



ALONG BOMBAY'S STREETS ON PAVEMENT DWELLERS AND THEIR HOMES

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Along Bombay's streets

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Finally, we wish to express our gratitude to our families for their love and support.

Along Bombay's streets

FOREWORD

This work marks the end of five years of architecture studies and introduces a final master project supervised by Paola Viganò.

Our interest for pavement slums was first raised in a research project conducted in the framework of a course in ‘Habitat and urban development’. At that time we were looking at the Reay Road pavement slum, a settlement established on a heritage bridge dating back to 1915. This work raised numerous questions that only further research and *in situ* observations could try to answer. We predominantly wondered whether these constructions carried potential to be upgraded, or if they really are what many people consider them to be: the most desperate form of informal development in need of destruction. In order to answer this question and to begin to formulate a project, we decided to start our research with a field trip. This choice was motivated by the will to avoid biased observations and conclusions. Instead, it was important for us that we would shape the work with our own experience.

Our stay in Bombay has been punctuated by discoveries through observation, information and experience. We investigated our context: the city of Bombay, its streets, its neighbourhoods and its landmarks. We gathered information from meetings with city officials, urbanists, architects, activists, scholars and pavement dwellers. We also experienced it first hand by spending time everyday with pavement dwellers in and around their homes. These discoveries helped greatly not only in structuring the process and content of the work, but also developing our understanding of the broader context within which the particular phenomenon of the pavement slum is integrated.

We decided to keep the old name, Bombay, in this work as it is this name local people prefer to use when they speak about their city. Mumbai – which is a contraction of “Mumbadevi”, a Hindu goddess, and “Aai”, which means “mother” in Marathi – was adopted by the Shiv Sena in 1995, due to the unwanted colonial legacy of “Bombay”. Moreover, it has a strong connotation that reflects their aspiration of it becoming a “world-class city”, such as Shanghai or even Dubai, even if it will most likely never be considered in the same category. Even though Mumbai is used in administration and is today the official name anyone who has known the city as Bombay keeps calling it that way.

INTRODUCTION

Walking through Bombay's streets today, one can observe a haphazard blend of local culture and traditions. Roads are shared between cars, buses, rickshaws, two-wheelers and pedestrians in a rather chaotic way. The traffic doesn't seem to follow any rules. The sidewalks are still in place but no one ever seems to walk on them.

Bombay's pavement is a platform separated from traffic that accommodates many uses. Street vendors establish themselves on it in the heart of the city. Shoeshine boys, umbrella repairmen and barbers claim pieces of sidewalks and transform the mobility platform into a service platform.

In front of a house, the pavement might be used as an "espace servant": kitchen, laundry or even the bathroom. At night, after the street vendors have left, the pavement becomes an open air bedroom to more than a million individuals. In some places, tarps are spread out along whole stretches of streets as protection from the monsoon. These people are often displaced and have no option other than finding a new home on the sidewalk.

A hundred years ago, this phenomenon already existed. Around the harbour, in the so-called Eastern Waterfront, workers would stay along roads, on bridges, against factories and warehouses due to lack of available housing. They would live for decades as close as possible to their place of work. Year after year, tarps become more permanent structures; timber planks, corrugated metal sheeting and even bricks are assembled to form much more durable and lasting shelters.

We analysed two very different situations of pavement slums in this area of the city.

The first situation is the Reay Road pavement slum. It is built on a bridge today considered as a heritage monument near the port, making the settlement attractive for workers. Although it is a very busy road, people did not hesitate to built their homes on and against this bridge. The 1915 built bridge is however suffering from being encroached upon to such a degree and the Municipality thus faces the challenge of what to prioritise, the dwellers, or the heritage site.

The second situation is the Elphinstone Estate. It is a 1km-long parcel of land, comprised of 14 parallel streets of warehouses. The oldest warehouses date back to 1880. Along every street, the pavements are concealed by durable one or two-storey bricks and metallic sheet structures. Around 10'000 people share those sidewalks, some have been there for more than 70 years. Today, the municipality provides

them with metered water and electricity but the entire neighbourhood is to be demolished within five years, due to the planned redevelopment of the area. The communities are highly rooted in the neighbourhood, and a relocation would compromise their livelihoods while destroying a piece of Bombay's history.

We are proposing a study that aims at better understanding the complex urban and social structures that have developed within these pavement communities, qualities that are dismissed when described with the heavily connoted word 'slum'. We will consider these communities both within the global context of rapid urbanisation that has led to their evolution, and also the local influences that have contributed to these uses and identities. We will try to discover the methods and means by which these communities have prospered for decades. Bearing in mind the indiscriminate destruction and relocation of this way of life, the project will aim at discovering if Bombay's pavements still offer a viable stage for the public and domestic life of the city's population, and how this typology can be further developed for the benefit of the residents, and the city at large.



CONTEXT



1. GLOBAL

1.1 AN URBANIZING WORLD

India is the second most populated country after China. In 2008, the world's urban population outnumbered the rural population for the first time. India, together with China and Nigeria are expected to account for 37% of the projected growth of the world's urban population between 2014 and 2050. Among those three countries, India not only still has the largest rural population, but also has some of the most highly populated cities in the world. Delhi is the second largest city with 25 million inhabitants and Bombay is fifth with 21 million. (UN, 2014) Around the world today, one in three urban dwellers lives in a slum and according to the World Bank, so do 11 million people or 54% of Bombay's population. (World Bank, 2009) This is more than Switzerland's population (8 million). As urban populations continues to grow at a very high rate, the issues of urban housing and infrastructure are becoming increasingly critical in Bombay, in India and indeed all around the world.

This urbanization phenomenon took place in western countries over the end of 19th and the beginning of the 20th century with the advent of the industrial revolution. Even today, the urban population in these countries exceeds 78%, while Asia and Africa are still under 50%, but are predicted to surpass 60% by 2050.

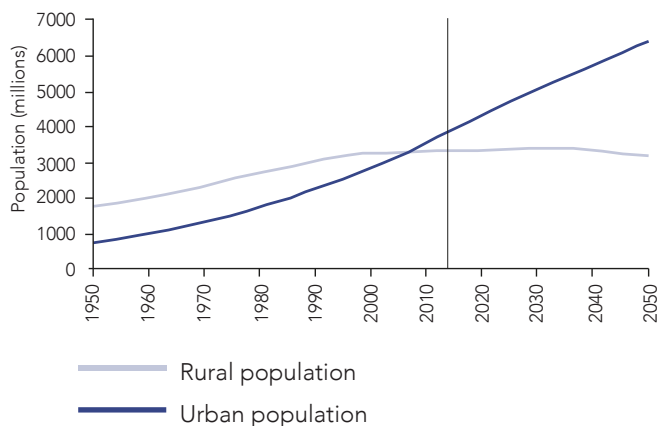
The majority of the world's megacities (those with more than ten million inhabitants) are located in the "global South", mostly in China and India, and more cities are projected to become megacities in these two countries than anywhere else in the world. The 28 megacities of the world are home to one in every eight people living in urban areas worldwide. Therefore, these mega-cities such as Tokyo (38 million), Delhi (25 million), Shanghai (23 million) and Bombay,

Mexico City and São Paulo (21 million) are rapidly reaching full capacity, while medium-sized cities (1 to 5 million) or the urban areas smaller with less than 500'000 inhabitants are liable to absorb most future growth.

Cities are growing for two reasons: the natural growth of the city's inhabitants, and migration from rural areas. These migration flows are due to various political, environmental, economic and social factors. (UN, 2003) The push factors are varied, and range from political instability to declining productivity due to lack of natural and human resources. The pull factors are: better employment and educational opportunities, access to sanitation, water and other utilities. The potential to become educated is also greater which may lead to a better quality of life.

Third world cities that are often under-industrialized struggle to offer enough jobs in the formal industrial sector. This leads to the expansion of the urban informal sector.

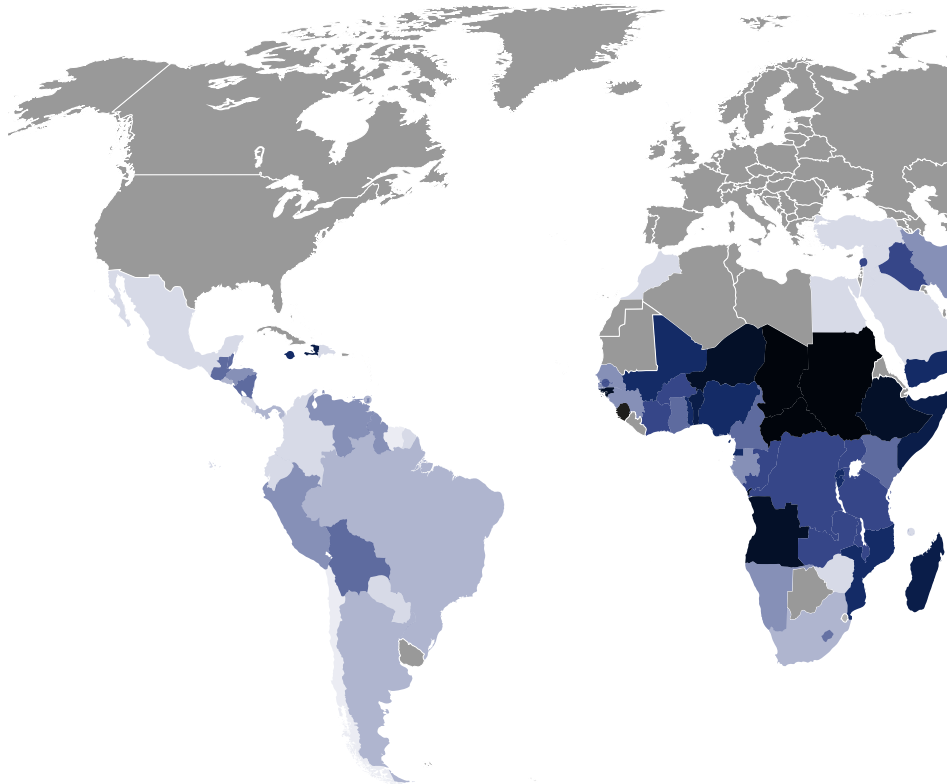
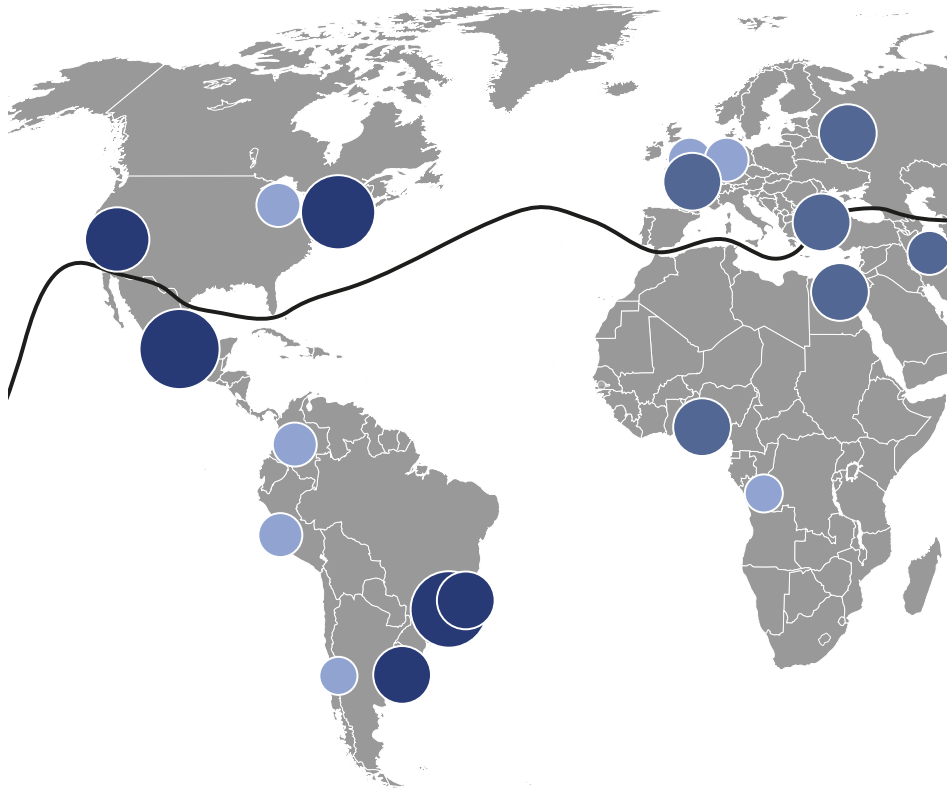
These cities also lack of appropriate and affordable housing for this workforce. Therefore, migrants have to cope with this situation using elaborate survival strategies. This resulted in the widespread development of informal settlements.

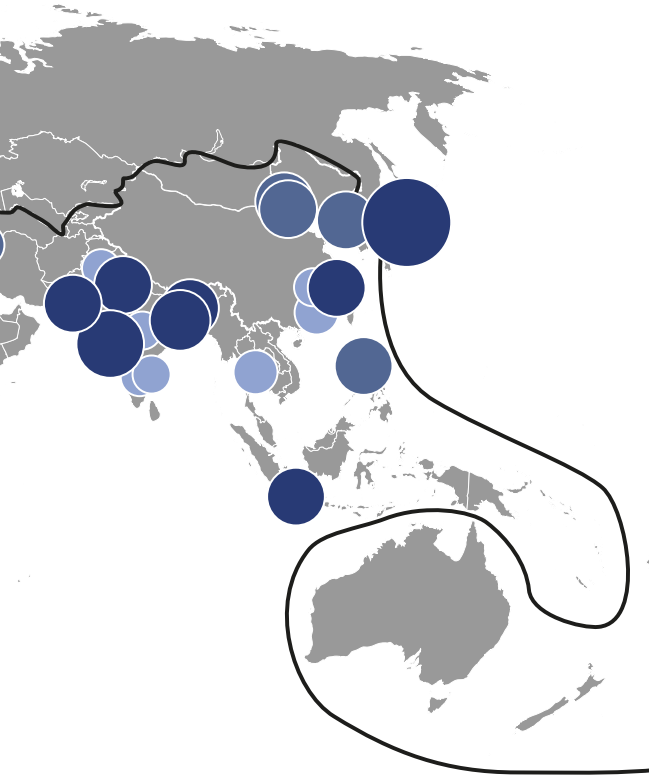


Urban and rural population, 1950-2050
source: UN

*“If megacities are the
brightest stars in the urban
firmament, three quarters
of the burden of future
world population growth
will be borne by faintly
visible second-tier cities
and smaller urban areas.”*

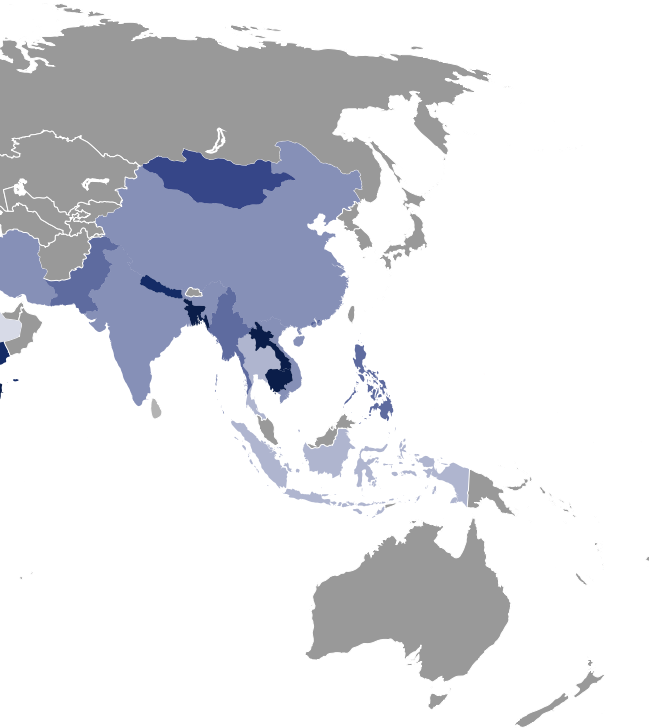
Mike Davis





- 5 - <8 million
- 8 - <10 million
- ≥10 million

Megacities and global South
source: UN, 2002



- 0-10%
- 10-20%
- 20-30%
- 30-40%
- 40-50%
- 50-60%
- 60-70%
- 70-80%
- 80-90%
- 90-100%
- No data available

Urban population living in slums
source: UN-Habitat, 2005

1.2 INFORMAL SETTLEMENTS IN THE WORLD

Defining the slum

The first mention of the word 'slum' appeared in 1812 in James Hardy Vaux's *Vocabulary of the Flash Language* where it is a synonym of 'racket' or 'criminal trade'. Charles Booth, a British social reformist who made a social survey on London's population, said that all the slums were commonly made of a mess of dilapidated housing, poverty, overcrowding, disease and vice.

Today the word 'slum' has many definitions, with each government or international organisation coining their own. In the Millenium Development Goals, slums describe low-income settlements and/or poor human living conditions. (UN, 2003)

Census of India defines the slums more precisely as "*areas where dwellings are unfit for human habitation by reasons of dilapidation, overcrowding, faulty arrangements and design of such buildings, narrowness or faulty arrangement of street, lack of ventilation, light, or sanitation facilities or any combination of these factors which are detrimental to the safety and health.*" (Chandramuli, 2011) Such definitions carrying pejorative terms participate in the general negative perception of slums. Are all slums therefore informal settlements, and are all informal settlements also slums?

Out of all the definitions, these general characteristics are revealed:

- lack of basic services,
- substandard housing or illegal and inadequate building structures,
- overcrowding and high density,
- unhealthy living conditions and hazardous locations,
- insecure tenure-irregular or informal settlements,
- poverty and social exclusion,
- minimum settlement size.

Accommodating growth today

In 2001, 924 million people lived in slums, which accounted for 31.6% of the world's urban population at that time. Asia dominated the picture accounting for 60% of the world's slum dwelling population. (UN, 2003)

In the last decade, the urban population of the developing world increased by 36%. Therefore, even when cities are concentrating their efforts in reducing informal settlements, they cannot keep pace with the rate of urban growth.

It is also important to state that even though slums are a physical and spatial manifestation of urban social inequality, they do not accommodate all the urban poor, nor are all the slum dwellers poor. UN-Habitat even explains that 40% of slum dwellers in the world are above the poverty line. (UN, 2012)

*“No slum is illegal,
as long as it exists,
it deserves to have a
legal status.”*

Anita Patil-Deshmukh

Millenium Development Goals

The Millenium Development Goals (MDGs) are eight goals that are formulated to eradicate poverty, protect the environment, the human rights and the more vulnerable. As we entered a new millenium, the UN saw a good opportunity to set a new strategy adapted to realities and changing needs of the 21st century. At the Millenium Summit, that was held in New York in 2000 with 189 UN member states and 23 international organizations, eight goals were adopted with a target set in 2015. These are:



MDGs pictograms
source: un.org/millenniumgoals

A part of the seventh goal targets 2020 to improve significantly the lives of at least 100 million slum dwellers. This means not only addressing the issue of providing shelter to the slum dwellers, but also the global issues concerning urban poverty, especially unemployment, low incomes and access to basic urban services.

As Amir Attaran states in his article *An Immeasurable Crisis? A Criticism of the Millennium Development Goals and Why They Cannot Be Measured*, these eight goals lack justification in the choice of the objectives and the difficulty of their measurements is problematic. The implementation of such changes implies too many external innovations, too much technology and finance for them to be efficient and achievable in such a short period of time. (Attaran, 2005)

Nevertheless, between 2000 and 2010, more than 200 million people gained access to better water, hygienic sanitation or sustainable and less crowded dwellings. This was twice the objective targeted by the MDGs. Between 2010 and 2012, the situation only got better for 44 million other former slum dwellers. Even if this goal has been achieved, the absolute number of slum dwellings is still rapidly increasing due mainly, as we have seen, to rapid urbanization. It has been established that 650 million people in 1990 and 760 million people in 2000 were living in informal settlements. More targeted efforts are needed to improve the lives of the poor in the emerging world's metropolis. (UN, 2013)

The Challenge of Slums: Global Report on Human Settlements 2003 is the report that followed the Millennium Declaration about the slums. In this report, the UN started with estimating the number of urban slum dwellers, examining the local and global factors for the formation of slums as well as spatial and economic dynamics and finally assessed slum policies and approaches to address the slum challenge. There was, and still is, a need for a solid and concrete action to be taken to counter the projected 2 billion slum dwellers in 2030. As we have seen, “*slums are a physical and spatial manifestation of urban poverty and intra-city inequality.*” (UN, 2003) The UN are supporting positive policies such as self-help and *in situ* upgrading. Slums have to be seen as opportunities, as “*slums of hope*” and not “*slums of despair*” anymore. (UN-Habitat, 2003)

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2 URBANISATION OF INDIA

2.1 INDIAN MIGRATION

The Indian population has always been very mobile and internal migration supposes a change in the social system. An individual takes the decision to move to leave an disadvantageous situation for a more favorable one after considering the pros and cons. Already before Independence, people were migrating in search of labor, either to Bengal and Assam, or to Bombay and the Western Ghats.

India's level of internal migration stabilized between the 1970s and 1980s but has been rising since then. The Census held in 1961 estimated that 33% of the Indian population were internal migrants (people living in a different place than where they were born). Of course, there are more migrants in cities (40%) than in rural areas (30%). Nevertheless, 62% of all movements between 1999-2000 has been from "*lagging rural to leading rural area.*" (UN, 2009)

India still has the largest rural population with 857 million, followed by China with 635 million. (UN, 2014)

Champaka Rajagopal, an urban planner who works on the Development Plan of Mumbai 2014-2034, revealed to us that most of the trains from Bihar and Uttar Pradesh were running only to Bombay and Delhi and that no new railways are being built by the government in these regions. This resulted in people who wished to move, then being forced to move to these already crowded major cities.

2.2 SOCIAL INEQUALITIES

To understand how Indian society has been changing and evolving we have to go back to the roots of India's history of colonialism. It all started with the arrival to the subcontinent by Vasco de Gama in 1498. The Portuguese tried to spread christianity in the country but were hindered by the concessions they made to the locals, in letting them govern themselves to make their presence more acceptable. Two hundred years later the British East India Company came to trade with them, they then eventually took political control also. The colonial government had to acquire a lot of local knowledge and anthropology to be able to govern. The strategy of the British was to leave the social rules and structures largely intact. Indians were allowed to keep their religions and their system of castes. This was not specially in the interest of the Indian people, but rather to make control easier for the colonial power.

This system of castes is rooted in hindu texts and separates the Indian society into four hierarchised categories, plus a fifth category out of the caste system, the 'Dalits' or 'Untouchables'. Jawaharlal Nehru abolished the practice of untouchability with the 1950 National Constitution of India. Unfortunately, even if it became illegal, castes are still very present in India and embedded within the Indian society. As a result of this long history of colonialism, India has issues with its national identity. The goal of Nehru was to transcend this identity. Unfortunately decolonisation is not an overnight process. Chua Beng Huat, a Singaporean sociologist, lists three steps of decolonisation: the historical moment of decolonisation, the dependency of ex-colonies to their colonisers and then, the production of knowledge still dominated by western culture. That last step is still strongly felt nowadays.¹

¹
EPFL, MACS Part.2:
Lausanne Summer School
2014,
Chua Beng Huat,
14.07. 2014.

Between 1975 and 1977, Indira Gandhi who was already in power took dictatorial control of the country, pretending that India was under exterior threat, which was a lie. During that period which is called the Emergency, she decided to exert control on the population. Jails were full. She put a lot of effort into destroying slums in cities and moved slum dwellers to the outskirts. It was also important for her to reduce the high birth rate of the country. She eventually called an election in 1977 and lost it.

It is only at the beginning of the 1990's that India enacted its biggest policy change: open foreign exchange. This led ten years later to it becoming the second fastest growing economy in the world after

China.

This huge step forward had a direct impact on the population. On one side, the country was developing at a rapid rate, and its infrastructure was to some extent reaching occidental standards. On the other side, these advantages were improving the lives of only one section of the Indian population, those who had the means to afford them. The rest of the population was excluded, and is still today denied access to these progressive aspects of Indian society.

Extreme poverty is defined by the United Nations as being below 1.25\$ per day. One seventh of the world population lives under that poverty line. In India, 22% of the population is included in this category. The majority of them are comprised from the three main groups that suffer from social exclusion in India. Alaka Basu talked about social segregation of those groups.²

The Adivasi are indigenous minorities. They generally leave their homeland for the cities to work as urban labour. They suffer from high rates of poverty and child mortality. There are quotas for Adivasi in public employment and publicly funded education but in reality these quotas are not respected. The Dalits are the lowest castes. Only 35% of the males have a primary education, and only 15% of the Dalit women. Dalits and Adivasis often live in slums and are forced to take on the most undesirable roles in society in order to survive. The last group is women, who are discriminated against regardless of caste. This discrimination, as is often the case, comes from the teachings of Hindu law, thus repeating the worldwide pattern of the discrimination of women based on the teachings of religious doctrines. The mortality rate for female children has proven to be consistently higher in relation to males, and the prevailing social norms ensure that women often remain dependent on their husbands for their entire lives.

Shalini Randeria³ is an activist and has worked with slum dwellers to fight for their rights, both prior to and during her studies on the subject. She explained to us that India had the worst global record of forced evictions. It started in earnest with Indira Gandhi's will to clear the city, but has kept going on since then. In Mumbai alone, 600'000 people have been displaced by the state and never properly resettled. Some have even been displaced multiple times. This habit of the government, to disregard the rights and wellbeing of the

2
EPFL, MACS Part. 2:
Lausanne Summer
School '14, Alaka Basu,
15.07.2014.

3
EPFL, MACS Part.2:
Lausanne Summer School
'14, Shalini Randeria,
18.07.2014.

poorest without scruples, contributes to keeping the lowest class at the bottom of the pyramid. Constantly being displaced, the poor have no opportunity to climb the social or economic ladders, as India follows the global trend of a rapidly expanding wealth gap between the rich and poor. Shalini Randeria described this politic as one of 'empowerichment'.

3 BOMBAY

3.1 A HISTORICAL OVERVIEW OF BOMBAY AND ITS INFRASTRUCTURE

History of land development

The seven islands archipelago (Mumbadevi, Parel, Mazgaon, Worli, Mahim, Old Woman's Island and Colaba) that formerly encompassed Bombay were inhabited by fishing communities. This territory was owned by diverse Hindu and Muslim empires but began to change with the arrival of the colonists. In 1534, the Portuguese came to India and settled most of the West coast. In 1661, Bombay was given to England as a dowry and from then on, the British governed the archipelago, keeping only the Portuguese name "Bom Baim" or "Bom Baia", which means good bay. In 1670, only 10'000 people were living on these islands. (D'Cunha, 1900)

Between the 16th and 18th century, India became an important economic hub due to its agriculture and abundant workforce. English colonists settled on the East coast of Bombay for climatic and maritime traffic reasons. The East India Company built George fort around Bombay castle. It was the centre of the city in the 18th century but it became soon overcrowded and penniless migrant were forced to remain outside. A split in the society was already growing at that time and as Christopher Dell mentioned in his book *Tacit Urbanism*, "the colonial rulers, moulded by western aesthetics, conceptions of space and everyday social life, stigmatised traditional informal utilisation of space and organisation of it as disorderly and chaotic." (Dell, 2009)

In 1772, William Hornby, the British Governor of Bombay, initiated a large scale project where the expanded city was slowly transformed into one single territory, that was linked to the mainland. Alongside these major changes, Bombay saw urban centres emerging near the newly built railway stations. The city was created anew through its infrastructural projects, such as the port and railways. (Dell, 2009)

From the opening of the Suez Canal in 1869, the city became a

compulsory stop along the primary East-West trading routes, and therefore one of the major harbours in Asia. The use of steamships to travel between Bombay and England and the opening of an overland route quickened the voyage. What used to take up to five months became a matter of a mere month and a half. This greatly helped trade between India and England to expand. The entire waterfront between Colaba and Mazgaon was transformed into wharfs and docks, and the Eastern waterfront was created. Although cities like Bombay and Calcutta were industrialised to a certain extent, the blending of regional economy, industrialisation and colonial order had a defining influence on the city's urban planning.

In order to accommodate Bombay's growing population and expanding docks, swamps and lakes needed to be drained. This reclaimed land gave to the city its physical extents that we know today.

Mobility infrastructures

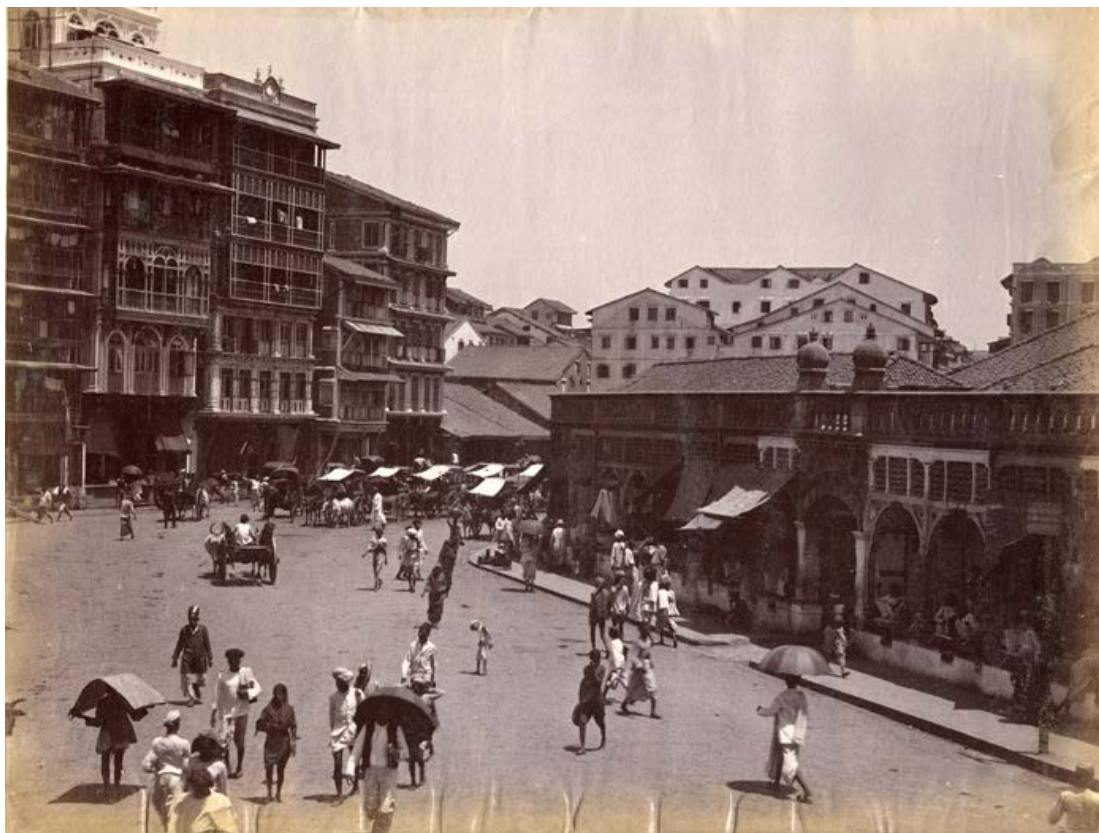
During the 19th century, even before the widespread use of cars, most European cities were being equipped with sidewalks in order to separate traffic and pedestrians. In Bombay, these works were developed almost in parallel by the British.

The roads at the time were still very poor quality, even in the centre. The main roads were so narrow that in 1806 the government decided to order the widening of two main roads to eighteen metres, and two others to thirteen metres. Six metres became the minimum width allowed for cross-streets.

The next 50 years saw drastic changes and soon a network of modern-looking streets were navigating the city. In 1865, the first kerosene lamps were installed on Bombay's main roads. According to the *Brihanmumbai Electric Supply and Transport* archives, crowds of people would watch the lamp-lighter executing his daily ritual. During the same period, the main public buildings were established in the south of the city which led to particular attention being given to the roads linking these institutions.

The Great Indian Peninsula Railway company (GIP) was founded in 1845, and by 1870 rails were linking Bombay to Thane, Borghat, Calcutta and Madras.

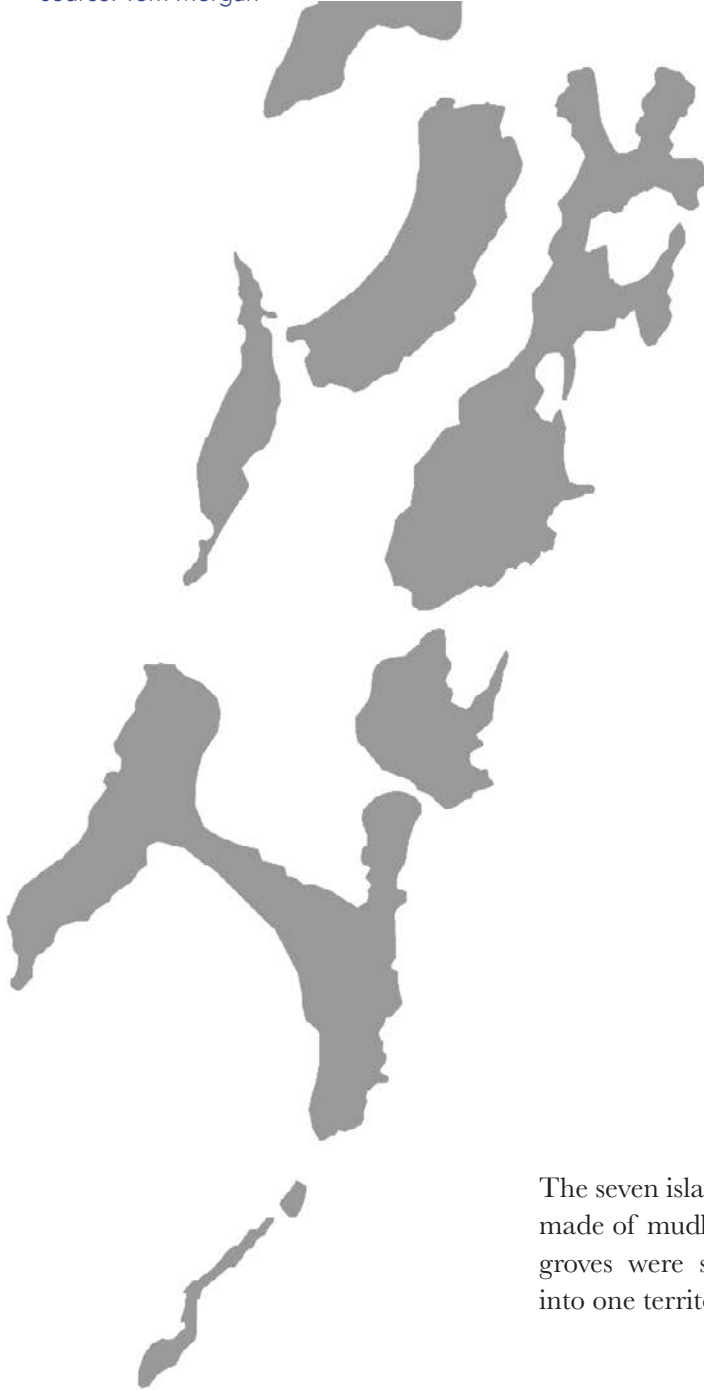
The opening of the first cotton mill in 1850, put Bombay on its way to becoming a textile industry hub. These developments contributed to rapid population growth, and a census conducted in 1864 estimated the population of Bombay to be around 800'000.



