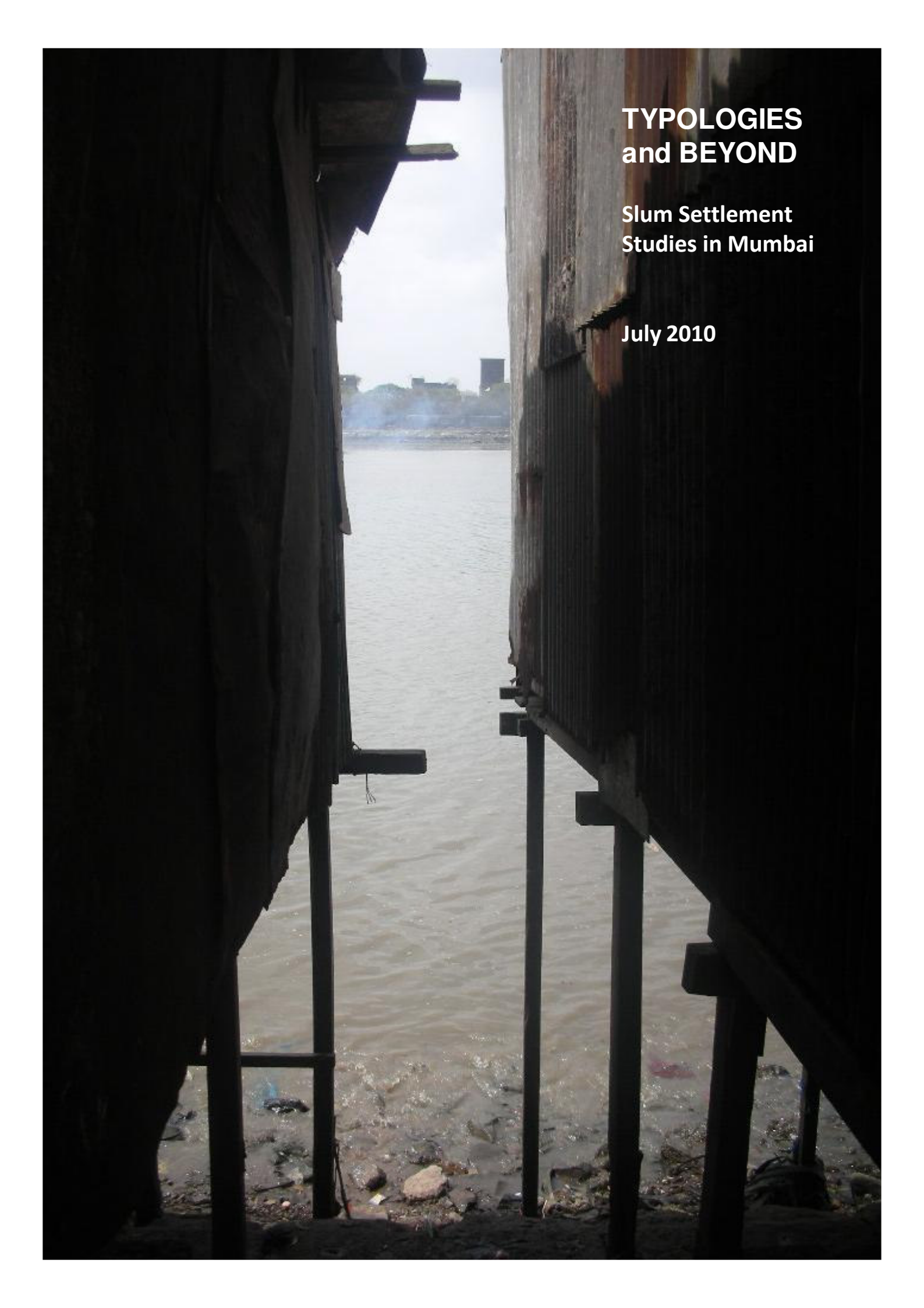


A photograph of a narrow alleyway between two slum buildings, looking out onto a body of water. The buildings are made of dark, weathered wood and corrugated metal. The water is calm and greyish-brown. In the distance, some buildings and a small boat are visible on the water. The sky is overcast.

TYPOLOGIES and BEYOND

**Slum Settlement
Studies in Mumbai**

July 2010

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Abstract

This paper is based on field work data of some slum settlements in Mumbai. It aims at understanding typological characteristics of these settlements. In compiling/foregrounding typological differences the paper argues that various slum settlements have distinct typologies and hence cannot be seen under one rubric. Any attempt to generalise slums would lead to grossly problematic interventions. Hence, as opposed to broad brush frameworks, a fine grained research, policy and intervention strategy is necessary to deal with slum settlements.

Research Team

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1. Background, Aims, Objectives and Methodology

This study is commissioned by the School of Planning and Architecture, which is one of the National Resource Centres appointed to inform Central Government on policy issues regarding housing for the poor.

The study is conducted by Sir JJ College of Architecture. Due to its experience in documenting and intervening in slum settlements, the Collective Research Initiatives Trust (CRIT)¹ was invited to join the project.

This particular study examines typological aspects of slum settlements in Mumbai. Typically a comprehensive / exhaustive study of all slums in Mumbai should have been undertaken. Based on similar characteristics and patterns emerging from these studies, typological classifications should have been made. However, as the time period for this research was limited (less than three weeks) and resources were meagre, such a study was not possible.

Moreover, the idea of 'typology' has an inherent generalising tendency – one tends to find similarities between various objects of study followed by neat categorisations, classifications and pattern generations. In doing so, fine grain details (or even differences that do not fit the frameworks of the researcher) are either missed or deliberately overlooked. While such typological studies would yield overarching meta-narratives (useful for broad single-line policy and regulatory frameworks), they are dangerous as they miss out several unique dimensions (beyond the frameworks of research) producing strategies that are extremely problematic in nature. For example, in Mumbai, the regulations for dealing with slums have focused on tenure and living conditions. In projects that are developed following such regulations, one finds families either moving out or dissatisfied with their new houses inspite of adhering to the criteria of 'clear tenure' and (so to say) 'adequate' living conditions. While policy makers and others tend to attribute this 'moving out' or dissatisfaction to the selfish greed of these families (towards making money by either selling or renting the new houses), the families move out primarily because of disruptions in the cultural, economic and built-form dimensions, which have been missed in the regulations that have been articulated to deal with the slum settlements.

It is impossible to imagine a redevelopment scheme, which focuses only on legal tenure and adequate living conditions working for settlements like Dharavi with its numerous specialised industries – recycling of scrap, recycling of plastic, production of earthenware, food products, leather products, garments, household products, etc. All such industrial activities will be wiped out (leading to enormous loss of jobs) if such a redevelopment takes place. Moreover, a place like Dharavi cannot be compartmentalised as a 'slum of industrial type' and made comparable with other slums with industrial activity – such as the one at Darukhana (specialising in ship breaking and steel recycling) or the one in Jari Mari or Deonar (that specialise in jari work) as each of these industries are handled by different communities, have different organisational patterns and different built form characteristics. Moreover, in case of large slums like Dharavi, pockets within it require different treatment and cannot be bundled into a single typological category.

Hence this study does not intend to formulate a useless / irrelevant typological pattern. It instead focuses on compiling / foregrounding the differences in slum settlements. Due to time and resource constraints, nine slum settlement sites across the city of Mumbai were identified from earlier experiences of the Research team.

2. Problems with Defining Slums

In Maharashtra, the definition of slums for purposes of policy formulation is found in the Maharashtra Slum (Area Improvement, Clearance and Redevelopment) Act, 1971. A 'Competent Authority' (generally the Collector) is authorised to declare an area as a slum if the 'Competent Authority' is satisfied that

“(The) area is or may be a source of danger to health, safety or convenience of the public of the area or of its neighbourhood, by reason of the area having inadequate or no basic amenities, or being insanitary, squalid, overcrowded or otherwise or; The buildings in any area used or intended to be used for human habitation are:

- a. In any respect, unfit for human habitation or*
- b. By reasons of dilapidation, overcrowding, faulty arrangement and design of such building, narrowness or faulty arrangement of streets, lack of ventilation, light or sanitation facilities or any combination of these factors, detrimental to the health”²*

The Act further specifies the criteria for “determining whether the buildings are unfit for human habitation”, which include – “repairs, stability, freedom from dampness, natural light and air, provision of water supply, provision for drainage and sanitary convenience, and facilities for the disposal of waste water”. The Act directs that – “the building shall be deemed to be unfit if ,and only if , it is so far defective in one or more of the said matters that it is not reasonably suitable for occupation in that condition”.

The definitions utilised remain ambiguous and are subject to interpretation – for example inadequacy of infrastructure, over-crowdedness, dilapidation, etc. are not further defined. The wisdom of the 'Competent Authority' is relied upon for the identification of slums.

From the above definitions it is also unclear as to why most of the inner city areas of Mumbai (like Bhuleshwar, Kalbadevi, Null Bazaar, Girgaum, etc) or Chawls in the Mill Areas have not been declared as slums as these seem to perfectly qualify as slums under the above definitions. From the areas that have been declared as slums in Mumbai, the issue of tenure (legal occupation) seem to be the dominant criteria. “Encroachment” seems to be synonymous with “slums”. This is despite the fact that the issue of 'tenure' does not find mention in the definitions of the Slum in the Act.

While the methods of actually declaring an area a slum using the above definitions remain opaque, field interviews at the Collector's Office reveal that areas are surveyed under the supervision of the Deputy Collector. The survey consists of documenting the current status of water supply, street lighting, drainage, footpaths, roads, layout of structures, environmental problems if any etc. This report of the surveyed area is submitted to the Additional Collector. On his approval, this report of the survey is sent to the Housing Department, Government of Maharashtra and after the Housing Department approves of the surveyed area to be a slum, it notifies the area as a slum in the Government Gazette.

Nevertheless, even with ambiguous definitions and processes, slums are being constantly identified and notified in the city of Mumbai – sometimes by government's own actions, but also many-a-times, through active lobbying by communities, landlords or developers. Today, it is profitable to declare a site as a slum as such sites get unlimited FSI (when redeveloped)

depending upon the density of the slum (An FSI of upto 4 to be consumed on site) against the base FSI of around 1.33 in the rest of the city.

The Human Development Report of Mumbai produced by the All India Local Self Government in 2009 relies on data from the Census of 2001 claiming that around 54% of the total population (according to Census of India, 2001) lives in slums and occupies “*just six percent of all land in Mumbai*”³. According to a survey conducted by YUVA, a non-government organisation, and Montgomery Watson Consultants in 2001, there were 1,959 slum holding 57.2 lakh people⁴. The Environmental Status Report for 2002-03 of the Municipal Corporation of Greater Mumbai reported 2,245 slum pockets⁵. The visits to various institutions (Municipal Corporation of Greater Mumbai, Maharashtra Housing and Area Development Authority, Mumbai Metropolitan Development Authority, Mumbai Slum Improvement Board and The Collector’s Office) reveal that information on slums of Mumbai is piecemeal and no agency seems to have a comprehensive and updated compilation of data on slums. Today, no agency in Mumbai is able to provide a comprehensive and updated list of slums in the city.

The argument intended in this section is that, while definitions of slums seem to be based on seemingly neutral and empirically arguable parameters, even a quick interrogation of these parameters reveal that these are not really neutral and empirically arguable. Moreover, the process of identification of slums is also highly subjective and is influenced – as will be evident from one of the case studies. Hence, using the above definitions and processes it is impossible to have a comprehensive understanding of slums or even an exhaustive list of it particularly in a complex city like Mumbai.

It is not the intension of this paper to argue for a clear, unambiguous definition of slums or a comprehensive listing of the same. We shall see from the case studies that since slums vary to a great extent from each other, it is not possible to have a comprehensive understanding of them. Living conditions are defined by cultural aspects, which vary from community to community, from place to place and from time to time – for example, it was only in the 1920s that the idea of toilets within the house came into existence in Mumbai with the advent of the apartment typology. Prior to this, toilets within the house were considered unclean. Today, toilets within the house are considered to be best form of sanitation. This paper contends that any definition of slum will be incomplete and will never be able to comprehend every characteristic. Hence, it is not a rethinking of the definition that is required, but instead a rethinking of the idea of defining itself is necessary. Moreover, the idea of identification and listing of slums is also problematic – while it gives immense power to the identifier, such identification and listing processes are susceptible to appropriations.

Rather than having an ambiguous definition of ‘slum’, subject to bureaucratic interpretation and market influences; it is useful to have no definition of slums – or rather replace the word ‘slum’ with the word ‘settlement’. By doing so, one is not only sympathetic to historically developed cultural conditions beyond the questions of habitability, but one is also able to articulate different intervention strategies – for example strategies to conserve rather than to displace and redevelop. The idea of conservation here has to be understood beyond the preservation/pickling tendencies of Heritage Conservation. Settlement conservation would mean enhancing opportunities, upgrading infrastructure and harnessing capacities.

3. Identification of Settlements

As discussed earlier in Section 1, the study is conducted through case studies of nine settlements across the city of Mumbai. These were chosen because they illustrate extreme characteristics reinforcing the point on differences between such settlements. The nine sites that were identified are as follows:

(Refer Fig 1 – Map showing identified settlements in Mumbai)

1. Kumbharwada, Dharavi – This settlement is an hundred year old potters settlement in the centre of Mumbai
2. Kunchikorve Nagar, Kalina - This is a settlement of a tightly knit tribal community in the Western Suburb
3. Qureshi Nagar, Kurla – This settlement is along a railway line and also has specialised activity of processing animal fat. This slum is in the Eastern Suburb of Mumbai
4. Shiv Krupa Society, Govandi – This settlement is in the Eastern Suburbs of Mumbai where most houses have toilets in their houses, provided through a municipal sanitation programme.
5. Behrampada, Bandra East – This is a dense settlement with several industrial activities in the Western Suburbs. The slum is multi-storeyed with several community spaces at higher floors
6. Darukhana, Reay Road – This is a settlement along the eastern waterfront along the water edge within the port lands of Mumbai. The settlement is in the Island City.
7. Bharat Nagar, Bandra Kurla Complex – This is an old resettlement colony close to the Business District of Bandra Kurla Complex with very high property price. It is presently undergoing redevelopment.
8. Versova Fishing Village – This is a fishing village in the Western suburb of Mumbai undergoing small scale redevelopments
9. Wasi Naka Resettlement and Rehabilitation Colony – This is a recent resettlement colony for people affected by infrastructure projects in Mumbai.

