

Understanding Living Environment for Migrant Workers: Study & Design of Labour Accommodation in Ahmedabad

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ABSTRACT

The life of a migrant worker is fraught with unpredictability, and this has made them extremely susceptible throughout their working careers. They are mostly found to be working on construction and infrastructure project sites. They are not recognised or acknowledged by the society around them. The absurdity of the situation is that the people who build our ideal homes actually live in appalling poverty themselves. They have been looking for a way to live that is both dignified and fulfilling so that they can finally feel like a part of society. Leaving their home for a job that doesn't pay enough to support their family is already a difficult task; the fact that they don't have enough housing here makes the situation even more difficult. They are always going through the motions of a transient existence. As a result, it is of the utmost importance to improve the conditions in which they are living so that they can lead decent lives. With India poised to make an immense jump in urbanization – this aspect of our construction and infrastructure development becomes critical – especially in the light of social equity and dignity of life being an integral part of our sustainability goals for the future. In this context, this study looks at some of the existing living conditions of construction site workers in the city of Ahmedabad, India and identifies issues and concerns that need to be addressed. It also goes on to propose one (of many possible) solutions that tries to address these concerns – this is done through a design demonstration.

Keywords: dignity, migrants, construction, equity, urbanization, workers, design, accommodation, labour, shelter

UNDERSTANDING THE CONTEXT

Even though the construction industry is one of the most important job creators in India, workers in the field are still suffering from a need for improved housing conditions. The annual cess that is collected under Building & Other Construction Workers (BOCW) Welfare cess is sufficient for the government to be able to provide for them without much difficulty. The question that arises here is whether or not they actually intend to make an investment in them. Acceptance of prejudice on a cultural and societal level is the core problem of this situation – these are people who have not been seen or heard as much as they should have been. One of the most significant challenges they face in their daily lives is the absence of adequate housing (because of their constantly shifting sites / locations). Because they were always in the background and never on the front line, these individuals have never had the opportunity to experience dignity.

Urbanization & Migration

Ample studies have been done to establish beyond doubt that for developing economies such as ours, urbanization and migration due to it have been a major cause of concern as far as the quality of life of all our citizens is concerned. Most critical amongst those are the migrants – who do have left their own place and now do not belong to the new place. They are one of the most dis-advantaged and marginalized communities in our cities.

India lives in its villages, but it has been always forced to go to its cities to work. We live in a nation where nearly half of the wealth is generated by the labour community who are the unseen and unheard men, women, and children living in the same society as we do. For all the wealth generated by the cities, the migrants live in poverty, working in jobs that profit others but bring them very little. These men, women, and children, are the salt of the earth. Without them, there would be no cities. Over the years, India has been depending on these workers and they are an important source of income. Yet, their life is very harsh and isolated. The danger and risk start before they have left their home for a bigger city in search of better opportunities. Being unaware of local laws, languages, and customs, they continuously live a vulnerable life. These men and women take loans to reach the bigger city in the hope of a better lifestyle. After reaching the city, they realize that a major part of their wages goes into repayment of the loan and hence they are left with a very bare minimum. Migrant workers have a much higher risk of landing jobs that are considered to be “dirty, dangerous, and demeaning,” such as those in the mining, construction, dealing, and other industries. The vast majority of them are considered to be informal workers because they perform their jobs without being officially registered.



Figure 1. An artist's representation of migrants



Figure 2. An artist's representation of migrants at the time of the Covid pandemic

Factors Affecting Migration

Lack of employment is one the important reasons to this cycle. People tend to move to urban areas in search of better job opportunities. This results in reduction of population and hence no investment in rural infrastructure and facilities; causing further lack of employment, healthcare and education options.

A lower population also leads to lower demands of goods and services which lead to again less employment opportunities. This creates a vicious cycle which keeps of continuing.

Climate change and its impact on agriculture is another major cause of why people want to leave their traditional environments and work and move to cities.

There may be other very place-specific ‘push’ and ‘pull’ factors that make people leave certain places and want to go to some others.

Seasonal Migration in India

Wage labour is the chief mode of income for the poor of our country. Majority of the workforce belongs to the unorganised sector which does not have any kind of social security. The increasingly uneven spread of economic growth and lax implementation of labour laws has led to a tremendous increase in wage labour migration. The intensive increase of uneven economic growth and lax implementation of labour laws has led to a tremendous increase in wage labour migration.

Seasonal Migration happens to be a very common movement in India. Workers are recruited through a large network of labour contractors who tend to bond the labours with an incentive of cash advances. This binds the labour for a particular tenure and forces them to work. Their wages are settled after the end of their work period. The wages are low and the working hours are long. This gets them covered for only few living expenses. Migrant movements have always remained undiscovered in the country. There is no sign of large numbers of seasonal migrants in the destination area. Nor is the fact of seasonal migration acknowledged by source states that see migration as a failure of their development policies and are consequently reluctant to accept it.

Large scale surveys like Census do not include seasonal migrant workers due to which they remain outside of all the public beneficial policies like education, health, etc. As a result of this, the migrants have no entitlements to livelihood support systems or formal welfare schemes and policies.

Types of Migrant Workers

Migrant workers are the part of India's unorganized informal work-force, which is estimated to number over 350 million people. As workers of the city, they remain excluded from basic services and rights. The lack of recognition in the society has made them invisible.

India as a country, has multiple occupations. This means the labour force is required everywhere. There are different sectors like construction sector, agricultural sector, brick making industry, glass blowing industry, automobiles industry, mining industry, etc.

The hierarchical structure around the workers varies from each industry to industry. The top levels of the hierarchy may not find anything difficult but it's the lower level who are being adjusted. Each industry has a line of method which allows them to work in a better manner. The process gives them the divided work for everyone starting from the job which requires good logical and mental thinking to a job which requires hardship.

