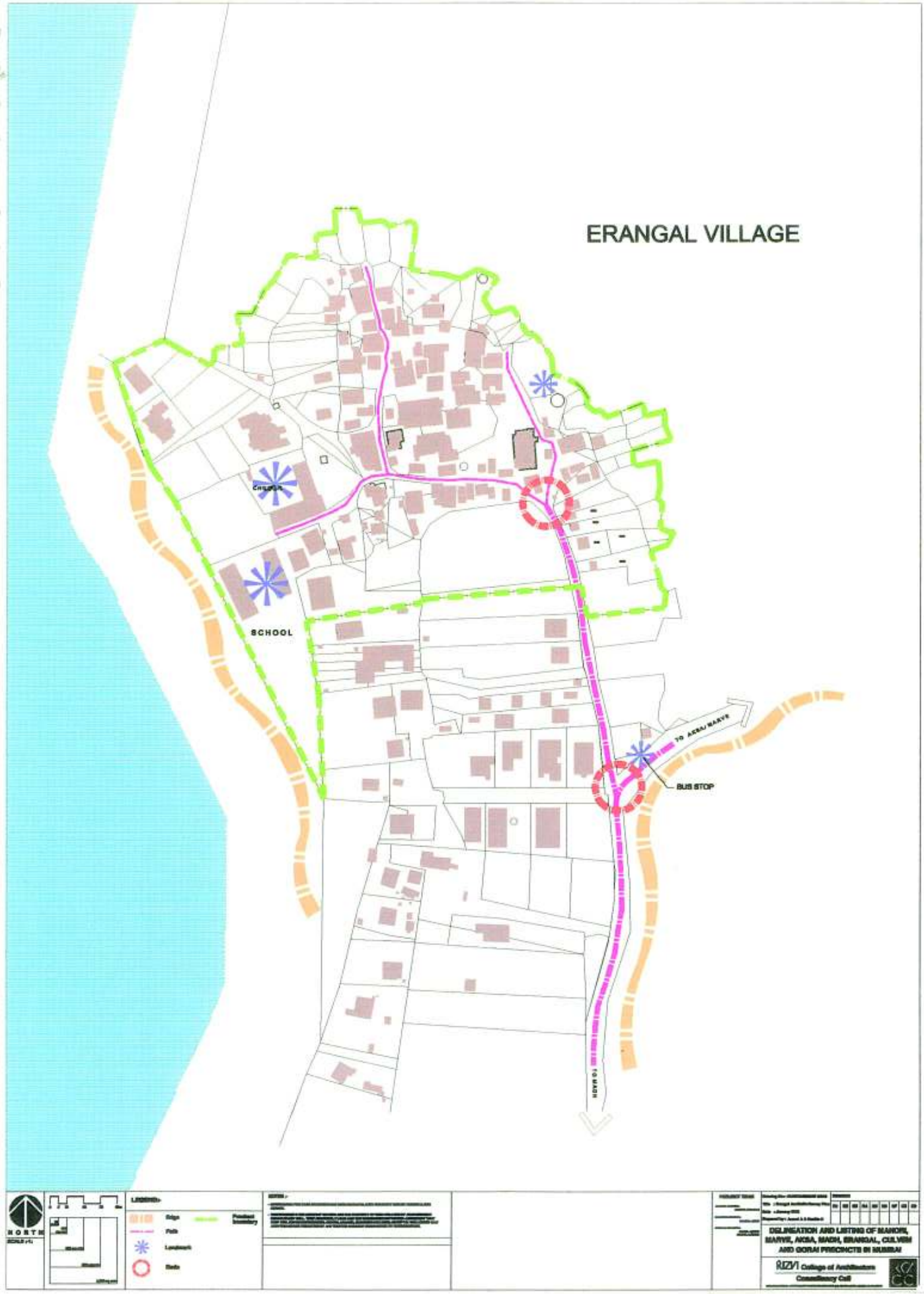
4.1.6.1 Malad-Madh road is the major path connecting Erangal to the villages of Madh, Aksa and Marve. The main path bifurcates from the Malad-Madh road, at the inception of the village, leading to the coast where the church of St.Bonaventure is situated.

4.1.6.2 The Arabian Sea forms the edge on the western side. Towards the north are open grounds.

4.1.6.3 The Church and the Primary School on the western edge and smaller landmarks like wells and shrines impart the area its way finding values.



Left: Structure Designed by Nari Gandhi
Centre: Detail of Erangal Church
Right: House in Erangal Village
Source: RCACC



Drg. 6 Aesthetic survey of Erangal village precinct

Source RCACC (2001)

Aksa Village signboard
Source: RCACC (2002)

4.1.7 Aksa village: -

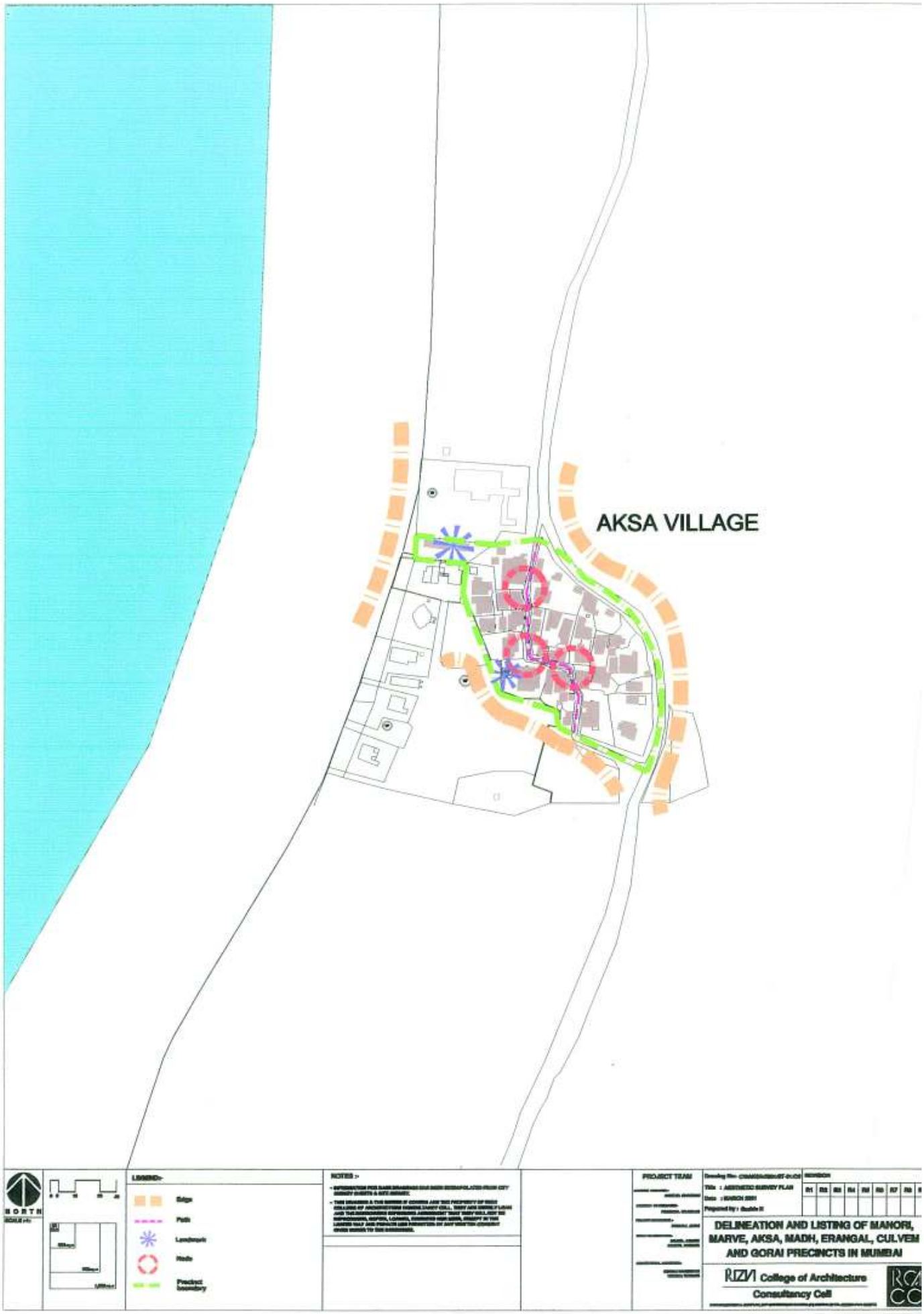
The Aksa Gaothan area is physically bound by the Arabian Sea on the west and a main road stretching north-south connecting the coastal villages. (Refer Drg. 7)

4.1.7.1 Malad-Madh road is the major path connecting all the coastal villages.

4.1.7.2 The Arabian Sea forms the edge on the western side. Towards the north is agricultural land.

4.1.7.3 The temple on the western edge and smaller landmarks like wells and shrines impart the area its way finding values.

Left and right:
Activity nodes in Aksa
Source: RCACC (2002)



Drg. 7 Aesthetic survey of Aksa village precinc

Source RCACC (2001)

Top and bottom:
Activity nodes in Marve
Source: RCACC (2002)

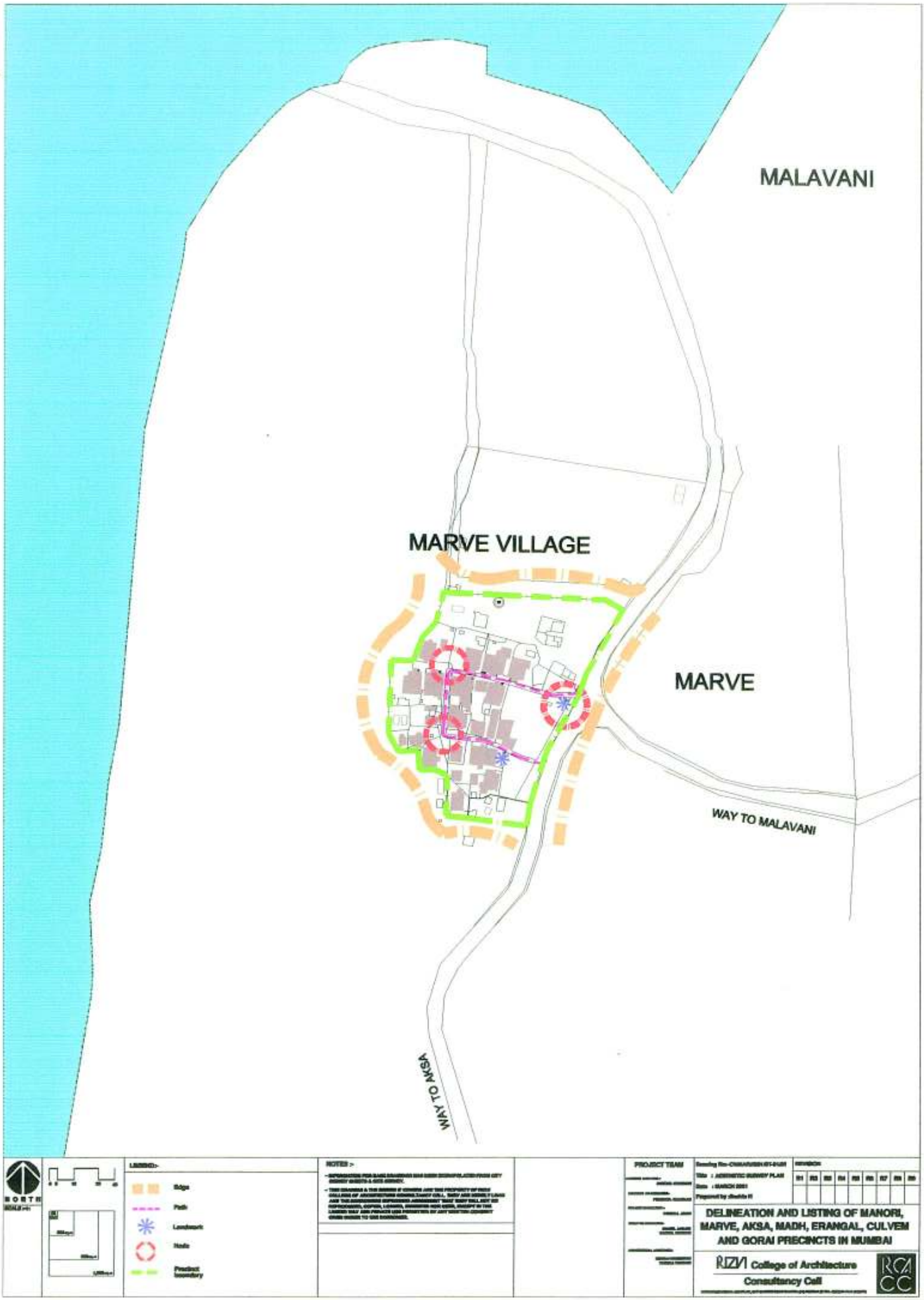
4.1.8 Marve village: -

The Marve Gaothan area is physically bound by the defence land on the north and a main Malad-Madh road on the east side.
(Refer Drg. 8)

4.1.8.1 Malad - Madh road is the major path connecting all the coastal villages on the eastern side.

4.1.8.2 The south and the western sides are edged by the defence residential areas.

4.1.8.3 There are few smaller landmarks like crosses, which impart the settlement its way finding values.



Drg. 8 Aesthetic survey of Marve village precinct

Source RCACC (2001)

Beach/ Fish Drying Grounds to West/ North West of Manori.
Source: RCACC

Manori Church- Landmark at the Main Entrance of the Settlement.
Source: RCACC

Activity Node in Manori
Source: RCACC

4.1.9 Manori village: -

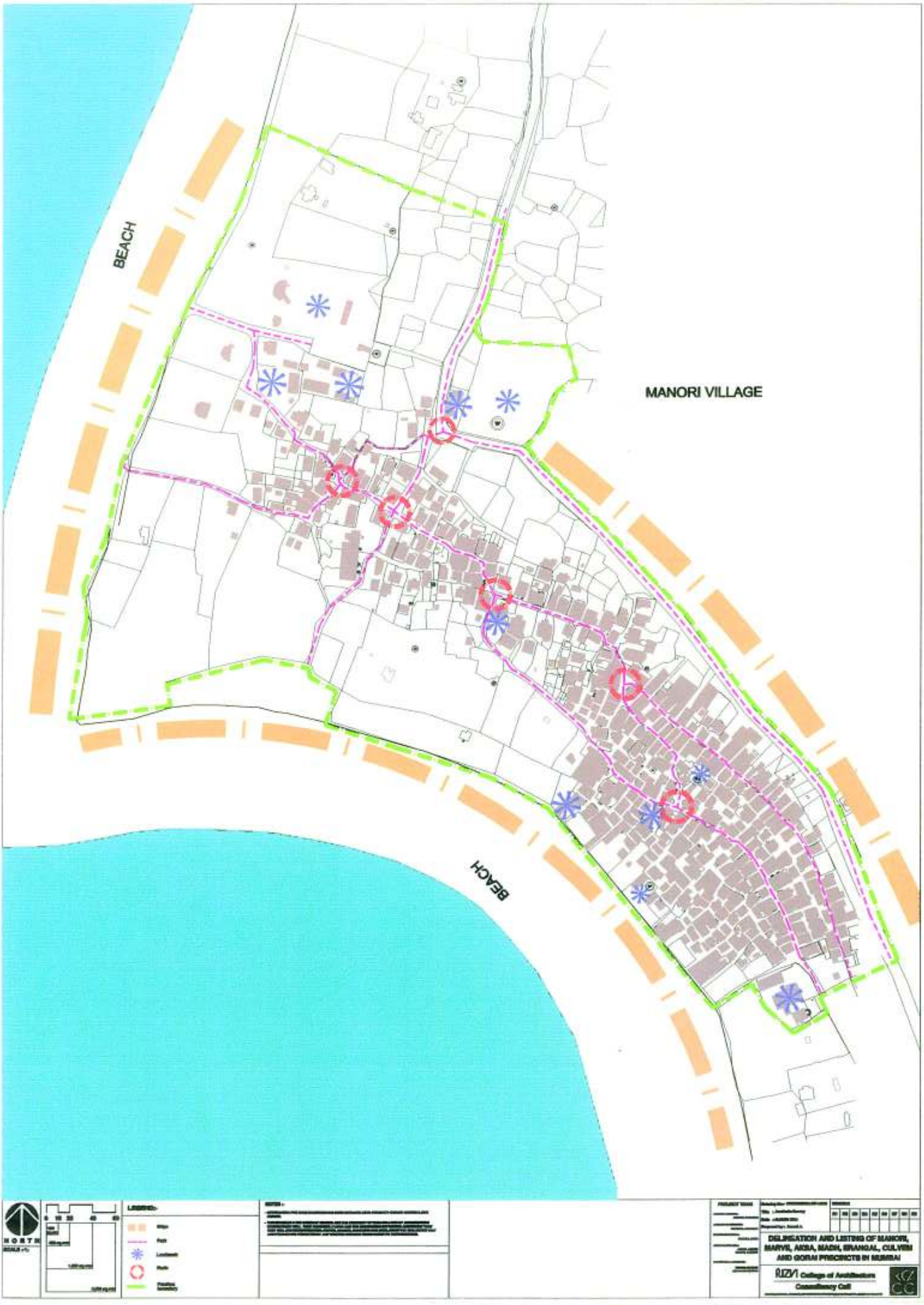
Manori Gaothan area is located on the western waterfront about 1.5 kms from the main water transport jetty on Dharavi Island.
(Refer Drg.9)

4.2.9.1 Manori Jetty - Gorai road is the major path on the eastern side of the gaothan. One main spine runs through the centre of the gaothan with built fabric on either side. Another subsidiary path runs parallel to the main spine, converging at activity nodes.

4.2.9.2 The church at the inception of the village, convent school, Manoribelle Resort, police station, Manori society, temple and the water pond/lake function as major landmarks in the gaothan area.

4.2.9.3 The gaothan is edged by sea on the western and the north-west side of the settlement. The eastern side is bound by the Manori Jetty Gorai Road. The south and the north sides are edged by open agricultural land.

4.2.9.4 Various important activity nodes are formed at the junction of the paths, like the first node on the south where there is a concentration of informal shopping area.



Drg. 9 Aesthetic survey of Manori village precinct

Source RCACC (2001)

Culvem Church compound
Source: RCACC (2002)

Convent Of Our Lady Fatima
Source: RCACC (2002)

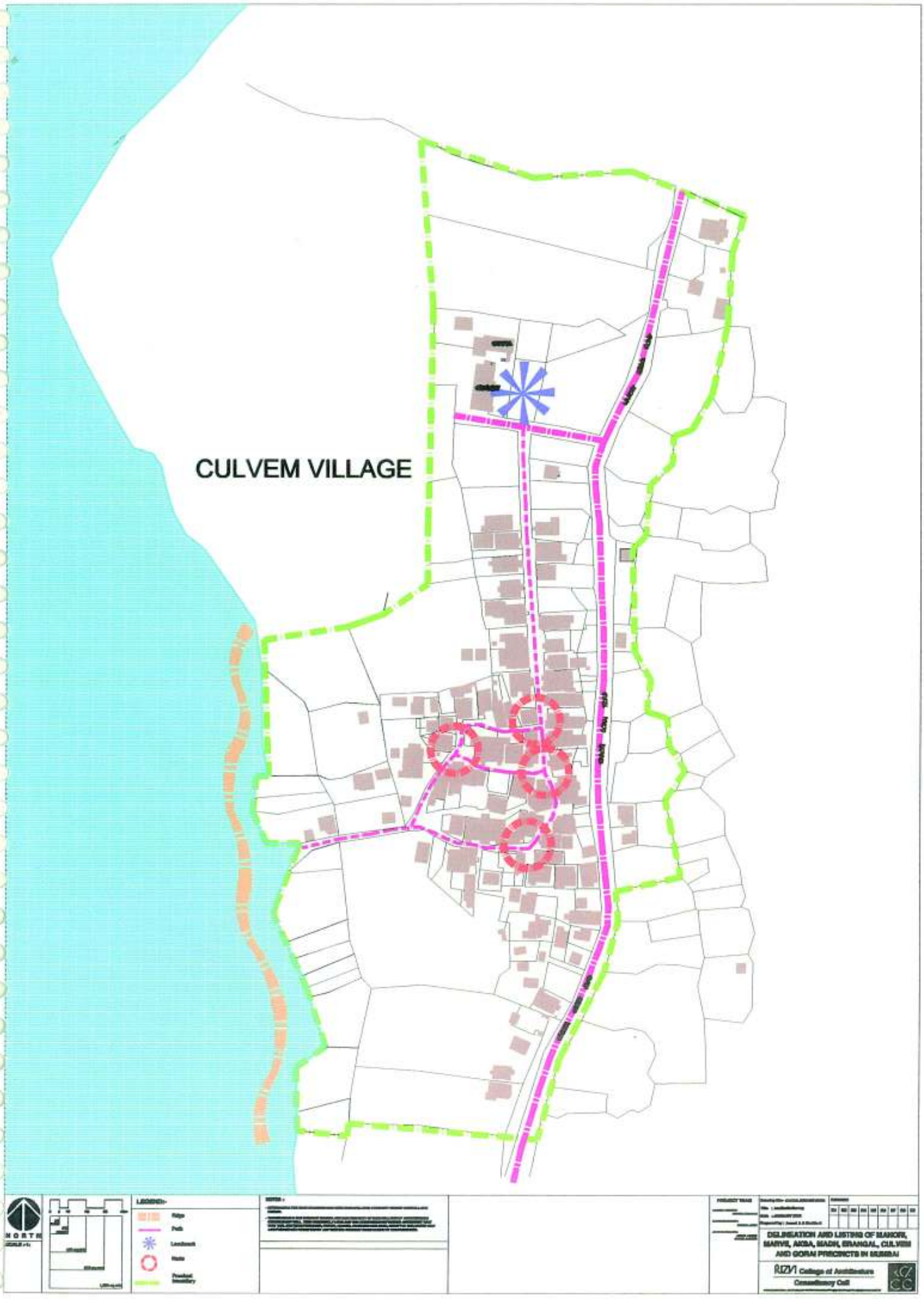
4.1.10 Culvem village: -

The Culvem Gaothan is located on the southern side of Gorai Gaothan. (Refer Drg. 10)

4.1.10.1 Manori Jetty - Gorai road is the major path, which passes through the eastern edge of the gaothan. One main spine runs through the center with the built fabric on either side.

4.1.10.2 There are landmarks such as the church at the inception of the village.

4.1.10.3 The site is edged by sea on the western side. Towards the east is the main Manori-Gorai road. The open agricultural land edges the south and the east sides beyond the road.



Drg. 10 Aesthetic survey of Culvem village precinct

Source RCACC (2001)

House in Gorai Village
Source: RCACC (2002)

Outdoor room, Gorai
Source: RCACC (2002)

Node at a Cross, Gorai
Source: RCACC (2002)

4.1.11 Gorai village: -

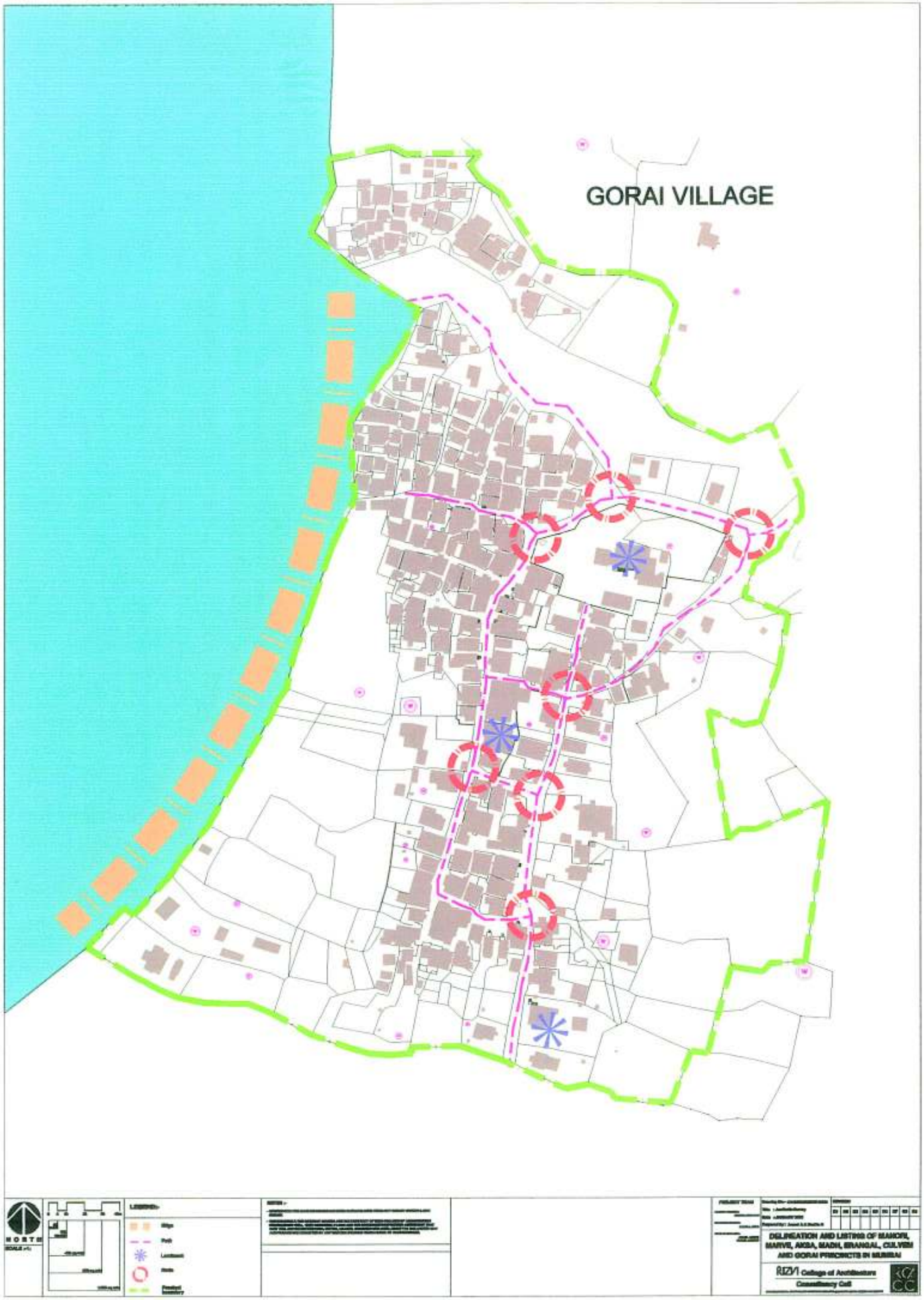
The Gorai Gaothan lies at the northern extremity on the western side of Mumbai Municipal Limits. (Refer Drg. 11)

4.1.11.1 Manori Jetty - Gorai road is the major path, which passes through the center of the settlement. This path has two main spines running parallel with the settlement, positioned on either side. These spines merge at regular intervals forming important activity nodes of the Gaothan. The Manori Jetty - Gorai road further bifurcates connecting to Uttan/Bhayander in the north and Gorai jetty to the East.

4.1.11.2 There are landmarks such as the Holy Magi Church, the police station, and primary health centre.

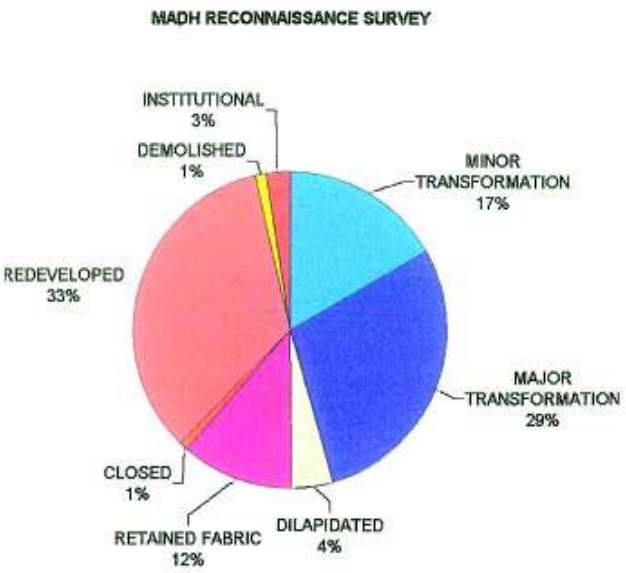
4.1.11.3 The site is edged by sea on the western side and Manori-Gorai Road on the west. The north is bound by creek and agricultural lands while on the south lies the settlement of Culvem.

4.1.11.4 Various important activity nodes are formed at the junction of the paths.



Drg. 11 Aesthetic survey of Gorai village precinct

Source RCACC (2001)



View of South Gaothan Madh
Source: RCACC

Structure with minor transformation
Source: RCACC

4.1 Reconnaissance survey:

To understand the ground situation and to ascertain the quantum of the study, an initial reconnaissance survey was carried out in all the areas of Madh, Erangal, Aksa, Marve, Malavani, Manori, Culvem and Gorai.

The following data was acquired through the survey.

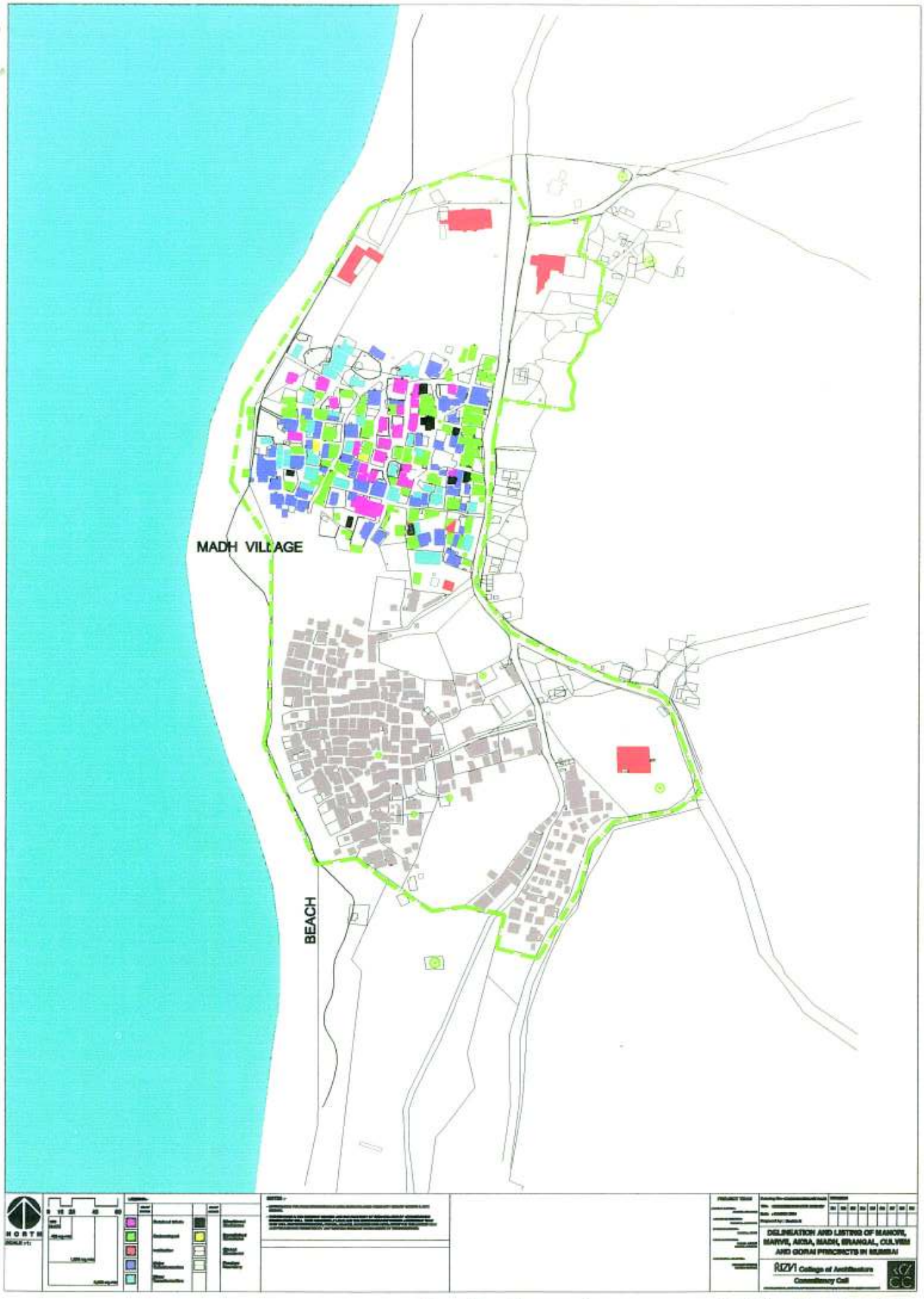
4.2.1 Madh village (Refer Drg. 12)

Total Gaothan Area	~1,57,230 sq. mts
South Gaothan Area	~ 77,289 sq. mts
North Gaothan Area	~ 79,941 sq. mts

No. of buildings in the South Gaothan area ~240
Details of South Gaothan Area
No. of Major transformation / redeveloped ~ 240 (100%)
No. of buildings in the North Gaothan (Christian Pada) area ~193
Details of North Gaothan Area

No. of Minor transformation	~ 32 (17%)
No. of Major transformation	~ 57 (30%)
No. of Dilapidated	~ 08 (04%)
No. of Redeveloped	~ 65 (33%)
No. of Demolished	~ 02 (01%)
No. of Retained fabric	~ 22 (11%)
No. of Institutional	~ 05 (03%)
No. of Closed	~ 02 (01%)

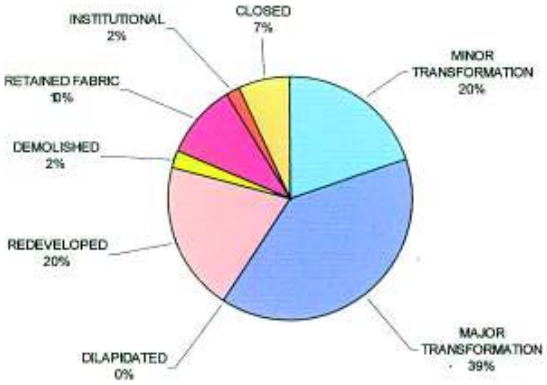
As the southern gaothan has undergone complete transformation/redevelopment, this section of the Madh Village cannot be delineated to have any substantial /significant value as per the conservation value classification.
Northern Section (Christian Pada): -
The above details exhibit that nearly one-third of the built fabric has already transformed in addition to another one-third, which has been redeveloped. Out of the remaining one-third, half of the structures have undergone minor transformation. There is imminent need to render protection and support to the retained fabric to enhance their longevity. This could be achieved through delineation of the significant fabric as a listed heritage precinct (Refer section 4.2.5).



Drg. 12 Reconnaissance survey of Madh village precinct

Source RCACC (2001)

ERANGAL RECONNAISSANCE SURVEY



4.2.2 **Erangal village** (Refer Drg.13)

Total Gaothan and Buffer Area ~55,576 sq. mts

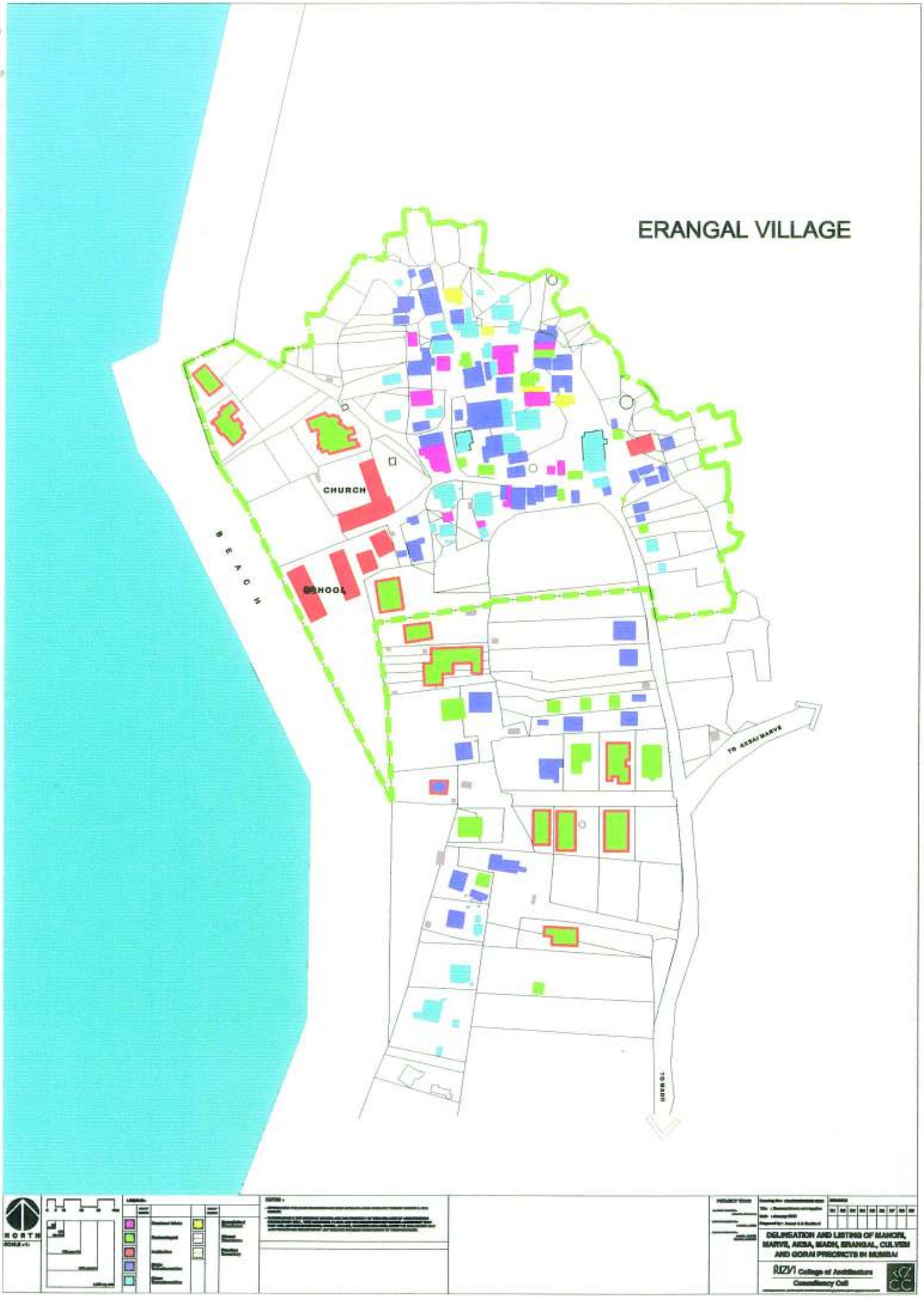
No. of buildings in the Gaothan Area ~126 nos.

No. of Minor transformation	~ 25	(20%)
No. of Major transformation	~ 49	(39%)
No. of Dilapidated	~ 00	(00%)
No. of Redeveloped	~ 25	(20%)
No. of Demolished	~ 02	(02%)
No. of Retained fabric	~ 13	(10%)
No. of Institutional	~ 03	(02%)
No. of Closed	~ 09	(07%)

The above details exhibit that nearly two-third of the built fabric has undergone major transformation. Out of the remaining one-third, half of the structures have undergone minor transformation. There is imminent need to render protection and support to the retained fabric to enhance their longevity. This could be achieved through delineation of the significant fabric as a listed heritage precinct.