4. Compilations of Field Data from Settlements

After identification of sites, data from existing sources – from development plans, satellite images, earlier studies, etc. were compiled towards making of a overall settlement map.

The settlement map was further populated through a visual survey that was undertaken to identify broad land-uses, infrastructure condition and other broad physical characteristics.

Information was also collected through Focussed Group Discussions (wherever possible) and interviews with settlement dwellers. The focus of these discussions and interviews was to understand the characteristics of the community – origin / history, population, predominant ethnic group, places of migration, predominant occupations / work types, broad economic condition and organisational characteristics. Issues regarding occupancy characteristics were also discussed – owner of the land, strategies used to occupy land, legal status, tenure complexities, etc. Other important details like interventions, threats, etc. were also collected.

The survey also included studies of built-form, where representative house examples (or houses that allowed access) were studied towards making built-form sketches.



Fig 1: Map showing identified settlements in Mumbai

Case 1: Kumbharwada, Dharavi

(Refer Figs: 2, 3 and 4 for maps, photo-documentation and built-form studies)

Kumbharawada is a potters' settlement in Dharavi (G-North Ward). People started migrating into Dharavi since late 1800s and settled alongside an indigenous fishing village. By the late 1880s, tanneries were established owing to the presence of an abattoir nearby. This attracted large number of lower caste untouchables. By the beginning of the 20th century, Mumbai had started growing northwards turning itself into a modern city with mega infrastructure complete with water supply, sewerage and transportation networks. Industries, housing, commercial offices and several civic facilities were also built. This attracted large numbers of migrants. While the white and blue collared workers could afford better living conditions, low-paid labourers engaged in laborious physical work – masons, carpenters, loaders, blacksmiths, and others were left to reclaim the marshes. Dharavi grew further with people who literally built the city. Kumbharwada also came into existence in the early years of the twentieth century inhabited by potters from Gujarat. Dharavi had become the city's labour reservoir built incrementally by poor people without urban plans, civic regulations and without compliance to any standards.

After independence in 1947, the city grew further northwards and Dharavi became the centre of Mumbai. Independent enterprises came up within it producing garments, food, utensils, leather products etc. Dharavi also recycled the city's garbage – metal, plastics and other scrap. Today Dharavi is home to innumerable industries and small enterprises. The proximity of this area to all the three railway corridors (western, central and harbour) and to the business district of Bandra Kurla Complex gives it a significant locational advantage. Dharavi is spread across 239 hectares of land and is estimated to have about 5 lakh population. Kumbharwada is located at the southern tip of Dharavi occupying about 5 hectares of land, with a population of about nine and half thousand people.

People settled in Dharavi when it was outside city-limits, in the marshes, susceptible to the tides of the Arabian Sea. This land did not have any agricultural value or any serious claimants of ownership. However today the areas around Dharavi attract some of the highest property prices and claims on this piece of land are manifold (including overseas interests). The imagination of Dharavi being dirty and messy with poor living conditions is deployed to make arguments for its redevelopment. The government proposes to redevelop the entire area under a project called the "Dharavi Redevelopment Project" where the slum families will be rehabilitated in high rise buildings with 25 square meter apartments occupying a small ground area. The remaining ground area will be used to develop commercial real-estate to offset the cost of rehabilitation and generate profits. Developers from all over the world have been invited for this project.

Down to Earth Magazine reports that while "most of the land in Dharavi is owned by Mumbai Corporation of Greater Mumbai, (there are) also parts that are owned by Railways, Maharashtra Housing and Area Development Authority, State Government, Kabarastan, Mahim Nature Park and by private land owners⁶. In case of Kumbharwada, Sharad Mahajan from Mashal (an NGO which undertook survey of Dharavi for the Dharavi Redevelopment Project and was not allowed to survey Kumbharwada by the people of Kumbharwada) notes

that the members of the Prajapati Sahakari Utpadak Mandal Ltd. “were given Vacant Land Tenure (VLC) by the Municipal Corporation of Greater Mumbai to carry out pottery related activities in 1930s. Out of approximately 350 Kumbars who were original VLTs, 120 potters have small kilns at present and still carry out pottery related activities”. He further notes that “most of the given vacant land is constructed upon with slum like structures and they are being used for residential or commercial activities. Many of the VLT tenants have rented the slum structures and are earning rent from poor slum dwellers or have sold the structures to new occupants... there are “1521 families / establishments that occupy *prime* land of Kumbharwada along the 90-feet road. MCGM has cancelled Vacant Land Tenures status as the original VLTs have constructed slum structures and rented them or sold them to others. There is hardly any vacant land left in Kumbharwada at present”⁷.

Like most of the built form in Dharavi, the built-form of Kumbharwada has a deep relationship with the activities of the people. It is natural that with their meagre incomes and the kind of occupation that requires a day-long involvement, the Kumbhars would build their houses near their place of work and by doing so they have used their spaces most efficiently.

Typically, each house is a long narrow space (normally single storied but occasionally double storied), with parts of the house used to store raw materials, intermediate products, finished products, and tools and implements. The ground floors of the houses are generally built with brick and sometimes with wooden frames and tin sheet cladding. Upper storeys are built with either wooden or steel frames and clad with tin or cement sheets. The roofs are made up of corrugated cement sheets. The houses facing the street have shop-fronts where the products are sold. Many such long narrow houses are stacked next to each other to form the settlement. Spaces between the two stacks form the streets and the open spaces, which double up as work spaces and hold numerous kilns, storage spaces etc. Small parts of these streets are covered with make-shift material and construction processes. This is done to usually protect and save the raw clay and un-fired pots. To a modern surveyor's eye – like that of Mahajan – this landscape and infrastructure depicts either sub-standard living or encroachment-driven informality. Somehow, the modern eye refuses to see the struggles, the enterprise, the efficiency and a culture that took about hundred years to evolve.

Some of Dharavi is illegal, most of it is informal and almost all of it unplanned. But Dharavi developed much before the city plans reached it. The ideas of modern formality, legality, sanitation, remained distant. A sanitising effort like that of the Dharavi Redevelopment Project does not seem to recognise the economic and cultural networks that the existing built form affords where every slum dwelling is also an enterprise. It is difficult to imagine a garment manufacturer or a potter or a plastic recycler being able to work in the proposed high storied apartments. It is the so-called ‘informality’ that sustains the intensity and enterprise of Dharavi which built the city and still serves it.



Fig 2: Kumbharwada, Dharavi – Plan



Fig 3b: Kumbharwada, Dharavi – Photodocumentation



Fig 3c: Other Enterprises in Dharavi

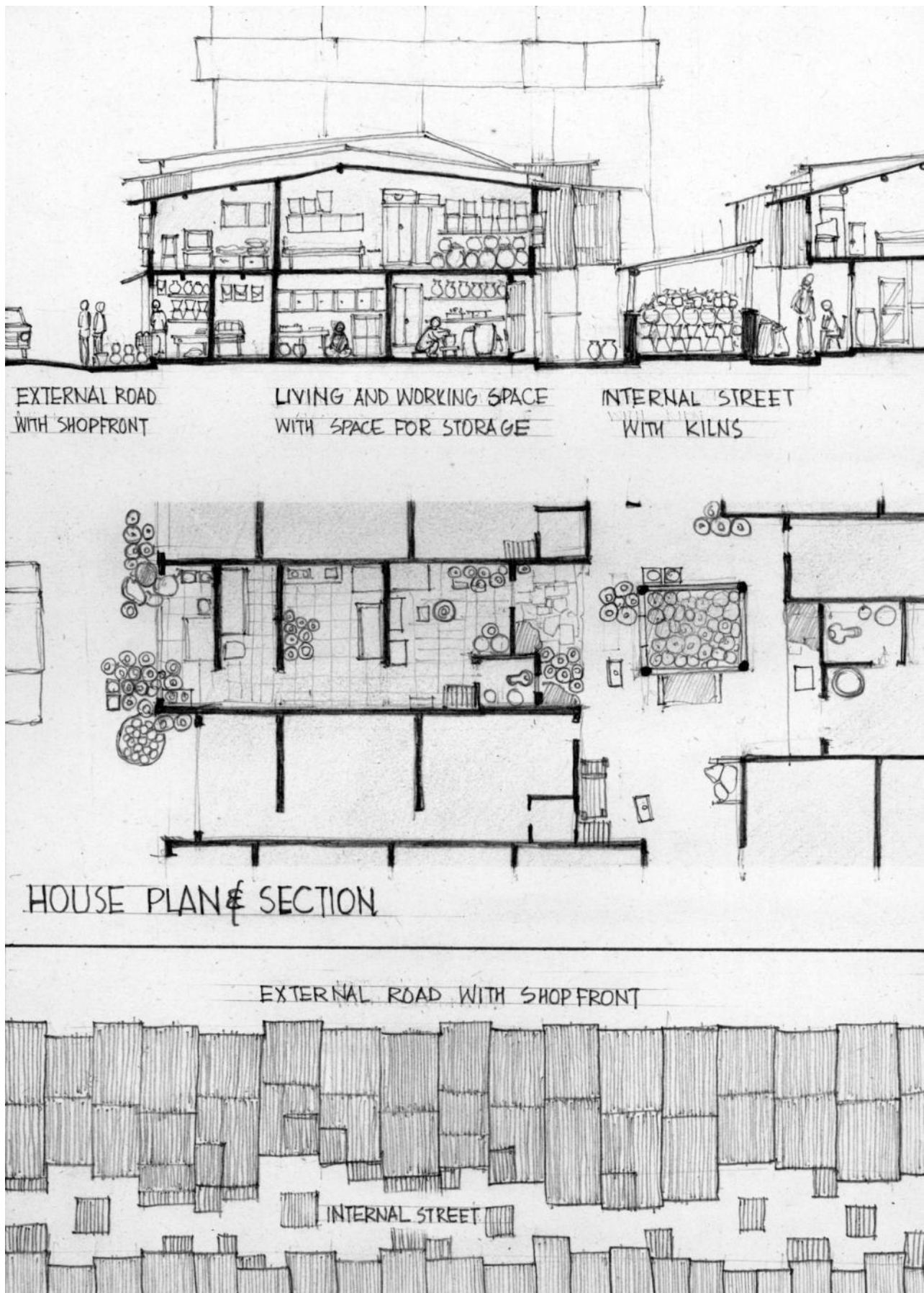


Fig 4: Kumbharwada, Dharavi – Built-Form Characteristics

Case 2: Kunchikorve Nagar, Kalina

(Refer Figs: 5, 6 and 7 for maps, photo-documentation and built-form studies)

Kunchikorve Nagar is located in Kalina, Santacruz East, near Air India Colony (H-East Ward). The area of the settlement is about 7.3 hectares with a population of about twenty one thousand. The settlement is about 55 years old. The inhabitants belong to a single ethnic community of Kunchikorves. They are also called Makadwallas, a Nomadic tribe from Sangli and Solapur, who made their livelihood by organising street shows with trained monkeys. They came to Mumbai in search of work and settled here. Now most of them work in Government offices, BEST, Airport, etc. The main occupation of the women is broom making. They tie brooms and sell them door to door or in the local market. Along the periphery are many tin sheds having automobile repair garages and electronic scrap parts.

The settlement has municipal water supply with individual meters. The people also obtain water from bore wells dug at various locations. There are three public toilets in the area. About 15% houses have their own toilets. Waste water flows in channels along houses, covered at places with concrete slabs by local MLA. Garbage is thrown in open ground in front of the settlement. A lot of debris is also deposited here.

There are two types of houses – ground storied built with bricks and two storied built with steel frames and tin sheets. The roofs of all houses are constructed of tin sheets. The upper floors are generally rented and are accessed by a ladder from outside the house. Two storied houses generally have a smaller ground cover with a single room on each floor; while ground storied houses have two to three rooms with an occasional verandah in the front. Toilets, when inside are on the ground floor. When there are no toilets inside, water is stored inside a *mori*, where clothes and vessels are washed. These are also washed outside the house. Spaces within and outside the houses are used for manufacturing of brooms.

While a large part of the land belongs to the State Government, a small pocket is owned privately. Most of the dwellings are made by the occupants. About 35% of the upper floors are rented out by the owners.