Brick kiln workers

Brick kilns are usually found on the outskirts of most developing towns and cities. Most brick kilns employ seasonal labour. The workers, usually migrate to these outskirts areas from their town. They generally belong to the poorest areas of the country like the Bilaspur cluster in Chattisgarh, western Orissa, etc. The brick manufacturing labour in India is labour-intensive, employing up to 10 million workers (ILO Report on Brick Kiln Workers). The industry remains completely manual with almost no mechanization. Since the brick workers are seasonal migrant workers who migrate for six months or more with their families to kiln sites. Belonging to mostly scheduled castes and tribes, these workers constitute in an unorganized method of labour. The work hours are inhumanly long work hours leading up to 16 hours a day. The job forces them to work under harsh conditions with very nominal wages. Most workers have accumulated debts that they are unlikely to ever pay up fully. As a result, they can be classified as bonded labour.



Figure 3. Workers in the brick manufacturing industry

Construction workers

The construction sector is a large contributor to the national economy. It is also the third-largest employer outside agriculture and it employs a workforce of 46 million across India (Roy et al 2017). There are an estimated 12 lakh construction workers in Gujarat (CAG 2014). A 2009 study estimated that there were 1 lakh construction workers in Ahmedabad (BSC 2009). The majority of this construction workforce consists of migrant workers. The labour contractor assembles labour gangs by recruiting workers directly in their villages. This may involve intermediaries like a ‘mukaddam’ (labour supplier). The labour contractor pays for the labour gang’s travel to and from the city and places them to work on a specific construction project for a certain duration of regular work. They live at the worksite for this duration, and employers (developers and contractors) play a role in providing them with temporary accommodation and other facilities. After the work at this site is over, members of the labour gang either return to their village or are placed at another construction site. This study focuses on the migrant workers at construction sites.



Figure 4. Workers at construction sites

Mine / Quarry workers

India’s mines are dangerous by any standard, with one mine worker dying every six days on average in 2017, according to government data. So it’s no surprise that India is one of the world’s most dangerous countries to be a coal miner. The workers in this industry go at the risk of death every single day. Despite risking their life all day and night, the workers are not getting proper living conditions for themselves and their families. The workers’ whole families stay on the mining sites and their children grow up in the most hazardous place since they have nowhere else to go. After working for hours in a dusty and poor environment, the workers go back to a small compact room to rest. The wages given to them do not complete their needs fully. At the times accidents, the workers are injured or might even be dead. They

undergo such long-term injuries which make them even more vulnerable. Even after all this, they are compensated with an amount that barely even costs the medical charges.



Figure 5. Workers (including children) at quarries

WORKERS IN THE CONSTRUCTION INDUSTRY

The construction sector is one of the largest employment generators in India, and the country will need approximately 76.5 million workers in the building, construction and real estate sector by the year of 2022.

The sector is highly unorganised. Out of the total estimated 15.2 million short term migrants, more than 36.2% of migrants are employed in the construction industry alone and more than 80% of them are minimally skilled labourers (*Realty Economics Times, May 05, 2015*).

With the growth of cities, projects to build housing and inter-city infrastructure such as roads and railways have created a large number of jobs in the construction sector. Employment in this sector nearly doubled between 2004 and 2011. Currently, the construction sector accounts for 21% of all non-agricultural jobs in the country *Indiaspend.com (June 2022)*.

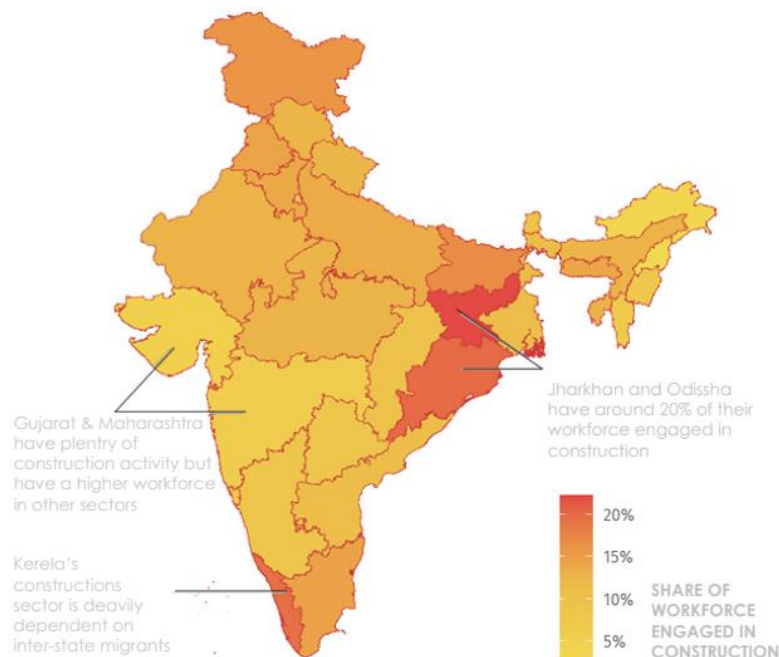


Figure 6. Map showing workforce share (by States in India) in the construction sector



Figure 7. Some interesting facts and numbers related to construction workers and their condition in India

Building and Other Construction Workers (BOCW) Act, 1996

This Act was passed by the Parliament of India in 1996 with the intent to is an Act to regulate the employment and conditions of service of building and other construction workers and to provide for their safety, health and welfare measures and for other matters connected there with or incidental thereto.

- Registration of establishments that employ 10 or more workers in any building or other construction work.
- Free temporary accommodation to be provided on or near the site to workers.
- The accommodation to have separate cooking place, bathing, washing and lavatory facilities (No norms specified)
- Drinking water to be provided on construction site and should not be located within 6 metres of a toilet or washing place.
- Sufficient latrines and urinals to be provided on site. Should be separate for men and women, provided at accessible and convenient locations with water and disposal facility, adequate lighting and maintenance. (No norms specified)
- Crèche with trained childcare help for children under six years, where more than 50 female workers are employed.

Labour Colonies for Construction Workers

Construction workers live a life of uncertainties. These workers have no idea where they will be working or staying and for how long they will be staying.

These workers on any specified site are appointed a particular task like painting, flooring, loading/unloading, cleaning, electrical, plumbing, RCC work, etc. Depending on the location and the size of the project, the associate building company makes the shelter for the workers on or off the site.

These shelters are vulnerable to harsh weather conditions in summer and monsoon. On-site colonies are just a mere representation of shanties created by the workers themselves with the help of locally available material. They are at a high risk of getting injured.

There are no other facilities given to them other than an open space.