Main Spine, Erangal
Source: RCACC (2002)

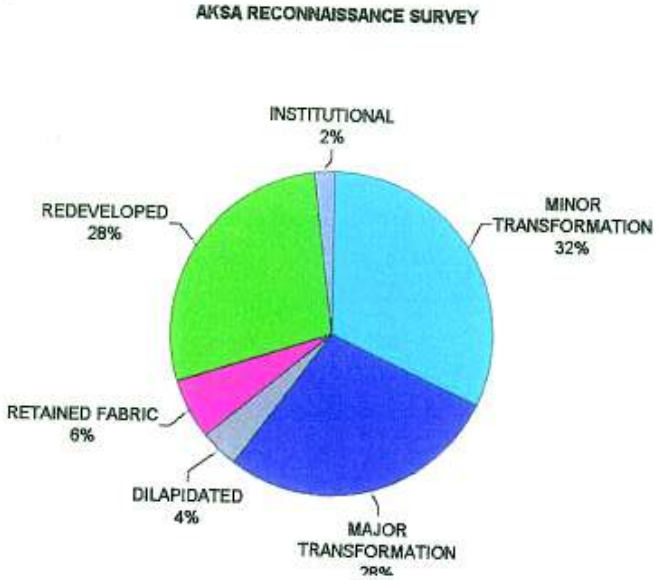
Church Of St. Bonaventure
Source: RCACC (2002)



Drg. 13 Reconnaissance survey of Erangal village precinct

Source RCACC (2001)

4.2.3 Aksa village (Refer Drg. 14)



Total Gaothan Area ~11,042 sq. mts

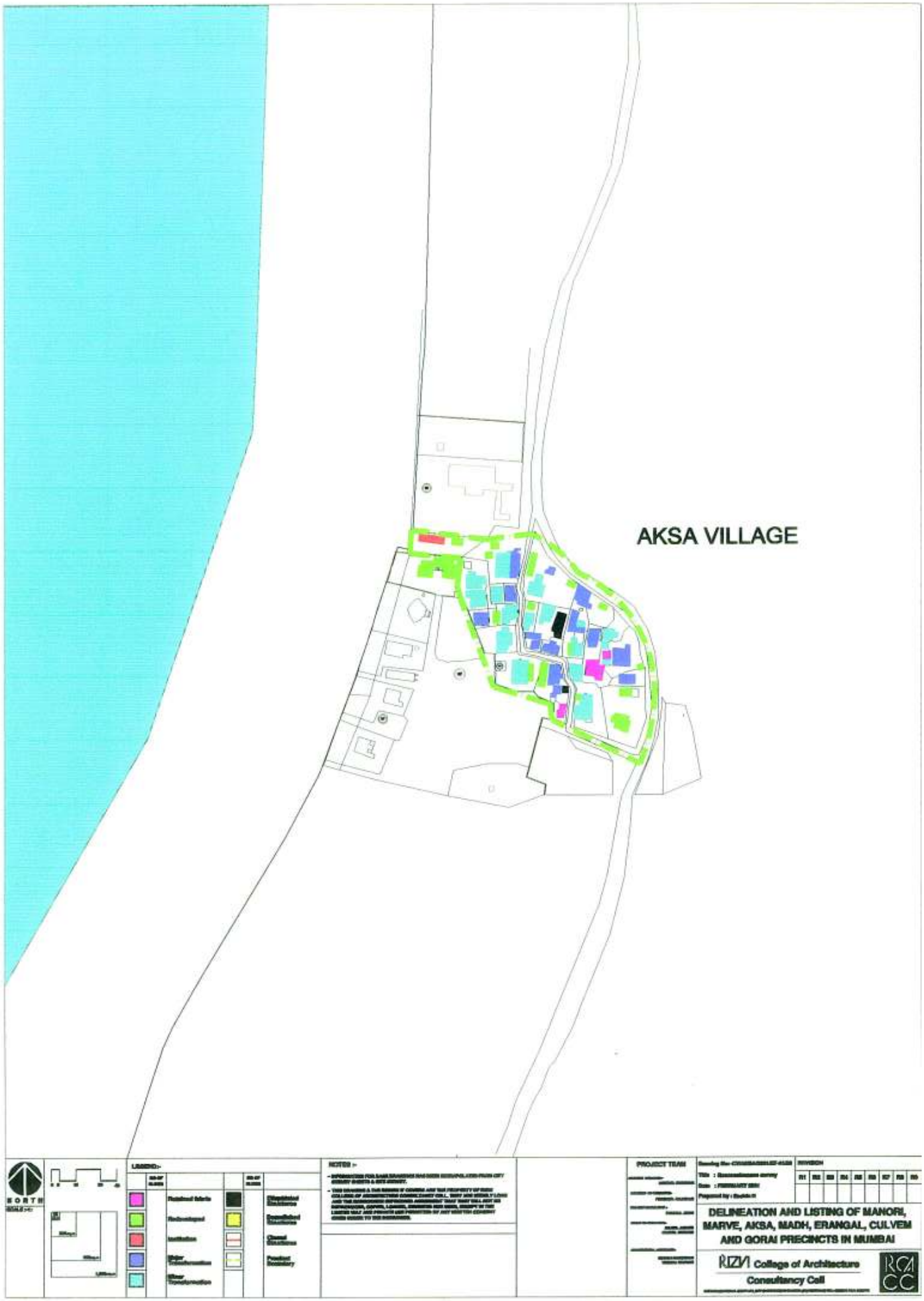
No. of buildings in the Gaothan Area ~50

No. of Minor transformation	~ 16 (32%)
No. of Major transformation	~ 14 (28%)
No. of Dilapidated	~ 02 (04%)
No. of Redeveloped	~ 14 (28%)
No. of Demolished	~ 00 (00%)
No. of Retained fabric	~ 03 (06%)
No. of Institutional	~ 01 (02%)
No. of Closed	~ 00 (00%)

In the case of Aksa village, nearly one-third of the built fabric has already been redeveloped in addition to another other one-third, which has undergone major transformation. Around 40% of the building stock have retained their original state and require minor repairs.

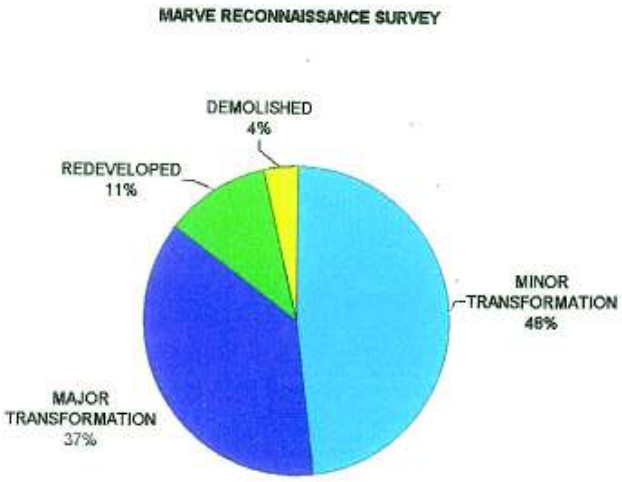
Activity node, Aksa
Source: RCACC (2002)

Disharmonious Development on Southern Side
Source: RCACC



Drg. 14 Reconnaissance survey of Aksa village precinct

Source RCACC (2001)



Structure with Minor Transformation
Source: RCACC

4.2.4 Marve village (Refer Drg. 15)

Total Gaothan Area ~13,197 sq. mts

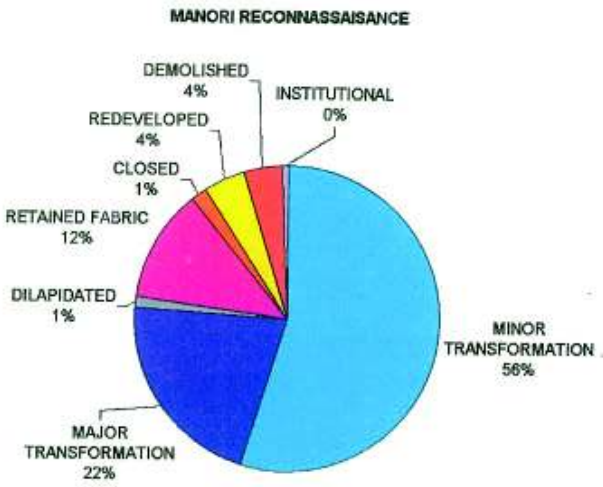
No. of buildings in the Gaothan Area ~27

No. of Minor transformation	~ 13 (48%)
No. of Major transformation	~ 10 (37%)
No. of Dilapidated	~ 00 (00%)
No. of Redeveloped	~ 03 (11%)
No. of Demolished	~ 01 (04%)
No. of Retained fabric	~ 00 (00%)
No. of Institutional	~ 00 (00%)
No. of Closed	~ 00 (00%)

Nearly half of the built fabric is more or less in its original state with a need for minor repairs.

Drg. 15 Reconnaissance survey of Marve village precinct

Source RCACC (2001)



4.2.5 **Manori village** (Refer Drg. 16)

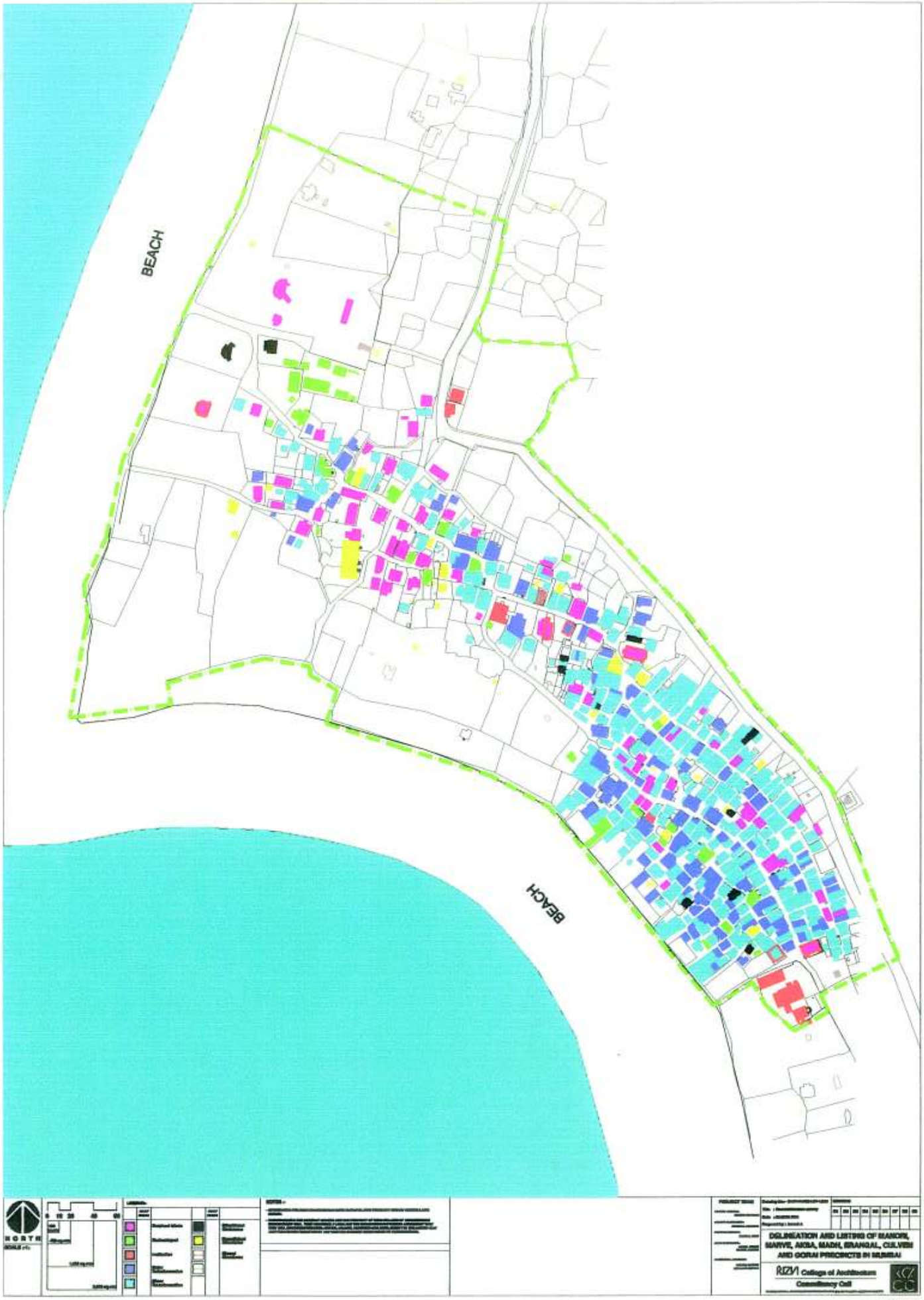
Total Gaothan Area ~2,37,225 sq. mts

No. of buildings in the delineated area ~604

No. of Minor transformation	~ 330 (55%)
No. of Major transformation	~ 129 (22%)
No. of Dilapidated	~ 08 (01%)
No. of Redeveloped	~ 27 (04%)
No. of Demolished	~ 26 (04%)
No. of Retained fabric	~ 72 (12%)
No. of Institutional	~ 03 (02%)
No. of Closed	~ 09 (01%)

Nearly two-third of the built fabric has undergone minor changes. The remaining one-third of the stock has undergone transformation and requires major repairs.

Left: Structure with Major Transformation
Centre: Structure with Minor Transformation
Right: Retained Structure
Source: RCACC



Drg. 16 **Reconnaissance survey of Manori village precinct**
Source RCACC (2001)

Retained building in Culvem
Source: RCACC (2002)

Retained building in Culvem
Source: RCACC (2002)

Culvem Church
Source: RCACC

4.2.6 Culvem village (Refer Drg. 17)

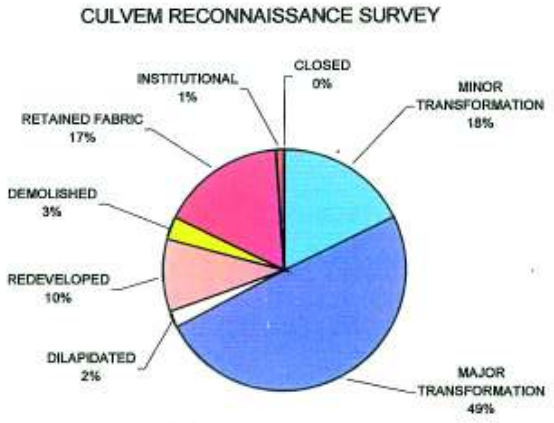
Total Gaothan Area ~89,713 sq. mts

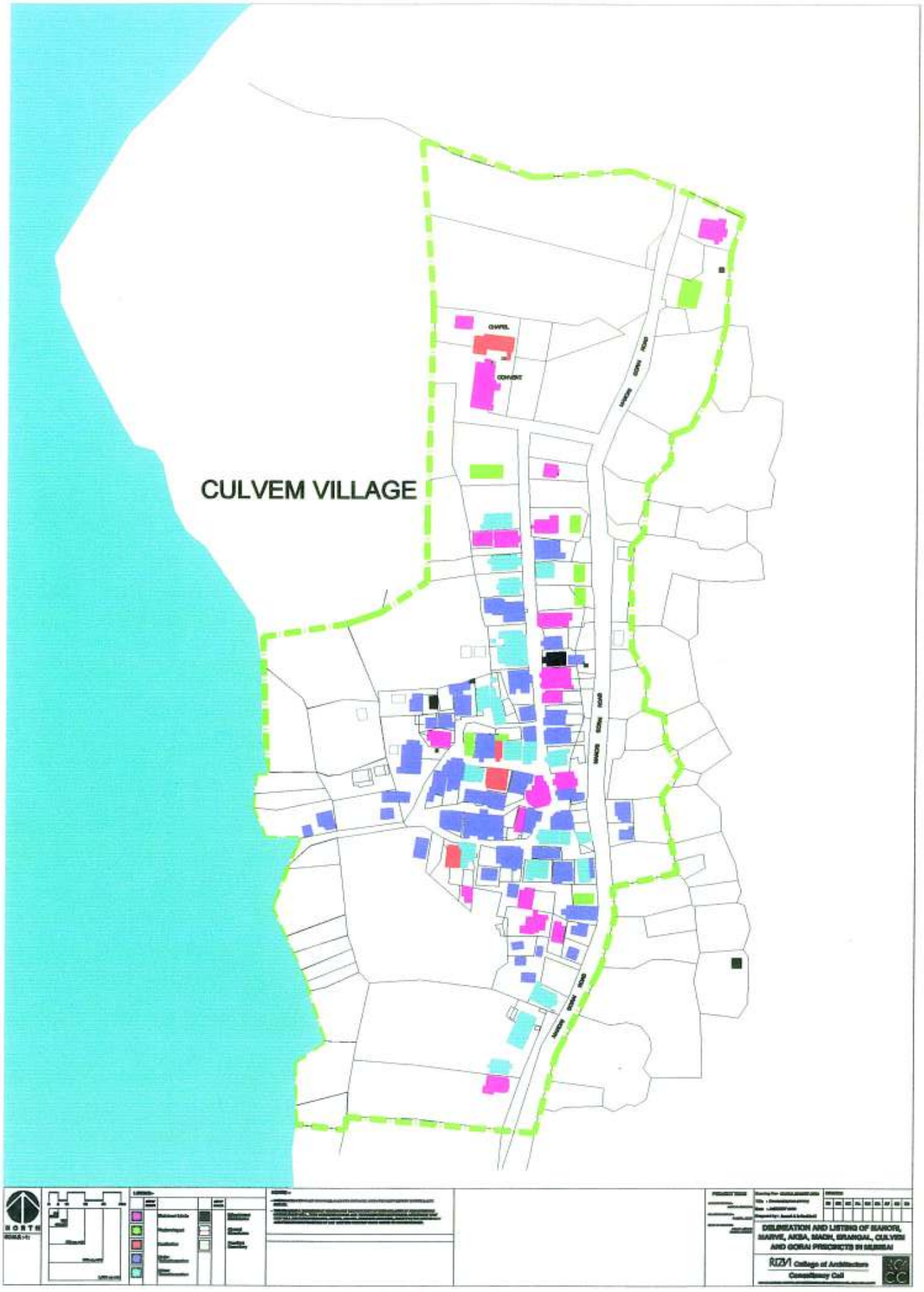
No. of buildings in the Gaothan Area ~113

No. of Minor transformation	~ 20	(18%)
No. of Major transformation	~ 56	(50%)
No. of Dilapidated	~ 02	(02%)
No. of Redeveloped	~ 11	(10%)
No. of Demolished	~ 03	(03%)
No. of Retained fabric	~ 20	(17%)
No. of Institutional	~ 01	(01%)
No. of Closed	~ 00	(00%)

The above statistics show that fifty percent of the built fabric has undergone major transformation. Of the remaining fifty percent, one-third of the structures has undergone minor transformation.

About one-fifth of the total built fabric is retained in its original state. There is a need to render protection to this unchanged and minor transformed fabric. This could be achieved through delineation of this gaothan as a listed heritage precinct.

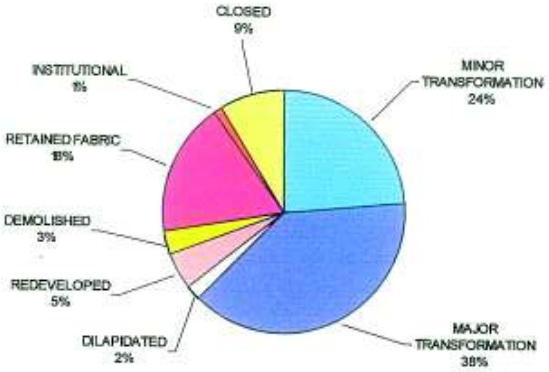




Drg. 17 Reconnaissance survey of Culvem village precinct

Source RCACC (2001)

GORAI RECONNAISSANCE SURVEY



House in Gorai Village
Source: RCACC

4.2.7 Gorai village (Refer Drg. 18)

Total Gaothan Area ~1,26,050 sq. mts

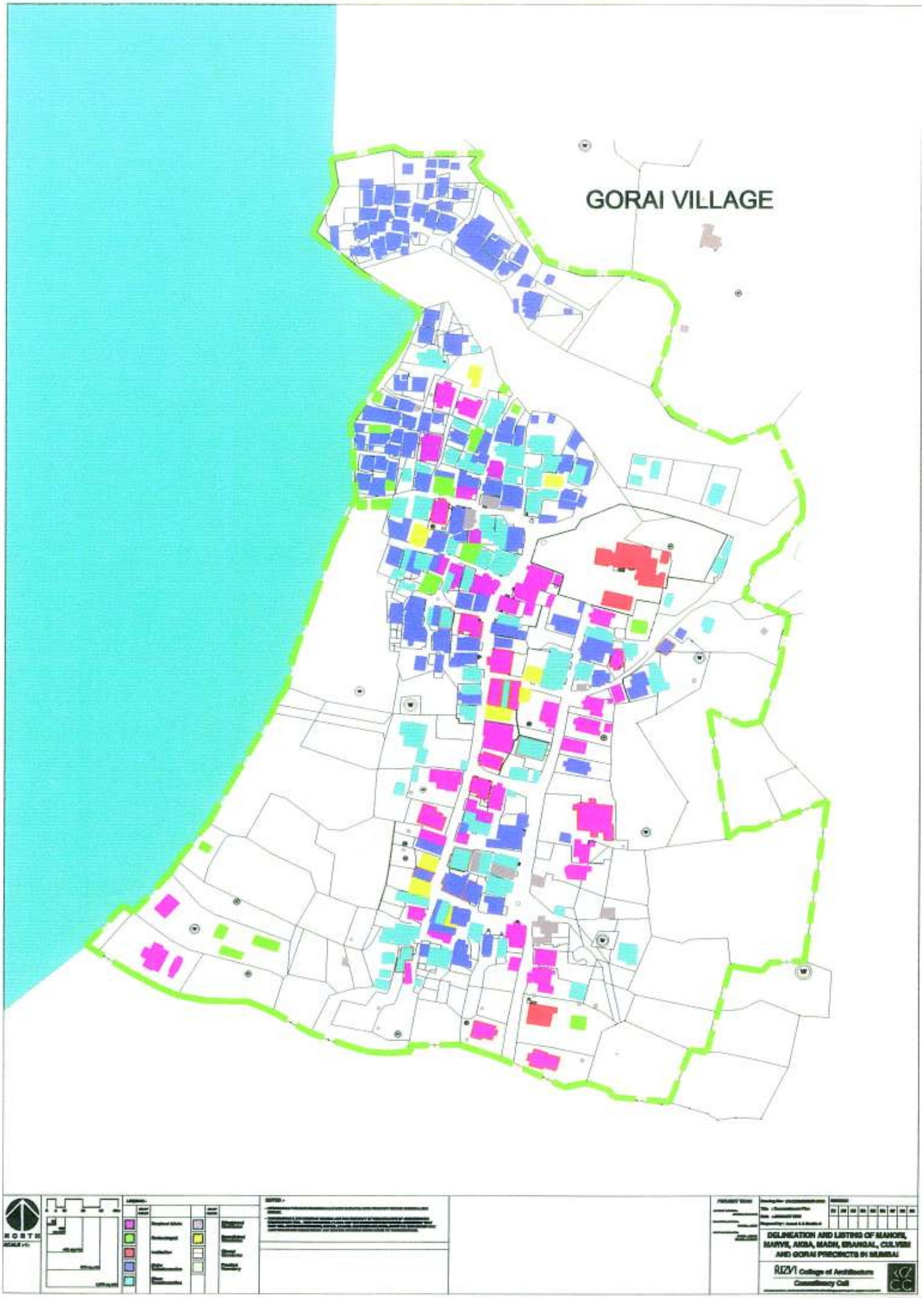
No. of buildings in the Gaothan Area ~280

No. of Minor transformation	~ 68	(24%)
No. of Major transformation	~ 106	(38%)
No. of Dilapidated	~ 05	(02%)
No. of Redeveloped	~ 15	(05%)
No. of Demolished	~ 08	(03%)
No. of Retained fabric	~ 49	(18%)
No. of Institutional	~ 03	(01%)
No. of Closed	~ 26	(09%)

In the case of Gorai village, nearly two-fifth of the built fabric has already undergone major transformation. The remaining structures, which form about 43% of the total building stock, have retained their original state and require minor repairs. About one-fifth of the built fabric of Gorai is in its original state.

House on the Manori-Gorai Rd
Source: RCACC

Dilapidated house, Gorai
Source: RCACC (2002)



Drg. 18 Reconnaissance survey of Gorai village precinct

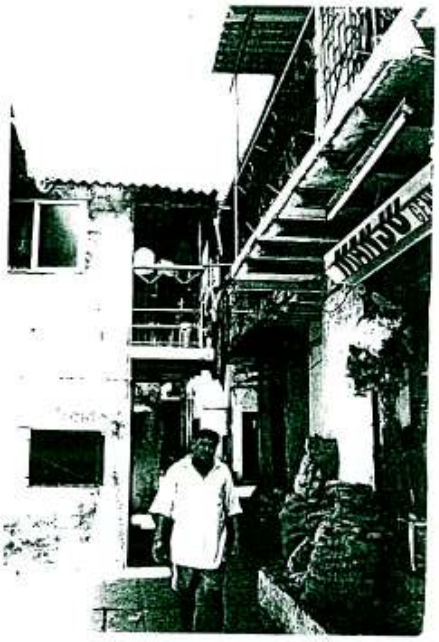
Source RCACC (2001)

4.2.8 **Malavani village** (Refer Drg 19)

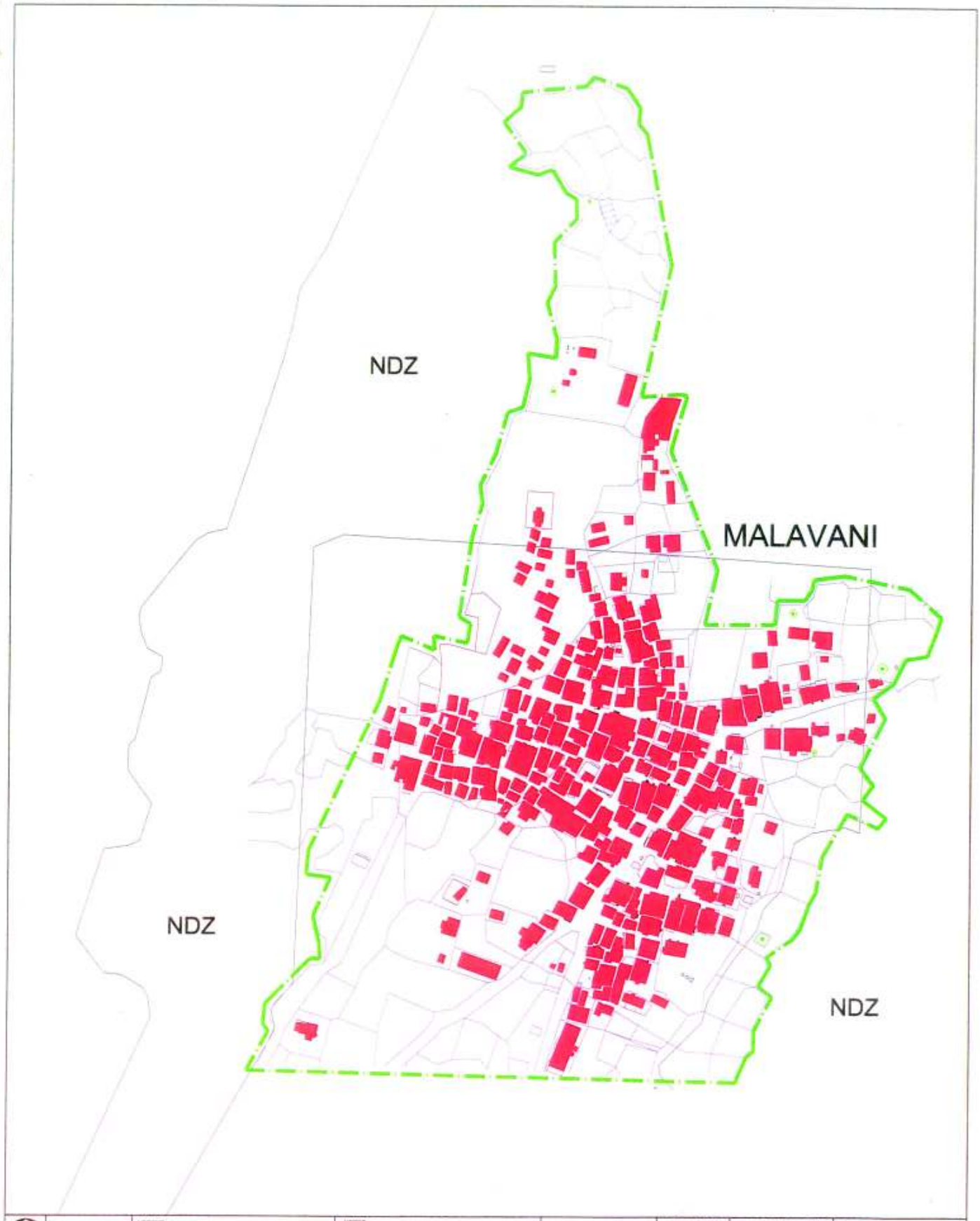
Total Gaothan Area ~1,09,258 sq. mts

Hundred percent of the fabric has been transformed and redeveloped; hence Malavani village cannot be delineated to have any substantial/significant value as per the conservation value classification.

In general, the built form typologies in these coastal villages are undergoing major transformation as new urban RCC /steel framed box like structures are replacing the original load bearing clay tiled roof type.



Left, Right Top, Right Bottom: Structure showing Major Transformation/ Redevelopment.
Source: RCACC



Drg. 19 Reconnaissance Survey of Malavani Village Precinct

Source RCACC (2001)

Staggered built form on secondary spine
Source: RCACC (2002)

Tertiary street opening on to the sea
Source: RCACC (2002)

4.3 Open Space and Built Form Pattern

4.3.1 Drgs. 20 and 21 represent the contrast between the built-up area and the surrounding open space including the roads. The emerging pattern makes evident the nature of the developments in Madh, Erangal, Aksa, Marve, Manori, Culvem and Gorai gaothans.

4.3.2 The gaothans exhibit a strong organic development where linear access streets meander, opening into nodes and open spaces, retaining an element of surprise at every short distance.

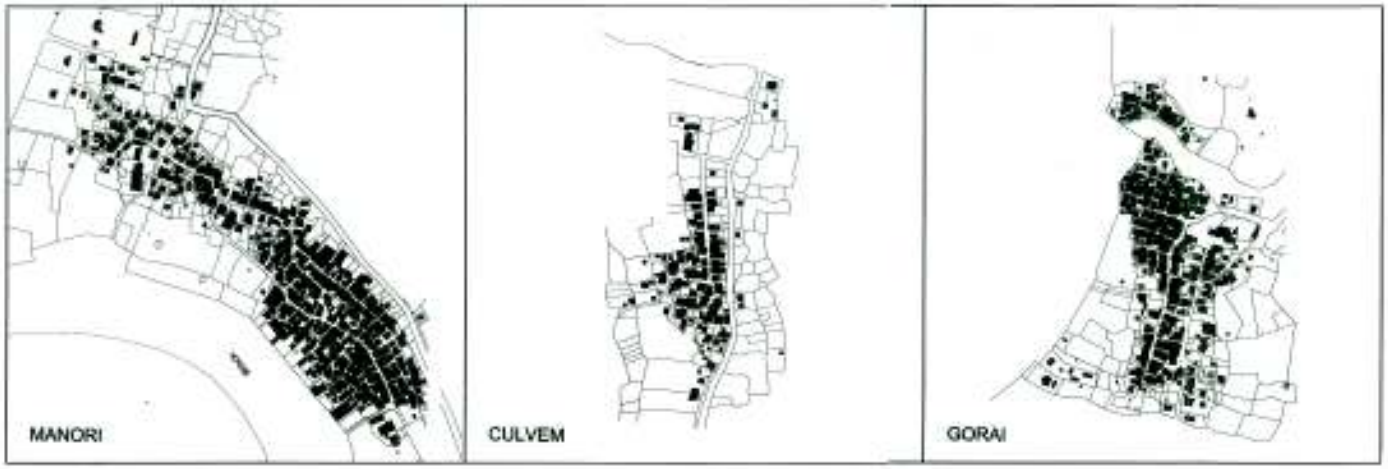
4.3.3 Higher the density of houses, more is the network of paths. These paths offer a choice of access and shortest route to various parts of the settlements.

4.3.4 The probable evolution of such a network may be the result of the formalisation of the pedestrian movements in the gaothan areas.

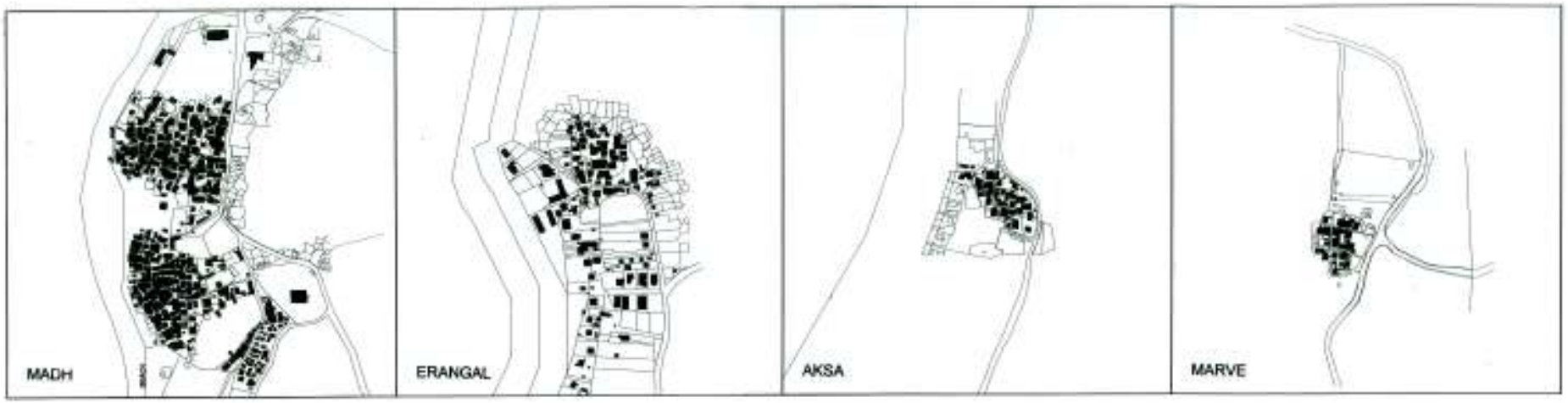
4.3.5 The Koli section of the settlements is characterised by parallel streets opening out on the beach/sea.

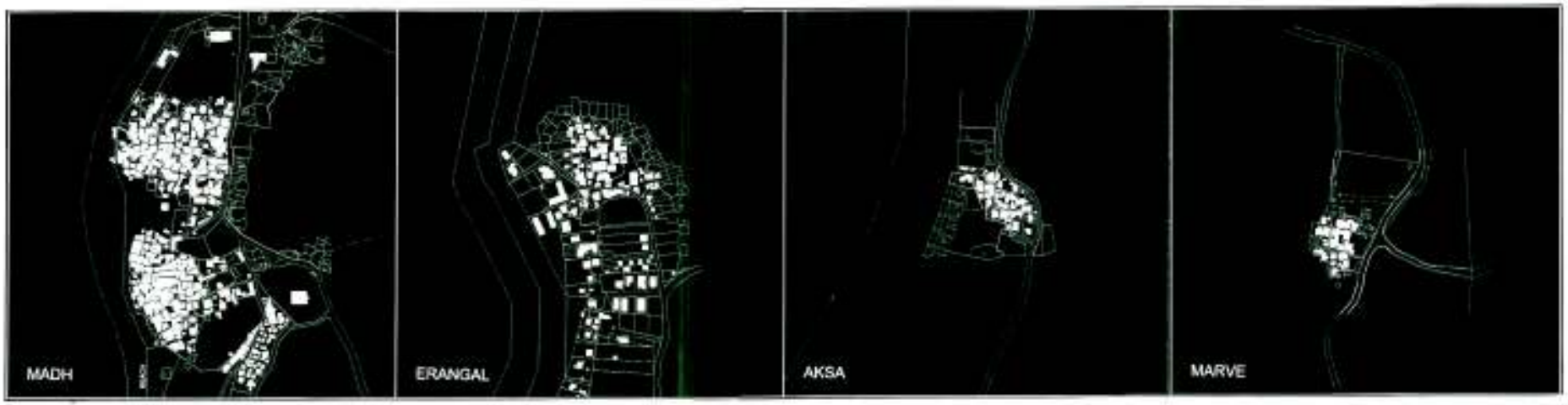
4.3.6 Open spaces are formed at the intersection of streets due to staggering of built forms and clearing near the source of water. They are defined with a strong degree of enclosure, enhancing the sense of location and privacy.

4.3.7 Unlike the few rigid new developments on the fringes, the spontaneous development of the gaothans with its informality and flexibility has permitted changes and growth in its urban fabric.



Drg. 21 Figure Ground of coastal village precincts II
Source RCACC (2002)





Dgr. 2b Figure Ground of coastal village precincts 1
Source RCACC (2002)

Informal Market place, Manori
Source: RCACC (2002)

Boat-making Industry, Manori
Source: RCACC (2002)

Fish curing and storage, Manori
Source: RCACC (2002)

4.4 Existing Landuse/Building Use in Gaothans

4.4.1 Most of the structures in the gaothan areas are residential built forms belonging to the Koli, Bhandari, Agri/Kunbi and East Indian catholic communities.

4.4.2 The commercial activity related to the convenience shopping is spread in the form of very small shops across the settlement. When these shops concentrate at a particular node, they develop into an informal market place.

4.4.3 The other commercial activity is in form of the residential commercial resorts and hotels spread in between the gaothan areas. This hotel industry predominantly caters to leisure tourists during weekends or public holiday breaks.

4.4.4 The gaothan areas are punctuated by a number of significant religious institutional structures such as the Temple and Our Lady of the Sea in Madh, St. Bonaventure Church in Erangal, Temple in Aksa, Our Lady of Perpetual Succour at Manori, Sacred Heart Chapel at Culvem and Holy Magi Church in Gorai.

4.4.5 The industrial activities in this coastal tract have been limited to boat making, fish drying, curing and storage. The Ice factory at Madh and few smaller godowns, workshops and warehouses are lined on the fringes of the gaothan areas, offering storage and service facilities.

4.4.6 The naval establishment for its operations as well as for residential purposes occupies large portions of land to the south of Madh and to the north and east of Marve village.

4.4.7 To the north-west of Gorai Gaothan, fairly disjointed from the main settlement, is the amusement park of Esselworld set up on a small island/mudflat connected to the Gorai Jetty road through a causeway.

Two-storied built form, Madh
Source: RCACC (2002)

4.5 Ownership of Buildings

4.5.1 The gaothan areas are predominantly privately owned, except for a few properties that are let out to tenants. Most of the commercial holdings are privately owned while the institutional structures belong to the trusts.

4.6 Topography of Buildings

4.6.1 The gaothan areas are composed of one (ground) and two storied (ground and one upper floor) buildings.

4.6.2 These areas therefore present a homogeneous pattern of low rise, high-density buildings with a sense of scale and proportion, which promotes interaction between the user and his built environment.

4.6.3 The recent hotels / serviced apartment developments are four storied and higher. These structures form the only serious disharmonious components of built fabric in the complete north west coastal tract of Mumbai.