Bombay's street,
John Mitchell Holms,
1890

DEVELOPMENT OF LAND AND URBANISATION

source: Tom Morgan



The seven islands of Bombay made of mudlands and mangroves were slowly reunited into one territory.

Land 18th century



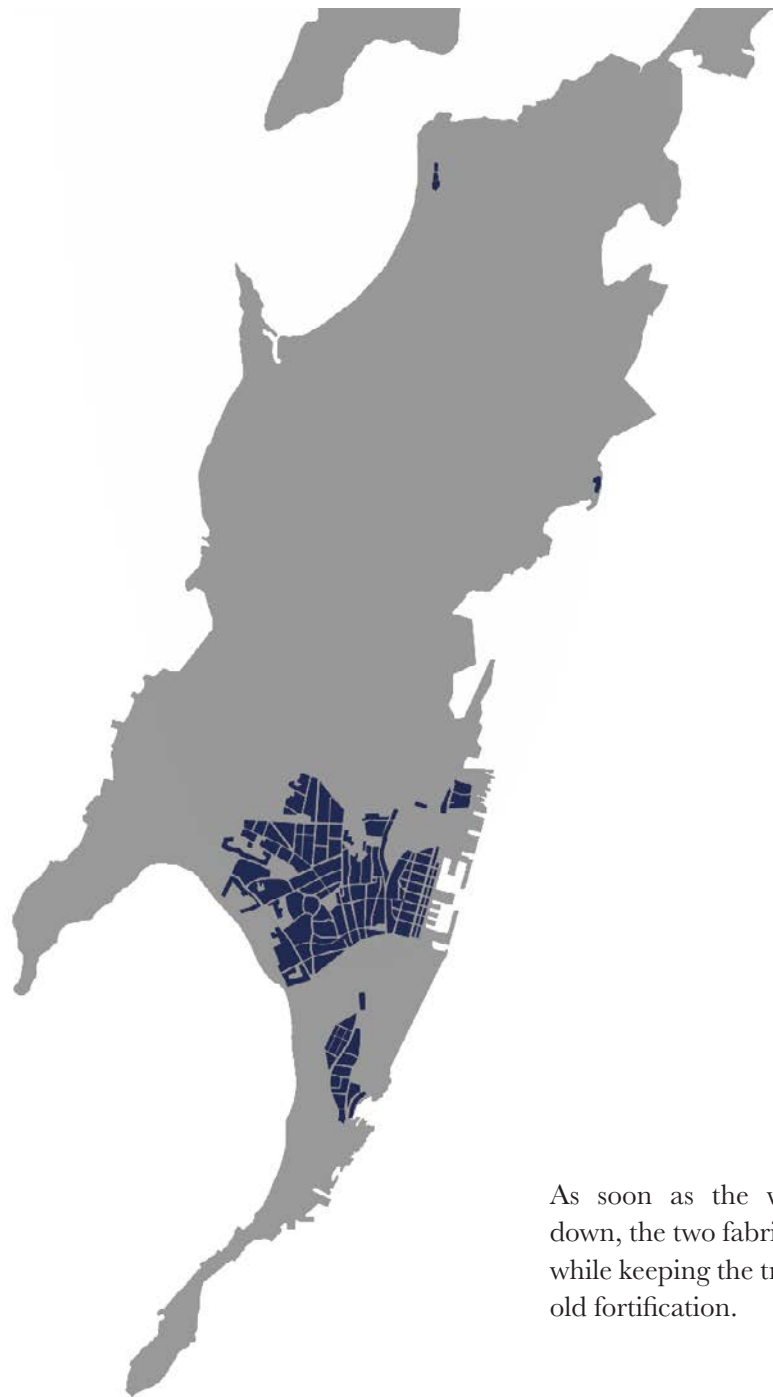
The Fort belonging to Europeans and the native city were clearly divided by a void due to policies and racial attitudes.

Land and urbanisation
1840



Because of the walls, the European settlement was unable to expand compared to the native city.

*Land and urbanisation
1870*



As soon as the wall came down, the two fabrics merged while keeping the trace of the old fortification.

*Land and urbanisation
1890*



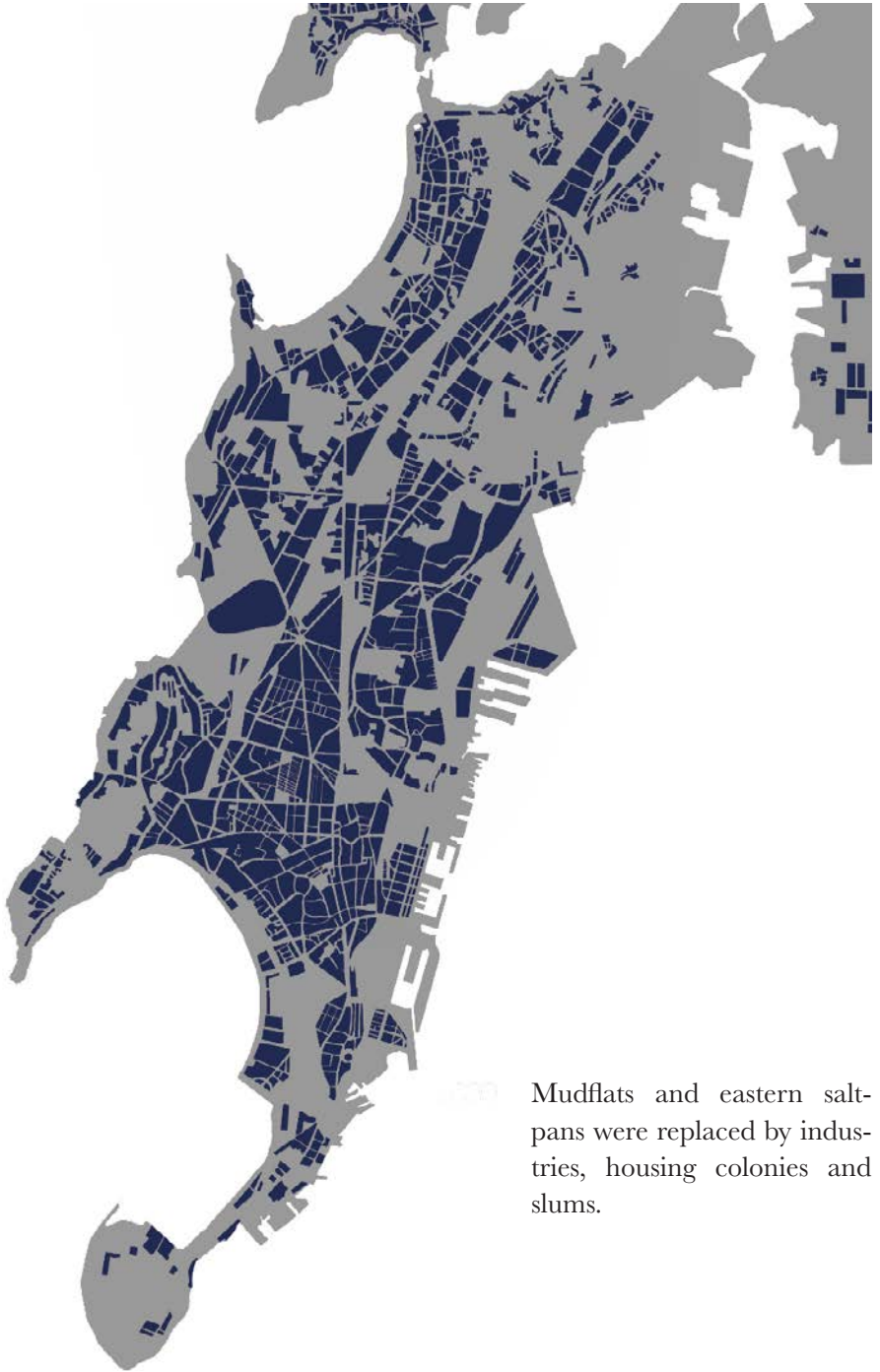
The city was moving toward Colaba to the South and toward Malabar Hill. Features of a colonial city like the racecourse appeared and slums began to spread.

*Land and urbanisation
1910*



Mill communities in Worli and Parel were prospering while Dharavi emerged in the shadow of the coal-smoke coming from the Tata power plant.

*Land and urbanisation
1930*



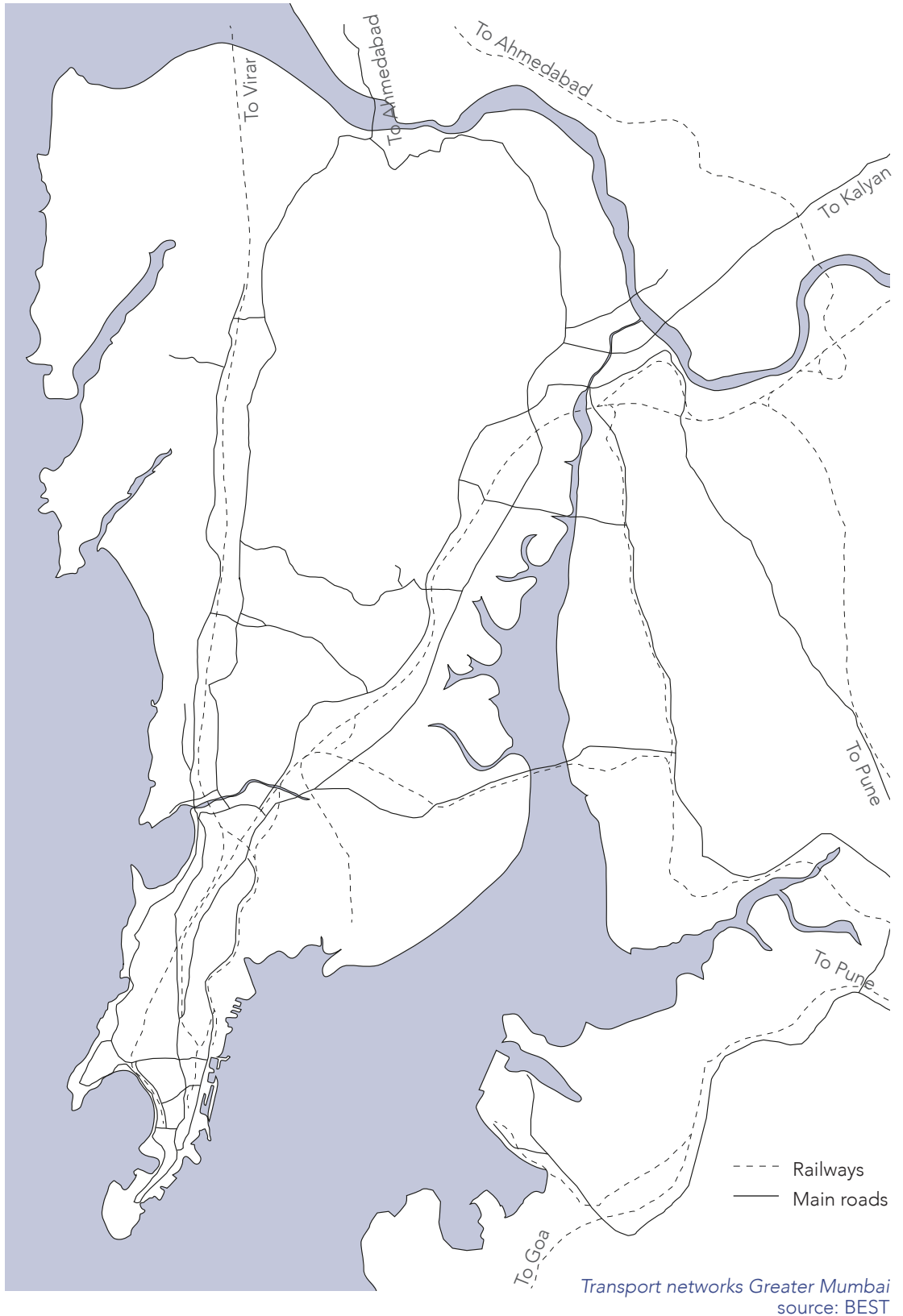
1960 Mudflats and eastern salt-pans were replaced by industries, housing colonies and slums.

*Land and urbanisation
1960*



The island is almost completely urbanised except for the mangrove lands to the East. Even the backbay reclamation in the South has been partly occupied by a slum.

*Land and urbanisation
2000*



3.2 BOMBAY, WORLD-CLASS CITY?

World-class cities are defined by a modern skyline, absence of visible signs of poverty and a high level of efficiency, with Singapore and Dubai being good examples. (Ahoobim, Goldman, Mahajan, 2014) Governments seek this “world-class” status so that the living standards could be improved through the cities’ integration into the global economy. However, poor people are rarely taken into account, and being a “world-class” city generally benefits only the wealthiest residents as the idea is mainly focused on economic prosperity. Measures taken to achieve this objective are often done without taking into account the population increase and migration flows. The easiest strategy is often to push the poor outside the centre to the outskirts in order to show an image of wealth without caring about the ghettoisation of these less visible peripheries.

According to the World Bank, the population of Bombay will reach 22.5 million by 2025. This massive increase is due to factors like uncontrolled migration of people in search of jobs, antiquated housing laws and some of the most expensive real estate in the world. (Rajagopal, 2014) R.N. Sharma, head of the urban studies unit at the Tata Institute of Social Sciences in Bombay, completes the World Bank prediction: “*Thanks to migration, the city’s population is rising rapidly. If the World Bank estimate of the city reaching a population of 2.25 crore by 2025 is true, slums will be everywhere.*” (Sharma, 2006)

As Bombay went through a drastic deindustrialisation in the middle of the 20th century, it is now difficult for the city to provide formal work to all the migrants still entering the city today. Since the economic liberalisation in 1991, the government has put in a place an economy of services, discarding completely the economy of production and thus, in a way, tacitly supporting the informal economy. Bombay is not the only mega-city that has suffered the effects of deindustrialisation. Cities like Johannesburg, São Paulo or Buenos Aires also experienced a massive decrease in their levels of production and industry, and have experienced a comparable development of their informal economies. (Davis, 2007)

A recent survey conducted by McKinsey Global Institute (MGI) revealed that if India wants to cross over the gap between the demand for services and their provision, there will need to be a significant increase in investment over today’s levels. In 2010 India’s spending on urban infrastructure in per capita terms was \$17 for the whole year. MGI estimated that India would have to invest \$1.2 trillion until 2030, which equals \$134 per capita per year, in other words

2% of the GDP. China, who went through, and is still experiencing major rural migration since the 1980's, has somehow managed to avoid proper slumification of its mega-cities. China is spending \$116 per capita and this made a huge difference in the development of its urban context. (MGI, 2010) China is an example that managed to avoid further 'slumification' and even eradicate them through this high per capita investment.

Would Bombay, with such a growing population and the world economical crisis, be able to find a solution to the informality issue which is due to deindustrialisation and a pro-rich economic policy? To what extent can the city become an example of including pavement slums in their urban development? Could the Millenium Development Goals defined by the UN in 2000 have been a solution?

*“He let his mind drift
as he stared at the
city, half slum, half
paradise. How could
a place be so ugly and
violent, yet beautiful at
the same time ?”*

Chris Abani

Chowpatty beach,
Bombay



3.3 BOMBAY, CITY OF SLUMS?

According to UN-Habitat, Bombay is the global capital of slum-dwelling with 10 to 12 million squatters, followed by Mexico City and Dhaka (9-10 million). As per the 2011 census, more than half of Bombay's population lives in slums. The reasons for this are similar to other places in the world: a strong rural to urban migration and a lack of housing supply; but in Bombay the phenomenon became quickly unmanageable.

47% of slums are located on private lands, 42% on public lands. The rest are mostly built on railway, port or airport lands. (MCGM, 2005) The slums of Bombay can be split into three categories; chawls, *zopadpattis* and pavement dwellings.

Chawls

These housing buildings were originally constructed between 1920 and 1956 by factory owners and landowners to accommodate workers. The Port Authorities and other Public organisms also began building and renting apartments in such tenements to their workers. Chawls were originally providing one-room apartments with small cooking spaces and shared sanitation areas to male workers. These small apartments shortly became home to families joining their husbands which noticeably increased the density. Since their construction the structures have greatly deteriorate and are today often unsafe for living, therefore fitting the slum definition.

Zopadpattis

Zopadpattis are poor neighbourhood areas built on private or public empty plots. They are the most predominant type of settlement falling in the legal slum category. A first census of slums carried out in 1976 by the Government of Bombay counted 902'015 settlements and 2335 pockets. It was then revealed that while 73.6% of the employment was in the island-city, they were home to only 17% of the slum population and that the rest was living in the northern suburbs, often in areas unsuitable for development like marshy areas or hillsides. Slums of the island-city have reached full capacity a long time ago, this is why newcomers generally settle in those in the suburbs.

Pavement dwellings

Pavement dwellings or pavement slums are houses built on the pavement by poor migrants. They settle as close to their work as possible which is generally in the city centre where they have no other opportunity of finding housing.



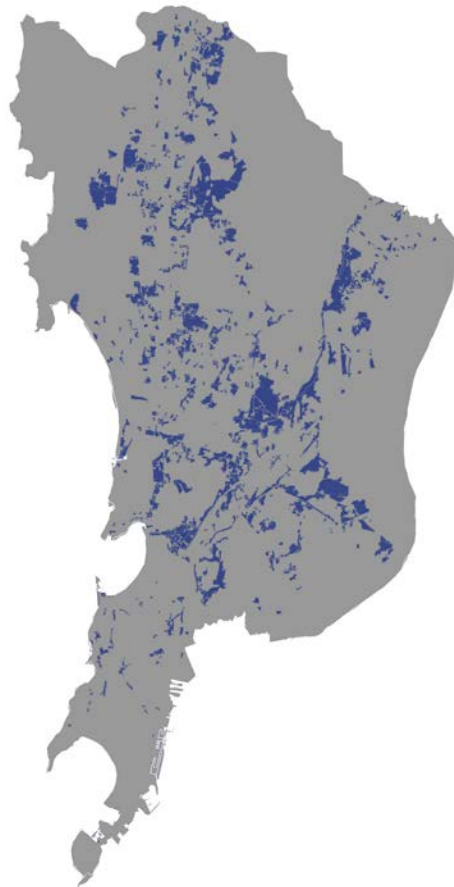
Chawls, B-Ward



Zopadpatti, Bandra

Zopadpattis and pavement slums

It is here important to define the major variations that make pavement slums different from *zopadpattis*. While slums are built on unused plots, pavement slums develop on the most public element of all, the pavement. The latter is both property of the municipality responsible for its maintenance and of its users, the citizens. It is this question of confrontation of users that makes the development of pavement slums hard to defend. Nevertheless, we have discovered that for many, occupying the pavement in the first place is not a choice but the last available solution. Although pavement dwellings are often precarious, they offer noticeable qualities that most *zopadpattis* lack: air and light. The minimal access to fresh air and natural light in many slums are generators of insalubrity. Pavement slums also permit their inhabitants to be close to their work activities, and most of all answer a need that neither the government nor *zopadpattis* can fulfill, a cheap roof in the centre where they can make a living.



Slums in Bombay
source: PK Das

3.4 NEGOTIATED SPACE, REAL-ESTATE AND URBAN POOR

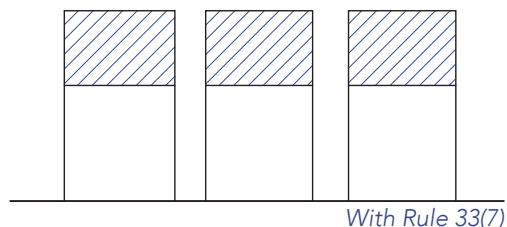
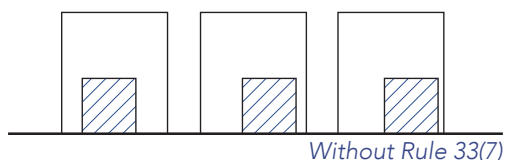
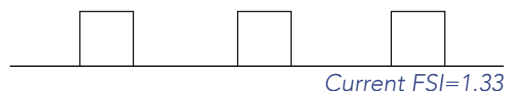
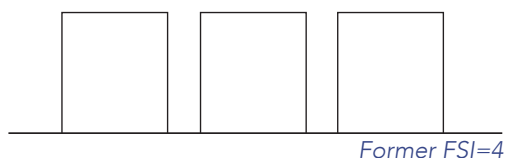
Real estate regulations

In Bombay, scarcity of space and migration generate a great challenge for the Government and policy makers. As Champaka Rajagopal, an urban planner for the Development Plan 2014-2034, explained to us, a distorted land market is one of the main source of the increase of slums and pavement slums.

$FSI = \text{Total covered area on all floors} / \text{Plot area}$

Floor Space Index

In India, the Floor Space Index (FSI) is a ratio that regulates constructions and restricts the built-up area on a particular plot of land. In 1991, the FSI in the island-city of Bombay was fixed to 1.33 and 1 in the suburbs. Concretely, an FSI of 1 means that on a 100 square metres plot, the total amount of floors built cannot exceed 100 square metres. But at that time, in the island-city, most plots already had an FSI of 4 or more. Several new rules were also introduced with the decline of textile mills in the 1980's and the economic liberalisation in 1991.



Rent Control Act

4
Buildings built in the island city of Bombay before 1969 with rents frozen under the Rent Control Act.

5
french word for added floors on top of an existing structure.

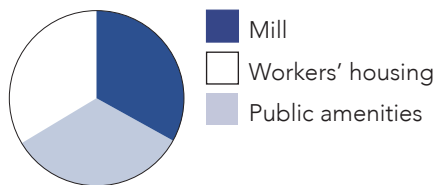
The Rent Control Act, introduced in 1947 to prevent a supposed scarcity of housing post-World War II, assured a 50 Rupees per month rent in cessed buildings⁴ that were meant to house the poor. Apartments in these buildings have been passed from generations to generations and no one wants to move out because of their incredibly low rents. Nowadays, the Act is still in force and the new lower FSI would force contractors to build smaller surfaces on these plot if they were to redevelop them. Therefore, builders are not wanting to destroy these buildings to build new ones. Instead, thirty kinds of exceptions were enforced such as rule 33(7), allowing the *surélévation*⁵ of cessed buildings. The buildings, constructed a long time ago, are getting weaker and the question of safety must be considered.

According to the Planning Commission Report for 2002-2007, the proliferation of informal settlements is directly linked to the Rent Control Act, which had the following effects on the housing market:

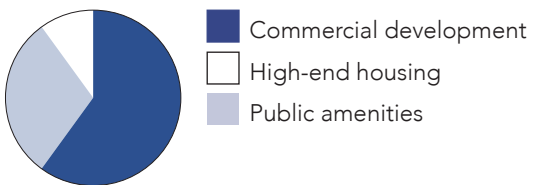
- Negative effect on investment in housing for rental purpose.
- Withdrawal of existing housing stock from rental market.
- Accelerated deterioration of physical condition of existing housing stock.
- Stagnation of municipal property tax revenue, as it is fixed on the rent.
- Resultant deterioration in the provision of civil services.
- Increase in litigations between landlords and tenants.

Redevelopment of mill lands

Rule 58 was put in place to regulate the land-use of redevelopment of mills, which were all located within the island-city, where the price of real estate was rising. Until the end of the 1980s, the mill's lands were split into three equal areas of space: the mill itself, worker's housing and public amenities. With de-industrialisation, these lands were sold to the public sector and converted into commercial development, high-end housing and the small remaining part was allotted to public amenities. Workers protested at that time that no affordable housing was built and were backed by powerful unions, one of which was the Shiv Sena. Thanks to their help it was decided that vacant land had to be divided in the following way: $\frac{1}{3}$ for amenities, $\frac{1}{3}$ for commercial development and $\frac{1}{3}$ for housing. Unfortunately, workers were still not able to afford these residences and were forced to move to slums.



Land-use before 1991



Land-use after 1991



Abandoned mill

Acts and schemes

Over the years the Government has made several attempts to change this complex situation. The *National Slum Clearance and Improvement Act*, a national program that was put in place in the biggest cities of India, was therefore launched. These cities were supposed to reserve a part of their annual budget for slum eradications, but they never successfully managed this.

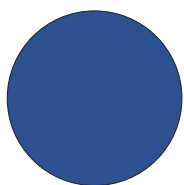
Redevelopment of slum lands

Rule 33(10) is the rule dedicated to slum redevelopment schemes. Private parcels that are encroached with slums can be redeveloped with 33% of the land dedicated to rehabilitation housing and the remaining 67% to commercial development with an FSI of 3, even in the island-city. There is no open space planned which allows builders to construct at an extremely high density and low quality rehabilitation buildings, reproducing the conditions of insalubrity generally found in slums.

Transferable Development Rights

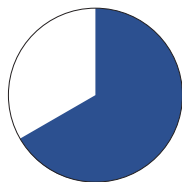
Transferable Development Rights is a plan that allows the government to label a land as 'reserved land' and then buy from the owner to develop public spaces, gardens, hospitals, education infrastructure and roads. The contractor would get a new empty plot north of the one sold as compensation, but outside of the island city. This scheme allowed the government to buy land at very low cost and was successful in the early 1990s when builders saw in this program opportunities to acquire new land. However, land-owners realised that the financial benefits would be less and consequently lost interest in the program. Moreover, northern parts of the city like Juhu complained that through this scheme, the government had destroyed their open spaces, congested their roads and reduced light and air availability. (Nallathiga, 2014) Most slum lands being reserved, the TDR must be used quite often and high density new development happens in these suburbs, particularly in the North-East. This generates ghettos of 'rehabilitated' poor. Nevertheless, we were informed by Champaka Rajagopal that this rule was going to be changed with the implementation of a new development plan and that builders would be compelled to follow the current FSI of 1.33 or 1 for any further redevelopment.

The Slum Redevelopment scheme was launched in 1991 by the



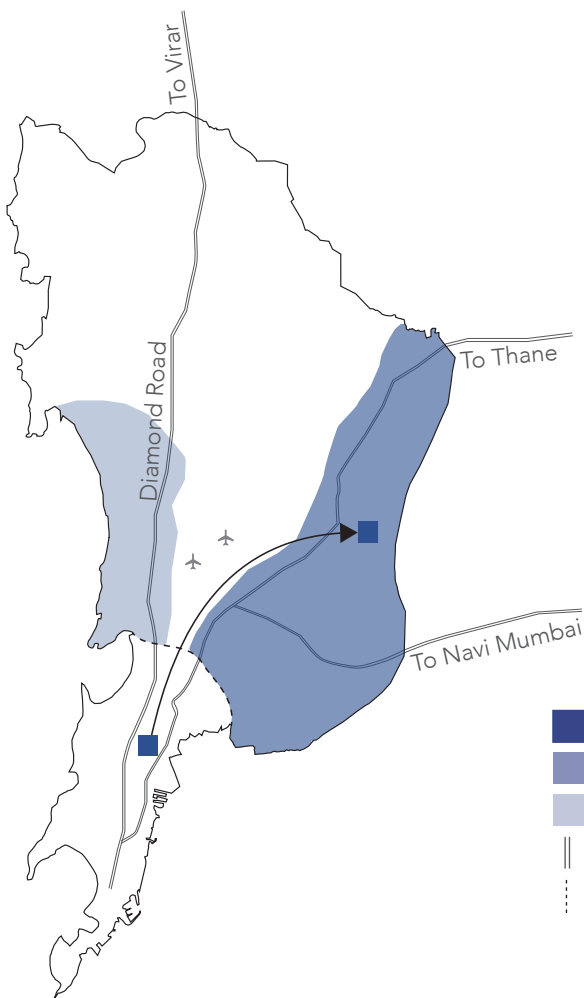
■ Slum land

Before redevelopment



■ Commercial development
□ Rehabilitation housing

Redevelopment with rule 33(10)



■ Transferable land
■ Prone for redevelopment
■ Too expensive for redevelopment
|| Major roads
⋯ Island city limit

Transferable Development Rights

Slum Redevelopment Scheme

Congress Party due to the overall privatisation that happened in India at that time. Builders were given lands that were encroached with slums for them to increase the lands' profitability. However, contractors were reluctant to get involved with slum dwellers, they did not want to argue with them. Moreover, alternative housing was rarely available and the work could therefore never start. This scheme was soon replaced by the new plan.

Slum Rehabilitation Scheme

In 1995, the Shiv Sena and BJP established the Slum Rehabilitation Scheme which was supposed to provide a free 21m² house to slum dwellers. This would happen through private investors that could build at a certain FSI and sell the extra FSI as tenements or as Transferable Development Rights. Slum dwellers who could benefit from this scheme would have to have been living in the same house since the 1st of January 1995. However, slum dwellers were never given any free housing, making this scheme "*the greatest bluff till date perpetrated on slum dwellers in Mumbai*" according to PK Das (2005), an architect in Bombay.

Rajiv Awas Yojana

All these programs failed to provide decent housing to slum dwellers and in 2009, the President of India, Shrimati Prathibha Devisingh Patil, launched the *Rajiv Awas Yojana* (RAY), a program with the aim of "slum-free cities". This scheme planned to give slum dwellers the same infrastructure as other citizens and brings them back into the formal urban fabric. As with the former programs, a lot of money was spent on this but its efficiency is yet to be seen.

Mahatma Gandhi Path Kranti Yojana

The MGPKY is a scheme specifically targeting pavement dwellers. It is the first one of its kind and was enforced in 2006. Its goal is to free Bombay's pavement from encroachments by providing new housing to the dwellers. Not all of them can be rehabilitated, only those that have been living on the same pavement before the cut-off date of January 2000 are eligible. This date was 1995 until the beginning of 2014. This means that all the non-eligible pavement dwellers will be displaced with no compensation. There are no figures given regarding the percentage of eligible people on the total amount of pavement dwellers but this will undoubtedly result in the development of new settlements in other parts of the city.

Anita Patil-Deshmukh, the executive director of PUKAR (Partners

for urban knowledge, action and research), has been working with slum dwellers for a long time and has seen a lot of relocation taking place. By keeping in touch with displaced communities, she could observe the reality of these relocations and raise awareness about it with her personal perspective on the matter.

She explained to us that these buildings are generally seven stories high for legal and FSI reasons. According to the norms in force, buildings of more than four storeys require an elevator. The tenants of these buildings being former slum dwellers who have lost their livelihood with the relocation do not have enough money to pay for their electricity bills. Therefore electricity cannot be provided and without electricity the elevators cannot work, nor the pump sending water to the various floors. This results in families having to walk stairs up and down with all the water needed for their daily needs that they have to buy outside or to fetch from public taps.

This reality shows that relocations as they are taking place today are not giving a better quality of life to the displaced population, but rather are making them worse.

Development Plan 2014-2034

All these distorted rules forced the urban planners working on the new Development Plan to find ways to plan accordingly to the city's needs, tackling issues such as space for amenities and affordable housing, open public space and reserved land for future development. The committee came up with the concepts of 'inclusive city' and 'inclusive

The reality of relocation



Redevelopment housing for slum dwellers, Parel, Bombay
source: Sytse de Maat, theperfectslum.blogspot.ch

streets' to give slum dwellers and street vendors legitimacy. The concept of 'inclusive city' addresses the slum needs for infrastructure and management improvements. The 'inclusive streets' consists of legitimating hawkers through a formal space allotted to informal trade and amenities according to the street crowding. No scheme have yet been made about the inclusion of pavement dwellers.

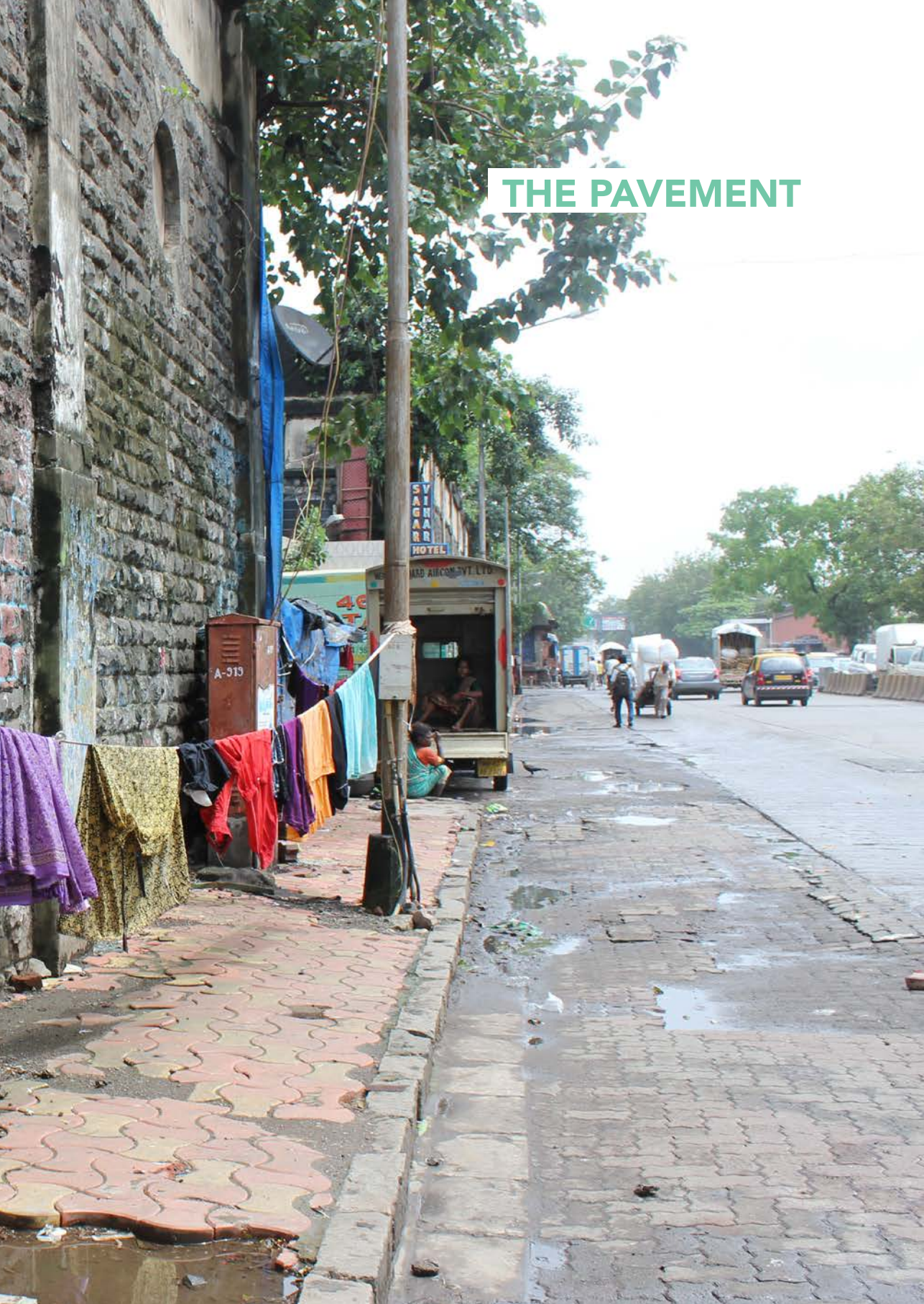
YUVA, a very active NGO whose goal is to empower the oppressed and marginalised in Indian cities, wrote recommendation for this new Development Plan. Their advices address the main problems that slum and pavement dwellers still face and in what ways the development plan could improve their situation.

