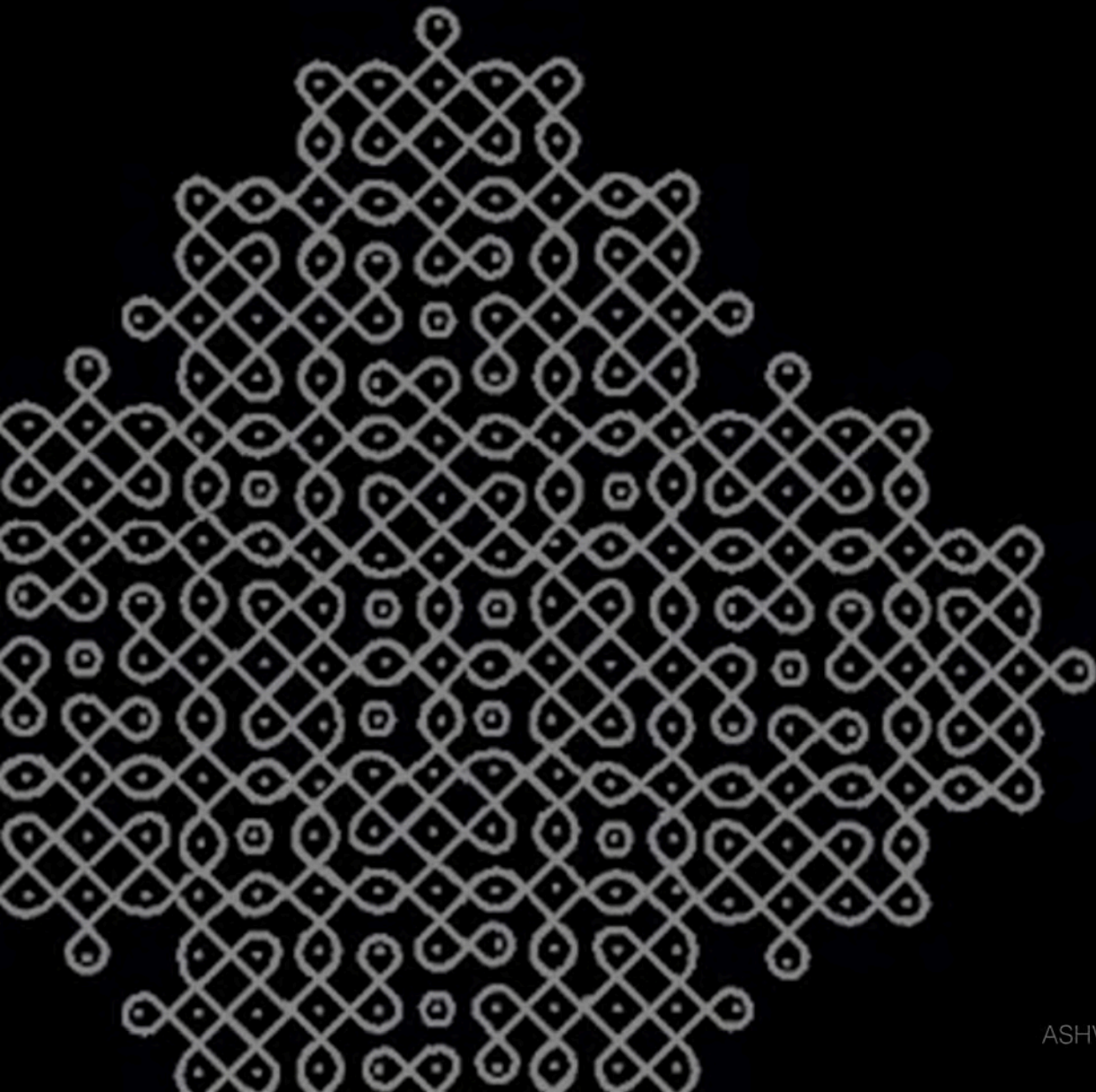
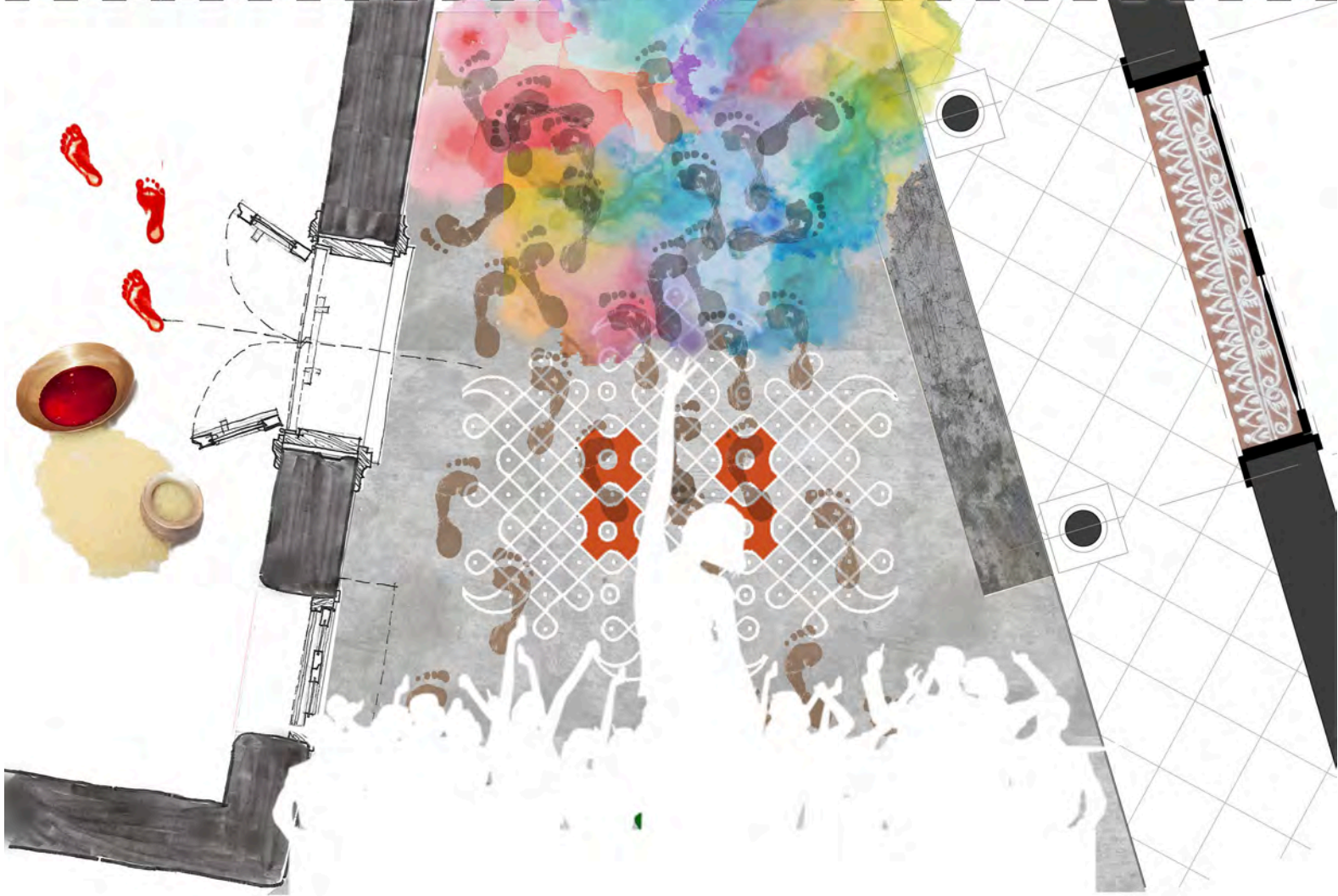
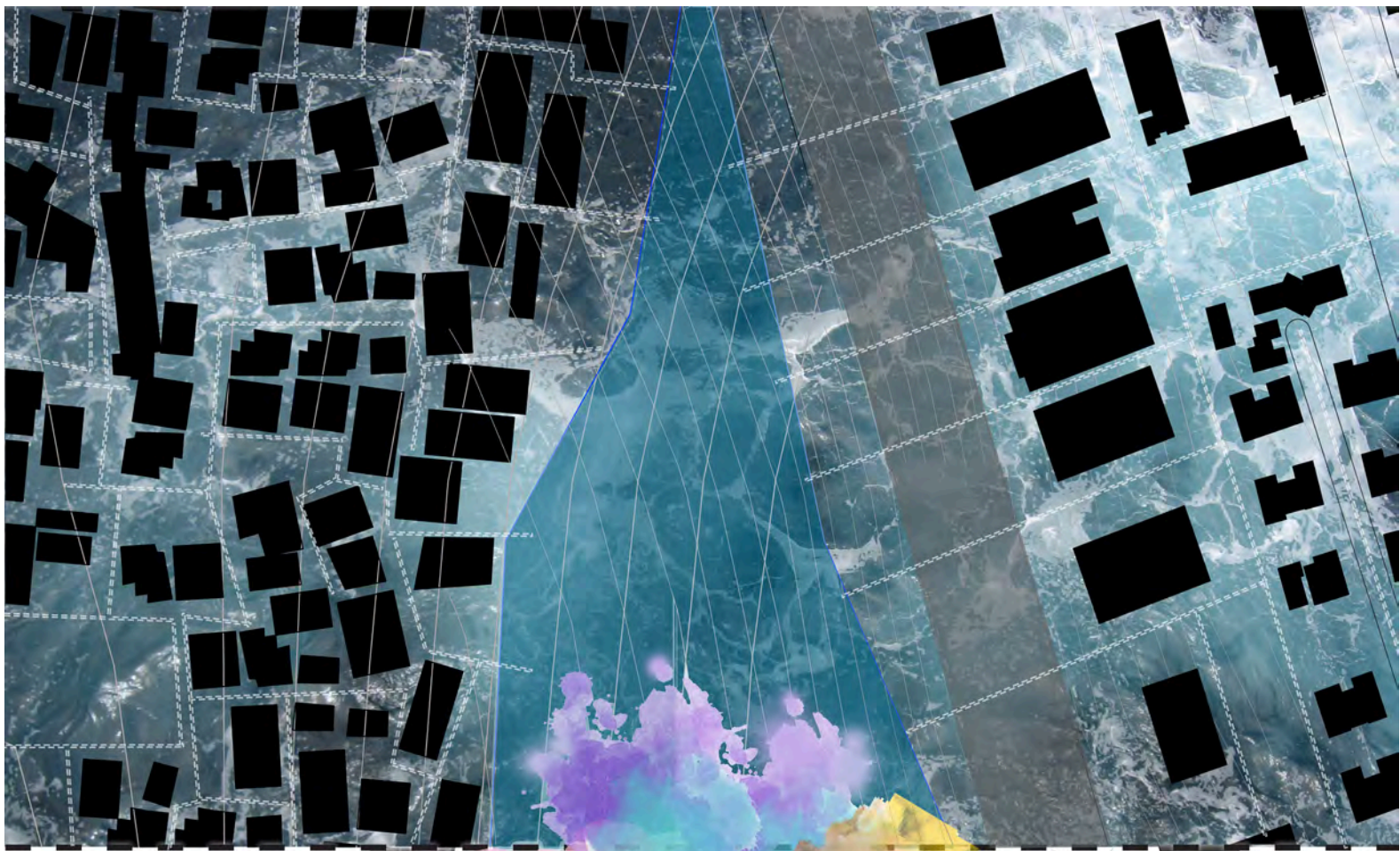


# *An Urban Koliwada*





An Urban Koliwada  
Redevelopment of a Fishing Village in Mumbai, India

Ashvini Mary Dinoy

Thesis submitted to the faculty of the Virginia Polytechnic Institute and State University in  
partial fulfillment of the requirements for the degree of

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## An Urban Koliwada Redevelopment of a Fishing Village in Mumbai, India.

Ashvini Mary Dinoy

### Academic Abstract

*The Metropolis and the Slum*

“Looked into the streets - the glaring lights and the tall buildings - and there I conceived *Metropolis*” exclaimed the Austrian filmmaker Fritz Lang at the sight of New York. This visit inspired him while creating the sets and background for the radical movie *Metropolis*<sup>1</sup> released in 1927. Taken right after World War I, the movie set in 2026 was heavily symbolic with German expressionism and it captured a projected socio-economic condition which was a direct result of the fears of the people at that time. The working class lived in subterranean spaces distraught with mundane labor while the affluent lived in skyscrapers and exotic terraced gardens and drove around in elevated highways. The city seemed to be this well-oiled machine existing only to cater to the needs of the upper class. The poor eventually try to overthrow the rich. The movie finally ends with the message of hope, that the *mediator* would create harmony among the classes and create peaceful coexistence.

The city of Mumbai in 2018 is in many ways - the *Metropolis*. When a city develops, it does not seem to cater to all sects of people. In fact, there seems to be a parallel relationship between the size of the city and its level of socio-economic disparity: the larger the city the less equal it tends to be.<sup>2</sup> More often than not, the true soul of the city lies within that lower stratum of society who often live in slum-like settlements.

Can architecture play the *Mediator* and bring about a connect?

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<sup>1</sup> *Metropolis*. Directed by Fritz Lang, Thea Von Harbou, Brigitte Helm, Gustav Fröhlich, Rudolf Klein-Rogge, Alfred Abel, Theodor Loos, Heinrich George, Fritz Rasp, Karl Freund, Günther Rittau, Gottfried Huppertz, Enno Patalas, UFA (Firm), Kino International Corporation, and Saarländischer Rundfunk. Sinfonie-Orchester. Kino on Video, 2002.

<sup>2</sup> Adomaitis, Kasparas. *The World's Largest Cities are the Most Unequal*. Euromonitor International, 2013

## **An Urban Koliwada** Redevelopment of a Fishing Village in Mumbai, India.

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### **General Audience Abstract**

*Bringing the village into the city*

At the time of Indian Independence in 1947, Gandhi said that “India is to be found not in its few cities but in its 700,000 villages<sup>3</sup>. Villages were self-sustaining units which were rich in culture and tradition. He believed that the revival of the villages and all its cottage industries, handicrafts and agriculture was India’s answer to development. However in 2018, there are only about 597,464 census villages<sup>4</sup>. At this rate, within a few centuries, India would lose its identity and will look like every other country in the world. Anybody who could afford to travel, moved to the cities. Villages are constantly abandoned and some get engulfed or morphed into cities. Cities grow at such rapid rates with the latest building technologies usually ignoring the needs of the people its supposed to serve.

Is the city developed only for the rich and affluent? Can architecture support social inclusion and break down spatial segregation within a megacity? Can we capitalize on a city’s history and rich traditions without destroying them? Can a village survive a city?

My thesis attempts to answer some of these questions through case studies, research and finally applying some of these theories and concepts on to a project that involves the redevelopment of a fishing village in the heart of Mumbai, India.

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<sup>3</sup> Gandhi Book Center. Gandhi on villages. Excerpts from *Harijan*. <https://www.mkgandhi.org/ebks/Gandhionvillages.pdf>

<sup>4</sup> Livemint. <https://www.livemint.com/Industry/ORuZWjrj6czTef21a2dIHGK/Electricity-reached-all-Indian-villages-on-Saturday.html>

## This book is dedicated to

My *dad*, whose undying passion and thirst for knowledge inspires me every day.

My *grandma*, for being my first teacher and for always believing in me.

My *family*, my strength, especially my *husband* and *children*, without whose love and encouragement this wouldn't have been made possible.

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## I acknowledge

“For from Him and through Him and to Him are all things.” *Romans 11:36*

I want to sincerely thank all of my thesis committee members for giving me all the support I need to get my thinking cap back on and for being so responsive even through their vacation time this summer.

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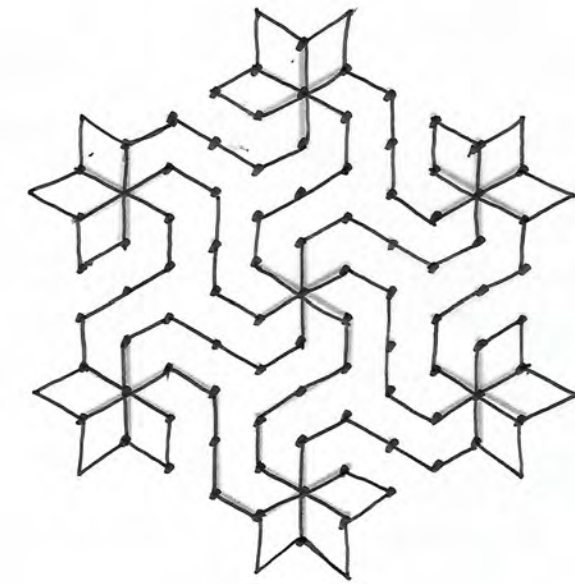
*Elizabeth Morton*, for your gentle but firm ways in helping me tackle the urban planning concepts that dominate my project and for always being there to help.

I also like to extend my thanks to all the other WAAC faculty and students who made my academic journey pleasurable and extremely insightful.

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“We call upon all those who believe in the future. All strong longing for the future is architecture in the making. One day there will be a world-view, and then there will also be its sign, its crystal—architecture.”<sup>5</sup>

-Bruno Taut



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<sup>5</sup> Taut, Bruno, *New Ideas on Architecture*, Programs and Manifestoes on 20th-Century Architecture, p. 47



## An Urban Koliwada

Redevelopment of a Fishing Village in Mumbai, India.

Ashvini Mary Dinoy

## Social Utopia

*Through thresholds in Architecture*

Although the initial roots of Utopian Socialism existed from the time of ancient Greece in the philosophical writings of Plato and Aristotle, who both talked of the existence of ideal societies, the modern Utopian ideologies, as outlined by Karl Marx and Friedrich Engels, opposed the results of industrialization and capitalization. The first modern mention of “Social Utopia” was in the book, *Utopia* by Thomas Moore in 1516. He wrote this book in response to the situation in England and compared the struggles of modern life in the city of Antwerp to an imaginary Greek island where life was much simpler and people were more tolerant. The word “utopia” itself was derived from the Greek words “ou”(no) and “topos”(place), loosely translated to “a place that does not exist.” Social utopia would be the creation of an ideal society with social and economic integration.

There are many critical questions that urban planners try to address, through the study of various thresholds that can be created by architecture between the classes, specifically, the rich and the poor. The challenges of designing inclusive environments can be seen through case studies and readings from the visionaries of modern architecture, specifically Fritz Lang’s *Metropolis*, Bruno Taut’s *Alpine Architecture*, Jane Jacob’s *The Death and Life of great American cities* and Gandhi’s *Harijan* . The role that architecture can play to create ‘social utopia’ is critical, but still remains quite elusive.