More than a century old buiding, Madh
Source: RCACC (2002)

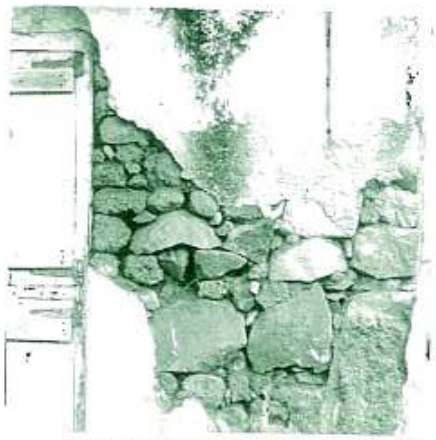
4.7 Age of Buildings

4.7.1 The gaothan areas predate the colonial period; hence the origins of the settlements could be pre 16th Century.

4.7.2 The Institutional and Church buildings range from mid 16th Century to early 20th Century.

4.7.3 The present retained physical fabric is about 80 to 150 years old. The disharmonious developments of the hotels and resorts are a couple of decades old.

4.7.4 Even with a considerable pressure of transformation, the gaothan areas have so far sustained their original expression.



Rubble Masonry with lime plaster
Source: RCACC (2002)

4.8 Condition of Buildings

4.8.1 Majority of the buildings in the precincts are in a fair state of repair.

4.8.2 Buildings, especially in Gorai and Manori gaothans, which are closed and not in use for long periods, are the ones that are in a poor or extremely poor state.

4.8.3 Neglect, improper treatments and insensitive additions are the main reasons for decay of the existing building stock.

Summary of Reconnaissance Survey of the Coastal Village Precincts

	Madh	Erangal	Aksa	Marve	Manori	Culvem	Gorai	Total Gaothan Area
Total Gaothan Area (Sq. Mts.)	**79,941** (North)	**55,576**	**11,042**	**13,197**	**2,37,225**	**89,713**	**1,26,050**	**6,12,744**
No. of buildings	193 North Gaothan	126	50	27	604	113	280	**1393**
No. of Minor transformation	32 (17%)	25 (20%)	16 (32%)	13 (48%)	330 (55%)	20 (18%)	68 (24%)	**504 (36%)**
No. of Major transformation	57 (30%)	49 (39%)	14 (28%)	10 (37%)	129 (22%)	56 (49%)	106 (38%)	**421 (30%)**
No. of Dilapidated	08 (04%)	00 (00%)	02 (04%)	00 (00%)	08 (01%)	02 (02%)	05 (02%)	**25 (02%)**
No. of Redeveloped	65 (33%)	25 (20%)	14 (28%)	03 (11%)	27 (04%)	11 (10%)	15 (05%)	**160 (12%)**
No. of Demolished	02 (01%)	02 (02%)	00 (00%)	01 (04%)	26 (04%)	03 (03%)	08 (03%)	**42 (03%)**
No. of Retained fabric	22 (11%)	13 (10%)	03 (06%)	00 (00%)	72 (12%)	20 (17%)	49 (18%)	**179 (13%)**
No. of Institutional	05 (03%)	03 (02%)	01 (02%)	00 (00%)	03 (02%)	01 (01%)	03 (01%)	**16 (01%)**
No. of Closed	02 (01%)	09 (07%)	00 (00%)	00 (00%)	09 (01%)	00 (00%)	26 (09%)	**46 (03%)**

Redeveloped built form, Madh
Source: RCACC (2002)

Major transformation, Manori
Source: RCACC (2002)

4.9 Physical Transformation of Buildings

4.9.1 Physical transformation of buildings is mostly due to insensitive reconstruction, roof and facade alterations and improper repairs that have been undertaken on a vast scale.

4.9.2 The articulation on wall surfaces, edges, trims and borders are removed during re-plastering, leading to further decay due to surface expansion and cracking of large surfaces.

4.9.3 Removal and replacement of existing timber members with brick, mild steel and reinforced concrete has caused irreplaceable damage to the original fabric.

4.9.4 Incongruous changes in the roofing from clay tile timber-framed roofing to asbestos cement and substandard mild steel is acutely affecting the aesthetics of the pre-industrial vernacular built forms.

4.9.5 Mid/High rise developments outside the gaothans are incongruous to the scale and the character of the settlements. Disharmonious building activity in many cases has led to further erosion of the essential open and built fabric.

4.9.6 In addition to this, a fair number of buildings are being demolished and are under reconstruction all over the gaothan areas.

Koli settlement on the seafront, Madh
Source: RCACC (2002)

Bhandari Cluster, Manori
Source: RCACC (2002)

East Indian House, Madh
Source: RCACC (2002)

4.10 Architectural Documentation

4.10.1 Settlement Planning and Development

The Manori Gaothan presents an excellent pedagogical site to study the patterns of the various housing typologies, their planning, development and growth. The location of the communities is based on preferences of their occupation, and the typology is a direct translation of their needs and requirements.

Fig. 22 shows the settlement of Manori with the Koli community preferring the location towards the west in close proximity to the sea front - the place of their work and socio-cultural existence.

The Bhandaris develop their cluster towards the inner core of the settlement for effective access to the orchards on the fringes, and their clientele - the toddy drinkers in the settlement.

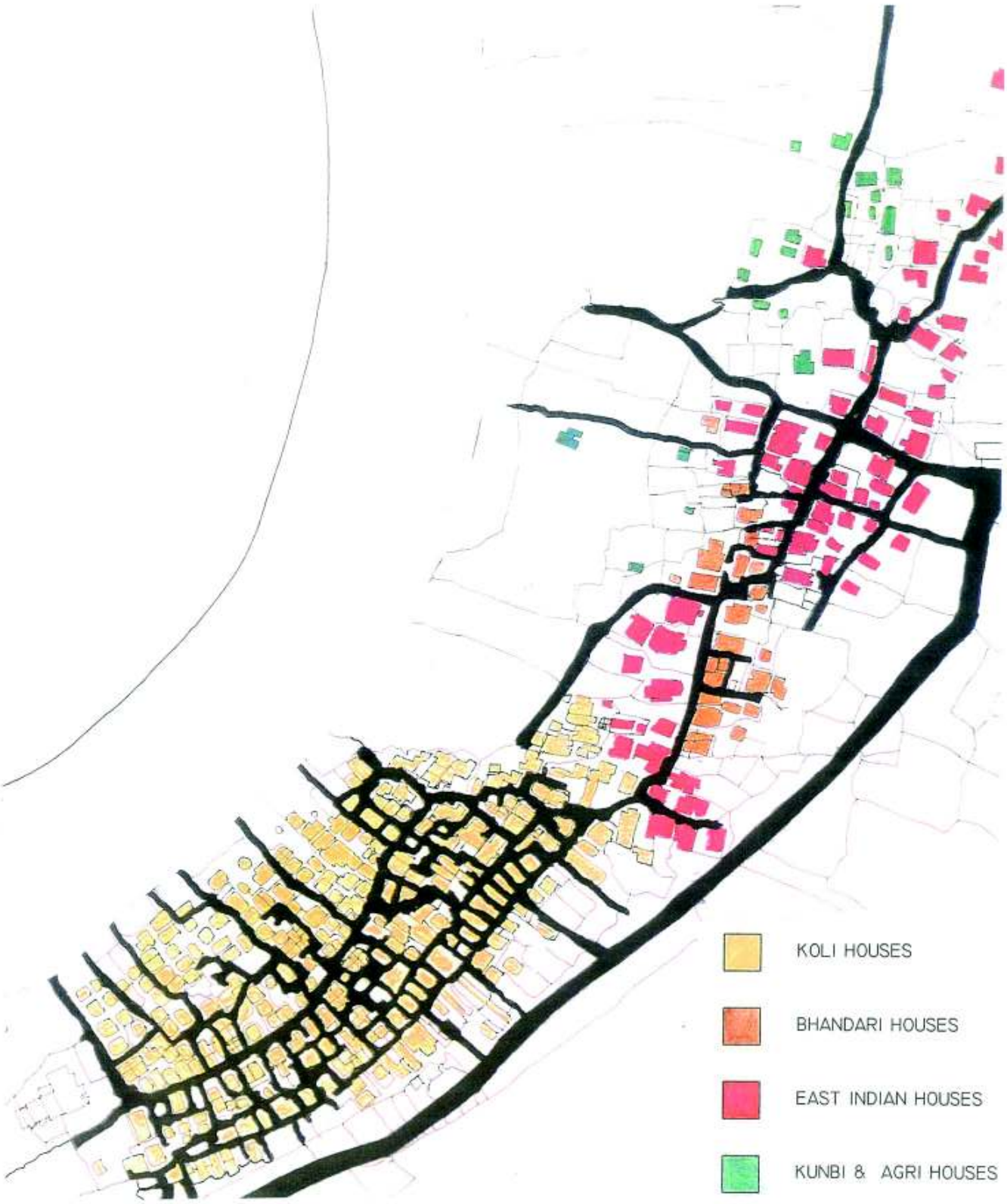
The East Indian Community, with its preference to agglomerate towards the lesser-populated fringes of the settlement, has larger plot holdings and grander buildings to exhibit their financial affluence.

The Agris and Kunbis, the farm labourers, are virtually on the outskirts of the settlement, probably by reason of close proximity of their homes to their working fields, or perhaps, due to forced social segregation from the affluent communities of the gaothan.

4.10.2 Dwelling Unit layout

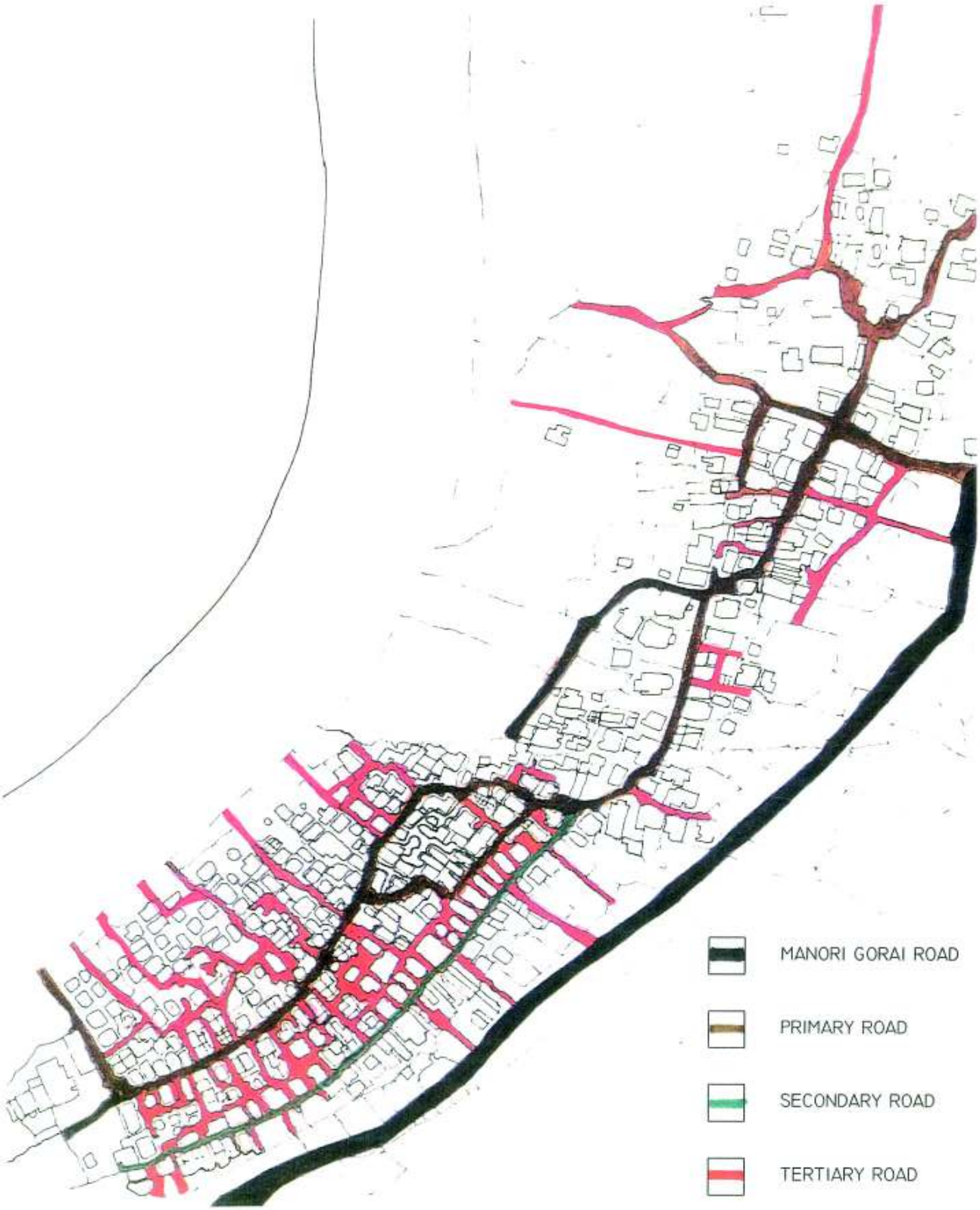
The area exhibits various permutations of four housing typologies. These typologies are based on the types of communities that inhabit them with the form being defined by their occupational usage. The typologies are: -

1) Koli Typology (Houses of the Fishing Community)
2) Bhandari Typology (Houses of Toddy Tapper Community)
3) Kunbi/Agri Typology (Houses of Farm Labourers)
4) East Indian Typology (Houses of Roman Catholic in various trades/profession).



Drg 22 **Residential Locations of Communities in Manori village precinct**

Source RCACC (2001)



Drg 23 **Hierarchy of streets and its network in Manori village precinct**

Source RCACC (2001)

Koli houses on primary spine, Manori
Source: RCACC (2002)

Koli Housing Block, Manori
Source: RCACC (2002)

4.10.1.1 Koli House
(Refer Drgs. 23, 24, 25 & 26)

4.10.1.1.1 The Koli typology belongs to the fishing community. These houses are densely packed along the streets running parallel to the beachfront. The Koli houses have probably the oldest origins of buildings in each of the studied settlements.

4.10.1.1.2 These house forms are developed with a hierarchy of spaces (public to private), which are apportioned into four prominent bays or parts.

4.10.1.1.3 The outermost bay is usually a full-length, narrow verandah, where the users work on their nets, dry fish, and interact with the community.

4.10.1.1.4 The second bay accommodates the multipurpose living space, where guests and relatives are entertained. This bay is used as a bedroom at night, and as an extension of the verandah during the day.

4.10.1.1.5 The third bay is the inner core of the home with a family room. Small bedrooms, alcoves and ladder to the attic are approached from this room.

4.10.1.1.6 The last bay accommodates the service areas including the bathing, washing and cooking spaces. The house also opens out to the rear yard or secondary access street from this bay.

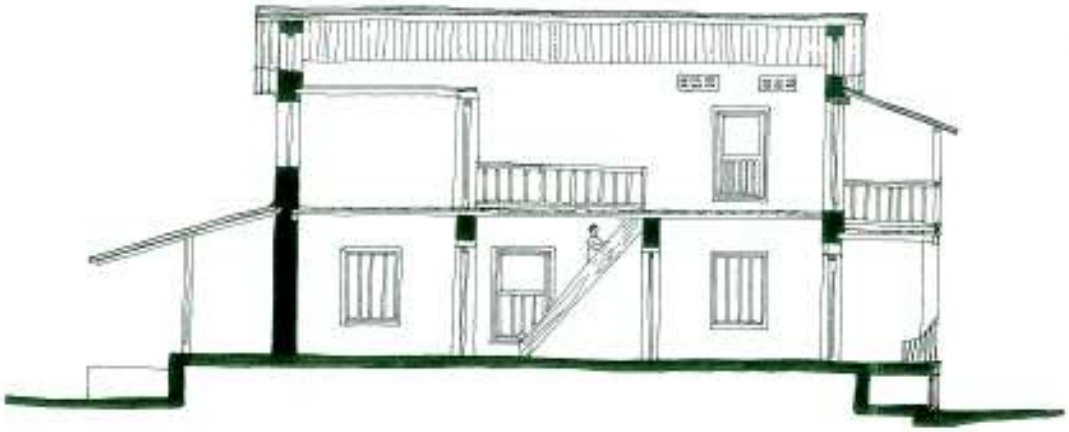
4.10.1.1.7 This typology is similar to the parallel infill housing typology except for the pedestrian street, which intermittently breaks the built form for shortest access to the sea. (Refer Drgs. 22, 23, 24 & 25).

Drg 24 Layout plan of residential pattern of Koli community in Manori village precinct

Source RCACC (2002)

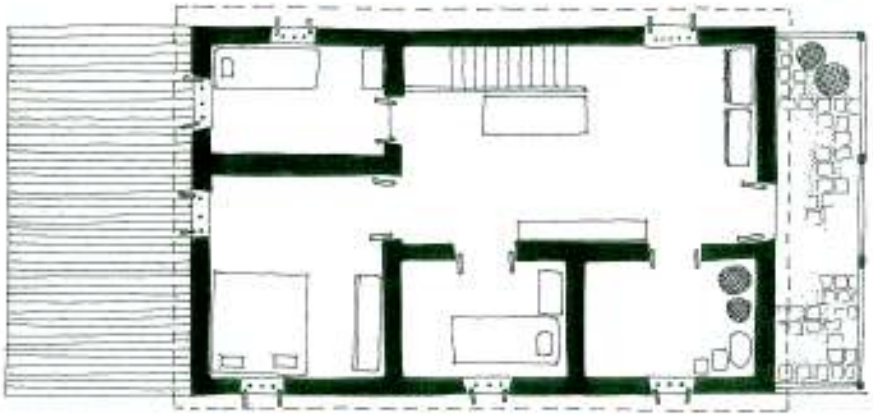
Drg 25 **Street elevations of the residential pattern of Koli community in Manori village precinct**

Source RCACC (2002)



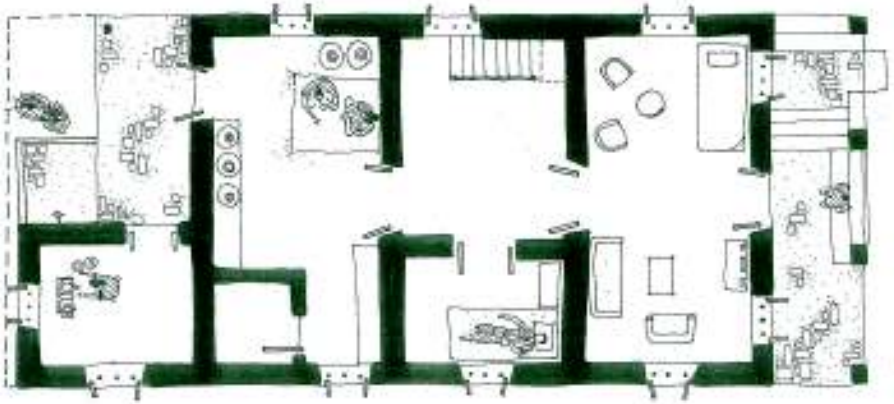
Section

Front Elevation



First Floor Plan

Key Plan



Ground Floor Plan

Drg 26 Dwelling typology of the residential pattern of Koli community in Manori village precinct

Source RCACC (2003)

Bhandari house cluster, Aksa
Source: RCACC (2002)

Bhandari house cluster, Aksa
Source: RCACC (2002)

4.10.1.2 Bhandari House
(Refer Drgs. 27 & 28)

4.10.1.2.1 The Bhandari (toddy tappers) community is occupied in the maintenance of coconut and toddy plantations and fruit orchards.

4.10.1.2.2 The Bhandaris are economically less prosperous and own smaller houses than the East Indians and Kolis.

4.10.1.2.3 The houses of the Bhandaris have a mixed typology, and therefore, a greater variety, since they are very site and context specific.

4.10.1.2.4 Predominantly, the houses of this typology are rectangular in form and cover a small area, which is further divided into three prominent bays.

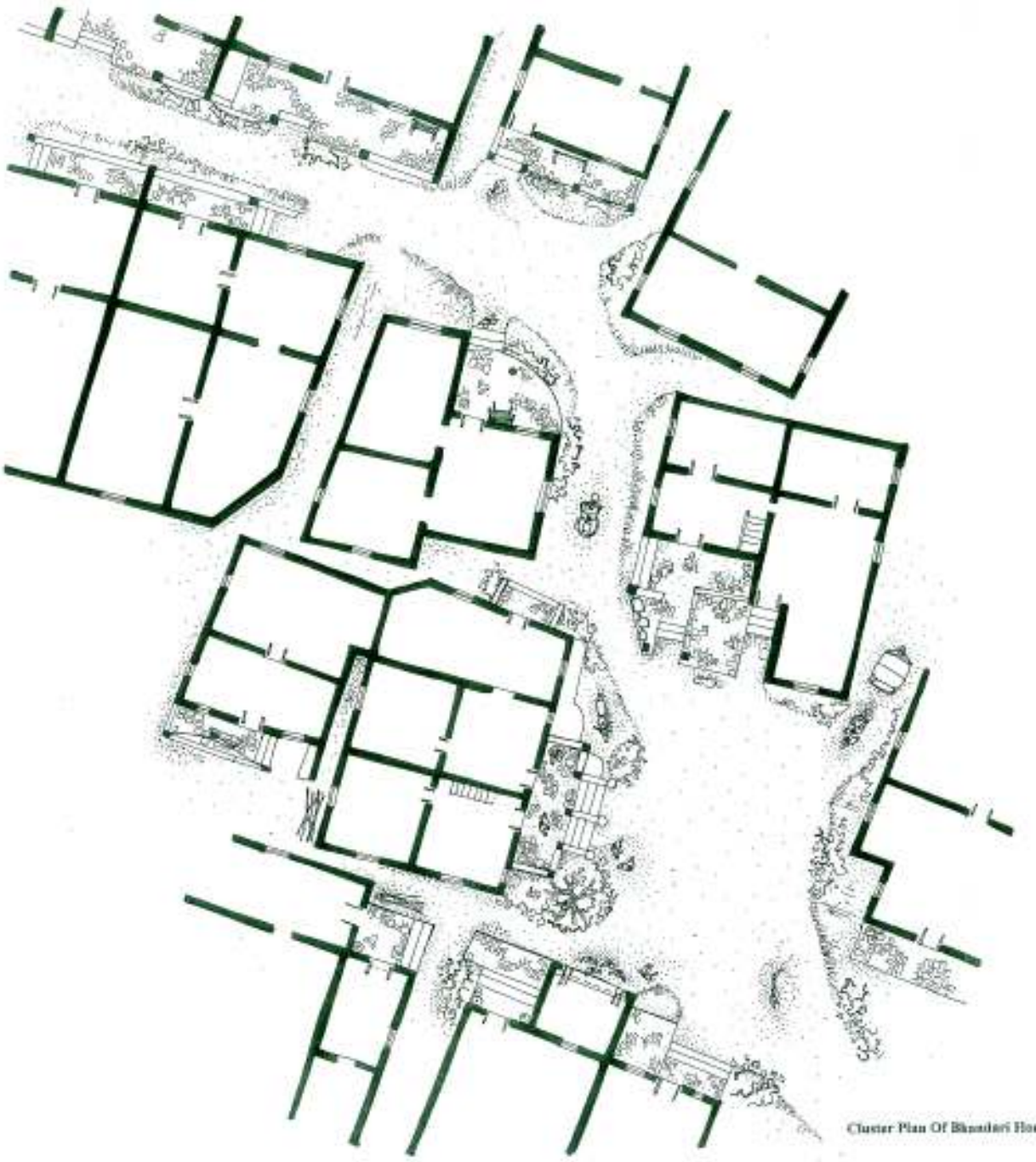
4.10.1.2.5 As compared to the four-bay houses of the East Indians and Kolis, a Bhandari House is fairly simplistic in its plan. The outermost division is the semi-open verandah, either individually owned or shared; the inner two bays are private spaces.

4.10.1.2.6 The reason for this simplistic division could be that these houses are generally built in clusters that share a common open space, which is used for social interaction. Thus, there is a lesser need for the provision of a living space for guests within each house.

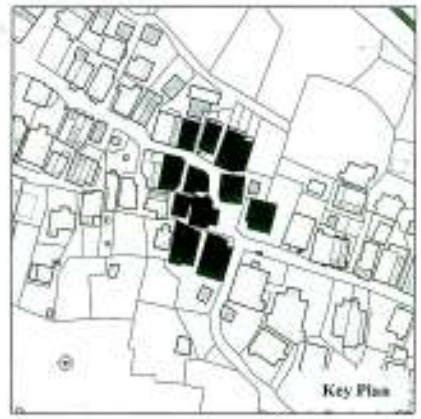
4.10.1.2.7 The common open space usually has a centrally located pedestal with a *'Tulsi'* plant.

4.10.1.2.8 The first bay of the house, which is a large and deep verandah, is used for cleaning and storage of toddy.

4.10.1.2.9 This verandah leads to the family room, which leads to the alcove / kitchen and bedrooms on the first or attic floor.



Cluster Plan Of Bhandari Houses



Key Plan

View

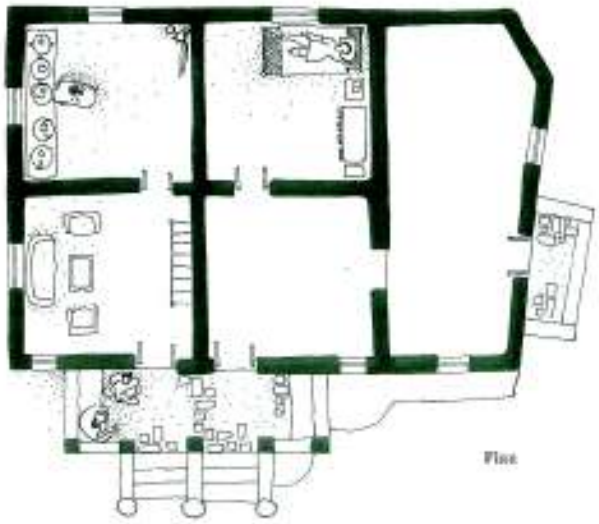
Dig 27 Residential cluster plan of Bhandari Community in Manori village precinct

Source RCACC (2002)

Elevation

View

View



Plan

Key Plan

Dgr 28 **Dwelling typology of the residential pattern of Bhandari community in Manori village precinct**

Source RCACC (2002)

Kunbi house, Manori
Source: RCACC (2002)

Kunbi house, Manori
Source: RCACC (2002)

East Indian house, Madh
Source: RCACC (2002)

4.10.1.3 Kunbi/Agri House

4.10.1.3.1 The Kunbis and the Agris are the economically weaker communities in the settlements, usually involved in farming and other manual labour.

4.10.1.3.2 They live in small huts made out of palm leaves. The walls are made out of reeds or junk wooden planks tied together with jute strings.

4.10.1.3.3 Their houses reflect the original house forms of the area as well as the tribal origins of the settlements.

4.10.1.3.4 Most of these house forms are located on the periphery of the village, blending with the surrounding landscape that gives them their ephemeral quality.

4.10.1.4 East Indian House
(Refer Drgs. 29 & 30)

4.10.1.4.1 The East Indian housing typology belongs to the Roman Catholic community whose predominant occupation was administering and managing lands, initially for the Portuguese, and later, for the British through the East India Company (probably, that is the reason they are termed as "East Indians").

4.10.1.4.2 This housing pattern is composed of low-rise built forms with one or two storied houses. The East Indian community in most of the gaothans is financially better placed than the other communities.

4.10.1.4.3 The East Indian houses are loosely positioned on larger plots, with their set backs giving them a more formal look than the clustered Bhandari settlements (Bhandarwada) or the Parallel infill pattern of the Koli Settlement (Koliwada).

4.10.1.4.4 As a result, the houses do not define a strong edge or streetscape in the East Indian part of the settlement.

Koli housing seen to the left, And East Indian house to the Right, Manori
Source: RCACC (2002)

East Indian house, Manori
Source: RCACC (2002)

East Indian house, Madh
Source: RCACC (2002)

4.10.1.4.5 An East Indian house can be divided into two main parts, the first being semi-private, consisting of front and back verandas, porches, outdoor rooms and an external staircase. The second part, being private, consists of a multipurpose hall, a dining and family room, bedrooms, kitchen, stores and toilets.

4.10.1.4.6 The house is entered through a covered verandah, which forms a transition space from outside to the inside of the house. The verandah is a multipurpose area; it functions as a socialising space, a buffer for privacy, and as an extension of the hall, which is a private part of the house. It provides soft natural light and ventilation to the adjoining rooms even during heavy rains.

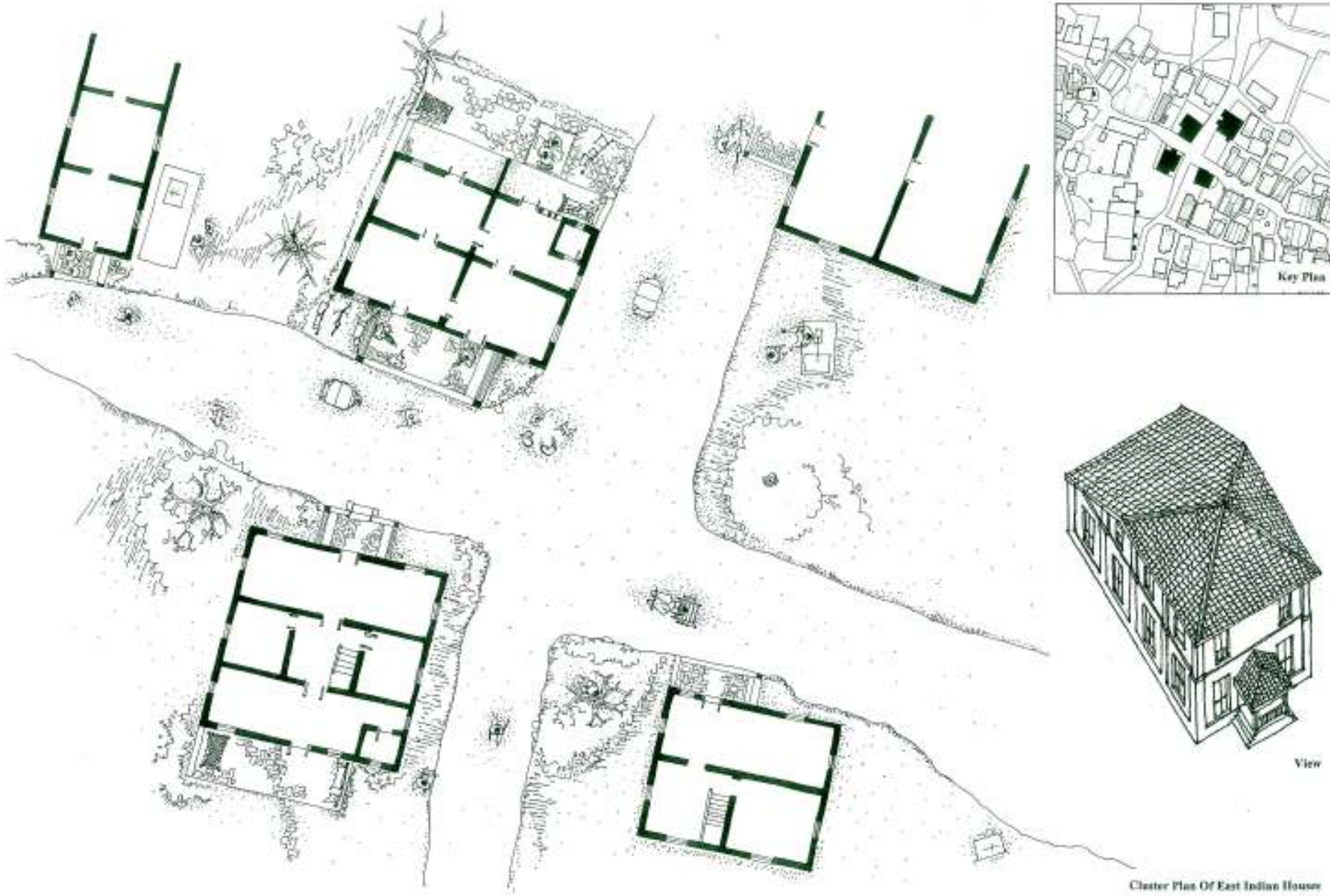
4.10.1.4.7 The private part of the house is usually made up of three bays. The first bay comprises a rectangular multipurpose hall.

4.10.1.4.8 This multipurpose hall functions as a living room as well as a study and hobby room with areas for sitting, playing music and exhibiting artefacts collected over the years. In these halls, the furniture mostly consists of richly decorated antique chairs, side tables, showcases neatly maintained by regular cleaning, polishing etc.

4.10.1.4.9 The second division is further divided into two or more parts, the larger being a family room, also used for dining, and the smaller division that is used as bedroom.

4.10.1.4.10 The third division consists of the service core that houses the kitchen, storerooms, servants' rooms and toilets. The kitchen is accessible from the rear of verandah, which has a service staircase (usually spiral) leading to the upper stories.

4.10.1.4.11 The roof of the houses is mostly sloping, covered with country or mangalore type tiles. Some of the houses have an attic below the roof that is accessible by a ladder, and is used for storage.

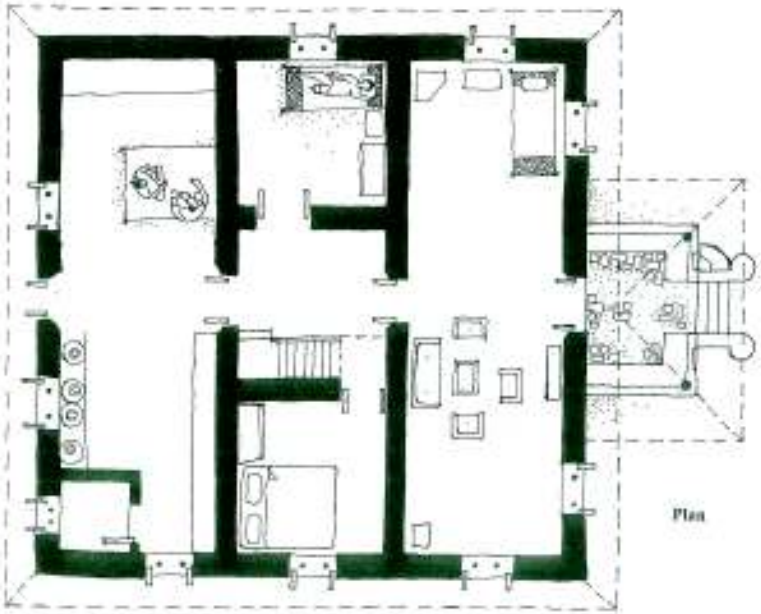


Drg 29 Cluster plan of the residential pattern of East Indian community in Manori village precinct

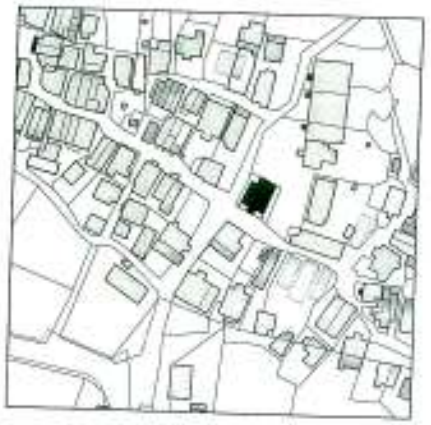
Source RCACC (2002)

Section

Front Elevation



Plan



Key Plan

Drg 30 **Dwelling typology of the residential pattern of East Indian community in Manori village precinct**

Source RCACC (2002)

4.11 Street Elevations
(Refer Drg. 31,32,33 & 34)

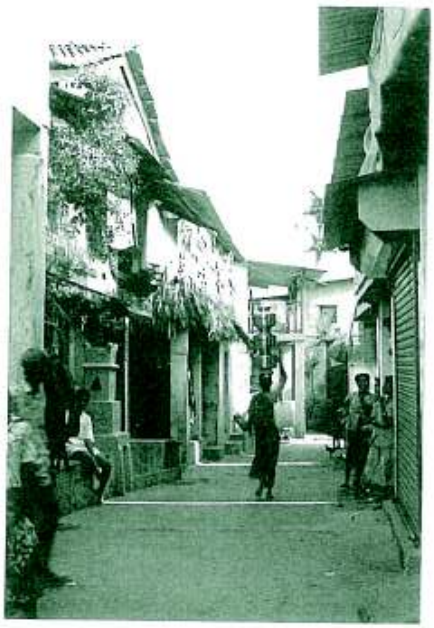
4.11.1 Architectural documentation of representative examples were undertaken with an impetus to document street facades, building typologies and details of most looked-at faces of the gaothan areas.

4.11.2 Schematic Documentation of street facades will ascertain the elevation controls including heights, scale, proportion and articulation.

4.11.3 At the settlement level, the street façade exhibits continuous horizontal lines representing the floor levels, which are further accentuated by the cornices, mouldings, barge boards, fascia boards, etc.

4.11.4 Verandahs on ground, balconies or large openings on first, and attic ventilation add to the transparency of the dwelling while facilitating interaction of the dwelling with the activity on the street.

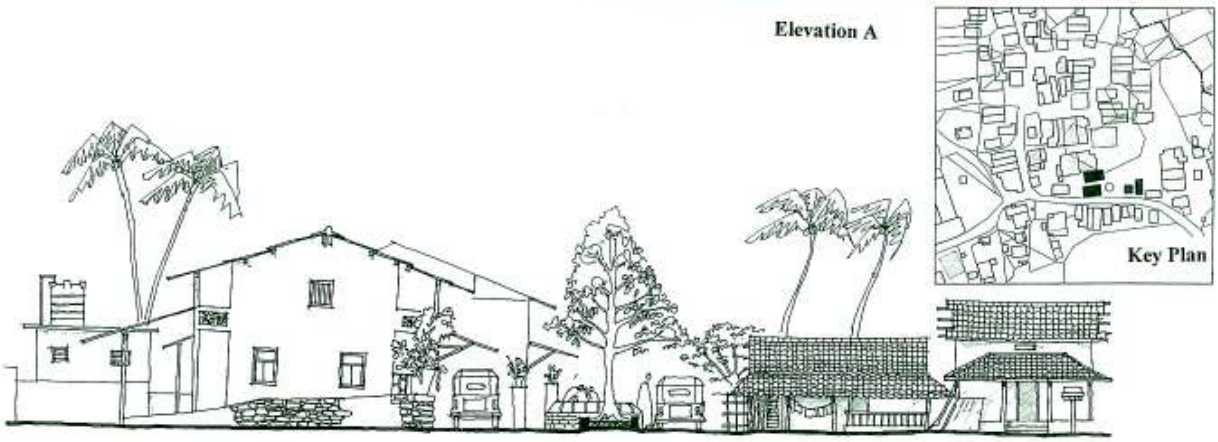
4.11.5 Detailed wrought iron railings, cast iron brackets, arched alcove seating, carved barge and fascia boards, elaborate openings, etc. mostly in the East Indian Settlements add to the articulation of the façade and give individuality to the dwellings and settlement as whole.