RECOMMENDATIONS FOR THE DP 14-34 FROM YUVA

- 1** Land under slum settlements should be assigned to affordable and public housing projects and not to for profit-housing projects.
- 2** The authority should look after the improvement of the slums by providing adequate basic services and amenities wherever possible instead of directing towards slum rehabilitation scheme.
- 3** Slum dwellers have turn non tenable land to tenable and livable land, their effort should be recognized by the government. These areas should be reserved for public housing.
- 4** Slums along road sides, the airport and on pipelines are considered as untenable by the Mumbai Metropolitan Region Development Authority. A college of experts should reconsider the definition of tenable and non tenable.
- 5** The cut-off date for eligibility for rehabilitation should be removed. Families residing on the above floors should also have rights for rehabilitation.
- 6** The Mahatma Gandhi Path Kranti Yojana states that evicted pavement dwellers get accommodation far away from their workplace. This scheme has benefited 60% of pavement dwellers living in bitter conditions. Rehabilitation if needed as to happen within a 2.5km radius (within the Ward perimeter) with adequate basic amenities and infrastructure. If there is no rehabilitation they should be provided adequate basic amenities. Along with this the rehabilitative units needs to be of 269 sq ft and not of 225 sq ft as they will have to suffer a loss of 44 sq ft.
- 7** Redevelopment of slums should happen within a governmental agency and not by private developers. Redvelopments have shown major problems with the construction and the liability of the developer within 7 years starting from the date of construction.



THE PAVEMENT



“A city sidewalk by itself is nothing. It is an abstraction. It means something only in conjunction with the buildings and other uses that border it, or border other sidewalks very near it. The same might be said of streets, in the sense that they serve other purposes besides carrying wheeled traffic in their middles. Streets and their sidewalks, the main public places of a city, are its most vital organs.”

Jane Jacobs

1 AN INTRODUCTION TO THE PAVEMENT

“Pavement, n. : A raised paved or asphalted path for pedestrians at the side of a road.” Oxford dictionaries

This chapter aims at taking a fresh look on this element of public space so often forgotten: the pavement. From the first pavements of the world to the first pavements of Bombay, we are trying to show that the pavement is not only a mobility infrastructure, but that it plays an important role as an urban space in itself. By observing the various uses that the pavement is put to in the Indian context, we are introducing the concept of living on the pavement that this work is addressing.

Sidewalks (United States), pavements (India), footpaths (United Kingdom), trottoirs (France): different words can be used to describe the raised part of the road that separates pedestrians from vehicles. Throughout our work we will switch back and forth between these words. ‘Pavement’ is the term we will prefer, as it is widely used in India and forms the set phrases ‘pavement dweller’ and ‘pavement slum’. However, when referring to the more general concept of a pavement, that of any constructed surface covering the ground, we will then use its american synonym ‘sidewalk’.

1.1 A BRIEF HISTORY OF SIDEWALKS

The pavement is a protective element. It forms a boundary between the dangers of the road and its sides. It acts as a protection against vehicles, dirt and water. Today, it can also be used to cover infrastructure such as water mains, electricity cables and telephone networks.

Pavements have been built in many different ways depending on the time and place of their construction. The very first sidewalks appeared a long time ago. Around 2000 B.C., Turkey, which at that time was known as central Anatolia, equipped some of its streets with designated paths for pedestrians (Kostof, 1992). The Greek city of Corinth may also have had sidewalks around the 4th century but the date of construction is unclear (Loukaitou-Sideris, 2009). The Romans even had a special word for sidewalks, 'semita', as early as the 3rd century B.C. (Kostof, 1992). During the Middle Ages, European cities did not have sidewalks. Pedestrians, animals and vehicles all shared the same space to circulate.

The word sidewalk was mentioned in *Laws of the Indies* (Leyes de India), a body of law issued by the Spanish Crown for its American and Philippine empire. This suggests that sidewalk planning was common in Spain in the 16th century (Loukaitou-Sideris, 2009) and that they were considering constructing them in their colonies. The first significant reappearance of sidewalks took place after the great fire of London in 1666. Part of the reconstruction work consisted of implementing sidewalks on every reconstructed street, they were however generally not raised above the level of the roadway but simply delimited by bollards, chains and posts. (Blomley, 2011) In 1751, the *Westminster Paving Act*, made them a common attribute to the city. (Loukaitou-Sideris, 2009) In Paris, only very high-end streets had *trottoirs*. Kostof explains that by 1822, only 270 metres of sidewalks were built, whereas twenty-five years later there were 260 kilometres of them throughout the city. By the late 19th century, most European cities and some American cities had sidewalks. It is only at that period that cement and concrete started to be widely used. Until then, pavements were generally built of wood or gravel. Sidewalks were more and more seen as a sign of modernity and increasingly attracted multiple users, public and private, static and in circulation. (Blomley, 2011)



Church Street, London, 1908
source: yellins.co.uk



Postcard Rue Sorbier, Paris, 1902
source: cpa-bastille91.com

1.2 SHARING THE SIDEWALK

The sidewalk scholar Anastasia Loukaitou-Sideris explains in *Sidewalks: Conflict and Negotiation over Public Space*, that sidewalks used to be, among other things, a platform for free speech and public gatherings. But American cities that fought against demonstrations, prostitution and street vending changed a paradigm that was long established in western cities. In the United States, the First Amendment granting the right to free speech was shaken when it was decided that protests were banned from the sidewalk and had to take place in specifically designated spaces.

This is a greater problem in cities designed for cars like Los Angeles. Streets are wide, ground floors are not very lively, all activities are contained within boxes with defined uses, with the typology of the mall being the main offender. These elements contribute to creating an empty, underused street. Many people in the United States share a worry about the security of walking on the street, which leads to a further increase in vehicular use, which creates a paradoxical situation as fewer and fewer people are visibly present in the public realm. This is particularly damaging considering Jane Jacobs' explanation that the best way to fight against street insecurity is by increasing the level of passive surveillance (Jacobs, 1961), to have “*eyes on the street*” (Jacobs, 1961) or “*vibrant sidewalks, filled with people*.” (Loukaitou-Sideris, 2009) Cities that have grown before the car dominant era have much more potential for a lively street lifestyle. In the United States, Boston's pavements are livelier than in other American cities, as it was formed long before inland and west coast cities.

In Europe, thanks to the long history and process of urbanisation, the urban fabric of city centres is much more intricate and ‘organic’. Streets are often narrower and a lot of activities are accessible from the sidewalk. It is more common in Europe to see cafés extending their terraces outside according to the demand and the weather than in the United States. Even in Boston, due to law regulations concerning alcohol consumption in public spaces, bars and cafés can only have an outdoor extension if they have clear boundaries separating the sidewalk and the *terrace*. These rules contribute to a sterile pavement, lacking all the simple ingredients that would naturally generate lively streets.

The situation in Bombay is rather different. The story of its urbanism cannot be told without some background history intricately linked to the British colonisation. While the British were copying London's infrastructure in the centre of Bombay, migrants were arriving from the countryside of all over India to find work in the new industries. At the time, Bombay was becoming Asia's most important port. The newcomers were discovering the urban lifestyle while Bombay was itself becoming urban. These parallel processes led to a paradoxical yet very specific urban way of life. Bringing their rural traditions, techniques of construction and habits to the city, the migrants adopted their new 'theatre stage' in a much different way than what the British were anticipating.

*“This is something
everyone already
knows: A well-used
city street is apt to
be a safe street. A
deserted city street is
apt to be unsafe.”*

Jane Jacobs

1.3 THE INDIAN NOTION OF PUBLIC SPACE

In India, the rules behind the uses of public space are difficult to comprehend for an outsider. Since the 19th century, the Indian street has been described by Western people as a symbol of 'otherness' due to the perceived inappropriate uses made of it (Anjaria, 2011).

Walter Benjamin (1973) describes the city through the eye of the *flâneur*, a man who takes pleasure in wandering with no goal in the city streets. *"The flâneur fully embraced the uneasy, fleeting lifeworld of the modern city, enthralled by the pleasures and potentialities of a world removed from the presence, stricture and restraint of tradition, but also from the functional efficacy of modern rationality."* (Clarke, 2002) In his book *Unruly streets: Everyday practices and promises of Globality in Mumbai*, Jonathan Shapiro Anjaria explains that the figure of the *flâneur* is too much linked to a Western modernity and that it cannot fully embrace the idea of an Indian urban modernity. He prefers using the term *ghoomna-phirna* - which means 'to wander about'. The term is used by Nita Kumar in *The Ethnography of Benares* (1988) and is described as the pleasure taken in *"refusing to become citizens of an ideal, bourgeois order"*. Shapiro Anjaria explains: *"In this way, much of the pleasure of 'ghoomna-phirna' is derived from its negation of the domestic space and its sense of order, and its embrace of the complex, boundary-crossing, and threatening outside world, with its potential for physical violence and symbolic pollution. To engage in 'ghoomna-phirna' is to be 'of' the street, to participate in its diverse mix of people and activities."* (Shapiro Anjaria, 2011)

Walter Benjamin developed his *flâneur* from Baudelaire's poems. In the same way, the Indian street experience can be witnessed in popular Bollywood movies. Ranjani Mazumdar writes in *Bombay Cinema: An Archive of the City* that for Bombay-based films the sidewalk *"is part village community, part cosmopolitan street - a symbolic organizer of a set of contradictory impulses."* (Mazumdar, 2007)

"Indian cities had physical spaces that were shared in common, accessible to all or most of the city's residents, and in many ways physically identical to what the colonial government would later call 'public' urban space... By naming certain urban properties and spaces 'public', drafting rules governing what activities could take place there, and enforcing these rules through new urban institutions the colonial government created both a concept and a corporeal substance - 'public space' - that had no prior history in the Indian city." (Glover, 2007) The term *public space* means 'municipally-owned public land' (Glover, 2007). The birth of this concept saw the birth of the 'hawker' who had existed previously

but was never considered as such before. *“The ‘public space’ that emerged in the 19th century was therefore not a new kind of urban space but a new object of discourse.”* (Anjaria, 2011)

The urbanist Jane Jacobs, when describing what an ideal street should be like, explains that *“if the city streets look interesting, the city looks interesting. If they look dull, the city looks dull.”* (Jacobs, 1961) If we had to pick one adjective that does not describe Indian streets, it would be dull. At any time of the day or night, Indian streets might be messy, dirty, smelly, colourful but most of all, full of life.



Street in Lower Parel,
Bombay

2 USES OF THE PAVEMENT

2.1 COMMERCIAL USE OF THE PAVEMENT

Anecdotal evidence suggests that for each formal worker in India, there are seven informal workers. The term ‘informal economy’, was first coined by Keith Hart in 1973 in his paper on street-based entrepreneurial activities in Ghana. Today the term is widely used to describe any non-waged based labour. This is particularly true in cities such as Bombay, that have undergone a significant process of deindustrialisation, and that therefore have forced most of their workforce to find a new way of making a living. In those cities, it becomes more and more evident that non-wage-based labour is replacing wage-based labour, and not the other way around (AlSayyad, 2004). A study made by the National Alliance of Street Vendors of India shows that more than 75% of the manpower of Kolkata is active in the informal sector. (Bhowmik, 2003) Street vending, one of the main informal economies that Western cities have been trying to eradicate from sidewalks (Loukaitou-Sideris, 2009), is still very present in India.

In the past, hawkers were semi-nomads. They would generally be rooted in a village but travel around to sell pots. Those pots were used to store all kinds of goods at the time when fridges did not exist. They would be constantly on the move, going from one village to the other. In an urban context, rules are different. Today, the Brihanmumbai Municipal Corporation (BMC) defines a hawker as a person who hawks or sells in any public place or in any public street any article whatsoever, whether it be for human consumption or not. A person who uses his skill in any handicraft for rendering service to the public in any public space or public street is also considered a hawker. Hawkers are supposed to possess a licence and be properly registered according to the Municipal Corporation. But only 8'000 of Mumbai's nearly 3

lakh (300'000) hawkers are licensed. (Padmanabhan, 2013) The rest have to dodge the law, bribe officials and encounter angry citizens every day to merely exist. Unregistered hawkers are the most likely to still move around the city to offer their services and sell their goods in order not to be noticed by the Police. Dr Robin David Tribhuwan, author of *Streets of Insecurity*, explains that mafia, gangsters and politicians play an important role in regulating the hawking sector in urban areas. The modern urban hawker can be part-time or full-time pavement dweller. He either stays on the pavement to sell his goods and goes back everyday to a 'home', or sells his goods on the pavement and sleeps at the same place (Tribhuwan, 2003). The illegal hawker who moves around to sell and sleep on the pavement is therefore the most nomadic of all.

Although most vendors have no legal status, they are indispensable to the economy because often providing something that no supermarket offers: for example, cheaper raw food in smaller quantities - one or two bananas - for poor people not able to afford more. A lot of poor women's livelihoods come from street vending. They generally sell fruits and vegetables that they purchase at a small price at the big wholesale markets early in the morning. They would then stay everyday at the same spot selling their goods. Hawkers do not settle wherever they find a free spot. They generally have to earn the spot, by getting to know the other hawkers and by bribing the right people, whether it is a policeman, the 'boss' of the area or both.⁶

Vending raw food is only one of the street vending activities happening on the pavement. What is commonly called street food for example consists of selling cooked meals in the street. The Food and Agriculture Organisation (FAO) definition is the most widely cited: "*Street foods are ready-to-eat foods and beverages prepared and/or sold by vendors and hawkers especially in streets and other similar public places.*" (FAO, 1989) It is often considered as unhygienic by higher-class people and visitors. Nevertheless, street food is consumed all over India, not only by poor people, but also by the middle classes. As it is sold on the street, it is also consumed on the street, which generates natural interactions between clients, vendors and other pedestrians.

In working class neighbourhoods, the pavement provides all kinds of other services, from selling clothes, fabrics or diverse accessories to fixing umbrellas or electronics, the streets of Bombay are an informal mall in themselves. Whether you are looking for a barber or a shoemaker, walk for five minutes in any direction and you will

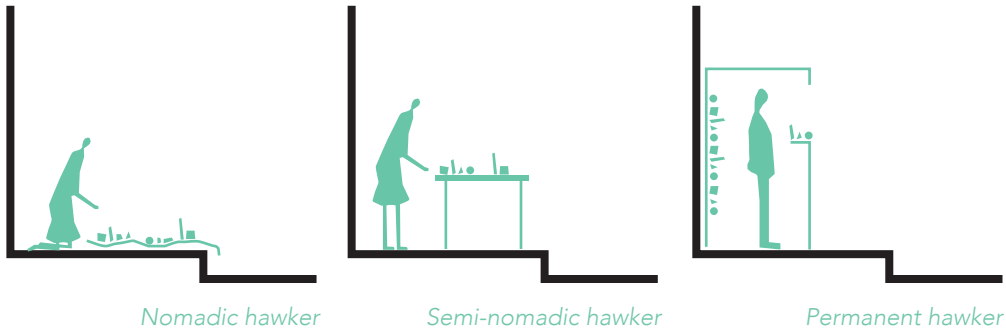
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EPFL, MACS
Part. 2: Lausanne Summer
School '14, Shalini
Randeria, 18.07.2014.

find one, sitting on the curb, waiting to provide you with the self proclaimed ‘best service for the best price’.

The hawkers of Mumbai can be more or less static. The most nomadic of all only carry their goods in a piece of fabric that they can fold and unfold very quickly. These hawkers do not have permits and need to be able to disappear immediately if the police show up. Many hawkers have stands on wheels that allow them to travel around the city selling their goods, but only some of them have permits. The most immobile hawkers are those who have fixed stands or cabins on the pavement or the side of the road, they have to possess a permit not in order not to be bothered by the police.

A street vending bill was approved by the Parliament in February 2014, granting protection of livelihood and regulation for 40 million street vendors across India. It is considered an accomplishment, even if its implementation might prove to be a struggle.





Religious jewellery



Vegetables



Hairdresser



Butcher



Shoemaker



Cereals



Grilled corn



Boxes



Spices



Belts



Snacks



Stationery

2.2 RELIGIOUS USE OF THE PAVEMENT

India is a country of many religions. According to the census conducted in India in 2011, the most common practiced religions are Hinduism (80% of India's population) and Islam (13%). The rest of the population is either Christian, Sikh or Buddhist.

Religious signs are found throughout the city of Bombay. Ganesh is often drawn on doors, flowers are arranged as offerings to gods inside and outside houses. In the South of India, female members of households draw on their doorsteps what is known as 'kolam': ephemeral sand figures looking like mandalas meant to welcome guests and protect their home.

Throughout India religious festivals are very popular and punctuate the year : Ganesh Chhaturthi, Holi and Diwali are the main Hindu celebrations, while Eid al-Fitr marks the end of Ramadan. During Ramadan, Muslim neighbourhoods are at their liveliest at night, each evening after sunset, communities gather to eat together in the street. Along the streets of Bombay, permanent altars are built to provide spaces for *puja*⁷. Some are integrated in the walls, leaving the pavement free of encroachment, others only partially intrude on to the public realm. It is also not uncommon to see closed spaces built across the entire width of the pavement for puja or muslim praying spaces.

7
Hindu ceremony
to worship gods



Eid prayer, Bandra, source: homegrown.co.in



Hindu temple



Nandi bull



Hindu worship place



Hindu worship place



Multiconfession prayer space



Muslim prayer place

2.3 DOMESTIC USE OF THE PAVEMENT

Traditional Indian houses in the countryside are built around a courtyard. It works as an open space where all domestic activities take place, such as doing laundry, cooking or washing-up. When shifted to a new environment, one will always try to replicate whatever habits that were acquired previously. In the case of the rural to urban migration happening in Bombay, migrants applied these practices to their new environment. Very few houses have courtyards in Bombay due to lack of space, the functions previously served by this space are then displaced. The closest open space to a house is the street it faces, or the garden if there is one. These domestic functions were moved to whatever open space one had in front of their door. It was common, and it is still, to have families gathering in front of their door to share a meal, or carry out daily tasks like cooking, washing dishes and even showering, all directly on the pavement. This kind of interaction with the street, while a function of necessity, effectively achieves having “*eyes upon the street, eyes belonging to those we might call the natural proprietors of the street*” (Jacobs, 1961) at all times, and generates interaction between neighbours and pedestrians.



Drying clothes



Cooking



Cooking



Dish washing



Drying clothes



Washing clothes



Washing clothes



PAVEMENT SLUMS



*“Homelessness is a
condition; the material
fact of not having a home
of one’s own invades one’s
consciousness until it
becomes a person’s entire
self-definition.”*

Suketu Mehta

1 FROM HOMELESSNESS TO HOME

1.1 HOMELESSNESS

In Bombay, an uncountable number of people fall into the ‘homeless’ category. Numerous migrants arrive everyday, sometimes alone, in a city completely new to them in search of a better life. They usually settle wherever they find a spot, most of the time on the sidewalk and sleep on a piece of cardboard. They do not always come back to the same place, even though some streets are homeless ‘hubs’.

Homelessness entails various meanings, and each agency develops its own definition. The United Nations Statistical Division separates homeless people into two general categories; the primary homeless, living on the street without a shelter; and the secondary homeless, that either move frequently between shelters or live long-term in official or unofficial ‘transitional’ shelters. (UN, 2008) The Census of India counts as homeless the people who are not living in ‘census houses’. It considered ‘census houses’ as any ‘structure with a roof’. Census enumerators usually observe such populations “*on the roadside, pavements, in hume pipes, under staircases or in the open, temples, mandaps⁸, platforms and the like.*” (Census of India, 1991)

8
Structures erected for jain or hindu weddings.

According to the *National Report on Homelessness for the Supreme Court of India (2011)*, unhappy with the uncomplete definition of the Census of India, people also considered homeless are those living in temporary structures without full walls and roof, such as tarpaulin or thatched roofs. Nonetheless, the UN-Habitat report on homelessness defines it as an absence of a roof and/or a ‘home’ and that consequently pavement dwellers do not fall into this category, as they generally have both. (UN, 2000) This will be developed in the following chapters.

As precise as these definitions can be, there will always be unclassifiable structures, corresponding to neither category. Counting homeless, pavement dwellers and slum dwellers in Mumbai is therefore a difficult task. Some people fall out of each category, others might be counted twice. It is not surprising then that figures given by the government, NGOs and research institutes never match, and wildly disparate figures can be found. Data is generally sparse and scattered, for instance, the Brihanmumbai Municipal Corporation (BMC) counted 35,408 people as being homeless on the night of February 28, 2011. (Tatke, 2013) This number has been questioned by many other advocates. In 1981, a homeless census estimated that there were more than 2 million homeless people in India, whereas the 1991 Census of India showed a much lower figure of 1.2 million people. Abhishek Bharadwaj, the founder of 'Alternative Realities', an NGO working with the homeless, affirms that Bombay is home to more than 150'000 homeless while UN-Habitat estimates that the city's streets are home to 250'000. (UN, 2004)



Street children, P.D. Mello Road

1.2 HOME

The idea of home carries various meanings. As per Vycinas, home and house are two very different concepts. For him, there used to be a time when the house was more than a shelter but was also a part of one's self: *"The phenomenon of home (...) used to be an overwhelming and inexchangeable something to which we were subordinate and from which our way of life was oriented and directed (...) It is identical to a house; it can be anywhere. It is subordinate to us, easily measurable in numbers of money value. It can be exchanged like a pair of shoes."* (Vycinas, 1961)

We often consider home and house as identical. But what does lacking a home mean? Is it the lack of the roof or the lack of the 'home feeling' under the roof? (Dovey, 1985) Let's consider the house as the object carrying the function of shelter and take 'home' as the feeling of belonging or comfort the inhabitant has for the place. In that sense, the dwelling can be of any form, as long as the user feels that connectivity described by Vycinas.

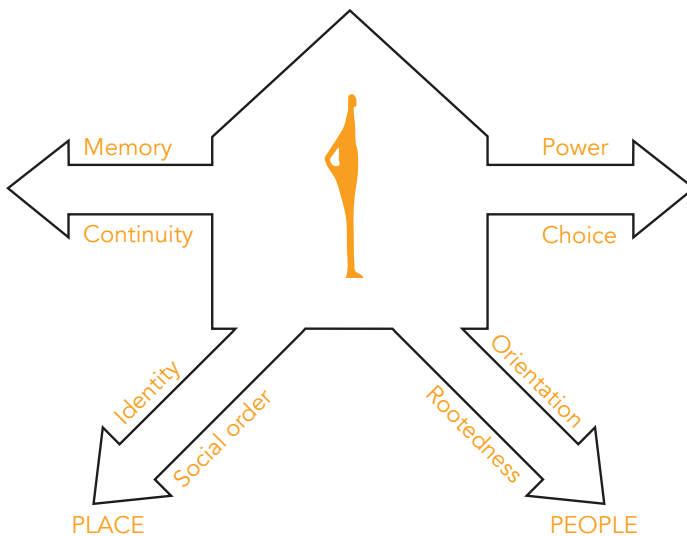
We can therefore affirm that homelessness and lack of housing are two distinct problems, although closely linked.

When a survey counts the number of people without a house, they are counting how many people do not have an official address. But can we affirm that anyone who does not have an official address does not have a 'home'?

Kimberley Dovey explains the four types of connection related to home: sociocultural, spatial and temporal - past and future. The place where we live connects us to the other people living around us which creates a sense of identity through sociocultural patterns. The place we live in is a landmark, a reference point which also creates a sense of belonging or suitability. The history of the 'home' anchors this sense of belonging in a collection of experiences. The belief that such experiences can keep happening in the future gives even stronger roots to this sense of belonging and connects someone even more to their 'home'.

Some of those four elements, although all indispensable, can have more weight than others, depending on the person or the community, eg. Nomads still consider their tents or caravans as home even though they are not tied to a specific place. Their sociocultural connections might then be of even greater importance.

Having stated what makes a home a home, we can now observe what homelessness really refers to: a lack of sociocultural, spatial and temporal ties. In other terms, a real homeless person would be someone with very few links to the people living around him, the sense of belonging to its place of dwelling being close to none, having spent very little time there and not expecting to spend more time there either.



Home as connectedness
 source: *Home and homelessness:*
 introduction, Dovey, 1985

1.3 NOMADISM

Nomad, n. and adj. : A member of a people that travels from place to place to find fresh pasture for its animals, and has no permanent home. Also (in extended use): an itinerant person; a wanderer. Oxford Dictionaries

Nomads generally dwell under tents or portable shelters. They can be divided into three broad categories: the hunter-gatherer, the pastoral nomad and the peripatetic nomad.

In urban contexts, it is of course very unlikely to run into a hunter-gatherer or a pastoral nomad, not only because their means of livelihood cannot be found in cities but also because their way of life has all but disappeared.

The peripatetic nomads offer crafts or special skills to the settled population among which they travel. Several examples of such nomadic groups can be found throughout Europe: the 'Yeniches' of Switzerland, Germany and Austria; the 'Taters' of Norway, Sweden and Denmark; the 'Travellers' of Ireland and England who call themselves the 'Pavees'. Among many others, these groups were influenced by the 'Rroms' or Roma, who have been travelling around Europe since the 11th century. Linguistic and genetic studies have shown that Rroms have come from Northern India and started moving West because the highest class, the Brahmins, chased them away. (Gresham, et al., 2001)

The brahmanic society considered some of their activities as 'impure'. Butchers, renderers, tanners, loggers, gravediggers, scavengers, metalworkers and entertainers were out of the caste system and therefore were not allowed to sedentarise. (Majumdar, Pusalker, 1967) They would travel around to offer their services or sell their goods to higher class people. This shows that the idea that sedentarism is a marker of social status in India is deeply rooted in history. This segregation system is still present today, although less visible in cities, under the term 'untouchable'.

*“I do not want my house
to be walled in on all sides
and my windows to be stuffed.
I want the cultures of all the lands
to be blown about my house
as freely as possible.
But I refuse
to be blown off my feet by any.
I refuse to live
in other peoples’ houses
as an interloper,
a beggar or a slave.”*

Mahatma Gandhi

2 THE DWELLERS

2.1 PAVEMENT DWELLERS IN THE WORLD

“Pavement slums are a phenomenon peculiar to the largest Indian metropolises (especially Calcutta and Bombay). They are radically different from what people generally understand slums to be. They are not the ‘jhuggi-jhopadis’⁹ or ‘bastis’¹⁰ which spring up on vacant lots or stretches of land, but hutments actually built on the footpaths/pavements of city streets, utilising the walls or fences which separate building compounds from the pavement and street outside.” SPARC

9
Refers to shacks in irregular settlements

10
Translated into irregular settlements

In the UN-Habitat report *Strategies to combat homelessness* (2000), we learn that the pavement slum phenomenon can be observed in a certain number of countries around the globe. (UN, 2000)

In Brazil for instance, many families have lost their houses due to inflation (Lusk, 1992). The impossibility of finding new affordable accommodation forced them to settle on the streets and build makeshift homes. Construction workers living in the outskirts of the city would also spend the night in such shelters during the week to be close to the construction sites, and then travel back to their families on the weekend. The cost of transport would be far too expensive to commute daily.

Rio de Janeiro

In South Africa, Olufemi categorised two different groups of street dwellers: people living on the bare pavement, and those who live in bus and railway stations or open spaces. In Johannesburg, most pavement dwellers are unemployed, although some construction workers do dwell on the pavement. Most of them have been there for a long time and have given up hope of finding jobs or other sources of income. (Olufemi, 1998)

Johannesburg

Dhaka Dhaka is one of the fastest growing city in the world. It absorbs a high volume of poor migrants entering the city every day. As in other cities, the pavement is one of the only options available. Even if the sheer number of pavement dwellers in Dhaka is low considered within the entire population of Bangladesh, it has grown considerably over the last twenty years. There are approximately fifteen to twenty thousands people living in places such as bus or railway stations, mosques, parks and pavements. As in Bombay, these are the most vulnerable people.

Calcutta Calcutta is known for its pavement dwellers. Officially, there are up to 200'000 people living on the sidewalk, unofficially this number was as high as 500'000 in 1985. (Graham, 1985) Although the term pavement dwellers is used, it generally refers to homeless living permanently on the pavement and not so much to people building dwellings on it.

2.2 PAVEMENT DWELLERS IN BOMBAY

As we have seen, cities like Bombay attract people due to life improvement opportunities, but at the same time, rural areas push them away because of debt, underemployment or unemployment. There is a mutually corresponding *urban pull* and *rural push* that brings more and more people into cities. When arriving for the first time in a city, poor migrants do not have many options. The demand for shelters is higher than supply, as such they can either temporarily settle on railway platforms or bus stands, look for a place outside the railway or the bus stand, encroach a pavement or find a place in a slum. (Tribhuvan, 2003)

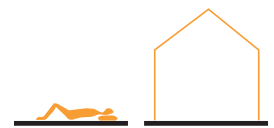
In Bombay, the economic conditions forcing people to the pavement can be broadly divided into two categories: short term and long term. The ‘long term’ residents are those unable to afford any other type of accommodation, with little prospect of their situation changing. Whereas the ‘short term’ consist of those who have not yet found something better but are hoping to in the future. The latter can be employees working in the centre but living far away and not able to afford the cost of daily transportation. These categories represent perhaps more accurately the different aspirations of people who take up residence on the pavement, as in reality the potential for ‘short term’ dwellers to progress beyond their pavement homes is minimal. (UN-Habitat, 2000)

During the night, the pavement becomes a place to sleep and there are three main types of users. The first and most precarious ones are homeless people who just sleep on the pavement. These people can be found in many mega-cities, like Bombay, Delhi, Calcutta or Chennai and throughout the world. They rarely have anything to sleep on or to cover themselves with. The homeless typically sleep on the same pavement except during the monsoon season, when they seek a covered place under a bridge, a pipeline or a highway. Another way to stay dry is to transport a tarp and unfold it on an unflooded footpath.

The second ones are what UN-Habitat called in their 1994 report *National Experiences with Shelter Delivery for the Poorest Groups* the “street sleepers”. These people often sleep on the street to be closer to their workplace even though they might have a shelter in a slum or outside the city but could not afford to commute everyday. Street sleepers, who are often office boys or domestic servants, may have access to a shared room provided by the employer which is often crowded but



Homeless



Street sleepers



Pavement dweller

offers food, social life and a fixed place. (Correa, 1985) Even if they sleep outside, especially in summer when the temperature are more bearable than in the crowded room, they can store their belongings in there. (UN-Habitat, 1994)

The last ones are what we call pavement dwellers. Their home is built on the pavement and even if it can be very precarious, they have a roof under which they can sleep. Pavement dwellers at this scale are specific to Bombay, where the lack of housing is critical and the migration rate high. Some can be found in Calcutta as well, but not in other mega cities like Delhi or Bangalore probably as a result of the amount of available land. We focused on this last category throughout our research, in terms of the existing environment, available utilities and amenities, social organisations of the neighbourhood and the way they build and live their homes. Pavement dwellers face many problems, such as: lack of privacy, insufficient utilities and dangers posed due to their proximity to traffic. As a consequence of these issues, they live a vulnerable and precarious life.

Those living on the pavement are at the bottom of the economic and social ladder. Therefore, they are often looked down on and provoke repulsion, pity or hostility among other residents and authorities. Yet, most pavement dwellers have jobs and are far from being a burden on the formal economy. They occupy the lowest positions and earn extremely low wages, by doing the tasks that no one else want to do. They are indispensable and positively contribute to the proper functioning of the city. It is only because pavement dwellers have no travelling costs and almost or no rent that they can live on such low salaries, and these low salaries ensure that they are bound to the pavement. For anyone else, even a slum dweller, these activities could not sustain their rent and lifestyle. Nevertheless, it is not only a matter of financial means, slums in Bombay today are densely populated which is making the search for accommodation harder and harder. Therefore, living on the pavement is not always only the cheapest option but also sometimes the only one.

Counting pavement dwellers

Since the 1920s it has been attested that there are slums in Bombay. (SPARC, 1985) In those times, slum and pavement dwellers were treated the same way. However, their number has exponentially expanded between the 1970s and the 1980s. It is over this period of

time that the attitude of authorities has drastically changed.

The first attempt to conduct a census in the slums was in 1959 by the Economic Survey of Greater Bombay. At that time, 20'000 pavement dwellers were identified.

In 1969, a second study was conducted by the Social Research Department of the Tata Institute of Social Science (TISS). 828 families were interviewed in the wards A and B. A third study was led by the Nirmala Niketan College of Social Work between 1981 and 1982 after a wave of demolitions of pavement slums took place in July 1981. This survey questioned 329 households in eighteen pavements slums in Bombay. (SPARC, 1985)

Despite these various studies and attempts to make the authorities take pavement dwellers into account, for a long time nothing has been done to provide affordable housing options to these residents. From the municipality's point of view, they are just illegal trespassers on public ground. Therefore, each time the 'regular' inhabitants of a neighbourhood would complain, officials would proceed with demolitions to please the populist opinion. This attitude forced the pavement dwellers to adopt a survival strategy: they would disseminate for a little while and resettle a few weeks later on the same pavement, or another one closeby. This constant process of settling and unsettling raises the aforementioned question of the address - if a pavement can be an address at all - and subsequent issues.

Regular apartment dwellers and slum dwellers generally have a proper address and therefore own a voting card that makes them proper 'citizens', which is often not the case for pavement dwellers. In general, most slum dweller have ration cards allowing them to buy basic food and supplies at a very low cost from subsidised food shops. Pavement dwellers, who are often families, do not fall in the 'slum' category. As they don't have a conventional address, pavement dwellers unfortunately can not get a voting card and can therefore not ask for a ration card, which makes them even more vulnerable than the 'conventional' slum dwellers. Moreover, without this voting card, they are rarely considered as eligible for rehabilitation and frequently see their shelters destroyed.