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## GEOGRAPHIC HORIZON



Fig 1. View from Worli fort showing the village/slum and the city beyond  
<http://www.archoutloud.com/reside.html>



Fig 2. Mukesh Ambani Residence  
<https://www.vanityfair.com/style/2012/06/ambani-residence-photos-inside-architecture>

Famously called the city of the ‘haves’ and the ‘have nots’, Mumbai, India, has met with major social and economic disparity. While Mukesh Ambani, a famous businessman in India, lives in a 27 storey, 400,000 square foot apartment for just a family of five, with over 600 employees to maintain it,(fig.2)<sup>6</sup> more than 11 million people (about half its population) are living in slum-like settlements (fig.1) like Dharavi (Asia’s largest slum) occupying less than 13% of the city’s land area without any basic facilities. The book *Rediscovering Dharavi* written by Kalpana Sharma, talks about how these

unique settlements came into existence. Here too, it was related to the social and economic disparities shown by the then ruling government. When the British occupied prime locations in the south of Mumbai, particularly Nariman point and Malabar hill, they cleared existing villages and settlements to the outskirts of the city which were part of

<sup>6</sup> Vanity Fair article. *The Talk of Mumbai*. <https://www.vanityfair.com/style/2012/06/ambani-residence-photos-inside-architecture>

many fishing villages.<sup>7</sup> Many immigrants from drought prone lands also moved to the city, looking for work and a place to live, and ended up living with the accommodating fishing communities in cramped quarters. These settlements grew in size and beyond control, with the government not supporting them or providing for the betterment of their facilities.

Although these villages existed for hundreds of years, due to the nature of its planning and the impermanence of its structures, these settlements were often called slums. The Slum Clearance Board is constantly trying to grab this prime property and turn them around through a developer, relocating these residents into another slum-like settlement far away into the suburbs, away from their work. But, what is a slum? Encyclopedia Britannica defines a slum as a “Densely populated area of substandard housing, usually in a city, characterized by unsanitary conditions and social disorganization.”<sup>8</sup>. However, Kalpana Sharma in her book writes

“a slum is not a chaotic collection of structures; it is a dynamic collection of individuals who have figured out how to survive in the most adverse of circumstances.”

Therein lies my question:

Is the city developed for the rich or the poor?

Can architecture support social inclusion and break down spatial segregation within a megacity?

Can we capitalize on a city’s history and rich traditions without destroying them?

<sup>7</sup> Sharma, Kalpana, *Rediscovering Dharavi*, Penguin books, India, 2000.

<sup>8</sup> Encyclopedia Britannica <https://www.britannica.com/search?query=slum>

## SOCIAL UTOPIA AND ARCHITECTURE

Throughout 18th and 19th centuries, people have talked about utopia and its relation to architecture. Karl Marx and Friedrich Engels wrote in their book *Communist Manifesto* "the history of all hitherto existing society is the history of class struggles... The rich will do anything to get the poor off their backs"<sup>9</sup>. The thresholds that divided the upper, middle and lower classes were reinforced to a large extent through architecture. In Mumbai, many public buildings created for the bourgeoisie did not even allow people of the lower class to use it. From the architectural styles to the spatial quality, the disparity could not be more obvious. While the rich lived in larger-than-life villas, some of the lower classes barely had a house. City planning also played into this scheme. Even in the early 20th century in America, Burnham argued, "Good citizenship is the prime object of good city planning." Civic renewal more generally, he believed, could provide healthy activities to those citizens who could not afford extensive traveling and who thus depended on the city for recreational and cultural enrichment.<sup>10</sup> Eventually the First World War (1914-1918) broke out and it saw unprecedented levels of carnage and destruction. By the time the war was over, more than 16 million people, soldiers and civilians alike, were dead. This was followed by the German revolution which brought a democratic government to power in Germany. German expressionism was also in full form in art, literature and architecture. It was against this backdrop that Thea Von Harbou wrote her novel *Metropolis* and Fritz Lang along with his fascination after seeing New York made the German movie come alive with his vision of 2026.

<sup>9</sup> Marxists. *Manifesto of the Communist Party*.

<sup>10</sup> Encyclopedia of Chicago. *History of Chicago*. <http://www.encyclopedia.chicagohistory.org/pages/61.html>



Fig 3. View of Metropolis main tower  
<https://www.youtube.com/watch?v=KaZqexUhOHM>



Fig 4. View of the lower working class  
<https://www.youtube.com/watch?v=KaZqexUhOHM>

The movie addressed the projected issue of economic class struggles in the year of 2026, from a 1926 perspective. The rich and powerful lived in palatial spaces, living a life of leisure and excesses and playing in the Garden with exotic birds and fountains, whereas the poor struggle to power them by toiling in the heart machine day and night and building everything for them and. Some lines from the film talks about the ambitions:

Let us build a tower whose summit will touch the skies – Those who conceived the idea of this tower could not have built it themselves, so they hired thousands of others to build it for them. But these toilers knew nothing of the dream of those who planned the tower. While those who conceived the tower did not concern themselves with the workers who built it. <sup>11</sup>

There is sadness and strife in their hearts, in living a life of misery and sacrifice only to provide an extravagant life for another.(fig.3 & fig.4) This results in a revolution which can only be led by the mediator. Maria, the main character of the movie says, "Between the brain that plans and the hands that build, there must be a Mediator."<sup>12</sup>

<sup>11</sup> Lang, Fritz, *Metropolis*, Silent feature film, 1927.

<sup>12</sup> Lang, Fritz, *Metropolis*, Silent feature film, 1927.



Fig 5. Frontispiece from his book "City Crown" showing everyone working towards a cause

### BRUNO TAUT AND SOCIALISM

To a large extent, Bruno Taut, influenced by others like Paul Scheerbart, was also in the same frame of mind, traumatized by the effects of war and looking for hope through German Expressionism. Although it was almost ten years before the movie came out, his book *Alpine Architecture* (1917), called for a similar uprising, and there is reason to believe that he visualized the architect to be the "mediator". This would mean "the hand that plans" could be the ones with the money and "the hands that build" - the working class. Taut's suggestion to avoid the destruction created by war was to divert people and funds to build larger-than-life societies.

Although it has some religious underpinning, the message was clear.

Preach the social idea: "You are all brothers, organize, you can all live well, be well educated and have peace!"<sup>13</sup>

In Taut's other book *City Crown* (1919), written in parallel with *Alpine Architecture*, the frontispiece (fig.5) followed the dedication page which read, "For the Peaceful".<sup>14</sup> It showed many workers in the background working towards building a Gothic-looking cathedral, while in the foreground, a peaceful-looking girl, who seemed to be reading a book. It indicates how peace and unity can prevail among mankind when people work towards a combined and motivating cause like building a cathedral. In modern times, the cathedral could even be social gathering place or a public building, that represents a city or even a neighborhood. It would be a modern "tower of Babel" like Maria, in *Metropolis* had visualized and must represent become something everyone can associate with, believe in and feel a part of. Taut talks about socialism being the new form of religion in his book *City Crown*, he writes further,

It is the urge to somehow enhance the well-being of mankind, to achieve salvation for self and thus for others and to feel as one, solidly united with all mankind. This feeling lives, or at least slumbers, in all mankind. Socialism, in the non-political, supra-political sense, far removed from every form of authority is the simple, ordinary connection between people and it bridges any gap between warring classes and nations to unite humanity.<sup>15</sup>

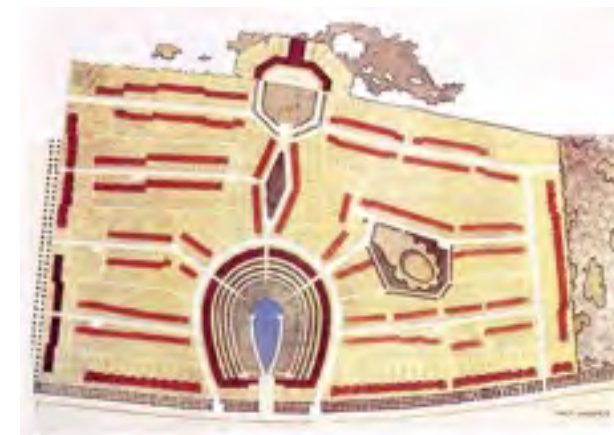


Fig 6. "Horseshoe Estate", a housing estate in Berlin, built in 1925-33 by Bruno Taut.

Even at the later stages of his career, Taut's town planning work like "Horseshoe Estate" (fig.6) in Berlin, showed a sense of fairness and the presence of a "City Crown"- a focal point of a city, be it vertical or sprawled out, that acts as a gathering place for a community.

<sup>13</sup> Taut, Bruno, Edited by Matthias Schirren, *Alpine Architecture - A Utopia*, Prestel, UK, 2004. Originally published in 1917.

<sup>14</sup> Taut, Bruno, Translated and Edited by Matthew Mindrup and Ulrike Altenmüller-Lewis, *City Crown*, Routledge, London and New York, 2017. Originally published in 1917.

<sup>15</sup> Taut, Bruno, Translated and Edited by Matthew Mindrup and Ulrike Altenmüller-Lewis, *City Crown*, Routledge, London and New York, 2017. Originally published in 1917.



Fig 7. Jane Jacobs protests a plan to move African-American children out of her local public school in 1964. Fred W. Darrah. <http://becomingjanejacobs.com/blog/2016/10/2/the-blindness-of-claims-of-jacobs-race-blindness>

## JANE JACOBS AND A REVOLUTION

Jane Jacobs, a Canadian-American journalist, argued the need for a change to the concepts of urban renewal in her influential book, *The Death and Life of American cities* (1961). She criticized the idea that planners did not take into consideration the requirements of all city-dwellers and she fought to protect neighborhoods and communities from slum clearance. She passionately exclaims “There is a quality even meaner than outright ugliness or disorder, and this meaner quality is the dishonest mask of pretended order, achieved by ignoring or suppressing the real order that is struggling to exist and to be served.<sup>16</sup>”

She criticized many existing urban planning concepts more specifically Ebenezer Howard's “Garden City”(fig. 8) which had influenced a whole host of planners around the world. In her book she writes “His aim was the creation of self-sufficient small towns, really very nice towns if you were docile and had no plans of your own and did not mind spending your life with others with no plans of their own. As in all Utopias, the right to have plans of any significance belonged only to the planner in charge.<sup>17</sup>”

Although she did not directly talk about Bruno Taut's *City Crown*, there is a reason to believe that she wouldn't have been impressed with his concept either. She believed that “new architecture and a new city plan could ameliorate the city's disharmonies and inequities,”<sup>18</sup> only by addressing the practical and functional issues of a common man and respecting the existing fabric. In the 1950s, America had reached a stage of arrested development and its cities could not handle the population explosion caused by the immigrants and working class. *Negros* and other ethnic groups had to live in slum-like settlements due to the lack of housing. *Unslumming* was the game every town planner was trying to play but Jacobs believed that “unslumming is a by-product of other kinds of vigor and other forms of economic and social change” that was far worse than the potential damage it would cause on the urban fabric and richness of the cities. She also felt that there needed to be a moral transformation and that architecture alone cannot be responsible for the change.

I do not mean to imply that a city's planning and design, or its types of streets and street life, can automatically overcome segregation and discrimination. Too many other kinds of effort are also required to right these injustices. (pp. 71-72).<sup>19</sup>



Fig 8. Ebenezer Howard, *Garden City. Grand Avenue*, 1902, in *Garden Cities of To-morrow*.

<sup>16</sup> Jacobs, Jane, *The Death and Life of American Cities*, Vintage books Edition, USA, 1992. Originally published in 1961.

<sup>17</sup> Jacobs, Jane, *The Death and Life of American Cities*, Vintage books Edition, USA, 1992. Originally published in 1961.

<sup>18</sup> Lawrence, Peter L. *Becoming Jane Jacobs*, Penn Press, USA, 2016 <http://www.metropolismag.com/cities/jane-jacobs-le-corbusier-new-york-city/>

<sup>19</sup> Jacobs, Jane, *The Death and Life of American Cities*, Vintage books Edition, USA, 1992. Originally published in 1961.

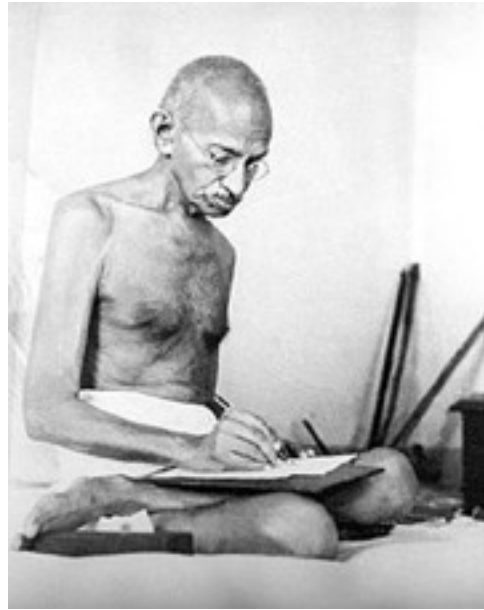


Fig 9. Gandhi in is simple lifestyle  
[https://hitfull.com/articles/40-rare-photos-of-mahatma-gandhi\\_0jo.html](https://hitfull.com/articles/40-rare-photos-of-mahatma-gandhi_0jo.html)

### GANDHI AND HIS MANTRA

*Namaste*, the traditional greeting of bringing together of both hands, actually means a lot more than meets the eye. It translates to “My soul honors your soul. I honor the place in you where the entire universe resides. I honor the light, love, truth, beauty & peace within you. because it is also within me. In sharing these things we are united, we are the same, we are one.”(fig. 10)

This is symbolic bringing together of two sections of societies for the sake of integration. This is very much in lines with Mahatma Gandhi’s teachings. He spoke of social empathy and revival of the Nation through uplifting the poor when he said, “The rich must live more simply so that the poor may simply live,” in his various writings particularly in *Harijan*.



Fig 10. *Namaste*, the symbol  
<http://www.stylecraze.com/articles/meaning-of-namaste/>

Today our villages have become a mere appendage to the cities. They exist, as it were, to be exploited by the latter and depend on the latter's sufferance. Gandhi’s vision for the new country reads “In the scheme of reconstruction for Free India, its villages should no longer depend, as they are now doing, on its cities, but cities should exist only for and in the interest of the villages.<sup>20</sup>”

<sup>20</sup> Gandhi Book Center. *Gandhi on villages. Excerpts from Harijan*. <https://www.mkgandhi.org/ebks/Gandhionvillages.pdf>



Fig 11. *Holi*, celebrated in Mumbai

### TRADITIONS AND SOCIAL INTEGRATION

Common traditions and beliefs make the boundaries between classes fade away. In every country, there are festivals and traditions that people celebrate. In her book *Complex Housing - Designing for density*, Julia Williams Robinson talks about how religion is a strong influence on the culture of the Dutch society. Although less practiced in recent times, there remains a very strong ethical orientation in the culture, an attitude of concern for others, and willingness to put society before oneself.

Wealthy individuals provided housing for the poor with common courtyards and a vegetable garden for food.<sup>21</sup> A mass in a church is a good example of people with similar faith coming together - with no distinguishing between class or financial status.

In the context of Mumbai, the festival of “Holi” takes place in the spring. It has roots in the Hindu religion, however, is celebrated and loved by all alike. It is also known as the Festival of Colors or sometimes known as the Festival of Sharing Love. People take to the streets and open spaces. They smear each other with colors. Water guns and water-filled balloons are also used to play with to add colorful splashes on people. Anyone and everyone is fair game, friend or stranger, rich or poor, man or woman, children and elders. The fun and frolic with colors occur in the open streets, open parks, outside temples and buildings. People then share Holi delicacies and various sweets.

This bringing together of various classes must also be encouraged through thresholds in architecture. Togetherness promotes oneness and architecture can play the part of the “mediator” by creating ideal scenarios through sensitive design.

<sup>21</sup> Robinson, Julia Williams, *Complex Housing - Designing for density*, Routledge, New York, USA, 2018.



Fig 12. Aerial view of Pruitt-Igoe 1950s  
<http://www.stpublicradio.org/programs/black-white/pruitt-igoe.php>



Fig 13. The Demolition of Pruitt-Igoe 1972  
<http://www.wilderutopia.com/sustainability/land/pruitt-igoe-myth-the-death-of-20th-century-us-city/>

### ARCHITECTURE AND SOCIAL INTEGRATION

There are many cases of failed social housing around the world that were mostly built specifically to cater the needs of affordable housing. One of the most notorious amongst them is the Pruitt-Igoe development in St. Louis, Missouri in the late 1950s. The development consisted of 2,870 units in 33 buildings and followed Le Corbusier's Radiant city ideologies of "freed up ground space and structured high rise towers." However, by the late 1960s, the vacancy rates were as high as 65% and the building had a "ghost building effect". Within another decade or so the buildings were demolished. Although there were many factors including social and political reasons for its destruction, the architecture also added to it by promoting seclusion and segregation. The product looked perfectly designed and oozed modern architecture, but its monotony and lack of integration into the existing urban fabric might have contributed to its failure. (fig. 13 & 14)



Fig 14. De Zilvervloot, Dordrecht. 2005  
 Source: Robinson, Julia Williams, *Complex Housing*

The book *Complex Housing* documents many successful Dutch examples of social housing but one, in particular, is worth mentioning. De Zilvervloot in Dordrecht, Netherlands was built in 2005 with most buildings at five or six stories at 41 units per

acre with commercial functions at the ground level and parking below ground. It was built as part of a plan to revitalize a neighborhood built exclusively for social housing in the 1960s. Woondrecht, the housing corporation that owned the buildings, wanted to make the project commercially viable by adding some market-rate apartments that can be sold. The project scope including renovating existing buildings, infill and addition of sports facilities was done by Lucien Kroll and Dag Boutsen of Atelier d'Architecture, d'Urbanisme et d'Informatique (AUI). They achieved this through engaging the community in the design process. The new building provides for a mix of income levels, about 50% social housing, 25% middle-income housing and 25% luxury units. Although naysayers were skeptical that the mix would work, the luxury housing was the first to sell. <sup>22</sup>(fig. 14)

More details of the development like plan and sections can be found in the case study portion of this study.

<sup>22</sup> Robinson, Julia Williams, *Complex Housing - Designing for density*, Routledge, New York, USA, 2018.