Off-site colonies are better in comparison to the onsite accommodation. In this type, the workers are given a specified size of an empty room. This room is their only source for each activity. They might or might not have a separate cooking area. There are washrooms provided for both males and females in a specific part of the colony.

When one looks at the situation in the city of Ahmedabad (economic capital of Gujarat state, India) - The migrant workers in Ahmedabad live in different levels of shelter quality and minimum access to basic services and security. Different types of shelters include semi-permanent shelters made of mud and bamboo, shelters made from tin sheets and plastic sheets, and permanent shelters made with a metal framework.



Figure 8. Labour colonies for construction workers in Ahmedabad

STUDY OF TWO LABOUR COLONIES IN AHMEDABAD

Labour Colony at Thaltej

This labour colony houses construction workers working on an infrastructure (bridge) project at a different location (this is an off-site colony).

Transportation to and from the colony to the site is provided by the construction company.

Location: Road from Sindhu bhavan to Zydus Hospital, Thaltej, Ahmedabad.

Site Area: 11,653 meter sq.

Each shelter block has 20 rooms of approximately 10x10 feet.

There is no community kitchen – each person or group of people have to prepare their own meals.



Figure 9. Location of the labour colony

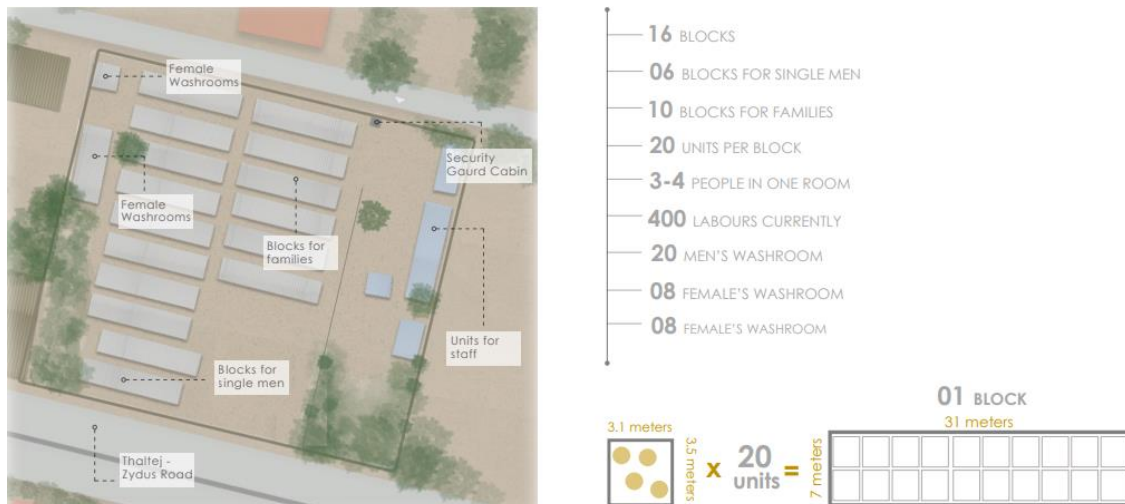


Figure 10. Layout and facilities provided in the colony

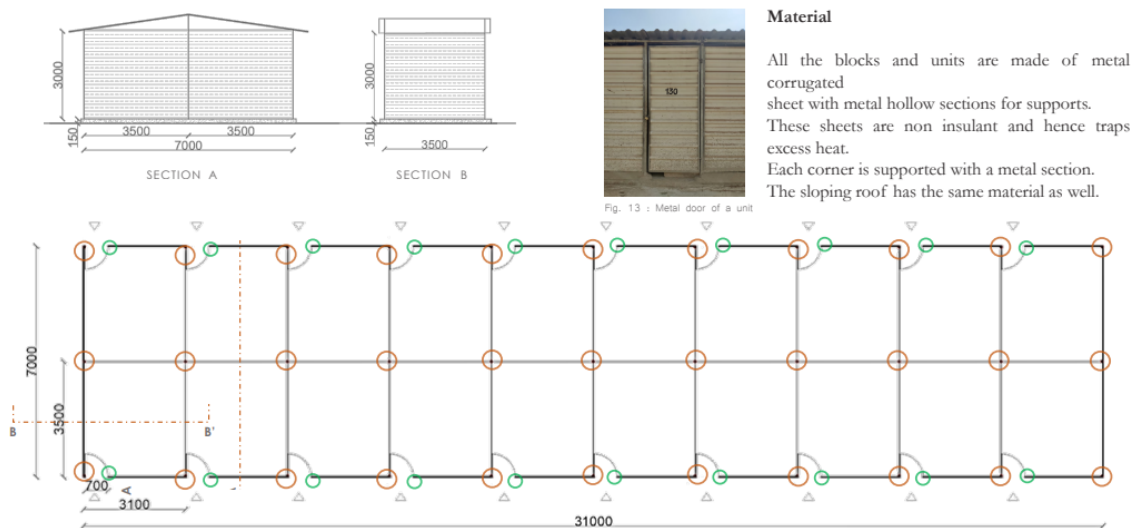


Figure 11. Materials and Dimensions of the rooms



Fig. 15 : View from the entrance



Fig. 16 : View towards staff units



Fig. 17 : View from internal passage



Fig. 18 : View towards washyard

1. The view towards the staff units which away from the labour units.
2. View from the Entrance : There is enough open space in the entrance and the central passage divides the two parts of the site which are staff units and labour units.
3. The internal passage which divides the family units from single men units. This provides privacy to both of the area equally.
4. The view towards the wash yard and drinking water area.