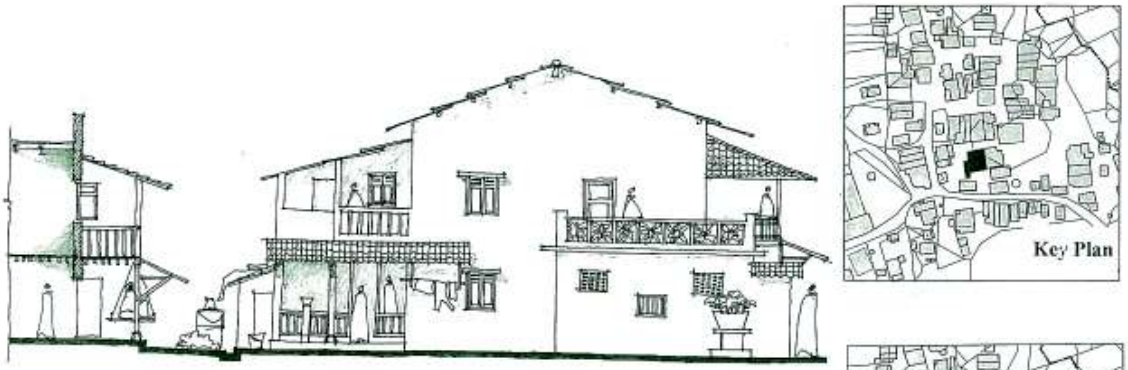
Primary spine, Manori
Source: RCACC (2002)

Top and Bottom (right): Verandah/outdoor rooms in the Koli settlement, Manori
Source: RCACC (2002)

Elevation A



Elevation B



Elevation D

Drg 31 Elevations of the residential pattern in Erangal village precinct

Source RCACC (2002)

Key Plan (Aksa)

Elevation E

Key Plan (Aksa)

Elevation F

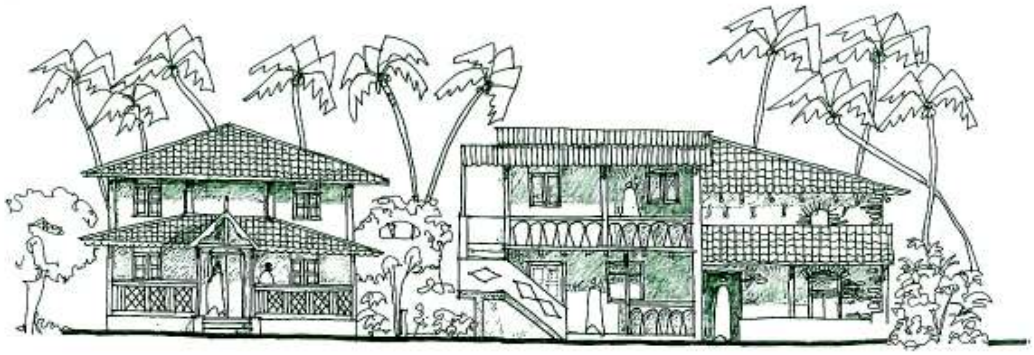
Key Plan (Aksa)

Elevation G

Drg 32 Elevations of the residential pattern in Aksa village precinct

Source RCACC (2002)

Key Plan (Culvem)



Elevation H

Key Plan (Culvem)

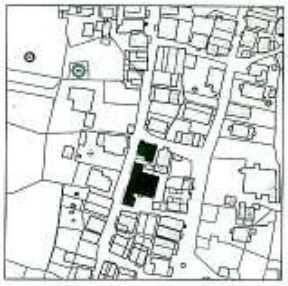
Elevation I

Drg 33 Elevations of the residential pattern in Culvem village precinct

Source RCACC (2002)

Key Plan (Gorai)

Elevation J



Key plan (Gorai)

Elevation K

Drg 34 Elevations of the residential pattern in Gorai village precinct

Source RCACC (2002)

Trabeated timber-framed structure in dilapidated condition, Manori
Source: RCACC (2002)

Coursed rubble masonry in lime surkhi mortar, and partly lime-washed
Source: RCACC (2002)

4.12 Construction and Detailing

4.12.1 The construction is composite, appropriate to its use, application, detailing and climate.

4.12.2 The trabeated teak wood frame supports the upper floors and roof in combination with the side walls, which are loaded bearing with brick masonry in lime mortar, lime plastered and internally lime washed.

4.12.3 The plinths are in brick or stone, especially for larger houses, with shahabad or kota flooring, while the upper floors are timber-framed with timber bridging joists with shahabad flooring or timber boarding for attic flooring.

4.12.4 The roofing is timber-framed with timber rafters, battens covered with country or mangalore tiled roof.

4.12.5 On a cursory look at the physical problem with the buildings, the following problems are noticed: -

4.12.5.1 Country tile roofing, though a very effective roof cover and insulation needs yearly maintenance to keep it in good repair. Shift of tiles or breakage in certain sections leads to heavy leakage.

4.12.5.2 Neglect and decay for a few years, combined with the lack of availability of skills and materials makes it very difficult to repair buildings.

4.12.5.3 The most common remedy adopted for most of the dwellings is to replace the country tiles by mangalore tiles, thereby reducing maintenance, leakage and deterioration.

4.12.5.4 Some of the owners have replaced the earlier roofing with asbestos cement sheets, which totally defeats the criteria for the use of tiles that provide ventilation as well as improve stack effect, leading to a reduction in the internal temperatures. Moreover, asbestos cement sheets, being carcinogenic, can prove fatal.

Timber spiral staircase and timber Flooring in Manori Church
Source: RCACC (2002)

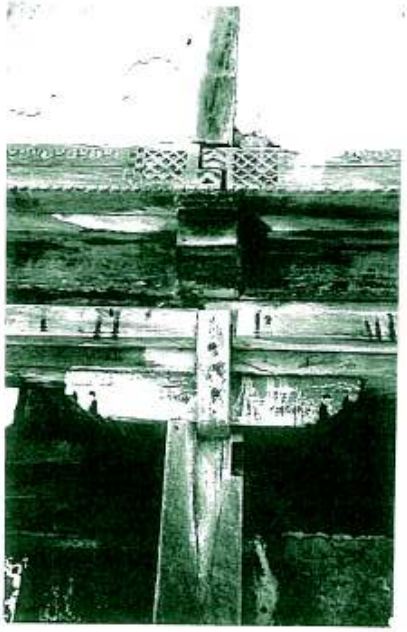
4.12.5.5 Decay of timber members by termite infestation to parts and whole members. Moisture decay along joints thereby weakening them. Shrinkage cracks along the members leading to further sag and failure of structure.

4.12.5.6 Rising damp problems along the walls and plinth, leading to the deterioration of both, masonry walls as well as timber members that are accommodated in the masonry walls.

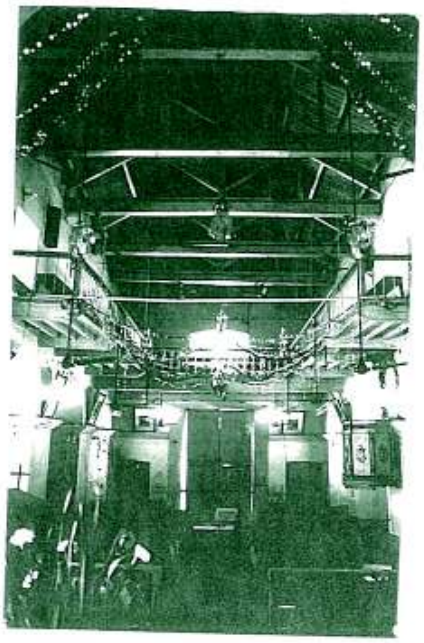
4.12.5.7 The use of oil paints along the external surfaces prevents the masonry from breathing, thereby retaining the moisture content in the walls and leading to cracks, fungus and other infestations.

4.12.5.8 Creeping of sub-soil salinity and septic tank effluent into sweet water wells due to close proximity of the settlement to the sea, and location of, both septic tank and well, in the rear open spaces.

4.12.5.9 Conservation plan for developing effective strategies and mechanisms would have a direct impact on rectifying most of these anomalies.



Timber Post (detail)
Source: RCACC (2002)



Timber trusses in Manori Church
Source: RCACC (2002)

Manori Police Station
Source: RCACC (2002)

Fishermans' Co-operative Society at Manori
Source: RCACC (2002)

4.13 Services and Utilities

4.13.1 Electric Supply in the gaothan area has been provided by the Bombay Suburban Electric Supply Company.

4.13.2 After a long struggle and persuasion, water supply lines and connections were installed in September 2001. The gaothan areas receive water supply for a couple of hours, in the morning and evening.

4.13.3 The settlement lacks storm water and sewerage lines. Most of the sewage is disposed with septic tanks in individual dwellings.

4.13.4 Garbage is irregularly collected by the Municipal Corporation of Greater Mumbai (MCGM) garbage collection department.

4.13.5 The main streets within the settlement are tarred while the secondary and subsidiary streets are still mud or partially stone paved.

4.13.6 Public transport is sparse as the state transport buses operate hourly in the Dharavi Section. This section, consisting of Manori, Culvem and Gorai gaothans, is connected to the mainland only at Bhayander, in Thane District.

4.13.7 The Madh, Erangal, Aksa and Marve section is well connected with BEST (Brihanmumbai Electric Supply and Transport Company) buses at a regular frequency.

4.13.8 All the delineated gaothans lack adequate health care facilities. This complete coastal zone does not have a single Municipal / Private Hospital.

5

LISTING & DELINEATION

5 Listing and Delineation of Sites

5.1 Madh village: - The delineated area of the North Gaothan covers about 73,126 sq. mts, and has about 191 buildings.
The delineated Precinct Boundary has been shown in Drg. 35.

5.2 Erangal village: - The delineated study area (Refer Drg. 36) of the Erangal village covers about 55,576 sq. mts with approximately 126 buildings in the whole gaothan.

5.3 Aksa village: - The delineated study area of the Aksa village covers about 11,042 sq. mts with approximately 50 buildings in the whole gaothan.
The delineated Precinct Boundary has been shown in Drg. 37.

5.4 Marve village: - The delineated study area (Refer Drg. 38) of the Marve village covers about 13,197 sq. mts with about 27 buildings in the gaothan area.

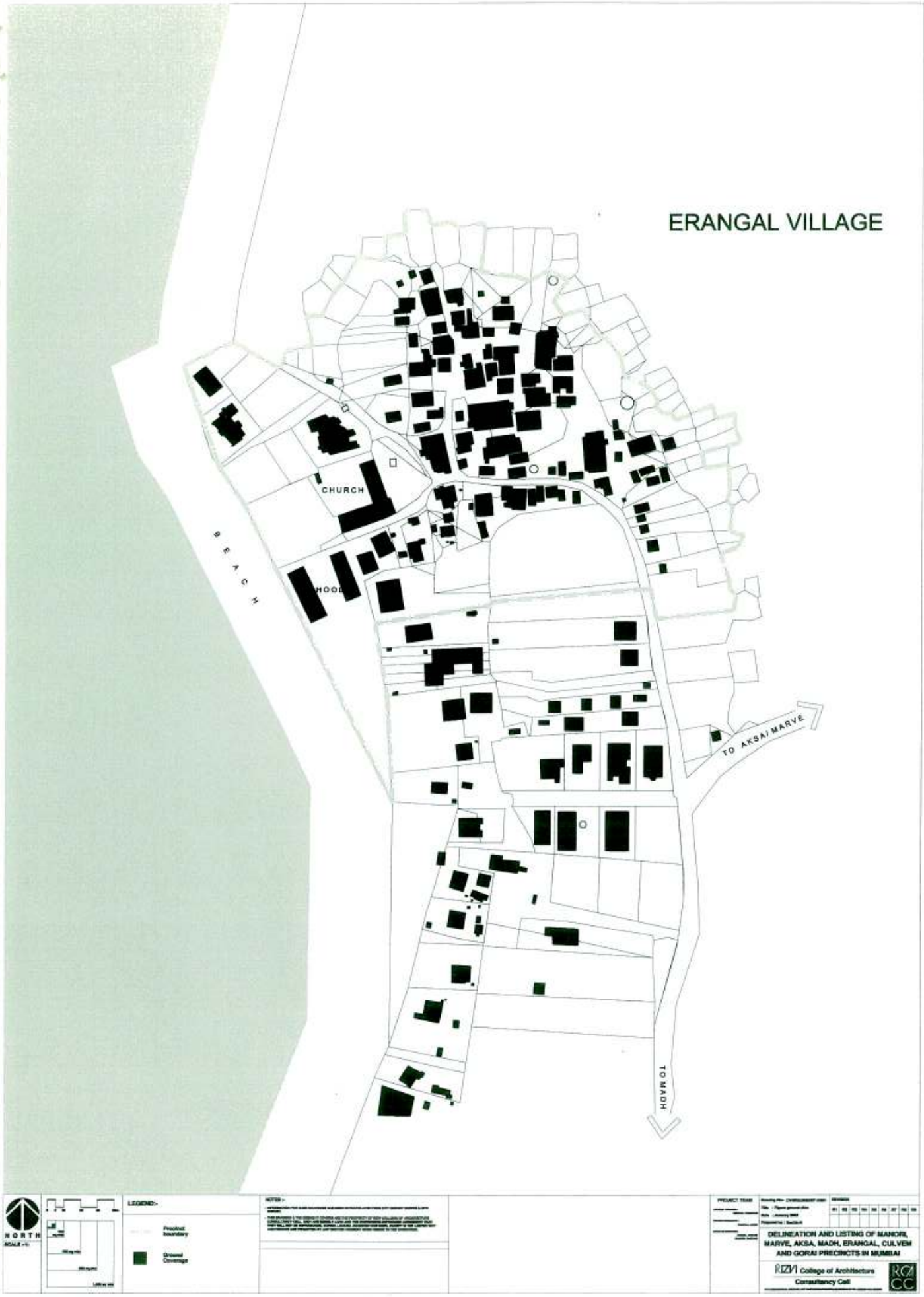
5.5 Manori village: - The delineated study area (Refer Drg. 39) of the Manori village spans 2,37,225 sq. mts and has approximately 604 buildings.

5.6 Culvem village: - The delineated study area (Refer Drg. 40) of the Gorai village spans 89,713 sq. mts and has approximately 111 buildings.

5.7 Gorai village: - The delineated study area (Refer Drg. 41) of the Gorai village spans 1,26,050 sq. mts and has approximately 280 buildings.

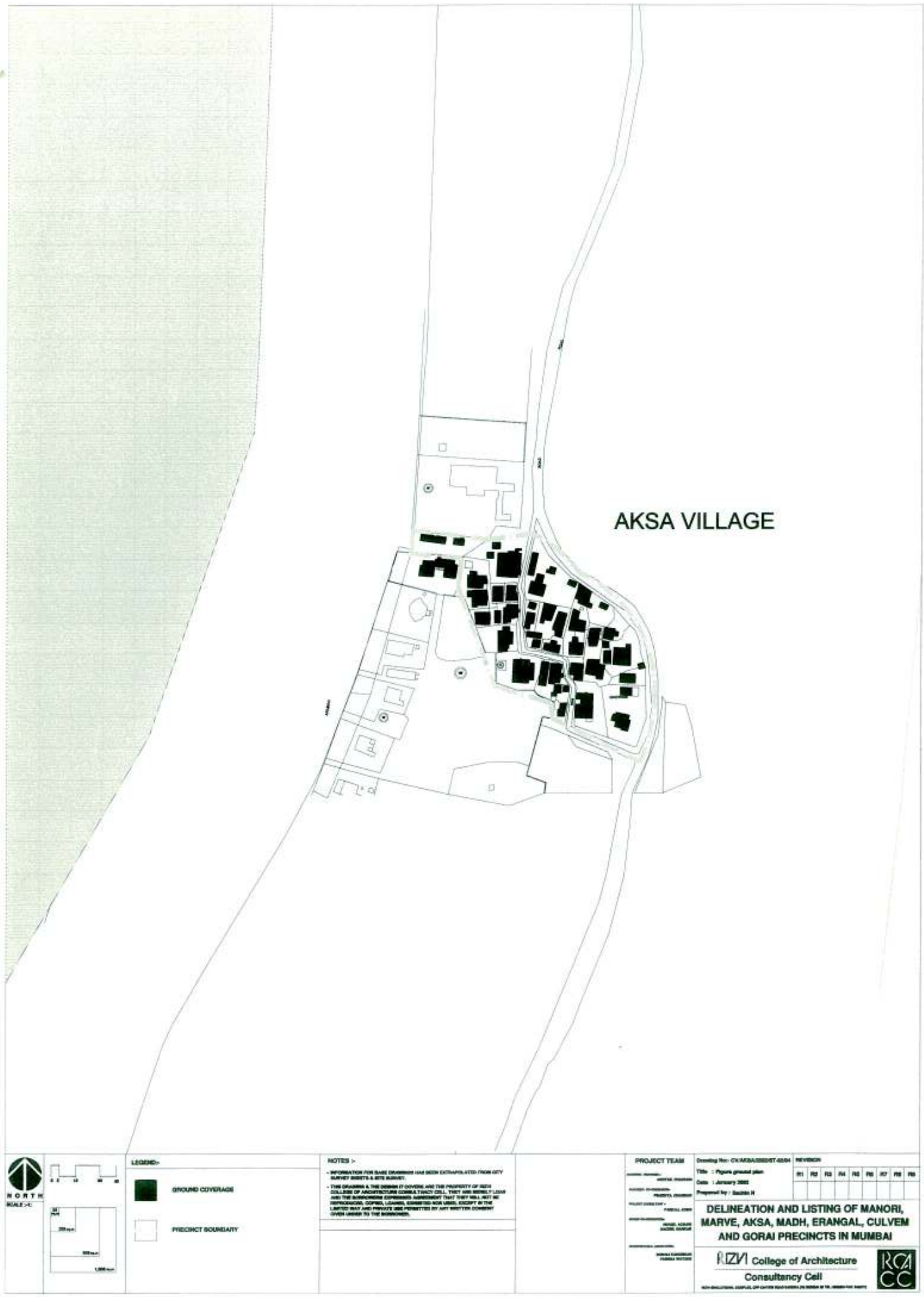
Drg 35 Delineation plan of Madh village precinct

Source RCACC (2002)



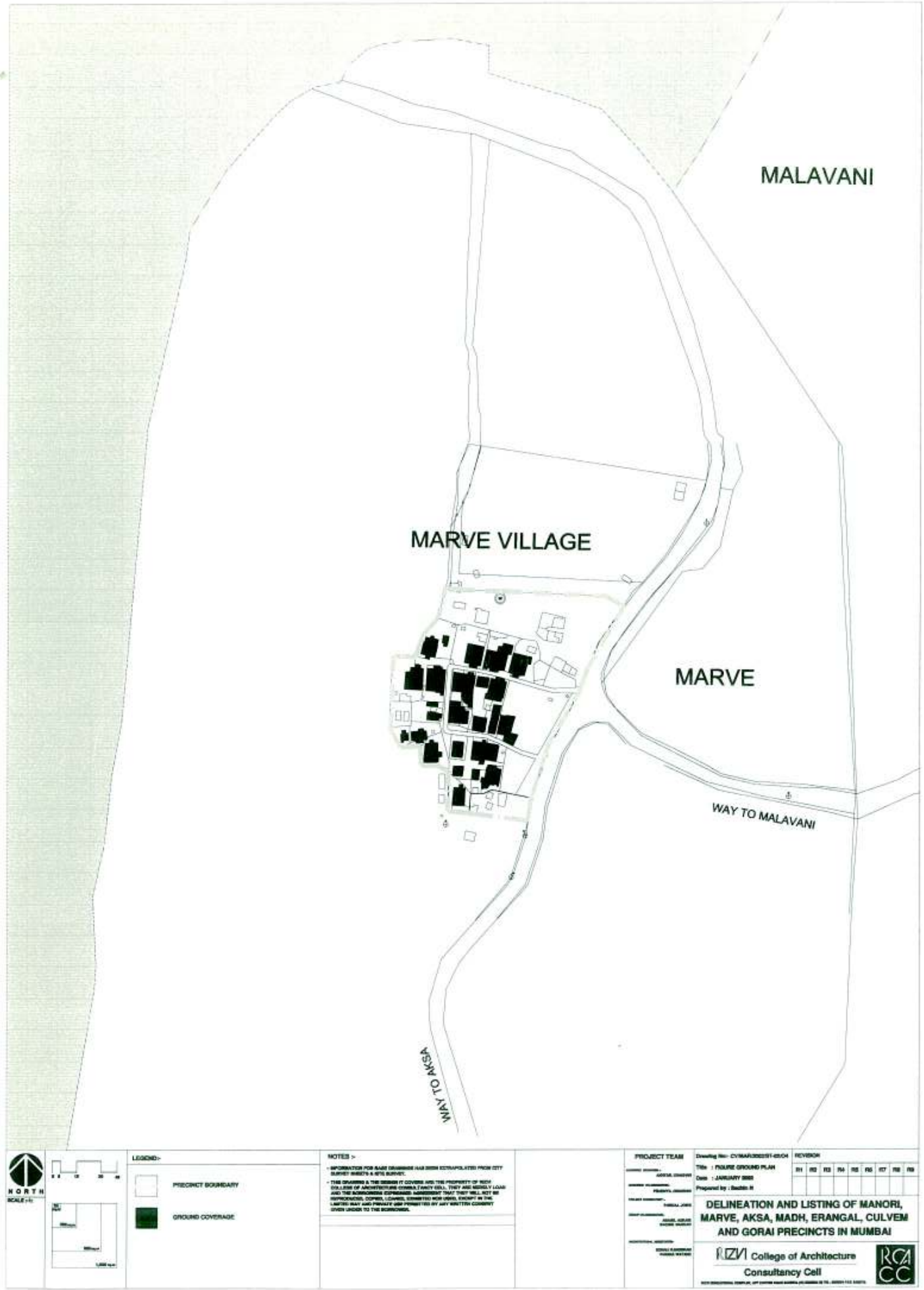
Drg 36 Delineation plan of Erangal village precinct

Source RCACC (2002)



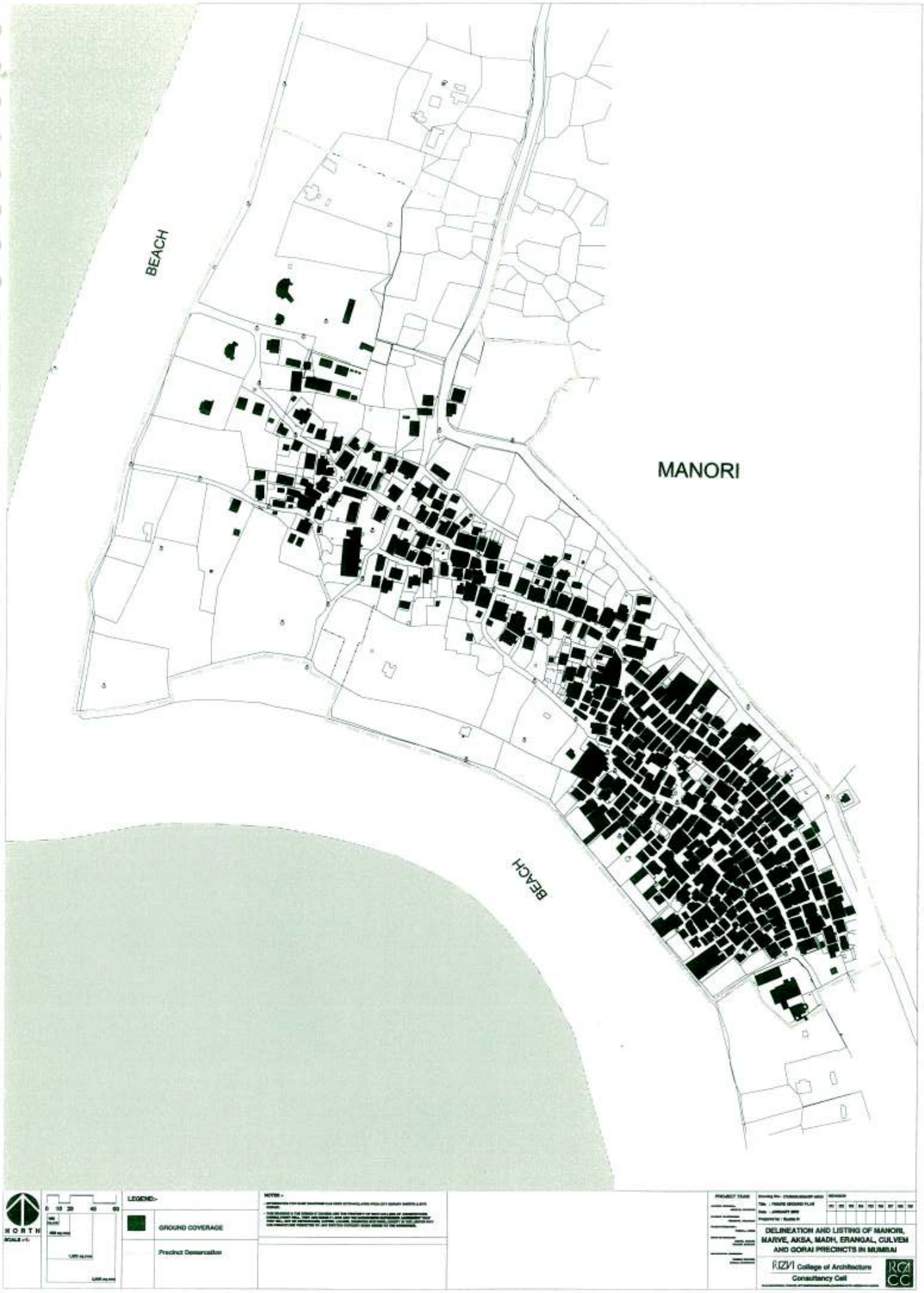
Drg 37 Delineation plan of Aksa village precinct

Source RCACC (2002)



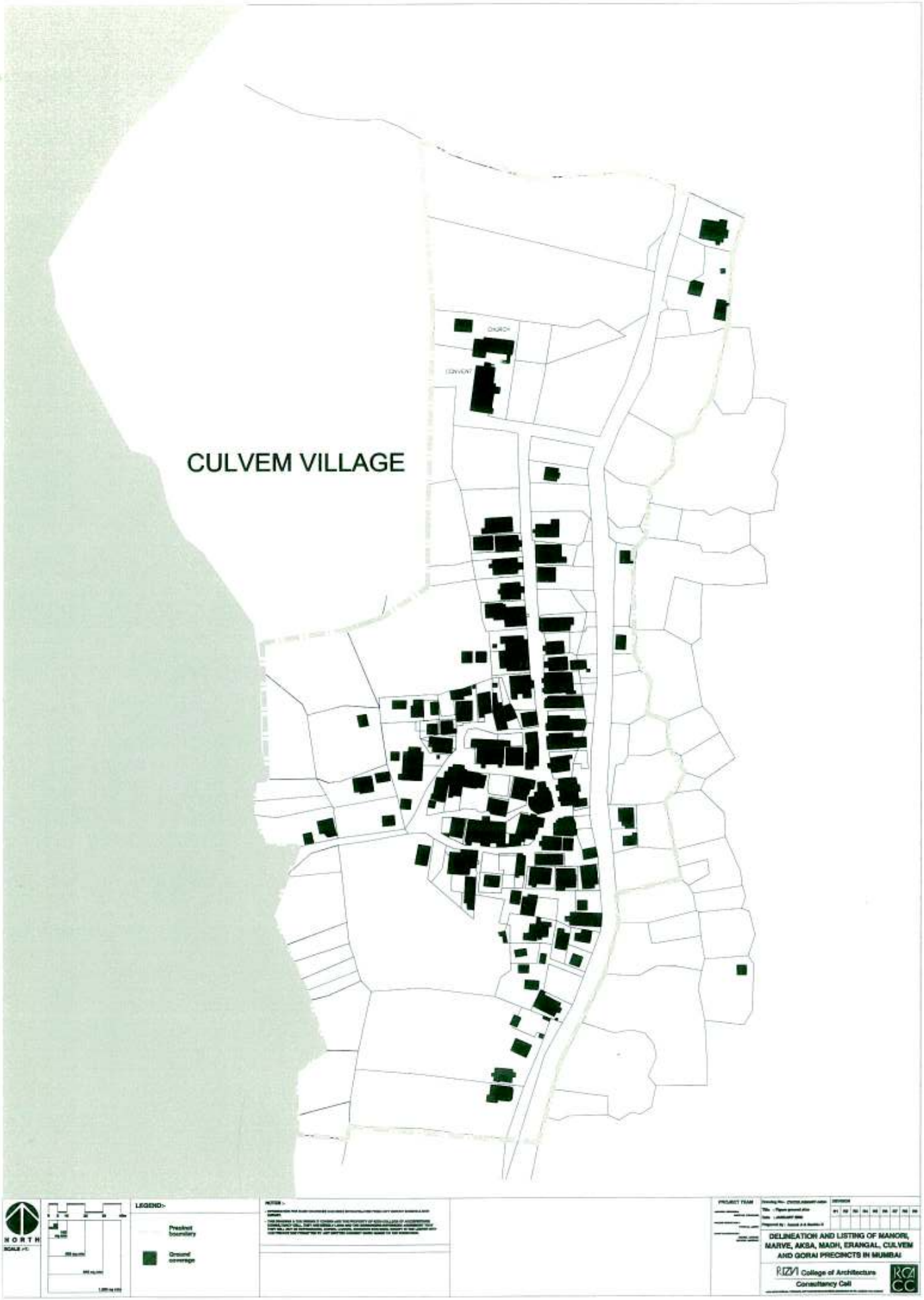
Drg 38 Delineation plan of Marve village precinct

Source RCACC (2002)



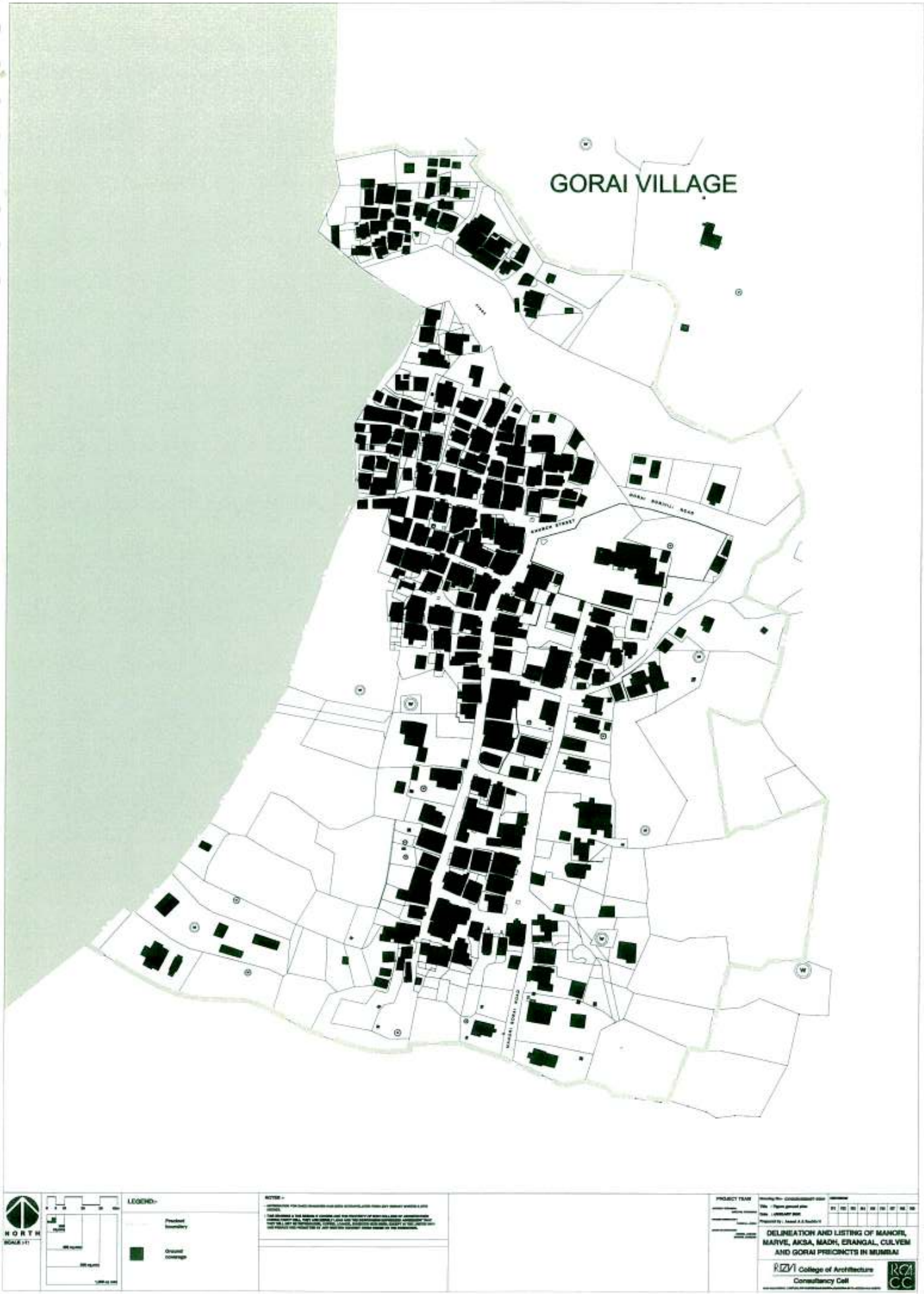
Drg 39 Delineation plan of Manori village precinct

Source RCACC (2002)



Drg 40 Delineation plan of Culvem village precinct

Source RCACC (2002)



Drg 41 Delineation plan of Gorai village precinct

Source RCACC (2002)

Sr.no	Nature of monuments, buildings, precincts, etc.	Location	Ownership	Usage	Special features	Date	Classification	State of preservation	Grade
1 (606)	Madh Fort	Next to Madh Gaothan.	Central Government	Military	Original Maratha fort restyled with bastions that are predominantly a part of Portuguese Fort Architecture.	Pre 15th C – 17th C	A(arc), A(his)	Fair	I
2	Madh Village Precinct (north).	Malad - Madh Road.	Private.	Residential	Pre-industrial, vernacular settlement with high density, low-rise, organic built form pattern, predominantly belonging to the East Indian Catholic community.	Pre 16th C-Early 20th C	G(grp), E, A(arc), A(cul)	Poor	III
3	Our Lady Of The Sea (Madh Church).	Malad - Madh Road, Madh village.	Mission (Archdiocese of Mumbai)	Religious	Typical Portuguese Church (west-facing) having a shaped gable façade with two-tiered arched openings, projecting cornices, stucco work and bell tower.	1905	A(arc), A(his), A(cul), B(des), B(per), C(seh)	Good	II-B
4	Aksa Village Precinct.	Malad - Madh Road.	Private.	Residential	Pre-industrial, vernacular settlement with high density, low-rise, organic built form pattern predominantly belonging to the Bhandari community.	Pre 16th C-Early 20th C	G(grp), E, A(arc), A(cul)	Fair	III
5	Erangal Village Precinct.	Malad - Madh Road.	Private.	Residential	Pre-industrial, vernacular settlement with high density, low-rise, organic built form pattern.	Pre 16th C-Early 20th C	G(grp), E, A(arc), A(cul)	Fair	III
6	Church Of St. Bonaventure (Erangal Church).	Malad - Madh Road, Erangal Village.	Mission (Archdiocese of Mumbai)	Religious	Unique Portuguese Church (west-facing) having a fortress-like appearance with battlements lining the pediment.	1575	A(arc), A(his), A(cul), B(des), B(per), C(seh)	Fair	II-B
7	Sadruddin Daya House	Malad - Madh Road, Erangal village.	Private.	Residential	A unique example of organic architecture (merging of landscape and built form), with exquisite usage of materials.Designed by Nari Gandhi	Late 20th C	A(arc), B(des), B(per).	Good	III
8	Marve Village Precinct.	Malad - Madh Road.	Private.	Residential	Pre-industrial, vernacular settlement with high density, low-rise, organic built form pattern predominantly belonging to the East Indian Catholic community.	Pre 16th C-Early 20th C	G(grp), E, A(arc), A(cul)	Fair	III
9	Manori Village Precinct.	Manori Jetty - Gorai Road.	Private.	Residential	Pre-industrial, vernacular settlement with high density, low-rise, organic built form pattern.	Pre 16th C-Early 20th C	G(grp), E, A(arc), A(cul)	Poor	III
10	Our Lady Of Perpetual Succour (Manori Church).	Manori Jetty - Gorai Road, Manori village.	Mission (Archdiocese of Mumbai)	Religious	Typical Portuguese Church (east-facing) having a shaped gable façade with two-tiered arched openings, projecting cornices, stucco work and bell tower.	1551/1634	A(arc), A(his), A(cul), B(des), B(per), C(seh)	Good	II-B
11	Culvem Village Precinct.	Manori Jetty - Gorai Road.	Private.	Residential	Pre-industrial, vernacular settlement with high density, low-rise, organic built form pattern, predominantly belonging to the East Indian Catholic community.	Pre 16th C-Early 20th C	G(grp), E, A(arc), A(cul)	Fair	III
12	Sacred Heart Chapel (Culvem Church)	Manori Jetty - Gorai Road, Culvem village.	Mission (Archdiocese of Mumbai)	Religious	Typical Portuguese Church (east-facing) having a shaped gable façade with two-tiered arched openings, projecting cornices, stucco work and bell tower.	Mid 19th C	A(arc), A(his), A(cul), B(des), B(per), C(seh)	Good	II-B
13	Convent Of Our Lady Fatima (Culvem).	Manori Jetty - Gorai Road, Culvem village.	Mission (Archdiocese of Mumbai)	Religious	Loadbearing structure in stone masonry and timber, typical East Indian building in terms of scale and proportion, with a projecting porch and a balcony above topped by a gable-ended, teakwood trussed.	Early 19th C	A(arc), A(his), A(cul), B(des), B(per), C(seh)	Good	II-B
14	Gorai Village Precinct.	Manori Jetty - Gorai Road.	Private.	Residential	Pre-industrial, vernacular settlement with high density, low-rise, organic development pattern.	Pre 16th C-Early 20th C	G(grp), E, A(arc), A(cul)	Poor	III
15	Holy Magi Church (Gorai).	Manori Jetty - Gorai Road, Gorai village.	Mission (Archdiocese of Mumbai)	Religious	Typical Portuguese Church (west-facing)having a shaped gable façade with two-tiered arched openings, projecting cornices, stucco work and bell tower.	1810	A(arc), A(his), A(cul), B(des), B(per), C(seh)	Good	II-B
16	Old Gorai Church (Church Of Infant Jesus) and Vairala Tank.	Gorai - Uttan Road.	Mission (Archdiocese of Mumbai)	Religious	Ruins of a unique Portuguese Church (west-facing) in stone masonry,having a fortress-like appearance, located on the bank of Vairala Tank and showing remains of early settlements.	1595	A(arc), A(his), A(cul), B(des), B(per), C(seh)	Extremely poor	I

5.9 Detailed Listing of Sites and Precincts

Card no: 2
Ward: P ward.
Plot Area: 7.99 Ha.
B U Area: -
Date: 01/02/2002.
Recorded by ND
Reviewed by PJ

REFER ATTACHED DELINEATION PLAN

1	DENOMINATION	
1.1	**Name of premises**	Madh Village Precinct (North Christian Pada).
1.2	**Address**	Madh village, Malad - Madh Road, Mumbai – 400 091.
1.3	**Built in/ Date**	Pre 16th C – 20th C.