Legal status of the pavement dweller

The most controversial of these destructive operations happened over the night of July 1981, during monsoon. Thousands of pavement shelters were destroyed and the dwellers displaced outside the city. A few indignant journalists, together with human right activists, launched a petition arguing that these displacements were illegal and against the right of livelihood guaranteed by the Article 21 of the Indian Constitution, which stipulates that “*No person shall be deprived of his life or personal liberty except according to procedure established by law*”.¹¹

11
Constitution of India, Part
III Fundamental Rights,
Indian Government, 26
January 1950

Another main argument was “*that the pavement dwellers and the slum or basti dwellers, who number about 47.7 lakhs, constitute about 50% of the total population of Greater Bombay, that they supply the major work force for Bombay from menial jobs to the most highly skilled jobs, that they have been living in the hutments for generations, that they have been making a significant contribution to the economic life of the city and that, therefore, it is unfair and unreasonable on the part of the State Government and the Municipal Corporation to destroy their homes and deport them: A home is a home wherever it is. The slum dwellers are the sine qua non of the city. They are entitled to a quid pro quo.*” (Government of India, 1990) For the first time, the issue of pavement dwellers was put forward in to the public domain. The reasons that led to the emergence of pavement dwellings were also discussed for the first time: impoverishment of rural areas, the increase in urbanisation leading to rural exodus, very low salaries without job security and no access to conventional housing.

The Supreme Court Solomonic judgement was delivered in July 1985, and even though it accepted the petitioners' arguments in favor of pavement dwellers, it did not consider the evictions as illegal. “*While the residents were clearly not intending to trespass, they found it was reasonable for the government to evict those living on public pavements, footpaths and public roads. The evictions were to be delayed until one month after the monsoon season (31 October 1985). The Court declined to hold that evicted dwellers had a right to an alternative site but instead made orders that:*

- *sites should be provided to residents presented with census cards in 1976;*
- *slums in existence for 20 years or more were not to be removed unless land was required for public purposes and, in that case, alternative sites must be provided;*
- *high priority should be given to resettlement.*”¹²

12
Summary of Olga Tellis &
Ors vs Bombay Municipal
Council. 1985. www.escri-
net.org

The judgement was lost by the petitioners but the three orders made concerned both slum and pavement dwellers. They therefore gave rights to those on the pavement for more than 20 years to stay where they were or to be relocated. This case, known as the Olga Tellis case, after the name of one of the journalists, remained in the public consciousness as a first attempt to guarantee minimum legal rights to pavement dwellers. Despite its limitations, the court orders were considered as a victory by the petitioners who saw in those first granted rights hope for the future.

Evolution of the legal status

From then on, pavement dwellers were given more and more protection through many associations and alliances. In 1995, when the Shiv Sena, along with the BJP, came to power in Maharashtra, the Slum Rehabilitation Scheme (SRS) was launched and it was intended to provide housing to slum dwellers for free. At the same time, a committee was put in place, known as the *Afzalpurkar committee*. Members of NGOs were involved and one recommendation was to put in place a separate authority that would focus on the issue related to the slums. Thereafter, the Slum Rehabilitation Authority was set up and slum and pavement dwellers were granted rehabilitation, and the committee even stated that 80% of the slums could be rehabilitated *in situ*. The Slum Rehabilitation Act, that was signed in 1995, gave pavement dwellers more protection. This act protects from evictions every slum dweller that can prove that the beginning of their residence precedes the first of January 1995, not taking into account if they lived on the pavement or on a municipal land. This act enabled the pavement dwellers to be considered as households that could also benefit from relocation. They would not suffer from evictions without having a new home somewhere else. In early 2014, this qualification date was changed to January 1st, 2000.

There is an equivocal challenge present in a city like Bombay where on the one hand, the Government aspires to be slum-free by giving a high importance to redevelopment schemes, where the potential for rehabilitation is often disregarded, therefore enhancing builders' and developers' power. On the other hand, NGOs aspire to an inclusive city and fight for the protection of pavement dwellers and their rights. This question was openly posed for the first time in 1985 but will continue to be a divisive issue until a solution is found.

SPARC

It was in 1985, during the Olga Tellis case, that the NGO SPARC was formed. Their philosophy is to demonstrate that one can learn from 'precedents'.¹³ If efficient solutions are found for the poorest and most marginalised, they can be adapted and reused in other contexts, throughout the country and beyond. SPARC conducted a large scale survey of pavement dwellers in 1985. The NGO helped a group of women pavement dwellers to gather together to form *Mahila Milan*¹⁴ with the idea that these women, by getting together could support each other to improve their lives themselves. The decision to organise an objective census of pavement dwellers aimed at gathering enough information to better inform future actions. The goal was also to prove that conducting such a survey was not an impossible task, largely thanks to the help of the pavement dwellers themselves.

SPARC conducted its survey in the E-Ward, an administrative district in the heart of Bombay where they already had a level of trust built with the residents. Volunteers and members of *Mahila Milan* then mapped all the shelters built on pavements, street after street, and then interviewed all the inhabitants.

Thanks to this study, SPARC succeeded in developing profiles of the pavement dwellers.

Importance of enumeration

Arjun Appadurai, who has been working with SPARC and *Mahila Milan* since their beginning, wrote that "*censuses are seen as one of the tools that enables "seeing like a state", in a manner that enhances the capacity of the state to monitor, measure, tax and police the poor through documentation techniques. It is only recently that self-enumeration, self-mapping and self-documentation have begun to be seen as a "weapon of the weak" and as part of the political self-expression of urban slum communities. (...) enumeration and mapping can also be tools that enable poor urban communities to mobilize knowledge about themselves in a manner that can resist eviction, exploitation and surveillance in favour of advancing their own rights, resources and claims.*" (Appadurai, 2012) However, as we have seen previously, numbers can vary wildly depending on the definitions given to pavement dwellers. According to Alaka Basu, an Indian sociologist teaching at Cornell University, in a talk she gave at the EPFL, "*people's perception of reality changes the meaning of numbers*".¹⁵ Moreover, surveys are not only important for documentation but also for self-empowerment. Some communities do not officially exist before being documented. Communities can

13

Skype Interview conducted with Maria, project manager at SPARC. Precedents are projects that are done to be repeated, shown and readapted in other similar situations.

14

Women together in Hindi

15

EPFL, MACS Part. 2:
Lausanne Summer
School 2014, Alaka Basu,
09.07.2014

be taken in account once they have acquired knowledge, social power, moral force and *sacred significance* in themselves through self-documentation and thus become part of the democratisation process. Before that, they were passive and vulnerable to be being defined and manipulated by others. (Appadurai, 2012)

It is through the enumeration process, done either by the government or communities themselves, that the municipality of Bombay has recognised pavement dwellers as eligible for rehabilitation. Before, they were completely invisible in governmental policy. (UN-Habitat, 2000)

Unfortunately, when enumeration and mapping is conducted by a third party who is not familiar with the reality in the field, results can lie. We were given a very insightful example of such misrepresentation by a scholar we met in Bombay. She told us about the mapping done by a famous architect in the framework of the Development Plan 2014-2034. His task was to map all the open spaces and slums of the city. To do so his office only used internet tools such as Google Earth and did not conduct checks and surveys in person to confirm if their mapping was correct. He presented his work through a large exhibition and a series of lectures. The day of the opening, the architect gave a speech which was followed by a few questions from the audience. One of them was a comment made by an inhabitants of a *koliwada* (fishermen's village). He explained in Marathi that he did not speak English and that therefore he had not understood a word of the speech, but what he had understood is that his *koliwada* was mapped as a slum and his area for drying fish was mapped as an open space. He stared at the architect and told him that as long as he lives he would not allow him to relocate his village or turn his fish drying area into a public park.

This shows the limits of such large scale mapping. It works to give an approximate idea of the size of a phenomenon but can in no way be the base for an actual urban redevelopment project.

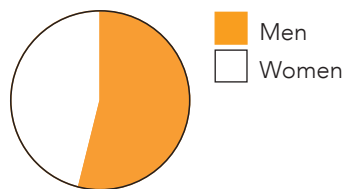
Who are the pavement dwellers?

All the inhabitants of the E-Ward concerned by the census SPARC conducted agreed to complete the questionnaire. Knowing that they would be able to access all the results of the study, unlike with previous studies, gave them further motivation. It was the first time that they could read official objective facts about themselves and not only complaints and dismissive articles in the media. The census

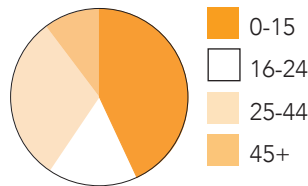
represented an opportunity for them to assert their presence and their existence, the authorities could ignore them no more.

The census concerned 26'583 people, comprised of 14'370 men and 12'213 women, organised into 6054 households. 43.1% of the the interviewees were less that 16 years old - which corresponds to the national average. People between 25 and 44 years old represented 30.3% of the interrogated population, which is higher than the national average of 25%. During our field trip, we also observed that the dwellers were rather young and there were a lot of children. We rarely encountered elderly people, and when we did they always lived with their children.

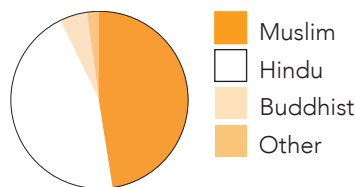
Most of the interviewed population were either Muslim (47.5%) or Hindu (45.3%). Only 5.1% were Buddhists and Christianity and other religions had very little representation (2.1%), which shows a significant disparity with the city census where 18.6% Muslim and



Genders



Age



Religion



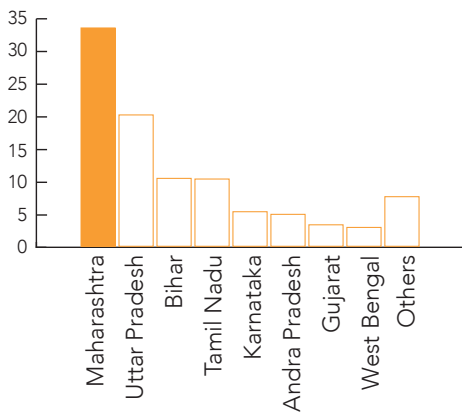
Wards, Bombay
source: mcgm.gov.in

67.4% Hindus were surveyed in 2011. It indicated a marginalisation of the Muslim population, who are often poorer than Hindus, especially in a state like Maharashtra that is very conservative in its governance.

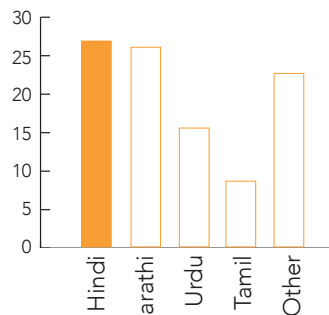
The spoken languages were mostly Hindi which is the national language (26.9%), Marathi which is the language of the State of Maharashtra (26.1%), Urdu (15.6%) and Tamil (8.7%). The last quarter spoke other south Indian languages or dialects.

Migration

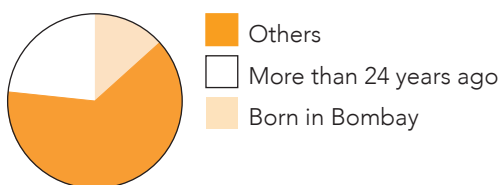
A direct link could be observed between spoken languages and origins of pavement dwellers. In fact, more than a third of the interviewees came from the State of Maharashtra where Marathi and Hindi are mostly spoken. Urdu and Hindi are spoken in Uttar Pradesh, from where 20.3% of the population came, as well as the State of Bihar (10.6%). 10.5% were from Tamil Nadu where people speak mostly Tamil. There were also significant percentage of people coming from Karnataka, Andra Pradesh, Gujarat and West Bengal (between 3.1% and 5.5%). The rest of the migrants (7.8%) came from other



Origins



Languages



Arrived in Bombay

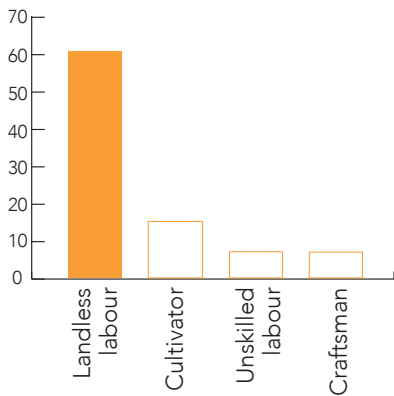
Source: SPARC, We, the invisible. A census of pavement dwellers., 1985

Indian states. Within these various States, migrants came most of the time from the poorest and less economically developed districts. In our research, people we met came either from Maharashtra or from South India.

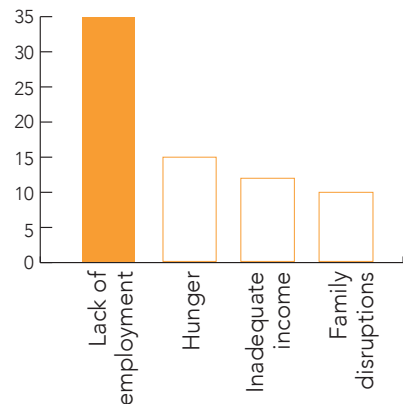
It is also interesting to understand when the migration that generated these circumstances took place. 13.5% of householders were born in Bombay and have always lived there. At the time of the census, 23.1% of migrants had been living in Bombay for more than 24 years. It shows how difficult it is to escape from such an entrenched situation over such a long period of time. We noticed in our research that all of the dwellers came to Bombay at least seven years ago. Some had even been there for more than 60 years.

Before they migrated, the majority lived in poor rural areas where 61% of men were landless labourers, 15.4% farmers, 7.3% unskilled manual labour and 7.2% craftsmen. Half of women were housewives and 28.4% landless labourers. Their holdings consisted of a house with a small parcel of land for only 18.2%, only a house for 27.2% and 52.4% did not possess anything before they migrated. We can summarise their situation as following, they are amongst the poorest people from the most disadvantaged regions in India.

The causes of migration in the selected sample are mostly due to



Rural employment



Reasons for migration

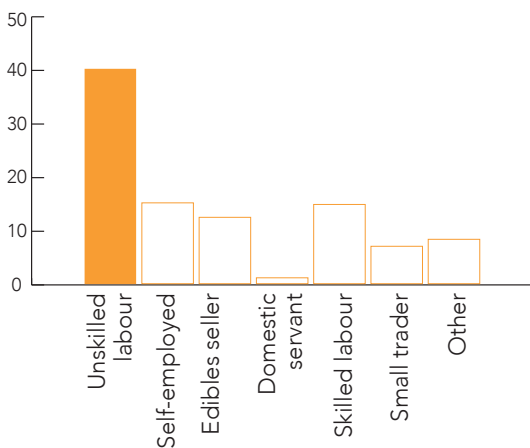
extreme poverty: lack of employment (35%), hunger or starvation (15%), and inadequate income (12%). Also a significant factor are family problems: divorce, or the death of parents or a spouse (10%). The last category is frequently connected with natural or manmade disasters.

43% of the interviewed population have paid jobs, which is higher than the national average (38%). Following the national trend, 73% of men and only 27% of women have a professional activity. Ninety different jobs were mentioned during the census.

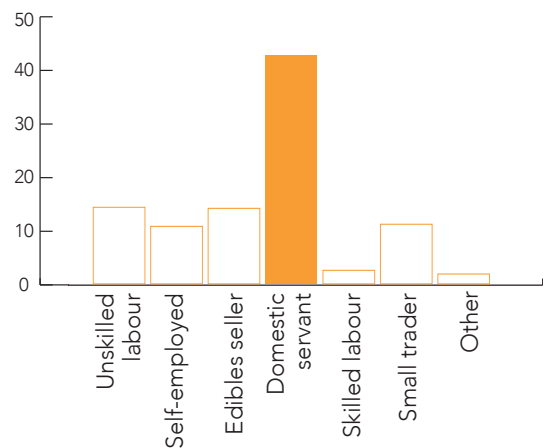
Employment

One third of the workers are unskilled labourers. 21.5% are hawkers selling food or other goods. 12% are domestic servants, of whom 90% are women which represent 43.3% of their paid occupations. Independent workers account for 14% of the sample. Only a minority have access to qualified jobs 12% (of whom only 6% of women). One third of the workers had salaries under 18 Rupees. In our own study, we encountered a large variety of different ways to earn a living. Some were working in the slum, some were truck drivers. We also met women that worked in order to have a greater income.

An important idea to understand why pavement dwellers settle where they do, lies in the distance between their workplace and their shelter.



Men's employment



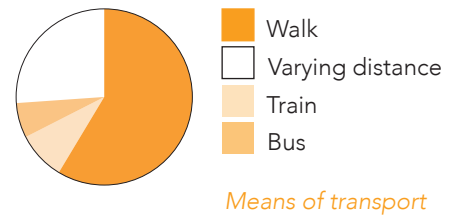
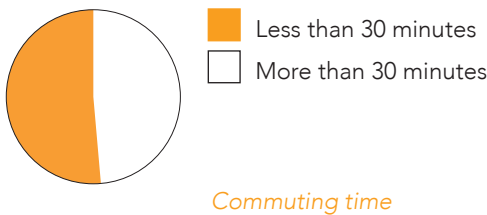
Women's employment

The majority of the workers are at less than 30 min walking distance (51.5%). Of the people commuting more than 30 minutes, 58.7% of these people do not use any kind of transport, 8.9% use the train and 6.3% the bus. For 26.1%, the distance varies from day to day. These numbers apply for both men and women.

This wide study conducted with such a broad range of pavement dwellers shows that unlike the general preconceptions, almost no pavement dweller are beggars.

Cost of the pavement

Dwelling on the pavement is not free of cost. In most cases, newcomers have to pay to 'musclemen' controlling the area to have the right to build a shelter. The amount can sometimes reach 2500 Rupees (in 1985). In some cases, they had to pay rents up to 50 rupees per months. We learnt through the dwellers that today the average rent is about 2500 Rps per month plus around 500 for electricity and water. The materials to build their house are sold at high rates and basic amenities like water and toilets have a cost too. The pavement dwellers' salaries being low, they can only afford food in small amounts, making the cost rise even more. They enter thus a vicious cycle that is difficult to get out from. Therefore, even though newcomers consider the pavement as a temporary solution, most of them end up spending their entire life there.



source: SPARC, *We, the invisible. A census of pavement dwellers.*, 1985

People of the pavement

We had the chance to meet and talk to some inhabitants of the Elphinstone estate area. Something that surprised us was their kindness and warm welcoming smiles. Even though they live in relative poverty, they were never reluctant to share the little they had with us, be it chaï or even lunch and dinner. Lots of children came to us and asked: “*Ma’am, Ma’am, one photo please!*” They were not used to see Europeans in their neighbourhood and were quite curious about us, closely observing everything we did. In this section we are presenting some of the people we got know during our stay to show the variety of profiles found among pavement dwellers.



Women in their home



People of the pavement



Asma

The first girl we really talked to was Asma. She's a twenty-two year old Muslim girl with quite an incredible story. She graduated from what she said is the best business college in Bombay, where she had the chance to meet Barack Obama in her role as the student representative. She worked for the prominent IT company, Oracle, during her studies and is now working for Tata Consultancy Services. There she takes reservations from all over the world for Taj Hotels in India. She has been working there for fourteen months, but her dream is to move to Dubai, where she could relatively quickly earn sufficient money to buy a house for her parents outside of the slum, and pay for the education of her two younger siblings.



Asma's 23rd birthday

“My dream is to go to Dubai and make quick money. Then I want to get married and be a housewife.”



Asma's house

Her story is incredible, as is her parents'. Her mother grew up in a Bombay slum. She met her husband, who came from a royal Punjabi Hindu family. He converted to Islam and married Asma's mother. A story of love no matter what the conditions are. Her father works out of town and her mother is a Koran teacher in a nearby madrasa. Unlike her parents, Asma wants an arranged marriage because she trusts her parents' opinion and it is difficult nowadays to find a good husband according to her. When she will be married to a well-off guy, she wants to be a housewife and live in India. Her older sister is working and engaged to a nice man, her younger brother is thirteen years old goes to the English school and wants to be an engineer. The youngest girl who is nine years old wants to study medicine.

We had the honour to be invited to Asma's birthday, that is on the same day as Independence Day. We went to her place and were quite surprised to see her and all of her friends dressed and made up. Since we had a camera, we were asked to take a lot of pictures of them posing. The Indian tradition with the cake is that Asma had to cut it and then feed everyone a bite. Then, two of her friends took a piece of cake and literally rubbed it on her face, a very funny tradition! After the cake, we had a famous Bombayite dish, *pav bhaji*, which is a vegetable gravy with bread.

She has the most beautiful house in the whole neighbourhood. It is a two storey house built in brick. It is painted in bright red. The family has running water, hot water and even a toilet on the upper floor.

Srushti

16
Lunchbox

We also got to know Srushti quite well, a little eight years old girl, whose parents left Satara in Maharashtra for Bombay in 2007. The family consists of: Vaijaynta, the grand mother; Rani, her daughter; Sachin, Rani's husband and their three children. They lived in a corrugated sheet-built house for five years before moving to a brick-built house due to the birth of the third child, Sai. The two women prepare daily lunches for some workers who bring them their *tiffin*¹⁶ the night before. Sachin has a daily work in a textile mill where he dyes fabric. These small jobs enable them to buy food and pay school fees for Srushti. Their two-room house does neither have toilets nor running water, nor a fan for ventilation. They have a TV and get electricity, but as with the entire neighbourhood, we don't know how they get it. Srushti goes to the 3-2-1 English School from 8 to 12 in the morning everyday except Sundays. In the afternoon, she plays with her friends on the street in front of her house, take a nap and does her homework. Her dream is to become a doctor and move to the US with her family. Srushti was one of the girls we spent the most time with and from whom we learned the most. Her English was good enough for us to ask her some questions about the neighbourhood. Although sometimes the information got lost in translation as she relayed information from her mother. We also played a lot with her on the street, dancing with children, taking pictures of them and them taking pictures of us. Every time we left she asked: "*Didi*¹⁷, *when are you coming back?*"

17
Auntie



left: Srushti's house
right: Srushti's family

“I want to be a doctor and live in America with all my family.”



Muskan

One of Srushti's friend is called Muskan, who lives on the opposite side of the street. This thirteen year old girl has three sisters and one younger brother. Her mother is a housewife, taking care of the young children. Their father is a truck driver who transports steel from Pune to Bombay. He is not often at home. This Muslim family moved from Adoni in Andra Pradesh seven years ago. Muskan and her older sister Neha both go to the Urdu school. They both want to continue their studies when they graduate from here. Muskan wants to study business and then move to Vashi in Navi Mumbai, which is a common place of relocation of slum dwellers. As for Neha, she wants to study medicine.

Concerning water and electricity, they get both from the government and are therefore metered, receiving for both a monthly bill. Her house is in an even more precarious situation than those previously described, being self-built in a narrow gap between two warehouses. The dwelling is very deep and separated in two, an outside part and an inside one. All the wet activities as well as the kitchen are placed outside while the eating, sleeping and TV-watching takes place inside. The confinement forced them to also build a loft¹⁸ so they can store all their possessions and to keep everything that is needed above the ground level, to allow as much space as possible to be kept free for daily activities. One day, Neha invited us for lunch. She cooked for us one of the best meals we had in Bombay.

18
Storage above



left: Muskan's house
right: Muskan's family

*“I would like to study business and live
in Vashi”*



Kalpana

We also had the pleasure to meet Kalpana, a forty-five years old Hindu woman living with her two sons. She came to the Elphinstone estate with her parents thirty-five years ago from Kokare in Maharashtra. Her husband left ten years ago. Amol, her twenty-three years old son, sells cold drinks and candies in a small shop on the main street. Vikas, who is twenty-five, works in an office nearby. Kalpana herself doesn't work and rely on her sons' salary to live and pay the bills. In her self-built brick-house, which has two floors, she has electricity, a fan and a TV. In this house, as in most, items are stored on shelves in order to maximise use of the limited floor space. The shower and toilets are placed in a space that is attached in front of the house. She invited us for dinner on the night of the Rakhi, or 'brother-sister' festival. She cooked a lovely meal with dal and rice.



opposite page
top: Amol
bottom: Kalpana
Kalpana's house



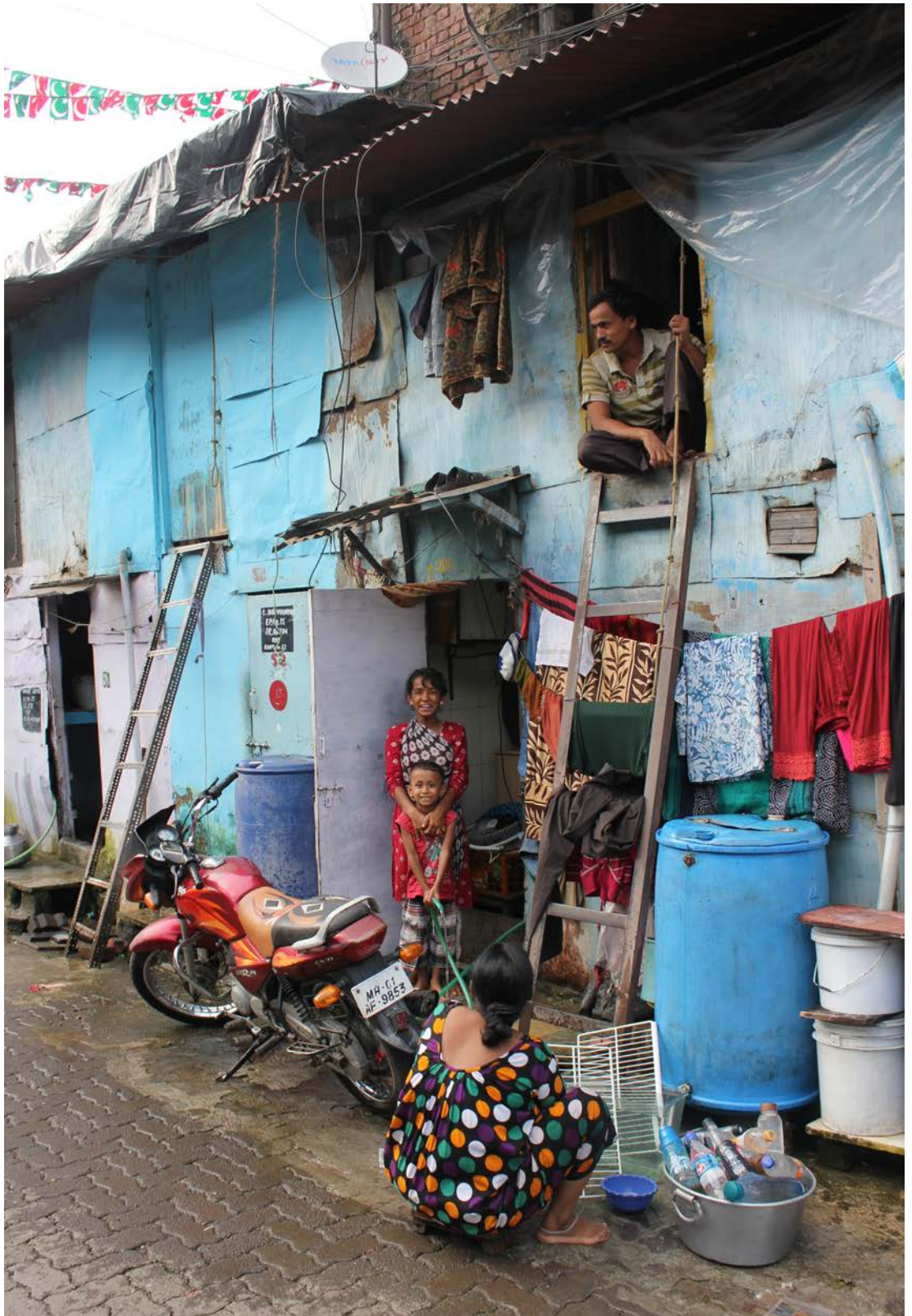
“I moved to Bombay with my parents in 1972 because of the drought. We did not have enough to eat in the village.”



Krishna

All of the previously described people live in the south of the neighbourhood. The next one lives on the northern part and is called Krishna. His grandparents came from Chennai sixty years ago to settle there. They first lived under a tarp for fifteen years before building a house on a corner that has now stood there for forty-five years. Krishna's parents were born there and had two sons. Krishna is a thirty-six year old bachelor and works for the ICICIC-Bank. His brother, who lives there also, is married and has three kids. According to him, all the neighbourhood, at least the eligible ones, will be relocated in three to five years in the north of the city. Krishna has the biggest dwelling of the street. It take an entire corner and has two floors. Inside, there is a kitchen with running water and a fridge, a high-end TV and enough space for everyone to sleep properly, even a bed for the elderly. He spoke quite a bit of English and could explain to us some of the social networks and customs of the area.

“My grandparents came here 60 years ago. I have lived in this house all my life. I do not want to be relocated far from my friends and my workplace.”



Krishna's house

3 THE DWELLING

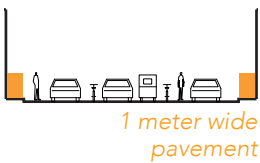
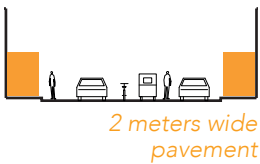
“One man’s rubbish is another man’s treasure.” British idiom

There are many ways to encroach the pavement and as we will describe it later in further detail, it depends significantly on the specific context in which they settle. Existing elements influence the manner of construction, available amenities impact on the way of living in that space that is the sidewalk, social organisations such as work, relationships with the neighbours vary from place to place. All these factors have an impact on the way people actually build, and pavement dwellers need to be innovative to deal with them. This inventiveness generates a fascinating diversity, both in the construction details and in the decorative elements of homes. The sidewalk becomes an inhabited space just like a traditional plot of land.

3.1 ENVIRONMENT

The built environment, in, on and against what homes are built, is quite varied. The sidewalk itself, the surface on which pavement dwellers settle, naturally has a great influence on the way they build. The pavement may vary in width or in height. We can classify three different widths of pavements: less than one metre, between one and three metres, and more than three metres. The types of settlement vary greatly depending on the dimensions of the pavement.

An explicit example of how the size of the pavement influences the dwelling can be illustrated by the recent eviction of pavement dwellers along P D'Mello Road. For decades this main axis linking the North to the city centre was inhabited along its fringed by pavement dwellings. The pavement width along here was a minimum of 2 metres. The government decided to free these pavements from settlements as they were situated on an important approach route to the city, with the aim of giving a cleaner, more pleasant first impression of the city. To avoid new settlements on the same sidewalks the pavements were reduced to 1 metre. This effectively freed the pavement from new construction, but an unforeseen consequence was that homeless people have taken it over, and now occupy large parts of this public space.




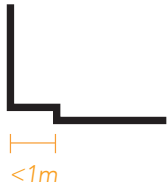
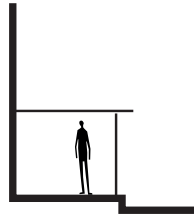


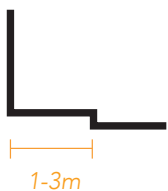
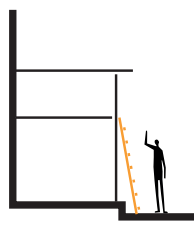


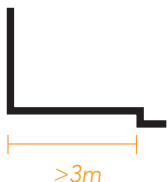
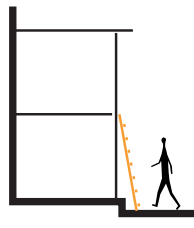



The length of houses can also vary, but in general houses on the same street are similar in terms of surface area. The height of the pavement influences mainly just the access to the home. One would have to build a step in front of the house if the pavement is too high, and if the pavement is too low, one would have to build a higher threshold in order to avoid flooding during monsoon.

The bounding structure is another component that impacts the architecture of the pavement dwelling. It can be found in many forms, such as a building, a compound wall, a parapet, a metallic fence, simply nothing or other more specific forms such as a narrow space between two buildings. This dictates the height of the houses and what materials are used in their construction.

Another significant component of the environment is traffic and the risks associated with living in such close proximity to moving vehicles. First, there is the issue of safety, children playing, women cooking and doing the laundry on the street can be very dangerous. The traffic in Bombay is dense and chaotic, and accidents happen frequently. It also unsafe in terms of its effect on the resident's health. Air and noise pollution can disturb a pavement dwellers' quality of life in a significant way, and thus the more permanent and *pucca*¹⁹ a house is, the safer and more comfortable it is to conduct their lives in.

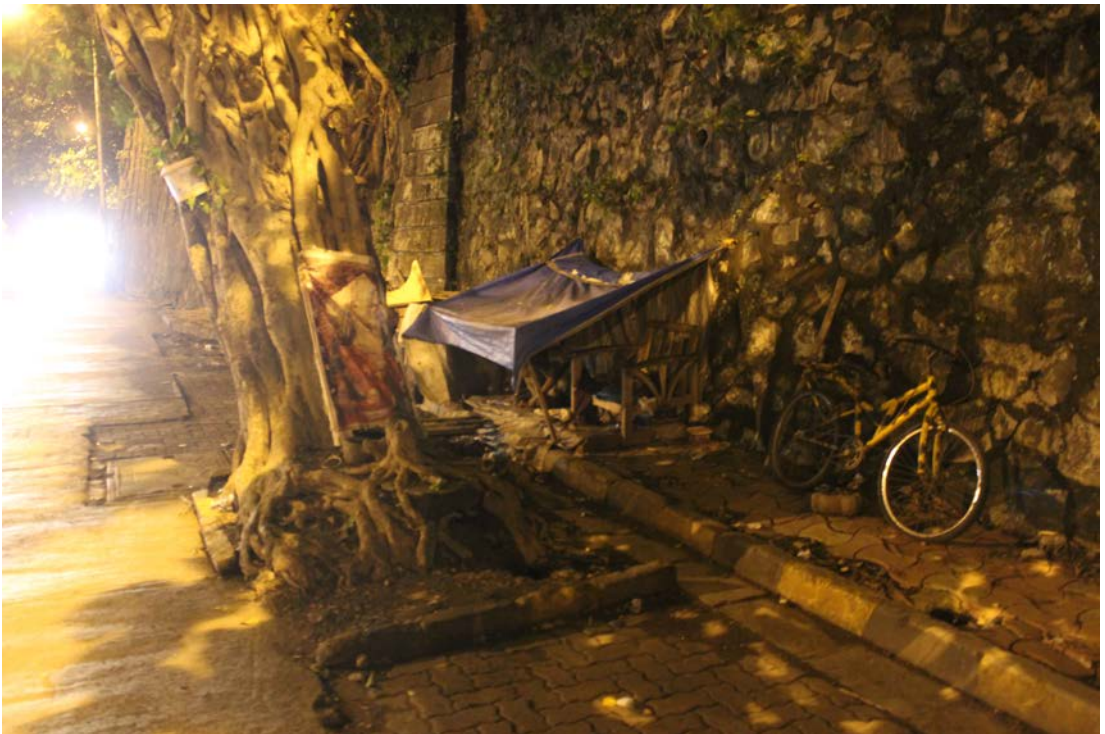
19

Refers to dwellings that are designed to be solid and permanent

Bounding structure	Pavement size	Storeys	Organisation
 <p>No structure</p>	 <p><1m</p>	 <p>1 storey</p>	 <p>Isolated</p>
 <p>Parapet</p>	 <p>1-3m</p>	 <p>1+ 1/2 storeys</p>	 <p>Sparse</p>
 <p>Fence</p>	 <p>>3m</p>	 <p>2 storeys</p>	 <p>Colony</p>
 <p>High wall</p>			
 <p>Building</p>			



Pavement dwelling against stone wall on P.D. Mello Road



Pavement dwelling against stone wall on P.D. Mello Road



Pavement dwelling colony on Sardar Vallabhbai Patel Bridge



Dwelling against JJ Hospital compound wall on Ramchandra Bhatt Marg

3.2 UTILITIES

Sanitation

“In India, where distance from one’s own faeces can be seen as the virtual marker of class distinction, the poor, for too long having lived literally in their own faeces, are finding ways to place some distance between their waste and themselves. The toilet exhibitions are a transgressive display of this faecal politics, itself a critical material feature of deep democracy.” (Appadurai, 2011)

Access to basic amenities is a serious issue for people living on the pavement. Among these, access to sanitation is the most pressing. According to official numbers, 50% of the Indian population don't have access to sanitation. In the worst case scenario, pavement dwellers are forced to use the open space for their intimate needs, although some public lavatories are now provided by the government, political parties or privately operated facilities which charge for their use. Men and children generally don't hesitate to use the open space to wash themselves or use as toilets. This solution is often preferred to walking long distances along dangerous and busy roads to find public facilities. Many mothers therefore don't discourage their children from using the public space for their intimate needs. For women, this issue has another dimension. They either have to go to public lavatories or to wait for the night to fall in order to use the public space to relieve themselves with some modicum of privacy. It then occurs that through having to pay for the use of certain facilities, it is the poorest among the poor that must pay for this most basic of human needs.