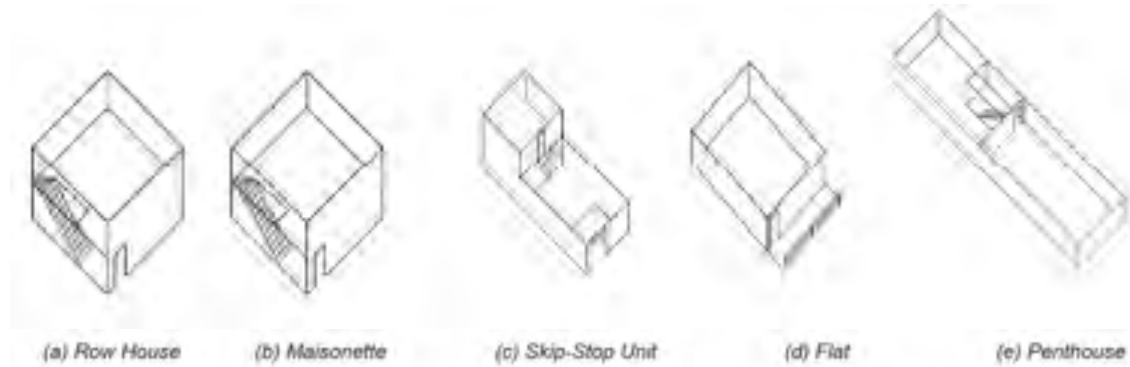


Fig 15. Housing Typologies in *De Zilvervloot*.  
Source: Robinson, Julia Williams, *Complex Housing*

The development addressed the needs of a community. The many different kinds and sizes of units were designed to attract and maintain a variety of lifestyles and income levels. Lack of segregation contributed immensely to the development and added the necessary variety and vitality to the community. Julia says:

The combination of units within a given building is not consistent across the buildings. Because there is no legible pattern, with some exceptions residents are unlikely to know which units are social rental unit, which are moderate income for purchase and which ones are luxury units. For the most part, this housing complex does not segregate by income even within buildings.<sup>23</sup>

<sup>23</sup> Robinson, Julia Williams, *Complex Housing - Designing for density*, Routledge, New York, USA, 2018.



Fig 16. The Commercial and Residential Courtyards at *De Zilvervloot*.  
Source: Robinson, Julia Williams, *Complex Housing*

The introduction of the commercial activity enlivens the street and integrates with the neighborhood by inviting visitors. (fig. 16) A central residential courtyard acts as a lung to the dense development and promotes visibility. The areas where interaction is likely to happen, specifically the vestibules, entry points and mail rooms are articulated with a lot of natural light. Julia says, “one reason the mix works is that the design of the entries and the access corridors supports the natural and the informal surveillance of neighbors and visitors.” The number of households per entry was restricted to breed some amount of familiarity. Strategic design combined with the continuing oversight of the housing corporation contributed to the success. The rental income makes the project economically viable and has an interest in the ongoing success and maintenance.<sup>24</sup>

While it is less demoralizing for the lower-income group to live in a mixed-income housing development, the upper-income group benefits from the vitality that comes from a healthy mix giving overall satisfaction for all residents. This, in turn, prevents the “ghost building effect” that is caused by secluded communities and ensures the successful integration of the project.

<sup>24</sup> Robinson, Julia Williams, *Complex Housing - Designing for density*, Routledge, New York, USA, 2018.



## SUMMARY

Designing for all classes of people with consideration for the poor and downtrodden lies on the shoulders of architects and town-planners. They are always expected to get it right the first time around, but that has been far from the truth. Recent projects seem to have better success stories when it comes to social housing. The millennial generation and their change in attitude might have something to do with it. De Zilvervloot has been successful so far and its success lies to a great extent in the methodological and sensitive way in which the architects handled the project. A Dutch developer Rein Willems stresses the importance of maintenance that comes from good management and housing corporations, "The best projects are [a result of] tension between conceptual design and management. It is not good if either side is too strong." Further and probably the most important role is that of the neighborhood involvement. Julia says, "Engaging with a participatory design with the neighborhood can lead to neighborhood solidarity that supports positive urban transformation."<sup>25</sup>

So the big looming question still lives on: Can a "Social Utopia" be created through architecture? There is definitely the role of a mediator that architects should play through the intelligent use of architecture as a tool.

But if it will truly bring about reform - that is something that only time will tell.

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<sup>25</sup> Robinson, Julia Williams, *Complex Housing - Designing for density*, Routledge, New York, USA, 2018.

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## An Urban Koliwada

Redevelopment of a Fishing Village in Mumbai, India.

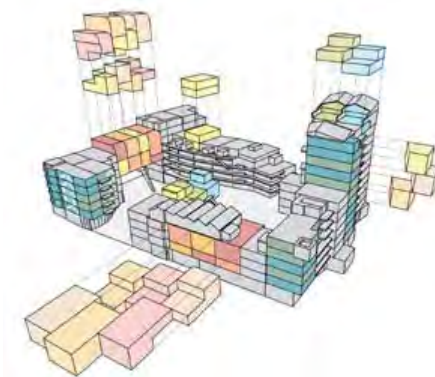
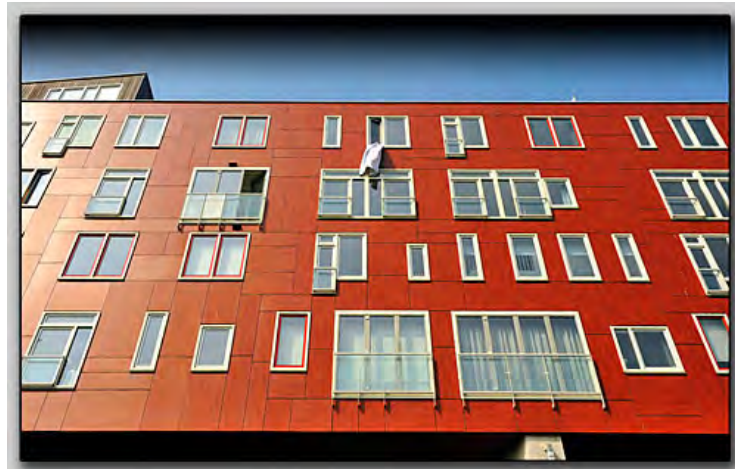
Ashvini Mary Dinoy

### Case Studies

*Where thresholds cross over*

For the case studies, it was decided that a wide range of topics needed to be covered. A study of low-income housing but more specifically how they can be integrated to a Mixed-income housing was required. This was achieved mostly through further studying the previously mentioned Julia Robinson's book '*Complex Housing*' and the project that I chose was *De Zilvervloot Dordrecht, Netherlands*. A failed attempt at social housing was seen at *Pruitt-Igoe, USA* and more importantly a call for a revolution was observed through *Jane Jacob's* powerful writings and stories in *The Death and Life of Great American cities*. A historic fishing village and its adaptation into an urban setting was studied through *Tanmen Oceanic Fishing Cultural Center* in China. This helped immensely with determining the program for the project. A quick look into various high density projects around Mumbai brought me to the point where I researched *Charle Correa's Kanchanjunga Apartments* which eventually led to comparing and contrasting various residential blocks around Mumbai and Washington DC.

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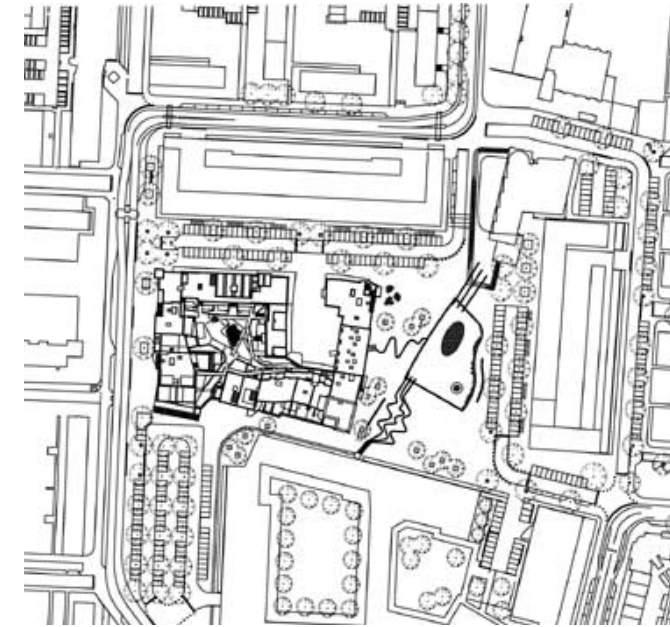


### DE ZILVERVLOOT DORDRECHT, NETHERLANDS

- “The many different kinds and sizes of units... were designed to attract and maintain a variety of lifestyles and income levels.”
- “The combination of units within a given building is not consistent across the buildings. Because there is no legible pattern, with some exceptions residents are unlikely to know which units are social rental unit, which are moderate income for purchase and which ones are luxury units. For the most part this housing complex does not segregate by income even within buildings.”
- Positive effects of having a lot of natural light in common areas. Vestibule access preferred to corridor access. “one reason the mix works is that the design of the entries and the access corridors supports the natural and the informal surveillance of neighbors and visitors.”
- The number of households per vestibule are restricted to less than 23 in most cases to avoid tight security. The continuing oversight of the housing corporation contributes to the success. the rental income makes the project economically viable, and has an interest in the ongoing success and maintenance.
- The introduction of the commercial activity enlivens the street and integrates with the neighborhood. Having a residential court adds additional spill over space.
- It is less demoralizing for low income group to be in a mixed use building and prevents, the ghost building effect that might become of secluded buildings.
- Exploring various ways to interact with the neighborhood and having a healthy mix, affects satisfaction of the residents and enables buildings vitality. Upper income group benefits from the vitality that comes from a healthy mix. “Engaging with a participatory design with the neighborhood can lead to neighborhood solidarity that supports positive urban transformation.”

**TAKE AWAYS:**

- To have a healthy mix of income groups- low(50%), middle(25%) and upper(25%)
- No segregation into zones that brands buildings. Mixed to an extent that the residents will not be able to tell which one is social housing and which one is market rate.
- Security through 'eyes on the street concept'.
- To promote street patterns similar to the existing fabric.
- To accommodate varying Life-styles- single, double master etc.
- To accommodate varying Millennial generation requirements
- work from home and "we work-we live spaces" etc
- To provide for varying budgets and priorities.
- To include varying social needs- access from courtyard, from street, from corridor, from the ocean etc.
- To promote varying interaction-level options with neighborhood-mixed use, secluded etc.



## PRUITT IGOE, USA

- There are many cases of failed social housing around the world that were mostly built specifically to cater the needs of affordable housing. One of the most notorious amongst them is the Pruitt-Igoe development in St.Louis, Missouri in the late 1950s.
- The development consisted of 2,870 units in 33 buildings and followed Le Corbusier's Radiant city ideologies of "freed up ground space and structured high rise towers."
- However, by the late 1960s, the vacancy rates were as high as 65% and the building had a "ghost building effect". Within another decade or so the buildings were demolished.

## TAKE AWAYS:

- Although there were many factors including social and political reasons for its destruction, the architecture also added to it by promoting seclusion and segregation. The product looked perfectly designed and oozed modern architecture, but its monotony and lack of integration into the existing urban fabric might have contributed to its failure.



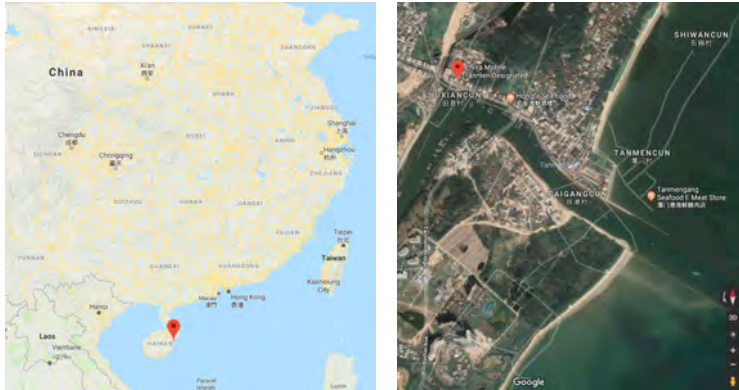
## TANMEN OCEANIC FISHING CULTURAL CENTER, CHINA

- The fishing village, called Tanmen, is renowned for the historic navigation manual developed and maintained by the village's fishermen since the 14th century.
- It demonstrates the fishermen's deep-oceanic fishing knowledge and maritime navigation skills. The fishermen from this South China Sea village and the port of Tanmen, have travelled the South China Sea, the Southeast Asian regions as far as the Indian Ocean since the late medieval ages.
- They are also one of the key protagonists of the South China Sea conflicts in the recent years.

## PROGRAM:

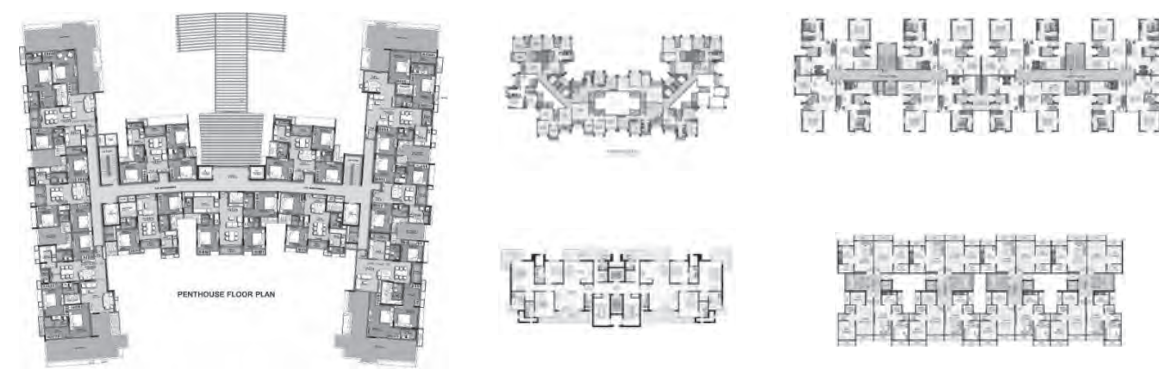
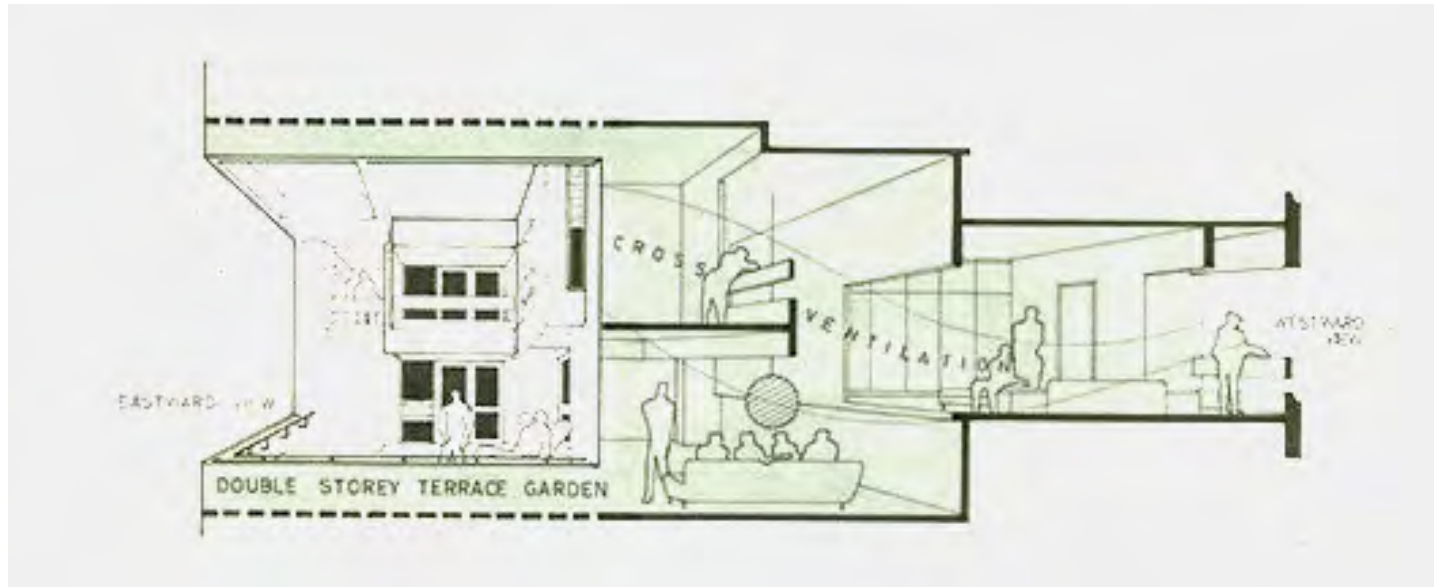
- The total building area is approximately 325,000 sqm. It consists of four museums, along with other uses as follows:
- Fishermen's Culture Museum(11,500 m2) (including a new museum buildings and a number of historic village buildings)
- Old Fishing Vessel Museum (4,500 m2)
- Fishing Cultural Research Center /Sea Ceramic Museum (1,300 m2)
- Oceanic Fishing Cultural Museum / International Oceanic Fishing Culture Exchange & Conference Center (10,200 m2 floor area, adjacent to a Mazu Plaza and amphitheater for performances)
- Other uses in the project include:
- New fishing village
- 5-star Fishermen's Boutique Hotel with 30 quest rooms
- Fishermen Theme Club Houses
- Sailors Resort
- Cultural commercial street (including shops, tea houses/bars, restaurants etc)

- Yacht Club
- Sea-fishing Club
- Residential (villas and tall residential buildings up to 100m)
- Staff dormitories



**KANCHENJUNGA APTS., MUMBAI, INDIA**

- “The many different kinds and sizes of units... were designed to attract and maintain a variety of lifestyles and income levels.”
- “The combination of units within a given building is not consistent across the buildings. Because there is no legible pattern, with some exceptions residents are unlikely to know which units are social rental unit, which are moderate income for purchase and which ones are luxury units. For the most part this housing complex does not segregate by income even within buildings.”
- Positive effects of having a lot of natural light in common areas. Vestibule access preferred to corridor access. “one reason the mix works is that the design of the entries and the access corridors supports the natural and the informal surveillance of neighbors and visitors.”
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- The introduction of the commercial activity enlivens the street and integrates with the neighborhood. Having a residential court adds additional spill over space.
- It is less demoralizing for low income group to be in a mixed use building and prevents, the ghost building effect that might become of secluded buildings.