Fig 5: Kunchi Kurve Nagar, Kalina – Plan

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Fig 6: Kunchi Kurve Nagar, Kalina – Photodocumentation



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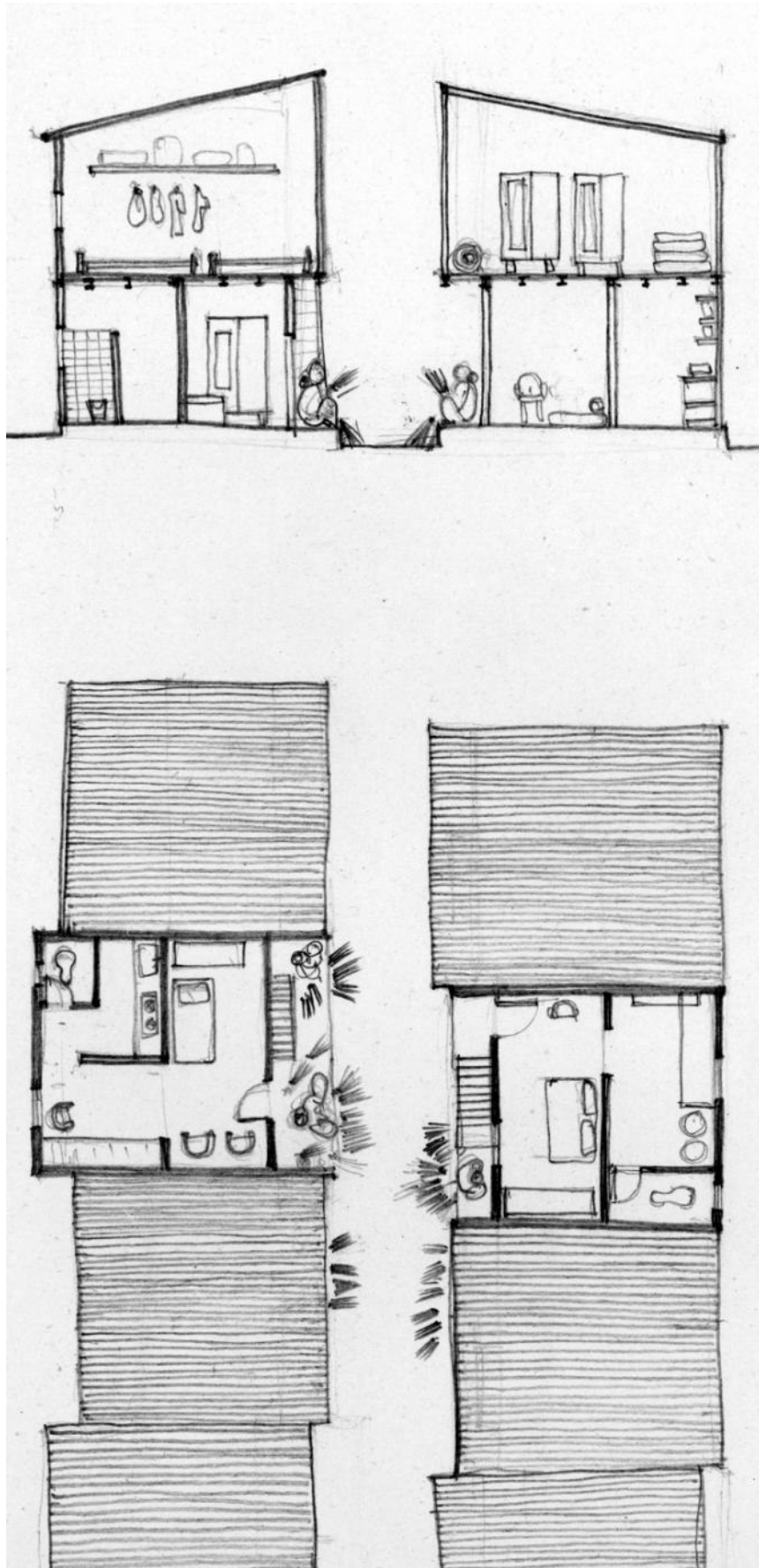


Fig 7: Kunchi Kurve Nagar, Kalina – Built-Form Characteristics

Case 3: Qureshi Nagar, Kurla

(Refer Figs: 8, 9 and 10 for maps, photo-documentation and built-form studies)

Qureshi Nagar also known as Umerwadi (Kasai wada) is located in Kurla east (L Ward). It occupies an area of about 15 hectares and has a total of 7200 families having 7-8 persons each. The settlement is more than 100 years old. Majority of the families are Muslims from the butcher community. In the 1993 riot many Hindu families left their houses. All the families earn their living by working as labour in nearby places or in animal-fat godowns situated in the slum.

The area has a central bazaar street which remains active throughout the day. Most shops selling stationary, food, grocery, clothes, etc are located on this street. There is also a municipal hospital and municipal school on this street. The settlement is made up of rows of houses (locally called chawls) back to back and touching each other along the sides constructed with timber, bricks, steel and even reinforced concrete. Spaces between these chawls become streets and open spaces. Houses are two or three storied. Houses are approximately 10' x 10' or 12' x 12', with only one small window. All the houses have nahani ghar (mori) inside the room. Some of them have made toilets inside the house. The roofing material is either G.I. or cement sheets. Higher floors are accessed by metal or timber ladders, which are usually outside the house. There is a thin drain outside the houses to carry sewage from the nahani ghar as well as toilet. These drains are sometimes covered, and when open they are full of garbage. Washing of utensils and clothes are done on the street.

Animal fat is stored in the open spaces. This fat is used to make toothpastes and soaps. Fat is stored in metal drums and produces a bad odour. The only source of drinking water in the settlement is through shared connection with a group of 6 to 8 households on each connection, sharing the supply for duration of 5 hours daily. All the people staying in the chawl have their own pumps, which are enclosed with a metal cover and a lock. The main bazaar street also has municipal garbage bins that generally overflow with garbage. Water pipelines and sewage lines run parallel to the streets which are 1.5M to 2M wide. Electrical meters are placed just below the staircases. Dense network of cables hang from roof tops.

There is also a part of Qureshi Nagar that lies between a Municipal Road on one side and a Goods railway track on the other. This part has a row of single houses touching each other along the sides. There are also floors built over these houses. Part of the ground floor edging the street has shops and the remaining parts have houses. The upper floors are generally residential and are sometimes rented out. A large drain passes below the houses – which is usually used by the houses to pour their sewage. Families which have not built toilets within the houses use the railway tracks to defecate. A public toilet was built by the Municipal Corporation with money from the World Bank and an NGO as a contractor. However, the toilet was constructed very poorly and was never functional. As it became a safety hazard for people, it was finally pulled down by the Municipal Corporation. However, people of this part of Qureshi Nagar had organised themselves, formed a Society and had collected money to share the cost of the toilet as well as had organised themselves to maintain it.

Part of the settlement is situated on Collector's land and rest on land belonging to the Municipal Corporation. The chawls are built by some 'owner' – probably a slum lord, who collects rent and also allows extensions. These extensions to houses are made whenever required – thus extending the property. The extensions either get used by the occupier or are rented further to sub-tenants.

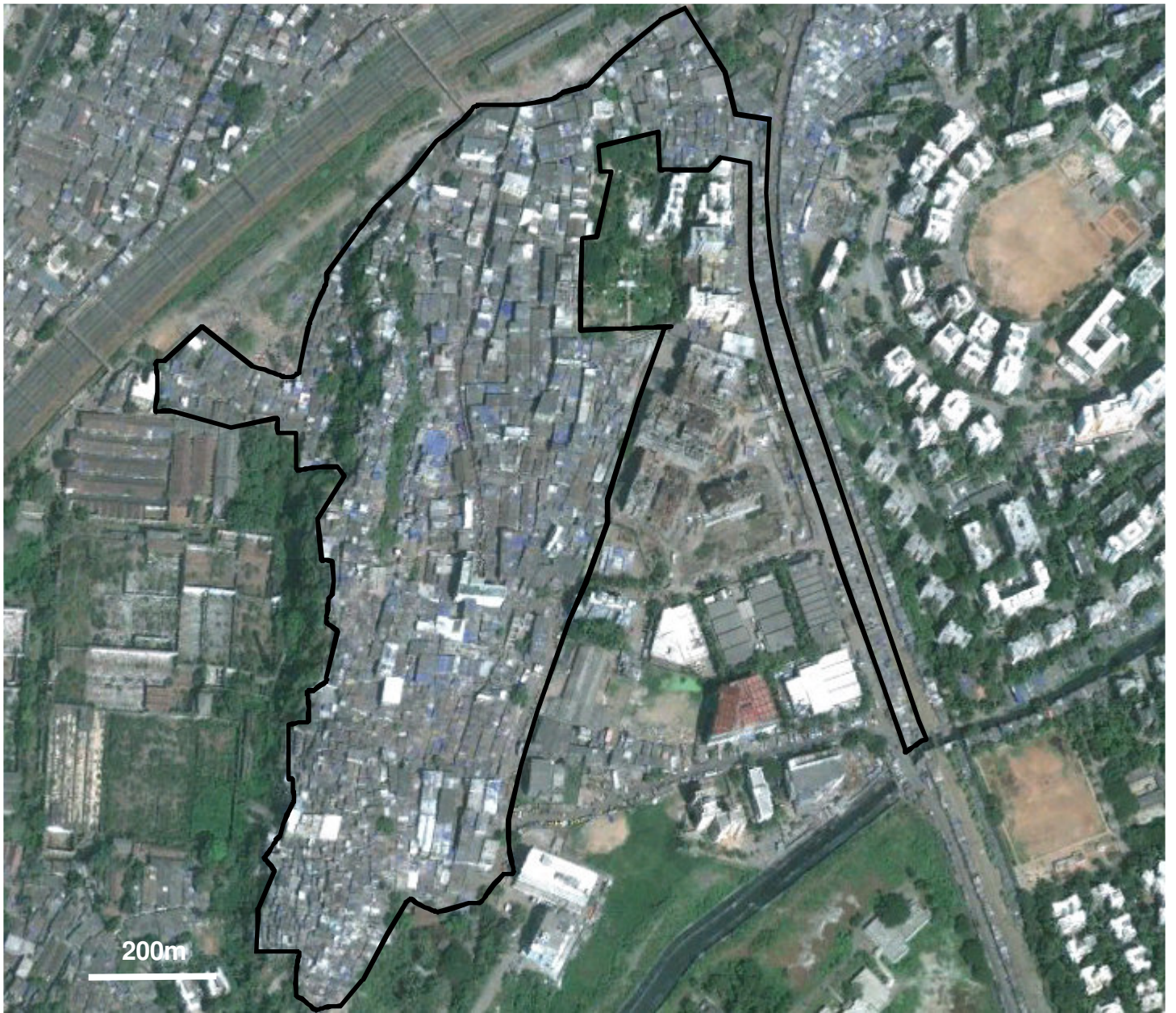


Fig 8: Qureshi Nagar, Kurla – Plan



Fig 9: Qureshi Nagar, Kurla – Photodocumentation

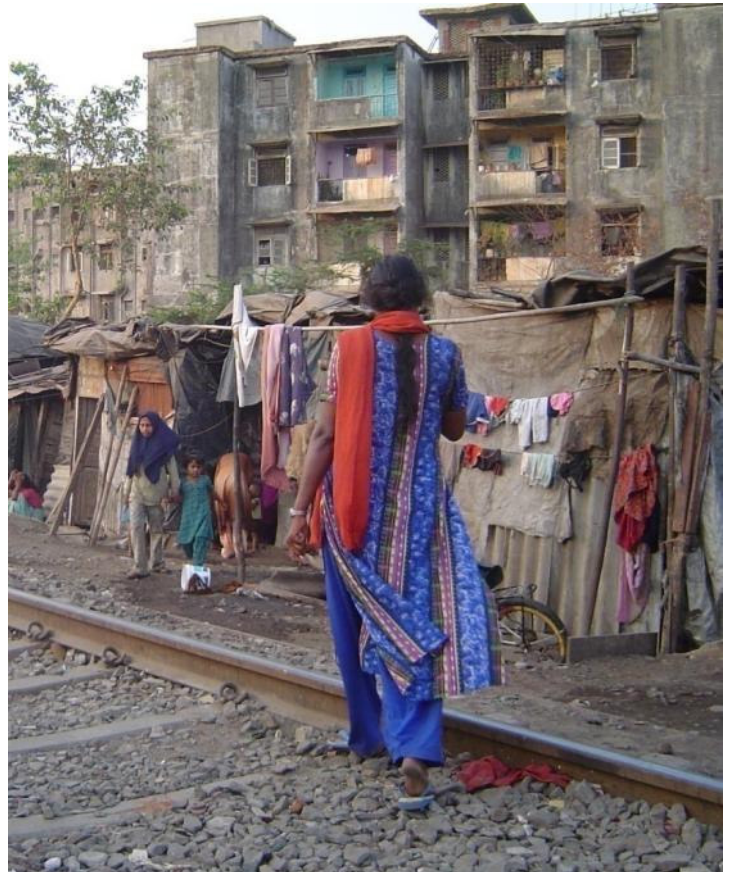


Fig 9: Qureshi Nagar, Kurla – Photodocumentation

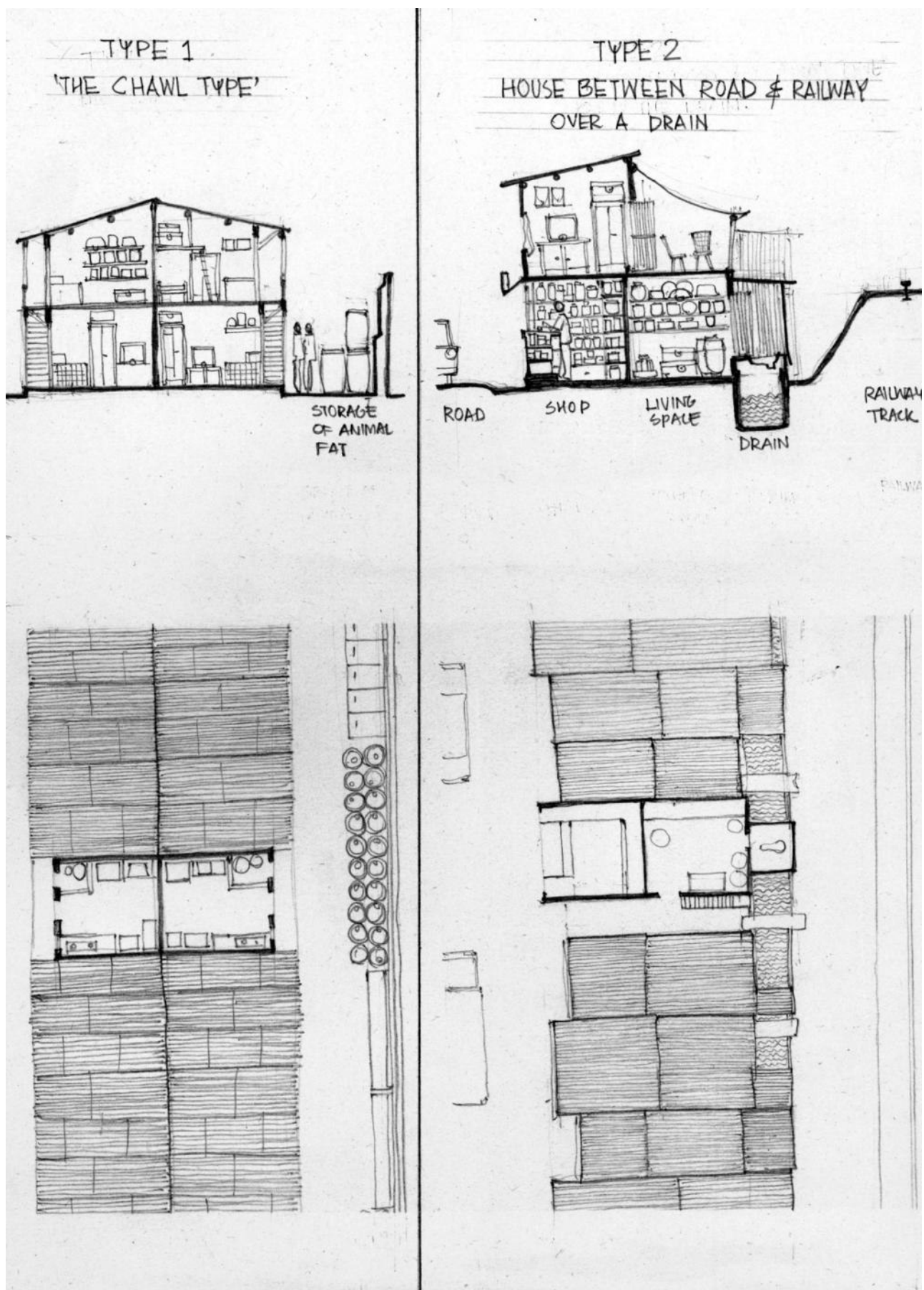


Fig 10: Qureshi Nagar, Kurla – Built-Form Characteristics

Case 4: Shiv Krupa Society, Govandi

(Refer Figs: 11, 12 and 13 for maps, photo-documentation and built-form studies)

This 45 year old settlement is located near Khardev Nagar (N Ward) in Govandi. The nearest railway station is Govandi station which lies on the Harbour line of the rail network. This is a small part of a large settlement and occupies an area of 0.06 Hectares with a population of around 200 people.