Fig. 19 : Plan of Thaltej Labour Colony

Figure 12. Photographs of the colony

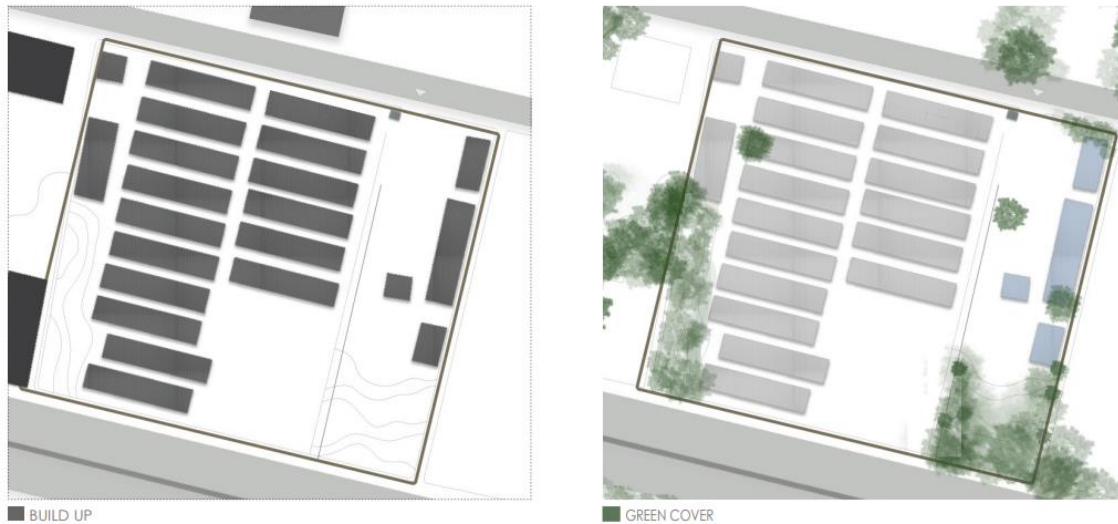


Figure 13. Open to built ratio and trees / vegetation on the premises

More than half of the land is built-up and hence the passages look cramped. There are multiple passages but they have a narrow width due to which there is less space for the people outside the units. This also affects the ventilation and access to daylight.

There is minimal green cover on the site resulting in a lot of the ground and shelters being constantly exposed to the harsh sun – this results in the heat island effect within the labour colony.

Study of the Individual Unit

The following are some observations regarding the design of the shelters in which the workers live; these are based on first hand site visit, observations and interviews with occupants.

The room size (10'x10') is not adequate for 4-5 people who reside in each room. There is a lack of personal space. One space is dedicated for all the activities like cooking, sleeping, storage, etc.

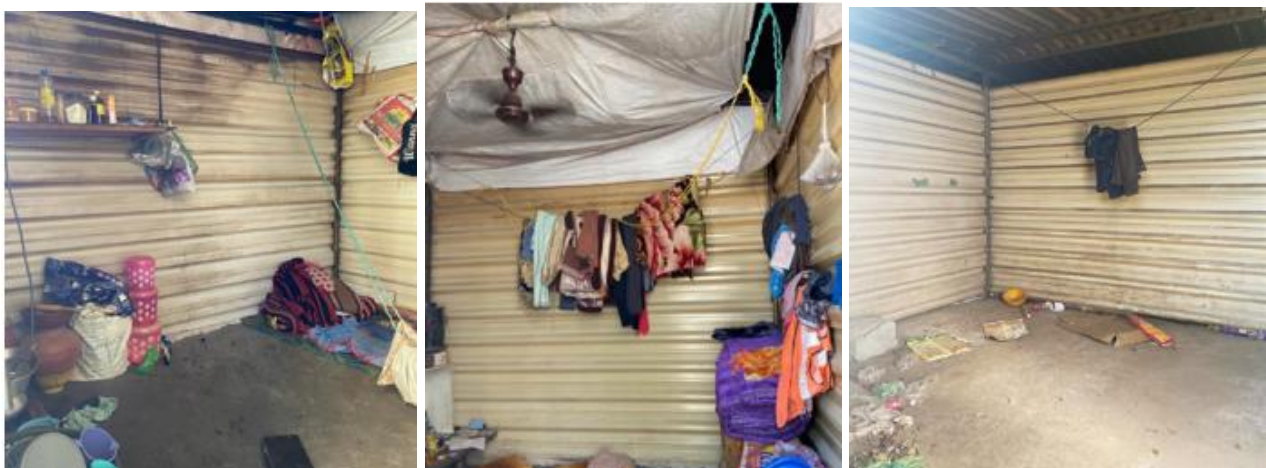


Figure 14. The interior of the room

The metal (galvanized iron) sheets used in the roof and walls and the constant exposure to the sun throughout the day leaves these rooms very hot and suffocating in the evenings, when the workers return to the colony. They try to cover the roof with locally available materials like plastic and clothes.

Since there is no ventilation and source of daylight in these rooms most people prefer to stay outdoors and only go inside when they have to sleep.

There is absolute lack of gathering spaces / communal spaces. The passages and open areas are not designed or maintained and are covered with dirt and water (during rains). This leads to a very dirty and unhygienic environment in the entire colony.



Figure 15. The open space between rows of shelters

Here is what one of the workers living in this colony had to say;



“Life is simple and it’s working. Work in the day and rest at night. The rooms can be bigger. It’s gets congested living with four other men.” – Panchubhai, migrant worker from Uttar Pradesh

Labour Colony at Memnagar

This labour colony houses construction workers working on housing project at a different location (this is an off-site colony).

Transportation to and from the colony to the site is provided by the construction company.

Location: Behind Ahmedabad One Mall, Opposite GMDC cricket box ground, Ahmedabad

Site Area: 8560 meter sq.

There are total 16 blocks including both single and double storey units.

There is no community kitchen – each person or group of people have to prepare their own meals. But there are a couple of ration stores and a shed that works as a school and crèche.