2	ACCESS	
2.1	**Main**	Malad - Madh Road.
2.2	**Subsidiary**	None.

3	OWNERSHIP PATTERN	
3.1	**Present**	Individual.
3.2	**Status**	Mixed (private, public and trust).

4	USE	
4.1	**Present / Past**	Residential.

5	SIGNIFICANCE AND VALUE CLASSIFICATION	
5.1	**Delineation**	The study area, spanning roughly 7.99 Ha, houses about 193 buildings. Malad – Madh Road is a major path on the eastern side. The settlement is bound by the Arabian Sea on the west. Towards the north are open grounds. The south-east is bound by a hillock which is the defence land. The south west side of the settlement has a fish drying ground. Landmarks like the ice factory, the church, temples, along with some smaller landmarks like wells and shrines impart the area with its way finding landmarks.
5.2	**Architectural Description**	The northern settlement of Madh gaothan is called "Christian Pada" and predominantly comprises East Indian houses. **Type B: East Indian houses** The East Indian housing typology belongs to the Roman Catholic community whose predominant occupation was administering and managing lands, initially for the Portuguese, and later, for the British through the East India Company. An East Indian house can be divided into two main parts, the first being semi-private, consisting of front and back verandah, porches, outdoor rooms and an external staircase. The second part, being private, consists of a multipurpose hall, a dining and family room, bedrooms, kitchen, stores and toilets. The house is entered through a covered verandah, which forms a transition space from outside to the inside of the house. The verandah is a multipurpose area; it functions as a socializing space, a buffer for privacy, and as an extension of the hall, which is a private part of the house. It provides soft natural light and ventilation to the adjoining rooms even during heavy rains. The private part of the house is usually made up of three bays. The first bay comprises a rectangular multipurpose hall. This multipurpose hall functions as a living room as well as a study and hobby room with areas for sitting, playing music and exhibiting artefacts collected over the years. In these halls, the furniture mostly consists of richly decorated antique chairs, side tables, showcases neatly maintained by regular cleaning, polishing etc. The second division is further divided into two or more parts, the larger being a family room, also used for dining, and the smaller division that is used as bedroom. The third division consists of the service core that houses the kitchen, storerooms, servants' rooms and toilets. The kitchen is accessible from the rear of verandah. The roof of the houses is mostly sloping, covered with country or Mangalore type tiles. Some of the houses have an attic below the roof that is accessible by a ladder, and is used for storage.

5.3	**Intrinsic**	Pre-industrial, vernacular settlement with high density, low-rise, organic built form pattern, predominantly belonging to the East Indian Catholic community. Important landmarks and houses that have been retained in their original state impart a unique character to the settlement. They also help trace the historical evolution of the settlement.	
5.4	**Values**	G(grp), E, A (arc), A (cul)	**Grade:** III

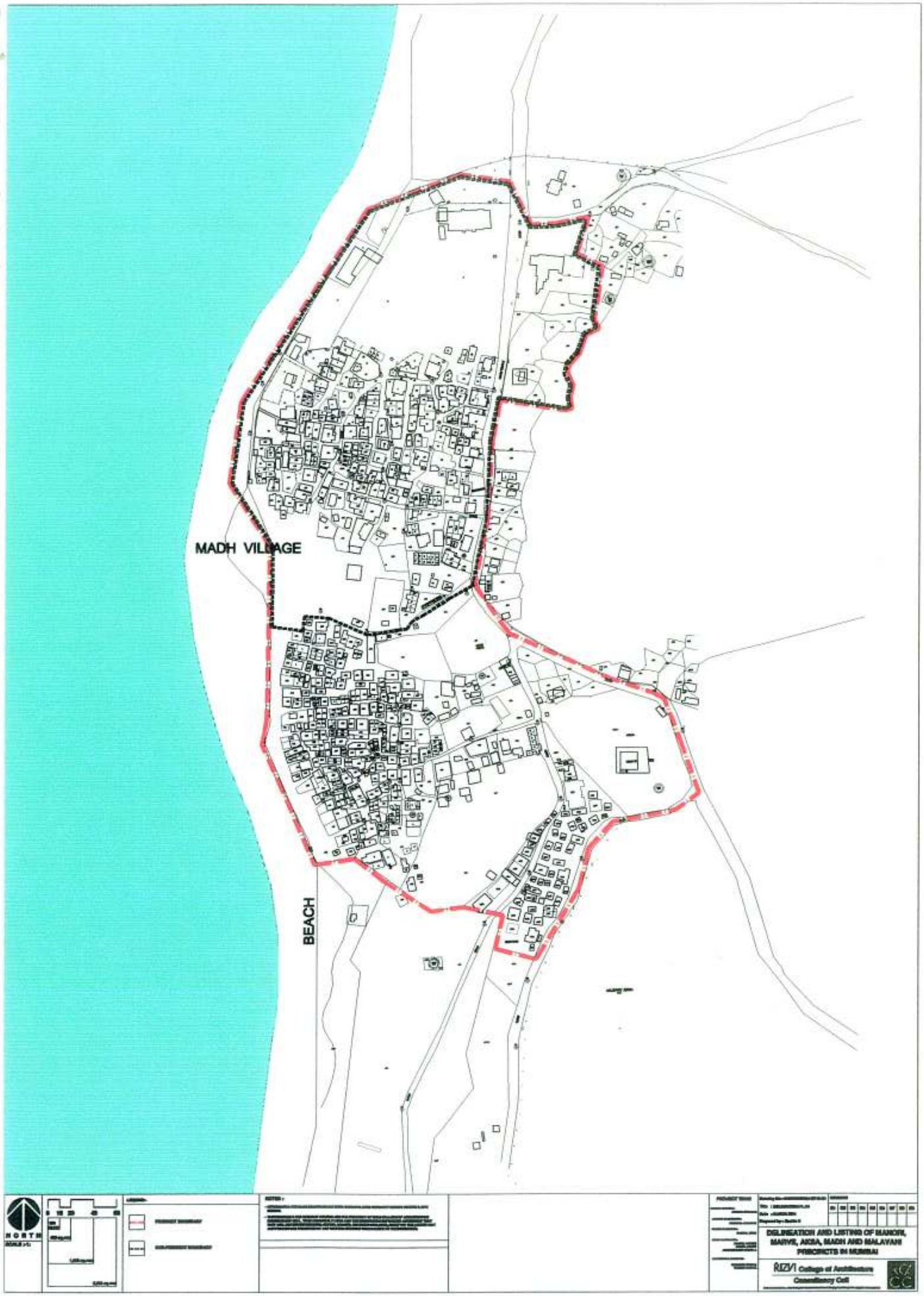
6	TOPOGRAPHY	
6.1	**Floors**	G, G +1.
6.2	**Attic floor**	Found in most East Indian houses.

7	CONSTRUCTION	
7.1	**Plinth**	Stone masonry plinth/ mud plinth.
7.2	**Walls**	Loadbearing stone masonry walls.
7.3	**Floor**	Teakwood bridging joist flooring with teakwood boardings.
7.4	**Stairs**	External or internal, straight flight staircase in stone masonry leading to the bedrooms on the first floor.
7.5	**Openings**	Timber framed openings with teakwood shuttered doors and windows having glazed ventilators.
7.6	**Roofing**	Gable-ended, timber trussed sloping roof with mangalore tiles/asbestos sheet covering.
7.7	**Articulation**	The verandah for the various house typologies is well articulated with the main structure, both, functionally as well as architecturally. It reflects the lifestyle of a particular community and also imparts a typical character to that part of the settlement.
7.8	**Finishes**	External walls are finished with cement paint; internal walls are finished with oil-based emulsion paints.
7.9	**Compound wall**	None of the houses have a compound wall; they directly abut the street. Important public and religious buildings, such as the Madh Church, have a compound wall.
7.10	**Curtilege**	Most houses have their own well and septic tank that are located in the rear court near the toilet.

8	SERVICES & UTILITIES	
8.1	**Lighting**	Adequate natural light; also provided with artificial lighting.
8.2	**Ventilation**	Adequate; ceiling fans are also provided.
8.3	**Electricity**	Supplied by BSES, adequate but irregular.
8.4	**Water Supply**	Well water as well as piped municipal water.
8.5	**Drainage**	There are no sewerage lines. As a result, few houses have septic tanks and soak pits.
8.6	**Fire precaution**	None.

9	CONDITION			
9.1	**Overall condition**	Poor. Nearly one-third of the built fabric has already been transformed in addition to another one-third that has been redeveloped. Out of the remaining one-third, half the structures have undergone minor transformation.	**Level of maintenance**	Fair – poor.

10	TRANSFORMATION	
10.1	**Form**	Original form retained in few cases with most of the built fabric has lost the finishing and details. Majority of the houses have undergone major transformation including redevelopment, especially along the fringe abutting the main Madh Jetty – Malad road. In these cases, the brick piers have replaced the original timber posts. In some case, the verandah has also been enclosed, which has completely changed the character of the street. The mangalore tiles have been replaced by asbestos cement sheet covering.
10.2	**Structure**	
10.3	**Articulation**	



DELINEATION AND LISTING OF MANORI, MARVE, AKSA, MADH AND MALAVANI PRECINCTS IN MUMBAI

RIZVI College of Architecture
Consultancy Cell

Card no: 3
Ward: P ward.
CTS no: 2 (Madh division).
C S no: 634, 635, 636, 667, 668, 669, 670, 672, 673, 696.
Plot Area: 7751.20 sq.mts
B U Area: 652.37 sq.mts
Date: 01/02/2002.
Recorded by ND
Reviewed by PJ

1	DENOMINATION	
1.1	**Name of premises**	Church Of Our Lady Of the Sea.
1.2	**Address**	Madh village, P.O. Versova, Mumbai- 400 061. Tel: 8821411.
1.3	**Built in**	1905
1.4	**Name of Founder**	
1.5	**First Priest/**	
	Present Priest.	Father Leo Lobo.

2	ACCESS	
2.1	**Main**	Malad – Madh road.
2.2	**Subsidiary**	None.

3	OWNERSHIP PATTERN	
3.1	**Present**	
3.2	**Status**	**Trust.**

4	USE	
4.1	**Present / Past**	Religious
4.2	**Usage**	Daily

5	SIGNIFICANCE AND VALUE CLASSIFICATION	
5.1	**Townscape**	The church is a landmark structure that stands on a huge plot abutting the main Malad – Madh road. It is located at the apex of the settlement towards the northeast. The main church building is complimented by the priest's residence attached to it and a school building towards the south. Affronting the main entrance of the church building on the eastern side is the burial ground which is paved with shahabad stone having inlaid marble grave markers. The main church building is oriented along the east-west axis with the apse in the west and the main entrance from the east.
5.2	**Architectural Description**	**Main church.** Main church building is a two-storied structure possessing a scale of a three-storied structure. The front three-storied façade in the east has a Dutch gable topped by a Latin cross, which is flanked on the either side by hexagonal turret like spires. These spires are topped by the Latin crosses. The road-facing façade, which is the back of the apse, has brief stucco depicting Mother Mary. Affronting this face is a fish-shaped pool. The façade hides the roof behind and is representative of a typical Portuguese Church, with motifs and projecting cornices in stucco. However, contradictory to what is found in other Portuguese churches, this church has an independent bell tower that is detached from the main façade. The entrance façade has two tiers of five-pointed arches with the central bottom arch being bigger and emphasised forming the main entrance to the church, which opens into the central nave culminating in the apse that has the main altar. The nave is a double height space over looked by the wooden viewing gallery located above the entrance and is flanked by a row of wooden benches on either side. The apsidal end of the church is towards the western end and is lower in height than the nave, deriving its light and ventilation from the set of pointed arched glazed timber frame windows. The wall behind the altar is painted royal blue whereas the remaining internal walls are light blue in colour. The main altar is briefly carved in wood and is flanked by the side altars also made in wood. A gable-ended asbestos cement sheet roof supported by the arched brace wooden truss, covers both, the main hall and the altar. **Priest's residence** The Priest's residence is a two-storied structure attached to the main church building towards the south. It houses the office, kitchen and other utilities on the ground floor. The Priest's residence is located on the first floor, accessed by a straight-flight external staircase, covered by an asbestos cement sheet roof.

		School Located on the southern side of the main church are two rectangular buildings that form an I-shaped school block. The school building is a recent addition to the Church complex. It offers education to students up to the VII standard. Prior to the construction of this building, the presently used Priest's residence served as a school. The school building is a ground-storied structure with a gable-ended asbestos cement roof. It has a linear corridor that leads to individual classrooms. The school encloses a rectangular space that serves as a playground.	
5.3	**Intrinsic**	The projecting cornice, the stucco work on the entrance façade, the elaborately carved wooden altars with intricate crockets, shaped gable culminating into a Latin cross finial.	
5.4	**Values**	A(arc), A(his), A(cul), B(des), B(per), C(she)	**Grade:** IIB

6	TOPOGRAPHY	
6.1	**Floors**	Main church and priest's residence, G+1. School building, G storied.
6.2	**Attic floor**	None.

7	CONSTRUCTION	
7.1	**Plinth**	1' high stone masonry plinth.
7.2	**Walls**	Load bearing stone masonry walls.
7.3	**Floor**	The main structure has marble mosaic flooring.
7.4	**Stairs**	External straight flight staircase for the priest's residence, in stone masonry with kota stone flooring and teakwood handrail, covered with an asbestos cement sheet roof.
7.5	**Openings**	**Front (entrance):** Ground floor has segmental arched openings with heavy teakwood frame and 4-shuttered folding panelled doors. Windows on the first floor have segmental arched openings with teakwood framed double window having two sets of four shutters with iron rods and glazing. **Side:** windows are large and have segmental arched openings having door-sized, four-timber framed glazed panelled shutters with iron rods fixed to the frame.
7.6	**Roofing**	**Main structure:** The main church building is covered by gable–end, timber- trussed, arched brace roof with asbestos cement sheet. **Curtilege structure:** the curtilege structures including the school and the priest's residence are covered by gable–end, timber- trussed roof with asbestos cement sheet.
7.7	**Articulation**	Shaped gable façade with projecting corbelled cornice at floor level, culminating into a Latin cross. The façade is flanked by turrets with the Holy cross on either side.
7.8	**Finishes**	External walls are painted with cement paint, except for the rear (road-facing) façade, which is adorned by china mosaic tiles depicting a scene from the Bible (Mother Mary). The internal walls are finished in oil-based emulsion paint.
7.9	**Compound wall**	Brick masonry compound wall with pilasters, plastered and finished in cement paint.
7.10	**Curtilege**	RCC framed structure with brick infill wall and covered by asbestos cement sheet roof.

8	SERVICES & UTILITIES	
8.1	**Lighting**	Adequate natural and artificial lighting.
8.2	**Ventilation**	Adequate natural ventilation. Artificial ventilation provided by ceiling fans.
8.3	**Electricity**	Provided by BSES, adequate but irregular.
8.4	**Water Supply**	Well (major source) and piped water.
8.5	**Drainage**	Municipal drainage absent, septic tank and soak pit.
8.6	**Fire precaution**	None.

9	CONDITION			
9.1	**Overall condition**	Good-fair.	**Level of maintenance**	Good.

10	TRANSFORMATION	
10.1	**Form**	The roof has been altered. The priest's residence is presently housed in what was earlier a school. Recently, an L-shaped building has been constructed that accommodates the school.
10.2	**Structure**	
10.3	**Articulation**	

Card no: 4	
Ward: P ward	
Plot Area: 1.10 Ha.	
B U Area: -	
Date: 01/02/2002.	
Recorded by ND	
Reviewed by PJ	

REFER ATTACHED DELINEATION PLAN

1	DENOMINATION	
1.1	**Name of premises**	Aksa Village Precinct.
1.2	**Address**	Aksa village, Malad – Madh Road, Mumbai – 400 091.
1.3	**Built in/ Date**	Pre 16th C – 20th C.

2	ACCESS	
2.1	**Main**	Malad – Madh Road.
2.2	**Subsidiary**	None.

3	OWNERSHIP PATTERN	
3.1	**Present**	Individual.
3.2	**Status**	Mixed (private, public and trust).

4	USE	
4.1	**Present / Past**	Residential.

5	SIGNIFICANCE AND VALUE CLASSIFICATION		
5.1	**Delineation**	The study area, spanning roughly 1.10 Ha, houses about 50 buildings. The settlement is located between Erangal and Marve gaothans, on the eastern side of the Malad – Madh road, which is the major path connecting the coastal villages. It is bound by the Arabian Sea on the west, and agricultural lands on the north. A temple is located on the western edge, which along with smaller landmarks like wells and shrines, imparts direction in way finding.	
5.2	**Architectural Description**	The settlement predominantly comprises Bhandari houses. **Type C: Bhandari houses** The Bhandari (toddy tappers) community is occupied in the maintenance of coconut and toddy plantations and fruit orchards. The houses of the Bhandaris have a mixed typology, and therefore, a greater variety, since they are very site and context specific. Predominantly, the houses of this typology are rectangular in form and cover a small area, which is further divided into three prominent bays. As compared to the four-bay houses of the East Indians and Kolis, a Bhandari house is fairly simplistic in its plan. The outermost division is the semi-open verandah, either individually owned or shared; the inner two bays are private spaces. The reason for this simplistic division could be that these houses are generally built in clusters that share a common open space, which is used for social interaction. Thus, there is a lesser need for the provision of a living space for guests within each house. The common open space usually has a centrally located pedestal with a *'Tulsi'* plant. The first bay of the house, which is a large and deep verandah, is used for cleaning and storage of toddy fruits or coconuts.	
5.3	**Intrinsic**	Pre-industrial, vernacular settlement with high density, low-rise, organic built form pattern, predominantly belonging to the Bhandari community. Important landmarks and houses that have been retained in their original state impart a unique character to the settlement. They also help trace the historical evolution of the settlement.	
5.4	**Values**	G(grp), E, A (arc), A (cul)	**Grade:** III

6	TOPOGRAPHY	
6.1	**Floors**	G, G +1.
6.2	**Attic floor**	Found in some houses.

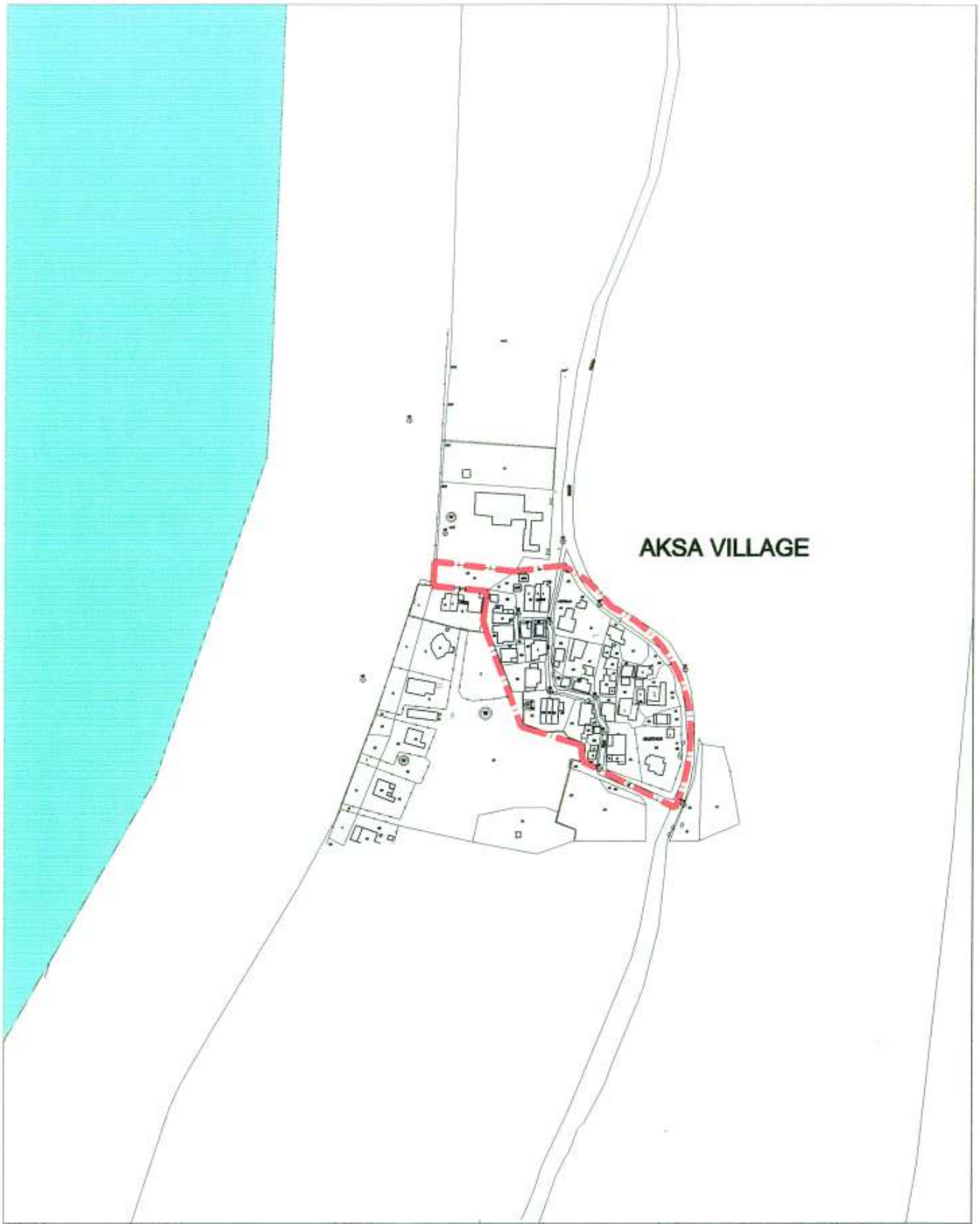
7	CONSTRUCTION	
7.1	**Plinth**	Stone masonry / mud plinth.
7.2	**Walls**	Loadbearing stone masonry walls.

7.3	**Floor**	Teakwood bridging joist flooring with teakwood boardings.
7.4	**Stairs**	External or internal, straight flight staircase in stone masonry leading to the bedrooms on the first floor.
7.5	**Openings**	Timber-framed openings with planked or panelled, teakwood-shuttered doors and windows having glazed ventilators.
7.6	**Roofing**	Gable-ended Mangalore tile/asbestos cement sheet roof.
7.7	**Articulation**	The verandah of the Bhandari house is well articulated with the main structure, both, functionally as well as architecturally. It reflects the lifestyle of the Bhandaris and also imparts a typical character to that part of the settlement.
7.8	**Finishes**	External walls are finished with cement paint; internal walls are finished with oil-based emulsion paints.
7.9	**Compound wall**	None of the houses have a compound wall; they directly abut the street.
7.10	**Curtilege**	Most houses have their own well and septic tank that are located in the rear court near the toilet.

8	**SERVICES & UTILITIES**	
8.1	**Lighting**	Adequate natural light; also provided with artificial lighting.
8.2	**Ventilation**	Adequate; ceiling fans are also provided.
8.3	**Electricity**	Supplied by BSES, adequate but irregular.
8.4	**Water Supply**	Well water as well as municipal piped water.
8.5	**Drainage**	There are no municipal sewerage lines. As a result, few houses have septic tanks and soak pits.
8.6	**Fire precaution**	None.

9	**CONDITION**			
9.1	**Overall condition**	Fair. Nearly one-third of the built fabric has already been redeveloped in addition to another one-third, which has undergone major transformation. Around 40% of the building stock is in more or less intact state requiring minor repairs.	**Level of maintenance**	Fair.

10	**TRANSFORMATION**	
10.1	**Form**	Original form retained but it appears that the original finishes have not been retained. Most of the houses have undergone major transformation including redevelopment. In some cases, the brick piers have replaced the original timber posts. In other instances, the verandah has also been enclosed completely changing the character of the street. The mangalore tiles have been replaced by asbestos cement sheet covering.
10.2	**Structure**	
10.3	**Articulation**	



NORTH

PROJECT BOUNDARY

PROJECT TEAM

DELINEATION AND LISTING OF MANORI, MARVE, AKSA, MADH AND MALAVANI PRECINCTS IN MUMBAI

RIZVI College of Architecture

Consultancy Cell

Card no: 5	
Ward: P ward	
Plot Area: 5.56 Ha	
B U Area: -	
Date: 01/02/2002.	
Recorded by ND	
Reviewed by PJ	

REFER ATTACHED DELINEATION PLAN

1	DENOMINATION	
1.1	**Name of premises**	Erangal Village Precinct.
1.2	**Address**	Erangal village, Malad – Madh Road, Mumbai – 400 091.
1.3	**Built in/ Date**	Pre 16th C – 20th C.

2	ACCESS	
2.1	**Main**	Malad – Madh Road.
2.2	**Subsidiary**	None.

3	OWNERSHIP PATTERN	
3.1	**Present**	Individual.
3.2	**Status**	Mixed (private, public and trust).

4	USE	
4.1	**Present / Past**	Residential.

5	SIGNIFICANCE AND VALUE CLASSIFICATION	
5.1	**Delineation**	The delineated study area, spanning about 5.56 Ha, houses about 126 buildings. Erangal village is located on the waterfront, positioned between Madh and Aksa villages. Malad – Madh road is a major path connecting Erangal to the villages of Madh, Aksa and Marve. The main path bifurcates from the Malad – Madh road at the inception of the village, leading to the coast where the Church of St. Bonaventure is situated. The site is edged by the Arabian Sea on the west. The north of the settlement is bound by open grounds. The Church and Primary school, on the western edge, and other smaller landmarks like wells and shrines, impart the area with its way finding values.
5.2	**Architectural Description**	Two basic house typologies, based on the types of communities that inhabit them, constitute the built form. **Type B: East Indian house** The East Indian housing typology belongs to the Roman Catholic community whose predominant occupation was administering and managing lands, initially for the Portuguese, and later, for the British through the East India Company. An East Indian house can be divided into two main parts, the first being semi-private, consisting of front and back verandah, porches, outdoor rooms and an external staircase. The second part, being private, consists of a multipurpose hall, a dining and family room, bedrooms, kitchen, stores and toilets. The house is entered through a covered verandah, which forms a transition space from the outside to the inside. The verandah is a multipurpose area; it functions as a socialising space, a buffer for privacy, and as an extension of the hall, which is a private part of the house. It provides soft natural light and ventilation to the adjoining rooms even during heavy rains. The private part of the house is usually made up of three bays. The first bay comprises a rectangular multipurpose hall. This multipurpose hall functions as a living room as well as a study and hobby room with areas for sitting, playing music and exhibiting artefacts collected over the years. In this hall, the furniture mostly consists of richly decorated antique chairs, side tables, showcases neatly maintained by regular cleaning, polishing etc. The second division is further divided into two or more parts, the larger being a family room, also used for dining, and the smaller division that is used as bedroom. The third division consists of the service core that houses the kitchen, storerooms, servants' rooms and toilets. The kitchen is accessible from the rear of verandah. The roof of the houses is mostly sloping, covered with Country or Mangalore type tiles. Some of the houses have an attic below the roof that is accessible by a ladder, and is used for storage. **Type C: Bhandari house** The Bhandari (toddy tappers) community is occupied in the maintenance of coconut and toddy plantations and fruit orchards. They are economically less prosperous and own smaller houses than the East Indians. The houses of the Bhandaris have a mixed typology, and therefore, a

		greater variety, since they are very site and context specific. Predominantly, the houses of this typology are rectangular in form and cover a small area, which is apportioned into three prominent bays. As compared to the four-bay houses of the East Indians, a Bhandari house is fairly simplistic in its plan. The outermost division is the semi-open verandah, either individually owned or shared; the inner two bays are private spaces. The reason for this simplistic division could be that these houses are generally built in clusters that share a common open space, which is used for social interaction. Thus, there is a lesser need for the provision of a living space for guests within each house. The common open space usually has a centrally located pedestal with a *'Tulsi'* plant. The first bay of the house, which is a large and deep verandah, is used for cleaning and storage of toddy.	
5.3	**Intrinsic**	Pre-industrial, vernacular settlement with high density, low-rise, organic built form pattern. Important landmarks and houses that have been retained in their original state impart a unique character to the settlement. They also help trace the historical evolution of the settlement.	
5.4	**Values**	G (grp), E, A (arc), A (cul).	**Grade:** III

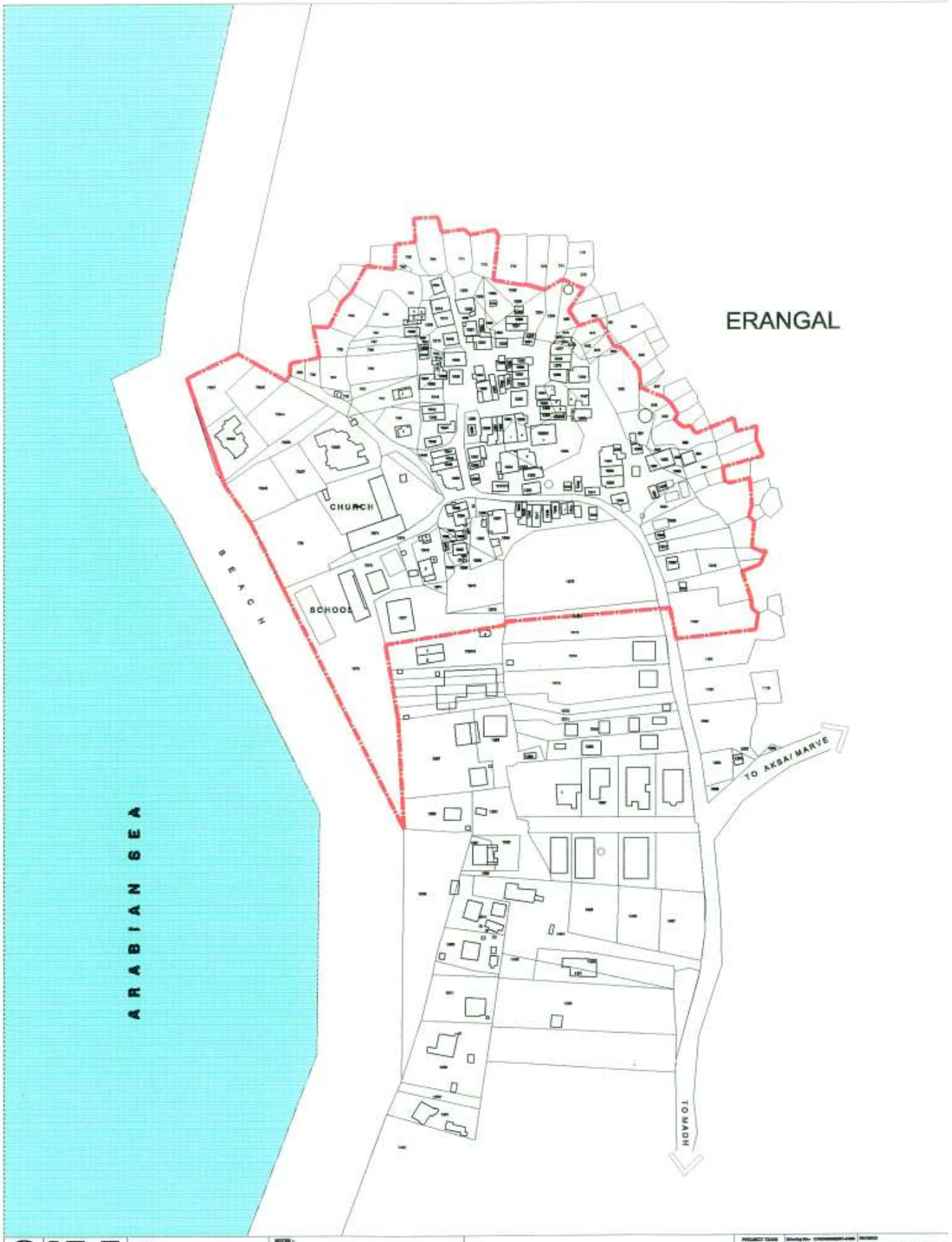
6	**TOPOGRAPHY**	
6.1	**Floors**	G, G +1.
6.2	**Attic floor**	Primarily, a feature of East Indian houses, it is also found in some Bhandari houses.

7	**CONSTRUCTION**	
7.1	**Plinth**	Stone masonry plinth/ mud plinth.
7.2	**Walls**	Loadbearing stone masonry walls.
7.3	**Floor**	Teakwood bridging joist flooring with teakwood boardings.
7.4	**Stairs**	External or internal, straight flight staircase in stone masonry leading to the bedrooms on the first floor.
7.5	**Openings**	Timber-framed openings with teakwood-shuttered doors and windows having glazed ventilators.
7.6	**Roofing**	Gable-ended, timber trussed sloping roof with mangalore tiles/asbestos cement sheet covering.
7.7	**Articulation**	The verandah for the various house typologies is well articulated with the main structure, both, functionally as well as architecturally. It reflects the lifestyle of a particular community and also imparts a typical character to that part of the settlement.
7.8	**Finishes**	External walls are finished with cement paint, internal walls are finished with oil-based emulsionpaints.
7.9	**Compound wall**	The houses don't have a compound wall; they directly abut the street.
7.10	**Curtilege**	Most houses have their own well and septic tank that are located in the rear court near the toilet.

8	**SERVICES & UTILITIES**	
8.1	**Lighting**	Adequate natural light; also provided with artificial lighting.
8.2	**Ventilation**	Adequate; ceiling fans are also provided.
8.3	**Electricity**	Supplied by BSES, adequate but irregular.
8.4	**Water Supply**	Well water and municipal water connection.
8.5	**Drainage**	There are no sewerage lines. Few houses have septic tanks and soak pits.
8.6	**Fire precaution**	None.

9	**CONDITION**			
9.1	**Overall condition**	Fair. Nearly two-third of the built fabric has undergone major transformation. Of the remaining one-third, half the buildings have undergone minor transformation. The remaining building stock is intact, requiring minor repairs.	**Level of maintenance**	Fair.

10	**TRANSFORMATION**	
10.1	**Form**	Original form retained but it appears that the original finishes have not been retained. Few houses have undergone major transformation including redevelopment. In few such cases, the brick piers have replaced the original timber posts. Moreover, the verandah has also been enclosed, which has completely changed the character of the street. The mangalore tiles have been replaced by asbestos cement sheet covering.
10.2	**Structure**	
10.3	**Articulation**	



NORTH

LEGEND:

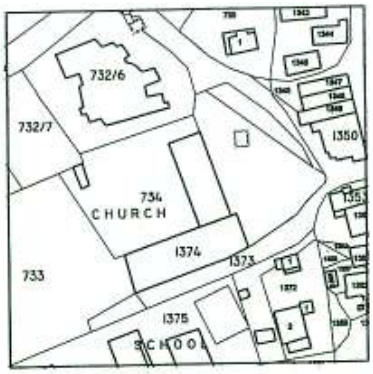
Precinct boundary

DELINEATION AND LISTING OF MANORI, MARVE, AKSA, MADH AND MALAVANI PRECINCTS IN MUMBAI

RIZVI College of Architecture

Consultancy Cell

Card no: 6	
Ward: P ward	
CTS no: 15 (Erangal division)	
C S no: 733, 734, 735, 1374.	
Plot Area: 3480 sq.mts	
B U Area: 1008.75 sq.mts	
Date: 01/02/2002.	
Recorded by ND	
Reviewed by PJ	



1	DENOMINATION	
1.1	Name of premises	The Church Of St. Bonaventure.
1.2	Address	Erangal village, Marve-Madh Road, Erangal village, Mumbai- 400 095. Tel: 8821411.
1.3	Built in	1575.
1.4	Name of Founder	-
1.5	First Priest/	-
	Present Priest.	Father Leo Lobo.

2	ACCESS	
2.1	Main	Road leading to the beach.
2.2	Subsidiary	From the beach.

3	OWNERSHIP PATTERN	
3.1	Present	
3.2	Status	Trust.

4	USE	
4.1	Present / Past	Religious.
4.2	Usage	Used only on Friday and Sunday when the Madh Church priest comes and conducts the ceremony, maximum during the annual 'Baravi' festival held on the second Sunday of January.

5	SIGNIFICANCE AND VALUE CLASSIFICATION	
5.1	Townscape	The church is an imposing landmark structure in Erangal village. It is a shrine dedicated to St. Bonaventure, from where it gets its name. The site is located near the coast. The entrance to the church is from the west. It is located on a rectangular plot, with a large front open space that slopes down to the seashore. The church was destroyed during the Maratha War in 1739. In 1976, the Parish Priest of Madh Church got these dilapidated ruins repaired and renovated.
5.2	Architectural Description	**Main church.** The Erangal church building is a huge fortress-like structure of double height. It is covered by a gable-ended asbestos sheet roof supported on steel trusses. It has a huge, long main hall that culminates into the apse at the eastern end. The apsidal end is covered by a barrel vault that is not visible externally. The main entrance to the church is marked by a single large 18' high arched opening with teakwood ledge and battened door, and louvers above. The entrance doorway is affronted by an entrance canopy with an asbestos sheet lean-to roof, which is supported on two piers. The entrance 'porch' has marble mosaic flooring that is clearly distinct from the surrounding bed of sand. The entrance canopy seems to be a recent addition. A central nave demarcated by a row of teakwood benches on either side, leads to the altar. The main altar is flanked by a side altar on either side. 4 large rectangular openings located on the southern wall illuminate the church interiors. These openings have splayed jambs and are provided with M.S. framed steel jalis. The walls of the church are internally finished with distemper/cement paint, while the wall housing the altar is clad with black and white tiles that form the border. The barrel vault is internally finished with oil paint. The north and south walls of the church have marble mosaic skirting and a 10' high protruding wheel in stucco. On the wheel is depicted a cloverleaf cross. The church also has a subsidiary entrance from an open court located on its northern side. Another doorway is used to access the church externally. This doorway has heavy teakwood framed carved, panelled shutters. **Curtilege.** It is three storied structure, accommodating residences. An office abuts the north wall of the church at the apsidal end. A small ground storied structure, housing the residence of the caretaker, is a recent addition. Along the length of the peripheral walls are niches with timber beams, which serve as temporary sheds for animals and birds. The court affronting the residential quarters is landscaped and well maintained. A separate entrance doorway leads to the court and residential

		quarters.	
5.3	Intrinsic	The church has an annual feast called the 'Baravi' festival held on the second Sunday of January. The structure is a simple and plain fortress like structure.	
5.4	Values	A(arc), A(his), A(cul), B(des), B(per), C(she)	**Grade:** IIA

6	TOPOGRAPHY	
6.1	Floors	Ground storied church. G+2 storied residential quarters.
6.2	Attic floor	None.

7	CONSTRUCTION	
7.1	Plinth	The main structure has low stone masonry plinth.
7.2	Walls	2'thick loadbearing stone masonry walls.
7.3	Floor	Main church building has marble mosaic flooring.
7.4	Stairs	None.
7.5	Openings	Rectangular splayed openings with M.S. framed, steel jaali, no shutters.
7.6	Roofing	**Main structure:** the main hall is covered by a gable-ended, steel trussed roof with asbestos sheets. The apse is covered by a barrel vault. **Curtilege structure:** the residential quarter is covered by a gable-ended asbestos sheet roof.
7.7	Articulation	The front façade is very plain and unfinished with the exception of the central entrance doorway, which is well articulated with the shaped gable. The pediment in the form of battlement gives the church a fortress-like appearance.
7.8	Finishes	The façade walls are finished with white cement paint up to the lintel level, while the remaining façade is unfinished with rough growth over it.
7.9	Compound wall	High stone masonry walls.
7.10	Curtilege	The residential quarter is finished in cement paint.

8	SERVICES & UTILITIES	
8.1	Lighting	The church is adequately lit. Additionally, artificial lighting is also provided.
8.2	Ventilation	Adequate. Artificial ventilation in the form of ceiling fans is also provided.
8.3	Electricity	Provided by BSES, adequate but irregular.
8.4	Water Supply	Well water.
8.5	Drainage	Septic tank.
8.6	Fire precaution	None.