Most of the people residing in this slum are Maharashtrian Hindus. About 90% of the people work in private enterprises and others are government employees. Women carry out small money earning activities like supplying food, working as maids, etc.

All the houses are built with brick with steel and stone floors. Storeys are added as space requirements grow and presently, every house is two or three storeys. The ground cover of each house is about 150 square feet and the total built up area ranges from 150 to 500 square feet per dwelling unit. Houses are stacked next to each other, back to back with a small gutter between two houses on their rear. The houses are made with steel frames and brick walls. The upper floors are constructed with stone-koba-stone and the roofs are made of corrugated cement sheets.

The street-like open space used for access in front of the houses ranges from two feet in width to about four feet. This open space / street is well scaled and brings about a sense of community and security in the neighbourhood.

This is one of the few settlements where the Municipal Corporation has successfully facilitated construction of individual toilets inside most houses. The Shiv Krupa Rahivasi Sangh (which is an active organisation of the community) manages the sewer line of individual toilets laid under the Slum Sanitation Programme. The project provided the sewer line, the inspection chamber (approximately, four houses per chamber) and sewage pipe upto the house. The individual houses built the toilets along with pans and other fittings. The construction of individual toilet block was initiated in the year 2000. Under the guidelines of the project the construction of individual toilet was restricted to ground floor only, hence the occupants of the higher floors (who are usually renters) staying on the first floor use the public toilet or go for pay and use toilet (both are located around 500m away).

The families who did not participate in the Programme also use public toilets. The houses here get water supply from the Municipal Corporation through individual connections. The water meter however is common for all houses. Water is supplied for 3-5 hours per day and is of a good quality.

The land belongs to the Municipal Corporation. The upper floors are generally rented by the occupants of the lower floors.

This is a case, where a settlement is upgraded through providing individual toilets thereby forming an alternative to the popular redevelopment schemes.



Fig 11: Shiv Krupa Society, Govandi – Plan

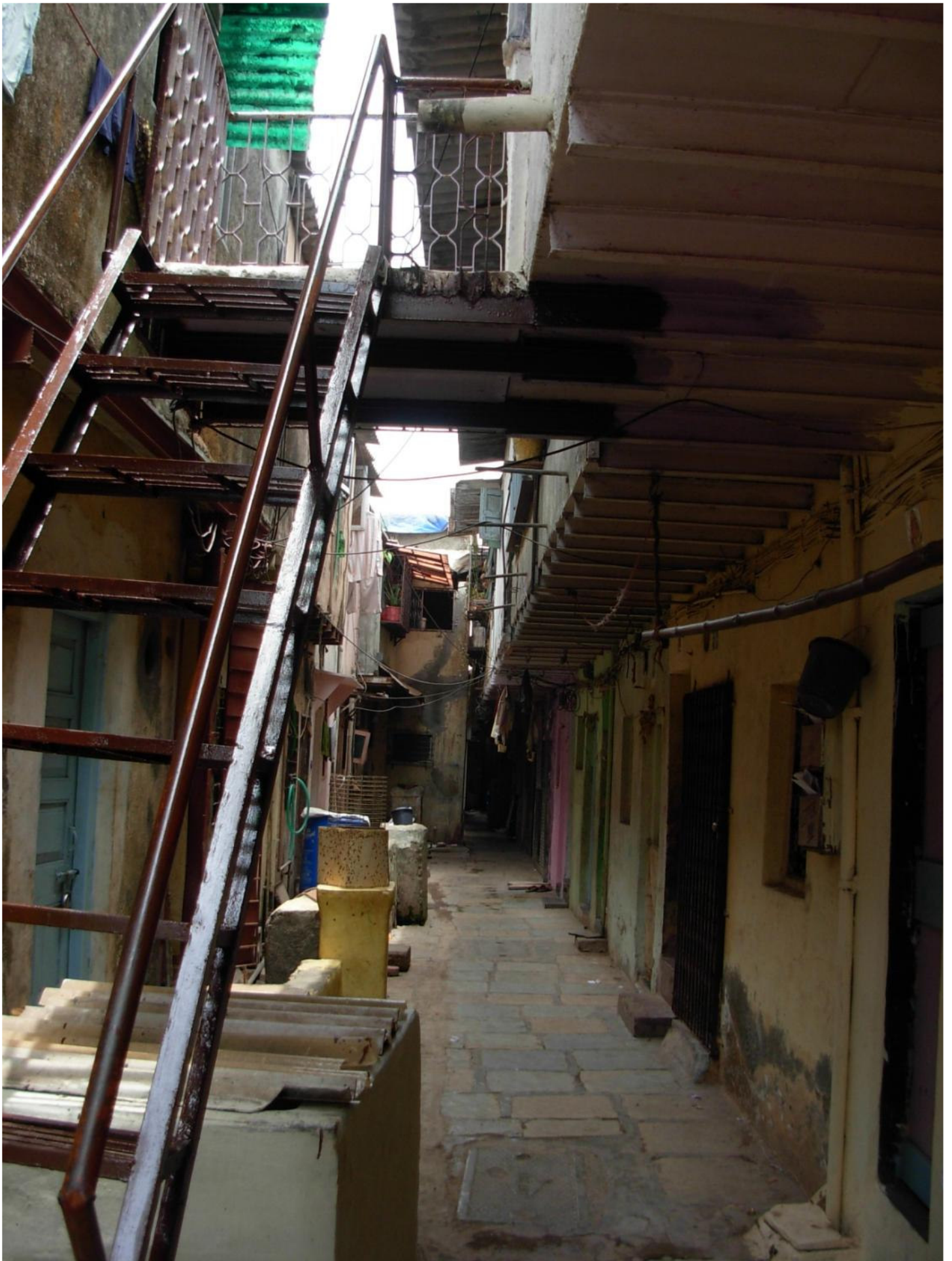


Fig 12: Shiv Krupa Society, Govandi – Photodocumentation

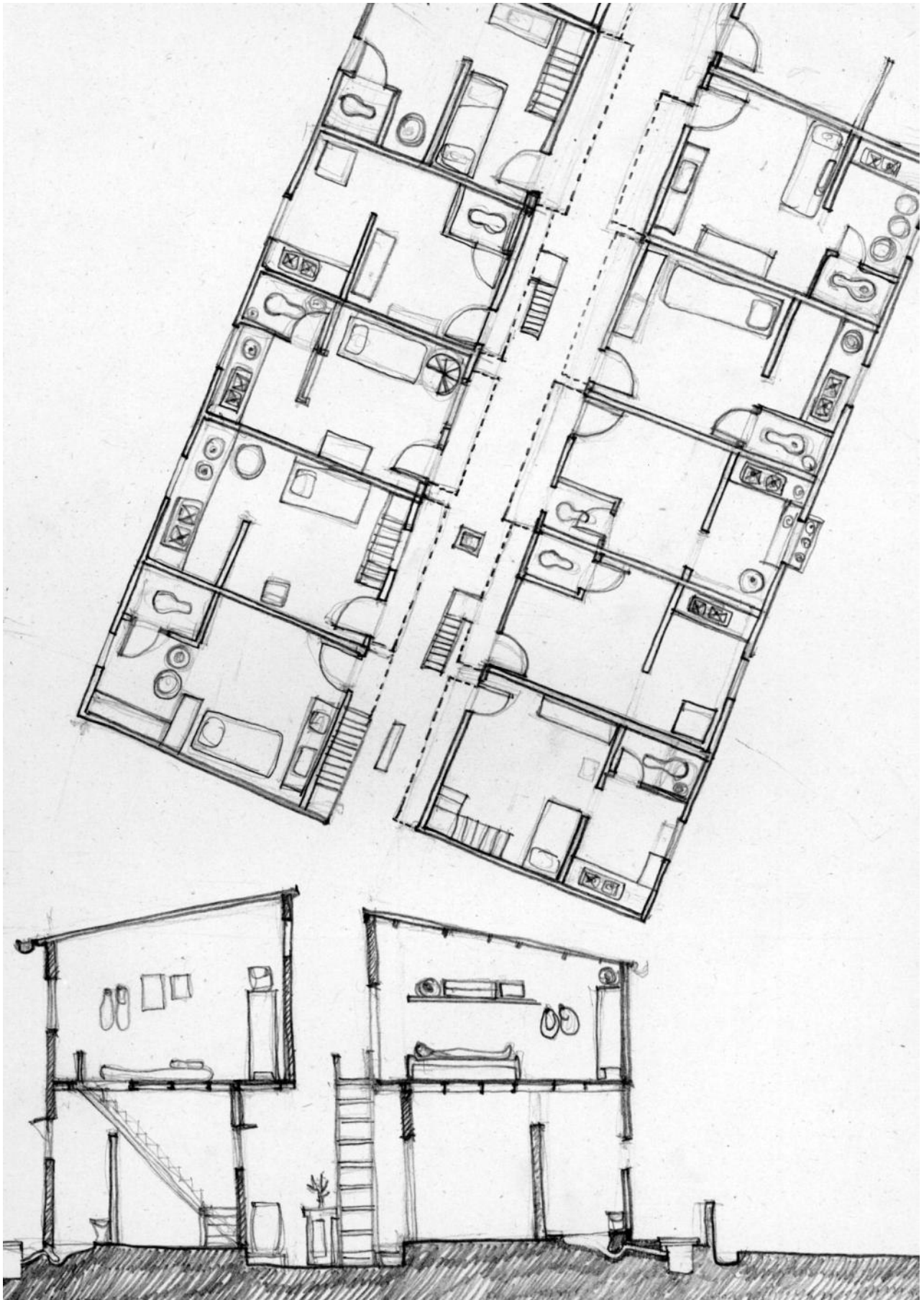


Fig 13: Shiv Krupa Society, Govandi – Built-Form Characteristics

Case 5: Behrampada, Bandra East

(Refer Figs: 14, 15 and 16 for maps, photo-documentation and built-form studies)

Behrampada is located in Bandra East, just across the road from Bandra station (H-East Ward) and is close to the Western Express Highway. The settlement is dense and the population is said to be around 25000 and the area covered by the settlement is approximately 3.3 hectares.

The settlement is about 60 years old and has emerged as a place of refuge for extremely poor migrants from all over India. Majority of the people living here are Muslims. They are largely daily wage workers and labourers. Behrampada has a significant number of garment enterprises including Zari works, embroidery, tailoring and dyeing activities. There are also a few bakeries in the settlement.

The area has water supply by the municipality and most houses have water meters. There are no sewers, just a nullah along the station road. People go to defecate in the 8 public toilets in the vicinity or in the open ground opposite near the railway tracks. The waste water from houses flows in open channels between houses covered with slabs and at times water supply pipes pass through these same channels.

The dwellings are four to six storied structures having framework of steel sections and walls of plywood; tin sheets; and sometimes bricks. Roofs are made up of tin sheets. A porch cantilevers out at each level bearing a steel ladder-like staircase. The ground storey is mostly a shop if the structure is along the road or along the lanes. Otherwise, the owner of the shanty occupies the ground floor. The upper stories are rented out to labourers or other families. The topmost stories also house public spaces like a community hall etc. The built form is an excellent example of dense vertical neighbourhood.

Because of its prime location, Behrampada has been susceptible to several kinds of interests that often yield into violent events ranging from fire to riots – and all this gets largely attributed to communal differences.

The occupants claim to have fought with the Railways, the Municipal Corporation and the Government for their rights over the land. The lower floor occupants do not pay rent but lease out the upper floors of their shanties.