Water

In terms of water, we observed that most of the time, people collect water in blue water barrels that were procured from factories where they were previously used to store chemical products. As for sanitation, it is very difficult to have access to running water in pavement slums, although we did notice that some of the more sophisticated dwellings had somehow achieved this. We also discovered that the government provides water through tanker trucks that pass through the neighbourhood. However the amount being provided is in no way sufficient to serve the needs of the entire community. Some illegal methods are also employed, such as a connection to the city's water network. This has to be hidden and used carefully only at night in order not to be caught. Some arrangements can be found at a larger scale. In Apna street in the North-East of the city, an agreement has



Girls relieving themselves in the open



Water barrels in front of a house

been brokered between the dwellers and the neighbouring fire station. Everyday, women can come to a water-terminal there. However, there is not enough water available for everyone and the shortfall must then be purchased, which reduces the family's already meagre income.

Electricity

Until 1995, 80% of the pavement slums population did not have access to electricity. Of the 20%, most had an illegal connection. (Burra, Riley, 1999) From 1995 on, with the application of the Slum Act, the company providing electricity in Bombay (BEST) started to deal with SPARC, NSDF and Mahila Milan in order to find a way to connect slum dwellers also. It was then in 1997 that the first pavement dwelling was connected to the electricity network. For the Municipality, it was not only a matter of recognising and legalising pavement dwellers, but a matter of safety too. Materials that are used to build the homes are often highly flammable, such as wood or plastic. BEST required that all plastics were removed and a disposed of in case of fire or any other damage due to the electrical network. The most important question for BEST was to know who would pay the monthly bills. Pavement dwellers did not have a proper address since they are not recognised as citizens, and thus can not receive the bills themselves. This was resolved by SPARC agreeing to pay the bills, and then collect the money from the users.

Today, not every dwelling has electricity provided by BEST. Some people are sharing their connection with their neighbours and some are stealing it from the municipal network. Having electricity is not only necessary in terms of light but also for ventilation. In addition to the already highly polluted air in the city, people cook on gas stoves, further compromising the quality of their indoor environment. This is why exhaust fans can sometimes be seen on the front of a dwelling, even though it is relatively expensive to install and run.

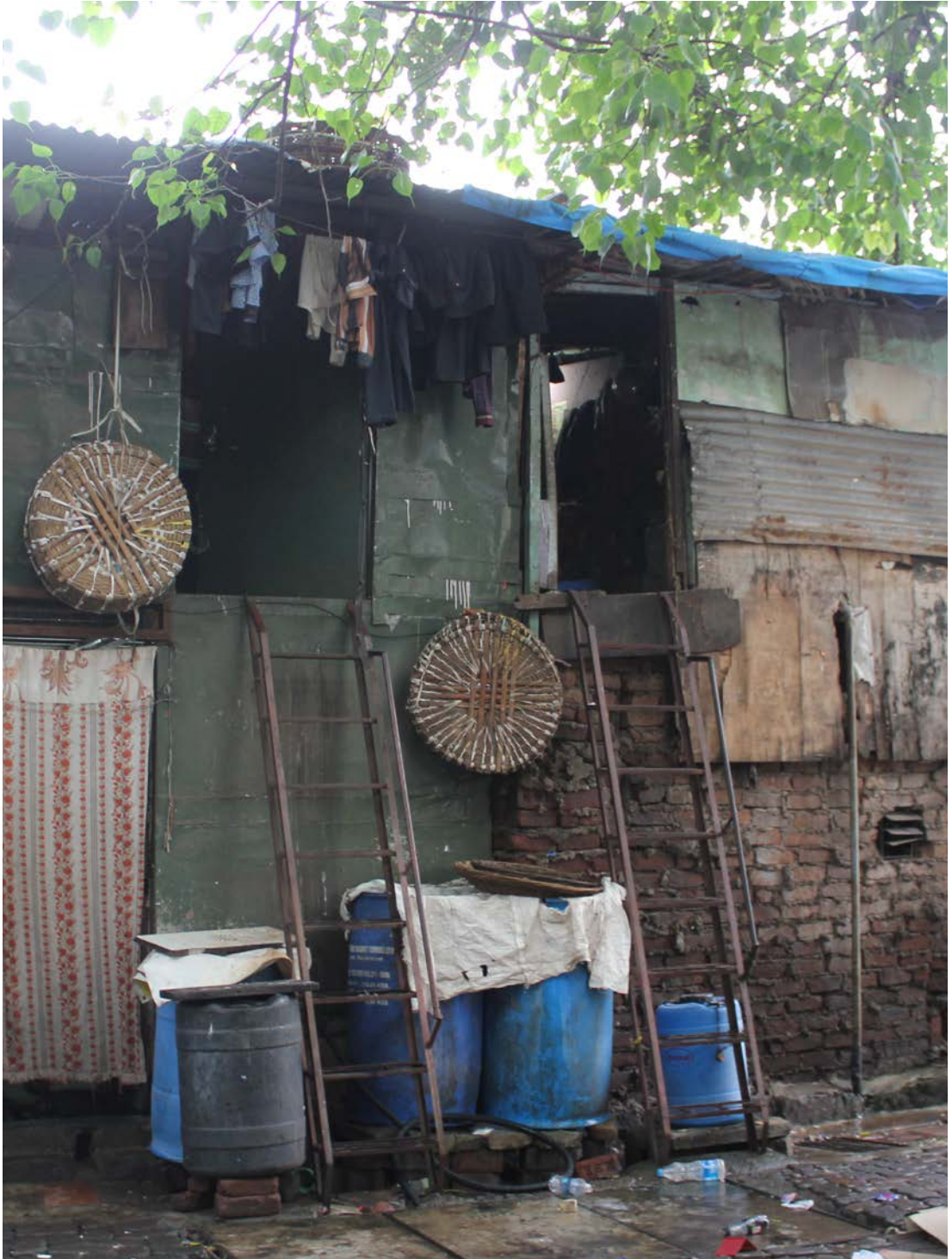


Electric pannel



Electric wires and TV antens

3.3 CONSTRUCTION ELEMENTS

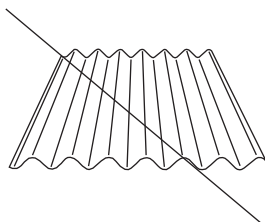


Dwellings built in bricks, flat and corrugated steel

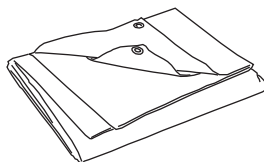
Roof

Infill

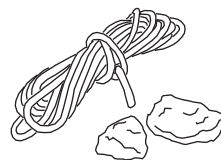
Structure



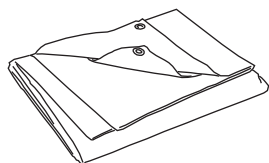
No roof



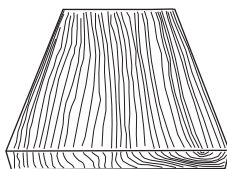
Tarp



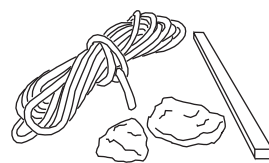
Rope + weight



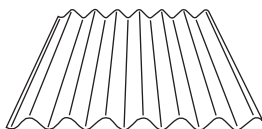
Tarp



Woodplanks



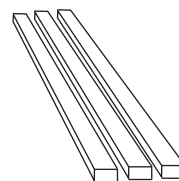
Rope + weight + rods



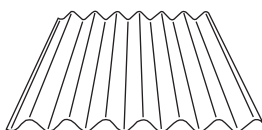
Corrugated steel



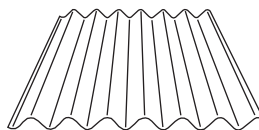
Flat steel



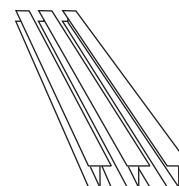
Wooden structure



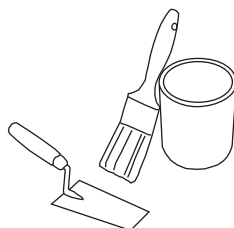
Asbestos cement



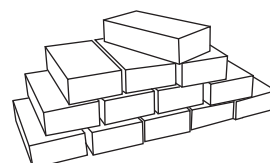
Corrugated steel



Metallic structure



Mortar and /or paint



Brick structure

3.3 SPATIAL CHARACTERISTICS AND USAGE

Exterior

Windows

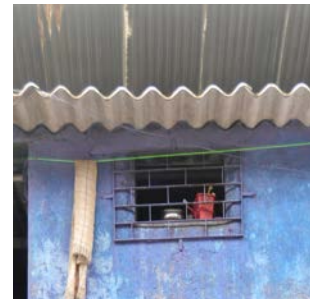
The facades of pavement dwellings are a mix-match of found elements. Depending on the materials used, there can be significant variation in the elevation of the street. The sheets of metal compose a collage adapted to the shape of a door, of a potential window or an opening for an exhaust fan. Depending also on the means of the household, the types of openings in the wall may be different. In the worst cases, there are no openings at all, even for ventilation, but most of the time each floor has at least one window. It is generally just a hole in the wall. Often, the hole is framed, sometimes wire grids or 'moucharabieh' close the opening, and in rare cases the dwellings are equipped with real windows. The various levels of quality of the openings are another indicator of how well-off the family might be.



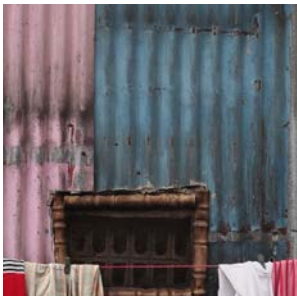
Closed window



Hole



Grilled window



Framed opening



Moucharabieh



Exhaust fan

Most facades are colourful. Painting the house is a very important ritual, it shows to the community a pride in their home, and their ability to maintain and take care of it. We were told by a pavement dweller that most households repaint their dwellings every other year after the monsoon. Therefore, the quality of the painting indicates whether the family has been able to repaint its wall over the previous year or not. There is a wide range of colours used but some are represented more frequently than others. We first assumed that there would be a correlation between the religion of the family and the chosen colours, but we eventually realised that it was simply an aesthetic decision independent of their spiritual beliefs. The most common colours are blue, green, grey, turquoise, pink and red. We observed that many houses are painted with a single colour, but many others also combine colours with a distinct sense of aesthetics that shows how important the appearance of the home is. The colours generally change either between floors or from one facade element to another.

Colours



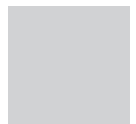
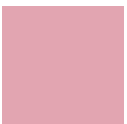
Painted uniformly



Painted by floor



Painted by elements



Most used painting colours

Decoration

The colours do not indicate the religious beliefs of the inhabitants, but there are many other decorative elements that can reveal this information. For instance, a lot of door frames and doors are decorated and it is not rare to see Hindu or Muslim symbols fixed or painted on to them. Pre-painted tiles representing gods or carrying an extract of the Koran in Arabic are sometimes fixed above the door. As such, the doorframe is used to further personalising the dwelling. The door itself can be a social status indicator. Some doors are just made of a few wood planks nailed together, while some other are beautiful pieces of carpentry work. It is also common to have large printed stickers depicting a higher quality door affixed to lower quality ones. A particularly interesting element showing the religious conviction of a household are its plants. We repeatedly noticed next to and above the doors little green plants pots. These had never caught our attention until we read one day about the tulsi, also known as holy basil. It is a sacred Hindu plant, vegetable, spice and ayurvedic treatment. It is widely used among Hindu and serves as protection for the household. We started to take a closer look at these pots and realised that they were always only tulsi. Therefore a lot can be learnt about the inhabitants of a dwelling by looking at their door.



Decorated entrance

The space in front of the dwelling is always very interesting to look at. Most of the time and when possible, domestic activities are carried out outside the dwelling because of the lack of space inside. We noticed for example that many dwellings are equipped with exterior light fixtures, generally hanging above the doors to bring light to evening activities. Shelves and blackboards are fixed to the walls to enable children to study. Ropes are attached to the walls to hang drying clothes. Chairs, beds, stools are left in front the house, transforming it into an outdoor living room. Cats, dogs, cocks and hens walk freely around the houses or sometimes are kept tethered on a leash. It is not unusual either to see cows in front of houses.

Exterior
domesticity



Outside domesticity





Outside domesticity

Monsoon When monsoon comes, pavement dwellers do not all stay inside. A lot of dwellings are equipped with temporary wooden structures covered by tarps offering a extension of the inside space. Improvised or prefabricated gutters are sometimes fixed to the roofs. The roofs can be of different lengths. They generally extend 20 to 50 cm from the wall to protect it from heavy rains. When the dwellings have balconies, the roof is usually extended over it. If the roof is not long enough, smaller supplementary roofs are sometimes fixed just above the door. Tarps are also spread on these structures as further protection from rain, and fixed in place with bricks, stones, tires or bamboo sticks. We were told that these tarps are changed every year to ensure they provide the best possible protection.



Gutter



Protection above the door

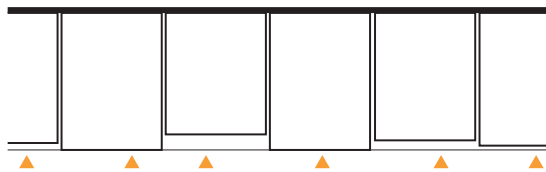


Rain protection

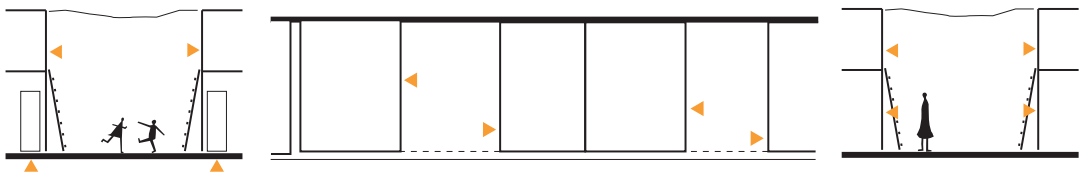
The entrance

Access to interior

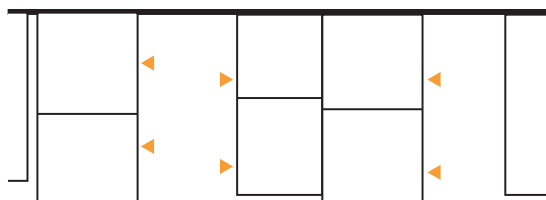
The most common way of accessing a pavement dwelling is directly from the road as the structures typically take up the entire width of the pavement. However, we have observed other functional methods that can improve the quality and security of the entrance. For instance, when a space is left between two houses, the entrance can be made there instead of along the street. These in-between spaces can be covered, offering the exterior space protection against the elements. Sometimes the main entrance still faces the street, but the upper-floor entrance is located within this intermediary space. It also provides a safer space for children to play and adults to carry out domestic activities that usually would take place on the side of the road. In rare cases, when the pavement is exceptionally wide (5-6m) or when the street is particularly large, two houses can be built in the width of the pavement.



Access from the street



Access from covered space



Access from the side



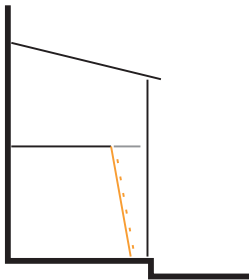
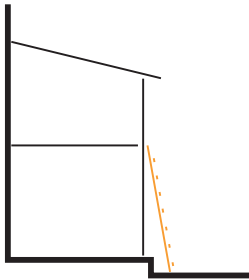
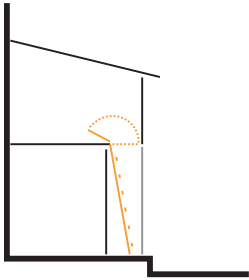
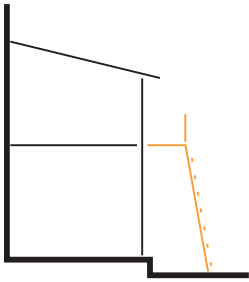
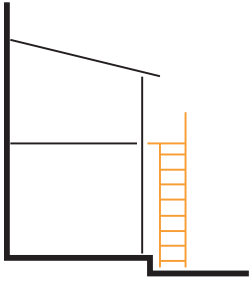
Covered entrances

Access to upper-floor

Dwellings have an upper-floor that can serve various functions that change over time. It is generally first used for a space for the family to sleep but today, we observed that they are mostly used either as storage, or rented out as accommodation for new migrants, often from Bangladesh.

There are different ways of accessing an upper floor in the houses and these are directly linked to the amount of space available in and in front of the dwelling. The first thing to observe is that only ladders are used, as there is never enough space for a proper staircase. These ladders are either in wood or metal. The wooden ladders look cheaper than the metal ones and are likely put together by the pavement dwellers themselves. They are mostly found in front of poorer looking houses. The metal ladders are bought from a retailer. It is interesting to notice that on the same stretch of pavement, houses tend to own the same type of ladders. This is something we cannot explain but various guesses come to mind: it could be a gift from a political party, from the municipality, it could be that by buying them in bulk they get a discount from the retailer or the manufacturer. Most of these ladders are locked with a chain, indicating a concern of theft. When the wall is made from bricks, metal ladders are fixed with concrete into the wall. The balconies are either an extension of the slab when the slab is made of metal profiles and concrete or a metal prefabricated element fixed to the wall. These balconies carry various functions but they are generally too narrow for anyone to spend long periods of time on them. They are used as a way to access the upper surface of the wall to hang drying laundry or as further storage space, among other uses.

The most common way of accessing the upper floor is from a ladder simply leaning against the wall. A rope or a chain fixed on the side of the door are used as a help to get in and out more easily. Then, when a house has a balcony, ladders can be either leaning perpendicular or parallel to the house. In the latter way they are using less space on the road. When the house is big enough, ladders are inside the footprint of the house. It can be either an outside enclave leading to the upper-floor through a trapdoor or an inside ladder and simple hole in the slab.



Different types of access



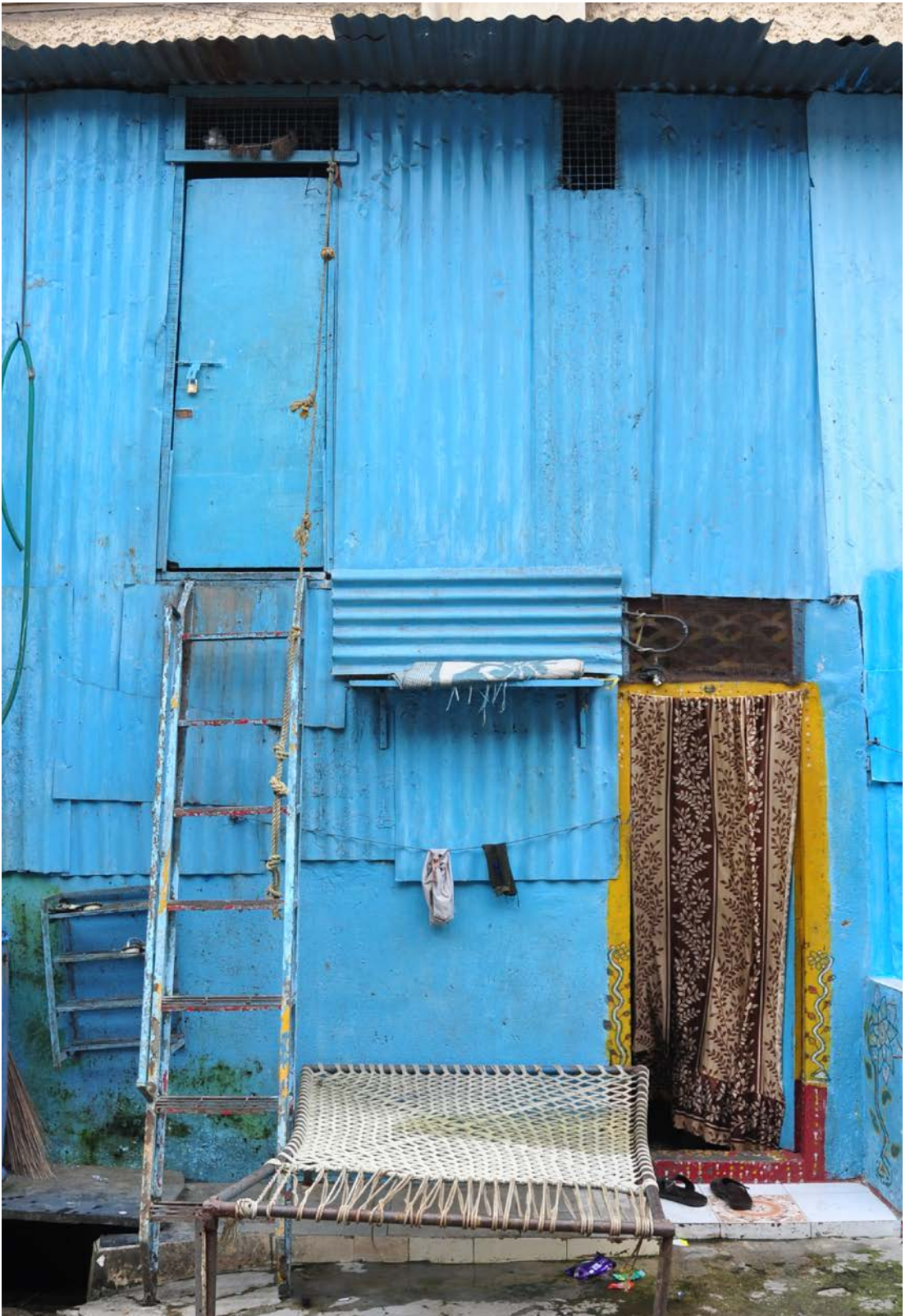
Ladder to access the upper-floor

Privacy and security

The lack of privacy is one of the fundamental problems of pavement dwellers. Nevertheless, they find ways to define the boundary between their home and the outside world. The main elements drawing this line are naturally the door and the walls. Even though the ground floor door is always open during the day as people come in and out constantly, there is almost always a piece of fabric used as a curtain to maintain visual privacy. The upper floor is more often locked as it is sometimes used as a storage room. Doors are also sometimes divided in half horizontally to prevent small children and animals from wandering.



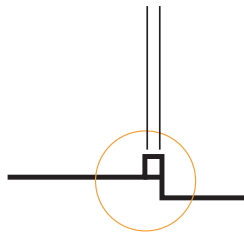
Children protection



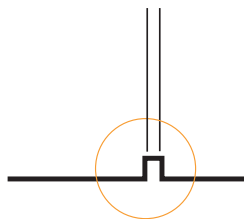
Curtained entrance and locked door

The threshold

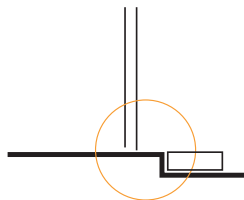
As stated before, the main advantage of the pavement dwelling being built above the level of the road, is to protect from floods. However, it is not always possible, and many houses must build some form of protection in front of their doorway to prevent the water from coming inside. In that case, as the protection can be rather high, a little step is added. When the dwellings are on the pavement, they sometimes leave a little space between their outside wall and the limit of the pavement to serve as hallway. When this distance cannot be kept, there can be a small extension of the pavement where shoes, umbrellas, cooking utensils can be put. To further enhance the domestic character of these spaces, they are often covered with decorated tiles or protected with plastic sheets or stickers. These small spaces represent the real threshold between the inside and the outside, between the city and their homes.



Added threshold on pavement



Threshold without pavement



Added step, no threshold

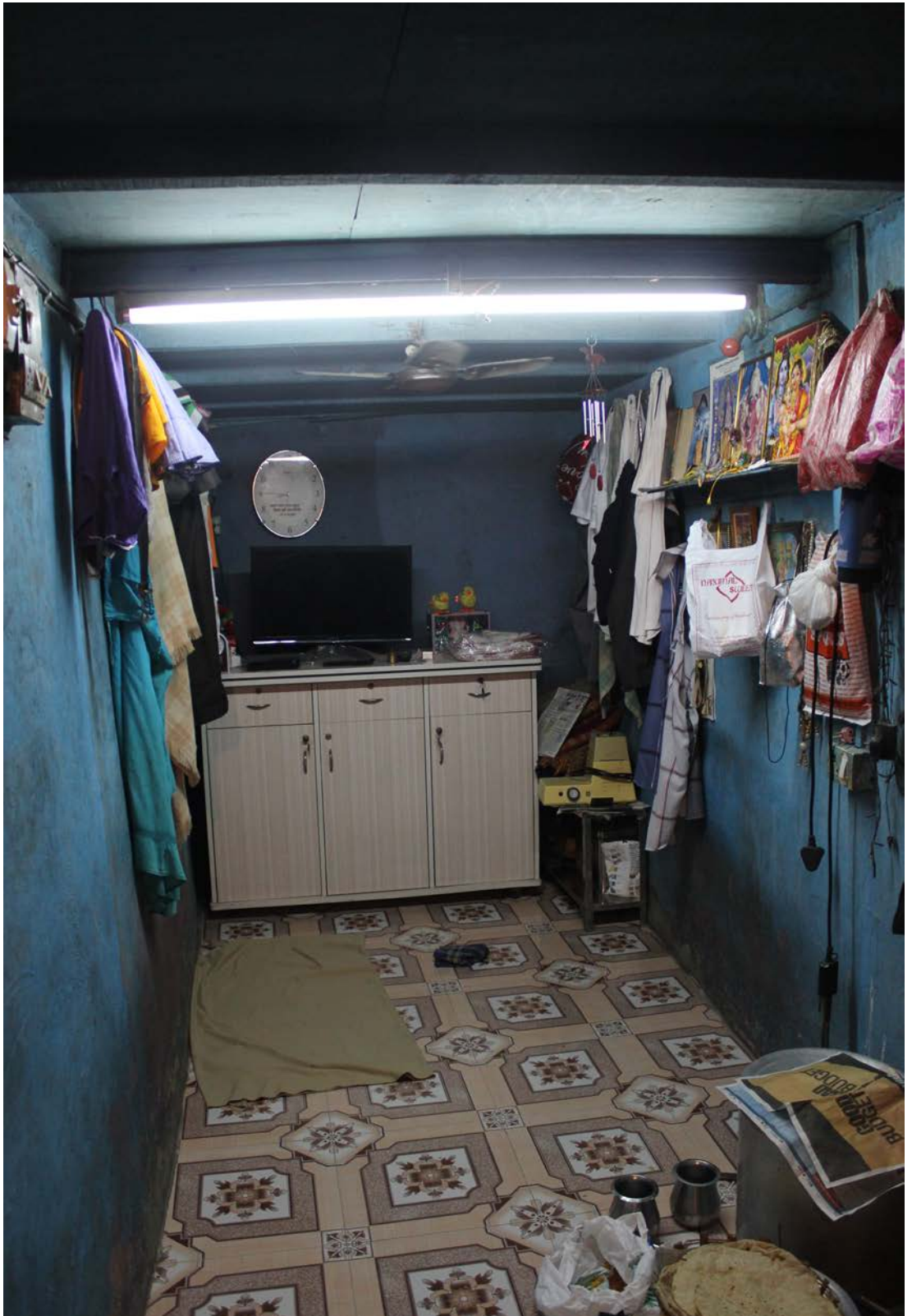


Threshold

Interior

The interior of a pavement dwelling is fascinating. Being so short on space, the dwellings are extremely optimised. The main observation we made is that the floor is free at all times. Families are big, and the available space is small. The one space a family has at its disposal changes function throughout the day. It changes from bedroom, to kitchen, dining room and living room back to bedroom, repeating the cycle every day.

A bed is considered a luxury, what they would call a bed is a sort of hammock that only a few people have, they stay outside of the house most of the time. Inside, the entire family has to share the floor. This raises the question of privacy and intimacy but this is potentially lower on their list of priorities. A carpet is spread on the floor to serve as a mattress. Hanging on the walls are kitchen utensils, while a gas stove is generally kept on the floor. When cooking takes place inside, a good ventilation is indispensable. This is why the better-off households have exhaust fans and ventilators. These can be dangerous however, as the floor to ceiling heights are so low, often lower than a standing adult. The wealthier households sometimes even have their own air conditioning. In every house there is a space for religious worship. Statues and images are presented on a shelf. Everything else like clothes or paperwork, are kept in plastic bags hidden in a corner. A lot of households have televisions and a common afternoon activity for children and parents alike is to watch music clips and soap operas. Some houses have defined water zones where they can shower and cook with a drain to the outside. The floor is generally covered with decorated tiles or linoleum which gives a domestic feel to the interior. Every house we have visited was extremely clean. Women are washing and sweeping the floor and in front of their door several times a day, taking much pride in its appearance.



Interior



Hindu devotional shelf



Cooking on the floor



Bathroom on the upper-floor



Dishes shelf

3.5 SOCIAL ORGANISATION

Community

There are two factors for people to settle down in a place. Firstly we have family or community, if there is already a contact that one knows in the city, that person will join the other. Family values and the sense of community is very important in India and is particularly present among the poor. They often gather according to religion or caste, their place of origin is often a factor also.

Women play an important role in the community as well as in their own home. They are the pillar of the household and it is they who manage the family finances, they who decide what can be bought or not, what can be done in terms of leisure, etc. At the community level, they have quite a lot of power. In fact, as we observed, it is through women that SPARC primarily did their initial census.

Workplace

On the other hand, there is the location of their workplace. People often find a place to build their shelter near their job in order to avoid unaffordable commuting expenses. The low income of pavement dwellers reduces their opportunities in terms of mobility and does not enable them to spend money on daily public transportation. This is why in Bombay, we see a lot of pavement dwellers living along the Eastern Waterfront. The Port has great potential for job opportunities, due to the many factories and shipping companies established there. These jobs are difficult and often dangerous and thus undesirable by middle or higher class people. Moreover, pavement dwellers are often mistaken as being only unskilled workers, however *“a large number of the poor are able bodied persons. They do not want charity type of services or temporary relief. They look for avenues which help them to overcome poverty. They need jobs, want their basic needs to be satisfied and are concerned about their children's education and welfare, investment in them is likely to be fruitful.”* (Government of India, 1990) In a study conducted in 1979 and 1981 by the Tata Institute of Social Sciences, it was found that *“53% of the pavement dwellers are self-employed as hawkers in vegetables, flowers, ice-cream, toys, balloons, buttons, needles and so on. Over 38% are in the wage employed category as casual labourers, construction workers, domestic servants and luggage carriers. Only 1.7% of the total number is generally unemployed.”* (Government of India, 1990)

Interaction with neighbours

Pavement dwellers have always suffered marginalisation from the middle-class. Since their emergence in the late 80s, new rich people became less tolerant towards the urban poor. They are often categorised as criminals, beggars or drunkards. However, the study conducted by Dr. P.K. Muttagi from the TISS in 1979 and 1981 explains that “*these people have merged with the landscape, become part of it, like the chameleon*” (Government of India, 1990) through their proximity with people living in surrounding skyscrapers. Contact with wealthy people happens often in the course of their employment. Women living on the pavement often work for them as maids or cooks.

Pavement dwellers, according to the same study, tend to be peaceful people, as they could lose their shelter if any they would cause any trouble. As Jane Jacobs mentioned in the article *The Uses of Sidewalks: Safety*: “*Some of the safest sidewalks in New York City, for example, at any time of day or night, are those along which poor people or minority groups live. And some of the most dangerous are in streets occupied by the same kind of people. All this can be said of other cities.*” (Jacobs, 1961) We should always bear in mind that criminality inherently has no relationship to the economic status of a group of people, and to associate the pavement dwellers with higher rates of criminal behaviour is categorically incorrect.

3.6 AMENITIES

Places of worship

In Bombay, as in India in general, we observed the prominent role religion plays in people's daily life. We noticed a lot of small places of worship scattered in pavement slums. There were tiny statues of Hindu gods placed in recesses set into walls, others would be placed on the pavement and proper temples were to be found in central locations throughout the neighbourhood. All these places were used in the morning and the evening when people performed their prayers and made offerings to the gods. They become a gathering place. Added to these public religious places, people have their own *puja*²⁰ place at home.

20
Worship in Hindi

We also found Muslim places of worship, often next to the Hindu temples, but these are less frequent because the prayers are also done at home.

Shops

There are also some small shops, that are sometimes merged with a house. It is either like a 'tool-house', the shop on the ground floor and the home on top of it, or, if two floors are not possible, the shop in the front and the home in the back. These shops sell candies, cold drinks, biscuits, shampoo and cigarettes. There are *chai-wallas*²¹ where men gather to chat and smoke.

21
Tea shop

Food

Food stalls are less frequent than *chai-wallas* but some are to be found in some neighbourhoods where offices are located. Feeding office workers is a significant income opportunity for pavement dwellers. Some workers are however reluctant to eat there as they consider the cooking conditions to be unhygienic.

Bank

Over the years, pavement dwellers have attained legal status thanks to the efforts of SPARC, NSDF and Mahila Milan. Through them, some inhabitants can access small loans and bank accounts. This is partly why we can find some bank branches in the middle of a pavement slum neighbourhoods. The other reason is the proximity of offices who require access to banking services. Internet banking is not yet very developed in small businesses and many transactions are still done in cash.