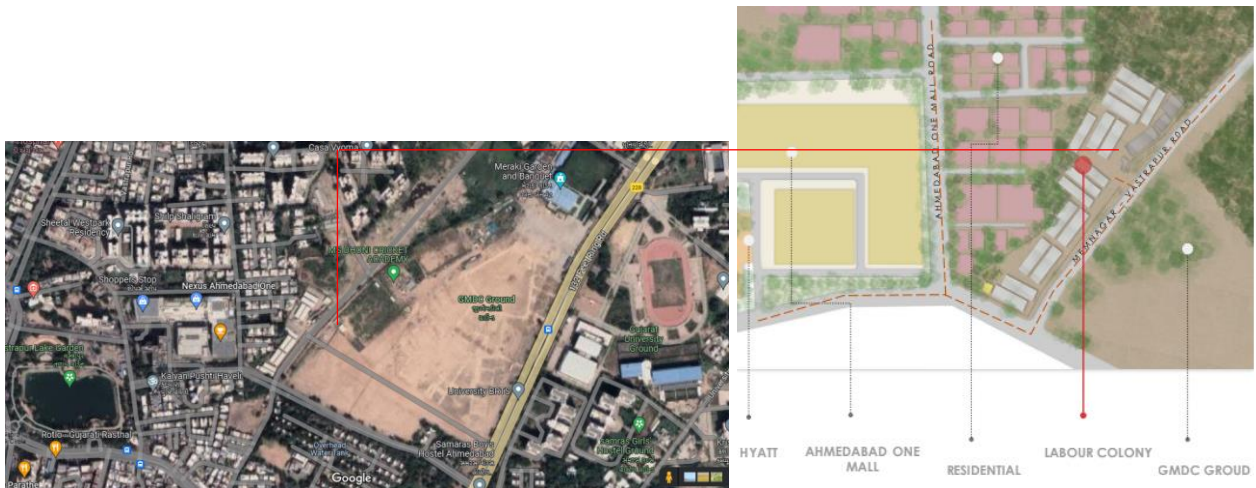


Figure 16. Location of the labour colony

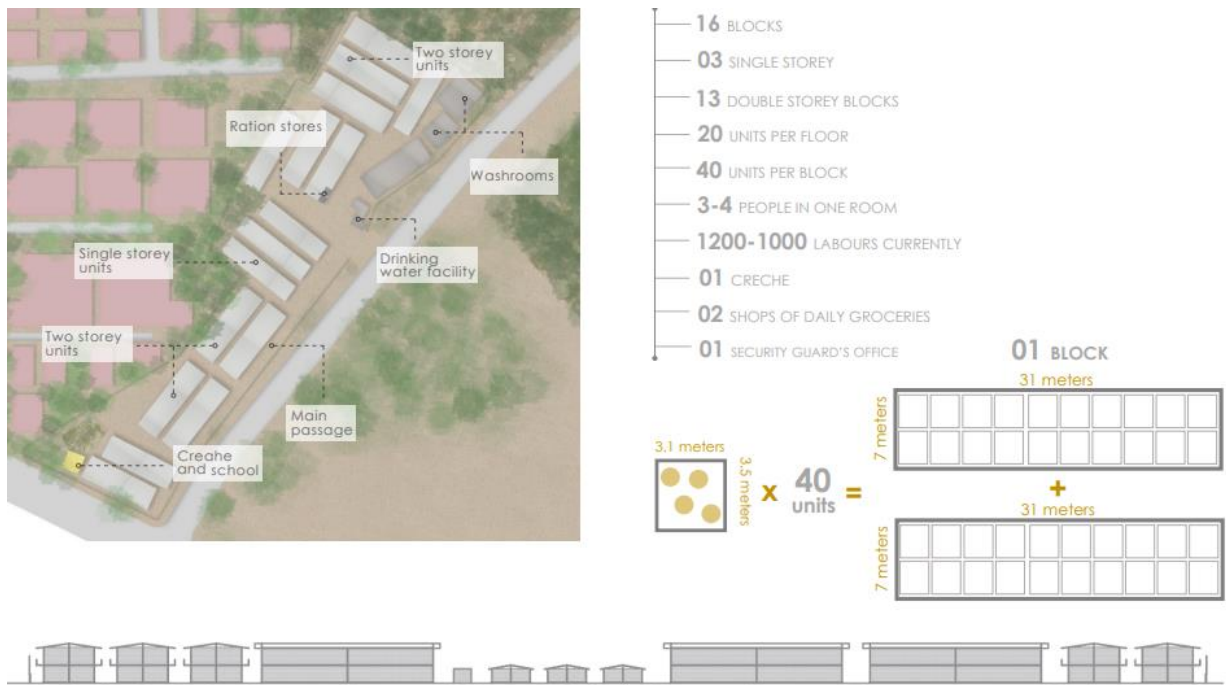


Fig. 27 - Long section of the site

Figure 17. Layout and facilities provided in the colony



Figure 18. Open to built ratio and trees / vegetation on the premises

The built-up area is significantly more than open area. All the units are placed randomly, ignoring the space planning aspect. This creates a very congested area for the people living there.

There is very less green cover on the site. Due to this the site is exposed to maximum heat. Since the units are placed closely to each other, there might be some instances of shelters shading each other. The surrounding areas have several trees, resulting in a better micro-climate for the colony.



Figure 19. Zoning and Volumetric distribution of shelters

There are two kinds of units – single and double story. Due to lack of space, they have used double story units to accommodate maximum people. Though this increases the capacity, it creates a sense of congestion and unequal quality of housing shelters.

The whole site is majorly divided into three zones – public, private and services. The public area acts as a recreational space for the workers in the evening. The red zone is the services zone is semi private area used by both males and female – it includes washrooms and drinking water supply point. Rest of the areas are occupied by the residential shelters.



Fig. 32 : View towards creche



Fig. 33 : View towards drinking water facility



Fig. 36 : View towards passage



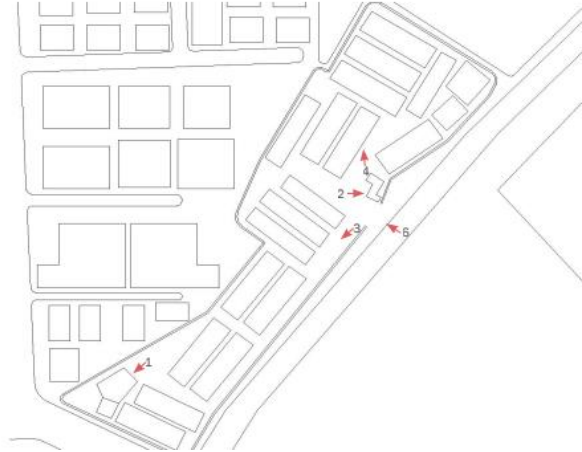
Fig. 37 : View towards first block



Fig. 34 : View showing double storey units



Fig. 35 : View towards the entrance of the colony



All the blocks and units are made of metal corrugated sheet with metal hollow sections for supports. These sheets are non insulant and hence traps excess heat. Each corner is supported with a metal section. For the slab of the lower level, cement sheet is been used to avoid stumping noise.