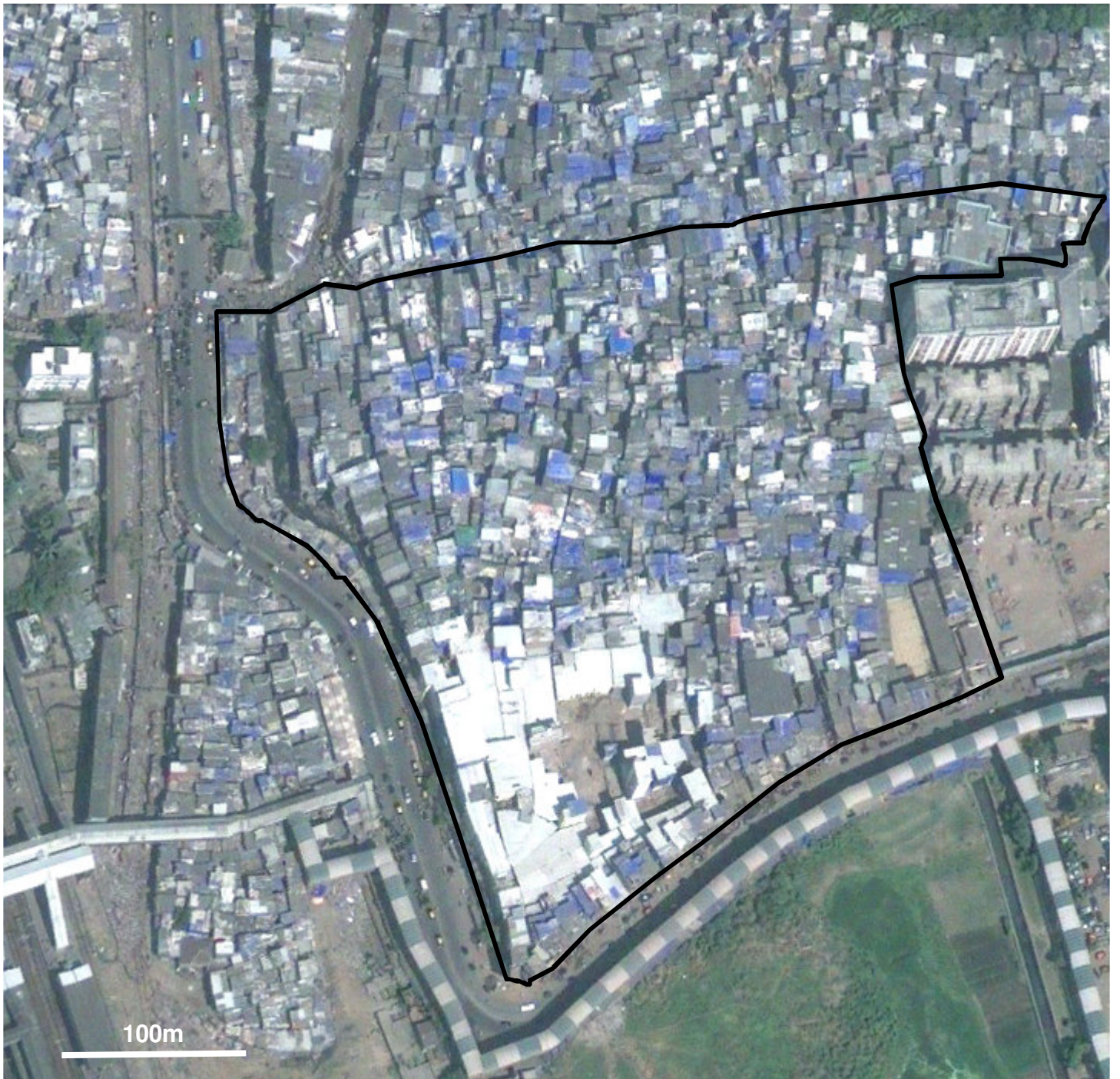


Fig 14: Behrampada, Bandra East – Plan

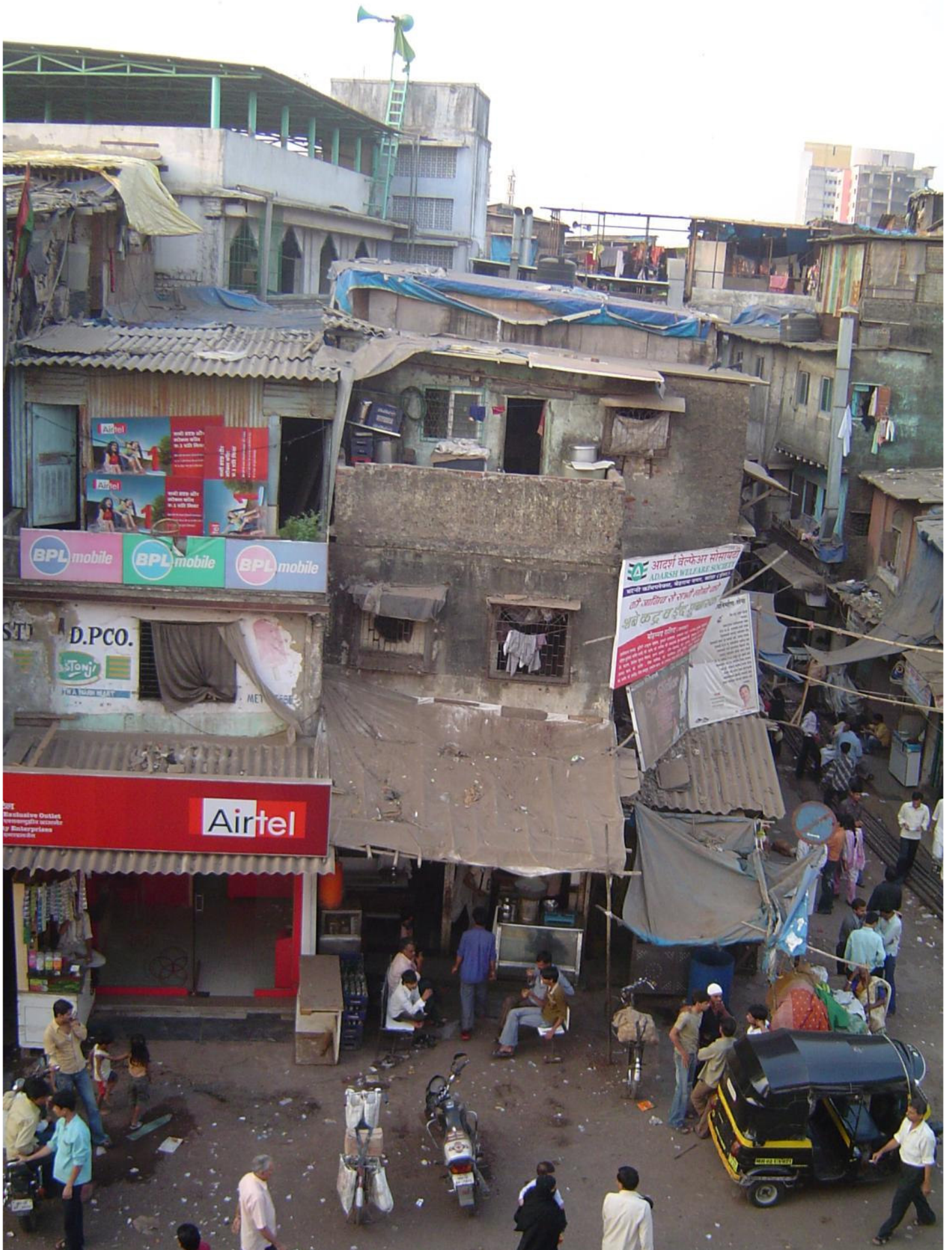


Fig 15: Behrampada, Bandra East – Photodocumentation

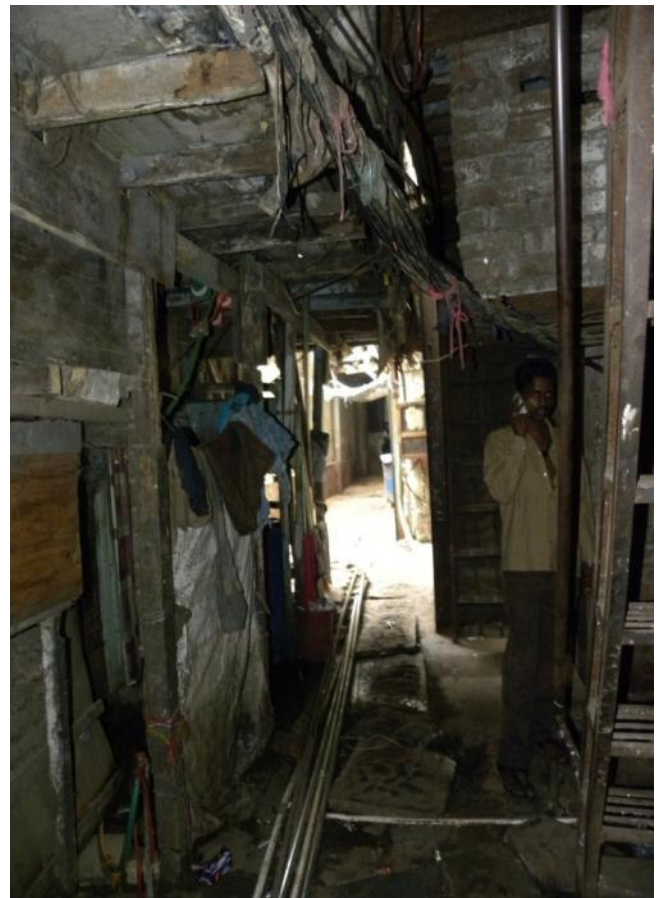
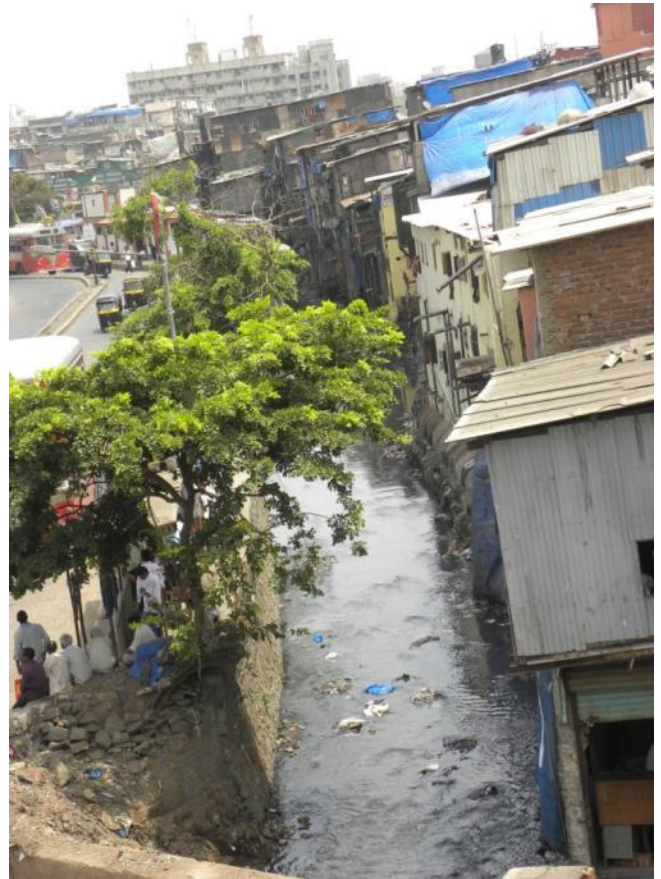


Fig 15: Behrampada, Bandra East – Photodocumentation

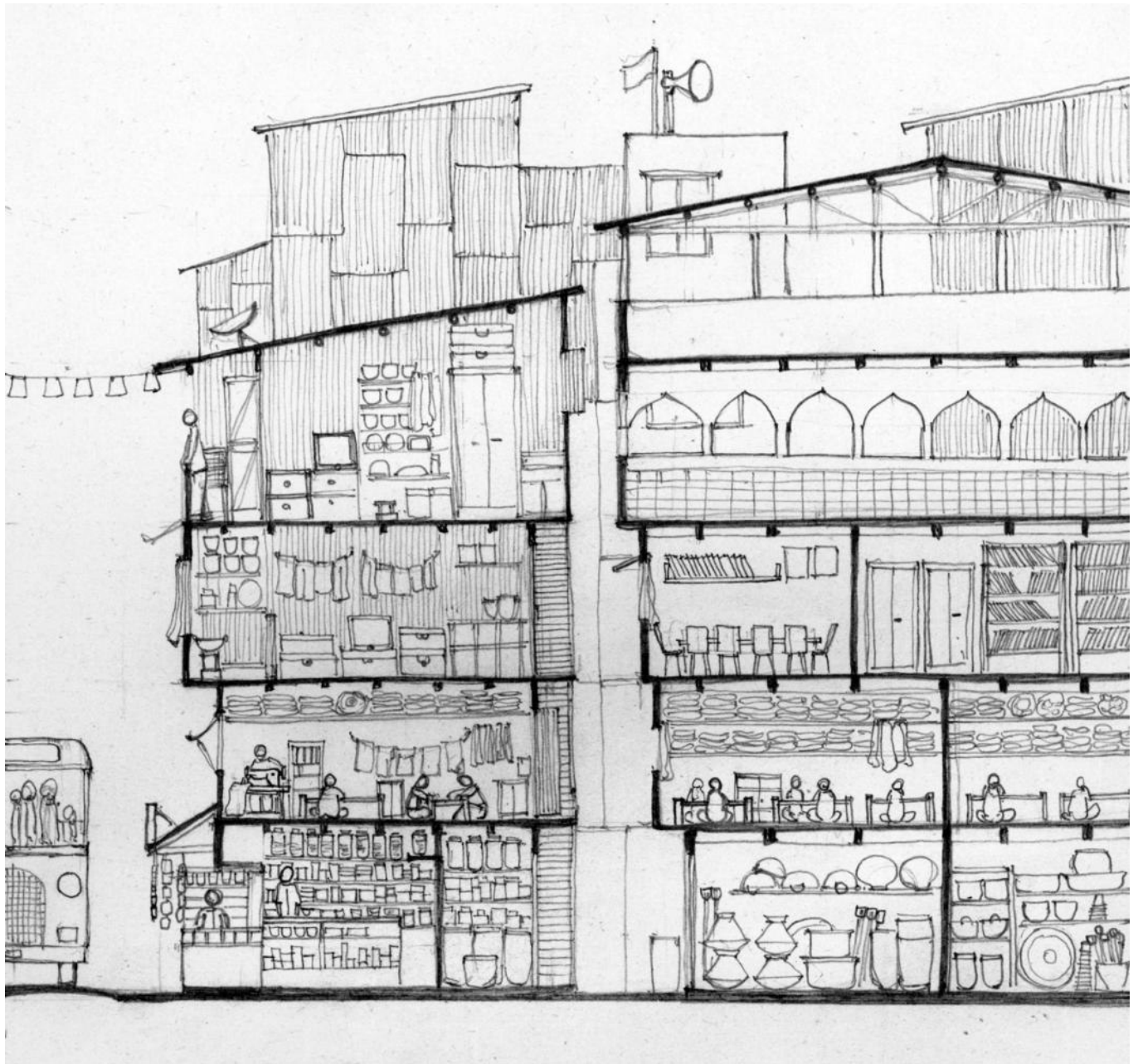


Fig 16: Behrampada, Bandra East – Built-Form Characteristics

Case 6: Darukhana, Reay Road

(Refer Figs: 17, 18 and 19 for maps, photo-documentation and built-form studies)

Darukhana is in the E-Ward of Mumbai along the eastern waterfront and is a part of the Mumbai Port. It gets its name from the gun-power warehouses which existed in the area. The area has been famous for harbouring (gold and foreign-goods) smuggling activities. It has three finger-like wharfs, which historically specialised in unloading roof-tiles, sand, timber and coal. While some of these goods still enter the city, presently, the whole area is dominated by the activities that have sprung from the ship-breaking yards. Hundreds of enterprises occupy the entire area, processing and selling steel and other material from the dismantled ships. People employed in the activities of Darukhana have made houses in between the enterprises as well as along the water edges. There are around 2000 families staying in these houses for the past 50 to 100 years. People belonging to many parts of the country have migrated to Mumbai and settled here. They include natives from Bihar, Uttar Pradesh, Bengal, other parts Maharashtra, Tamil Nadu and Andhra Pradesh. Their occupation is mainly ship breaking. Some men take up labour jobs on daily basis. The young boys are educated in a nearby school and girls are mostly taught to take care of their homes. A few girls are literate. The community comes together on occasions of public meets and festivals.