PERIMETER BLOCK

CLUSTER BLOCK

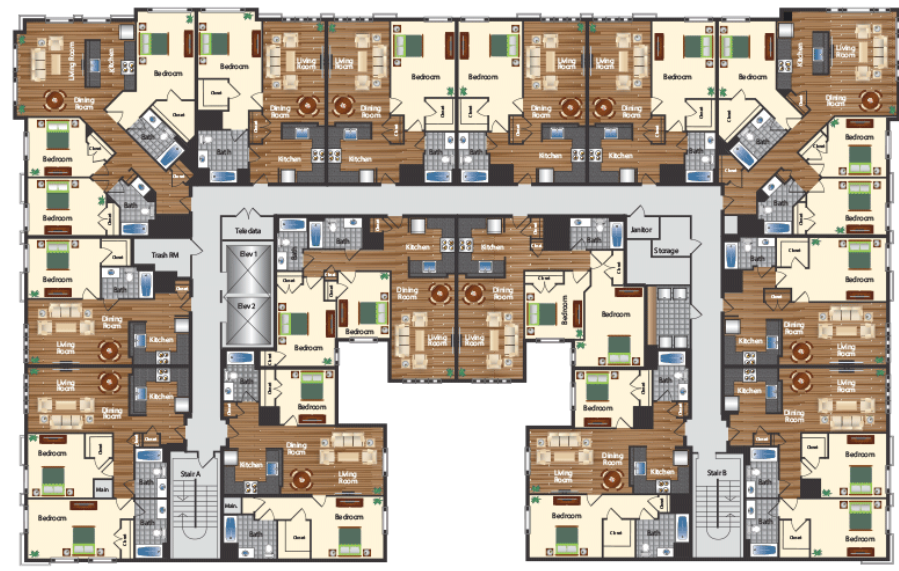
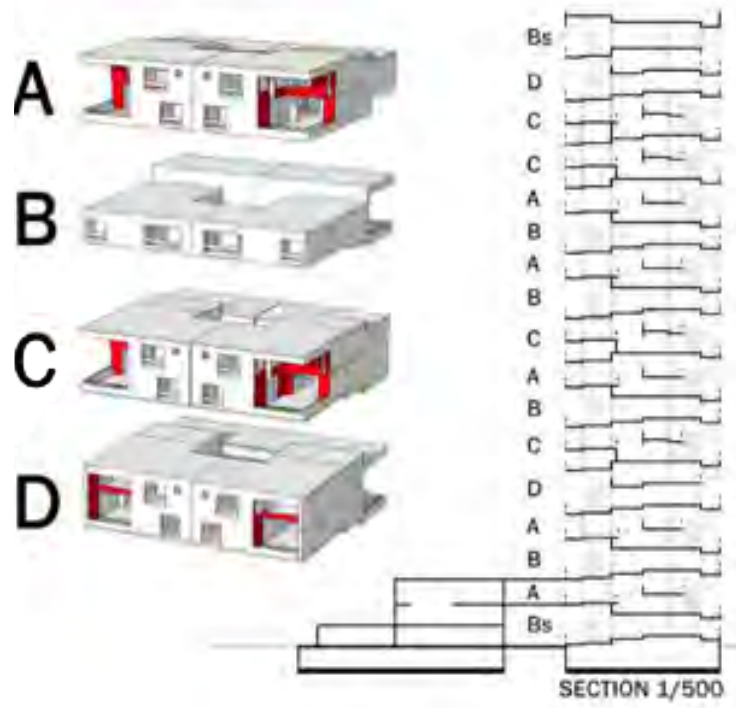
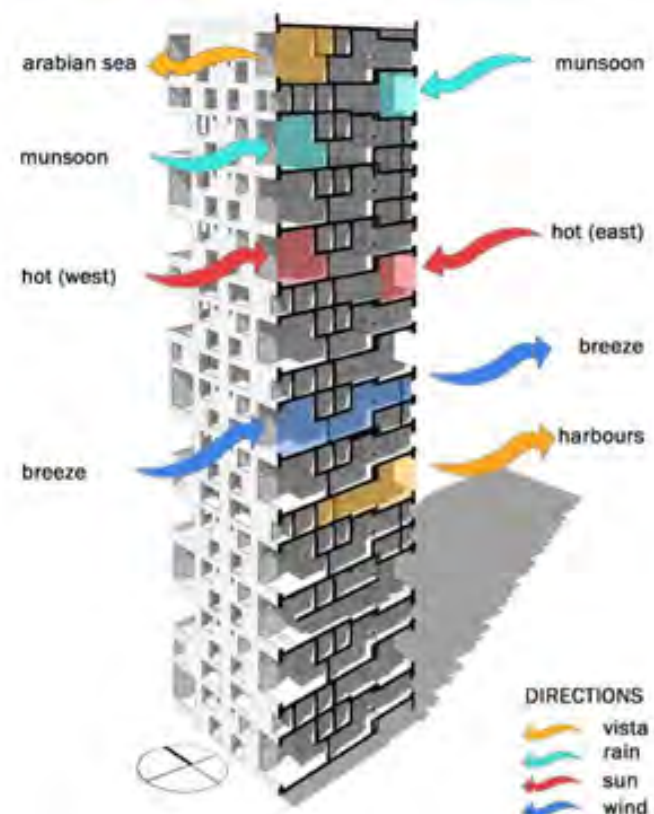
LINEAR BLOCK



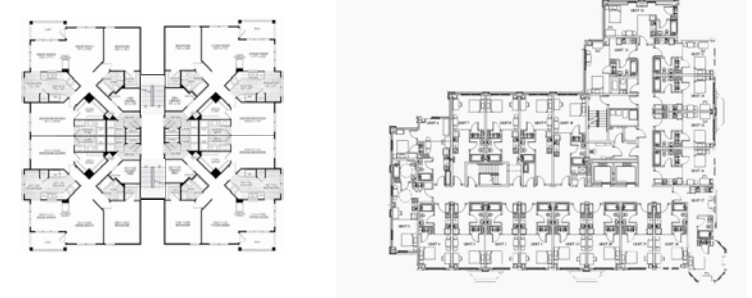
- EMPHASIS ON NATURAL LIGHT AND VENTILATION.
- LESS NEED FOR PRIVACY.
- MORE NEED FOR SECURITY.
- PASSIVE HEATING AND COOLING USED.
- MATERIALITY AND CONSTRUCTION TYPE MORE DRIVEN BY MANUAL LABOUR.
- UASTU AND POOJA REQUIREMENTS

- Lot size approx. : 5260m<sup>2</sup>
- Footprint of the tower : 436m<sup>2</sup>
- Number of residences : 32
- Number of floors : 28
- A unit 3 bedrooms x10 : 294m<sup>2</sup>
- B unit 3 bedrooms x12 : 242m<sup>2</sup>
- C unit 5 bedrooms x8 : 373m<sup>2</sup>
- D unit 4 bedrooms x4 : 361m<sup>2</sup>
- 32 flats-200people

2 of 4 types of the apartments are oriented to the west view to the harbours and the other half of them to the east to Arabian Sea. %62.5 percent of the total verandahs are oriented to the view of harbours (east). It is also the correct orienting for the sunshine instead of west. The types occur at the top and ground floor are a little bit changed because of their position.



- ONLY LIVING AND BEDROOM NEED NATURAL LIGHTING. MOSTLY DEPENDANT ON ARTIFICIAL VENTILATION.
- PRIVACY IS PARAMOUNT.
- LESS NEED FOR SECURITY.
- HEAVY MECHANICAL SYSTEMS FOR HEATING AND COOLING.
- MATERIALITY IS GYPSUM BOARDS ON STUDS WITH INSULATION AND USE OF PRE-MANUFACTURED MATERIALS.
- NO SPECIAL NEED REGARDING ORIENTATION OR RELIGION.



## **An Urban Koliwada** Redevelopment of a Fishing Village in Mumbai, India.

Ashvini Mary Dinoy

### **Site Analysis - Worli**

*A Village engulfed by a city*

Mumbai is called by many names. In my opinion, in many ways Mumbai is to India what New York is to America. India's commercial capital is also home to Bollywood - the film industry. But beyond all this, Mumbai is a city that was created by man's determination to fight nature and exist rather than co-exist. The city is plagued with floods for this very reason.

Nestled in this background is a village unscathed by time. Worli Koliwada sits on the tip of Worli, one of Mumbai's seven original islands, and is an active fishing village on 65 acres of land with a population of about 100,000. The descendants from the native settlers-the Kolis have occupied the land for hundreds of years. There exists a British fort in the midst of the village which puts the land under Historic preservation. The narrow shape also put the land at a disadvantage on top of coastal regulations, but nevertheless land grabbers have eyed the place constantly, especially since the village came into limelight after the Bandra-Worli Sea link was built.

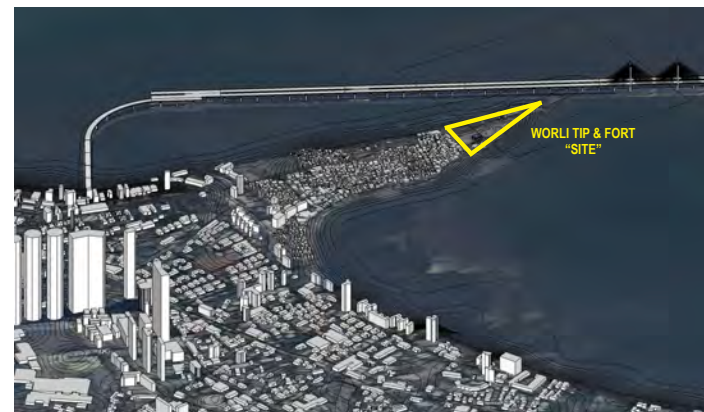
The Village can do with some redevelopment but can the soul of the village be retained in a new development?

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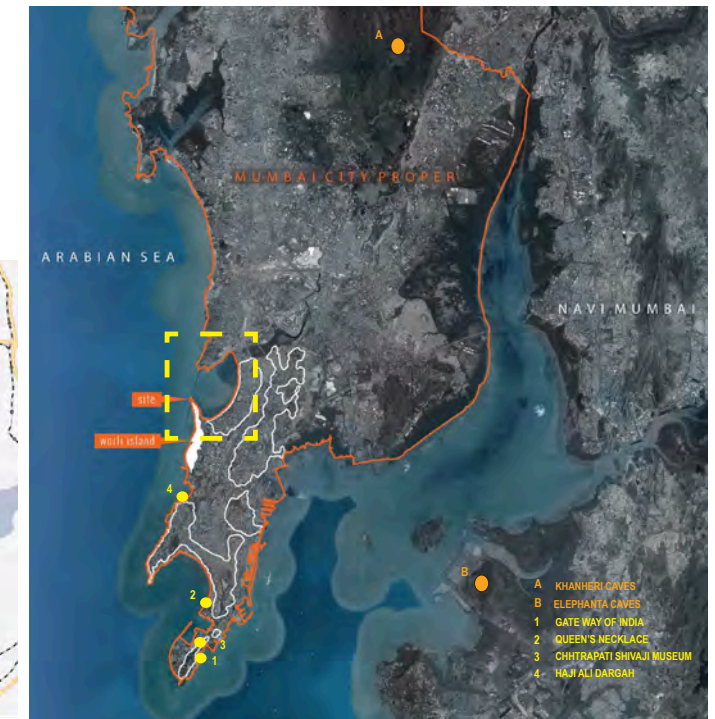
## HISTORY AND THE SITE

MUMBAI seems to have been occupied from the time of the stone ages, however some of its most significant ancient monuments can be seen at the **Khanheri caves** that were made in **3rd century BCE**. It was a major center of Buddhism in ancient times. The other famous historic landmark is the Elephanta caves which was made around the sixth century CE. The city was called as *Heptanesia* (Ancient Greek: A Cluster of Seven Islands) by the Greek geographer Ptolemy in 150 CE. Around this time the city came to be occupied by the local fishing communities - The Kolis and the farming communities - The Bhandaris. It was ruled by several indigenous kingdoms and finally in 1535, the Portuguese took over and later as we know it the British in 1661. The influence of the British rule is still very heavily evident in the city. India got its independence as late as 1947 and now the city as become the major metropolis it is today. The city is the commercial capital of India and is plagued with major disparity in the social classes. 62% of Mumbaikar's live in the slums or slum-like settlements and the other side live in skyscrapers and luxury terraced gardens.

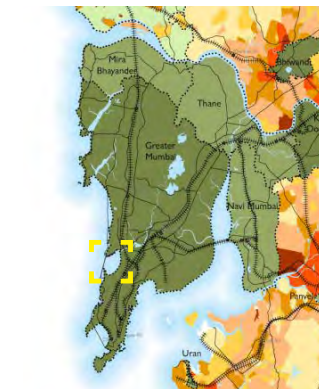


## Site Location

- MUMBAI - THE CITY OF DREAMS
- THE ISLAND THAT REFUSED TO FLOAT AWAY
- THE CITY OF THE HAVES AND THE HAVE NOTS
- THE LAND OF BOLLYWOOD
- FINANCIAL CAPITAL OF THE COUNTRY
- 21.4 MILLION PEOPLE
- 233 SQ. MILES
- ALMOST HALF THE POPULATION ARE IN THE SLUMS
- 4TH LARGEST METROPOLITAN CITY IN THE WORLD



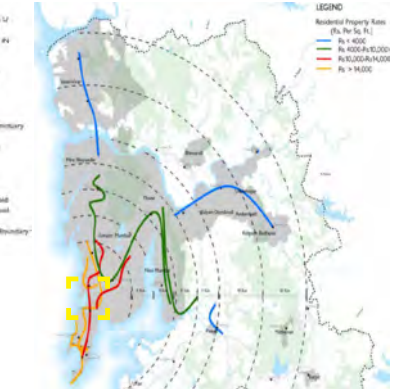
POPULATION DENSITY



PROPOSED LAND-USE FOR 2036

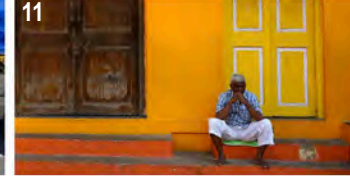


AFFORDABILITY



The site for my thesis is part an existing Fishing village called Worli Koliwada, and like Dharavi, which is sometimes at the convenience of real estate demands categorized as a Slum. World koliwada was part of the original seven islands that created Bombay and so is at a higher level than the flood-prone areas of Mumbai and most of the settlers are the native Koli communities. However, the settlement sprawled uncontrollably from a village to a slum. Basic facilities like water and sanitary provisions were barely provided although the city around it grew in leaps and bounds. The site came into recent scrutiny by the city and real estate developers were eyeing the prime piece of property.

The place desperately needs development, more dense housing and public spaces. But the development must be sensitive to the needs of the local fishing community and the ever growing Metropolis.



**WHY TIME STOOD STILL FOR SO LONG AT THE SITE?**

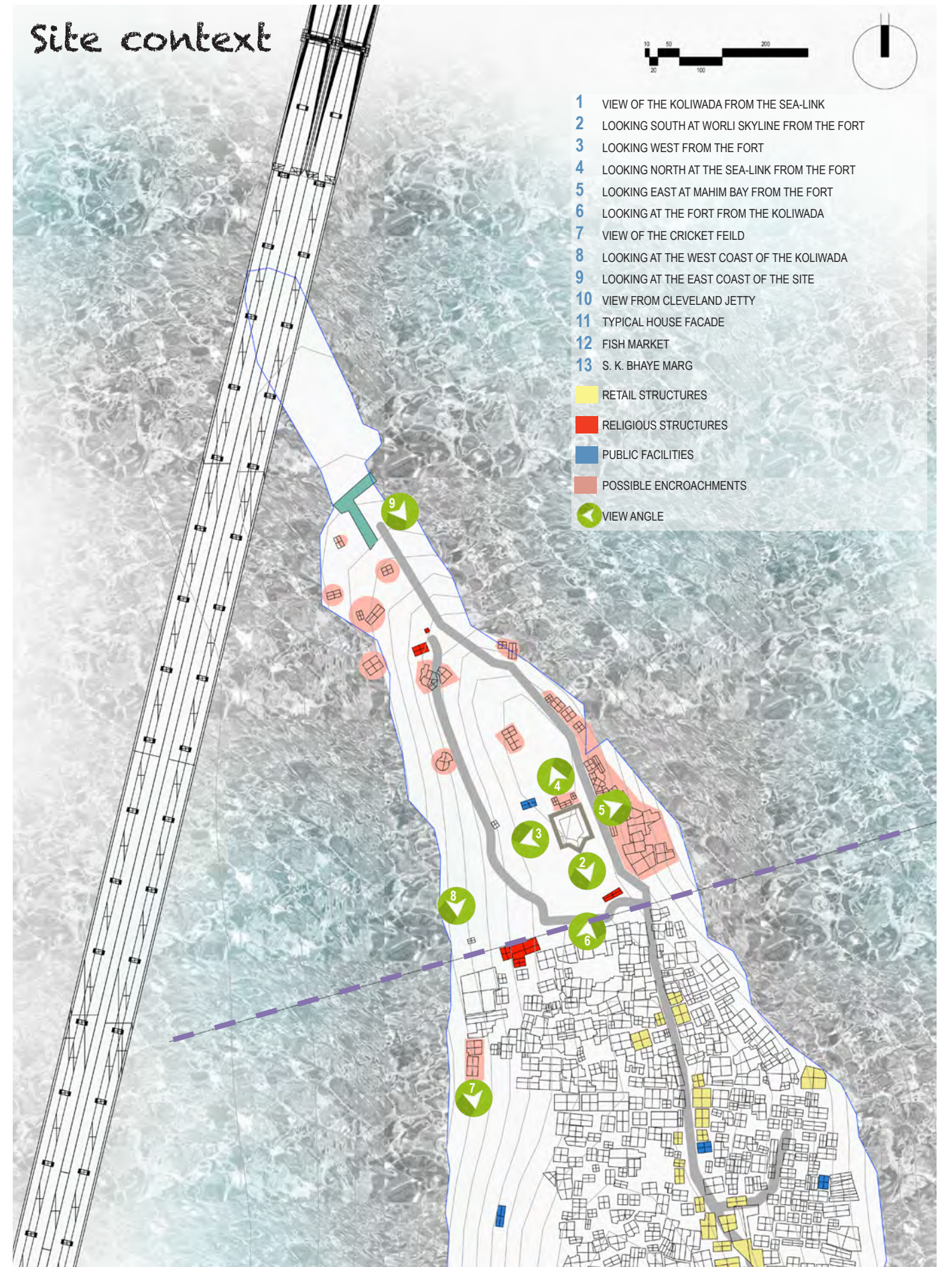
1. WORLI FORT
2. COASTAL REGULATION ZONE
3. INDIAN COAST GUARD
4. WORLI KOLIWADA
5. SHAPE OF THE LAND
6. FLOODS
7. ROCKY SURFACE

**WHAT CHANGED?**

1. SEA-LINK
2. PROPERTY COST
3. FSI AND HEIGHT LIMITATIONS
4. DEMAND FOR HOUSING
5. CHANGING LIFESTYLES OF THE KOLIS

**OTHER ISSUES**

1. LACK OF PROPER FACILITIES IN THE EXISTING VILLAGE
2. NARROW ACCESS ROUTE
3. SOCIAL SEGRAGATION
4. ENCROACHMENTS ON THE SITE



## CURRENT SITE CONTEXT

The population explosion that happened in Mumbai resulted in people occupying unclaimed land and moving in with the accommodating fishing communities. Sometimes the land was reclaimed from the estuary of the Mithi river<sup>26</sup> or other lowlands and was leveled by waste material. These also became the areas that are most prone to Mumbai's major floods.

The Worli Koliwada covers approximately 65 acres of land in the very heart of one of Mumbai's most lucrative commercial and residential property zones as shown in the maps on the previous pages. It is part of the most dense zone and is categorized as urbanisable zone as indicated in those maps.