Figure 20. Photographs of the colony showing different parts of the site and the materials used

Comparison and Inferences

CATEGORY	THALTEJ - LABOUR COLONY	MEMNAGAR - LABOUR COLONY
OCCUPANCY	3-4 labours, in one unit, sometimes even 6 labours. For families, one unit per family.	3-4 labours in one unit. For families, one unit per family.
SANITATION / HYGIENE	Poorly located, clean but very congested. More people, less bathrooms.	Too unclean, and poorly maintained.
VENTILATION	Zero ventilation	Zero ventilation
ACCOMODATION	3x3 meters units. no variations in block/units.	3x3 meters units. no variations in block/units. Some blocks were double storey.
COOKING SPACE	No separate cooking space was given.	No separate cooking space was given.
GREEN POCKETS	5 % green cover	10 % green cover
PRIVACY	Since, there were separate blocks for single man and family, there was some kind of	Too conjested, no privacy for any family. The passages were too narrow.
MATERIAL VARIATION	Metal tin sheets with metal sections for framework and rcc plinth.	Metal tin sheet, metal sections for framework and concrete sheets for slab of G.F .

After work, they enter to a very familiar environment and feels even more exhausted. They prefer sitting outside rather than using their units. This shows that open spaces are preferred more.

The passages between plays an important role in circular. They are narrow which results in less penetration of sunlight & poor ventilation. According to the usage, the passages must be wider & open.

All they have is a room. One space to be used for all activities. Locally available materials are used to make shelves & raised cooking platforms. One corner is specified for sleeping and for crèche. There should be more design thought to space planning, functions, activities, personalization and material selection.

Narrow, long, and dark streets between the shelters make it feel congested. This was observed across all such colonies. This restricts any communal activity which is very important for their mental health and well-being. Every labour colony needs to have some gathering / activity space where the workers can do things together.

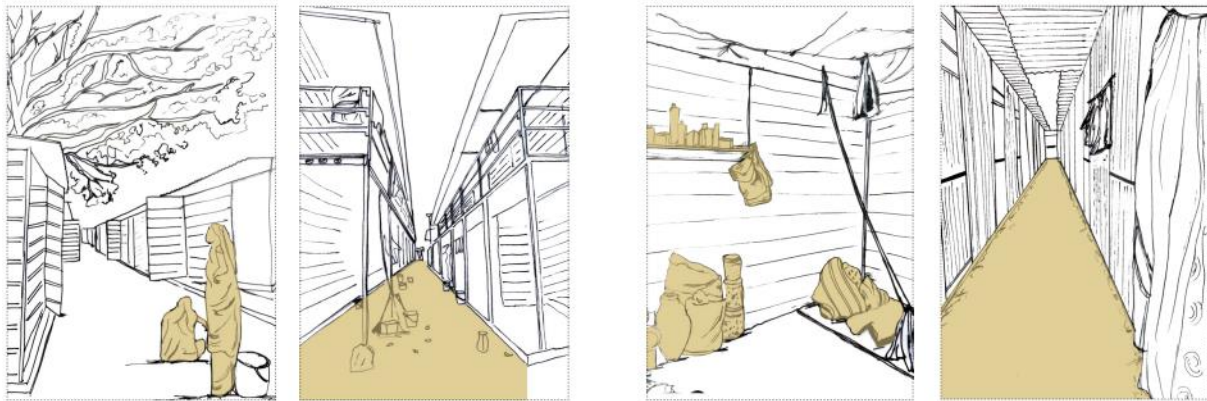


Figure 21. Illustrations of the colonies showing some of the observations mentioned above

ESTABLISHING DESIGN PARAMETERS

This section of the study looks to identify certain parameters that should be thought of while designing and constructing these labour colonies – mainly aimed at providing them with fundamental amenities and a dignified and healthy living environment.



These are not necessarily all-encompassing – but generally cover most aspects. They are also not represented in any specific order of importance or priority.

After looking at a few different colonies in Ahmedabad, there are a few different factors that can serve as a foundation for the subsequent design process.

The parameters began with the fundamental necessities of existence, such as water, power, and drainage, among other things. In any type of lodging establishment, these are the prerequisites that must be met first and foremost. In every one of the scenarios described above, these were completed in order to satisfy the requirements of the law, but this did not make them adequate.

In addition, there are facilities like creche, training centre, health centre, mess or canteen, and other ancillary services and amenities, which play a vital role in human development.

The last and most significant component of these factors is the intangible things, which include a sense of community and unity, improved and cleaner air, a greener environment, material discovery, and other similar things. All of these things have a significant impact on a person's mental growth. Without them, one can simply maintain their current state, but there is a risk that they will never advance.

It is a common misunderstanding that the workers are intended to do nothing but labour and should not develop or progress in any way. The builders and the government only focus on the aspects that are advantageous to them, therefore they disregard that element.

A DESIGN DEMONSTRATION

This part of the study combines the learnings from the research and case-studies with basic design principles to propose a labour colony that addresses all the issues identified so far. This could be just one of many different approaches one can adopt – but the important thing is that one should not just stop at identifying a problem – the solution must also be defined; that too one that is realistic, meaningful, sustainable and which can be implemented in the real-world conditions of the construction sector of India.

This proposal is called the ‘**Yellow Cap Project**’.



Figure 22. Diagram illustrating the key design concerns

The design is based on the necessity of providing accommodation while maintaining the individual's dignity. According to the findings of the case studies and the research conducted, the issue can be remedied by means of a project that is centred on the enhancement of the quality of life enjoyed by those employed in the construction industry.

The workers have a lot of problems to deal with because of the excessive workload and the poor living conditions. They have no sense of community with one another, which causes them to experience feelings of isolation even when they are living in large groups. It is a difficult task for them to remain separated from their families; however, it is even more difficult to survive in such harsh conditions without any kind of mental support. Their already low work efficiency is further hampered by the ongoing decline in their quality of life.

Design Goals

This project is focused on the process of creating a setting that is unique in comparison to others. It prioritises the creation of distinct zones, with the goal of improving both the workers’ productivity and their quality of life. The workers will have the dignity that they are entitled to in this society as a result of this project, which provides them with improved living quarters, a stronger sense of community that will make them feel as though they are a part of it, and a sense that they are being included.