Water supply is a problem in the settlement. A community tap is the only source of water. Water is filled in 35 litre cans, which are transported to the houses from the community taps using bicycles (either owned or borrowed). A family requires about eight such cans of water each day. The sanitary system is poor with one public toilet used by the adults – the children defecate in the sea. Washing is done outside the houses. Men also bathe outside the houses. Some families even cook outside the houses. A few houses have bathrooms inside. All waste water is drained into the sea. The garbage and other wastes are also dumped into the sea. The slum experiences no power cuts and electric meters are fitted in each household. The bill of an average of Rs.200 is paid at the concerned office.

The settlement edging the sea is along a four to six feet wide street parallel to the waterfront. The houses are built on both – landward side as well as the seaward side of the street. The houses on the seaward side are built on wooden stilts that are firmly anchored to the sea floor or the retaining edge. These stilts are built during the low tide and connected at the top with wooden planks to form the floor of the houses. Walls of either patched tin panels or plywood is constructed on these floors with small openings for the windows. Roofs are made of tin and usually covered with tarpaulin. Small openings are left between groups of houses, which form access to the sea. The houses on the seaward side are all ground storied, while the houses on the landward side are two storied. Wooden or steel ladders are attached on the outside of houses to access the upper floors. One can also find a variety of objects from dismantled ships that are recycled into building materials and furniture. The main street also has very small shops selling vegetables, grocery and providing services like telephone, haircutting etc.

The land belongs to the Mumbai Port Trust, which leases small parts of the same to ship breaking companies for a very short tenure of fifteen days. Hence the entire area has shifting plot boundaries. These companies hire people from the settlement to break the ship. The settlement on the other hand has consolidated over time. The Port trust has often demolished the settlement, while people have constantly rebuilt it.

This is a case where a government authority is unable to comprehend the needs of an industry and leave labour to fetch housing for themselves. In this process, these communities negotiate not only with the harsh environmental realities, but also with the government agencies themselves.



Fig 17: Darukhana, Reay Road – Plan



Fig 18: Darukhana, Reay Road – Photodocumentation

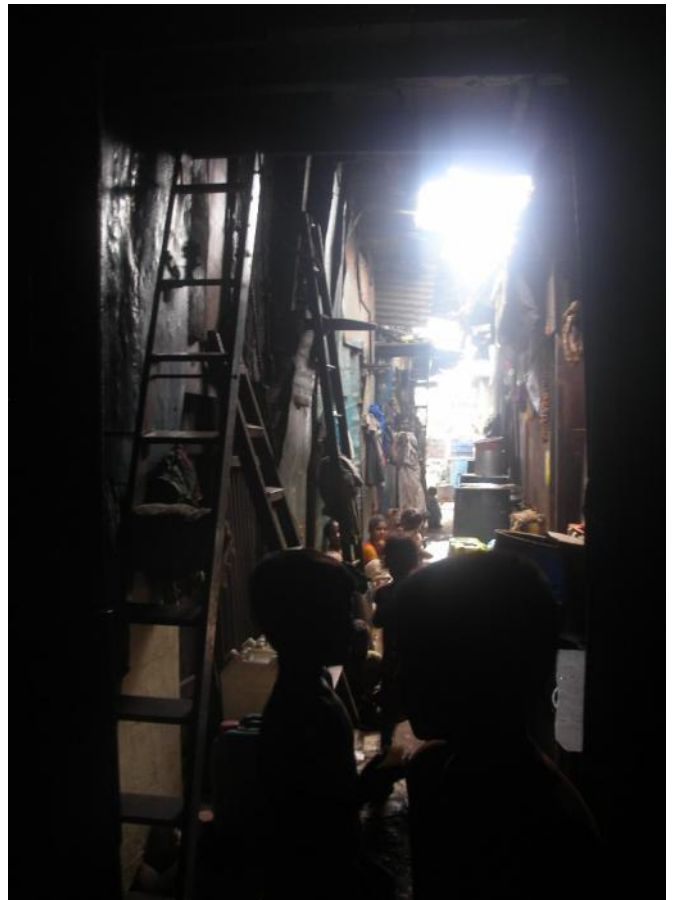
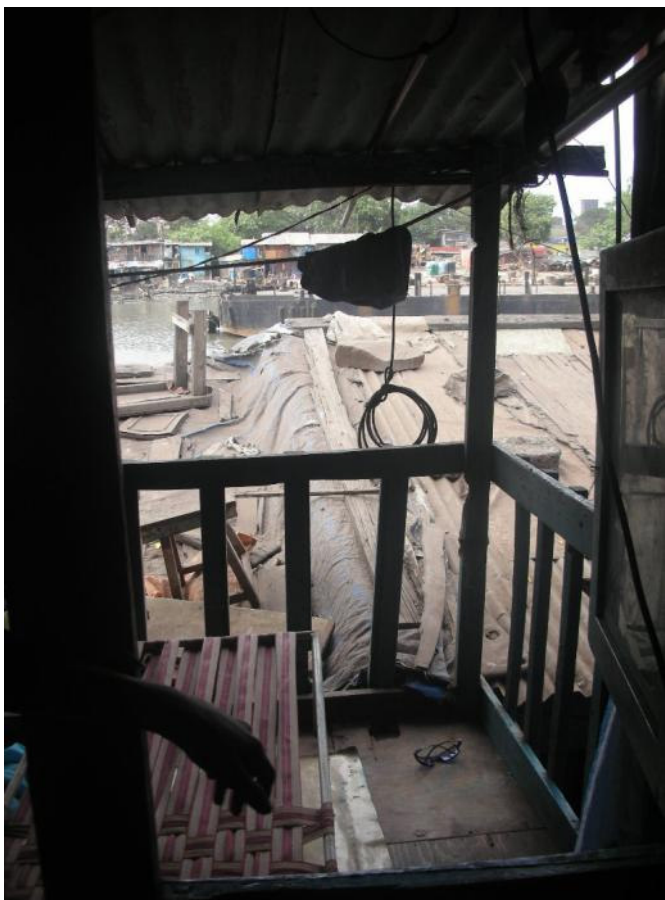


Fig 18: Darukhana, Reay Road – Photodocumentation

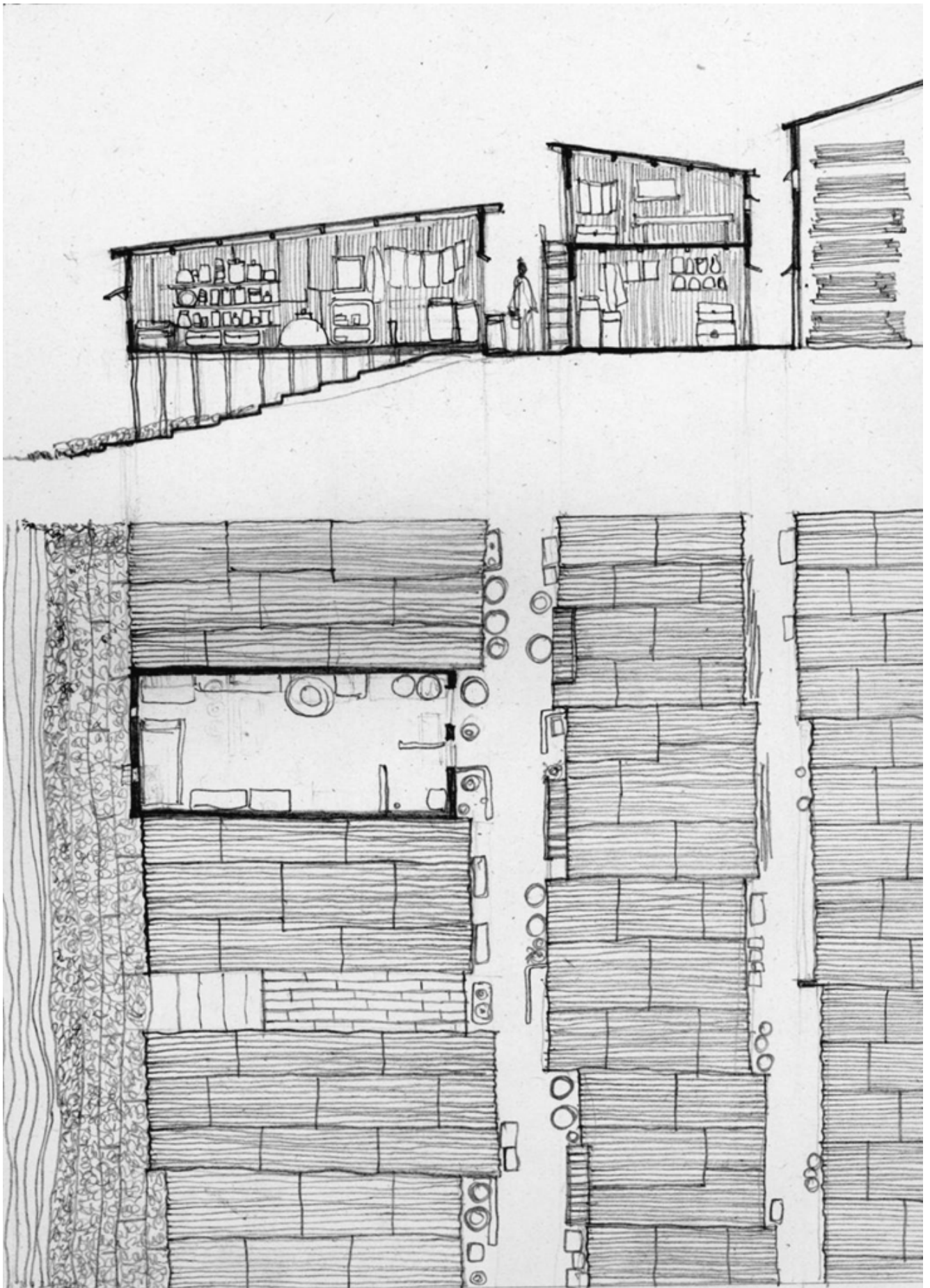


Fig 19: Darukhana, Reay Road – Built-Form Characteristics

Case 7: Bharat Nagar, Bandra Kurla Complex

(Refer Figs: 20, 21 and 22 for maps, photo-documentation and built-form studies)

Bharat Nagar is a resettlement colony of people evicted from slums by the government in the mid 1970s. Most of the resettled population came from an area close to Bandra Station which housed the abattoir. This population was predominantly Muslim belonging to the Butcher community. The site is located in the business district of Bandra-Kurla complex (H-East Ward) edging the Vakola Nalla (part of the Mithi River System) on one side and the Business District on the other. Bandra and Kurla Railway Stations are nearby. The entire area is 20.2 hectare with a population of about 6200 families. In the 70s and the 80s, Bharat Nagar was notoriously known for its liquor production and drug trade. Presently, these activities have stopped and a large number of people have become part of the informal economy – working in shops, small industries, etc. There are also a large number of taxi and auto rickshaw drivers.

The Maharashtra Housing and Area Development Authority (MHADA), which owned the land and which had provided the resettlement. The entire settlement was divided into several plots. One large plot was used to build transit accommodations for people who were to be shifted to new houses (however these were never moved). The transit accommodations were in ground + two storied buildings built in steel framework, stone-koba-stone floors and cement sheet walls and roofs. They had common toilets. About 1000 houses were built as transit accommodations. In four plots, MHADA built about 1000 small (120 square feet) ground storied houses with brick walls and cement sheet roofs. In thirteen plots, MHADA gave 160 square feet pitches to people where they built their own houses. Each of these plots had about 160 pitches stacked next to each other in rows where people initially built their houses using wooden frames, brick walls and tile roofs. Later, as families grew, every house was extended by about 3 to 4 feet on the front and the rear and upgraded with steel frames, brick walls and cement sheet roofs. Floors were also added using steel frames and stone-koba-stone construction. There are more than 2000 such houses generally with two storeys sometimes with three storeys. Upper floors are also sometimes rented. Houses along main roads have shops or industrial units in the part of the ground floor edging the main road. Every house has a water connection provided by the Municipal Corporation. Most houses have also built toilets inside the houses. The sewage is drained into the Vakola Nalla through covered drains on the street. Garbage from individual homes is collected in a common garbage bin which is further collected regularly by Municipal Corporation.

There are also parts of land that were encroached later and became settlements called Patther Nagar and Valmiki Nagar with about 1700 houses. These are mostly ground storied structures built with GI sheet walls and roofs.

The location of Bharat Nagar has made it a prime property and susceptible to large interests. The families reported⁸ that recently a developer has been buying houses for Rupees One Crore each. More than five hundred such houses have already been bought in four of the plots of Bharat Nagar, from where original occupants have been moved and the tenements were transferred into names of new persons put in place by the developer. It is also learnt that these plots were notified by the Collector as a Slum (as slum sites are entitled for higher floor space index) and the Slum Redevelopment Authority has given redevelopment permission for a new proposal. During the field visit, it was observed that new buildings were being developed in this part of Bharat Nagar. The locals also alleged that the developer has sold a part of the plot to a new developer for Rupees Two Hundred and Fifty Crores after enhancing the floor space index (by getting it declared as a slum).

This is a case where the ambiguities around the definitions of slums seem to have been efficiently mobilised to change a government colony into a slum.