The neighboring properties to the project are fully developed and they look world's apart. So, Why did time stand still for so long at this site, in spite of the rapid growth around it?

1. *Worli fort:* Worli Fort is a Heritage Building built by the British in 1675. It is categorized as Heritage - 1 Monument. It gives some limitations on Building Taller than the first and in close proximity in a way that could damage the view of the fort. However recent studies have been made to consider tourism and development of the area and so it is not that stringent.
2. *Coastal Regulation zone:* This trio of land is bound on three sides by the sea and comes under CRZ III Regulations, stating that areas upto 200 m from the HL(High Tide Line) would be a 'No Development Zone' which is currently the entire demarcated site.
3. *Indian coast guard:* It is also sensitive from a Defense perspective, as the Indian Coast Guard has active operations abutting it.
4. *Worli Koliwada:* This area is still a massive, active fishing harbour - densely populated by Mumbai's traditional fishermen families. The Kolis. They are the indigenous people of Mumbai and their fishermen community ethos that still thrives

<sup>26</sup> Mathur, Anuradha and De Cunha, Dilip, *Soak*, Rupa Publications, India, February 1, 2009

in this village is fast evaporating and thus there is a need for it to be preserved. Redevelopment in Mumbai should happen to ensure the betterment of living standards, and to lay newer infrastructure - but not at cost of the city's heritage.

5. *Shape of the land:* this is essentially a narrow strip of land leading into the sea, so the creation of roads and other supportive infrastructure would have been a turn off for many developers.
6. *Floods:* Although this area was part of the original archipelago of Mumbai and so is on higher grounds. This is a map with the overlay of the original islands. Mumbai is notoriously famous for its floods and the proximity to tidal influence is usually quite challenging.
7. *Rocky Surface:* the area comprises primarily of a rocky surface that does not lend itself well to the laying of deep foundations and so is another concern for developers.

What changed:

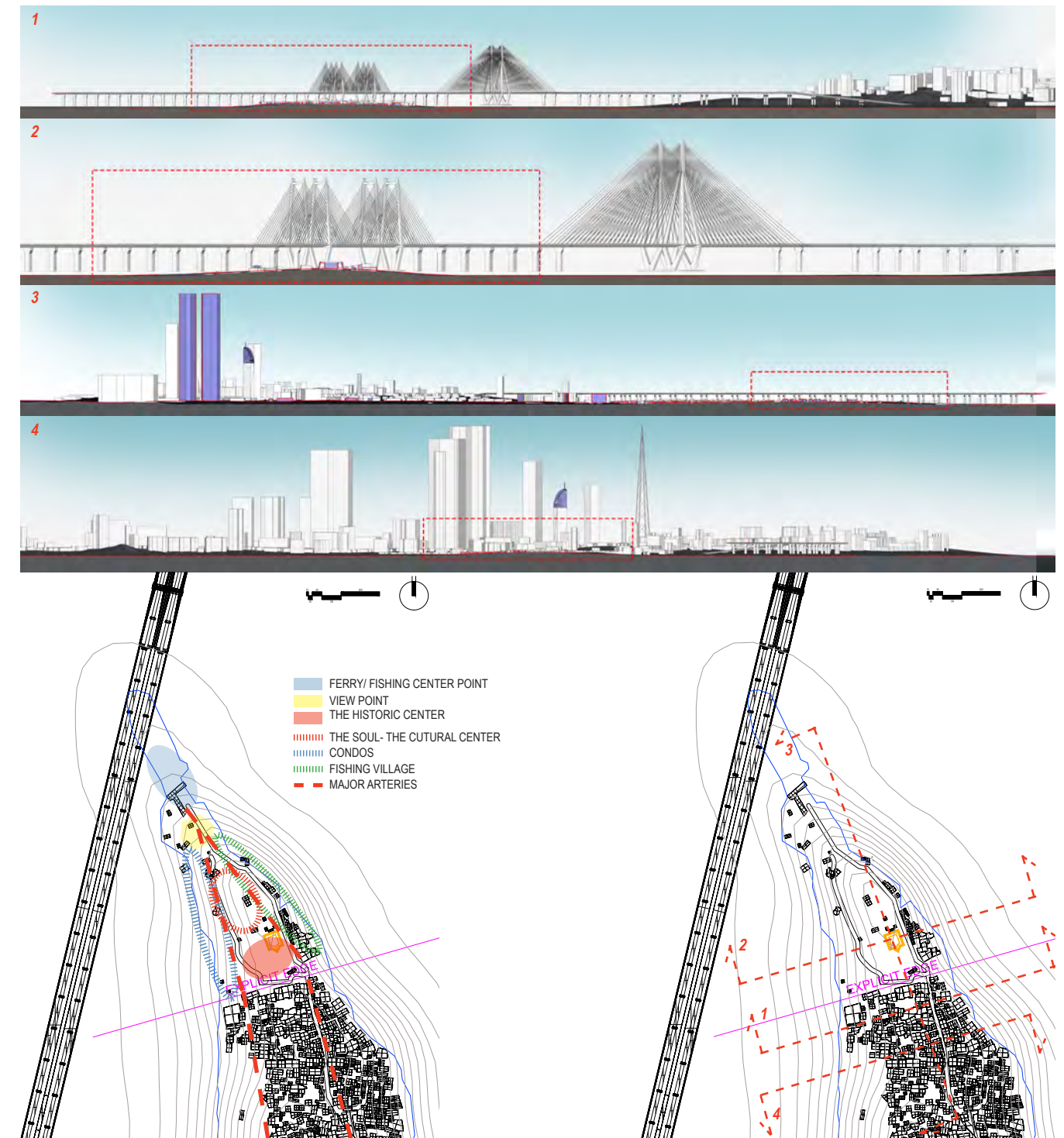
1. *Sea-link:* With the opening of the sea-link in 2009, this village has now come out of the shadows. The sea-link bridge has become one of the cities major icons and this site would give you best view points of the bridge.
2. *Property costs:* residential property rates in Worli are currently ranging from Rs. 30,000-60,000rs/sq.ft. That literally translates to buying a 2 bed- 1000 sf apartment for 1 million dollars and considering the average monthly income is around \$1000 , its a lot more than we can imagine.
3. *FSI and Height Limitations:* The city is home to 35 major koliwadadas and 125 gaothans. In the new draft Development plan of Mumbai Metropolitan city, the governing body is planning to raise the Floor Space Index (FSI) in these areas to a maximum of 1.5, from the current 0.75. In addition, the plan is to increase the FSI by 0.5 for plots adjoining a road more than 9 metreswide.
4. *Demand for Housing and lack of open space:* In 2008, for the first time in human history, the urban population surpassed the rural population worldwide; an additional 3 million people make the move each week. The housing crisis in Mumbai can be seen most clearly in the proliferation of slums, which house an estimated

62% of those in the city proper. Rapid urbanization and growing demands on limited land pose another global challenge - the loss of public open space. In Mumbai, shrinking open space is of particular concern: open space per capita is just 0.88 sq-m per person, compared to New York City at 2.5, Tokyo at 6, and Delhi at 15.

5. *Changing lifestyles of the Kolis:* The Kolis are now expanding to other sources of income due to lack of enough returns and lack of encouragement from the government. Some of them move out to other locations in search of white collared jobs and rent out their old house. They are also diversifying into other kinds of trade, labour and the film industry which Mumbai is famous for. This would eventually result in the extinction of the kolis.

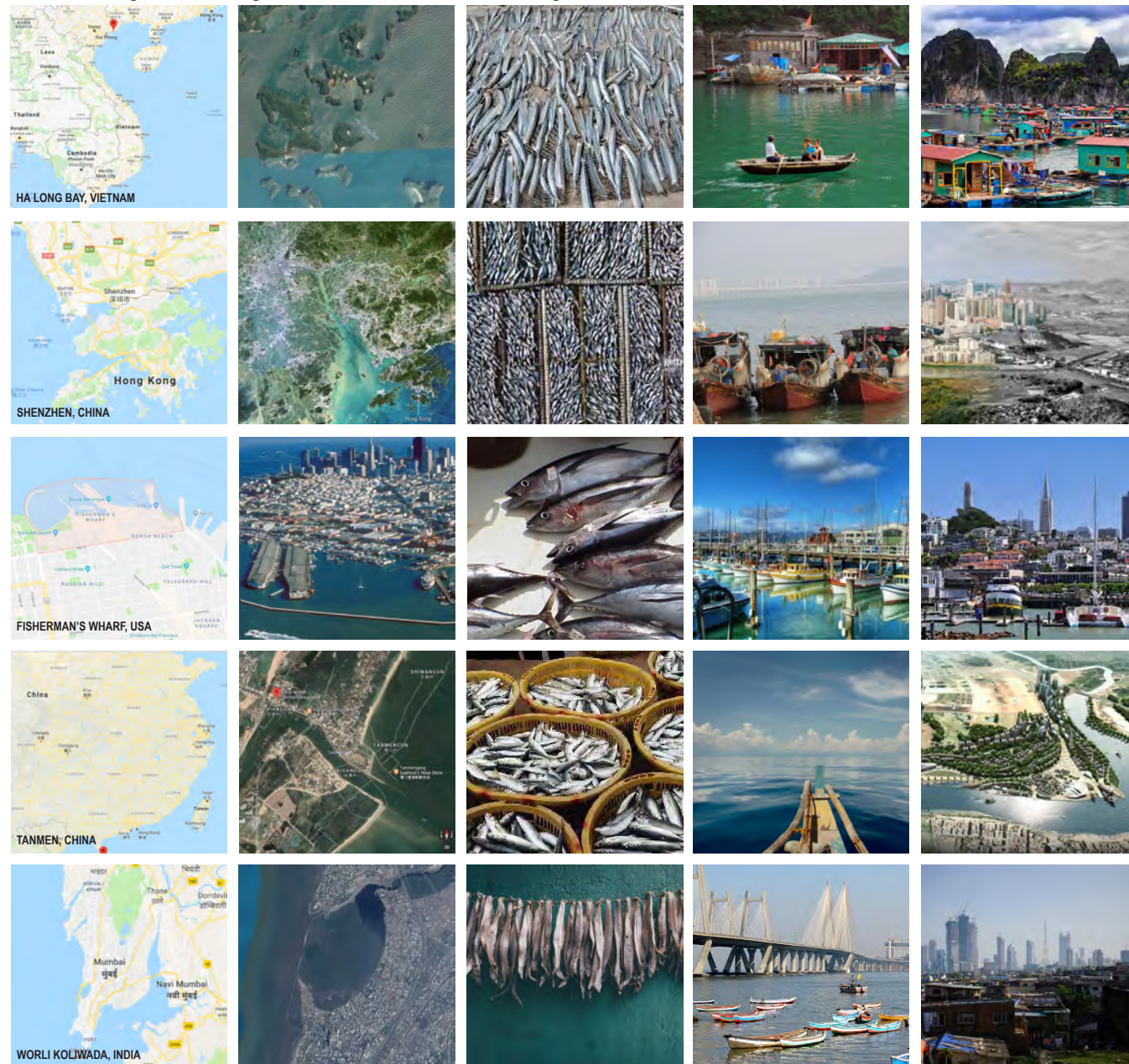
Other issues:

1. *Lack of proper facilities in the existing village:* The villagers said at an interview and i quote 'We can't live like this anymore' They want development but not to be classified as slums. Their needs include a school, space to dry and store fish and bigger houses for all residents who have been living at the village. They do not want a 250 sf up in the air that do not take into consideration their lifestyle. On record there are some 457 homes but on ground there are more than a thousand with a population of more than 100,000.
2. *Narrow access route:* The main access road has all the retail on it and acts as the spine of the village. It expands in places and it contracts to about 8 feet in places, barely allowing for a car to pass through.
3. *Social segregation:* As discussed before the extreme differences on the lifestyles of the rich and the poor and the lack of integration, poses challenges in any mixed development proposed on site.
4. *Encroachments on site:* there exists at least 22 plots that are declared as slums by the Slum rehabilitation Authority, but there are many more than that recorded on paper.



This shows the site sections compared to the skyline beyond and in relation to the sea link on the horizon.

## Fishing villages around the globe



We already spoke about the definition of a slum and how the word tends to be abused when trying to defame a community which in actuality is a village. This is the very reason the beauty and the soul of the village should be preserved while planning a village, rather than proposing development that will wipe away its identity.

### HOUSING REQUIREMENTS

Studying the traditional house plans from Mayamatam , I looked at some basic unit plans. India being mostly tropical in climate. Importance is given to the passive ventilation systems. The plan usually has an indoor and outdoor courtyard, verandahs and a square plan. Cross ventilation is desired in all rooms. Use of Vaastu shastra, allocates desired location of entrances, kitchen, puja(worship room) and the master bedroom. Traditional Koli homes consist of a large multifunctional living space(vathan), a worship room (devghar), a tiny kitchen(chool), may also include several small rooms, and a toilet. importance is also given to a small veranda (oti) for weaving, repairing nets and storing fishing equipment. Small rooms are added to this house after every marriage as the family grows.

Having looked at some case studies of similar comparable fishing villages in other parts of the world, one thing is for sure, its all about the FISH and being at the waterside.

This brings us back to how we define things...

What is a Village?

dictionary says... a group of houses and associated buildings, larger than a hamlet and smaller than a town, situated in a rural area.... but when it becomes engulfed within an urban scenario, can it still remain a village?

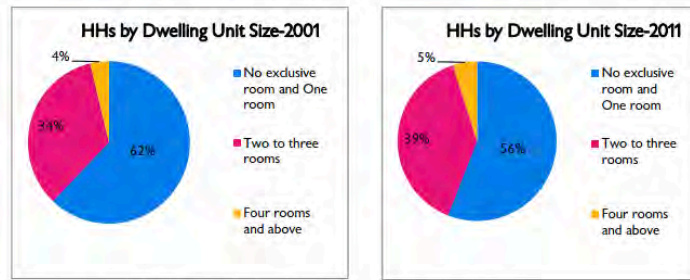
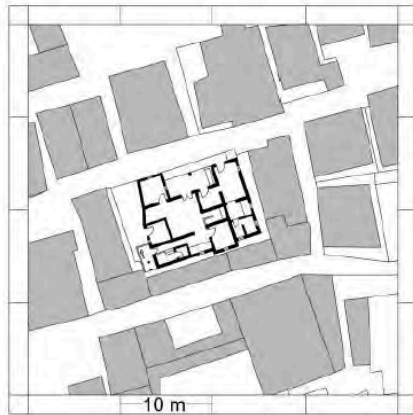


Figure 22 : Households by Dwelling Unit Size (2001 and 2011)

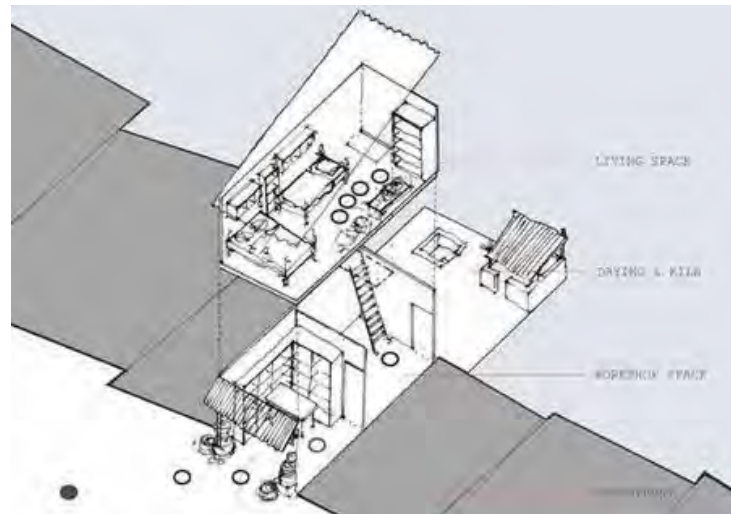
The per capita living space in MMR is 4 to 6 sq. m. per person. As compared to other Asian metropolitan regions it is very low.



BHAINU HOUSE VERSOVA FISHING VILLAGE	
No. of tenements	1
Size of each tenement (sq m)	114
Ground Cover of building (sq m)	114
Plot Area (sq m)	155
No. of inhabitants	11

### A TYPICAL FISHERMAN'S RESIDENCE IN VERSOVA

A TYPICAL HOUSE IN SUCH A SETTLEMENT CONSISTS OF A LARGE MULTIFUNCTIONAL LIVING SPACE, SEVERAL SMALL ROOMS, A TINY KITCHEN AND A TOILET. THE VERANDAH OUTSIDE THE HOUSE BECOMES A VERY IMPORTANT ELEMENT. IT IS USED FOR VARIOUS PURPOSES. TOOLS FOR FISHING ARE STORED ALONG ONE SIDE OF THE VERANDA. SMALL ROOMS ARE ADDED TO THIS HOUSE AFTER EVERY MARRIAGE AS THE FAMILY GROWS.



### TYPICAL POTTER'S HOUSE IN DHARAVI

ONE STUDY SHOWS, THAT 80% OF THE POPULATION IN WORLI KOLIWADA, IS INVOLVED IN SOME FORM OF LABOUR OR THE OTHER. APART FROM FISHING WHICH ACCOUNTS FOR ABOUT 5-10%, THE KOLIS ARE INVOLVED IN SMALL SCALE INDUSTRIES, ACTING IN BOLLYWOOD AS 'SPOT BOYS' AND MOST NOTABLE ALMOST 36% OF THEM ARE INVOLVED IN SOME TRADE., EX. RESTAURANTS.



### VERSOVA VILLAGE - PART PLAN

THE STRUCTURE OF THE VILLAGES HAS MOSTLY REMAINED UNCHANGED. THIS INCLUDES A MAIN CENTRAL SPINE THAT CUTS THROUGH THE VILLAGE AND END UP ON THE COASTLINE. SPACES FOR SEVERAL ACTIVITIES INVOLVED IN FISHING, SUCH AS BOAT REPAIR, DRYING OF FISH, DRYING OF NETS, ETC ARE LOCATED AT THE MOUTH OF THIS SPINE NEAR THE COASTLINE. ALSO LOCATED CLOSE TO THE COASTLINE ARE ALLIED ACTIVITIES OF COLD STORAGE, AUCTIONING MARKETS ETC.