This project’s overarching goal is to provide the workers with the more ephemeral, or intangible, aspects of life, while also keeping in mind the more concrete, or tangible, aspects of life. The purpose of this proposal is to investigate all of the opportunities that exist for accommodating the greatest number of people in the most effective manner possible.

Project Brief

The colony will be catering the migrant workers in the construction sector - for around 1000 workers with 400 units for single men (double occupancy) and 120 units for families. Creche and training centre is for their welfare. Services include wash-yards & washrooms.

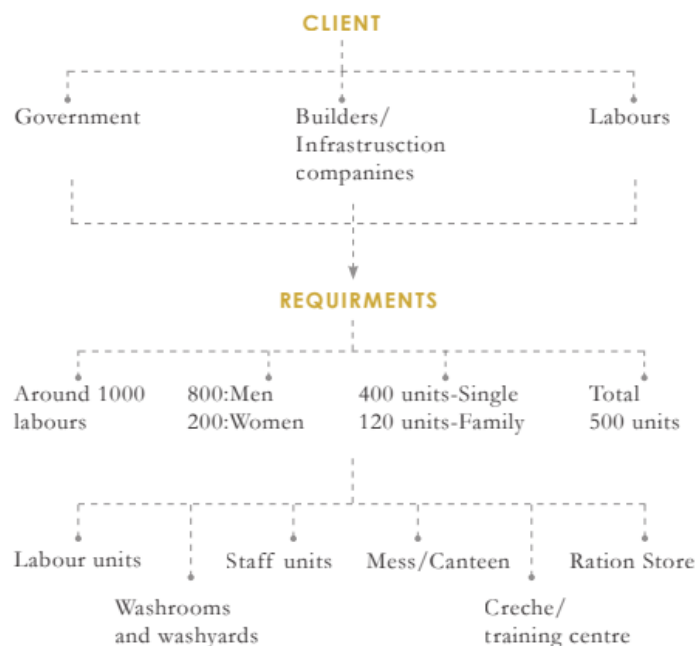


Figure 23. Flow-chart defining the project brief

Zoning & Activity Placement on Site

Through the bubble diagrams, initial zoning and space planning is done. The place is divided into three main parts: the central open space, staff units and worker units.

The connectivity, proximity, and privacy is shown. Each zone is given the advantage of natural light. Visual barriers are provided for private zones.

The clusters of units are placed in way that they form small pockets which acts as a buffer space between them.

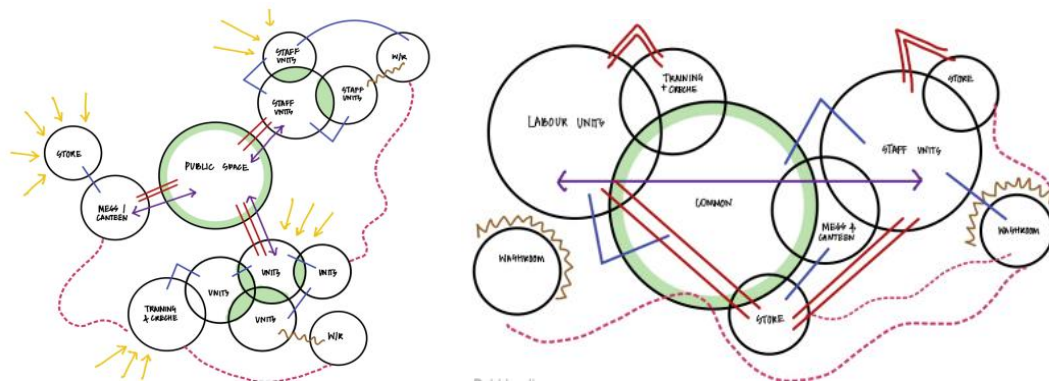


Figure 24. Bubble diagrams exploring different alternatives of placing activities on site

Unit Clusters

Following the modularity concept, each unit is placed in a way that it gets multiple views. Few voids are formed which acts as green pockets or courtyard. According to the case studies, the arrangement of the units are done in a linear manner. This makes the space very monotonous does not provide views. By placing the units perpendicular, small pockets are formed which results in better views to each unit.