Fig 20: Bharat Nagar, Bandra Kurla Complex – Plan



Fig 21: Bharat Nagar, Bandra Kurla Complex – Photodocumentation



Fig 21: Bharat Nagar, Bandra Kurla Complex – Photodocumentation

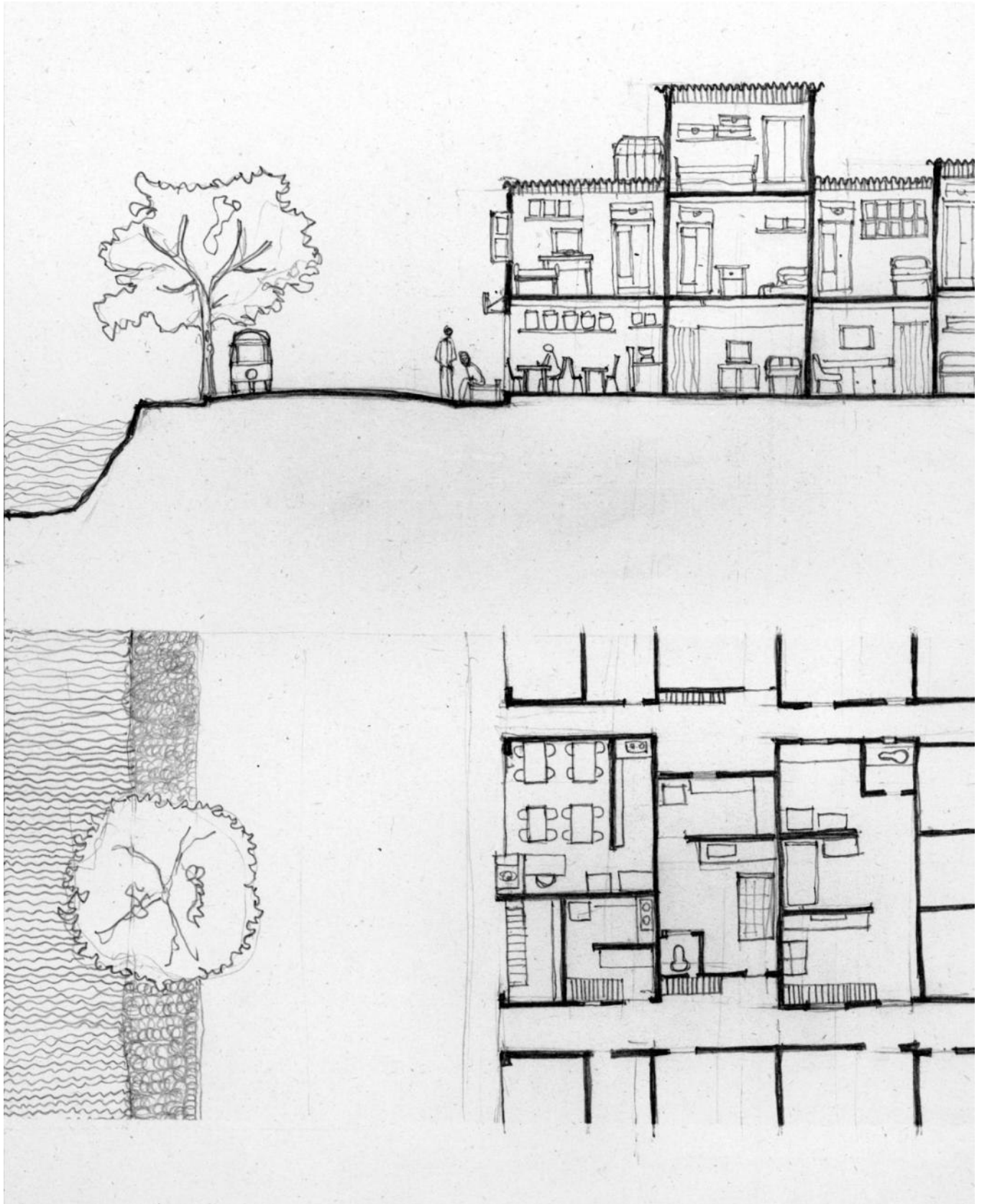


Fig 22: Bharat Nagar, Bandra Kurla Complex – Built-Form Characteristics

Case 8: Versova Fishing Village

(Refer Figs: 23, 24 and 25 for maps, photo-documentation and built-form studies)

Versova Fishing Village is located along the western waterfront in K-West Ward, off the Malad Creek. The population is about twenty one thousand persons and the area of the settlement is about 22 Hectares.

This is one of the old villages of *Kolis*, the fisher folk. Their traditional occupation has been fishing. The men go out each week for about four days in small and big boats and return with a catch worth Rs. 60000 in normal weather conditions. The women sell the fish in various markets across the city.

The settlement has a main street leading into the sea. This street also has fish warehousing and cold storage facilities. The street remains extremely congested throughout the day with activities such as – moving of fish from the boats, auctioning, sorting and storing, and also some amount of street selling. The inhabitants have water meters and 90% toilets are inside the houses. Rest of the people go near the jetty to defecate. Garbage is collected door to door by BMC garbage collectors and workers.

The entire settlement is dense with independent built-forms on small plots of land, which are owned by families occupying it. The built-forms are of two types, traditional ground storied structures with sloping roofs of Mangalore tiles and new two or three storied blocks made of reinforced concrete frame with brick infill walls. In case of the traditional houses, they have several rooms, dedicated kitchens, along with toilets and bathrooms. Typically they also have a verandah used for storage of nets and other implements. These houses are extended depending upon the needs of the family. Many families have also demolished their traditional houses and built apartment blocks with one or two flats on each floor. These apartments are occupied by the extended family members or sold / rented to others.

This is a case of redevelopments in a village that produce slum-like conditions.



Fig 23: Versova Fishing Village – Plan



Fig 24: Versova Fishing Village – Photodocumentation



Fig 24: Versova Fishing Village – Photodocumentation

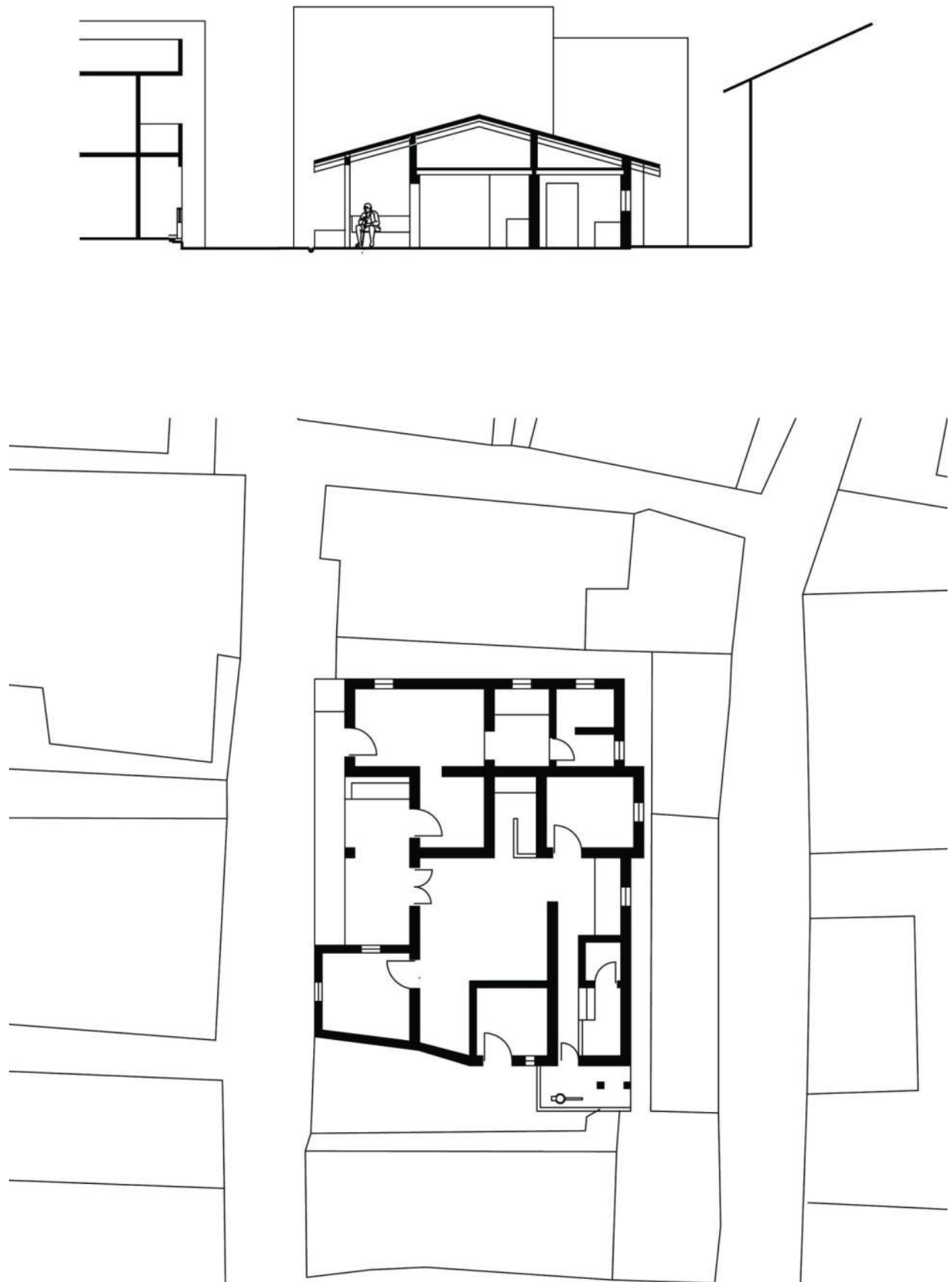


Fig 25: Versova Fishing Village – Built-Form Characteristics

Case 9: Wasi Naka Resettlement and Rehabilitation Colony

(Refer Figs: 26, 27 and 28 for maps, photo-documentation and built-form studies)

Mumbai is today seeing a rapid growth in infrastructure building in terms of roads, metros, etc. As part of this process the government plans to construct around 50,000 tenements to rehabilitate slum dwellers displaced due to these mega infrastructure projects. Around 25,000 families have already been relocated to these tenements. There is one such redevelopment site at Wasi Naka (M-West Ward) near the oil companies of Mumbai.

The government has adopted an interesting model using Transferable Development Rights to undertake this resettlement. In this model, if a developer has land where property price is low, then he can build tenements of 225 square feet each and give it free to the government for resettlement. For this he gets an incentive Transferable Development Right, which can be used in another piece of land where the property prices are high. In this manner, the developer is able to make high profits from a low value land. The state and the project affected people in turn gets houses free of cost.

Though this project gives clear tenure and toilets inside the house; this site has been identified in this study because it has slum-like conditions. The built-form is extremely problematic and confirms to the definitions of the 'slum' laid down in the Maharashtra Slum (Area Improvement, Clearance and Redevelopment) Act, 1971.

The resettlement is done in 6 to 8 storied apartments units stacked next to each other with 3 meter distance between them. Each building has 8 to 12 houses on each floor and is constructed with RCC frame and brick infill walls. Each house is 225 square feet and has either a single multipurpose room with a kitchen space and toilet at one corner or two rooms separated by toilets, where one acts like a multipurpose room and the other as a kitchen. The building design shows no typological experiments to deal with work-living situations common in low income house-holds. The new relaxed regulations for building further give rise to an unliveable urban form. Light and ventilation conditions in these tenements remain abominable. Fire norms applicable to regular construction in other parts of the city are overlooked. Many of these buildings are already showing signs of dilapidation within a few years of their construction. There are no mechanisms in place to deal with this dilapidation. Further, overuse of infrastructure like lifts and their vandalism is also rampant in these areas.

The problem also is that these resettlement sites are generally on the outskirts of the city where the property prices are low. They form isolated urban islands with no real connection to other parts of the city. The State, without understanding the nuanced patterns through which slum communities operate, equates their housing to a compensatory 225 square feet floor space. Recent examples of such housing built at the outskirts of the city show that people have been stripped of all their economic networks. Access to work gets extremely difficult for the rehabilitated communities. For example, a woman living in a slum, who works as a household maid, prefers to work close to her house so that she can organise her time for her own household work. However, she is unable to do that after resettlement as there are no middle class residents around who could employ her. On the other hand industrial workers in the slum also have to move and find new work that may require new skills. Slum entrepreneurs are unable to move their enterprises to these new locations as they do not offer the same networks. These schemes have therefore proven to be rather unpopular with slum communities and many families have sold their houses.

This is a case where regulations are relaxed to an extreme extent (for rehabilitation of the poor) making the resettlement colonies into vertical slums.