Medical

The poor and often unhygienic conditions in which people live are hazardous to the resident's health. The provision of medical services is therefore extremely important. There are some dispensaries and government hospitals, but these are often too expensive for pavement dwellers, even though some establishments provide free treatments to the poorest people.



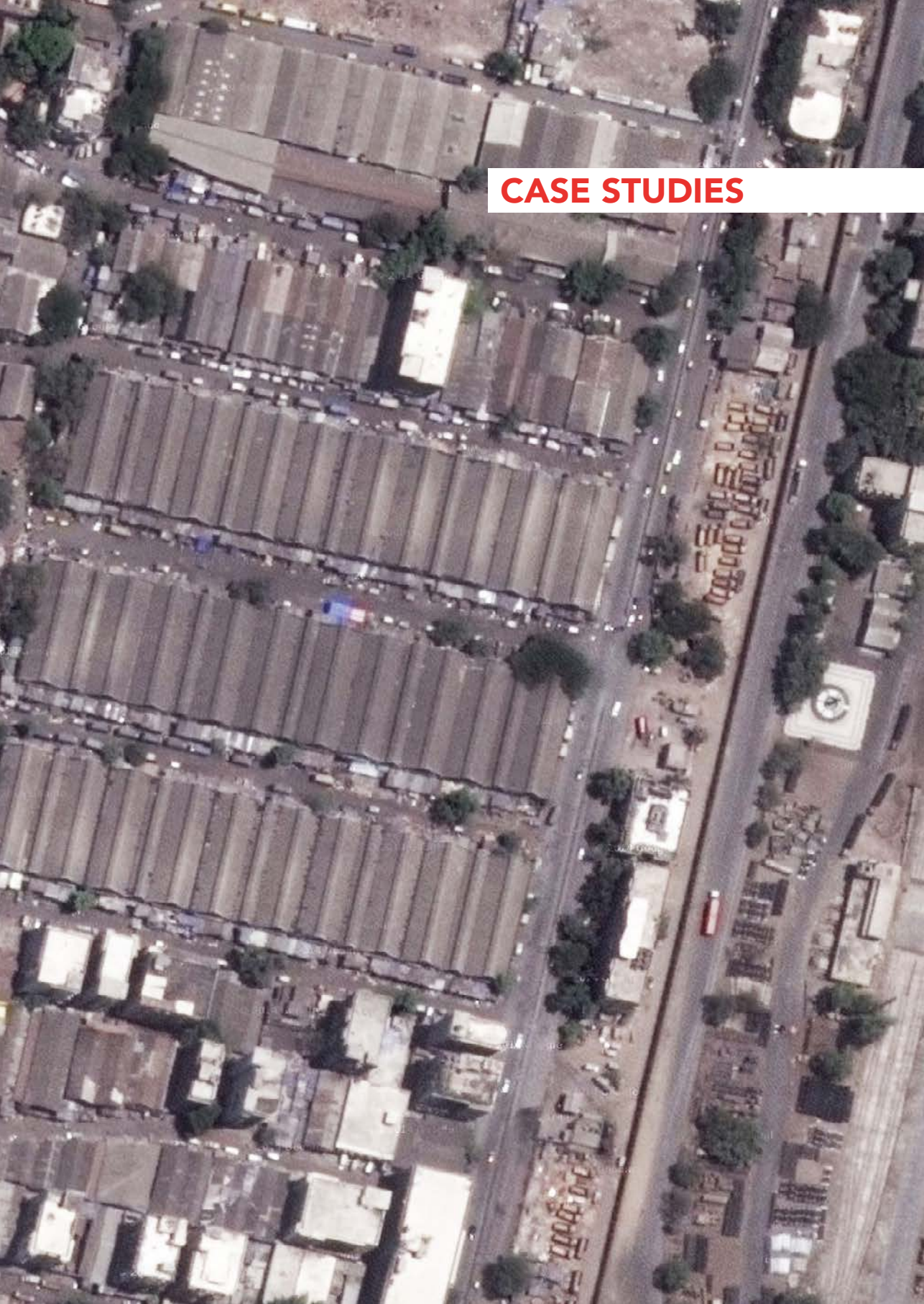
Chai-walla

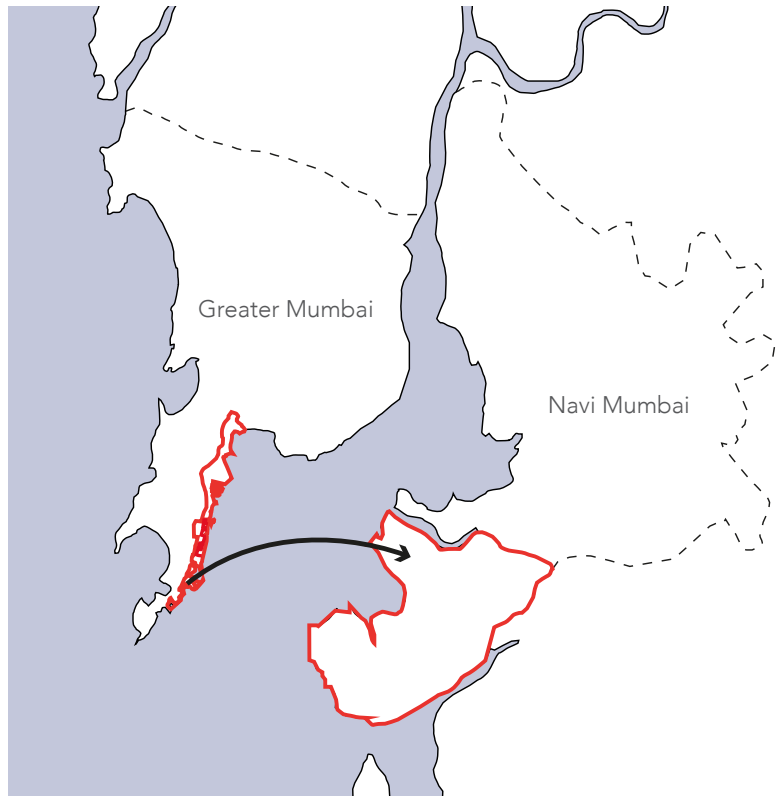


Street vendor



CASE STUDIES





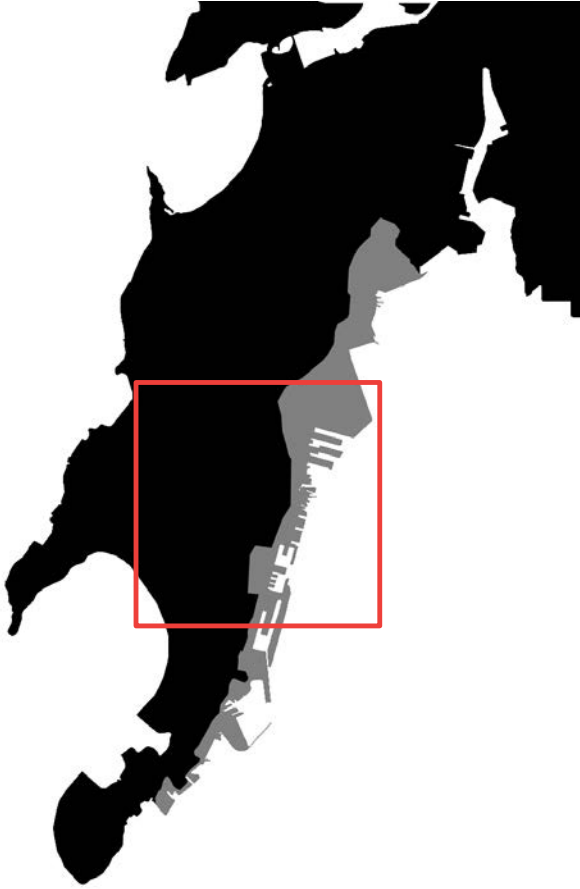
Shift of port activities

1 AN INTRODUCTION TO THE CASE STUDIES

The two following case studies are located on what is known as the Eastern Waterfront. This coastal zone spans over 30 kilometres from Colaba in the South to Thane in the North. Within the island city, the waterfront area not only contains the port activities but military installations and small and large scale industries too. In the northern part, the area includes Bhabha Atomic Research Centre, the oil refineries of Trombay, the mudflats, saltpans and marshlands.

In this research, we focused on the part that is located within the island city. Its boundaries are the harbour railway line to the West, the saltpan of Wadala to the North and the Sassoon dock to the South. The area is mostly run by the Mumbai Port Trust (MbPT) and is source of plenty of work, both formal and informal. Consequently, a lot of informal settlements are found in the area due to the employment potential the port represents. However, with the decline of the port due to its activities shifting to Navi Mumbai, the entire area is currently being examined for a complete redevelopment.

The entire Eastern waterfront area is prone to property speculation due to its central location and proximity to the sea. The real-estate prices went up drastically in the last few years, reaching 8'000 Rps/square feet. The Mumbai Port Trust along with the Municipal Corporation of Greater Mumbai (MCGM) reserves land for different activities, specifically in order to keep land free for open space and other public amenities. However, developers see no financial benefits in open space, and would rather build on all available land without regard for the other stakeholders.

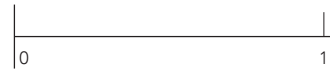


Eastern waterfront and 5x5km frame



- Frames 1 x 1km
- Case study: Reay Road **1**
- Case study: Elphinstone estate **2**
- Water
- Pavement slums

5x5km frame: Pavement slums in the island city





2

3

4

5km

2 REAY ROAD



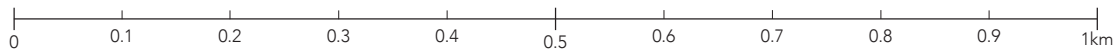
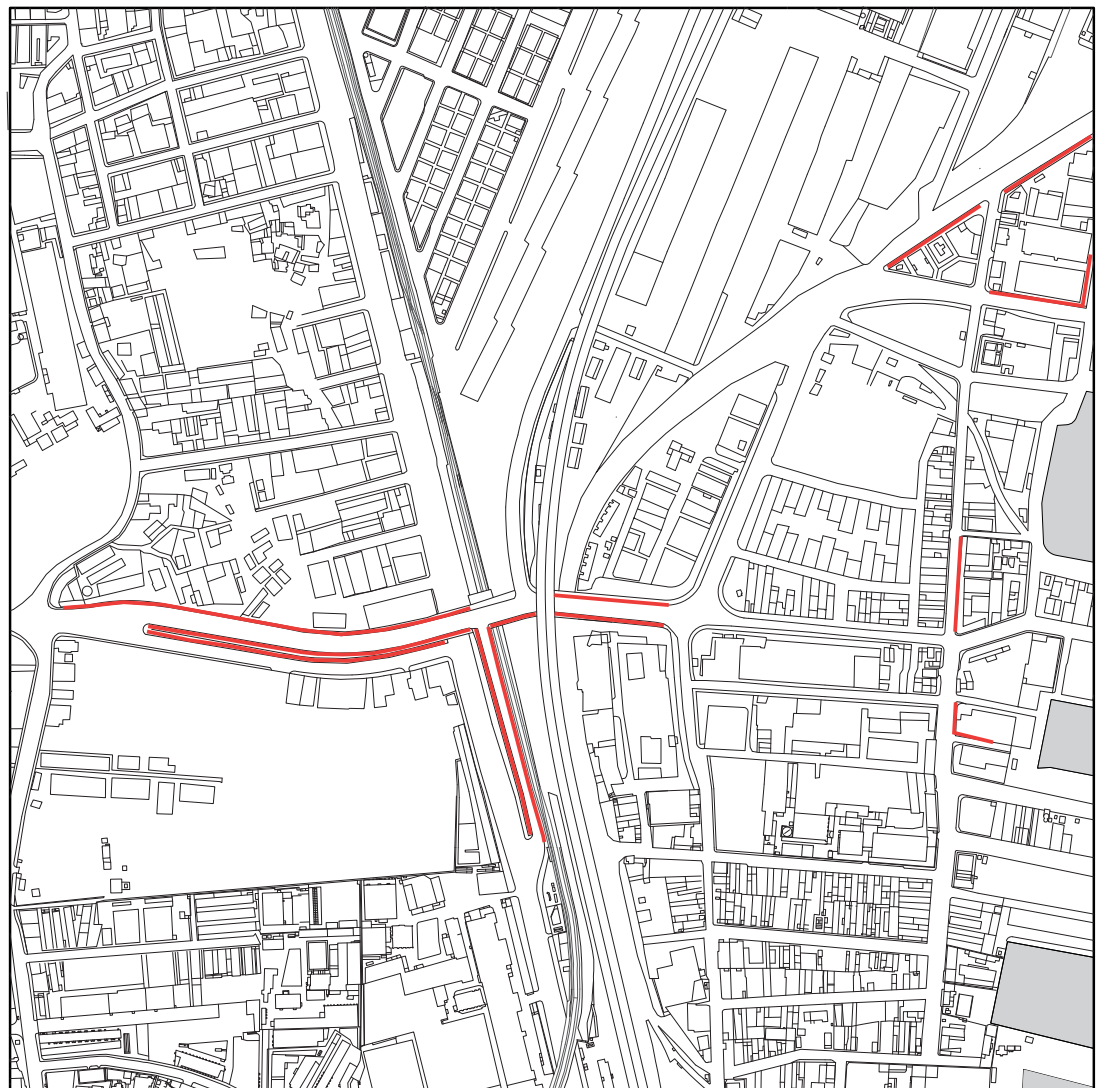


2.1 CONTEXT

Reay Road is a neighbourhood South-East of the city, near Darukhana Port. The main road Barrister Nath Pai Marg, which leads to P D'Mello Road further South, is bordered by the 'Mumbai Suburban Railway' that represents a legacy of the British presence in Bombay. The Victoria Road Bridge is about 350 metres long, and pavement dwellers have made it their home. It enables crossing of the physical barrier made by the train track and the road. This East-West axis along which houses are built is a strategic connection and is used daily by a significant volume of traffic. The access ramp from the road below to the bridge above is 180 metres long. This pavement slum is inhabited by 1912 people distributed amongst 422 households.

The main road is not the only legacy from the British, the train station and the bridge were also built under the Raj. The latter was built in 1915 by the Bombay Port Trust in precast concrete that was brought from England to Bombay directly, and then assembled on site. The bridge is heritage building of grade 1, like the Chhatrapati Shivaji Terminus. The bridge is unfortunately rapidly decaying, due on the one hand to the extreme air pollution that accelerates corrosion and rust, and on the other hand to the presence of pavement dwellers on it. These various reasons contribute to give to it a worn and unsafe appearance, and a regular user of the bridge stated that "*the bridge was built long ago for light vehicles. Now, there is the weight of slums and add to that heavy vehicles use this bridge all the time. I don't think the bridge can take all this weight.*" (Irani, 2008)

The Municipality is facing a multi-faceted challenge, the first being the restoration of the bridge, and second the plight of the pavement dwellers who call it home.



Pavement dwellings |

2.2 ENVIRONMENT

The development of the pavement slum on the restricted area of the bridge presents a problem to its inhabitants. The space available is severely restricted and the relationship between house and road are particularly conflicted. There are two different situations in this neighbourhood. The first situation and the most specific one to here is that on the bridge itself, and the second is that on the lower side of the bridge, running alongside it. On the bridge, the pavement is two metres wide and not high enough to be protected from water. Most of the dwellings have a higher threshold to avoid floods and since the drain is open, wooden planks are placed to access the houses. Below, the sidewalk is 1.8 metre wide and high enough to prevent floods but some people have still built a threshold. The drain here is closed and there is no need to have planks to access the houses: it is therefore safer on the lower part of the bridge in terms of access to homes.

The bounding structures vary in the two situations. Above, the only vertical link to the bridge is the metal parapet which is 90 centimetres high. The dwellings are attached to it, but they are nonetheless built with two levels. On the lower level, dwellings are set against the bridge and benefit from backing on to a high wall. Most of these structures are built in brick and are therefore far more stable than those above. In terms of traffic, it is far more dangerous on the bridge. The aforementioned volume of traffic travelling from the West to the eastern part of the city pose a significant threat to the safety of the inhabitants. The less busy parallel lower road links Barrister Nath Pai Marg to St Savta Mali Marg, from South to West.



Dwellings on the lower road and on the bridge





Dwellings on the lower road and on the bridge





Dwellings on the bridge, chawls on the back





Domesticity on the road

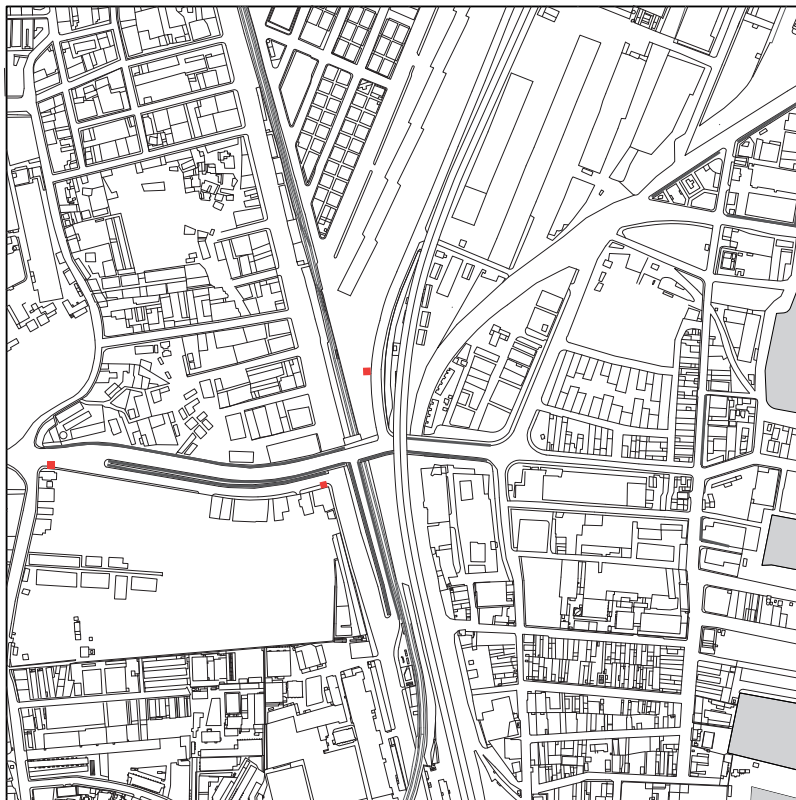
2.3 UTILITIES

In this context, utilities are difficult to be found and not easy to access. There are only three public toilets located in the neighbourhood, and they are not provided by the government. These are located on the edges of the slum and thus difficult to access for children. This is why it is common to see them defecating on the street. It is also difficult for women who have to go there before the sun rises or after it has set. Regarding water, people don't have a connection to the municipal network but despite this they find ways to get water in their dwelling. However, there is again a marked difference between the two situations. As described previously, they all have these blue barrels from which they either pump water or take it with buckets. On the bridge, only a few people have a place to wash themselves inside, but for those along the flyover it is common for the dwellers to have a wet zone, when this area is located on the upper level, they carry the water upstairs with buckets.

Concerning electricity, we could not obtain any definitive information, but we did observe that most of them had electricity. However, we could not ascertain how they got it, if it was obtained illegally or government provided. It is interesting to note that most of the dwellers on the bridge have television and that many on the lower part do not.



Sanitation facilities on the lower road



- Public toilets
- | Pavement dwellings

*Frame 1x1km:
Public toilets in
Reay Road*

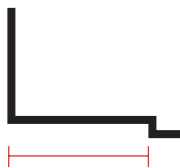
2.4 CONSTRUCTION



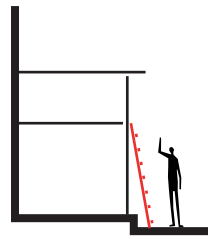
Elevation 1:33



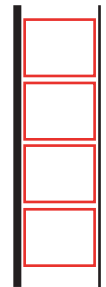
Parapet



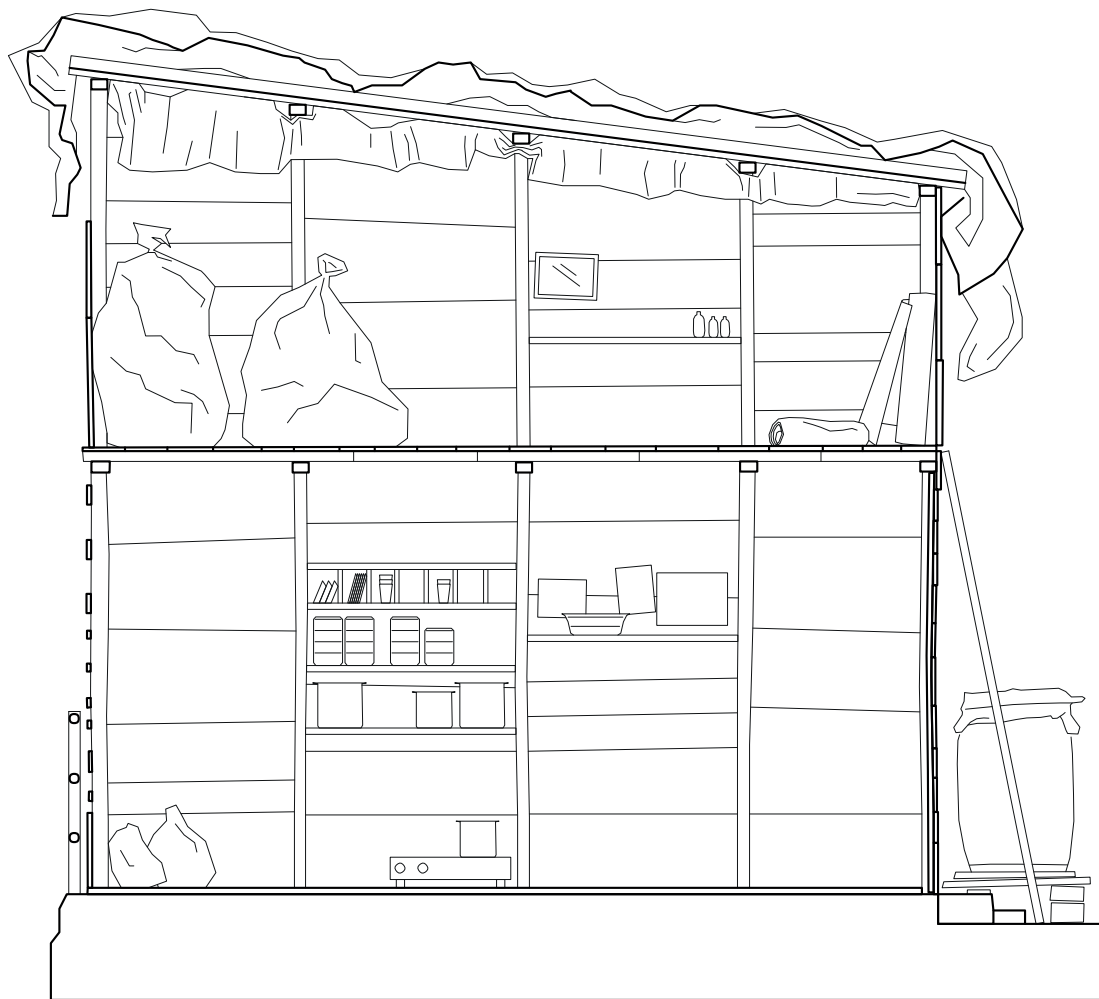
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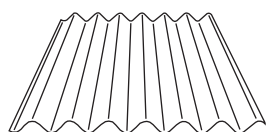
1 + 1/2storey



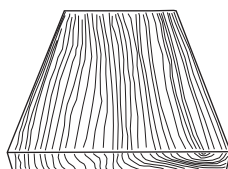
Colony



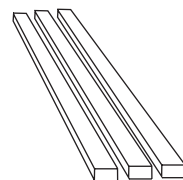
Section 1:33



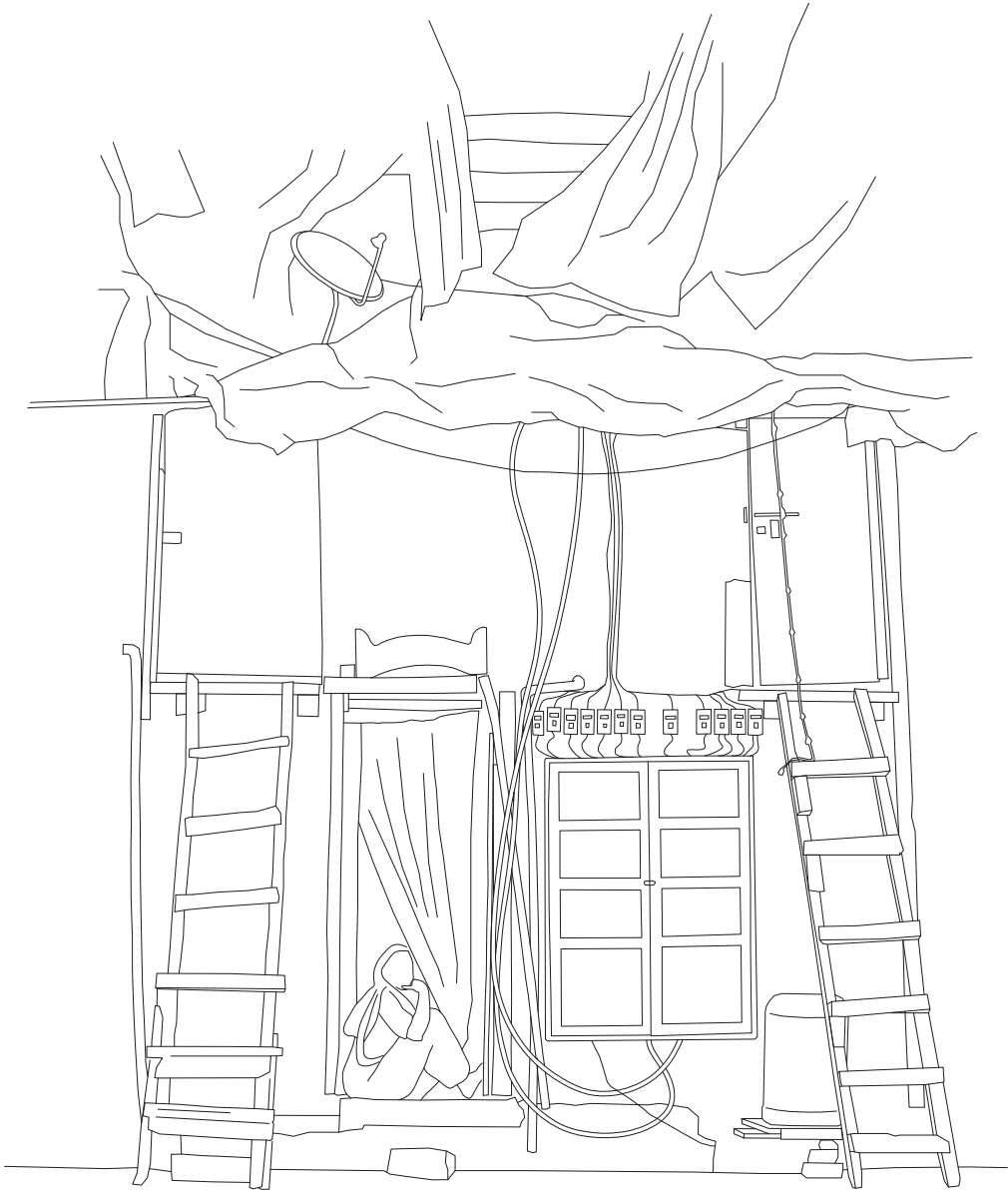
Corrugated steel



Woodplanks



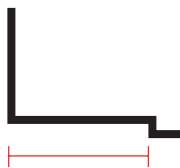
Wooden structure



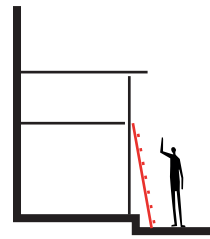
Elevation 1:33



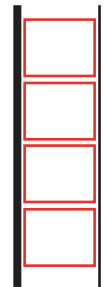
High wall



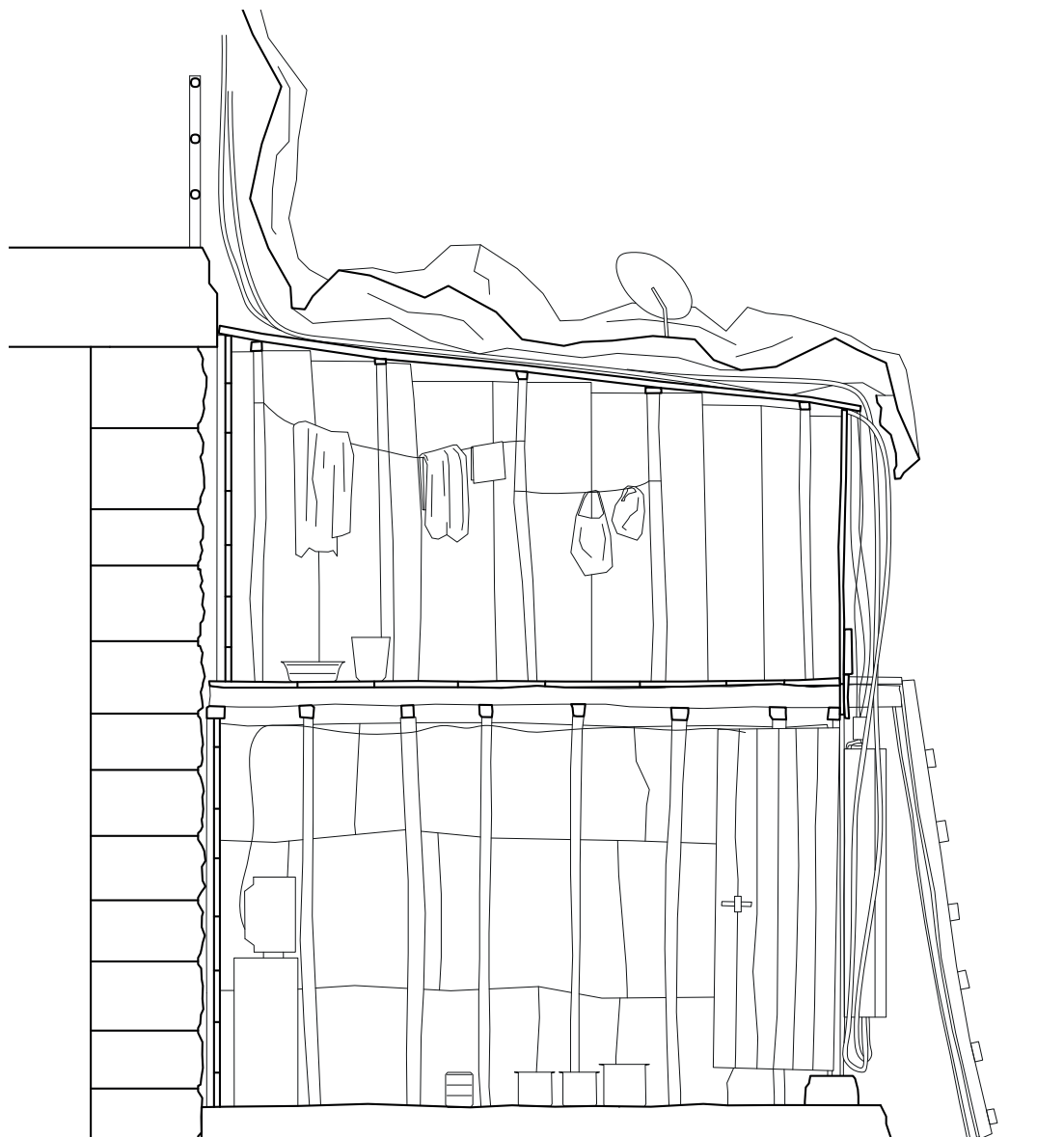
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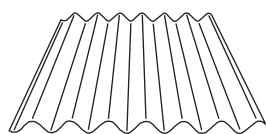
1 + 1/2storey



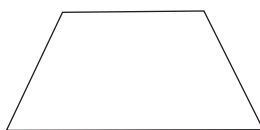
Colony



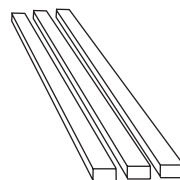
Section 1:33



Corrugated steel



Flat steel



Wooden structure



Water barrels in front of dwellings

2.5 SOCIAL ORGANISATION

In Reay Road, there are many ways in which people come together. Men meet over a *chai*, children play together on street, women do the laundry collectively. All these activities generate a sense of community.

Community

We learnt from a thesis done in 2013 at the IES School that most of men living in Reay Road work in a Port related industry or company. They can walk to their workplace and avoid commuting expenses. Some of the men were truck drivers. According to this report, the level of unemployment in this area is very low. (Mistry, 2013)

Workplace

Relations to neighbouring districts are hard to distinguish, we assume that some women work in the neighbouring apartment buildings as maids or cooks, as indicated by our previous research, however we could not find any definitive figures for this neighbourhood.