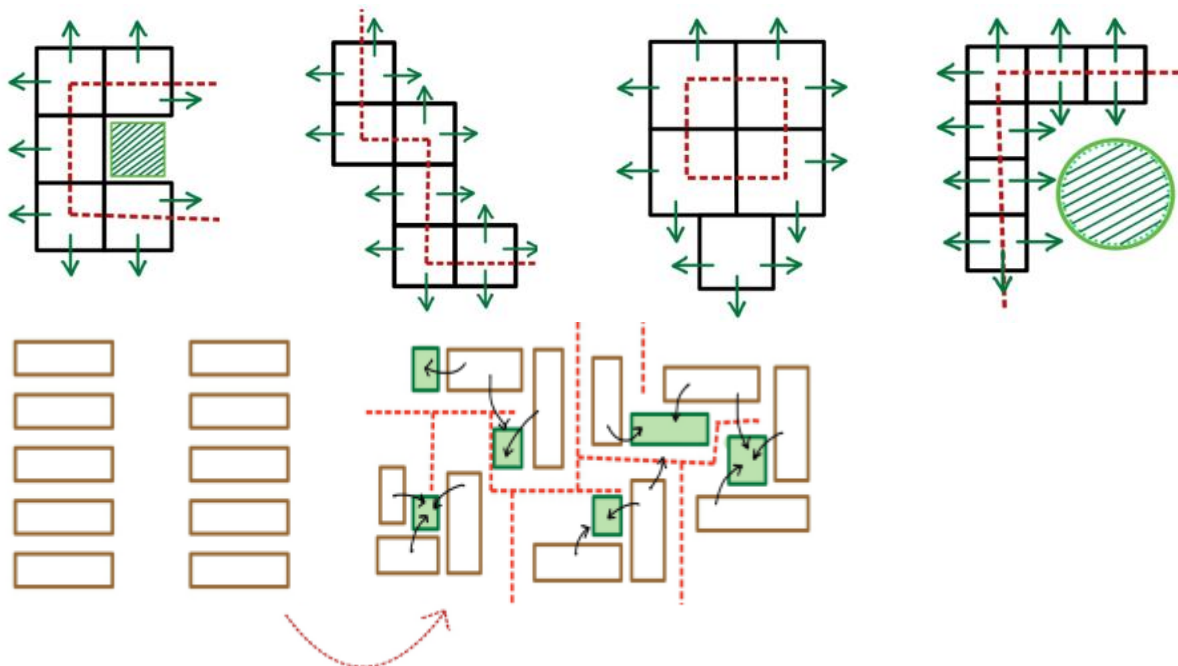
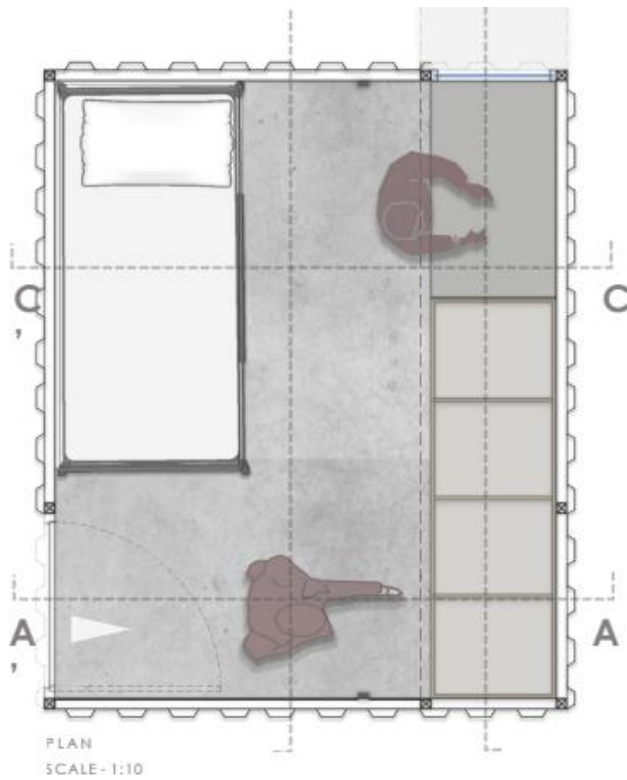


Figure 25. Layout ideations exploring different ways in which the individual units can come together to form clusters

Making of the Individual Unit & Its Variants

This section demonstrates some of the design responses to how the individual and family units could be designed – keeping in mind the design concerns listed previously, along with concerns of cost, modularity, sustainability, climatic response, pre-fabrication and re-use at another site.

UNIT FOR TWO INDIVIDUALS



Specification :

- The unit is specially designed keeping in mind the lifestyle of a single men living in a bunch of two-three at a time.
- It is a 2400 mm x 3000 mm unit.
- It is designed keeping in mind the openings.
- One window near the kitchen space is provided for better ventilation.



Open shelves



Metal strips



Slit window



Metal bunk beds



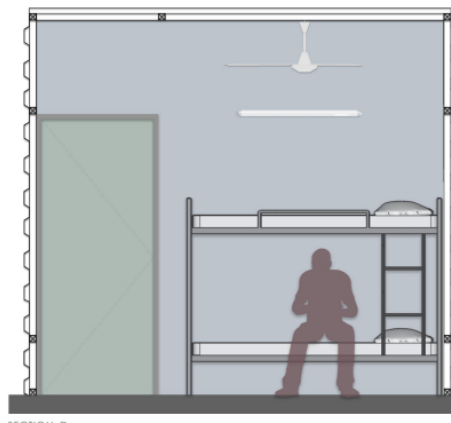
SECTION A



SECTION B



SECTION C



SECTION D



The base module is designed keeping in mind the best locations for the openings. Better location of openings results in better ventilation and hence the module remains cooler for longer hours than the usual. In order to explore the cluster modules, the base module is rotated and flipped several times to get the maximum advantage.

By placing eight units in different directions through which it gets maximum airflow and sunlight.

Each one cluster has few courtyards which acts a buffer space.

The units are placed in way where the all the openings are facing outwards.

The slit windows also play an important role for removing out the hot air inside the units.

Further, the front benches on the entrance provides a small verandah and a hangout space for the workers. It gives more importance to the entrance and hence holds some cultural value.



The mega cluster of four clusters are formed in a way that each units has a common entrance. It acts like gathering front space with benches to sit on. The plantation on the sides makes the passages better.

The central courtyard is given for daily evening gatherings and leisure time. The green pocket in the centre provides a to achieve a cooler micro-climate with local vegetative species.

The open space in the centre may build a sense of community within the workers. Through this, they get a chance and place to gather and celebrate.

MATERIALS AND MAKING



SITE PLAN OF THE ENTIRE COLONY



THE WAY AHEAD

What has been demonstrated here is just one approach of many...other designers too have worked in this sector and come up with very appropriate and beautiful solutions. The important thing is to highlight the situation of migrant workers in our cities and their living and working environments.

With such efforts, one hopes that the workers will perform their jobs more effectively if they are provided with an improved living environment.

The children of the workers will grow in a clean and risk-free environment as well.

A sense of community and belonging is fostered among the workers as a by-product of their shared living arrangements in a space that they can rightfully call their own.

When they are surrounded by a source of emotional support, it makes the time they spend away from their families a little bit easier to bear.

It is a justifiable goal to not only give them a place to live but also to instil a feeling of dignity in them so that they experience a sense of belonging within the larger community.

As a result of this effort, the worker's transient way of life is provided with some relief. They will find a way to get to work no matter where they are since their workplace has become a place that they can truly call home.

With such initiatives, one hopes to achieve a meaningful, beautiful and sustainable growth in our cities, that is just, equitable and dignified for everyone involved.

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Figure 4: Workers at construction site - <https://www.istockphoto.com/photo/busy-construction-site-gm610448304-104788641>

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Figure 8: Labour colonies for construction workers in Ahmedabad https://lh3.googleusercontent.com/uJbzU6Zm6P17BT2IfuR3xmFTtI3X9gk9eeN-70SmS1HDawBf3Z_oPOnGbw2rehbubAgI0A=s113

Figure 9: Location of the labour colony – Image from Google Earth.

Figure 16: Location of the labour colony – Image from Google Maps.

All other images, illustrations, drawings, photographs, diagrams by author.