9	CONDITION			
9.1	Overall condition	Good - fair.	Level of maintenance	Fair.

10	TRANSFORMATION	
10.1	Form	The roof has been restored. The kitchen and toilet block have been added. An offset in the rear wall indicates the probability of a first floor, which may have been demolished during the Maratha War.
10.2	Structure	
10.3	Articulation	

Card no: 8	
Ward: P ward.	
Plot Area: 1.32 Ha.	
B U Area: -	
Date: 01/02/2002.	
Recorded by ND	
Reviewed by PJ	

REFER ATTACHED DELINEATION PLAN

1	DENOMINATION	
1.1	Name of premises	Marve Village Precinct.
1.2	Address	Marve Village, Malad – Madh Road, Mumbai – 400 091.
1.3	Built in/ Date	Pre 16th C – 20th C.

2	ACCESS	
2.1	Main	Malad – Madh Road.
2.2	Subsidiary	Waterway connecting Marve to Manori.

3	OWNERSHIP PATTERN	
3.1	Present	Individual.
3.2	Status	Mixed (private, public and trust).

4	USE	
4.1	Present / Past	Residential.

5	SIGNIFICANCE AND VALUE CLASSIFICATION		
5.1	Delineation	The precinct area, spanning roughly 1.32 Ha, houses about 27 buildings. This settlement is located close to the Marve jetty. Malad - Madh road is a major path on the eastern side. The north-west and south sides of the settlement are edged by defence land.	
5.2	Architectural Description	The settlement predominantly comprises East Indian houses. **Type B: East Indian houses** The East Indian housing typology belongs to the Roman Catholic community whose predominant occupation was administering and managing lands, initially for the Portuguese, and later, for the British through the East India Company. This housing pattern is composed of low-rise built forms with one or two storied houses. These houses are loosely positioned on larger plots; with there set backs giving them a more formal look. An East Indian house can be divided into two main parts, the first being semi-private, consisting of front and back verandah, porches, outdoor rooms and an external staircase. The second part, being private, consists of a multipurpose hall, a dining and family room, bedrooms, kitchen, stores and toilets. The house is entered through a covered verandah, which forms a transition space from outside to the inside. The verandah is a multipurpose area; it functions as a socialising space, a buffer for privacy, and as an extension of the hall, which is a private part of the house. It provides soft natural light and ventilation to the adjoining rooms even during heavy rains. The private part of the house is usually made up of three bays. The first bay comprises a rectangular multipurpose hall. This multipurpose hall functions as a living room as well as a study and hobby room with areas for sitting, playing music and exhibiting artefacts collected over the years. In these halls, the furniture mostly consists of richly decorated antique chairs, side tables, showcases neatly maintained by regular cleaning, polishing etc. The second division is further divided into two or more parts, the larger being a family room, also used for dining, and the smaller division that is used as bedroom. The third division consists of the service core that houses the kitchen, storerooms, servants' rooms and toilets. The kitchen is accessible from the rear of verandah, which has a service staircase (usually spiral) leading to the upper stories. The roof of the houses is mostly sloping, covered with Country or Mangalore type tiles. Some of the houses have an attic below the roof that is accessible by a ladder, and is used for storage.	
5.3	Intrinsic	Pre-industrial, vernacular settlement with high density, low-rise, organic built form pattern, predominantly belonging to the East Indian Catholic community. Important landmarks and houses that have been retained in their original state impart a unique character to the settlement. They also help trace the historical evolution of the settlement.	
5.4	Values	G(grp), E, A (arc), A (cul)	**Grade:** III

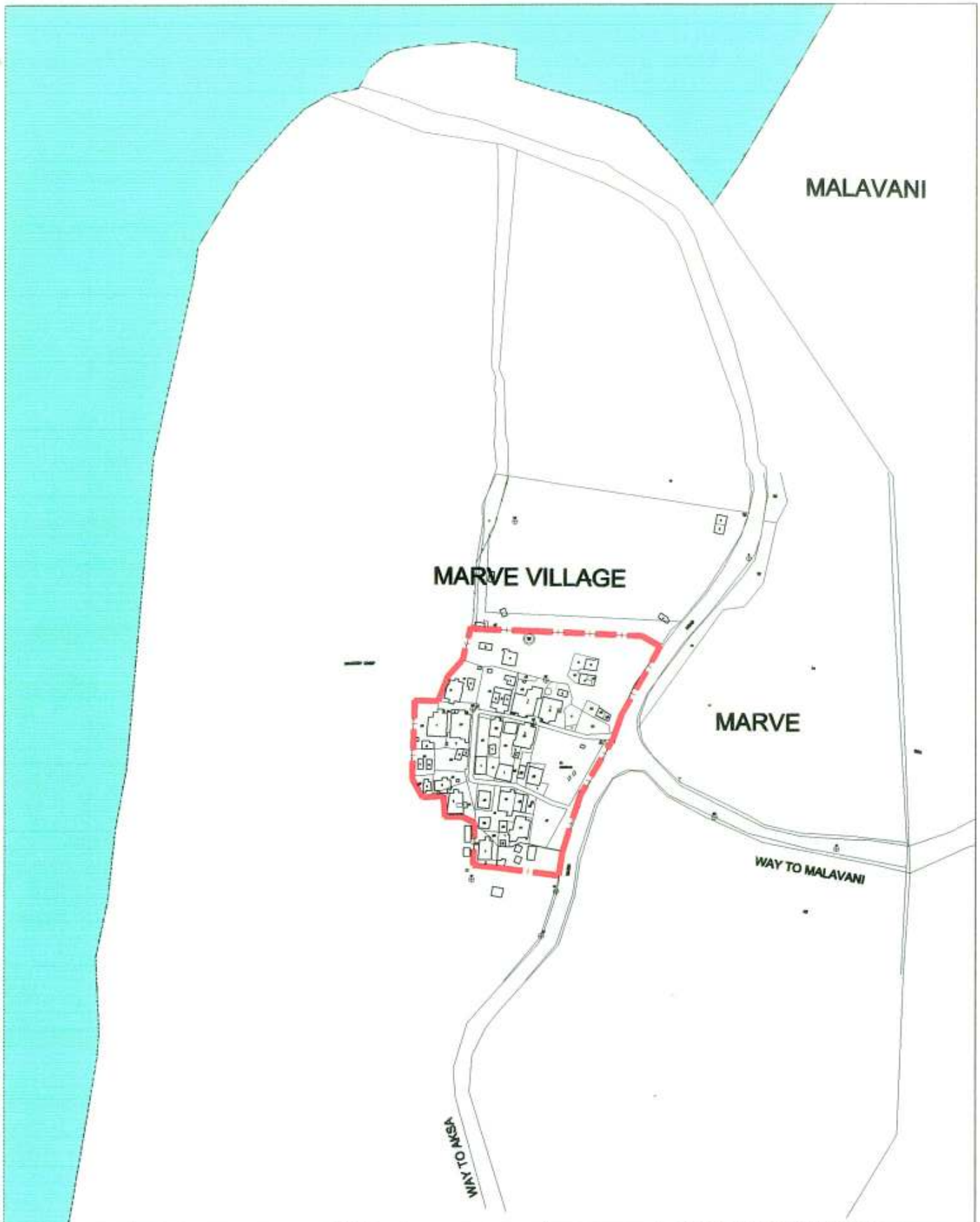
6	TOPOGRAPHY	
6.1	**Floors**	G, G +1.
6.2	**Attic floor**	Found in most East Indian houses.

7	CONSTRUCTION	
7.1	**Plinth**	Stone masonry plinth/ mud plinth.
7.2	**Walls**	Loadbearing stone masonry walls.
7.3	**Floor**	Teakwood bridging joist flooring with teakwood boardings.
7.4	**Stairs**	External or internal, straight flight staircase in stone masonry leading to the bedrooms on the first floor.
7.5	**Openings**	Timber-framed openings with teakwood-shuttered doors and windows having glazed ventilators.
7.6	**Roofing**	Gable-ended, timber trussed sloping roof with mangalore tiles/asbestos sheet covering.
7.7	**Articulation**	The verandah of the East Indian house is well articulated with the main structure, both, functionally as well as architecturally. It reflects the lifestyle of the East Indians and also imparts a typical character to the listed precinct.
7.8	**Finishes**	External walls are finished with cement paint; internal walls are finished with oil-based emulsion paints.
7.9	**Compound wall**	None of the houses have a compound wall; they directly abut the street.
7.10	**Curtilege**	Most houses have their own well and septic tank that are located in the rear court near the toilet.

8	SERVICES & UTILITIES	
8.1	**Lighting**	Adequate natural light; also provided with artificial lighting.
8.2	**Ventilation**	Adequate, ceiling fans are also provided.
8.3	**Electricity**	Supplied by BSES.
8.4	**Water Supply**	Well water as well as piped municipal water.
8.5	**Drainage**	There are no municipal sewerage lines. Few houses have septic tanks and soak pits.
8.6	**Fire precaution**	None.

9	CONDITION			
9.1	**Overall condition**	Fair. Nearly half of the original built fabric is retained with a need for minor repairs.	**Level of maintenance**	Fair.

10	TRANSFORMATION	
10.1	**Form**	Original form retained but it appears that the original finishes have not been retained. Few houses have undergone major transformation including redevelopment. In such cases, the brick piers have replaced the original timber posts. In some cases, the verandah has also been enclosed, which has completely changed the character of the street. The mangalore tiles have been replaced by asbestos sheet covering.
10.2	**Structure**	
10.3	**Articulation**	



NORTH

LEGEND>

PRECINCT BOUNDARY

NOTES >

PROJECT TEAM

DELINEATION AND LISTING OF MANORI, MARVE, AKSA, MADH AND MALAVANI PRECINCTS IN MUMBAI

RIZVI College of Architecture

Consultancy Cell

RCA CC

Card no: 9	
Ward: P ward	
Plot Area: 23.72 Ha	
B U Area: -	
Date: 01/02/2002.	
Recorded by	ND
Reviewed by	PJ

REFER ATTACHED DELINEATION PLAN

1	**DENOMINATION**	
1.1	**Name of premises**	Manori Village Precinct.
1.2	**Address**	Manori village, Manori Jetty - Gorai Road, Mumbai – 400 091.
1.3	**Built in/ Date**	Pre 16th C – 20th C.

2	**ACCESS**	
2.1	**Main**	Manori Jetty - Gorai Road.
2.2	**Subsidiary**	A subsidiary access is provided by the Borivili – Gorai road.

3	**OWNERSHIP PATTERN**	
3.1	**Present**	Individual.
3.2	**Status**	Mixed (private, public and trust).

4	**USE**	
4.1	**Present / Past**	Residential.

5	**SIGNIFICANCE AND VALUE CLASSIFICATION**	
5.1	**Delineation**	The study area, spanning roughly 23.72 Ha, houses about 604 buildings. This settlement is located approximately 1.5 km from the main transport point. Manori Jetty – Gorai road is a major path on the eastern side. The settlement has one main spine running through the centre, surrounded by houses along and on either side of it. Another subsidiary path runs parallel to the main spine and converges at a node. The site is edged by the Arabian Sea on the west and north-west side. The main road is located on the eastern side of the settlement. The north and south sides of the settlement are bound by open lands. The Manori Church marks the start of the village and is a significant landmark structure of the precinct. Other landmarks include the convent school, the Manoribelle Resort, the Police Station, the Manori society, the Temple and the water tank.
5.2	**Architectural Description**	Four basic house typologies, based on the types of communities that inhabit them, constitute the built form. **Type A: Koli Houses** The Koli typology belongs to the fishing community. These houses are densely packed along the streets running parallel to the beachfront. The Koli houses have probably the oldest origins of buildings in each of the studied settlements. These house forms are developed with a hierarchy of spaces (public to private), which are apportioned into four prominent bays or parts. The outermost bay is usually a full-length, narrow verandah, where the users work on their nets, dry fish, and interact with the community. The second bay accommodates the multipurpose living space, where guests and relatives are entertained. This bay is used as a bedroom at night, and as an extension of the verandah during the day. The third bay is the inner core of the home with a family room. Small bedrooms, alcoves and ladder to the attic are approached from this room. The last bay accommodates the service areas including the bathing, washing and cooking spaces. The house also opens out to the rear yard or secondary access street from this bay. This typology is similar to the parallel infill housing typology except for the pedestrian street, which intermittently breaks the built form for shortest access to the sea. **Type B: East Indian houses** The East Indian housing typology belongs to the Roman Catholic community whose predominant occupation was administering and managing lands, initially for the Portuguese, and later, for the British through the East India Company. This housing pattern is composed of low-rise built forms with one or two storied houses. The East Indian community in most of the gaothans is financially better placed than the other communities. These houses are loosely positioned on larger plots, with their set backs giving them a more formal look than the clustered Bhandari settlements (Bhandarwada) or the parallel infill pattern of the Koli Settlement (Koliwada). As a result, the houses do not define a strong edge or streetscape in the East Indian part of the settlement. An

		East Indian house can be divided into two main parts, the first being semi-private, consisting of front and back verandahs, porches, outdoor rooms and an external staircase. The second part, being private, consists of a multipurpose hall, a dining and family room, bedrooms, kitchen, stores and toilets. The house is entered through a covered verandah, which forms a transition space from outside to the inside. The verandah is a multipurpose area; it functions as a socialising space, a buffer for privacy, and as an extension of the hall, which is a private part of the house. It provides soft natural light and ventilation to the adjoining rooms even during heavy rains. The private part of the house is usually made up of three bays. The first bay comprises a rectangular multipurpose hall. This multipurpose hall functions as a living room as well as a study and hobby room with areas for sitting, playing music and exhibiting artefacts collected over the years. In these halls, the furniture mostly consists of richly decorated antique chairs, side tables, showcases neatly maintained by regular cleaning, polishing etc. The second division is further divided into two or more parts, the larger being a family room, also used for dining, and the smaller division that is used as a bedroom. The third division consists of the service core that houses the kitchen, storerooms, servants' rooms and toilets. The kitchen is accessible from the rear of verandah. The roof of the house is mostly sloping, covered with country or Mangalore type tiles. Some of the houses have an attic below the roof that is accessible by a ladder, and is used for storage. **Type C: Bhandari houses** The Bhandari (toddy tappers) community is occupied in the maintenance of coconut and toddy plantations and fruit orchards. They are economically less prosperous and own smaller houses than the East Indians and Kolis. The houses of the Bhandaris have a mixed typology, and therefore, a greater variety, since they are very site and context specific. Predominantly, the houses of this typology are rectangular in form and cover a small area, which is further divided into three prominent bays. As compared to the four-bay houses of the East Indians and Kolis, a Bhandari house is fairly simplistic in its plan. The outermost division is the semi-open verandah, either individually owned or shared; the inner two bays are private spaces. The reason for this simplistic division could be that these houses are generally built in clusters that share a common open space, which is used for social interaction. Thus, there is a lesser need for the provision of a living space for guests within each house. The common open space usually has a centrally located pedestal with a *'Tulsi'* plant. The first bay of the house, which is a large and deep verandah, is used for cleaning and storage of toddy. **Type D: Kunbi houses** The Kunbis are the economically weaker communities in the settlement, usually involved in farming and other manual labour. They live in small huts made out of palm leaves. The walls are made out of reeds or junk wooden planks tied together with jute strings. Their houses reflect the original house forms of the area as well as the tribal origins of the settlement. Most of these house forms are located on the periphery of the village, blending with the surrounding landscape that gives them their ephemeral quality.	
5.3	**Intrinsic**	Pre-industrial, vernacular settlement with high density, low-rise, organic built form pattern. Important landmarks and houses that have been retained in their original state impart a unique character to the settlement. They also help trace the historical evolution of the settlement.	
5.4	**Values**	G(grp), E, A (arc), A (cul)	**Grade:** III

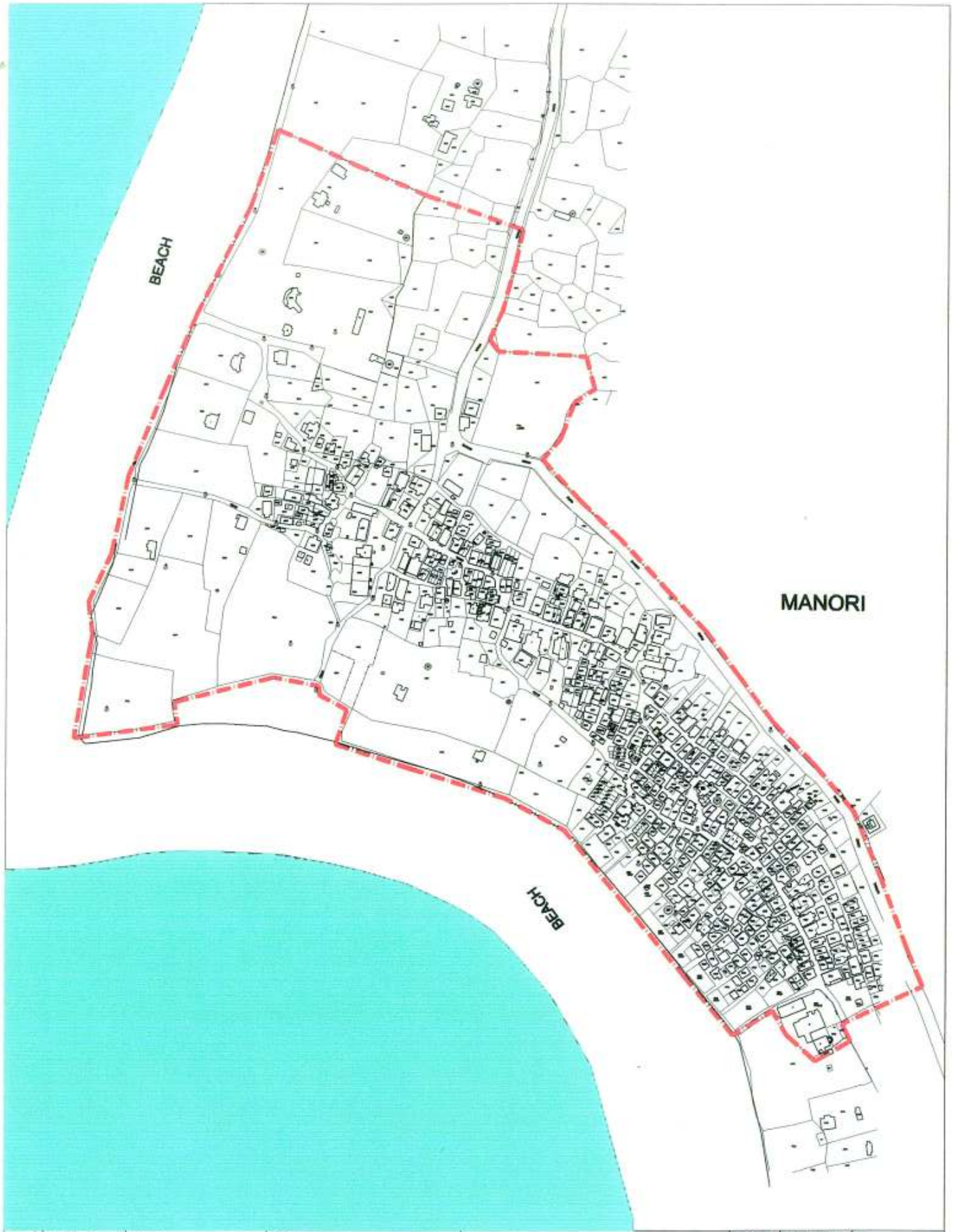
6	**TOPOGRAPHY**	
6.1	**Floors**	G, G +1.
6.2	**Attic floor**	Found in some houses.

7	**CONSTRUCTION**	
7.1	**Plinth**	Stone masonry plinth/ mud plinth.
7.2	**Walls**	Loadbearing stone masonry walls (Types A, B, and C). The walls of the Kunbi houses are made out of reeds or junk wooden planks tied together with jute strings.
7.3	**Floor**	Teakwood bridging joist flooring with teakwood boardings.
7.4	**Stairs**	External or internal, straight flight staircase in stone masonry leading to the bedrooms on the first floor.
7.5	**Openings**	Timber-framed openings with teakwood-shuttered doors and windows having glazed ventilators.
7.6	**Roofing**	Gable-ended, timber trussed sloping roof with mangalore tiles/asbestos cement sheet covering.
7.7	**Articulation**	The verandah of the various house typologies is well articulated with the main structure, both, functionally as well as architecturally. It reflects the lifestyle of a particular community and also imparts a typical character to that part of the settlement.
7.8	**Finishes**	External walls are finished with cement or water-based distemper paint, internal walls are finished with oil-based emulsion paints.
7.9	**Compound wall**	None of the houses have a compound wall; they directly abut the street. Important public and religious buildings, such as the Manori church, have a compound wall.
7.10	**Curtilege**	Most houses have their own well and septic tank that are located in the rear court near the toilet.

8	SERVICES & UTILITIES	
8.1	**Lighting**	Adequate natural light; also provided with artificial lighting.
8.2	**Ventilation**	Adequate; ceiling fans are also provided.
8.3	**Electricity**	Supplied by BSES, adequate but irregular.
8.4	**Water Supply**	Well water and recently installed Municipal water tank.
8.5	**Drainage**	There are no sewerage lines. Few houses have septic tank.
8.6	**Fire precaution**	None.

9	CONDITION			
9.1	**Overall condition**	Poor. Nearly two-third of the built fabric has undergone minor changes. The remaining one-third has undergone major transformation and requires major repairs.	**Level of maintenance**	Fair – poor.

10	TRANSFORMATION	
10.1	**Form**	Original form retained but finishes have changed. Most of the Koli and Bhandari houses have undergone major transformation including redevelopment. In such cases, the brick piers have replaced the original timber posts. In some cases, the verandah has also been enclosed, which has completely changed the character of the street. The mangalore tiles have been replaced by asbestos cement sheet covering.
10.2	**Structure**	
10.3	**Articulation**	



NORTH

LEGEND:

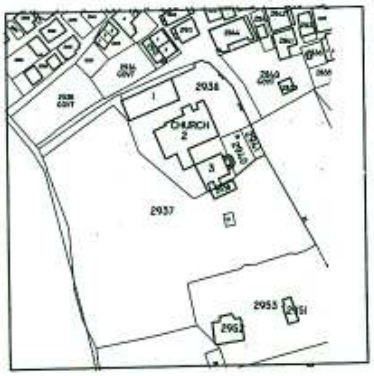
Project Demarcation

NOTES :

DELINEATION AND LISTING OF MANORI, MARVE, AKSA, MADH AND MALAVANI PRECINCTS IN MUMBAI

RIZVI College of Architecture
Consultancy Cell

Card no: 10	
Ward P	
CTS no: 73 (Manori Division)	
C S no: 2937, 2938, 2940, and 2941.	
Plot Area: 7091.16 sq mts.	
B U Area: 789.92 sq mts.	
Date: 01/02/2002.	
Recorded by VM	
Reviewed by PJ	
Int. *	**Ext.** *



1	DENOMINATION	
1.1	**Name of premises**	OurLady of Perpetual Succour.
1.2	**Address**	Manori village, P.O. Kharodi, Mumbai- 400 095. Tel: 8690852.
1.3	**Built in**	Built in 1551 and repaired in 1815 after the Marathas attacked and destroyed it. .
1.4	**Name of Founder**	-
1.5	**First Priest/**	Paulo Tellis, Bernard Mendonsa, Bazz D"silva, Anthony Athaid, Peter Paul D'mello, J.C.Naronha, Roman D'cunha, F.X.Lobo, Joseph Victoria, Amassio D'souza, Kogitan Fernandes, P.C.Gomes, Sebastian Serav, Edward D'souza, Domnic Perriera, Prasad Perriera, Kayas Karvello and Vincent Monterro.
	Present Priest.	Walter Pain.

2	ACCESS	
2.1	**Main**	Main street leading into the settlement.
2.2	**Subsidiary**	Main street

3	OWNERSHIP PATTERN	
3.1	**Present**	
3.2	**Status**	**Trust.**

4	USE	
4.1	**Present / Past**	Religious.
4.2	**Usage**	Daily. Especially crowded during the Sunday mass, first Friday of every month and "Novena " Wednesdays.

5	SIGNIFICANCE AND VALUE CLASSIFICATION	
5.1	**Townscape**	The church is located at the entrance of the settlement, on a huge square plot, with front, side and rear open spaces. The rear open space is used as burial ground. It is a typical 16th century Portuguese church with a bell tower in the front flanking the Dutch gable façade, which hides the roofing behind. The main structure is complimented by the priest's residence attached to it on the south, which accommodates a co-operative bank on the ground floor. Affronting the priest's residence is a platform used for various functions. Towards the north side is an ancillary structure used as meeting room, library, school and a godown. There is a "grotto" in the northeast corner. The church, imposing in scale, stands above the adjoining residential settlements.
5.2	**Architectural Description**	**Main church.** The main church building is a massive double-height structure, equivalent to a three-storied contemporary structure in height, standing on a low plinth. Front façade is a wall, which has a Dutch gable topped by a Latin cross flanked by bell tower on either sides. The gable accommodates three sets of arched niches of which the central one has a statue of Mother Mary. The main entry to the church is through a central huge arched emphasised doorway flanked on either side by two smaller arched doorways, affronting which is a recently added porch roofed by A.C sheets. Towards the south is a subsidiary doorway, which opens into the side-arcaded aisle leading to the church and priest's residence. This arcaded passage ends into a sarcistory room and storeroom on the Southeast side. It also accommodates a teakwood spiral staircase leading to the wooden balcony on the first floor. Above the central arched opening is a small rectangular window with C.I. railing providing light and ventilation to the inner space. The building has a bell tower along the north. The central nave of the main congregational hall culminates in the apse towards the west. The wooden gallery on the first floor, which runs along the north, east and south side, overlooks nave. The nave is a double height space with an additional entrance along the north and with gable roof. It has Minton tile flooring with marble grave plaques. The nave has an elaborately carved wooden pulpit cantilevering out from the southern wall. The apse area has an

		elaborate carved wooden altar that has a choir area in front and is further flanked by carved wood side altars. Along the southwest corner is a sacristory room for the priest. Marble is used for flooring of the apse and side altar area. The main church building is covered by the gable end asbestos cement roof supported by king post truss. The apse has a vaulted coffered ceiling. **Priest's residence** It is a two-storied structure with projecting porch, above which is the balcony. It stands on a high plinth approached by a flight of four steps. The ground floor has a co-operative bank above, which is the priest's residence. The first floor is approached by a quarter-angled staircase. The building is visually divided into three bays and two floors by corbelled cornice. The main entry is through a lancet arch emphasised by stuccowork and prominent keystone. It has two other entries at the end with two lancet arched windows in between the main and rear entry. The ground floor has segmental arched openings with teakwood framed, panelled windows with brass rods. On the inner side is aluminium framed fixed glass shutter. The first floor has segmental arched openings with teakwood framed, panelled and glazed shutters with glazed ventilators and M.S grills.
5.3	**Intrinsic**	External wall with stuccowork has gable shaped end topped by Latin cross. The wooden pulpit, timber altar and side altars are elaborately carved and well detailed. The side altar area is differentiated from the nave by a teakwood railing with exquisite M.S.grill work. The confession area is within the side altar area separated by a M.S. partition.
5.4	**Values**	A(arc), A(his), A(cul), B(des), B(per), C(she) **Grade:** II-B

6	**TOPOGRAPHY**	
6.1	**Floors**	G+1.
6.2	**Attic floor**	None.

7	**CONSTRUCTION**	
7.1	**Plinth**	The church stands on a low stone plinth.
7.2	**Walls**	It is a composite load bearing stone masonry structure with timber framed flooring.
7.3	**Floor**	The side-arcaded passage is finished with Kota stone flooring. The nave area is finished with Minton tile flooring with marble plaques dedicated in the memory of priest's who had served in the church. The side altar area and the apse have marble flooring with marble plaques. The aisle has timber flooring with battens and boardings.
7.4	**Stairs**	A stone staircase leads to the aisle on the first floor. The priest's residence has a quarter-angled staircase.
7.5	**Openings**	**Front:** The main arched emphasised double shuttered doorway is with a height of 10'-11'. Internally the jambs and lintel are splayed. The main doorway is flanked by two smaller simple planked double shuttered doorways on either side, which also have splayed jambs and lintel. **Side:** The southern and northern walls of the church have lancet arched windows. The intrados and springing point of the opening accommodates foil and coloured glass, below which is teakwood framed, four shuttered glazed windows with iron rods. The northern wall openings do not have a foil or coloured glass. The additional entrance to the church along the north has splayed jambs and lintel with teakwood framed and two shuttered openings. It has an arched full length opening with teakwood rods and two shutters. The intrados and the springing point of the arch accommodate a circular motif with coloured glass around.
7.6	**Roofing**	**Main structure:** It is covered by the gable end asbestos cement sheet roofing supported by the timber king post truss. **Curtilege structure:** It includes the priest residence, watchman's cabin and an ancillary structure all roofed by A.C sheets. The priest's residence has a fascia board, which has been damaged.
7.7	**Articulation**	Externally, the church has a gable shaped end topped by a Latin cross, the central arched doorway is emphasised and flanked with two other arched openings. The altar, side altars and pulpit are intricately carved out in timber.
7.8	**Finishes**	Externally, it is painted with cement paint. Internally it is painted with oil based emulsion paint upto sill level, while above emulsion paint is used.
7.9	**Compound wall**	Front has a low compound wall with attached piers. In some places concrete jali is seen. The sides have a high compound wall. It is finished with cement paint.
7.10	**Curtilege**	It includes the priest's residence, watchman's cabin previously used as the kitchen and an ancillary structure, which accommodates a meeting room, library, godown and temporary school for nursery children. The ancillary structure was previously used for burying small children. The rear space accommodates three wells and one well in the southern open space.

8	**SERVICES & UTILITIES**	
8.1	**Lighting**	In the church, there is adequate light. Also artificial lights and focus lights are provided for the apse area.
8.2	**Ventilation**	Adequate cross ventilation. Ceiling fans are also provided.
8.3	**Electricity**	Irregularly provided by the BSES.

8.4	Water Supply	Well (along the southern side) water is pumped for the church's use.
8.5	Drainage	Municipal drainage system absent, septic tank and soak pit provided.
8.6	Fire precaution	None.

9	CONDITION			
9.1	Overall condition	Good.	Level of maintenance	Fair- Paint has peeled off inside because of the salty winds. The external façade has been painted.

10	TRANSFORMATION	
10.1	Form	The ground structure that accommodated the kitchen now houses the watchman's cabin. The ground ancillary structure to the north west corner originally used as burial ground for children has been divided into rooms for meeting, godown and library and a front porch has been added, which is covered by asbestos cement sheet roofing. A.C sheets have replaced the original timber boarding and country tiles roof. Original form has been retained.
10.2	Structure	
10.3	Articulation	

Card no: 11
Ward: R ward.
Plot Area: 8.97 Ha.
B U Area: -
Date: 01/02/2002.
Recorded by ND
Reviewed by PJ

REFER ATTACHED DELINEATION PLAN

1	DENOMINATION	
1.1	**Name of premises**	Culvem Village Precinct.
1.2	**Address**	Culvem village, Manor Jetty - Gorai Road, Mumbai – 400 091.
1.3	**Built in/ Date**	Pre 16th C – 20th C.

2	ACCESS	
2.1	**Main**	Manori Jetty - Gorai Road.
2.2	**Subsidiary**	A subsidiary access is provided by the Borivali – Gorai road.

3	OWNERSHIP PATTERN	
3.1	**Present**	Individual.
3.2	**Status**	Mixed (private, public and trust).

4	USE	
4.1	**Present / Past**	Residential.

5	SIGNIFICANCE AND VALUE CLASSIFICATION	
5.1	**Delineation**	The precinct area, spanning roughly 8.97 Ha, houses about 113 buildings. The Culvem Gaothan is located at the southern tip of the Gorai gaothan. Manori Jetty – Gorai road is a major path, which runs along the eastern edge of the settlement. It is a linear settlement having one main spine running through the center, flanked by buildings on either side and culminating in the Culvem Church towards the north. The settlement is bound between the Arabian sea on the west and the Manori Jetty – Gorai road on the west. Towards the south and the east of the settlements are the open agricultural lands. The Culvem Church marks the start of the village and is a significant landmark structure of the precinct.
5.2	**Architectural Description**	The settlement predominantly comprises of East Indian and Kunbi community. They are engaged in civil and construction trades. Two basic house typologies, based on the types of communities that inhabit them, constitute the built form. **Type B: East Indian houses** The East Indian housing typology belongs to the Roman Catholic community whose predominant occupation was administering and managing lands, initially for the Portuguese, and later, for the British through the East India Company. This housing pattern is composed of low-rise built forms with one or two storied houses. An East Indian house can be divided into two main parts, the first being semi-private, consisting of front and back verandah, porches, outdoor rooms and an external staircase. The second part, being private, consists of a multipurpose hall, a dining and family room, bedrooms, kitchen, stores and toilets. The house is entered through a covered verandah, which forms a transition space from outside to the inside of the house. The verandah is a multipurpose area; it functions as a socialising space, a buffer for privacy, and as an extension of the hall, which is a private part of the house. It provides soft natural light and ventilation to the adjoining rooms even during heavy rains. The private part of the house is usually made up of three bays. The first bay comprises a rectangular multipurpose hall. This multipurpose hall functions as a living room as well as a study and hobby room with areas for sitting, playing music and exhibiting artefacts collected over the years. In these halls, the furniture mostly consists of richly decorated antique chairs, side tables, showcases neatly maintained by regular cleaning, polishing etc. The second division is further divided into two or more parts, the larger being a family room, also used for dining, and the smaller division that is used as bedroom. The third division consists of the service core that houses the kitchen, storerooms, servants' rooms and toilets. The kitchen is accessible from the rear of verandah. The roof of the houses is mostly sloping, covered with country or mangalore type tiles. Some of the houses have an attic below the roof that is accessible by a ladder, and is used for storage.

		Type D: Kunbi houses The Kunbis are the economically weaker communities in the settlements, usually involved in farming and other manual labour. They live in small huts made out of palm leaves. The walls are made out of reeds or junk wooden planks tied together with jute strings. Their houses reflect the original house forms of the area as well as the tribal origins of the settlements. Most of these house forms are located on the periphery of the village, blending with the surrounding landscape that gives them their ephemeral quality.	
5.3	**Intrinsic**	Pre-industrial, vernacular settlement with high density, low-rise, organic built form pattern, predominantly belonging to the East Indian community. Important landmarks and houses that have been retained in their original state impart a unique character to the settlement. They also help trace the historical evolution of the settlement.	
5.4	**Values**	G(grp), E, A (arc), A (cul)	**Grade:** III

6	**TOPOGRAPHY**	
6.1	**Floors**	G, G +1.
6.2	**Attic floor**	Found in most East Indian houses.

7	**CONSTRUCTION**	
7.1	**Plinth**	Stone masonry / mud plinth.
7.2	**Walls**	Loadbearing stone masonry walls (Type B). The walls of the Kunbi houses are made out of reeds or junk wooden planks tied together with jute strings.
7.3	**Floor**	Teakwood bridging joist flooring with teakwood boardings.
7.4	**Stairs**	External or internal, straight flight staircase in stone masonry leading to the bedrooms on the first floor.
7.5	**Openings**	Timber-framed openings with teakwood-shuttered doors and windows having glazed ventilators.
7.6	**Roofing**	Gable-ended, timber trussed sloping roof with mangalore tiles/asbestos sheet covering.
7.7	**Articulation**	The verandah for the various house typologies is well articulated with the main structure, both, functionally as well as architecturally. It reflects the lifestyle of a particular community and also imparts a typical character to that part of the settlement.
7.8	**Finishes**	External walls are finished with water based distemper or cement paint; internal walls are finished with oil-based emulsion paints.
7.9	**Compound wall**	None of the houses have a compound wall; they directly abut the street. Important public and religious buildings, such as the Culvem church, have a compound wall.
7.10	**Curtilege**	Most houses have their own well and septic tank that are located in the rear court near the toilet.

8	**SERVICES & UTILITIES**	
8.1	**Lighting**	Adequate natural light; also provided with artificial lighting.
8.2	**Ventilation**	Adequate; ceiling fans are also provided.
8.3	**Electricity**	Supplied by BSES, adequate but irregular.
8.4	**Water Supply**	Well water as well as municipal tank provided in the settlement by the Mumbai Municipal corporation.
8.5	**Drainage**	There are no sewerage lines. As a result, few houses have septic tanks and soak pits.
8.6	**Fire precaution**	None.

9	**CONDITION**			
9.1	**Overall condition**	Fair. Nearly 50 % of the built fabric has undergone major transformation. Of the remaining 50%, about one-third of the structures have undergone minor transformation. About one-fifth of the total built fabric has been retained in its original state.	**Level of maintenance**	Fair.

10	**TRANSFORMATION**	
10.1	**Form**	Original form retained but it appears that the original finishes have not been retained. The East Indian houses have predominantly retained their character but few houses have undergone major transformation including redevelopment. In such case, the brick piers have replaced the original timber posts. In few other cases, the verandah has also been enclosed, which has completely changed the character of the street. The mangalore tiles have been replaced by asbestos cement sheet covering.
10.2	**Structure**	
10.3	**Articulation**	

NORTH

SCALE 1:1

LEGEND:-

Precinct boundary

NOTES :-

PROJECT TEAM

DELINEATION AND LISTING OF MANORI, MARVE, AKSA, MADH AND MALAVANI PRECINCTS IN MUMBAI

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		Convent Of Our Lady Fatima It is a two-storied structure covered with a teakwood trussed mangalore-tiled hipped roof. It is located on the southern side of the chapel and is connected to the chapel at its eastern end through a ground storied curtilege structure. These three buildings enclose an open court. Affronting the court is an entrance porch with a balcony above, covered by a timber trussed, mangalore tiled sloping roof.	
5.3	**Intrinsic**	The bell tower, the projecting floor cornice and brief stucco work on the façade.	
5.4	**Values**	A(arc), A(his), A(cul), B(des), B(per), C(she)	**Grade:** II B

6	**TOPOGRAPHY**	
6.1	**Floors**	Church – G+1. Convent – G+1. Curtilege – G.
6.2	**Attic floor**	None.

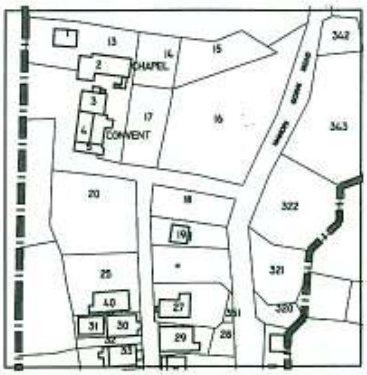
7	**CONSTRUCTION**	
7.1	**Plinth**	15 cm high stone masonry plinth for the chapel, 45cm high stone masonry plinth for the convent.
7.2	**Walls**	Loadbearing stone masonry walls, internally finished with oil-based emulsion paint, externally finished with cement paint.
7.3	**Floor**	Teakwood bridging joist flooring with teakwood boardings for the gallery, ground floor with terrazzo flooring.
7.4	**Stairs**	External, straight flight staircase in stone masonry leading to the gallery.
7.5	**Openings**	**Front:** 3 arched openings in two tiers with two-shuttered, teakwood framed, teakwood panelled doors, and two-shuttered, teakwood framed windows with teakwood panelling and glazing. **Side:** segmental arched openings with 4-shuttered, teakwood framed windows with teakwood panelling and rectangular glazed ventilators. **Rear:** segmental arched openings with 4-shuttered, teakwood framed windows with teakwood panelling and rectangular glazed ventilators.
7.6	**Roofing**	**Main structure:** gable-ended roof with asbestos cement sheet covering. **Convent Of Our Lady Fatima:** covered by the Mangalore tile hipped roof. **Curtilege structure:** covered by the Mangalore tile hipped roof.
7.7	**Articulation**	The façade is well articulated with Dutch gable topped with a Latin cross and the central bell tower. It is emphasised with vertical stucco pilasters. The façade also has vertical and horizontal bands of stuccowork.
7.8	**Finishes**	External walls are finished with cement paint; internal walls are finished with oil-based emulsion.
7.9	**Compound wall**	The compound wall is 3' –6" high, with pilasters, plastered and finished with cement paint.
7.10	**Curtilege**	External walls are finished with cement paint; internal walls are finished with oil-based emulsion.