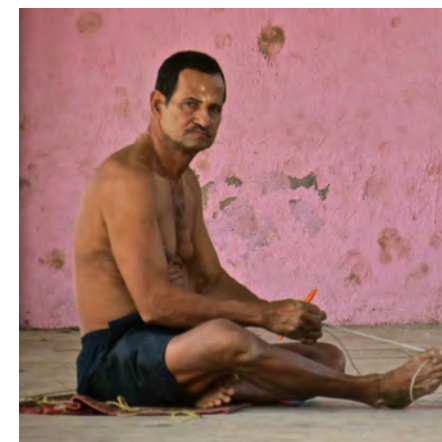


### WORLI KOLIWADA FISH MARKET

THE VILLAGE USUALLY HAS A DESIGNATED FISH MARKET, WHICH IS OUT DOORS AND PLACED CENTRALLY NEAR THE SPINE. RELIGIOUS STRUCTURES ARE ALSO LOCATED AROUND THE CENTER OF THE SPINE. ALSO STRUNG ALONG THE SPINE ARE SMALL RESTAURANTS, GROCERY SHOPS, MEDICINE SHOPS AND OTHER RETAIL OUTLETS FOR EVERY DAY NEEDS. ON EITHER SIDE OF THE SPINE ARE THIN FINGER-LIKE STREETS THAT LEAD TO THE RESIDENCES.

## MASTER PLANNING REQUIREMENTS

Most koliwadass, have a standard structure. This includes a main central spine that cuts through the village and end up on the coastline. Spaces for several activities involved in fishing, such as boat repair, drying of fish, drying of nets, etc are located at the mouth of this spine near the coastline. Also located close to the coastline are allied activities of cold storage, auctioning markets etc. Typically a small shrine with a deity is located somewhere in the middle of this spine. Often in the vicinity of the shrine is located a co-operative building which carries out several activities of the fishing co-operative.

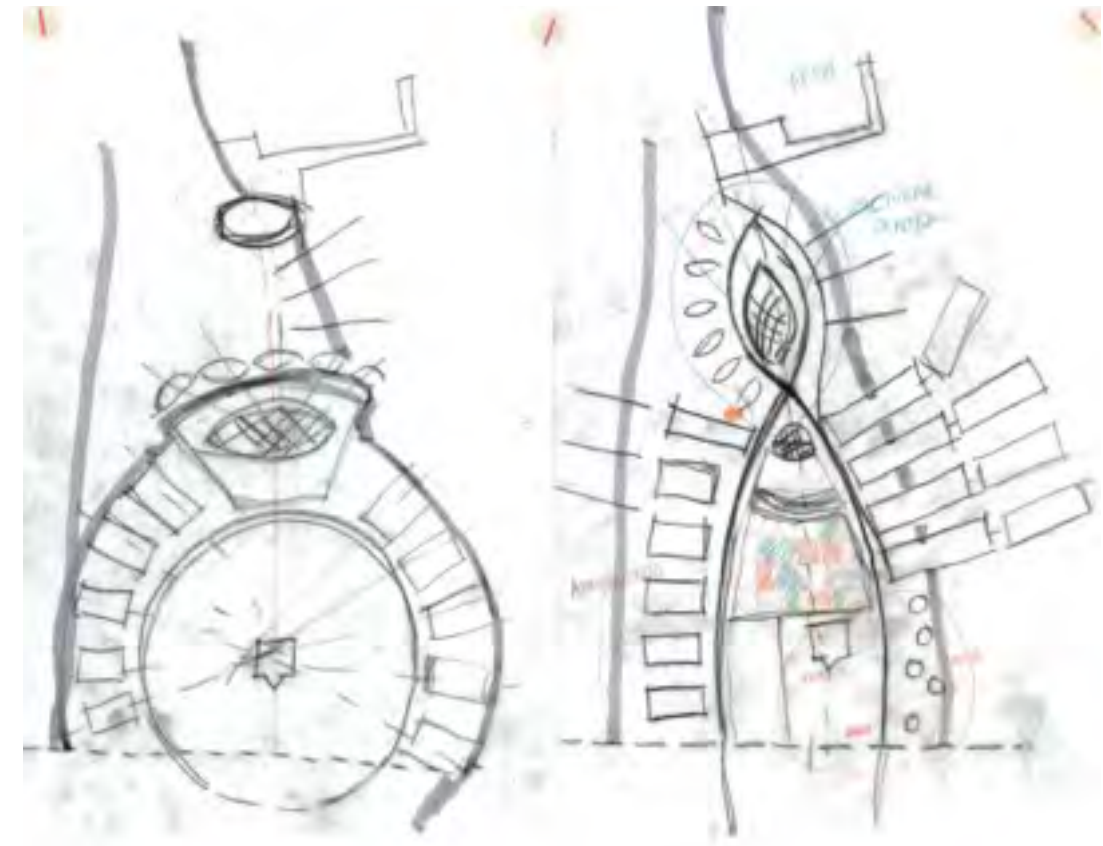


## An Urban Koliwada Redevelopment of a Fishing Village in Mumbai, India.

Ashvini Mary Dinoy

### Conceptual Diagrams

*Macro and Micro Level planning*



#### FIRST INSTINCTS

*Putting the fort as a focal center* was my first instinct. It was a significant marker on the site and it had its own significant axis that wasn't aligned to north. I thought that that was very interesting and was curious if that could help me carve out a common space around it that would bring some interaction. However, I soon realized that there was a reason the people grew around the fort and even used it as a make-shift gym. It was not their culture and it would be wrong to make it the focal point.

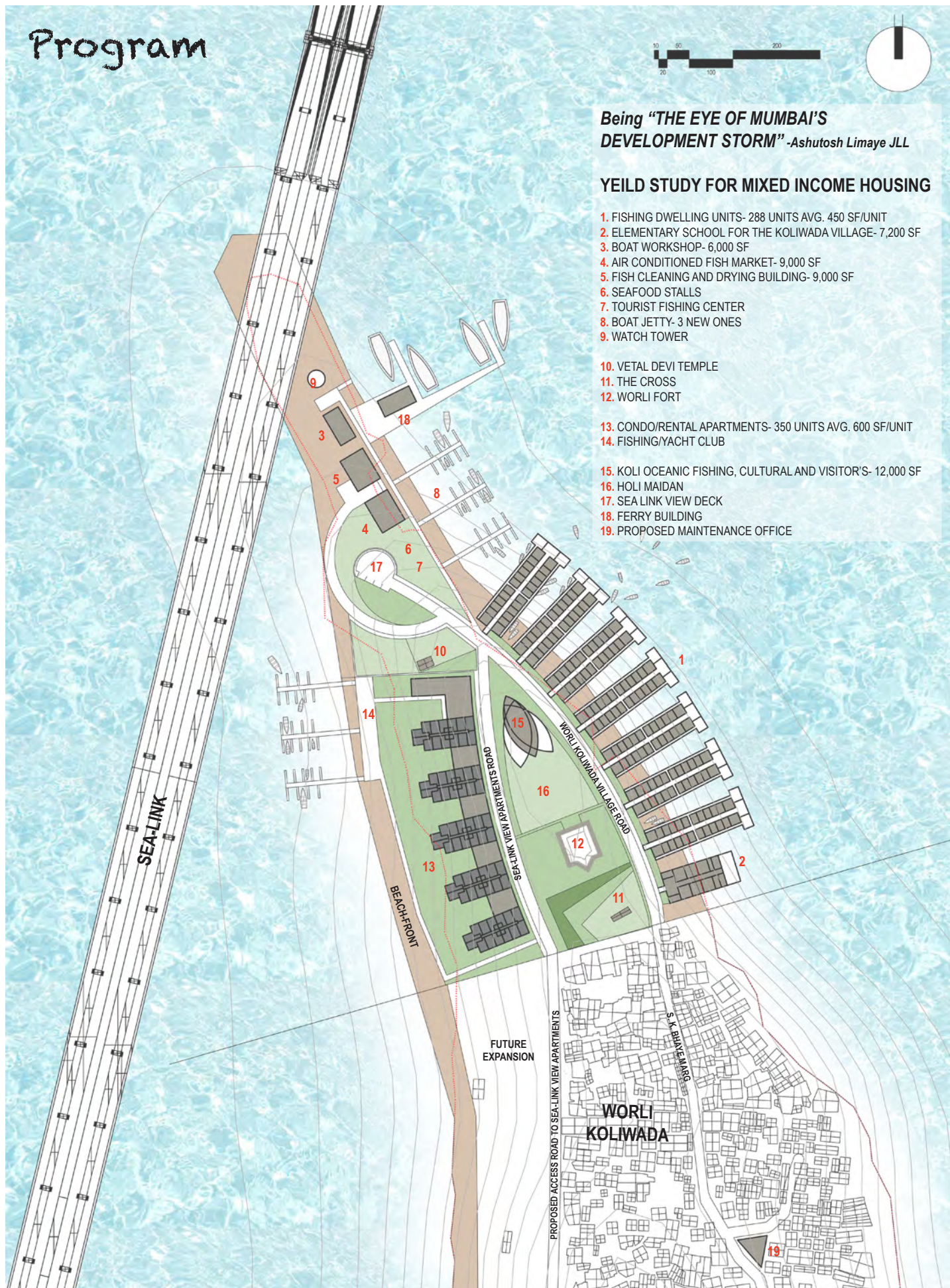
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# Program

Being "THE EYE OF MUMBAI'S DEVELOPMENT STORM" -Ashutosh Limaye JLL

## YEILD STUDY FOR MIXED INCOME HOUSING

1. FISHING DWELLING UNITS- 288 UNITS AVG. 450 SF/UNIT
2. ELEMENTARY SCHOOL FOR THE KOLIWADA VILLAGE- 7,200 SF
3. BOAT WORKSHOP- 6,000 SF
4. AIR CONDITIONED FISH MARKET- 9,000 SF
5. FISH CLEANING AND DRYING BUILDING- 9,000 SF
6. SEAFOOD STALLS
7. TOURIST FISHING CENTER
8. BOAT JETTY- 3 NEW ONES
9. WATCH TOWER
10. VETAL DEVI TEMPLE
11. THE CROSS
12. WORLI FORT
13. CONDO/RENTAL APARTMENTS- 350 UNITS AVG. 600 SF/UNIT
14. FISHING/YACHT CLUB
15. KOLI OCEANIC FISHING, CULTURAL AND VISITOR'S- 12,000 SF
16. HOLI MAIDAN
17. SEA LINK VIEW DECK
18. FERRY BUILDING
19. PROPOSED MAINTENANCE OFFICE



*Social segregation* was the other thing that I thought would make most sense when bringing such a diverse group together. Not proud of that approach but the project first started taking shape from a very practical and real estate developer stand point by segregating the rich and the poor and creating integration through common areas. This seemed like an intuitive way to handle the project. India is not known for tolerance to all social classes. However, Jane Jacobs happened and Bruno Taut soon after and it was evident that if there needs to be a change, the platform must be created through architecture.

## MACRO LEVEL CONCEPTS

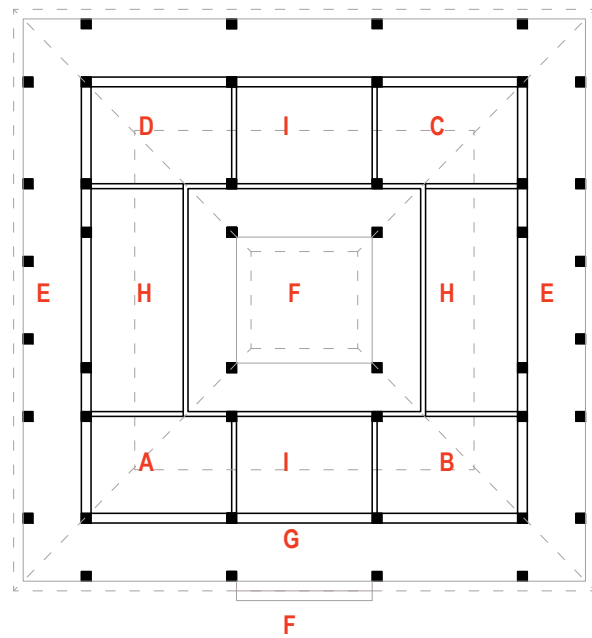
Looking at the existing koliwada structure, I planned to strengthen the existing spine by widening it and relocating a few houses. Most of the village will be still maintained in tact with minor improvements. This access would lead to the site, where i can develop a new extension of the village along the coast. The houses will be developed on spines that will also accommodate the docking of the boats. This will become the main village road. This will have an elementary school that will be placed centrally along that road. I m retaining the religious structures already found on the site- The cross, the Vetal devi temple and the historic monument, which can be accesses through this main spine. Also adding a boat jetty and a ferry dock at the end of this site to promote tourism to the site. The boat jetty and the buildings for the fishing village- the fish market, the fish drying building and boat repair warehouse, will promote the lifestyle of the kolis. To add to the pride of the space, i propose a Koli, oceanic cultural and fishing visitors centre, where the traditions of the Kolis can be documented through displays and educational tours. There would also be educational rooms to to educate the Kolis and to promote their way of life. At the heart of the development, will be the HOLI MAIDAN which will be a common ground for all residents and visitors of the site. Set against the back drop of the fort, this will become the true amalgamation of History, culture and social interaction. The spine also ends with a simple viewing deck, to capture the sea-link views of the city. The secondary spine is developed as a 9m (27 feet) road so that a parallel like minded housing community can be developed. There will be some retail at the lower portion of



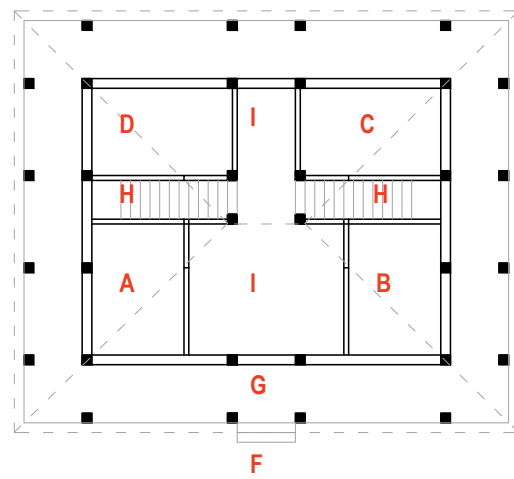
the stretch and some residential towers above. The height and square footage is yet to be determined. But this will sponsor the whole development. There will be a Yacht club with swimming pool and a community centre to promote fishing and interaction for the residents. Townhouses will be located with views to the sea-link and apartments with views will be located on the upper levels. This will be comfortably planned but the sizes will not differ greatly from the fishing village to promote equality. The target clientele would be mostly millennials who are artists, architects, history buffs and/or people who really love to be closer to the ocean and who love to fish and take boat rides. Future expansion can be perceived along the east and the west coast, but still maintaining the heart and original village intact.

This is very much in lines with Mahatma Gandhi's quote again "The rich must live more simply so that the poor may simply live"

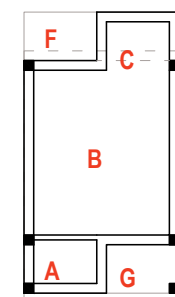
To dwell...



TRADITIONAL COURTYARD HOUSE  
MAYAMATAM



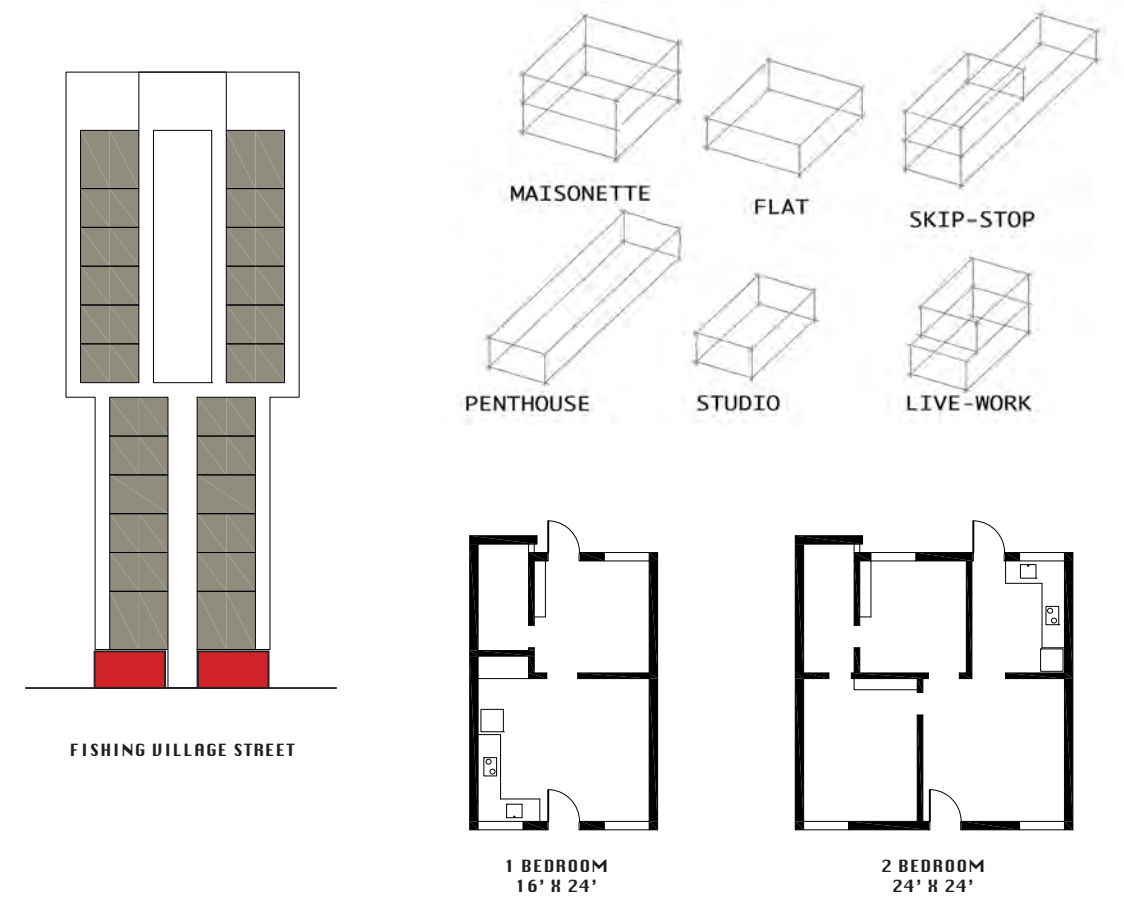
TYPICAL MAHARASHTRIAN HOUSE.



TYPICAL LOWER INCOME HOUSE.

- A CHHOL/ KITCHEN
- B ROOM 1
- C DEVGHAR/ WORSHIP
- D ROOM 2
- E OTHALA/ VERANDAH
- F COURTYARD
- G ENTRANCE / FOYER
- H TOILETS/ STAIR/ STORE
- I VATHAN/ LIVING

UNIT PLANS



MICRO LEVEL CONCEPTS

The Units want to be based on the planning for traditional Koli homes, with an entrance veranda (oti), a large multifunctional living space(vathan), a worship room (devghar), a tiny kitchen(chool), a sleeping room, and a toilet. The existing village did not have adequate sanitary facilities and had common bathrooms and toilets. The bathroom were also sometimes far from the actual dwelling unit. The new developments wants to definitely eradicate this concern by providing toilets in each unit.

## VILLAGE PATTERN STUDY

Closer analysis of the streetscape and tracing the pedestrian paths helped me in understanding the pattern language of the site.