Interaction with
neighbours



Shops on the bridge

2.6 AMENITIES

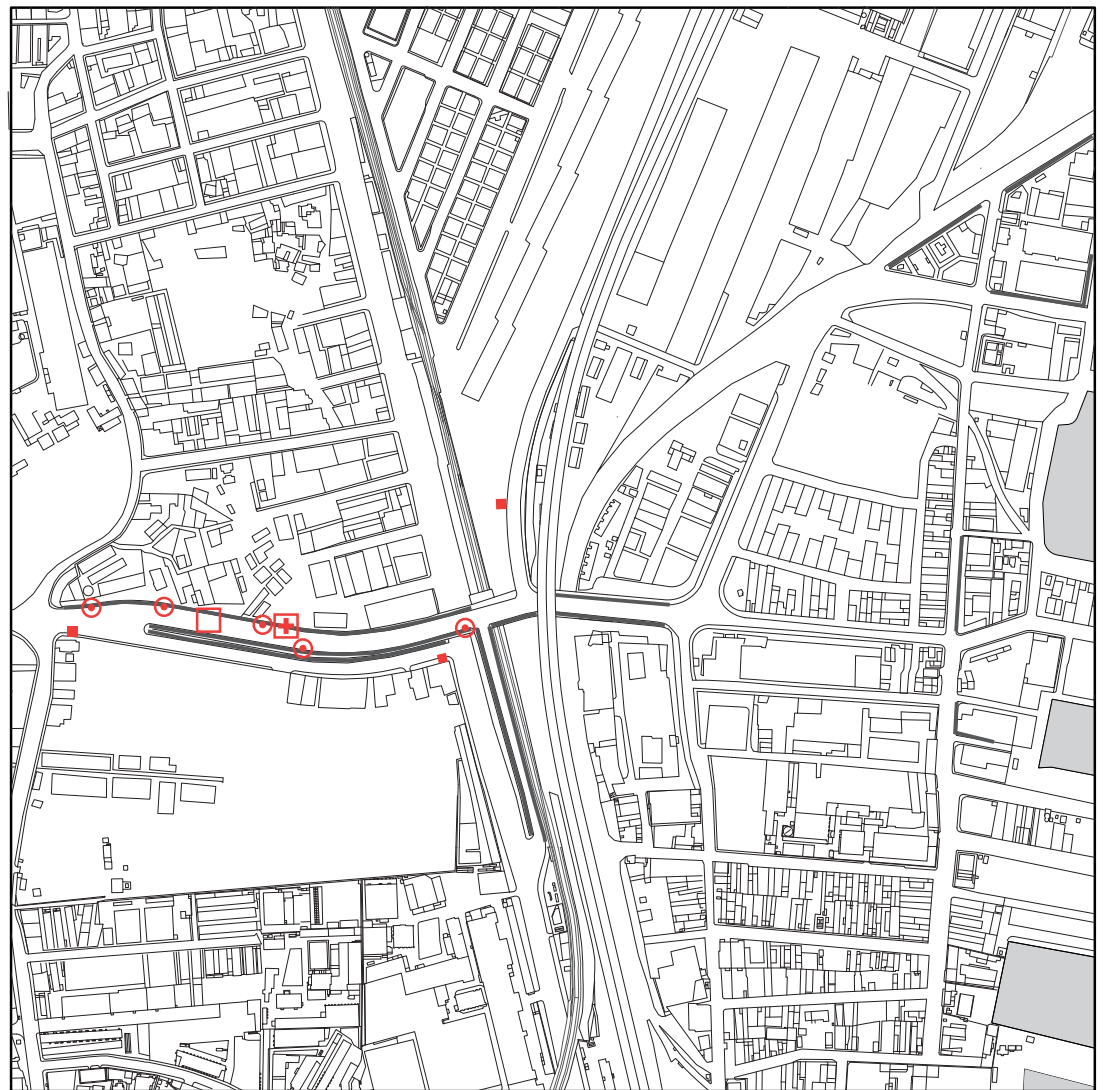
- Places of worship** In this neighbourhood, there are no public places of worship for Hindus and Muslims. All inhabitants practice the *pūja* at home.
- Shops** There are five small shops on the Reay Road, all of them are on the bridge. One is in the train station and two further west. They sell candies, biscuits and cigarettes.
- Food stalls** There are no food stalls in this slum. The roads are not suitable for potential customers stop, since they are already half encroached by the dwellers and their domestic activities.
- Bank & Medical** There is a Canara Bank branch on St Savta Mali Road, there is Kedar Hospital and Masina Hospital nearby, and a pharmacy on the same road. These hospitals are private therefore too expensive for pavement dwellers who need to go to government hospital to get free treatment.
- School** There are a few government schools in the neighbourhood, where children can go for a symbolic fee. Unfortunately, when parents are not regularised they tend to keep their children out of school even when it is cheap. In order to still provide an education to the poorest kids, there is an old bus which has been transformed into a classroom, coming to Reay road everyday to teach. The association responsible, Doorstepschool, developed the project 'School on Wheels' with the aim of educating the more marginalised urban population.²²

22

<http://www.doorstepschool.org>



School on wheels
source: wonobo.com/mumbai



Public toilets ■

Shops ●

Medical ■+

Waste container ■●

Pavement dwellings |

Frame 1x1km: All services in Reay Road

3 ELPHINSTONE ESTATE





3.1 CONTEXT

We discovered the Elphinstone estate by chance. The hotel we were staying at - the Elphinstone Hotel - is situated between the port and Crawford market, on the West side of Carnac bridge. The bridge crosses the railway tracks leaving CST station a kilometre south. On the right side of the station lies an orthogonally planned area. Composed of fourteen parallel streets, its limits are Carnac Bridge on the South side, Sardar Vallabhbhai Patel Road on the North side, the railway tracks on the West side and the Port docks on the East side. 60% of the land of the Elphinstone estate is taken up by warehouses.

According to a B-Ward official we met in Bombay, as soon as the site started functioning, migrant workers settled on the pavement, as close as possible to their workplace. Although there were chawls pretty close to the area, they did not have enough units to house all the people working on the port and in the warehouses, given the volume of migrants.

No comprehensive history has been written about the area. However, we compiled information gathered from locals, scholars and officials. When migrants arrive, they often stay with people from their original village or city. As they are often not entitled to any social welfare, the only help they receive comes from their community. They always attempt to stay close to each other, as they come to rely on this support network.

The Elphinstone estate was no exception. Originally the streets between the warehouses had no names but the population living on the pavement baptised each street according to their origin: Raichur (Karnataka), Solapur (Maharashtra), Pune (Maharashtra), Kalyan (Maharashtra), Thane (Maharashtra) or Surat (Gujarat). There has been significant turnover since those names were given, and the names no longer correspond to the origin of the residents. According to the KRVIA/UDRI study, many migrants settled in the Elphinstone estate after the drought that hit Maharashtra in 1972.

The first buildings date back to 1880 but the whole area was inaugurated in 1914. The warehouses in the estate were used to store steel, sugar, tobacco or cereals that came by truck from all over India, and which were then dispatched in wholesale markets. In 1980, the godowns (dockside warehouse) began to shift to Navi Mumbai, which has now become the biggest port and storage area in India.

Over the years, office-buildings were built along P D'Mello Road and



0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1km

Pavement dwellings |

Frame 1x1km: pavement dwellings in Elphinstone estate

Nandlal Jani Road, Elphinstone estate's main thoroughfares. These are approximately five to seven storeys high and are not in good condition.

In a 2004 study conducted by the architectural school Kamla Raheja Vidyanidhi Institute of Architecture (KRVI) and the Urban Design Research Institute (UDRI), the Elphinstone estate was appreciated as an area that was underutilised in terms of infrastructure and manufacturing. According to the same study, the warehouses are operated on a monthly lease and therefore today undergoing frequent changes.

We have been told by Krishna, an inhabitant of the Elphinstone estate, that half of the inhabitants own their dwelling while the other half rent it from people that either went back to their village, live next door and own two houses or are able to afford a place in the city outside of the slum. A regular rent is about 2500 rupees per month (appr. 40\$).

Due to its central location in the city, the Elphinstone estate is, according to the Development plan 1981-2001, reserved for residential. Nevertheless, no real project has yet been proposed which gives hope for the future security of the pavement dwellers.



Tata powerplant and pavement dwellings

3.2 ENVIRONMENT

Pavement

The Elphinstone estate being quite a big neighbourhood, there is no single typical situation. The fourteen streets are between 7 and 22 metres wide and the width of the pavements varies between 2 and 5 metres. Every piece of pavement is currently utilised, if not leading to a used entrance. In some places there was no pavement at all to limit the size of the dwelling which resulted in bigger constructions than usual. The main market road is 14 metres wide and is encroached intermittently on the Eastern side.



*Dwelling in the depth of the pavement,
Tukdoji Maharaj Street*



*Dwelling on the pavement,
Tukdoji Maharaj Street*



*Dwelling on the pavement,
Tukdoji Maharaj Street*

Traffic

The Elphinstone estate has an unusual situation as only two types of people circulate in its streets: the dwellers themselves who do not usually own a car, but sometimes have motorbikes, and the people working in the area: truck drivers, workers of the warehouses and white collar workers in the office buildings. The traffic is therefore mainly due to trucks coming and going all day long - except for Sundays - and the cars of the office workers coming in the morning and leaving in the evening. Very few other people pass through this area, there are no main thoroughfares or points of interest that would bring people from other parts of the city. This results in a rather low volume of traffic that permits children to play in relative safety on the road.



Cars and people in front of dwellings and warehouses, Yusuf Meher Ali Road



Trucks parked in front of warehouses, Yusuf Meher Ali Road

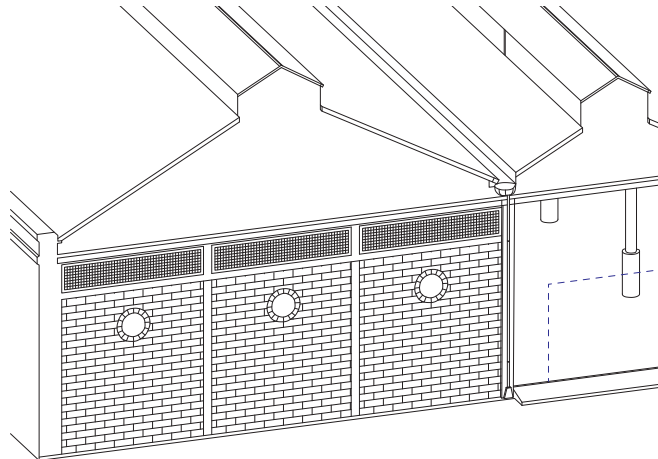


Trucks getting loaded at a warehouse, Surat Street

Bounding structure



Warehouse type 1

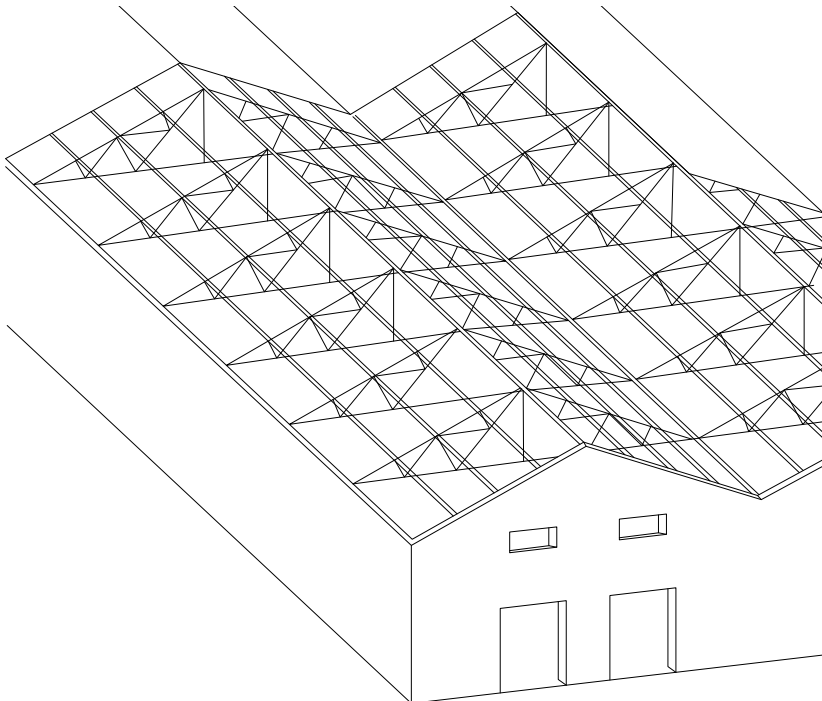


Warehouses

There are several types of warehouses. The structures are made of steel or reinforced concrete frames with a brick or stone infill. The roofing is made from asbestos cement sheets, supported on steel trusses giving a clear span of 40 to 50 metres wide for storage. These shells have great reuse potential that could be explored in future projects.

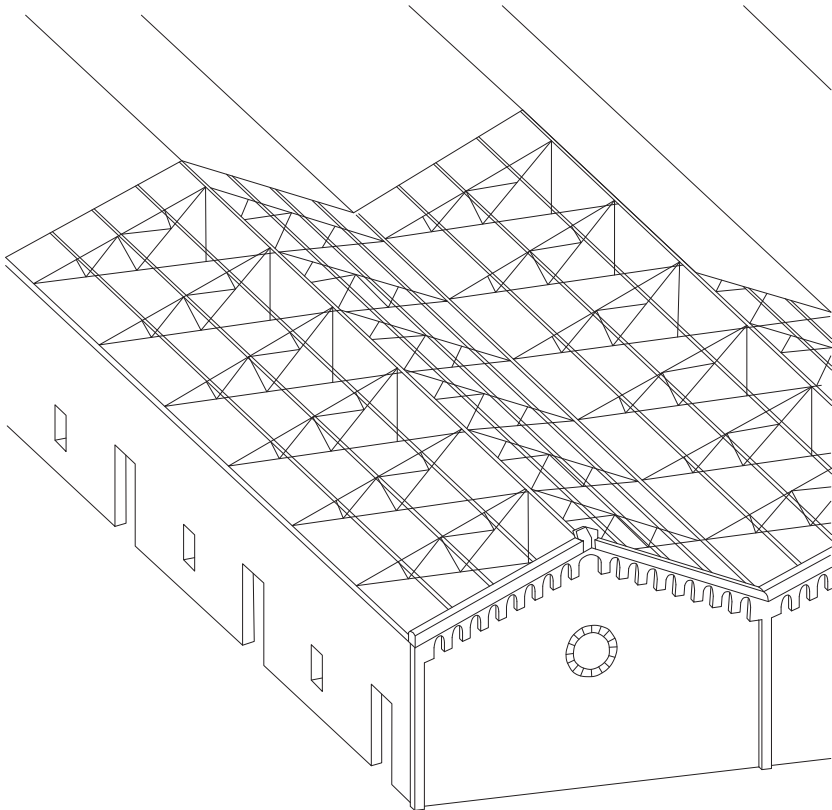


Warehouse type 2



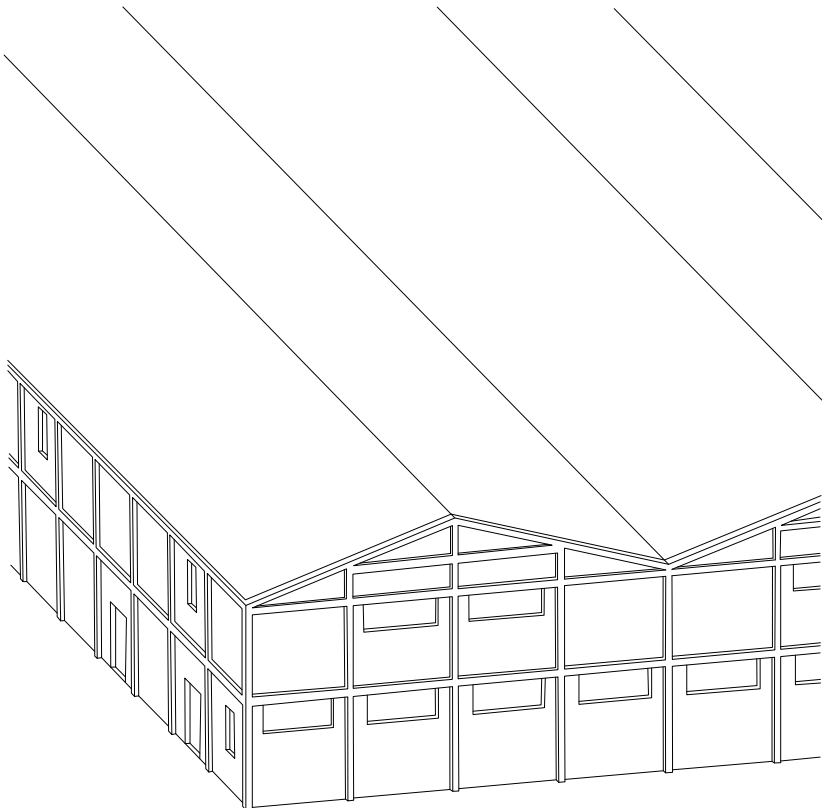


Warehouse type 3



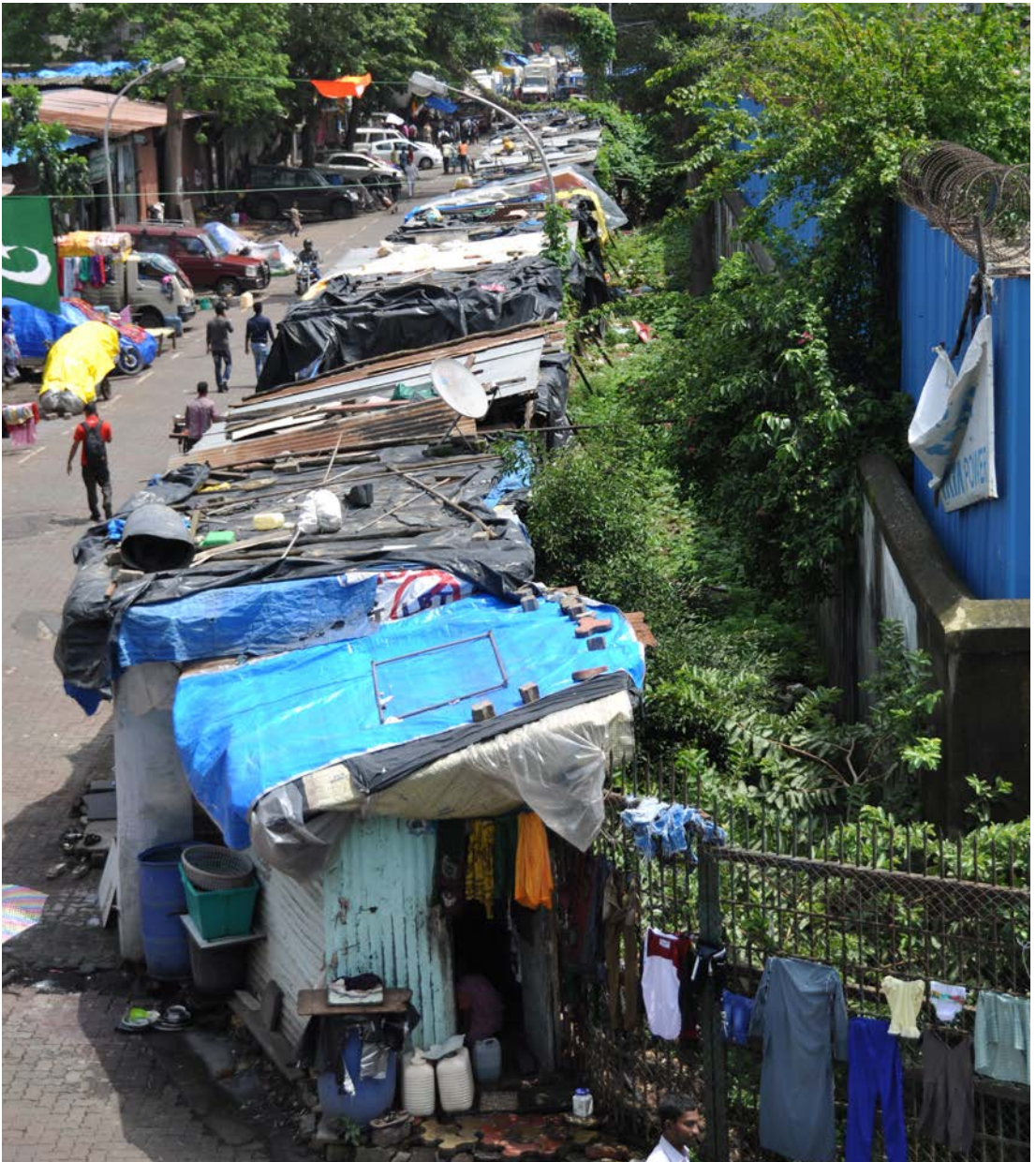


Warehouse type 4





Warehouse entrance, Surat Street



Dwellings against the TATA fence, Nandlal Jani Road

The beginning of the main street is not leading to a warehouse, although it is encroached. The whole pavement is built up against a fence separating a Tata Power plant from the street. With the fence being approximately 2.5 metres high, the dwellings along that street consist of one and a half stories. The ground floor adjacent to the fence is made of corrugated sheets of metal, which are tied to it for support, the upper floor is left partially open to the elements to provide ventilation to the dwelling.

Tata fence



Dwellings built along railways, Masjid Bunder

Railway Railways are the boundary on the Western side of the Elphinstone estate. It is common to find dwellings built along them. It is however not very safe, there is rarely any protection between the tracks and the dwellings, and the noise from the passing trains is also a problem.



Dwellings without bounding structure, Nandlal Jani Road



Dwellings without bounding structure, Nandlal Jani Road

Two blocks of warehouses in the area were destroyed in 2005. The plots are now the property of the Port Trust (South) and the Food Corporation of India (North). They built cabins and employ full time guards to keep the plots free from new settlements. However, pavement dwellings were in place around the border of the site before the demolition were left untouched. A slum that had developed between the two warehouses also still exists. This shows that the right of the dwellers to remain where they have been living for decades, is being respected to some degree.

**No bounding
structure**

3.3 UTILITIES

Sanitation

“A toilet project is small enough to be planned and built within a small budget and time frame but large enough to start many things happening, including involving women, allowing people to work together, tapping skills in the community to manage money and, finally, allowing people to enjoy defecating in private.” (Patel, 2004)

The B-Ward official explained to us that around 2005 the entire Elphinstone estate was equipped with public toilets on each street. This changed the life of men, women and children living in the area. Suddenly, they did not need to relieve themselves in public anymore. It greatly improved the security of women and children as well as the general quality of the environment. These public facilities are called lavatories because they also provide showering spaces. In parallel, more and more dwellings are equipped with their own bathrooms, but these are only used for showering and urinating. They can be either upstairs or downstairs and are sometimes housed in extensions that are built on to the front of the house. It can be just a space to have some privacy while washing, or a more sophisticated shower space with a water tank and a drain.





Government provided toilet blocks, Surat Street



Government provided toilet blocks, Baburao Bobde Marg

Water, electricity and waste management

The municipality provides some of the inhabitants with a metered water supply, but as it comes only sporadically there is often a tank to store it in reserve. Those who are not connected to the municipal network buy water off water trucks coming in the neighbourhood once a week. Some public taps provided by the municipality are also used but the water comes only for a short time every day.

As stated earlier, most households have an electricity supply and own a television. 70 to 80% of the inhabitants get their electricity through a metered connection provided by the municipality. However, some people buy their electricity from private providers at a higher cost when they are not eligible for the municipal metre. They also sometimes buy their electricity from eligible neighbours at a higher rate or in some cases, steal it.

Supply of water and electricity began fifteen years ago and together cost approximately 400-500 Rupees per months when received via the official supply, according to Krishna.

Concerning waste management, streets in the estate are being cleaned by the municipality regularly, which significantly better compared to Reay road, where it does not occur. There, on the Southern side of Nandlal Jani Road, there is a zone where everyone deposits their waste. It is picked up by the municipality on a regular basis too, unfortunately it is out in the open and is highly unhygienic.



Water supplier, Yusuf Meher Ali Road



Government provided water connection,
Nandlal Jani Road



Government provided drinking water,
Off Sardar Vallabhkhai Patel Road



Water supplier, Yusuf Meher Ali Road

3.4 CONSTRUCTION

“Cities are emerging as hyper active sites of ‘creative destruction’.” Banerjee-Guha, 2010

This area is very interesting in terms of the physical realisation of the dwellings. There are many ways to conquer the sidewalk, but the presence of the warehouses provided new opportunities. The manner in which the inhabitants built their dwellings against the warehouses, without blocking their entry, is remarkable. If the house is built in bricks, mortar is used to connect to the godown. If it is built in a less permanent way, such as with corrugated sheets or even tarps, structural stability is achieved by tying to the warehouse with rope and nails.

While most dwellings in Elphinstone estate have been standing on the same pavement for decades, some appear unexpectedly. We were told that some people specialise in constructing in a single day, dwellings that look old and have the appearance of having always been there. They attempt to ensure that the police are not coming on that specific day, and then erect a house that looks as old as its neighbours to avoid being recognised and destroyed by the authorities.

On the opposite page is an example of such construction. On the 2014 picture we took we can observe a row of dwellings all looking like they were built around the same time. We were looking at the Bombay street view website called wonobo, when we realised that the last house of the row was not the same in the photograph we had taken, and on this website. Taking a closer look, we realised that this house must have been built between 2013 and 2014, even though the plate on the door claimed it was from 1995. This shows that people are still afraid of being displaced without being relocated, and also the importance of proving that they have been there since before the cut off date, an essential prerequisite to be eligible for relocation.

2013



2014



Devji Rattansey Marg

Same wall on both pictures



Identification plate showing 1995 on the house built in 2014



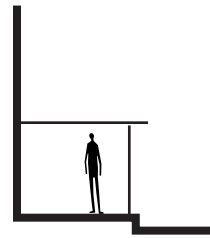
Elevation 1:33



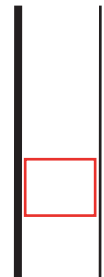
Building



>3m



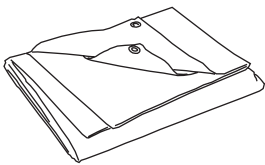
1 storey



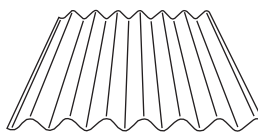
Isolated



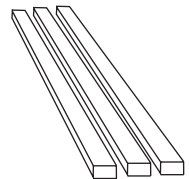
Section 1:33



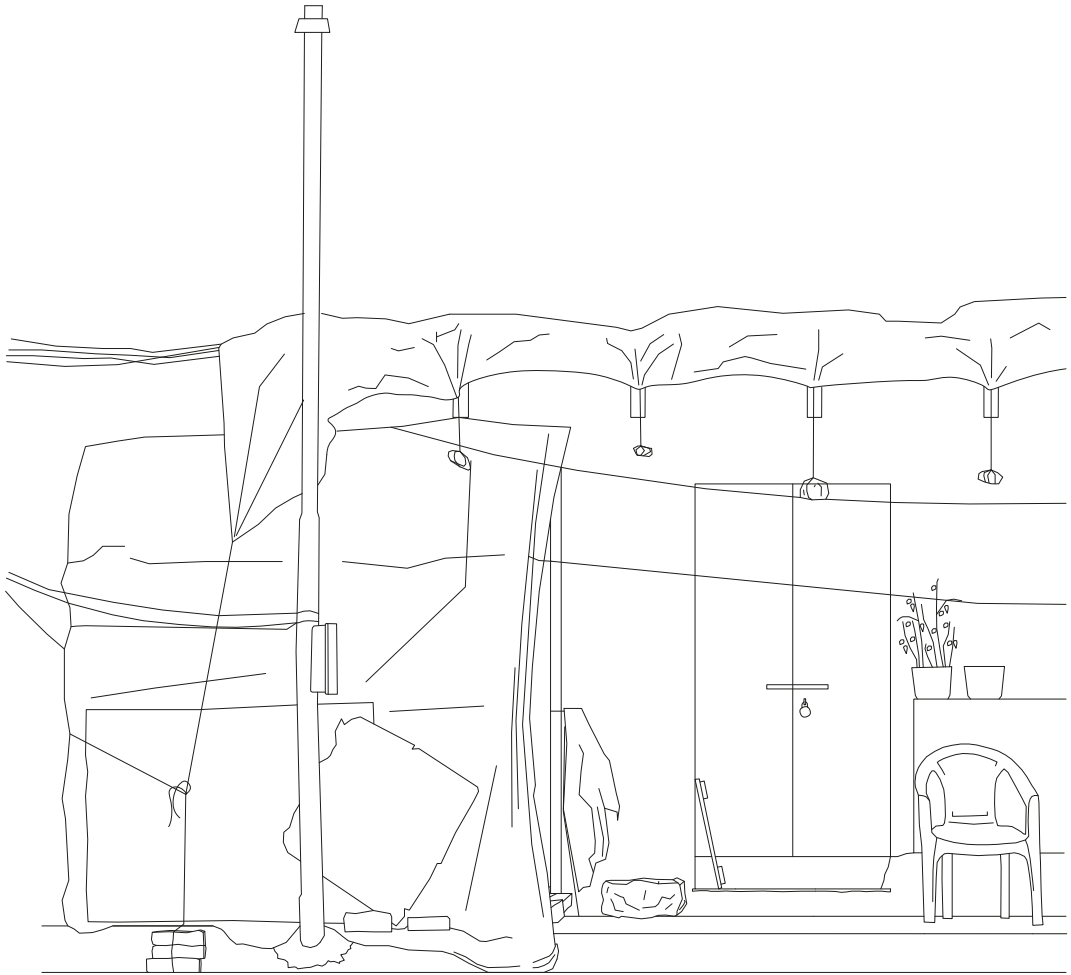
Tarp



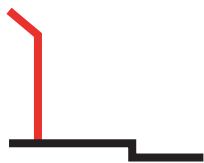
Corrugated steel



Wooden structure



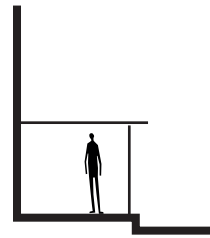
Elevation 1:33



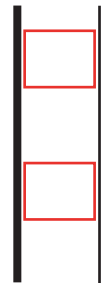
Building



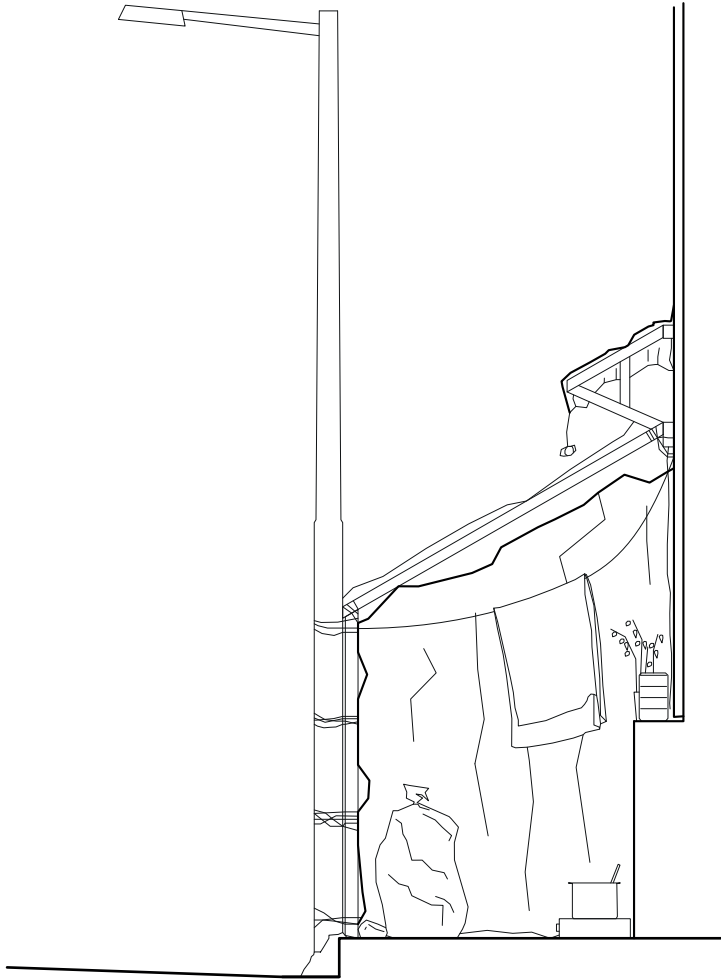
1-3m



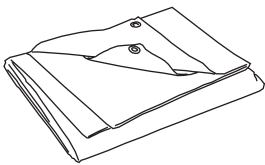
1 storey



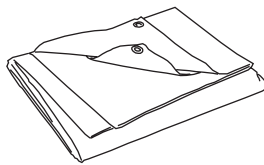
Sparse



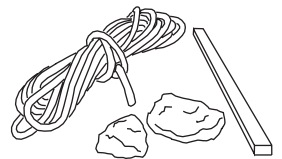
Section 1:33



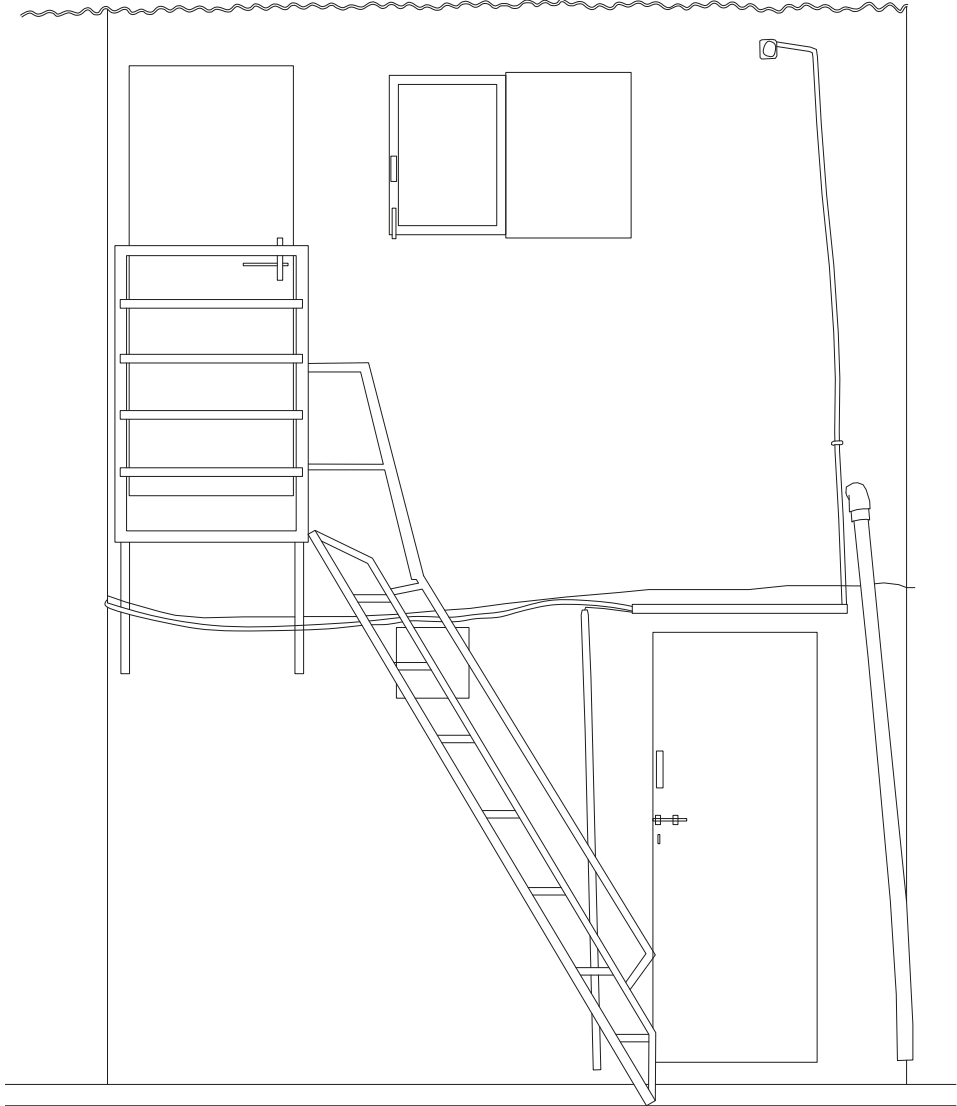
Tarp



Tarp



Rope + weight + rods



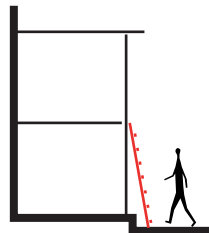
Elevation 1:33



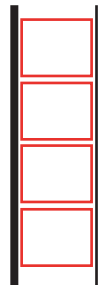
Building



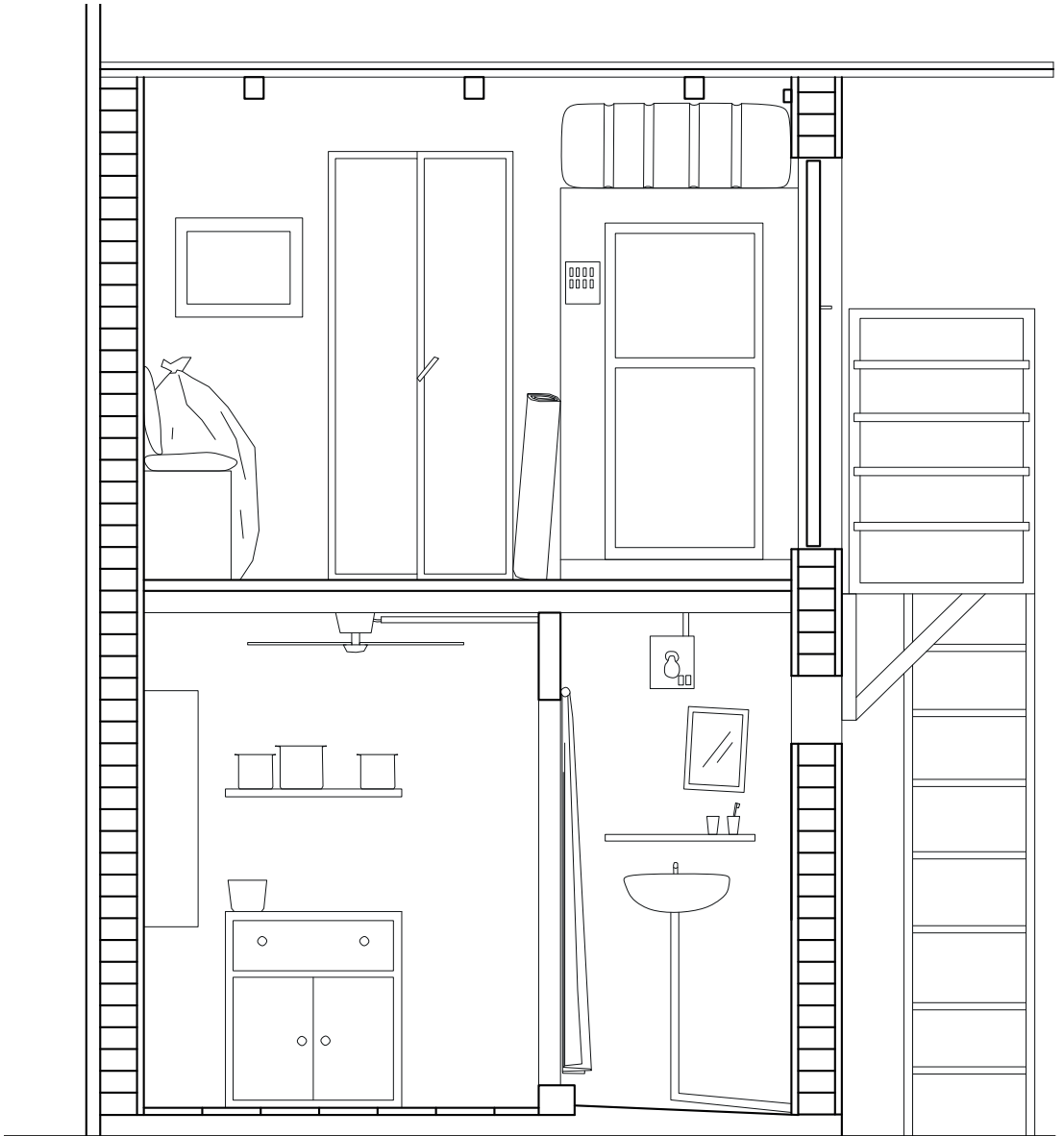
>3m



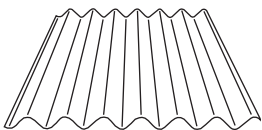
2 storeys



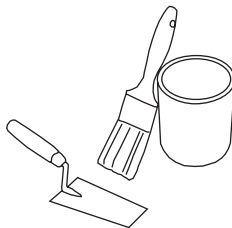
Colony



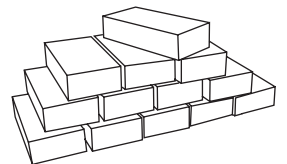
Section 1:33



Asbestos cement



Mortar and paint



Brick structure

3.5 SOCIAL ORGANISATION

Everyday life

Over the course of a day, and week, the Elphinstone estate changes and evolves. All the main activities take place on the main street, such as the market, and the food stalls. The market, which is described in detail in a following chapter, takes place once a week, on Sunday mornings. It is the only day when the trucks are not driving through the area, allowing a quieter and less busy atmosphere. The adjacent streets all have their own specialisation, such as a bicycle hire shop, an open space for meetings or the main temple that is currently undergoing restoration. In terms of spatial organisation, we can therefore observe a certain hierarchy in the scope of activities, but each perpendicular street is quite independent from the main one. These streets have all been equipped with sanitary facilities, and a temple or mosque is present in almost every street.