8	**SERVICES & UTILITIES**	
8.1	**Lighting**	Adequate natural light; the chapel is also provided with artificial lighting.
8.2	**Ventilation**	Adequate; ceiling fans are also provided.
8.3	**Electricity**	Supplied by BSES, adequate but irregular.
8.4	**Water Supply**	Well water and the Municipal provided by the Mumbai Municipal Corporation
8.5	**Drainage**	Municipal Sewerage line absent, septic tank and soak pits provided.
8.6	**Fire precaution**	None.

9	**CONDITION**			
9.1	**Overall condition**	Good.	**Level of maintenance**	Good

10	**TRANSFORMATION**	
10.1	**Form**	Original form retained but the finished have changed over the time.
10.2	**Structure**	The mangalore tiles have been replaced by asbestos cement sheet covering.
10.3	**Articulation**	The external stairway and the gallery seem to be a later addition, as the stairway is not strongly articulated with the chapel.

Card no: 12	
Ward: R ward.	
CTS no: 2 (Manori division)	
C S no: 13, 14, 15, 16, 17.	
Plot Area: 5620.50sq.m	
B U Area: 882.05sq.m	
Date: 01/02/2002.	
Recorded by ND, VM	
Reviewed by PJ	
Int.	**Ext.** *



1	DENOMINATION	
1.1	**Name of premises**	Sacred Heart Chapel.
1.2	**Address**	Gorai village, Borivili (W), Mumbai – 400 091. Tel: 8690345/-8392.
1.3	**Built in**	Approximately Mid 19th century.
1.4	**Name of Founder**	-
1.5	**First Priest/**	
	Present Priest.	Father Francis Mascarenhas. Father Gonsalo Perreira. Father Donald. F. Perreira (serving since 24 years).

2	ACCESS	
2.1	**Main**	Manori Jetty – Gorai road.
2.2	**Subsidiary**	Church by-lane.

3	OWNERSHIP PATTERN	
3.1	**Present**	
3.2	**Status**	**Trust.**

4	USE	
4.1	**Present / Past**	Religious (burial).
4.2	**Usage**	Daily.

5	SIGNIFICANCE AND VALUE CLASSIFICATION	
5.1	**Townscape**	The church is positioned on the northern entrance of the Culvem village, beyond which lies the Gorai village. It is located along the Marve-Gorai road. It is situated within a huge rectangular plot on the western side of the road. Culvem chapel has a large front open space that is equivalent to about half the area of the plot. The area is dotted with shrubs, trees and rough growth. The space affronting the church is used as a burial ground. The church complex also houses a convent and an ancillary block that are located on the southern and northern sides of the chapel respectively.
5.2	**Architectural Description**	**Main church.** The church is an example of Portuguese influence, with its Dutch gable façade topped by a Latin cross. The façade is divided into three bays in two tiers, with arched openings. Of the three bays, the central bay, housing the bell tower and the entrance, is emphasised in scale. The church façade is divided horizontally and vertically by means of projecting cornices, brief stucco work over arched openings, and plastered surfaces, either plain or in a brick-like pattern. Externally, the church appears as a framed structure due to the vertical pilaster and the remaining surface painted in a brick-pattern representing infill walls. This is contradictory to the loadbearing type of construction used in the church interior. The church is flanked by an external staircase on the southern side, which leads to a viewing gallery on the first floor. Located below the stairway are two openings, one rectangular and the other arched, both leading to an open court between the church and the convent. The entrance leads to the main altar via a centrally located nave, flanked on either side by a row of teakwood benches. The church hall and altar are covered by a single, gable-ended sloping roof with asbestos cement sheet covering. This roof, however, is not visible externally, since it is hidden by the church façade.

Card no: 14	
Ward: R ward	
Plot Area: 12.60 Ha	
B U Area: -	
Date: 01/02/2002.	
Recorded by ND	
Reviewed by PJ	

REFER ATTACHED DELINEATION PLAN

1	DENOMINATION	
1.1	**Name of premises**	Gorai Village Precinct.
1.2	**Address**	Gorai village, Manori Jetty - Gorai Road, Mumbai – 400 091.
1.3	**Built in/ Date**	Pre 16th C – 20th C.

2	ACCESS	
2.1	**Main**	Manori Jetty - Gorai Road.
2.2	**Subsidiary**	A subsidiary access is provided by the Borivili – Gorai road.

3	OWNERSHIP PATTERN	
3.1	**Present**	Individual.
3.2	**Status**	Mixed (private, public and trust).

4	USE	
4.1	**Present / Past**	Residential.

5	SIGNIFICANCE AND VALUE CLASSIFICATION	
5.1	**Delineation**	The study area, spanning roughly 12.60 Ha, houses about 280 buildings. The Gorai Gaothan lies to the northern extremity on the western side of Mumbai Municipal limits. Manori Jetty – Gorai road is a major path on the eastern side that passing through the settlement. This path has two main spines running parallel to the settlement, positioned on either side. These spines merge at regular intervals forming important activity nodes. The Manori Jetty – Gorai road further bifurcates connecting to Uttan/Bhayander in the north and Gorai Jetty to the east. The site is edged by the Arabian Sea and Manori Jetty – Gorai road on the west. The north of the Gaothan is bound by the creek and agricultural lands. To the south of the site is located the settlement of Culvem. The Holy Magi Church (Gorai Church) is a significant landmark structure of the precinct. Other important landmarks include the Police station and the Primary health care centre. Various important activity nodes are formed at the junctions of paths, which function as smaller landmarks and impart direction in way finding.
5.2	**Architectural Description**	Two basic house typologies, based on the types of communities that inhabit them, constitute the built form. **Type A: Koli Houses** The Koli typology belongs to the fishing community. These houses are densely packed along the streets running parallel to the beachfront. The Koli houses have probably the oldest origins of buildings in each of the studied settlements. These house forms are developed with a hierarchy of spaces (public to private), which are apportioned into four prominent bays or parts. The outermost bay is usually a full-length, narrow verandah, where the users work on their nets, dry fish, and interact with the community. The second bay accommodates the multipurpose living space, where guests and relatives are entertained. This bay is used as a bedroom at night, and as an extension of the verandah during the day. The third bay is the inner core of the home with a family room. Small bedrooms, alcoves and ladder to the attic are approached from this room. The last bay accommodates the service areas including the bathing, washing and cooking spaces. The house also opens out to the rear yard or secondary access street from this bay. This typology is similar to the parallel infill housing typology except for the pedestrian street, which intermittently breaks the built form for shortest access to the sea. **Type B: East Indian houses** The East Indian housing typology belongs to the Roman Catholic community. This housing pattern is composed of low-rise built forms with one or two storied houses. An East Indian house can be divided into two main parts, the first being semi-private, consisting of front and back verandah, porches, outdoor rooms and an external staircase. The second part, being private, consists of a

		multipurpose hall, a dining and family room, bedrooms, kitchen, stores and toilets. The house is entered through a covered verandah, which forms a transition space from outside to the inside of the house. The verandah is a multipurpose area; it functions as a socialising space, a buffer for privacy, and as an extension of the hall, which is a private part of the house. It provides soft natural light and ventilation to the adjoining rooms even during heavy rains. The private part of the house is usually made up of three bays. The first bay comprises a rectangular multipurpose hall. This multipurpose hall functions as a living room as well as a study and hobby room with areas for sitting, playing music and exhibiting artefacts collected over the years. In these halls, the furniture mostly consists of richly decorated antique chairs, side tables, showcases neatly maintained by regular cleaning, polishing etc. The second division is further divided into two or more parts, the larger being a family room, also used for dining, and the smaller division that is used as bedroom. The third division consists of the service core that houses the kitchen, storerooms, servants' rooms and toilets. The kitchen is accessible from the rear of verandah. The roof of the houses is mostly sloping, covered with country or Mangalore type tiles. Some of the houses have an attic below the roof that is accessible by a ladder, and is used for storage.	
5.3	**Intrinsic**	Pre-industrial, vernacular settlement with high density, low-rise, organic built form pattern. Important landmarks and houses that have been retained in their original state impart a unique character to the settlement. They also help trace the historical evolution of the settlement.	
5.4	**Values**	G(grp), E, A (arc), A (cul)	**Grade:** III

6	**TOPOGRAPHY**	
6.1	**Floors**	G, G +1.
6.2	**Attic floor**	Primarily, a feature of East Indian houses, it is also found in some Koli houses.

7	**CONSTRUCTION**	
7.1	**Plinth**	Stone masonry plinth/ mud plinth.
7.2	**Walls**	Loadbearing stone masonry walls.
7.3	**Floor**	Teakwood bridging joist flooring with teakwood boardings.
7.4	**Stairs**	External or internal, straight flight staircase in stone masonry leading to the bedrooms on the first floor.
7.5	**Openings**	Timber framed openings with teakwood-shuttered doors and windows having glazed ventilators.
7.6	**Roofing**	Gable-ended mangalore tiles/asbestos sheet roofing.
7.7	**Articulation**	The various house typologies are well articulated both, functionally as well as architecturally. It reflects the lifestyle of a particular community and also imparts a typical character to that part of the settlement.
7.8	**Finishes**	External walls are finished with water-based distemper or cement paint; internal walls are finished with oil-based emulsion paints.
7.9	**Compound wall**	None of the houses have a compound wall; they directly abut the street. Important public and religious buildings, such as the Gorai church, have a compound wall.
7.10	**Curtilege**	Most houses have their own well and septic tank that are located in the rear court near the toilet.

8	**SERVICES & UTILITIES**	
8.1	**Lighting**	Adequate natural light; also provided with artificial lighting.
8.2	**Ventilation**	Adequate; ceiling fans are also provided.
8.3	**Electricity**	Supplied by BSES, adequate but irregular.
8.4	**Water Supply**	Well water as well as Municipal water tank recently installed.
8.5	**Drainage**	There are no sewerage lines. As a result, few houses have septic tanks and soak pits while the rest have none.
8.6	**Fire precaution**	None.

9	**CONDITION**			
9.1	**Overall condition**	Poor. Nearly two-fifth of the built fabric has already undergone major transformation. The remaining structures, comprising about 43% of the building stock, are intact and require minor repairs. About one-fifth of the built fabric is retained in its original state.	**Level of maintenance**	Fair - poor

10	TRANSFORMATION	
10.1	Form	Original form retained but it appears that the original finishes have not been retained. Most of the Koli houses have undergone major transformation including redevelopment. In such cases, the brick piers have replaced the original timber posts. In some cases, the verandah has also been enclosed, which has completely changed the character of the street. The mangalore tiles have been replaced by asbestos cement sheet covering.
10.2	Structure	
10.3	Articulation	




Above views of Old Gorai Church and Environs of Vairala Tank
Source RCACC (2002)

NORTH

SCALE 1:1

LEGEND:

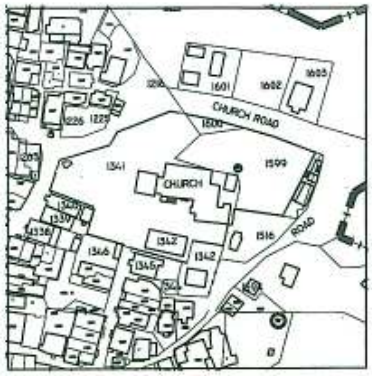
Project boundary

DELINEATION AND LISTING OF MANORI, MARVE, AKSA, MADH AND MALAVANI PRECINCTS IN MUMBAI

RIZVI College of Architecture

Consultancy Cell

Card no: 15	
Ward: R ward	
CTS no: 46 (Gorai division)	
C S no: 1341, 1342, 1546, 1599, and 1600.	
Plot Area: 4312.48 sq.m	
B U Area: 1022.84 sq.m	
Date: 01/02/2002.	
Recorded by ND, PS	
Reviewed by PJ	
Int. *	**Ext.** *



1	DENOMINATION	
1.1	**Name of premises**	Holy Magi Church.
1.2	**Address**	Gorai village, Borivili (W), Mumbai – 400 091. Tel: 8690345/-8392.
1.3	**Built in**	Church –1810. Priest's residence – 1972. School – 1921. Renewed in 1989. Renewed in 1996.
1.4	**Name of Founder**	
1.5	**First Priest/**	Father Hercules Fernandes.
	Present Priest.	Father Francis Mascarenhas. Father Gonsalo Perreira. Father Donald. F. Perreira (serving since 24 years).

2	ACCESS	
2.1	**Main**	Church Road.
2.2	**Subsidiary**	Church by-lane.

3	OWNERSHIP PATTERN	
3.1	**Present**	
3.2	**Status**	**Trust.**

4	USE	
4.1	**Present / Past**	Religious, school.
4.2	**Usage**	Daily.

5	SIGNIFICANCE AND VALUE CLASSIFICATION	
5.1	**Townscape**	The church is located at the north-west entrance of the settlement at a junction. There are two main entrances from the road on the north and west sides with a subsidiary access from the by-lane at the south. The church stands on a huge irregular shaped plot oriented along the east-west axis, having front and side open spaces. The front open space has the Holy cross and large trees with tree surrounds used as seating. Centrally located in this front open space is the 5'6" high statue of Christ 6' above ground mounted on a stepped marble pedestal. The open space in the front has been paved with shahabad stones having marble grave markers. Northern side open space is used as burial ground while the southern open space has a two storied Saint Aloysius High school. Towards the rear is the priest's residence. The church magnificent in scale and grandeur stands out amongst the adjoining residential settlements.
5.2	**Architectural Description**	**Main church.** The Church is a massive double height structure possessing a scale of a three-storied structure. The three storied front façade with the Dutch gable topped by a Latin cross shows a strong Portuguese influence. It is marked by brief stuccowork and bell towers flanking the gable, which are emphasised by the vertical stucco pilasters. Affronting the main entrance of the church is a porch with 1'6" high brick walls on three sides with teakwood benches. It has asbestos cement corrugated sheet roofing supported on 2.5" diameter mild steel columns. This porch is a later addition. The main entry to the church is through a central huge arched emphasised doorway flanked on either side by two smaller arched doorways. There is another arched doorway leading to the hall attached to the main church on the northern side. On either side of this door are arch

		shaped niches. Above the central arched opening is an arched window with brass rods providing light and ventilation to the inner space. The plan is oblong with the narthex, the central nave terminating at the apse. The narthex is topped by a gallery. The nave is a double height space with the main entry on the west and additional entrances along the north and south. At the apsidal end, which is on the east, is the altar with a small square fixed glazed opening above it. The nave is finished with patterned yellow and maroon Minton tile flooring with inlayed marble plaques. It has twelve rows of teakwood benches on either side. The nave has adequate light and ventilation from south wall openings while on the northern side the openings derive indirect light and ventilation from the R.C.C grilled openings of the external wall of the adjacent hall. The walls are adorned with photo frames depicting tales of Jesus Christ and tall lancet arched windows. The nave is overlooked by a wooden viewing gallery, which is above the main entrance spanning the entire width of the church. The gallery with teakwood boardings and teakwood joists is supported on two timber posts. The posts are oil painted and divide the width of the church into three equal parts. The apse is along the east and 1'6" above the nave level with the altar, which has intricate gilded woodwork with statue of Jesus Christ. The flooring is in patterned Minton tiles with marble strips. Flanking the apse are side altars elaborately carved in wood. The altar area is divided from the nave by a cast iron railing with teakwood handrail. The entire church has arched brace trusses, purlins with teakwood boardings topped with Mangalore tiles. Attached to the church on the northern side is the hall. The main entry to the hall is from the north and the west. Its flooring is in ceramic tiles. It has two entrances to the church on the common northern internal wall. This side hall abutting the church has a lean-to-roof mangalore tile roof. **Priest's Residence** The priest's residence is at the rear behind the church. It is a two-storied RCC structure. **School** The school is on the southern side. It is a two-storied RCC structure.	
5.3	**Intrinsic**	External facade has stuccowork with vertical bell towers and Dutch gable topped with Latin cross. The windows are tall with lancet arch having stain glass infill panels with brass rods and two pairs of double shuttered teakwood windows one above the other. The other intricacies include the apsidal area with the intricate gilded woodwork with the statue of Jesus Christ in the altar area.	
5.4	**Values**	A(arc), A(his), A(cul), B(des), B(per), C(she)	**Grade:** IIB.

6	**TOPOGRAPHY**	
6.1	**Floors**	G – Church. G+1 – School. G+1 - Priest's residence.
6.2	**Attic floor**	

7	**CONSTRUCTION**	
7.1	**Plinth**	It has 1'6" high stone masonry plinth.
7.2	**Walls**	It is a composite load bearing structure with stone masonry and timber framework.
7.3	**Floor**	The nave area is finished with patterned maroon and yellow Minton tile flooring with marble plaques. The altar area and the apse have patterned Minton tile flooring with marble pati and marble plaques. The hall is finished with ceramic tiles. The front open space has shahabad flooring with marble slabs.
7.4	**Stairs**	An external straight flight staircase leads to the viewing gallery above the main entrance overlooking the nave and apse.
7.5	**Openings**	Tall lancet arched openings with stain glass panels and fixed brass rods. The windows are double shuttered glazed windows.
7.6	**Roofing**	**Main structure:** It has arched brace trusses, purlins, boardings covered with Mangalore tiles. The hall has a lean–to–roof with asbestos corrugated sheet roofing. The entrance porch has asbestos roofing. **Curtilege structure:** The priest's residence and the school are RCC structures, covered by a flat roof.
7.7	**Articulation**	The façade is well articulated with Dutch gable topped with a Latin cross and flanked by bell towers on either side, emphasised by vertical stucco pilasters. The façade also shows vertical and horizontal stucco bands.
7.8	**Finishes**	Externally cement painted and internally lime washed walls.
7.9	**Compound wall**	It has a low compound wall with cast iron gates at the north, south and west. The wall is finished with cement paint.
7.10	**Curtilege**	It includes the priest's residence and the school. The rear space accommodates a well.

8	SERVICES & UTILITIES	
8.1	**Lighting**	In the church there is adequate light. Also artificial lights such as tube lights are provided.
8.2	**Ventilation**	Adequate cross ventilation. Ceiling fans are also provided.
8.3	**Electricity**	Available but irregular.
8.4	**Water Supply**	Well water is pumped for the church's use.
8.5	**Drainage**	Municipal drainage system is absent, septic tanks provided.
8.6	**Fire precaution**	None.

9	CONDITION			
9.1	**Overall condition**	Good.	**Level of maintenance**	Good

10	TRANSFORMATION	
10.1	**Form**	The original structure has undergone a series of additions including the entrance porch, the school, priest's residence and office.
10.2	**Structure**	
10.3	**Articulation**	

6

CRZ & GAOTHAN AREAS

CRZ-I: Delineated zone between HTL and LTL at Madh
Source: RCACC (2002)

CRZ-II (developed area) at Madh
Source: RCACC (2002)

6 Coastal Regulation Zone and Gaothan Areas of Madh, Erangal, Aksa, Marve, Manori, Culvem and Gorai. (Refer Drg. 42)

6.1 Coastal Regulation Zone of The Environment (Protection) Rules, 1986 Notification Dated 19th February 1991 (updated upto 11th January 2002) and its applicability has been presented in this chapter. Non-conforming provisions of the 11th January 2002 notification have been underlined, and comments stated in Italics.

The area of study, being a Coastal tract of land, comes under the Coastal Regulation Zone (CRZ). In this north-western section of the city, for regulating development activities, the CRZ area has been classified into three categories, namely -

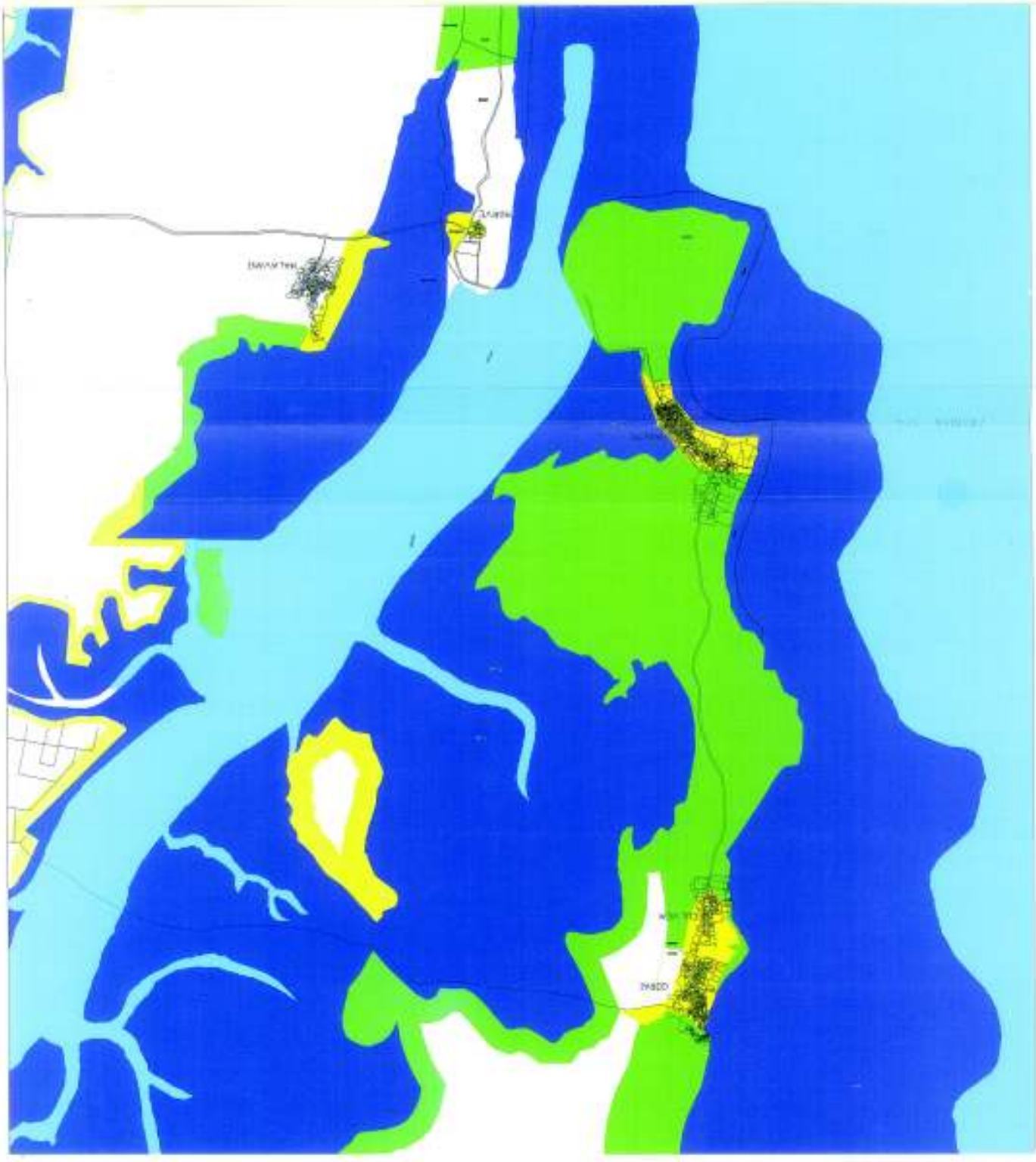
6.1.1 Category-I (CRZ-I)

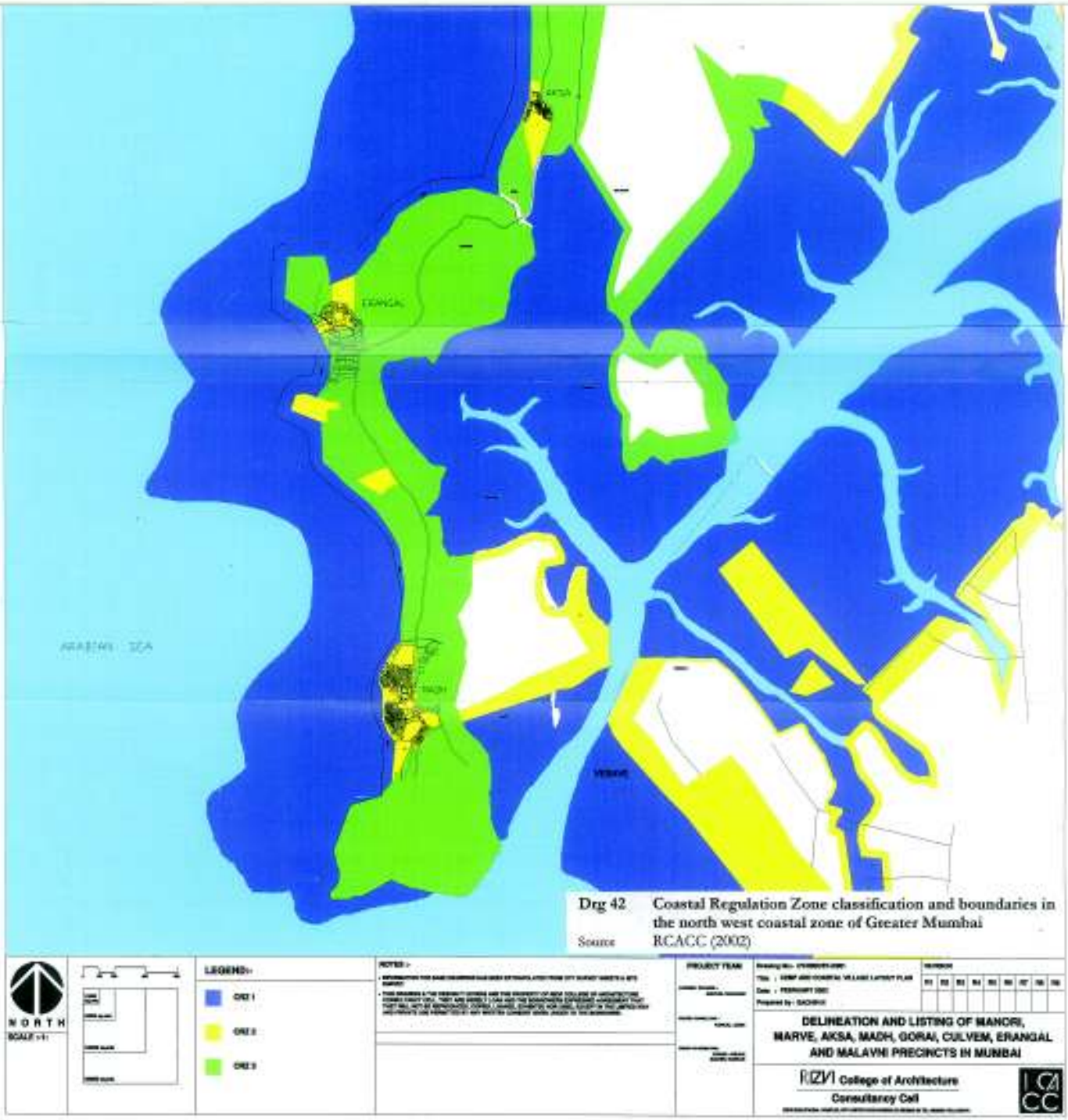
6.1.1.1 Areas that are ecologically sensitive and important, such as national parks/marine parks, sanctuaries, reserve forests, wildlife habitats, mangroves, corals/coral reefs, areas close to breeding and spawning grounds of fish and other marine life, areas of outstanding natural beauty / historically / heritage areas, areas rich in genetic diversity, areas likely to be inundated due to rise in sea level consequent upon global warming.

6.1.1.2 Area between the Low Tide Line and the High Tide Line.

6.1.2 Category-II (CRZ-II)

The areas that have already been developed up to or close to the shoreline. For this purpose, "developed area" is referred to as that area within the Municipal limits 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.





Drg 42 Coastal Regulation Zone classification and boundaries in the north west coastal zone of Greater Mumbai

Source RCACC (2002)

Undeveloped agricultural land delineated as CRZ-III, Manori
Source: RCACC (2002)

6.13 Category-III (CRZ-III)

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

6.2 The development or construction activities in different categories of the CRZ area shall be regulated, in accordance with the following norms: -

6.2.1 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
(c) facilities that are essential for activities permissible under CRZ-I and
(d) salt harvesting by solar evaporation of seawater.

6.2.2 CRZ-II

6.2.2.1 Buildings shall be permitted only on the landward side of the existing road (or roads proposed in the approved Coastal Zone Management Plan of the area), or on the landward side of existing authorised structures. Buildings permitted on the landward side of the existing and proposed roads/existing authorised structures shall be subject to the Maharashtra Regional Town Planning Act, 1966, and Development Control Regulations for Greater Bombay, 1991, including the existing norms of Floor Space Index.

6.2.2.1.1 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 Plans) which are constructed on the seaward side of an existing road;

(The underlined clause above shall not be included).

6.2.2.1.2 Provided further that the above restrictions on construction based on existing / new roads shall not apply to the housing schemes of State Urban Development Authorities implemented in phases for which construction activity was commenced prior to 19.2.1991 in at least one phase and all relevant approvals from State and Local authorities were obtained prior to 19.2.1991.

6.2.2.2 Reconstruction of the authorised buildings to be permitted subject to the existing F.S.I. norms and without change in the existing use.

6.2.2.3 The design and construction of buildings shall be consistent with the surrounding landscape and local architectural style ***(as per the guidelines and recommendations prescribed in chapter 7).***

6.2.3 CRZ-III

6.2.3.1 The area upto 200 metres from the High Tide Line shall be earmarked as "No Development Zone", as the study area does not fall within any notified port limits or any notified Special Economic Zone. **No construction shall be permitted within this zone except for repairs of existing authorised structures not exceeding existing F.S.I., existing plinth areas and existing density, and for permissible activities under the notification including facilities (amenities) essential for such activities.** However, the following uses may be permissible in this zone – agriculture, horticulture, gardens, pastures, parks, play fields, forestry and salt manufacture from sea water.
(The underlined clause above should not be altered, diluted or contravened by clauses 6.2.3.1a and 6.2.3.1b below)

6.2.3.1a Construction of dispensaries, schools, public rain shelters, community toilets, bridges, roads and provision of facilities for water supply, drainage, sewerage, which are required for the local inhabitants, may be permitted on a case-to-case basis by the Central Government or Coastal Zone

Management Authority constituted for Maharashtra State.

6.2.3.1b Construction of Dwellings for use by local inhabitants may be permitted on a case-to-case basis, by the Central Government or the Coastal Zone Management Authority constituted for Maharashtra State.
Provided that such constructions shall be subject to the following conditions: -

6.2.3.1b.1 The height of an individual dwelling unit shall be restricted to 4.5 m and the total plinth area shall be limited to 100 (one hundred)-sq. m.

6.2.3.1b.2 The individual dwelling unit must be constructed by the local inhabitant for his bonafide residential purpose.

6.2.3.1b.3 Where settlements are existing in clusters, new dwellings may be allowed adjacent to the existing cluster of settlement, landward of the line of existing structure provided that the total number of dwelling units shall not be more than twice the number of existing dwelling units.

6.2.3.1b.4 Subject to the conditions listed in **6.2.3.1b.1, 6.2.3.1b.2** and **6.2.3.1b.3** above, all other conditions as laid down in clause **6.2.3.3** below relating to the construction of dwelling units shall apply;

6.2.3.2 Development of vacant plots between 200 and 500 metres of High Tide Line in the designated areas of CRZ-III, with prior approval of the Ministry of Environment and Forests (MEF), is permitted for construction of hotels/beach resorts for temporary occupation of tourists/visitors subject to the conditions as stipulated in the guidelines stated in section **6.3**.

6.2.3.3 Construction/reconstruction of dwelling units between 200 (two hundred) and 500 (five hundred) meters of the High Tide Line for use of local inhabitants shall be permitted. 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; the total

Slumming of South Gaothan area in Madh
Source: RCACC (2002)

Haphazard Gaothan expansion, leading to environmental degradation in Manori
Source: RCACC (2002)

covered area on all floors shall not exceed 33 per cent of the plot size; the overall height of construction shall not exceed 9 metres and construction shall not be more than 2 floors (ground floor plus one upper floor). Construction is allowed for permissible activities under the notification including facilities essential for such activities. An authority designated by State Government may permit construction of public rain 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 panchayat, the major part of which falls within CRZ if no other area is available for construction of such facilities.

***(As there is an acute lack of infrastructure like drainage, sewerage, regular water supply and primary heath care facilities, the underlined clause proposing expansion of the gaothan areas should not be considered. Imbalance of infrastructure and services in relation to the density of built form could lead to incorrigible slumming of the gaothan areas)*,**

6.2.3.4 Reconstruction / alterations of an existing authorised building is permitted, subject to **6.2.3.1**, **6.2.3.2** and **6.2.3.3** above.

Provided that the horizontal extension of existing dwelling units may be allowed on the ground floor on the landward side subject to the condition that the total plinth area of the dwelling unit shall not exceed 100 (one hundred) square metres.

6.3 Guidelines for Development of Beach Resorts / Hotels in the designated areas of CRZ-III for temporary occupation of tourists/visitors, with prior approval of the Ministry of Environment & Forests.

6.3.1 Construction of beach resorts / hotels with prior approval of MEF in the designated areas of CRZ-III for temporary occupation of tourists / visitors shall be subject to the following conditions: -

6.3.2 The project proponent shall not under take any construction within 200 metres in the

land-ward side from the High Tide Line and within the area between the Low Tide and High Tide Lines;

(The underlined clause above should not be altered, diluted or contravened by proviso clause below and further clauses 6.3.1.1.1c, 6.3.2.6).

Provided that the Central Government may after taking into account geographical features and overall Coastal Zone Management Plans, and for reasons to be recorded in writing, permit any construction subject to such conditions and restrictions, as it may deem fit.

6.3.1.1.1a Live fencing and barbed wire fencing with vegetative cover may be allowed around private properties subject to the condition that such fencing shall in no way hamper public access to the beach;

6.3.1.1.1b No flattening of sand dunes shall be carried out;

6.3.1.1.1c No permanent structures for sports facilities shall be permitted except construction of goal posts, net posts and lampposts;

6.3.1.1.1d Construction of basements may be allowed subject to the condition that no objection certificate is obtained from the State Ground Water Authority to the effect that such construction will not adversely affect the free flow of ground water in that area. The State Ground Water Authority shall take into consideration the guidelines issued by the Central Government before granting such no objection certificate.

6.4 EXPLANATION:

6.4.1 Though no construction is allowed in the no development zone, for the purposes of calculation of F.S.I., area of the entire plot including the portion that falls within the no development zone shall be taken into account.

6.4.2 The total plot size shall not be less than 0.4 hectares and the total covered area on all floors shall not exceed 33 per cent of the plot size i.e. the F.S.I. shall not exceed 0.33. The open area

shall be suitably landscaped with appropriate vegetative cover;

6.4.3 The construction shall be consistent with the surrounding landscape and local architectural style;

6.4.4 The overall height of construction upto highest ridge of the roof, shall not exceed 9 metres and the construction shall not be more than 2 floors (ground floor plus one upper floor);

Solid waste/untreated effluent discharged by amusement park at Gorai
Source: RCACC (2002)

6.4.5 Ground water shall not be tapped within 200 m of the HTL; within the 200 metre – 500 metre zone, it can be tapped only with the concurrence of the Central / State Ground Water Board;

6.4.6 Extraction of sand, levelling or digging of sandy stretches, except for structural foundation of building, swimming pool, etc. shall not be permitted within 50 metres of the High Tide Line;

6.4.7 The quality of treated effluents, solid wastes, emissions and noise levels etc, from the project area must conform to the standards laid down by the competent authorities including the Central / State Pollution Control Board and under the Environment Protection Act, 1986;

Hotel in the designated NDZ area, violating height controls
Source: RCACC (2002)

6.4.8 Necessary arrangements for the treatment of the effluents and solid wastes must be made. It must be ensured that the untreated effluents and solid wastes are not discharged on to the water or on the beach; and no effluent / solid waste shall be discharged on the beach.

6.4.9 To allow public access to the beach, at least a gap of 20 metres width shall be provided between any two hotels / beach resorts; and in no case shall the gaps be less than 500 metres apart;

6.4.10 If the project involves diversion of forestland for non-forest purposes, clearance as required under the Forest (Conservation) Act, 1980 shall be obtained. The requirements of other Central and State laws as applicable to the project shall be met with; and

6.4.11 Approval of the State Tourism Department shall be obtained.

6.4.12 In ecologically sensitive areas (such as marine parks, mangroves, coral reefs, breeding and spawning grounds of fish, wildlife habitats and such other areas as may be notified by the Central/State Government/Union Territories), construction of beach resorts / hotels shall not be permitted.

7

GUIDELINES

7 Architectural and Development Control Guidelines

7.1 Applicable Regulations as per Development Control Regulation No. 67 for Greater Bombay.

7.1.1 Madh, Erangal, Aksa, Marve, Manori, Culvem and Gorai as heritage Grade III Precinct comprises buildings of importance for townscape; they evoke architectural aesthetic or sociological interest though not as much as in Grade II. These contribute to determine the character of the locality, and, can also be distinguished by setting on a street line, or special character of the façade and uniformity of height, width and scale.

7.1.2 Grade III deserves protection of unique features and attributes.

7.1.3 External and internal changes and adaptive reuse would generally be allowed. Changes can include extension, additional buildings in the same plot or compound provided that extension / additional building is in harmony with and does not detract from the existing heritage building especially in terms of height and/or façade. Reconstruction may be allowed when the building is structurally weak or unsafe, or when it has been affected by accidental fire or any other calamity, or if reconstruction is required to consume the permissible F.S.I. and no option other than reconstruction is available. However, unless absolutely essential, nothing should spoil or destroy the special features or attributes for which it is placed in the Heritage List.

7.1.4 Development Permission would be given for changes by the planning authority itself but in consonance with guidelines, which are to be laid down by the Government in consultation with the Heritage Conservation Committee.

7.2 The following architectural and development control guidelines shall be read in addition to Coastal Zone Regulations, 1991 and its further notifications.

7.3 General Precinct Guidelines

7.3.1 Delineation of Precinct
(Ref. Drgs. 36 to 42)

Based on the value classification and delineation of the coastal tract, the delineated village precincts are conceived as the most valuable section of the total coastal zone with strongest architectural features of the original dwelling units and heritage streetscape.

The dwelling units in this area, besides being consistent in terms of architectural and urban design qualities, are integral to the image of a residential enclave of pre-industrial phase.

7.3.2 All structures, reserved, redeveloped, and rehabilitated plots and buildings in the demarcated precinct boundary shall be developed in accordance with these prescribed guidelines. Any development, redevelopment, repairs, additions, alterations shall be carried out only after obtaining the necessary approval from the Heritage Conservation Committee.

7.3.3 Restriction on development / redevelopment / repairs, etc-

No development or redevelopment or engineering operation or additions, alterations, repairs, renovation, including the painting of buildings, replacement of special features or demolition of the whole or any part thereof or plastering of all buildings in the precinct boundary shall be allowed except with the approval of the Mumbai Heritage Conservation Committee (MHCC).

7.3.4 No temporary or semi-permanent structure shall be built on any plot, pavements and any other reserved and unreserved site without the prior approval of MHCC.