PATTERN STUDY

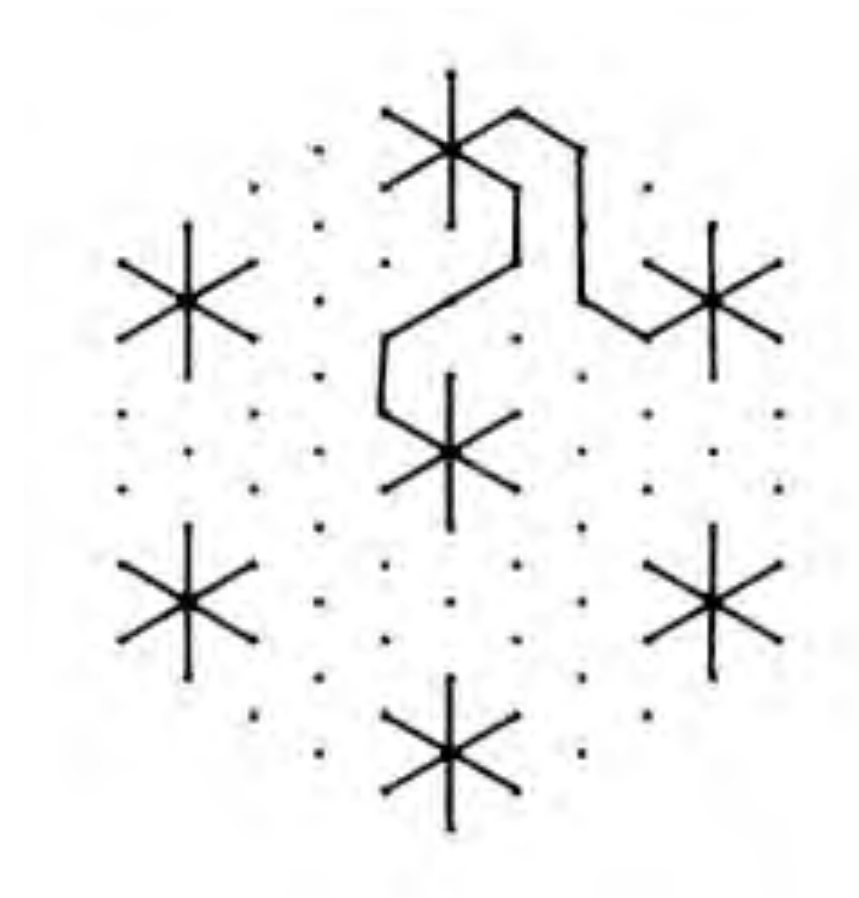
## An Urban Koliwada Redevelopment of a Fishing Village in Mumbai, India.

Ashvini Mary Dinoy

### Design Development

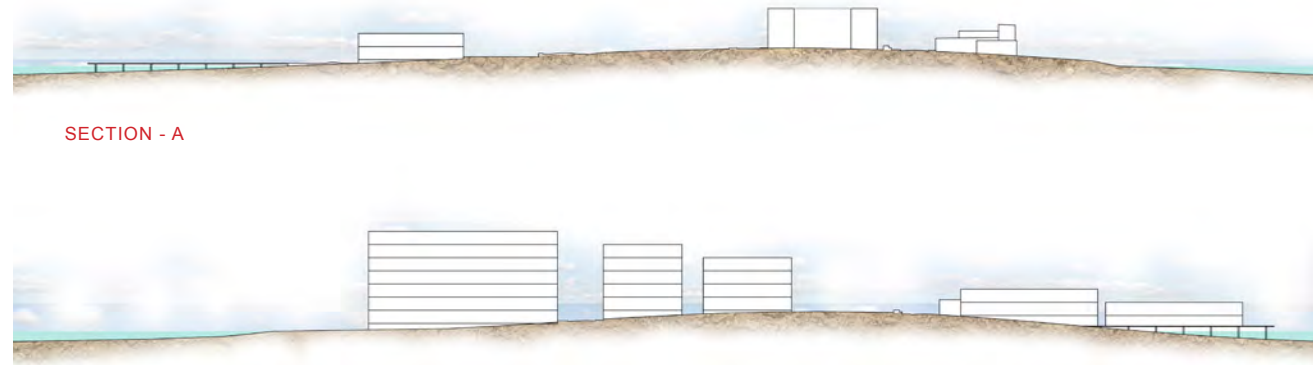
*Rediscovering the identity of a village*

Although the fishing village needed some upgrades, the challenge was to not lose the soul and the identity of the village. Through various elements that capture its essence, the design meant to reincarnate the village experience in a modern development. The various stages include the street, the square and the threshold.



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SITE SECTION



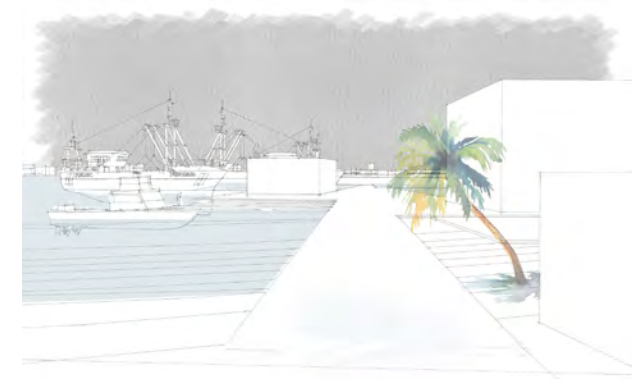
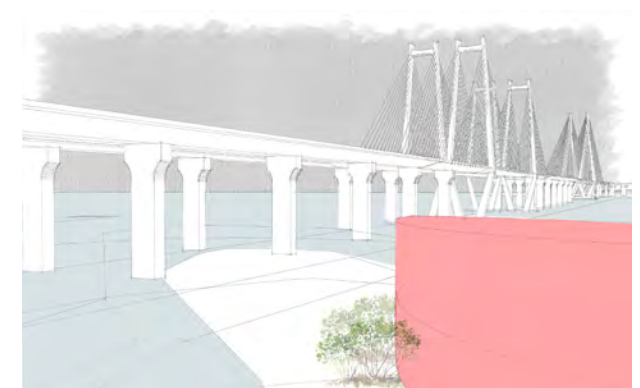
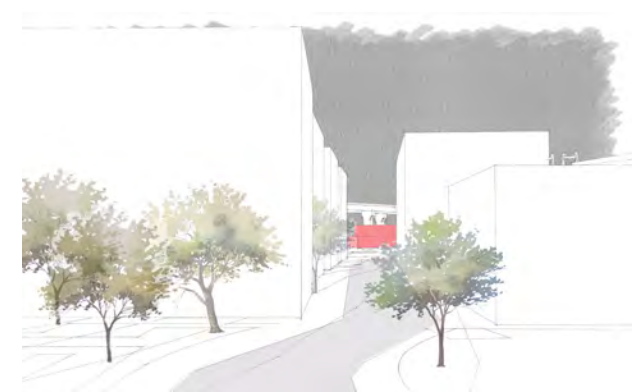
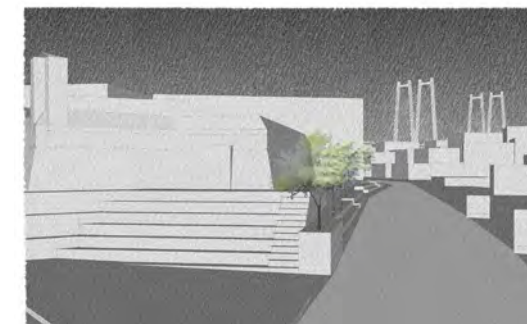
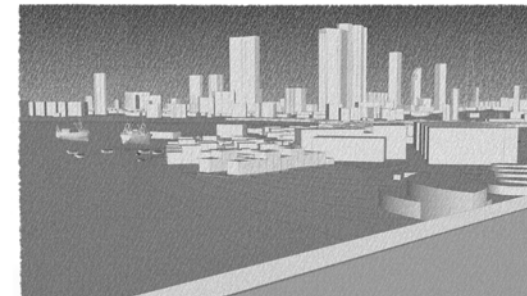
SECTION - A

SECTION - B



- 1 KOLI FISHING/CULTURAL CENTER
- 2 HOSPITALITY
- 3 TEMPLE SQUARE
- 4 PROPOSED FISHING VILLAGE EXTN.
- 5 FERRY AND DOCKS
- 6 FISH MARKET
- 7 VILLAGE SQUARE
- 8 HOLI MAIDAN & MEDIA PLAZA
- 9 EXISTING FORT
- 10 GURUKUL - TRADITIONAL SCHOOL
- 11 TRADITIONAL INDIAN SPORTS GROUNDS
- 12 MINI-PLAZA
- 13 CLUB HOUSE
- 14 YACHT CLUB
- 15 MIXED-INCOME HOUSING

SITE PLAN



SKETCHES



The hard line between the existing village and the proposed village were blurred. the village now took shape and could host all of its programs. For the housing component which is the focus of my micro level planning, I chose to develop the typical fishing village street with the following principles adapted from tall the research I have been doing.

Variety is the spice of life!

No two people are the same, so why should their housing needs be the same?

SOCIALLY INTEGRATED HOUSING CONCEPTS:

- To have a healthy mix of income groups- low(50%), middle(25%) and upper(25%)
- - No segregation into zones that brands buildings. Mixed to an extent that the residents will not be able to tell which one is social housing and which one is market rate.
- Security through 'eyes on the street concept'.
- To promote street patterns similar to the existing fabric.
- To accommodate varying Lifestyles- single, double master etc.
- To accommodate varying Millennial generation requirements- work from home and "we work-we live spaces" etc
- To provide for varying budgets and priorities.
- To include varying social needs- access from courtyard, from street, from corridor, from the ocean etc.
- To promote varying interaction-level options with neighborhood- mixed use with heavy pedestrian activities or a more secluded side.





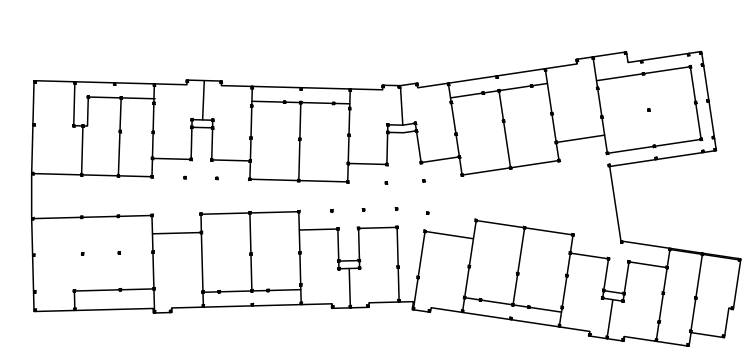
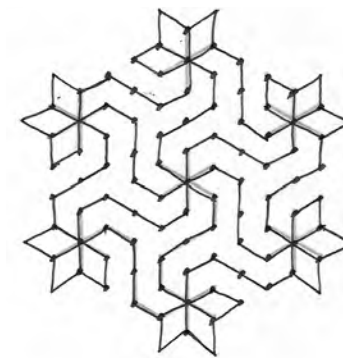
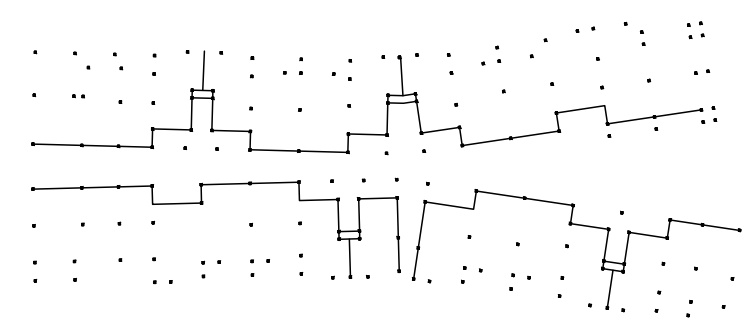
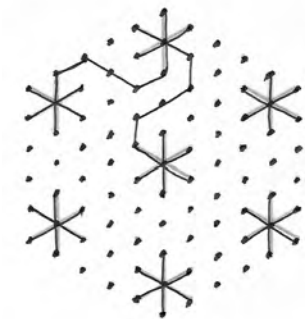
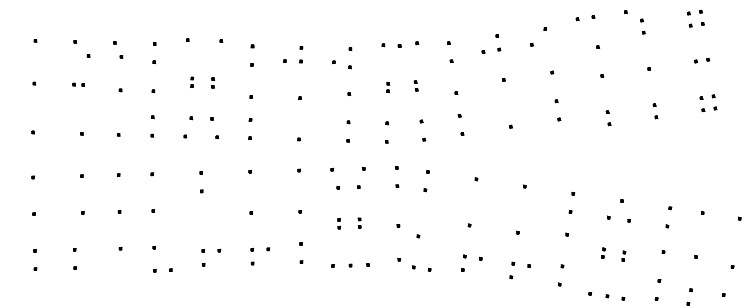
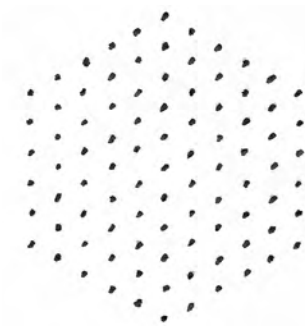
# An Urban Koliwada Redevelopment of a Fishing Village in Mumbai, India.

Ashvini Mary Dinoy

## Design Finale

*The Beginning of revolution*

### KOLLAM - THE DRAWING OF TRADITION



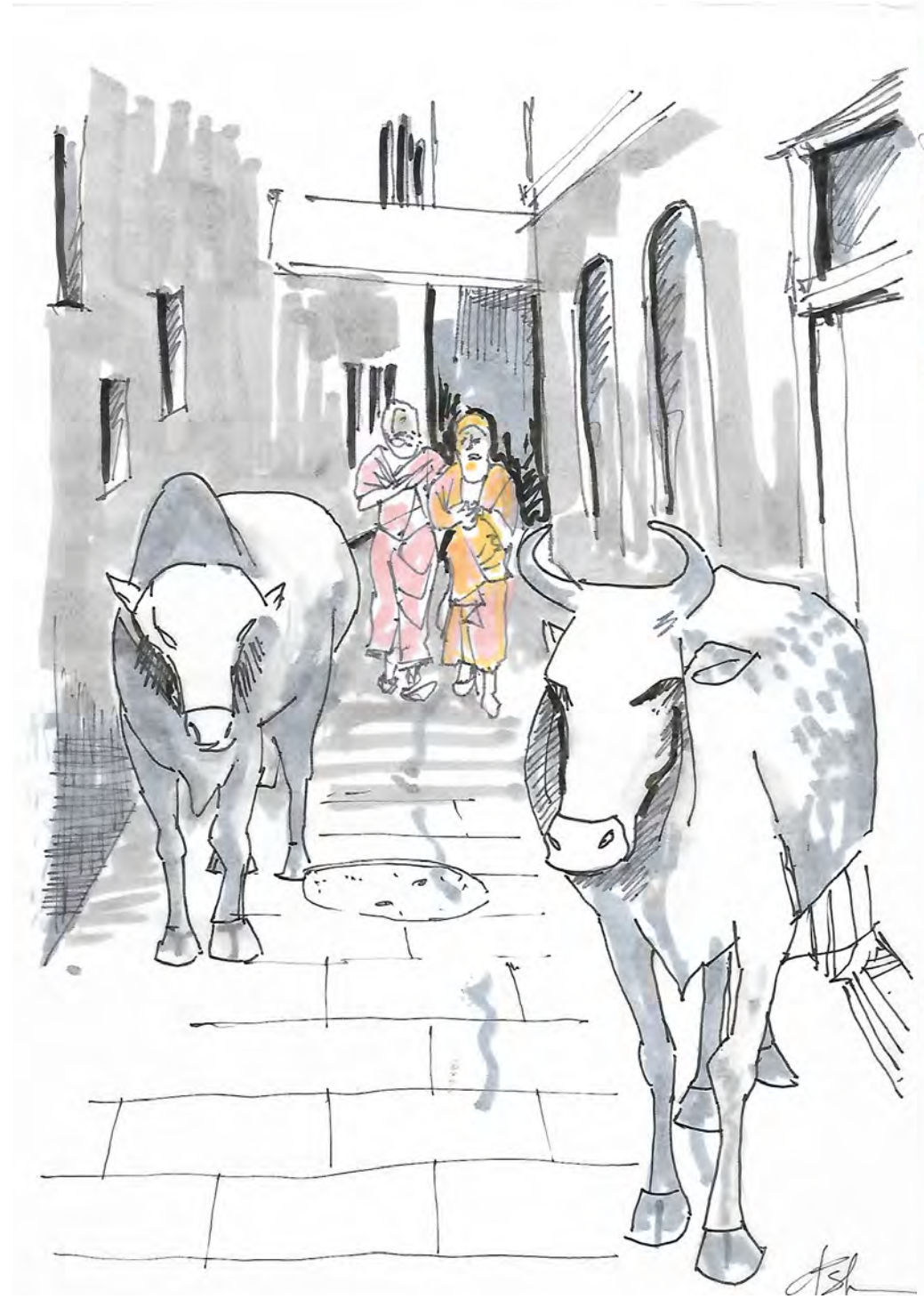
*Kollam*

*Street plan development*

A DRAWING MADE ON THE THRESHOLDS OF TRADITIONAL HOMES IN INDIA USING RICE FLOOR AND NATURAL DYES. TYPICALLY A GEOMETRIC PATTERN WITH A GRID MADE UP WITH DOTS AND LOOPED LINES. THEY PROMOTE A HARMONIOUS CO-EXISTENCE

THE DOTS FROM THE KOLLAM PATTERN ARE TRANSLATED INTO THE CONCRETE COLUMNS. THE PATTERN STARTS WITH THE STAIR CORE AND THEN STARTS TO CARVE OUT THE THRESHOLD WITH WALLS AS LINES. FINALLY THE LOAD BEARING WALLS COMPLETE THE PATTERN TO SUPPORT THE ROOF ABOVE.

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## Galli

AN ALLEY THAT IS MOSTLY PEDESTRIAN AND A THRESHOLD TO THE VILLAGER'S HOMES. SOMETIMES HOUSES CATTLE AND CREATES INTIMATE AND MEMORABLE SPACES ON AN URBAN SCALE.



## Panchayat Tree

LOCATED AT A SIGNIFICANT POSITION IN EVERY VILLAGE, IS THE PANCHAYAT TREE THAT IS SOMETIMES AS OLD AS THE VILLAGE. THE ELDERS GATHER AND TAKE DECISIONS ON EXECUTIVE AND JUDICIAL GROUNDS. IT ALSO PROVIDES SHADE FOR A WEARY TRAVELLER AND BECOMES A MARKET PLACE ON OCCASIONS.