The area is very lively in the morning, when people take their showers, do laundry or wash dishes on the pavement in front of their house. Everyone is outside, doing what needs to be done, water is flowing, noises coming from everywhere. Men are chatting over chai at the nearest *chai-wallah*²³. Once the cleaning is done, the streets become calmer but the trucks take over, bringing a different kind of noise and pollution. In the afternoon, it is a mix between sleeping workers that take their daily nap and the playing children that are back from school. In the evening, everyone cooks and we could see smoke and steam coming out of every home. During weekdays, people are usually working until eight in the evening.

Saturday is not considered as a rest day in the neighbourhood. The warehouses are full of workers, the children are going to school; the only exception would be the people working in the office buildings.

Sunday is the real day off. Families are together, fathers are at home, playing with the kids and sometimes cooking. Sunday mornings are quite frantic due to the bustle of the market, but the afternoon is very calm and people enjoy their free time.

Despite the train station's proximity, the locals rarely use the train to travel within the city. They actually rarely wander outside the neighbourhood, especially the women. There is no real need to leave given that everything they require is available in the Elphinstone estate. Although men may leave if their work is located outside of the estate.

23
Tea shop



Morning life, Sakhar Gali

Workplace

The presence of the port generates further economic activity. Many sailors stay in the 'Seamen hostels' that are settled on the Nandlal Jani Road. It is an opportunity for pavement dwellers to earn some money by catering to these temporary visitors. Some have opened a small food stall, some sell *paan*²⁴ or alcohol.

24

Betel leaf, filled with areca nut and often tobacco, chewed and then spit out. It is a very common practice in India.



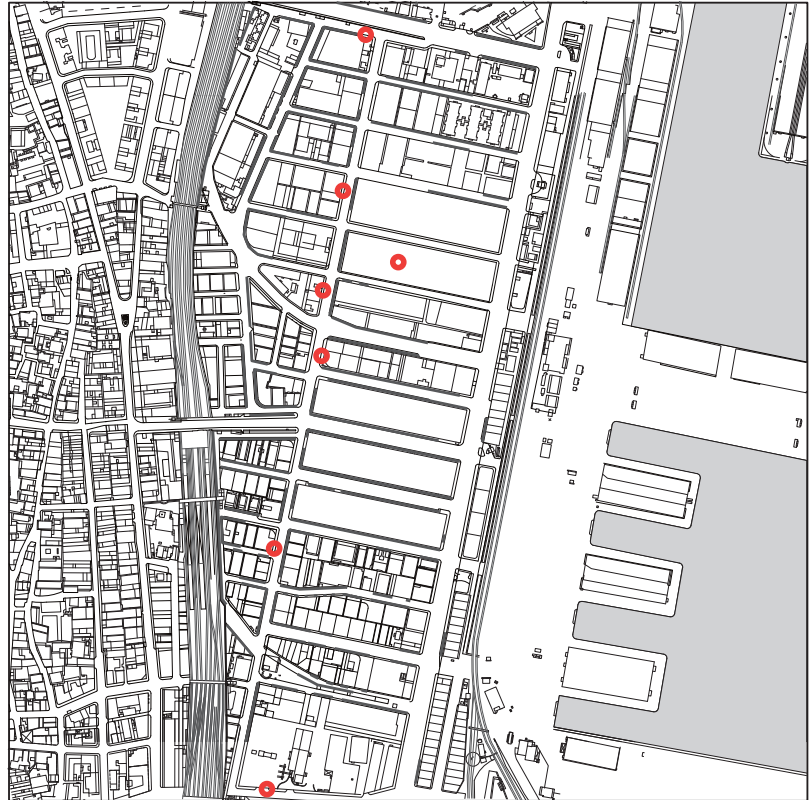
Hostel for seamen, Nandlal Jani Road



Motorbike repair shop, Tukdoji Maharaj Street

Social places

The Elphinstone estate inhabitants can take advantage of a number of gathering places in their neighbourhoods. A very tall, old tree is for example a daily meeting place where men meet to play cards and drink alcohol. In Nandalal Jani road, there are risen platforms surrounding trees for people to sit on. They are used throughout the entire day. Once again, it is mostly men who gather together there while women are busy at home. The number of closed rooms furnished with benches were provided by political parties, thanking them for their votes. These places are usually built on the pavement and are closed at night in order to make sure no one occupies them long term.



Gathering places 

Pavement dwellings |

Frame 1x1km: Gathering places in Elphinstone estate



Gathering place, Thane Street



Gathering place, KN Patil Road

Social ties

The area is good example of tolerance and acceptance, not only in religious terms but in terms of social hierarchy. We could however still observe some differences in status, it was difficult to determine to which caste the dwellers belong, and we perceived a high sense of community. Religion does not affect social ties and it is not a reason for quarrelling. It is indeed quite normal to see Hindu children play with Muslim children.

As we mentioned above, the neighbourhood is composed of fourteen streets whose footpath are all encroached with pavement dwellings. People identify themselves with the street they live on, but they also have a sense of belonging to the Elphinstone estate as a whole. Many families, such as Srushti's or Muskan's, also have relations in another part of the estate, further strengthening the connections between the various streets.



Intergenerational relationships, K N Patil Road



Structure erected for Ganesh Chhaturthi

Religion

In India, religion plays a large role in everyday life. In the Elphinstone estate, the two main religions present in India are well represented, and results in great diversity. Some streets are Hindu or Muslim only, but most of them are mixed. We found small Hindu temples or small worshipping places on almost every street. Mosques are less frequent, nevertheless we counted three mosques or muslim prayer locations. There was one place in the middle of the main street where all religious worship could be performed, regardless of denomination.



Worship places ▲

Pavement dwellings |

Frame 1x1km: Worship places in Elphinstone estate





Muslim decorations, Raichur Street

Security

The area is quite safe in terms of criminality. However, we noticed a rather obvious issue with men drinking alcohol and taking drugs. A lot of women we spoke with told of their husband's abuse of alcohol. When we went for dinner at Kalpana's, we saw something that shocked us. A drunk man was yelling at a woman and was being physically aggressive towards her. We could not understand what it was about, but the simple fact that this was occurring in plain sight worried us. One day, as we were wandering through the estate, a man in an expensive car yelled at us: "*What are you doing here? There are only drug addicts here! Don't stay here!*"

In the southern part of the area, there is a police station. They sometimes walk or drive around the area, but we never got to understand their precise role in the neighbourhood.

As stated before, the area is quite safe in terms of traffic. But there are still a lot of trucks driving in the neighbourhood because of the warehouses and it can be a danger for the children playing on the streets.



Street at night, P D'Mello Road

3.6 AMENITIES

Schools

There are three different schools the children can attend: the 3-2-1 English School, the Urdu School and the Hindi/Marathi School. We learnt through a social worker that school is mandatory for children, otherwise they are placed in a home in order to get educated. According to him, this system forces the parents to send their children to school. These schools are free or charge a symbolic fee of 10 Rupees per month. Krishna informed us that 99% of the children of the Elphinstone estate are sent to school.

Markets

India is also known for its colourful patterns, full of odours and noisy markets. The Elphinstone estate does not escape this definition. It takes place every Sunday morning on the main street, when no trucks are blocking the road. Women from the neighbourhood sell their vegetables, spices and cereals, meat is sold in one corner as well as many gadgets. It becomes alive and frenetic with people, animals and motorcycles. It is these women's livelihood, but they are so many that it is hard to sell a lot and earn a living. Street vending is a harsh job and it was hard to say if they could survive solely on the meager earnings they made on these markets day. However, outright competition could not be seen among all the vendors, it was rather to the contrary. The atmosphere is close to one of a village where everybody knows each other, and support each other in their struggle to sustain a quality of life in difficult circumstances. Along the main streets some open air restaurants can be found where big quantities of food are cooked and groups of men, mostly sailors, come to eat.



Market, Nandlal Jani Road



Food stall, Nandlal Jani Road

Medical

Access to medical facilities in the estate is more facilitated than in other pavement slums. There are three hospitals and clinics in the vicinity and even though it patients must pay for treatment, people owning ration cards get treatment at a reduced cost.

Talking to Srushti's mother, we learnt that she gave birth to all her children at the hospital. Moreover, a medical team comes every months to provide free check-ups for malaria and poliomyelitis.



Doctor coming once a month



Public toilets ■

Gathering places ●

Worship places ▲

Shops ◉

Medical ☒

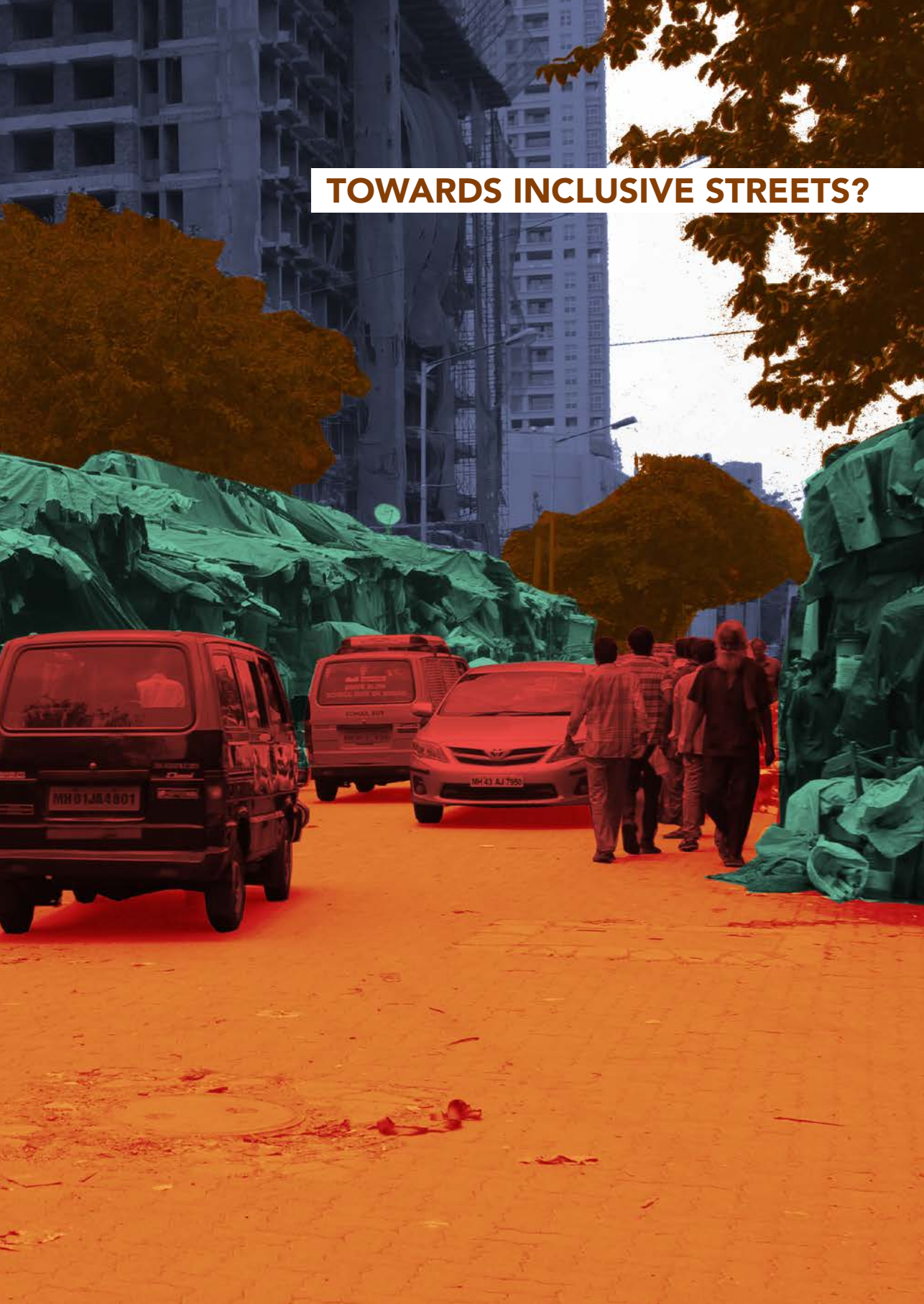
Waste ground □

Pavement dwellings |

Frame 1x1km: All services in Elphinstone estate



TOWARDS INCLUSIVE STREETS?



1 APPROACH

As we have seen throughout this research, slums and pavement slums have strong negative connotations and associations. However, informal settlements can be seen as something valuable and that have a significant contribution to make in the life of a city. The question of how slums are addressed in different parts of the world typically happens in three different ways, and this has evolved over time. The first is to do nothing, and not to address the pertinent issues such as security and sanitation. The second is a restrictive or preventive approach, where informal settlements are destroyed and inhabitants forcibly moved to new housing developments, often located far from the city centre. Doing nothing about slums is passively letting a bad situation get worse. Being restrictive or preventive only moves the problem somewhere else if no action to tackle the underlying issues is taken. When governments decide to displace a community, people lose their livelihood, and the complex social ties of a community can be destroyed when they are not all relocated to the same area.

The third strategy was put in place in the 1970s, when governments realised the problems resulting from the two first strategies. (UN-Habitat, 2012) This approach involves upgrading dwellings and infrastructure *in situ*. However, this manner of regenerating informal settlements is often expensive, and the identity and character of the neighbourhood can be lost.

In order to avoid the issues associated with this third approach, UN-Habitat explains that slum upgrades should not focus on dwellings themselves, but on the streets. Slums are often “*spatially segregated and disconnected due to an absence of streets and open spaces.*” (UN-Habitat, 2012) Streets and open spaces should therefore be catalysts for improvement within dense settlements. They can provide social spaces, security and

opportunities for business and economic activity, well-planned networks can attract services and shops and consequently provide employment to the residents. Promotion of people's sense of belonging to and ownership of a place, through provision of addresses and security of tenure, would also benefit this kind of planning. The construction of streets requires that some dwellings would have to be demolished, but when these are relocated on nearby land, these residents can maintain their connection to their community. The upgrade and construction of these streets can also facilitate other public services, such as disaster management, rescue and relief operations, and access by the police and fire services. The regeneration of slums, when accomplished through street building, would then, through its establishment of sense of belonging and place, be a further incentive for dwellers to upgrade their homes themselves.

Compared to the densely occupied *zopadpattis* that dominate the discourse in public policy, pavement slums are by their nature already served by streets, and many of the aforementioned benefits already exist. Moreover, the potential for their recognition as a legitimate solution for the housing of the urban poor, and also further for future improvement via these existing streets, is significant. Furthermore, by upgrading the connections that link the informal settlements to the city at large, the life of the dwellers can be dramatically improved. Security and sanitation are two of the most critical issues that must, and can be, addressed for all users of the street: pedestrians, drivers, hawkers and pavement dwellers.

This street-led strategy complements and reinforces participatory planning, where diverse information that can be utilised, such as physical and spatial configurations, enumeration of units, levels of income etc., are already known or are easily quantifiable.

In this regard, our research will lead to a project based on these case studies, and furthermore on the streets and pavement dwellings studied at three different scales: the ward, the pavement slum and individual unit.

These two case studies have allowed us to discover and highlight their differences and similarities, their advantages and disadvantages, and to show how varied and diverse pavement slums can be. This comparison will help us to determine which cases have the most potential for development and which situations are potentially too precarious to have any real prospect of future viability.

Throughout this chapter, we will bear in mind not just the interests of the pavement dwellers, but also how they knit into the fabric of the city at large - all its inhabitants, the municipality and the urban realm.

2 TOOLS

Pavement as heritage

The pavements of Bombay and their residents are part of the story of Bombay, its history and its heritage. Unfortunately the municipality of Bombay has been trying to eradicate, or at least hide, all kinds of informal settlements, with a belief that they are incompatible with their aspiration of becoming a world renowned city. We believe that this erroneous conclusion is detrimental not only to the slum dwellers, but also to the stated goals of the municipality.

Throughout the developed world, two groups of people, namely scholars and tourists, have begun to take greater interest in informal communities, raising the visibility and awareness of the extent of this way of life. An increasing number of theses are being written on the subject, which gives greater legitimacy and comprehension to these forms of development. Moreover, a new trend of slum tourism is on the rise. Tours of settlements are organised in Dharavi, allowing people to experience first hand the physical reality of the informal city. (Frenzel, 2012)

Further away, close to the Special Economic Zone of Shenzhen in China, what used to be a distant village a few decades ago, was engulfed by the the rapid expansion of the city's urban fabric and was forced to transform its livelihood as the agricultural lands on which it previously depended were swallowed up. One such example is Dafen. From an agricultural, agrarian society, it was transformed by its inhabitants into an informal migrant hub, specialising in forgeries and copies of fine art. The development and regeneration of the village was presented in the Shenzhen pavilion of Expo 2010 in Shanghai, as an example of how to cope with the consequences

of massive urbanisation. This example of how cities can effectively adjust to unforeseen consequences, and how this adaptability is being showcased on the global stage.

Instead of considering Bombay's pavement slums as merely an expression of misery and destitution, they should be considered on their objective merits: the expression of a high level of adaptation and inventiveness from a population who married their rural traditions with their new urban context. The form generated is the perfect reflection of what the city of Bombay really is: a beautiful blend of cultures and traditions. Notwithstanding the challenges involved, if the municipality were to begin considering its informal settlements as assets, and acknowledge the opportunities they present, it would directly benefit all the stakeholders in the urban realm, the residents, its governors and the physical fabric of the city itself.

Environment

It is important here to state that not all informal settlements are suitable for rehabilitation. In situations where a serious risk is posed to the life of the dwellers, rehabilitating *in situ* may not be the most reasonable solution. In this case, the municipality should endeavour to provide alternative accommodation solutions as close as possible, to allow the existing social and employment structures that are location dependent, to remain intact.

In the case of the Reay Road pavement slum, the bridge has suffered significant structural damage from the additional weight of the unplanned payload. It requires refurbishment and additional reinforcement in order to be viable in the future. Moreover, the volume of traffic on the bridge is very high, given that it connects two areas of high activity. This also puts the lives of children and adults in danger. On the contrary, the Elphinstone estate can be considered a viable, sustainable environment for pavement dwellers, in the sense that the warehouses are in good condition and are not a threat to the safety of the residents. The streets are also much safer from a traffic perspective, as the neighbourhood is mostly frequented by office workers commuting to their jobs, and by truck drivers loading and unloading goods. As daily users of the area's streets, the drivers tend to be conscious of the risks posed by the proximity of the dwellings, and drive accordingly. Pavement dwellers themselves sometimes own motorbikes but are also aware of those they share the streets with.

Even if traffic can potentially be a danger for pavement dwellers, the width of the roads can also be an advantage in terms of accessibility for fire trucks and ambulances. This is another superior condition pavement dwellers have compared to regular *zopadpattis*, where streets are not wide enough for this kind of vehicles to access.

The nature of the structure encroached plays a decisive role in whether the pavement slums can be upgraded or not. As explained above, if the bounding structure is affected to the extent that it threatens its overall integrity, this can result in the displacement of the communities becoming unavoidable.

Safe bounding structure

First, both Reay road and Elphinstone estate pavement slums are on roads wider than 20 metres. Encroached streets need to be a minimum width of 10 metres to be considered for rehabilitation. This is a *sine qua non* condition for the safe coexistence of traffic, pedestrians and inhabitants. We suggest the implementation of a 1 metre sidewalk on both sides and a cycling path on one. This space for pedestrians in front of the houses would not only serve as sidewalk but also as threshold for the dwellings. In Reay Road, the road on the bridge is 25 metres wide but houses are only 4 metres deep. This led to a more significant proportion of the outside space being utilised for domestic purposes. In the Elphinstone, the roads are narrower and consequently, the space in front of dwellings is smaller.

Width of the road

Comparing these two environments, we observed that the slower the traffic, the safer the street for its inhabitants and users. Therefore, the speed should be limited on any stretch of street where pavement dwellers live. Depending on the situation various options are possible: obstacles, change of surface material, surelevation of the street or speed bumps.

Traffic

Pedestrians naturally need to be accommodated by new designated space, given that the pavement can no longer fulfill its original purpose. This space has to be planned specifically for pedestrians, with measures taken to prevent further encroachment. This space can be achieved using any number of simple design solutions for example by either a low physical separation from both the dwellings and the traffic, or by creating a common pedestrian/vehicular thoroughfare,

New space for pedestrians

should the volume and speed of the traffic be low enough to safely accomplish it.

Utilities

As we have seen in the two cases above, access to basic utilities can be a serious challenge for pavement dwellers. Toilets, showers, running water and electricity are necessities in a modern world. In terms of utilities, the Elphinstone Estate is far better developed than Reay Road. It has sanitation facilities provided on each street by the government and 80% of the inhabitants have metered water and electricity. However, as Burra, Patel and Kerr explained in their article *Community-designed, built and managed toilet blocks in Indian cities*, pavement dwellers must be consulted in the design and construction of these toilet blocks and other shared facilities, otherwise they don't gain the sense of ownership that ensures their future maintenance and upkeep. The quality of these contractor built blocks is often poor and toilets are frequently left in a filthy, non functioning state, forcing people back into the open to defecate, which generates a serious health hazard, and in particular contributes to an increase infantile death rates.

Several organisations such as NGOs and international agencies have had “*toilets for the poor*” (Burra, et al., 2003) projects which are pay per use facilities. This model of providing sanitation has clearly proven to be a failure, they are often too expensive to be used by pavement dwellers and are subsequently abandoned.

What SPARC did from the beginning in 1985, was to solicit the views of the women of *Mahila Milan*. They conceded that having a toilet in each home was unrealistic in terms of space and hygiene, and that community toilets were a more viable solution. They eventually got international funding and started to build community-designed toilets in Bombay that met the needs of the dwellers, in terms of capacity, function and location.

This inclusive, engaged type of approach could be taken where *in situ* rehabilitation is possible and thus improve the quality of the dwellers' daily life, enhancing their feeling of belonging and ownership to their community.

Social organisation

The workplace of the dwellers is a critical factor to consider. In both settlements, people work in close proximity to their dwellings. As we have seen, this is the fundamental reason why people settle on the pavement in the first place. In the Elphinstone estate, many men have very little financial security, as they do not have a regular income. They are daily workers, who can never be sure of work from one day to the next, picking it up on an irregular basis as it becomes available. This situation is always difficult for women who are generally responsible for managing the household budget. Therefore it is vitally important to take into account the ability of the residents to maintain their livelihood, and not just to put a roof over their heads.

The Reay Road settlement does not offer many employment opportunities within the settlement, except for a couple of *chai-wallas*. In the Elphinstone estate however, we can find a few ‘tool-house’ typologies. It is a type of dwelling where the ground floor is dedicated to a commercial or craft activity, while the upper-floor houses the residents. This typology permits the dwellers to be as close as possible to their workplace while providing a service to the neighbourhood. Tool-houses are mostly found in proper slums like Dharavi, but the successful implementation of those in the Elphinstone estate shows that the typology could be reproduced in other pavement settlements. A presence on the street gives higher visibility to businesses, which could potentially attract clients outside the slum too. This would promote an improved micro economy in the community, which would then result in a myriad of enhancements, including the renovation and upgrading of the business owners premises and residences. These effects would then contribute to the overall advancement of the physical fabric of the neighbourhoods concerned.

Internet is more and more widely used across the world and among slum dwellers. It has been shown that more people have access to mobile phones than toilets in India. (Census of India, 2011) Even though very few have access to computers, the plummeting cost of smart phones has enabled many pavement dwellers to purchase them and have regular access to the internet.

These increasing rates of internet access are a wonderful opportunity for more efficient and accurate enumeration, databases and increased communication between the residents of pavement slums. Storing regularly updated information regarding each dweller and their

Livelihood

A ‘smart’ pavement

patterns of living, can help communities to better organise themselves and have greater weight in negotiations with the authorities. General relations within the municipality could also be improved, if such a system is community-driven, it would give them a greater sense of democracy and fairness, where everyone counts and has a say in the decision-making affecting their lives. In addition, a meeting room for the community with shared access to the internet for those who do not yet have smartphones, could further encourage communication and opportunities for self education within the community. Trapped in an often vicious circle, pavement dwellers are amongst the most vulnerable people in society and have less rights and access to basic amenities, such as education and healthcare.

Amenities

Education

It is an absolute priority for children to be educated, in order for them to break the cycle of poverty that results in generation after generation of families living in the slums. In Bombay, pavement children can attend government schools but in certain cases, alternatives are required for various reasons. Different projects have been developed for children who are unable to attend an official school. In Bombay, the NGO Door Step School transformed old buses into 'classrooms' and they travel to slums like Reay Road. It is a project that aims to teach children not only subjects like mathematics and grammar, but practical knowledge such as hygiene and first aid.

In 1975, the Pavement Club was established, which is a project put in place by the Church of St. Andrews & St. Columba. This club welcomes any street child in need, and offers them sanitation facilities, games and a proper meal every Friday evening. Furthermore, a school was founded there in 1991. Children are offered free school fees, uniforms, books and snacks. They are taught arts and crafts, how to use a computer, music, dance and drawing in order to raise their awareness of life's opportunities. Currently, there are 90 children attending this school.

Waste management

There is a comprehensive reevaluation required as to how waste is dealt with in these urban environments, from a domestic and commercial aspect. At present a haphazard and incomplete system serves the resident, there is a waste container on the bridge in Reay Road, but nothing can be found on the lower road for people to dispose of their waste. In the Elphinstone estate, the space where people dispose of

their waste is out in the open and particularly unhygienic. There is an urgent need to put in place a sophisticated waste management policy that includes such basic facilities as a publicly controlled and frequently cleaned waste disposal space.

Places for members of the community to gather are an indispensable component of any neighbourhood, even more so when the limited space of the dwellings make entertaining visitors difficult. Reay Road has almost none, despite the road itself being a dynamic space full of both social encounters and circulation. The dwellers in Elphinstone Estate use both the street and specific spaces to socialise. In any upgrade of pavement slums, an open space free of encroachments should be created to fulfill this basic social need.

Social places

The dwelling

Whenever possible, multi-storey dwellings are preferred due to the many advantages they provide; such as optimising urban density, increasing usable living space and enabling live-work units to be created. Two stories also allow for privacy, with the children sleeping on the upper-level. When a family needs extra income, they have the possibility to rent the upper-floor.

The more durable and sturdy the building materials use, the more permanent the construction of the dwelling, the more chance pavement dwellers have to remain in their homes. Their quality of life is noticeably different if the walls are in brick or concrete. Strong walls permit the installation of sinks, shelves, and other storage that keep the floor space free. Walls constructed in this manner also offer much better insulation against noise - which is not to be neglected along a road - and protect against humidity, animals, bugs and thieves.

The access to the dwelling is important, it establishes the relationship of the dwelling with the street and dictates how that immediate space is used. Ideally, a space should be left clear in front of the dwellings in order to facilitate safe entry and exit. When this is not possible, then an entrance from the side should be considered, which has the added benefit of creating a safer transitional 'yard' between the street and the domestic space. Although it is not as brutally efficient when constructed in this way, the quality of the dwelling is dramatically improved.

3 CONCLUSION

Throughout this study, we observed the importance of the sidewalk in the complex urban tapestry that is Bombay. It is an essential, versatile feature of a well-planned city. It facilitates safe pedestrian circulation, commerce, social interaction and as we have observed, a foundation for human inhabitation. Through our case studies, we could see several different environments in which pavement dwellers have colonised, and how this has influenced the physical development of their settlements. Some residents have been living uninterrupted on the same pavement for over sixty years, so what superficially appears to be an ephemeral phenomenon is in fact more perennial than commonly understood, especially given the connotations of the word 'slum'.

Based on our observations, we believe there is a need to integrate pavement slums in the general framework that governs the development of the city. Pavement dwellers are still not included in the Development Plan 2014-2034. It is clear that pavement dwellers are a part of the city's diverse history, and today they are an indispensable workforce, that are ignored in public policy to the detriment of the city at large. If policies are developed that include these vulnerable citizens, their situation could be formalised, and subsequently improved through the implementation of an Inclusive City and Inclusive Streets Policy. In order to put those in place, there should be meaningful participation from the pavement dwellers themselves, which would enhance not only economic and social development, but would embrace these marginalised people as full and contributing members of society. Citywide implementation of these policies would generate a network of informed citizens, whose intimate knowledge of the challenges faced and conquered in these areas would provide an invaluable resource for policy makers and residents alike.

The inventiveness and resourcefulness shown by these people in immensely difficult circumstances, to arrive in a city with nothing and yet still build functioning homes, businesses and communities, should be acknowledged and cherished by the authorities for the wealth of human capital it represents. What is required is a fundamental change in mindset at governmental level, away from the erroneous conclusion that the only solution for informal settlements is to destroy them. Instead, they must engage with those most knowledgeable about the potential these settlements have as long term solutions to help alleviate the global urban housing crisis, the dwellers themselves.

GLOSSARY

BEST

Brihanmumbai Electricity Supply and Transport

BMC

Brihanmumbai Municipal Corporation

FAO

Food and Agriculture Organisation

FSI

Floor Space Index

JNNURM

Jawaharlal Nehru National Urban Renewal

KRVIA

Kamla Raheja Vidyanidhi Institute for Architecture

NASVI

National Alliance of Street Vendors of India

MbPT

Mumbai Port Trust

MCGM

Municipal Corporation of Greater Mumbai

MGPKY

Mahatma Gandhi Path Kranti Yojana

NSDF

National Slum Dwellers Federation

PUKAR

Partners for Urban Knowledge, Action and Research

RAY

Rajiv Awas Yojana

SPARC

Society for the Promotion of Area Resource Centers

SRD

Slum Redevelopment Scheme

SRS

Slum Rehabilitation Scheme

TISS

Tata Institute of Social Sciences

UDRI

Urban Design Research Institute

UN

United Nations

YUVA

Youth for Unity and Voluntary Actions

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