7.3.5 Signage & Hoarding:

In view of the manner in which many buildings are defaced by objectionable signs and, notices that all signboards, sky-signs, advertisements or any temporary attachments to the exterior of a structure, must be permitted by the state government on approval of the Heritage Committee.

Inappropriate advertisements in the Listed Precinct buildings, Erangal
Source: RCACC (2002)

7.3.5.1 Signage or display of any form, on any building or erection built or erected, any sky signs, sign boards, advertisements or any permanent or temporary attachment whatever the nature of an advertisement shall not be permitted in the precinct. Provided always that a small nameplate may be affixed to the entrance door of any house occupied by any person and at a convenient position outside the building near the compound gates.

7.3.5.2 The designs of all new buildings (other than private, residential) shall provide for suitable spaces for signboards, name plates and inscriptions, and the general arrangement of these shall be shown on the drawings. Sign boards and nameplates shall be permitted only when appropriate spaces are provided for them and on approval of the MHCC.

7.4 Demolition of Buildings / Structures:

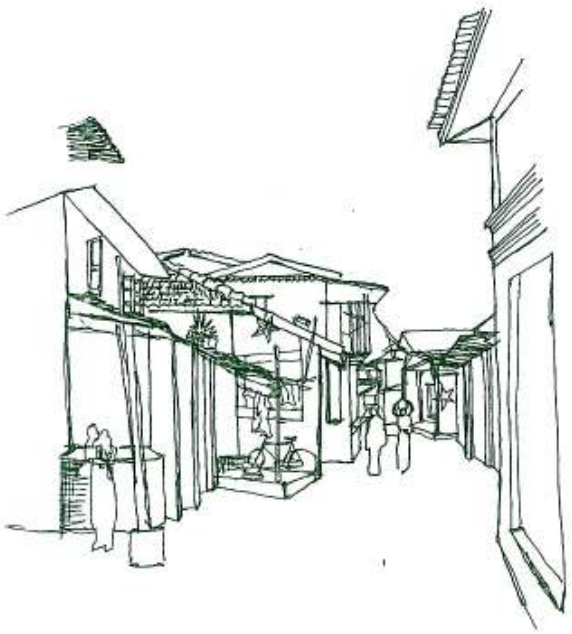
No buildings/ structures within the precinct, whether listed or part of building or any artefact, shall be allowed to be demolished in part or whole without prior permission of the Heritage Conservation Committee. In case demolition is absolutely essential due to structural distress, it shall be restored/reconstructed to its original status as per the recommendations of the Heritage Conservation Committee.

7.5 Road Widening:

No road widening of the existing primary roads/paths would be permitted within the precinct.

7.6 Open Spaces:

All open spaces (residual, non-residual, chowks, etc) within the precinct shall be maintained without being built upon.



Sketch of Primary street, Manori
Source: RCACC (2002)

Cross at activity node, Manori
Source: RCACC (2002)

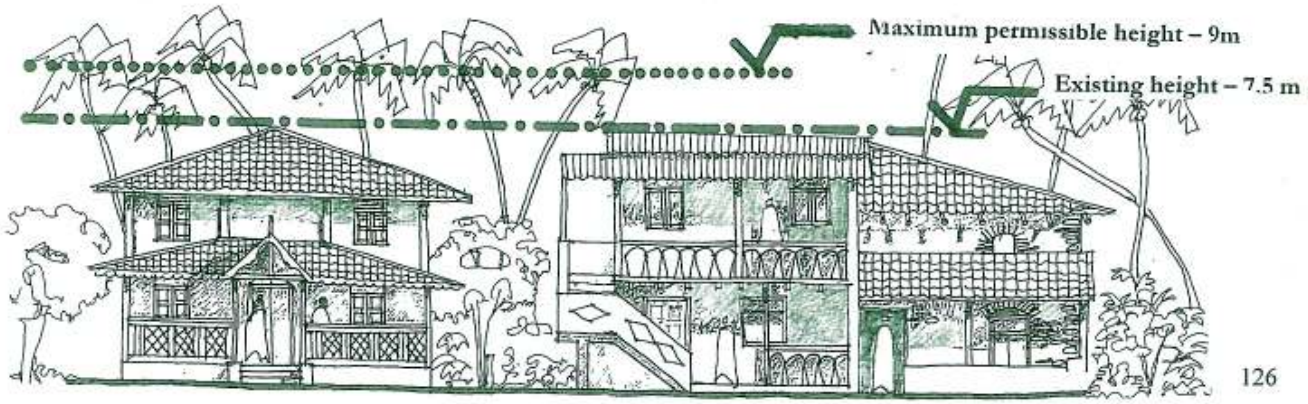
7.7 Amalgamation and Subdivision of Plots: Development or Redevelopment involving Amalgamation and Subdivision of plots would detract from the essential built fabric. Amalgamation and Sub-division of existing plots (properties) is not allowed within the precinct.

7.8 Floor Space Index: The permissible Gross F.S.I. in the delineated precincts shall not exceed 0.33.

7.9 Crosses, Landmarks and Street Shrines:
The positions and placement of landmarks within the precinct are to be retained; however, no additional landmarks / shrines / markers / crosses (religious or non-religious) shall be permitted in the core area of the precinct.

7.10 Height of Buildings
Notwithstanding anything contained in the Development Control Regulations, 1991, or in the Coastal Zone Management Plan (CZMP) for Greater Bombay, in Madh, Erangal, Aksa, Marve, Manori, Culvem and Gorai precincts, the height of the buildings after reconstruction shall be limited to 9 meters for a two storied sloping roofed structure.

7.10.1 Height restriction for the buildings would apply as follows: -
Buildings in this area shall have a height restriction of 9 metres with maximum of Ground + one upper storeys. If a new floor has to be added above the existing structure, it has to be set back one bay from the access roads adjoining the plot.
All roofs shall be sloping, at an angle of 23 to 25 degrees, and shall be covered with burnt clay tiles/ terracotta/ mangalore/ country tiles.



Height control guidelines
Source: RCACC (2002)

7.10.2 Height of habitable rooms in buildings

	Buffer Zone
Total Height	**9 m**
Plinth	0.60 to 1.20 m
Ground floor	2.70 to 3.00 m
Upper floors	2.70 to 3.00 m
Sloping Roof Ridge including enclosed staircase block / Water tank loft level	1.80 m

Note: - The plinths of all buildings to be erected, exclusive of the coping which may be of cement concrete if so desired, shall be faced with natural or artificial stone of approved quality and colour. The heights of the plinths shall be regulated with reference to the finished levels of the crowns of the roads on which the buildings front.

7.11 Basement Permissibility

Basements shall not be permitted in any development or redevelopment in precinct.

7.12 Lofts

Height of loft: Clear headroom under a loft shall not be less than 2.4 m, and above that, it shall not be more than 1.5m; if it exceeds 1.5m, it shall be counted towards F.S.I.

7.13 Mezzanine Floor

Adding a mezzanine floor is harmful for the structural stability of the building. Therefore, no mezzanine floor shall be permitted.

7.14 Compound Walls

The designs of the compound walls to be erected on the plots shall be as follows: -

7.14.1 Front walls: - Solid wall raised to the height of 75 centimetres from the ground level shall be constructed along the front boundary of each plot. This wall shall be built in natural stone or cement concrete finished on exposed faces to resemble natural fine dressed stone. The upper parts of this wall, which may be of the railing type, or of perforated R.C.C. work or other suitable type, shall be designed to suit the frontage, but the

total height of the gate pillars shall not exceed 2.2 meters as measured from the ground level. The upper parts of the gate pillars above the height of 75 centimetres, as measured from ground level may, if so desired, be built in brick masonry and finished with cement plaster.

7.14.2 Side and rear walls: - The treatment of the lower parts of the side and rear walls up to a height of 75 centimetres from the ground level shall be similar to that of the front walls. The upper parts of the side and rear walls may, if desired, be built either in cement concrete or brick masonry, finished with cement plaster but the total height of these walls shall not exceed 2 meters as measured from the ground level. The upper parts of the side and rear walls may also be of the railing type or of RCC perforated work if so desired. These walls may be built with half their thickness situated on each side of the common boundary between two plots, with a square pillar 2.2 metres high and having sides measuring 45 centimetres (22.5 centimetres of the pillar to fall on each side of the common boundary between two plots) at each end of the frontage to serve as a connecting link between the treatment of the boundary walls of two plots.

Guidelines for Development / Redevelopment / Reconstruction in Delineated Gaothan

7.15 Footprint :

7.15.1 Any reconstruction / redevelopment proposal in the core area of the precinct should follow the exact size and shape of the existing / original footprint of the building.

7.15.2 Verandahs /porches/ external staircases and outdoor rooms on porches shall be retained in their location, shape and size.

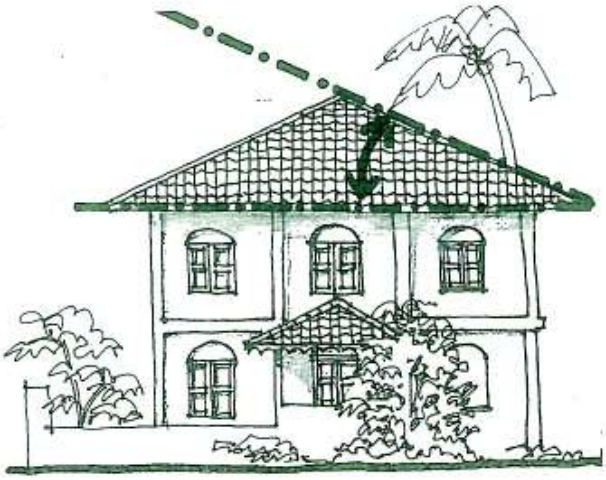
7.15.3 Roof covered connections to external toilet blocks in the rear yard shall be permitted as an accepted alteration in the footprint.

7.15.4 In new developments, minimum one-third of the front façade shall have a semi-open

verandah/porch spanning all floors of the structure.

7.16 Roofscape :

7.16.1 In any case of reconstruction, redevelopment, new development, addition, repairs and alteration, the buildings shall retain/have sloping burnt clay tile/mangalore/country/terracotta tiles with an angle of 23 to 25 degrees.



Roof angle – 23 to 25 degrees

7.16.2 Enclosed staircase blocks and overhead water tanks shall be positioned such that they do not rise above the ridge of the roof and are not visible from access roads serving the plot.

7.16.3 Roofs shall be adequately detailed with a cast iron finial, timber eaves/barge board, fascia with half round gutter and rain down takes in cast iron pipes with lead jointing.

7.17 Façade Controls and Finishes

7.17.1 Modification of the Façade and Architectural Features: Modification of the original façade element or any other architectural features would have to be with prior permission of the Heritage Conservation Committee. Replacement of existing materials shall not be allowed as far as possible, however, it may be allowed in case where the original is in the state of complete disrepair.

Sketch of verandah/porches and outdoor rooms on Primary spine, Manori
Source: RCACC (2002)

7.17.2 Verandahs / porches and outdoor rooms on porches in reconstruction / redevelopment / repairs or development proposals shall be retained as transparent spaces without enclosing walls on three sides. Verandahs / porches shall retain their timber / cast iron railings, and the balustrade and shall not be replaced with masonry wall or aluminium grills.

7.17.3 External staircase with roof covers shall be retained in its semi-open form with its railing and balustrades and sloping roof cover. Railings shall not be replaced with masonry wall or aluminium grills.

Cornices/pilaster details, Culvem
Source: RCACC (2002)

Window and plaster details, Manori
Source: RCACC (2002)

7.17.4 Elements such as railings, roof projections, eaves boards, cornices, trellis and fret work on balconies, verandahs, porches and outdoor rooms shall not be changed or removed from the existing facades.

7.17.5 Key horizontal elements such as stuccowork, cornices, demarcating floor heights, plinths and roofline shall be retained, repaired and reconstructed in any development work.

7.18 Windows

7.18.1 Full height timber double windows shall be retained, each with two sets of shutters and shall not be shortened with masonry /panelled infill.

7.18.2 Timber double windows with louvered shutters in addition to glass-panelled shutters shall be retained with all hardware, coloured glass, fanlights, ventilators and shall not be replaced with aluminium windows.

7.18.3 Windows shall not be covered with projecting box grills of any type at any level.

7.18.4 Window air conditioning units shall not be positioned by altering the existing/original timber windows and shall not be located on facades visible from any access road to the plot.

7.18.5 Windows shall be either oil painted / naturally finished or treated with solignum.

7.19 Doors

7.19.1 Full height, panelled, timber double doors shall be retained, each with two sets of shutters, and shall not be altered or replaced with block board or aluminium-framed or PVC doors.

7.19.2 Low height, double-shuttered, wicket gate shutters shall be retained and shall not be replaced or altered with aluminium-framed or PVC shutters.

7.19.3 Doors shall either be oil painted / naturally finished or treated with solignum.

Lintel in coursed rubble masonry, Erangal
Source: RCACC (2002)

Timber turned wooden railing in verandah, Madh
Source: RCACC (2002)

7.20 Masonry Walls:

7.20.1 Masonry walls shall not be clad. They shall be covered with lime surkhi plaster, with appropriate relief grooves and drip moulds.

7.20.2 Plastered walls shall be painted with coats of lime wash with soluble natural glue (Saras).

7.20.3 All plaster grooves, mouldings, cornices, stucco work, pilasters, architraves, keystones shall be documented, retained, repaired and restored.

7.20.4 75 centimetres of ornamental / elevational projection shall not be free of FSI in redeveloped or reconstructed buildings in the precinct.

7.20.5 Boarding up of ornamental plaster panels, railing, removal of jalis, eaves & fascia boards shall not be permitted.

7.20.6 Any proposed building additions, alterations, reconstruction and repair should be consistent in scale and design with the precinct in general and the original architectural vocabulary of the adjoining buildings that have not been reconstructed. The proposed development /redevelopment in the precincts should maintain and incorporate features such as external timber staircases, front porch, verandah, outdoor room, railings, fascia and eaves board, trellis work, fret work, jalis, door and window details of the existing built typologies.

7.20.7 There shall be general uniformity and harmony of design as regards prominent architectural features, height of plinth and colour of external walls in all buildings.

7.20.8 Curtain wall glazing and glass facades, complete or partial, shall not be allowed in the precinct.

7.21 Stilt Parking will not be allowed in the gaothan area of the precinct.

8

THE WAY FORWARD

8 The Way Forward

8.1 The Coastal Gaothans of Madh, Erangal, Aksa, Marve, Manori, Culvem and Gorai need an urgent mechanism to preserve and protect the relatively complete pre-industrial vernacular settlement pattern from erosion.

8.2 The base work for this intervention has been initiated with this study. Listing of Sites and precincts could be done with this information.

8.3 This research could be further enlarged to develop a detailed Conservation and Management Plan to restore, rehabilitate and revitalise the cultural and physical fabric.

8.4 Formulation of the conservation and management plan would regulate building activity conforming to the authenticity of the original fabric.

8.5 It would also aim to provide a master plan for environmental control, infrastructure development, tourism management and better service network.

8.6 Also essential to the Management Plan would be the inclusion of a detailed environmental appraisal of this coastal area to study the issues of air, water and soil contamination and dispersal.

8.7 The content of this Management Plan could be focussed on three major directions, namely -

8.7.1 Integrated Heritage Management
This component would help in initiating on-site conservation of the building and its surroundings through development of building yard and partnership/peoples' participation mechanisms.

8.7.2 Sustainable Tourism Development
This component would initiate environmentally sound and development-progressive mechanisms for a symbiotic tourism industry in this region.

8.7.3 Integrated Community Development

This, being the most important component, would undertake physical, social, economic and cultural amelioration of the resident communities and the mainland city populace through various programme implementations.

8.8 This three-pronged strategy would cultivate a need-based, participatory approach in environmental conservation and development to generate an appropriate, affordable and sustainable future for the north-west coastal region of Mumbai.

BIBLIOGRAPHY

Bibliography

Alexander Christopher (1979) *A Pattern Language*, New York : Oxford University Press.
----------(1977) *The Timeless Way of Building*, New York : Oxford University Press.

Bombay Metropolitan Region Development Authority (1995) *Draft Regional Plan for Bombay Metropolitan Region 1996-2011*, Mumbai.

Borg Jan van der and Gotti Giuseppe (1995) *Tourism and Cites Technical report No. 20*, Venice : UNESCO.

Chancellor, Archbishops House (2002), *The Catholic Directory of the Archidiocese of Bombay 2001-2002*, Archbishops House, Mumbai.

Da Cunha G. (1900) *The Origin of Bombay*, Bombay : The Royal Asiatic Society.

David M.D.(1970) *History of Bombay 1661 - 1708*, Ph.D Thesis, University of Bombay.

Douglas James (1883) *A Book of Bombay*, Bombay : Bombay Gazette Steam Press.
----------(1893) *Bombay and Western India*, 2 Vols, London : Sampson Low,Marston and Co.

Edwardes S. M. (1902) *Rise of Bombay*, 1902, Bombay : Times of India Press.

Gazetteer of Bombay City and Island 3 vols (1909), Bombay.

Government of Maharashtra Urban Development Department (1995), *Heritage Regulations for Greater Bombay*, Mumbai.

Grose J H.(1757) *A voyage to East Indies*, quoted in Kosambi 1980.

Kosambi Meera (1980) *Bombay and Poona, A Socio Ecological Study of Two Indian Cities 1650 - 1900*, Ph. D Thesis, Department of Sociology, University of Stockholm.
----------(1986) *Bombay in Transition - Growth and Social Ecology of a Colonial City 1880 - 1980*, Stockholm : Almquist Witsell International.

Malabari Phiroze B.M.(1910) *Bombay in the Making*,1910, London : T. Fisher Unwin and Co.

Mehrotra Rahul and Dwivedi Sharada (1995) *Bombay The Cities Within*, Mumbai : India Book House.

Mehrotra Rahul, Godrej Pheroza and Rohatgi Pauline (1997) *Bombay to Mumbai Changing Perspectives*, Mumbai : Marg Publications.

Rappoport Amos (1969) *House Form and Culture*, New Jersey : Cultural Geographic Series, Prentice Hall Inc.

Tindall Gillian (1982), *City of Gold The Biography of Bombay*, London : Maurice Temple Smith.

Maps Referred Procured from: -
Maharashtra State Archives, Elphinstone College, Mumbai
Suburban Collectors Offices
CS Office, Mhada, Andheri West
CS Office, SV Road , Goregaon
CS Office, Magathane Depot, Borivali
MCGM, U D (H Ward, Bandra, Mumbai, P & R ward offices)

APPENDIX I

The Environment (Protection) Rules, 1986
Ministry of Environment & Forests
(Department of Environment, Forests and Wildlife)
Notification
New Delhi, the 19th February, 1991
Updated upto 11th January, 2002 Draft Notification

Whereas by notification of the Government of India in the Ministry of Environment and Forests number S O 114 (E) dated, the 19th February 1991 (Hereinafter referred to as said notification), the Central Government declared Coastal Stretches as Coastal Regulation Zone (in short 'the said zone') and restrictions were imposed on setting up and expansion of industries, operations and processes in the said Zone;

And whereas, it has been brought to the notice of the central government that difficulties are being faced by the inhabitants of the areas falling within the said zone and there is a need for infrastructural facilities in these areas.

And, whereas, the Central Government after consultations with the State Governments is of opinion that the said notification requires amendment o permit construction of dwelling units and development of infrastructure facilities for the local inhabitants, housing schemes of Urban Development Authorities which had been approved prior to 19th February, 1991, facilities and activities including setting up of non polluting industries in the field of information technology and other service industries in the Special Economic Zones, and salt harvesting by solar evaporation of sea water in said zone.

And, whereas, the Central Government is also of the opinion that a time limit of 90 days from the receipt of requisite documents and data may be prescribed for completing the assessment and 30 days thereafter for conveying the decision in respect of project/activities to be located in the said zone;

Now, therefore, in exercise of the powers conferred by sub – section (I) and clause (v) of sub-section (2) of Section 3 and Section 6 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government hereby makes the following amendments further to amend the said notification, namely;

In the said notification

Notification under section 3(l) and section 3(2)(v) of the Environment (Protection) Act, 1 986 and rule 5(3) (d) of the Environment (Protection) Rules, 1986 declaring Coastal Stretches as Coastal Regulation Zone (CRZ) and Regulating Activities in the CRZ. -

S.O. 114(E). - Whereas a Notification under Section 3(l) and Section 3(2) (v) of the Environment (Protection) Act, 1986, Inviting objections against the declaration of Coastal Stretches as Coastal Regulation Zone (CRZ) and imposing restrictions on industries, operations and processes in the CRZ was published vide S.O. No. 944 (E) dated 15th December, 1990.

And whereas all objections received have been duly considered by the Central Government;

Now, therefore, in exercise of the power conferred by Clause (d) of sub-rule (3) of Rule 5 of the Environment (Protection) Rules, 1986, and all other powers vesting in its behalf, the Central Government hereby declares the coastal stretches of seas, bays, estuaries, creeks, rivers and backwaters which are influenced by tidal action (in the landward side) upto 500 metres from The High Tide Line (HTL) and the land between the Low Tide Line (LTL) and the HTL as Coastal Regulation Zone; and imposes with effect from the date of this Notification, the following restrictions on the setting up and expansion of industries, operations or processes etc. in the said Coastal Regulation Zone (CRZ)

I For the purposes of this notification, the High Tide Line means the line on the land up to which the highest water line reaches during the spring tide. The High Tide Line shall be demarcated uniformly in all parts of the country by the demarcating authority or authorities so authorised by the Central Government, in accordance with the general guidelines issued in this regard.

NOTE :-

II The distance from the High Tide Line shall apply to both sides, in the case of rivers, creeks and back waters and may be modified on a case by case basis for reasons to be recorded while preparing the Coastal Zone Management Plans However, this distance shall not be less than 100 metres or the width of the creek, river or back water whichever is less The distance upto which development along rivers, creeks and back-water is to be regulated shall be governed by the distance upto which the tidal effect of sea is experienced in rivers, creeks or back-waters, as the case may be, and should be clearly identified in the Coastal Zone Management Plans

III The distance mentioned in clause (II) above, may be reduced to 50 metres or the width of the rivers, creeks and backwaters, whichever is less, for specified stretches , by Central Government or an authority designated by it for permitting construction of dwelling units for local inhabitants if the following conditions are satisfied namely

(i) the area is not classified as CRZ-I (i);
(ii) the availability of ground water is assured by the concerned authority in the State/Union Territory and proper facilities for treatment and disposal of waste water and sewage are certified by the concerned local authority;
(iii) the proposed construction is not used for any commercial activity; and
(iv) at least one of the following conditions is fulfilled :-
(a) the area is classified as (CRZ-II);
(b) the density of population, as per the 1991 census, in Panchayat / Ward area is not less than four hundred persons per square kilometre;
(c) the built up area in the Panchayat/Ward is already one-third or more of the total area of the Panchayat / Ward;
(d) the coastal land is a barrier island, sand bar or split sandwiched between the sea or bay and rivers, creeks and backwaters or between between river, creeks and backwaters provided that the average width of the barrier island, sand bar or spit is less than 1000 metres:
(e) It is an area with an elevation of more than 10 meters from the Mean Sea Level at any point within 100 meters of the inland tidal water body

Note : the term local inhabitants used in this clause and elsewhere in this notification shall be construed as a person or his descendents who have been inhabiting in the area prior to 19th February 1991.

2 Prohibited Activities :

The following activities are declared as prohibited within the Coastal Regulation Zone namely

(i) setting up of new industries and expansion of existing industries, except (a) those directly related to water front or directly needing foreshore facilities and (b) Projects of Department of Atomic Energy;

(ii) manufacture or handling or storage or disposal of hazardous substances as specified in the Notifications of the Government of India in the Ministry of Environment & Forests No. S.O. 594(E) dated 28th July 1989, S.O. 966(E) dated 27th November, 1989 and GSR 1037(E) dated 15th December, 1989; except transfer of hazardous substances from ships to ports terminals and refineries arid vice-versa in the port areas.

Provided that, facilities for receipt and storage of petroleum products and Liquefied Natural Gas as specified in Annexure - III appended to this notification and facilities for regasification of Liquefied Natural Gas, may be permitted within the said zone in areas not classified as CRZ-I (I), subject to implementation of safety regulation including guidelines issued by Oil Industry Safety Directorate in the Government of India, Ministry of Petroleum and Natural Gas and guidelines issued by the Ministry of Environment and Forests and subject to such further terms and conditions for implementation of ameliorative and restorative measures in relation to the environment as may be stipulated by the Government of India in the Ministry of Environment and Forests;

(iii) setting up and expansion of fish processing units including warehousing (excluding hatchery and natural fish drying in permitted areas); Provided that existing fish processing units for modernisation purposes may utilise twenty five per cent additional plinth area required for additional equipment and pollution control measures only subject to existing Floor Space Index and Floor Area Ratio norms and subject to the condition that the additional plinth area shall not be towards seaward side of the existing unit and also subject to the approval of State Pollution Control Board or Pollution Control Committee.

(iv) setting up and expansion of units / mechanism for disposal of waste and effluents, except facilities required for discharging treated effluents into the water course with approval under the Water (Prevention and Control of Pollution) Act, 1974; and except for storm water drains;

(v) discharge of untreated wastes and effluents from industries, cities or town and other human settlements. Schemes shall be implemented by the concerned authorities for phasing out the existing practices, if any, within a reasonable time period not exceeding three years from the date of this notification;

(vi) dumping of city or town waste for the purposes of landfilling or otherwise; the existing practice, if any, shall be phased out within a reasonable time not exceeding three years from the date of this Notification;

(vii) dumping of ash or any wastes from thermal power stations;

(viii) land reclamation, bunding or disturbing the natural course of sea water except those required for construction of ports, harbours, jetties, wharves, quays, slipway, bridges and sea-links and for other facilities that are essential for activities permissible under the notification or for control of coastal erosion and maintenance of clearing of waterways, channels and ports or for prevention of sandbars or for tidal regulators, storm water drains or for structures for prevention of salinity ingress and sweet water recharge;

provided that reclamation for commercial purposes such as shopping and housing complexes, hotels and entertainment activities shall not be permissible;

(ix) Mining of sands, rocks and other sub-strata materials, except (a) those rare materials as prescribed under the Atomic Energy Act,1962 viz, ilmenite, rutile, zircon, leucoxene, and monozite and minerals, garnet and sillimanite occurring in close association thereto, subject to ELA studies and subject to mining plan being approved by the Atomic Minerals Directorate for Exploration & Research, and (b) exploration and extraction of oil and natural gas.

Provided that in the Union Territory of the Andaman and Nicobar Islands, mining of sands may be permitted by the Committee which shall be constituted by the Lieutenant Governor of the Andaman and Nicobar Islands consisting of Chief Secretary, Department of Environment; Secretary, department of Water Resources; and Secretary, Public Works Department. The said Committee may permit mining of sand from non-degraded areas for construction purposes from selected sites, in a regulated manner on a case to case basis, for a period upto 30th Day of September 2002. The quantity of sand mined shall not exceed essential requirements for completion of construction works including dwelling units, shops in respect of half yearly requirements of 2001-2002 and 2002-2003 annual plans current year (and 1997-98 annual plans). The permission of mining of sand may be given on the basis of a mining plan from such sites and in such quantity which shall not have adverse impacts on the environment.

(x) harvesting or drawal of ground water and construction of mechanisms therefor-, within 200m of HTL;

Provided that in the Union Territory of the Andaman and Nicobar Islands, drawal of ground water can be permitted from specific sites if no other source of water is available and when done manually through ordinary wells or hand pumps, with the approval of Secretary, Department of Environment, Andaman and Nicobar Administration on a case to case basis, within 500 to 200 m from the High Tide Line for local inhabitants for drinking purposes only;

Provided that drawal of ground water is permitted, where no other source of water is available and when done manually through ordinary well or hand pumps for drinking and domestic purposes, in the zone between 50 to 200 m. from High Tide Line in case of seas, bays and estuaries and within 200 m. or the CRZ, whichever is less front High Tide Line In case of rivers, creeks and backwaters subject to such restrictions, as may be deemed necessary, in areas affected by sea water intrusion, that may be imposed by an authority designated by State Government/Union Territory Administration.

(xi) construction activities in CRZ-1 except as specified in Annexure-I of this notification;

(xii) any construction activity between the Low Tide Line and High Tide Line except facilities for carrying treated effluents and waste water discharges into the sea, facilities for carrying sea water for cooling purposes, oil, gas and similar pipelines and facilities essential for activities permitted under this Notification; and

(xiii) dressing or altering of sand dunes, hills natural features including landscape changes for beautification, recreational and other such purpose, except as permissible under the Notification.

3 Regulation of Permissible Activities

All other activities, except those prohibited in para 2 above, will be regulated as under

1) Clearance shall be given for any activity within the Coastal Regulation Zone only if it requires water front and foreshore facilities. "The assessment shall be completed within the period of ninety days from the receipt of the requisite documents and data from the project authorities, and decision conveyed within thirty days thereafter."

2) The following activities will require environmental clearance from the Ministry of Environment & forests, Government of India, namely:

(i) Construction activities related to projects of Department of Atomic Energy or Defence requirements for which foreshore facilities are essential such as slipways, jetties, wharves, quays; except for classified operational component of defence projects for which a separate procedure shall be followed. (Residential buildings, office buildings, hospital complexes, workshops shall not come within the definition of operational requirements except in very special cases and hence shall not normally be permitted in the CRZ);

(ii) operational construction for ports and harbours and light houses and constructions for activities such as jetties wharves, quays and slipways, pipelines, conveying systems including transmission lines;

(iia) Exploration and extraction of oil and natural gas and all associated activities and facilities thereto.

(iii) Thermal power plants (only foreshore facilities for transport of raw materials facilities for in-take of cooling water and outfall for discharge of treated waste water/cooling water); and

(iv) Housing Schemes in CRZ area

(v) Mining of Rare Materials

(vi) Specified Activities/facilities in SEZ

(vii) All other activities with investment exceeding rupees five crore except those activities which are to be regulated by the concerned authorities at the State/Union Territory level in accordance with the provisions Paragraph 6, sub paragraph (2) of Annexure I of the notification.

3) (i) The Coastal States, Union Territory Administrations shall prepare, within a period of one year from the date of this Notification. Coastal Zone Management Plans identifying and classifying the CRZ areas within their respective territories in accordance with the guidelines

given in Annexures-I and II of the Notification and obtain approval (with or without modifications) of the Central :Government in the Ministry of Environment & Forests;

(ii) Within the framework of such approved plans, all development and activities within the CRZ other than those covered in para 2 and para 3(2) above by the State Government, Union Territory Administration or the local authority as the case may be in accordance with the guidelines given in Annexures-I and II of the Notification and

(iii) In the interim period till the Coastal Zone Management Plans mentioned in para 3(3)(i) above are prepared and approved, all developments and activities within the CRZ shall not violate the provisions of this Notification. State Governments and Union Territory Administrations shall ensure adherence to these regulations and violations, if any, shall be subject to the provisions of the Environment (Protection) Act, 1986.

4 Procedure for monitoring and enforcement

The ministry of Environment & Forests 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 this notification within their respective jurisdictions.

ANNEXURE-I

COASTAL AREA CLASSIFICATION AND DEVELOPMENT REGULATIONS

Classification of Coastal Regulation Zone :

6(l) For regulating development activities, the coastal stretches within 500 metres of High Tide Line on the landward side are classified into four categories, namely

Category I (CRZ-1)

(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.

(ii) Area between the Low Tide Line and the High Tide Line.

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:

6(2) The 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-1

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 (c) facilities that

are essential for activities permissible under CRZ1. Between the LTL and the HTL, activities as specified under paragraph 2 (xii) may be permitted and d) salt harvesting by solar evaporation of sea water. 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 Natural Gas, (b) activities as specified under proviso of sub-paragraph (ii) of paragraph 2, (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 proposed in the approved Coastal Zone Management Plan of the area) or on the landward side of existing authorised structures. Buildings permitted on the landward side of the existing and proposed roads/existing authorised structures shall be subject to the existing local Town & 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 Plans) which are constructed on the seaward side of an existing road;

Provided further that the above restrictions on construction based on existing /new roads shall not apply to the housing schemes of State Urban Development Authorities implemented in phases for which construction activity was commenced prior to 19.2.1991 in atleast one phase and all relevant approvals from State and Local authorities were obtained prior to 19.2.1991

(ii) Reconstruction of the authorised 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 200 metres from the High Tide Line is to be earmarked as 'No Development Zone' provided that the said area does not fall within any notified port limits or any notified Special Economic Zone. No construction shall be permitted within this zone except for repairs of existing authorised structures not exceeding existing FSI, existing plinth areas and existing density, and for permissible activities under the notification including facilities essential for such activities. However, the following uses may be permissible in this zone - agriculture, horticulture, gardens, pastures, parks, play fields, forestry and salt manufacture from sea water.

(ia) Construction of dispensaries, schools, public rain shelters, community toilets, bridges, roads and provision of facilities for water supply, drainage, sewerage which are required for the

local inhabitants may be permitted on a case to case basis by the Central Government or Coastal Zonal Management Authority constituted for the State/Union Territory.

(ib) Construction of Dwellings for use by local inhabitants may be permitted on a case to case basis, by the Central Government or the Coastal Zone Management Authority constituted for the State/Union Territory.

Provided that such constructions shall be subject to the following conditions:-

(i) the height of individual unit shall be restricted to 4.5 m and the total plinth area shall be limited to 100 (one hundred) sq. m

(ii) the individual dwelling unit must be constructed by the local inhabitant for his bonafide residential purposes.

(iii) Where settlements are existing in clusters, new dwelling may be allowed adjacent to the existing cluster of settlement landward of the line of existing structure provided that the total number of dwelling units shall not be more than twice the number of existing dwelling units.

(iv) Subject to the conditions listed at (i),(ii) and (iii) above, all other conditions as laid down in clause (iii) below relating to construction of dwelling units shall apply;

(ii) Development of vacant plots between 200 and 500 metres of High Tide Line in the 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 AnnexureII.

(iii) Construction/reconstruction of dwelling units between 200 (two hundred)and 500 (five hundred) meters of the High Tide Line for use of local inhabitants shall be permitted. Building permission for such construction / reconstruction will be subject to the conditions that the total number of dwelling unit shall not be more than twice the number of existing units; total covered area on all floors shall not exceed 33 per cent of the plot size; the overall height of construction shall not exceed 9 metres 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 rain 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 panchayat 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 authorised building permitted subject to (i) to (iii) above.

Provided that the horizontal extension of existing dwelling units may be allowed on the ground floor on the landward side subject to the condition that the total plinth area of the dwelling unit shall not exceed 100(one hundred) square metres

CRZ IV
Andaman and Nicobar Islands:

(i) No new construction of buildings shall be permitted within 200 metres of the HTL
(ii) The buildings between 200 and 500 metres from the High Tide Line shall not have more than 2 floors (ground floor and lst floor), the total covered area on all floors shall not be more than 50 percent of the plot size and the total height shall not exceed 9 metres;
(iii) The design and construction of buildings shall be consistent with the surrounding landscape and local architectural style.
(iv) (a) Corals from the beaches and coastal waters shall not be used for construction and other purposes;
(b) sand may be used from the beaches and coastal waters, only for construction purpose upto the 31st day of March, 1998 and thereafter it shall not be used for construction and other purposes.
(v) Dredging and underwater blasting in and around coral formations shall not be permitted; and
(vi) However, in some of the islands, coastal stretches may also be classified into categories CRZ-I or II or III, with the prior approval of Ministry of Environment & Forests and in such designated stretches, the appropriate regulations given for respective Categories shall apply.

ANNEXURE-II

Guidelines for Development of Beach Resorts / Hotels in the Designated areas of CRZ-III for Temporary Occupation of Tourist / Visitors, with prior approval of the Ministry of Environment & Forests.

7(l) Construction of beach resorts / hotels with prior approval of MEF in the designated areas of CRZ-III for temporary occupation of tourists / visitors shall be subject to the following conditions

(i) The project proponent shall not under take any construction within 200 metres in the land-ward side from the High Tide Line and within the area between the Low Tide and High Tide Lines;

Provided that the Central Government may after taking into account geographical features and overall Coastal Zone Management Plans, and for reasons to be recorded in writing, permit any construction subject to such conditions and restrictions- as it may deem fit

(ia) live fencing and barbed wire fencing with vegetative cover may be allowed around private properties subject to the condition that such fencing shall in no way hamper public access to the beach;

(ib) no flattening of sand dunes shall be carried out;

(ic) no permanent structures for sports facilities shall be permitted except construction of goal posts, net posts and lamp posts;

(id) construction of basements may be allowed subject to the condition that no objection certificate is obtained from the State Ground Water Authority to the effect that such construction will not adversely affect the free flow of ground water in that area. The State Ground Water Authority shall take into consideration the guidelines issued by the Central Government before granting such no objection certificate.

EXPLANATION:

Though no construction is allowed in the no development zone, for the purposes of calculation of FSI, the area of entire plot including the portion which falls within the no development zone shall be taken into account.

(ii) The total plot size shall not be less that 0.4 hectares and the total covered area on all floors shall not exceed 33 per cent of the plot size i.e. the FSI shall not exceed 0.33. The open area shall be suitably landscaped with appropriate vegetal cover;

(iii) The construction shall be consistent with the surrounding landscape and local architectural style;

(iv) The overall height of construction upto highest ridge of the roof, shall not exceed 9 metres and the construction shall not be more than 2 floors (ground floor plus one upper floor);

(v) Ground water shall not be tapped within 200 m of the HTL; within the 200 metre - 500 metre zone it can be tapped only with the concurrence of the Central / State Ground Water Board;

(vi) Extraction of sand, levelling or digging of sandy stretches except for structural foundation of building, swimming pool shall.not be permitted within 50 metres of the High Tide Line;

(vii) The quality of treated effluents, solids wastes, emissions and noise levels etc, from the project area must conform to the standards laid down by the competent authorities including the Central / State Pollution Control Board and under the Environment Protection Act, 1986;

(viii) Necessary arrangements for the treatment of the effluents and solid wastes must be made. It must be ensured that the untreated effluents and solid wastes are not discharged onto the water or on the beach; and no effluent / solid waste shall be discharged on the beach.

(ix) To allow public access to the beach, at least gap of 20 metres width shall be provided between any two hotels / beach resorts; and in no case shall gaps be less than 500 metres apart;

(x) If the project involves diversion of forest land for non-forest purposes, clearance as required under the Forest (Conservation) Act, 1980 shall be obtained. The requirements of other Central and State laws as applicable to the project shall be met with; and

(xi) Approval of the State / Union Territory Tourism Department shall be obtained.

7(2) In ecologically sensitive areas (such as marine parks, mangroves, coral reefs, breeding and spawning grounds of fish, wildlife habitats and such other areas as may be notified by the Central / State Government/ Union Territories) construction of beach resorts / hotels shall not be permitted.

ANNEXURE-III

[See paragraph 2, subparagraph (ii)]

List of Petroleum Products Permitted for Storage in Coastal Regulation Zone except CRZ I (i)

i) Crude Oil;
ii) Liquefied Petroleum Gas;
iii) Motor Spirit;
iv) Kerosene;
V) Aviation Fuel;
vi) High Speed Diesel;
vii) Lubricating Oil;
viii) Butane;
ix) Propane;
X) Compressed Natural Gas;
xi) Naphtha;
xii) Furnace Oil;
xiii) Low Sulphur Heavy Stock;
xiv) Liquefied Natural Gas