Fig 26: Wasi Naka Resettlement & Rehabilitation Colony – Plan



Fig 27: Wasi Naka R & R Colony – Photodocumentation



Fig 27: Wasi Naka R & R Colony – Photodocumentation

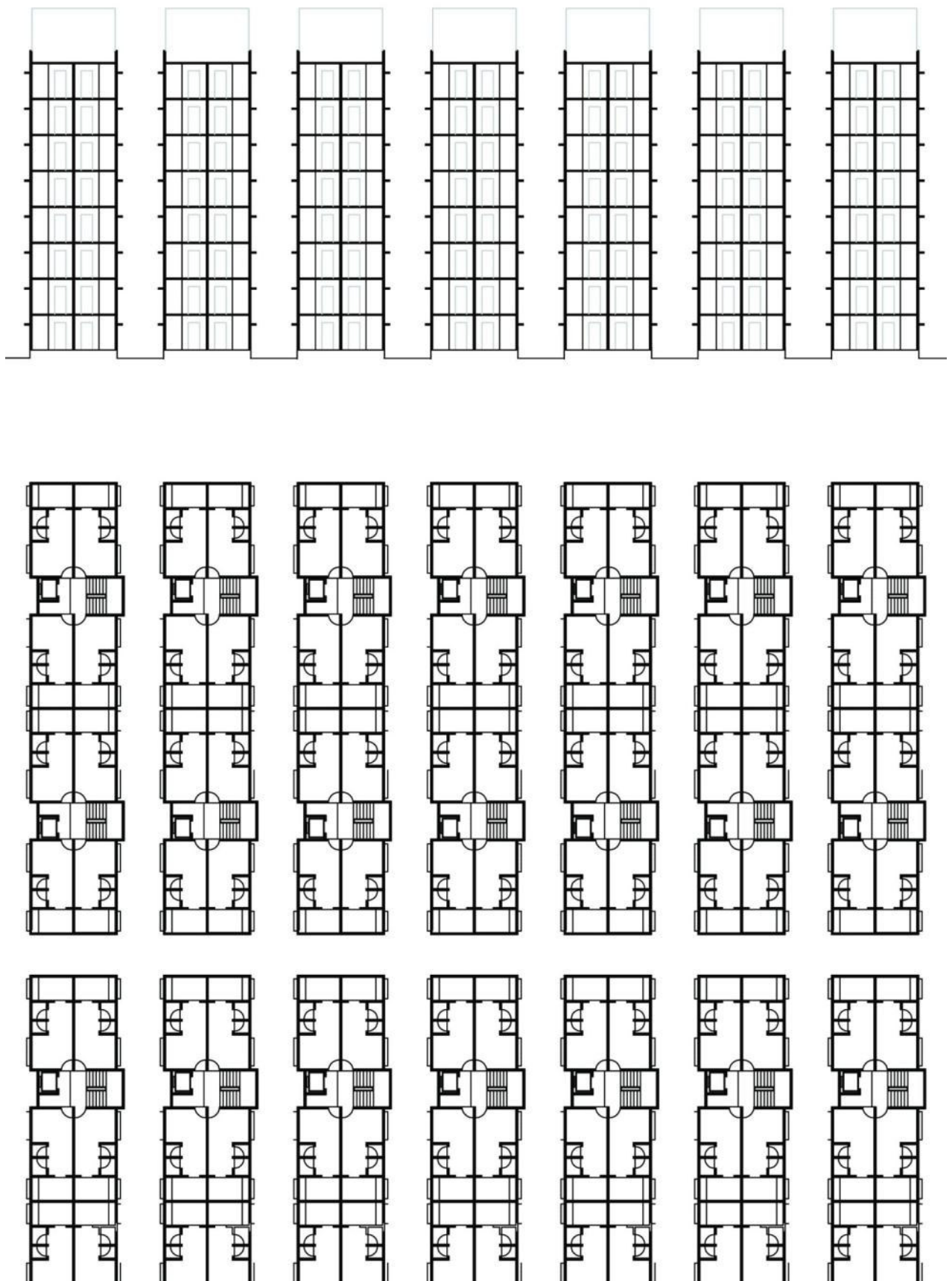


Fig 28: Wasi Naka R & R Colony – Built-Form Characteristics

5. Inferences and Conclusions

The table below aims at comparing the various typological dimensions between the settlements that were studied for this research. This is assessed through a comparison of:

1. Occupancy Dimension – Tenure, mode of occupation, extensions, etc.
2. Cultural Dimension – Community Characteristics, Work / Occupation Characteristics, etc.
3. Built-form Dimension – House-form, Street / Open-space form etc.

	Name of the Settlement & location	TYPOLOGICAL DIMENSIONS		
		OCCUPANCY DIMENSION	CULTURAL DIMENSION	BUILT FORM DIMENSION
1	Kumbharwada Dharavi, Central Mumbai	Municipal Land. Occupants were given Vacant Land Tenure to undertake their enterprise. They built their houses and also sometimes extended them for renting purposes.	The population belongs to one ethnic community specialising in making earthen pots. The entire area is a pottery industry with many small entrepreneur families.	Built-form is connected to enterprise of pot making – long row houses with internal network of streets and open spaces used for the pot making activities.
2	Kunchi Kurve Nagar Kalina, Western Suburbs	Part of the land is owned by the State Government and part by a private party. Houses are built by occupants. Extensions to the houses are rented.	The population belongs to a nomadic tribe that specialised in training monkeys for performances. Women specialise in making brooms	Built-form responds to the needs of the closely knit community and work – open spaces and house afford activities of broom making.
3	Qureshi Nagar Kurla, Eastern Suburbs	Partly Central Govt, Partly State Govt and Partly Municipal owned land. Presence of a slum-lord, who collects rent. Extensions to the houses are rented.	Community of Butchers, currently working with animal fat. Well organised Community	Idea of a linear 'chawl' owned by a single slum-lord. Open spaces afford multiple activities including storage of animal fat. House-form between a road and a railway track over a drain.
4	Shivkrupa Society Govandi, Eastern Suburbs	Municipal land. Consolidated settlement. Extensions to the houses are rented.	Consolidated neighbourhood with a strong Community based Organisation	The settlement is upgraded through providing individual toilets and already has a fine open space quality.
5	Behrampada Bandra East,	Partly Central Govt, Partly State Govt and Partly Municipal owned land. Occupants have	Extremely dense Community consolidated through crises arising from riots	Three to five storied structures built of plywood. Vertical neighbourhoods with

	Name of the Settlement & location	TYPOLOGICAL DIMENSIONS		
		OCCUPANCY DIMENSION	CULTURAL DIMENSION	BUILT FORM DIMENSION
	Western Suburbs	built their own houses. Extensions to the houses are rented.	and fires. Existence of garment manufacturing, jari-work sectors.	residences, work spaces and community spaces stacked over each other.
6	Darukhana Port Lands in the Island City along the Waterfront	Central Government Land (Mumbai Port Trust). Occupants have built their houses. Few extensions to houses have been rented.	Community of people associated with ship-breaking activities	Built-form along the water edge on stilts developed by the occupants.
7	Bharat Nagar Bandra Kurla Complex, Central Mumbai	State Government (MHADA) owned land – resettlement colony. Occupants are tenants of MHADA . Extensions to the houses are rented. Part of the colony declared as slum through pressures from a developer.	Community of ex-butchers consolidated over 40 years of living; disrupted by a developer who is buying each house for Rs. 1 Crore.	Planned resettlement colony densified by the community. The built-form (along with the population) is being changed in the redevelopment scheme promoted by a developer.
8	Versova Fishing Village Western Suburbs near the Sea	Occupants owned land. Extensions to the houses are rented.	Fishing community with requirement of group living and working.	Old built-form responded to the fishing activity. The new built-form disrupts the liveability of the area.
9	Wasi Naka R&R Colony Anik Panjrapol, Eastern Suburbs near oil companies	Land is originally owned by a private party, transferred to the State Government, in turn leased to housing societies of resettled people from various sites affected by the mega projects. Tenure over houses is transferred to the re-settlers. Cases of re-settlers selling the new houses are observed.	Communities from different locations in the city, with different cultural backgrounds are put together creating constant disruptions between them.	Sites located far away from work places causing people to either travel far or change work or leave work completely (especially in the cases of women). Apartments with toilets inside, but with no light and ventilation. Establishment of vertical slums.

The following conclusions are drawn from the above compilation:

1. *The importance of Cultural Dimension in Built Form*

People have gone through extremely difficult conditions – of migration, displacement and many testing conditions to arrive and settle in the settlements. They take a long time (sometimes more than a generation) to consolidate – sharing celebrations, crises and histories to make a cultural community. Each settlement is culturally distinct from another. Based on ethnic backgrounds, social backgrounds, networks, work cultures, rituals, and various everyday practices; different communities get formed differently. Cultural aspects, especially related to work have a relationship with Built-form. Also, communities have developed innovative ways to efficiently use space. For example, the Kumbharwada example demonstrates the mixing up of work and living spaces, Behrampada is an example of a vertical neighbourhood, Darukhana is an example of slums settling on the edge of the sea, etc. These cultural backgrounds and practices are significant for not only the identity of the community but also for pragmatic aspects like livelihood, security etc. – especially when there are no state guarantees for these aspects.

2. *There is a lot to learn from the physical form of the settlements*

The case studies show several innovative ways in which dwelling units get built. While conventional wet construction of brick and plaster is used, in several cases, fast dry construction is seen. The materials range from conventional ones like steel, brick, cement and tin sheets to unconventional ones like recycled plywood, board, hoarding vinyl, and also material from dismantled ships. Moreover, investment into house building is spread over several years and local capacities (like small contractors or labourers) are used, which helps to keep the local economy active. Though the physical form is organic (growing as and when required), it pays special attention to detail to make efficient use of space and resource. As large numbers of people occupy small amounts of space, every inch of the space gets used efficiently. Also, as house sizes are small, there is high degree of spill-over into outside spaces. One finds that the outside space is used for not only purposes of leisure (where people meet and chat), but also for all kinds of work – even household work like washing of vessels and clothes are done outside. It is the activities of the outside that form the important ingredient of community living.

3. *A rethinking in the intervention strategy is required – towards the fine-grain*

While, the definitions of a 'slum' and process of its notification are ambiguous, this paper does not argue for a need to clarify such a definition. The paper argues that such an all-encompassing definition is not possible. Instead it argues for a careful study of each of the settlements (and its problems) on a case by case basis using fine-grain analysis. By doing this, relevant strategies for improvement could be developed. The paper argues that broad comparative studies are not effective for relevant intervention. For example, in the case of Shiv Krupa Society, Govandi, a small fine-grain intervention of providing a sewerage line was good enough to improve the living condition. The settlement does not seem to require any of the popular redevelopments / resettlements. On the other hand, the interventions driven by broad policies like the resettlement colonies (as seen in the case of Wasi naka) remain highly questionable as in process of redevelopment / resettlement the historic consolidation and cultural dimensions get disrupted. The new redevelopments / resettlements are unable to provide this richness.

APPENDIX 1: DETAILS OF SETTLEMENTS

		Kumbhar-wada	Kunchi-Kurve Nagar	Qureshi Nagar	Shiv Krupa Society	Behram-pada	Daru-khana	Bharat Nagar	Versova Fishing Village	Wasi Naka R&R
1	Location	Dharavi, Central City	Santacruz, Western Suburb	Kurla, Eastern Suburb	Govandi, Eastern Suburb	Bandra (E), Western Suburb	Reay Road, Island City	Bandra (E), Western Suburb	Andheri, Western Suburb	Chembur, Eastern Suburb
2	Age of the settlement	More than 100 years	About 55 years	About 100 years	About 45 years	About 60 years	About 50 to 100 years	About 35 years	More than 400 years	About 4 years
3	Area of Settlement (Hectares)	5.1	7.3	15.2	0.06	3.3	0.16 (single cluster) (Total: 3.3)	20.2	22.9	1.9 (of single cluster) (Total: 11.5)
4	Estimated No. of Units	2125	3500	7200	25	4000	100 (in single cluster)	6200	4350	2000 (in single cluster)
5	Estimated Population (persons)	9452	21000	40000	150	25000	600	37200	26000	12000
6	Density (Persons / Hectare)	1853	2876	2631	2500	7576	3750	1841	1135	6315
7	Unit size (square meters)	Between 40 and 120	Between 15 and 50	Between 10 and 15	Between 15 and 50	Between 8 to 30	Between 10 and 20	Between 20 and 100	Between 30 and 150	20.9
8	Water Supply	Individual House Connection	Individual House Connection	Community Tap	Individual House Connection	Community Tap	Community Tap	Individual House Connection	Individual House Connection	Individual House Connection
9	Sewerage Disposal	Individual Toilet & Sewer Line + Public Toilet	Individual Toilet & Sewer Line + Public Toilet	Public Toilet	Individual Toilets & Sewer Line	Public Toilet	Public Toilet & Open Defecation	Individual Toilet & Sewer Line + Public Toilet	Individual Toilets & Sewer Line	Individual Toilets & Sewer Line

Notes on above figures.

1. All areas above have been calculated from satellite image
2. The population figure for Kumbharwada is from <http://www.snehamumbai.org/our-work/child-health-a-nutrition.html>; for Darukhana, Behrampada, Versova and Wasi Naka is from satellite imagery; for Kuncikurve Nagar and Shiv Krupa Society is from previous study of Evaluation of SSP by CRIT; and for Qureshi Nagar and Bharat Nagar is from individual interviews and group discussions

NOTES

¹ CRIT was approached due its following experiences with the slums in Mumbai

1. Evaluation of the Slum Sanitation Programme in Mumbai (2005) commissioned by the World Bank. TARU Leading Edge were the main consultants and CRIT was involved as sub-consultants responsible for field studies in Mumbai. A total of sixty slum pockets were studied across the city of Mumbai
2. Study of Housing Typologies in Mumbai (2008) commissioned by the London School of Economics.
3. Community Housing Projects of CRIT (ongoing since 2004). CRIT has been involved in helping several slum communities over the past five years to self develop their own housing. Some of the slums include, the Betwala Chawl in Grant Road, Jijamata Nagar in Mahalaxmi, Shastri Nagar in Saat Rasta, Bharat Nagar in Bandra, Ramabai Nagar in Ghatkoper, Milan Society in Wasi Naka and Korba Mithagar in Wadala
4. Study of Eastern Water Fronts (2002). The study was commissioned by UDRI and the areas covered included the port lands of Mumbai. Under this study, the slums of Darukhana and Korba Mithagar were covered.

² Definition of the slum as in the Maharashtra Slum (Area Improvement, Clearance and Redevelopment) Act, 1971

³ Human Development Report, Mumbai (2009) by the Regional Centre for Urban and Environmental Studies, All India Institute of Local Self Government

⁴ Idib.

⁵ Idib.

⁶ Down to Earth (2007), Dharavi's Real Estate Threat, Down to Earth, Vol:16 Issue: 20071130 (Nov. 2007) accessed at <http://www.indiaenvironmentportal.org.in/node/25536> on 30 June 2010

⁷ Sharad Mahajan (2009), Shelter Security Status in Dharavi, paper written for a workshop Shelter Security and Social Protection for the Urban Poor and Migrants in Asia., held in Ahmedabad on 11-13 February, 2009. Paper accessed at <http://www.socialprotectionasia.org/pdfdoc/SharadMahajan.pdf> on 30 June, 2010

⁸ The sale of houses from Bharat Nagar was also reported in DNA, a local newspaper on 13th May 2010. The article was written by Sandeep Ashar and is available at http://findarticles.com/p/news-articles/dna-daily-news-analysis-mumbai/mi_8111/is_20100513/mhada-turns-tenants-slum-dwellers/ai_n53585818/ (accessed on 30th July, 2010)