## *Bazaar*

THE HUSTLE AND BUSTLE OF EVERY VILLAGE IS SEEN AT ITS MARKET PLACE. PEOPLE TRADE PRODUCE AND SOMETIMES COME TO SPEND TIME LOOKING AT THE COLORFUL SHOPS SELLING HANDICRAFTS AND FABRICS AND STREET VENDORS SELLING SNACKS.



## *Boats leaving the dock at dawn*

EVERY MORNING AT THE BREAK OF DAWN, HUNDREDS OF FISHERMEN LEAVE THEIR HOMES TO FETCH FISH.



## *Cleaning of the fishing nets*

FAMILIES AWAIT EAGERLY FOR THE BOATS TO ARRIVE. THERE MIGHT BE A GOOD CATCH OR NOT, BUT THE RITUALISTIC CLEANING AND TYING OF THE NETS IS AN ESSENTIAL PART OF THEIR LIVES.



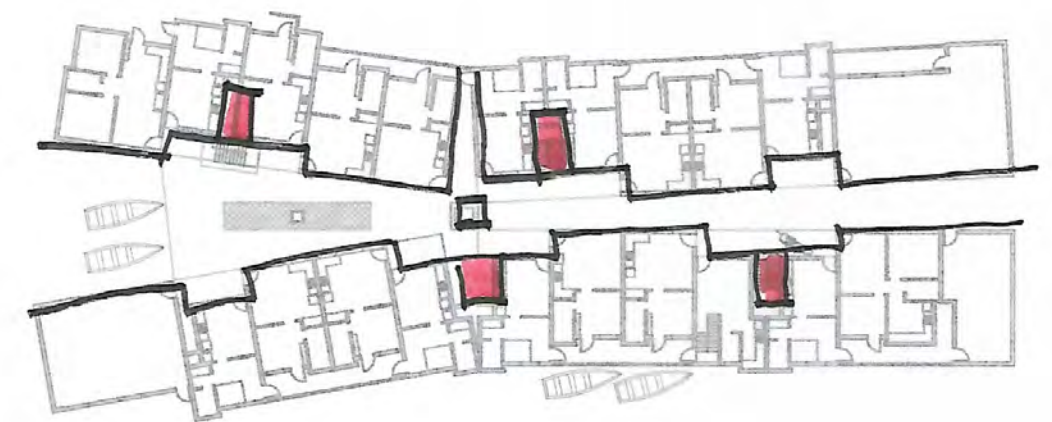
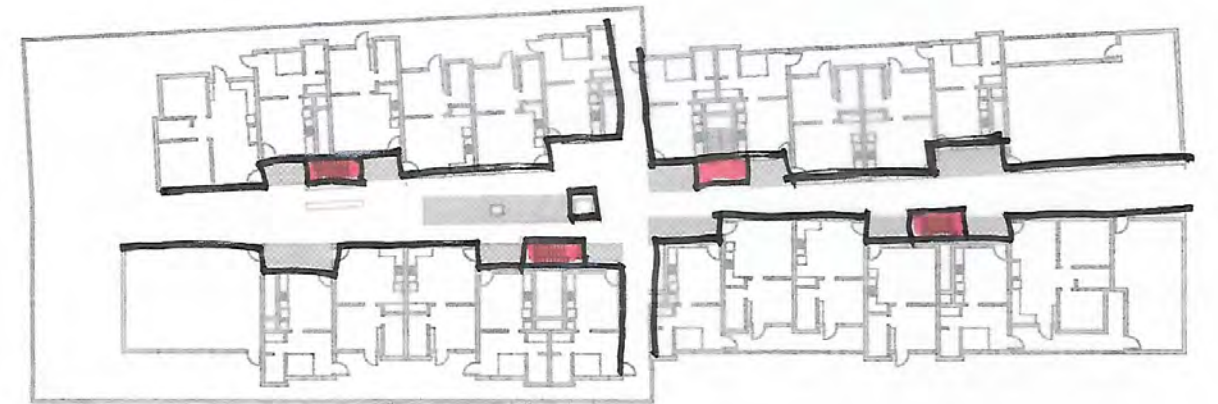
## *The Fish Market*

THE WOMEN USUALLY TAKE OVER FROM THEIR MEN ONCE THE FISH IS OFF THE NETS. THEY SORT THE FISH AND SELL THEM AT THE MARKETS WITH A LOT OF RIGOUR. THE FISH THAT IS NOT SOLD IS OFTEN CUT AND DRIED IN THEIR BACKYARDS.

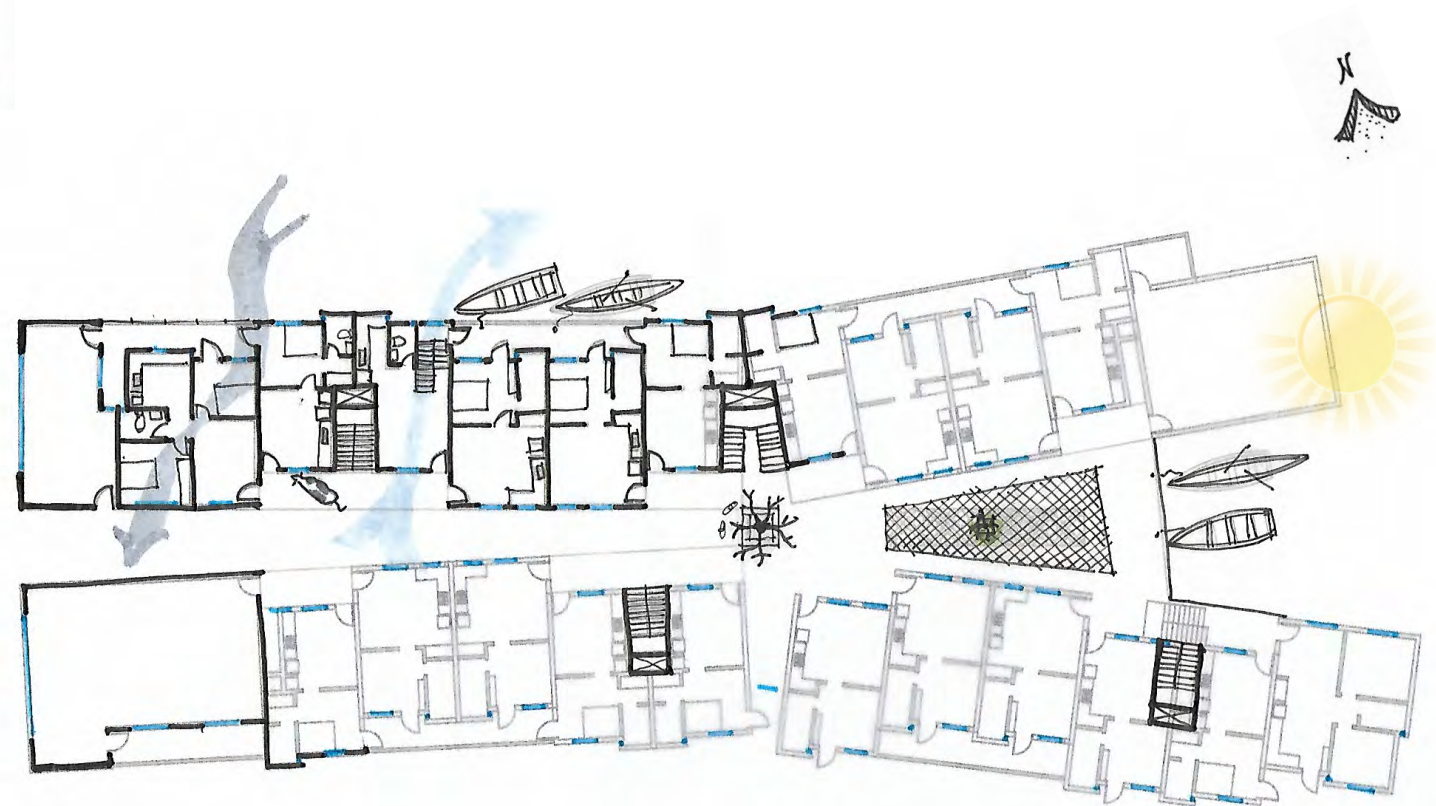


*Plan progression*

FREE FROM THE RIGIDNESS OF PLANNING AROUND CARS, THE PLAN TAKES ON A MORE MEANINGFUL PATTERN THAT DIRECTLY CATER TO THE NEEDS OF THE COMMON VILLAGER.



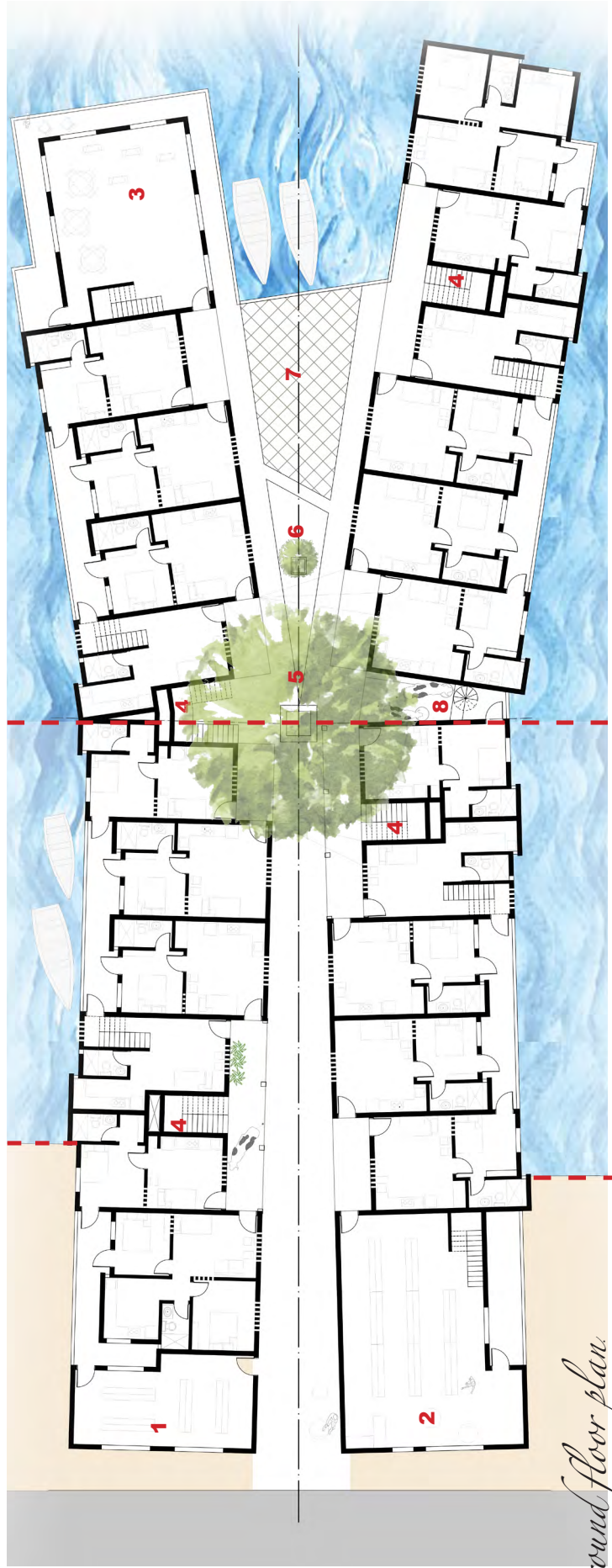
*Core locations*



## *Climatic analysis*

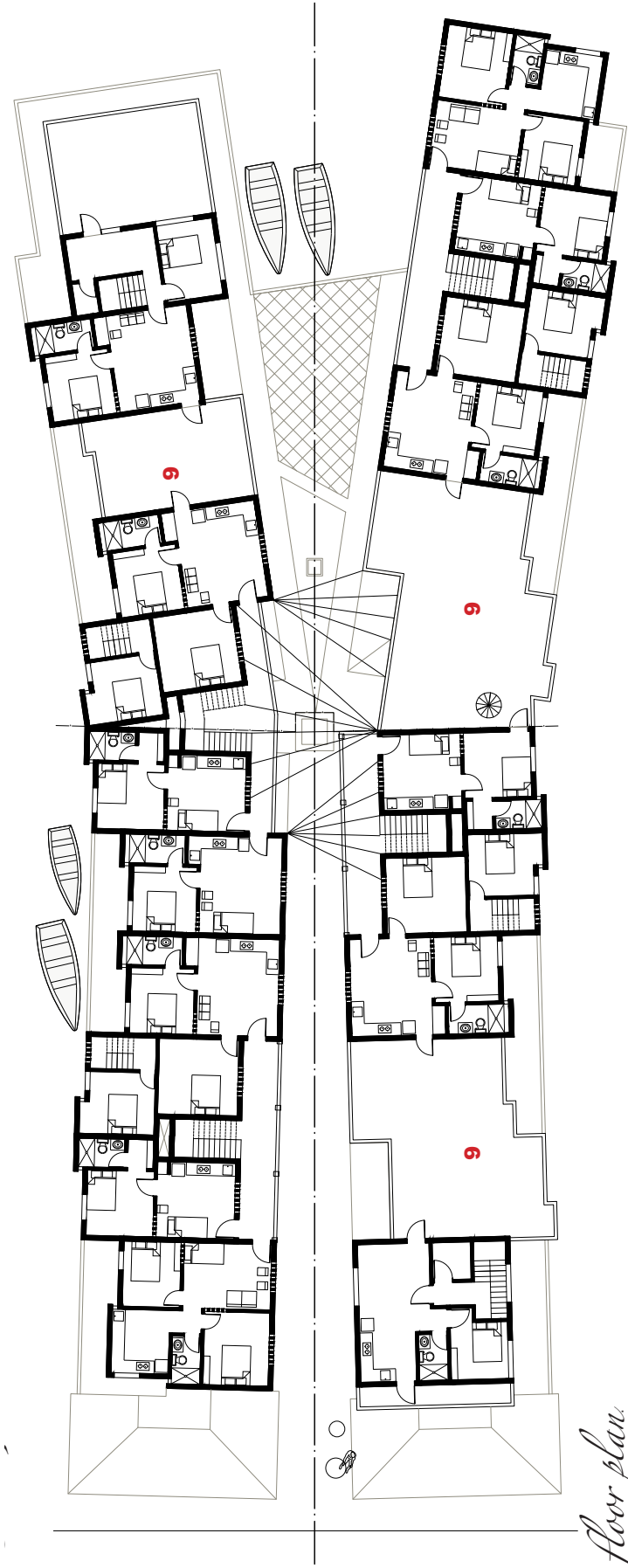
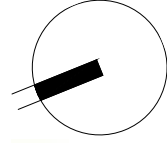
THE TROPICAL AND COASTAL CLIMATE OF MUMBAI REQUIRES THE KIND OF ARCHITECTURE THAT BREATHES NATURALLY. USING TECHNIQUES OF CROSS VENTILATION THROUGH BRICK JALIS, CENTRAL COURTYARD AND LARGE TERRACES, IT CREATES WAYS OF PASSIVE COOLING WITH THE NORTH EASTERN AND WOUTH WESTERN WINDS COMING IN. FURTHER THE WALLS ALONG THE EAST-WEST ORIENTATION ARE KEPT SOLID TO AVOID EXCESSIVE HEAT.

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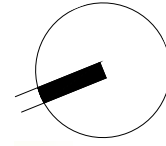
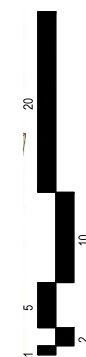
*Ground floor plan.*

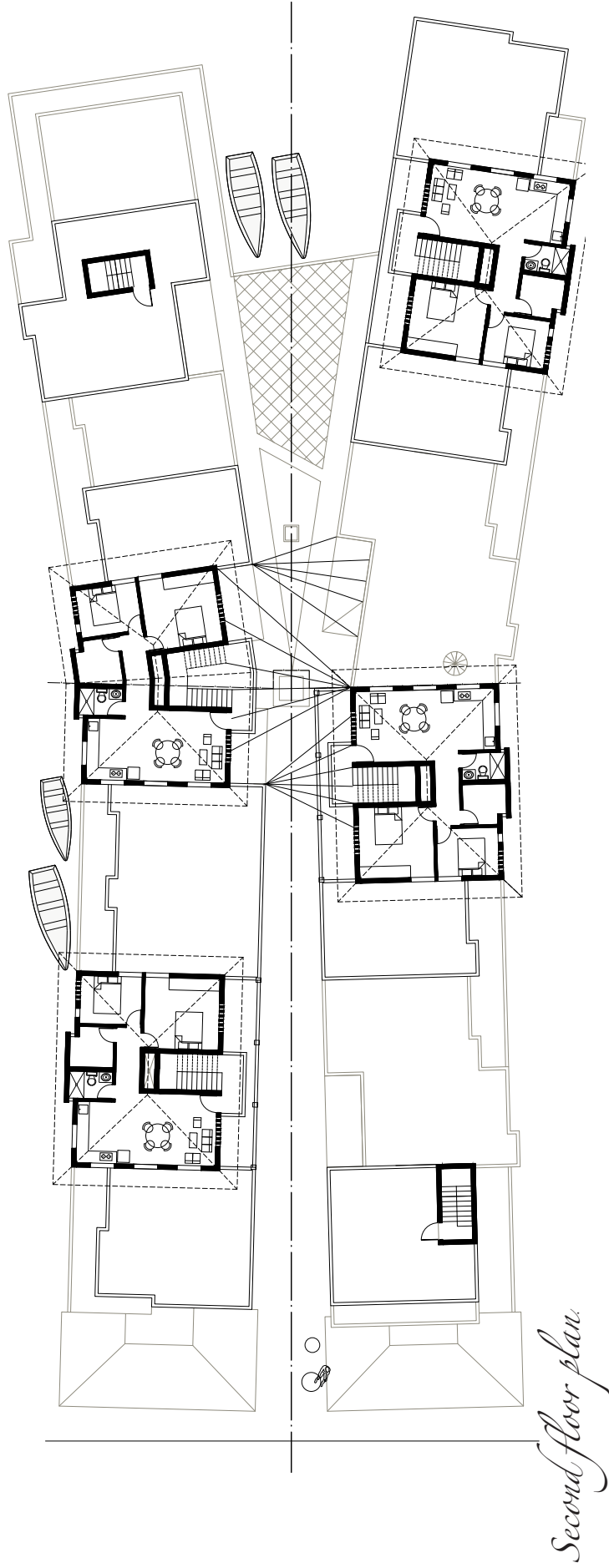
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- 2 WORKLIVE
- 3 ARTIST'S STUDIO AND RESI.
- 4 RESIDENTIAL STAIR CORE
- 5 TEMPLE TREE/THINNAI
- 6 THULASI MADHAM
- 7 FISH COLLECTION AND DOCK
- 8 GALLI
- 9 MULTI PURPOSE TERRACE



*First floor plan.*

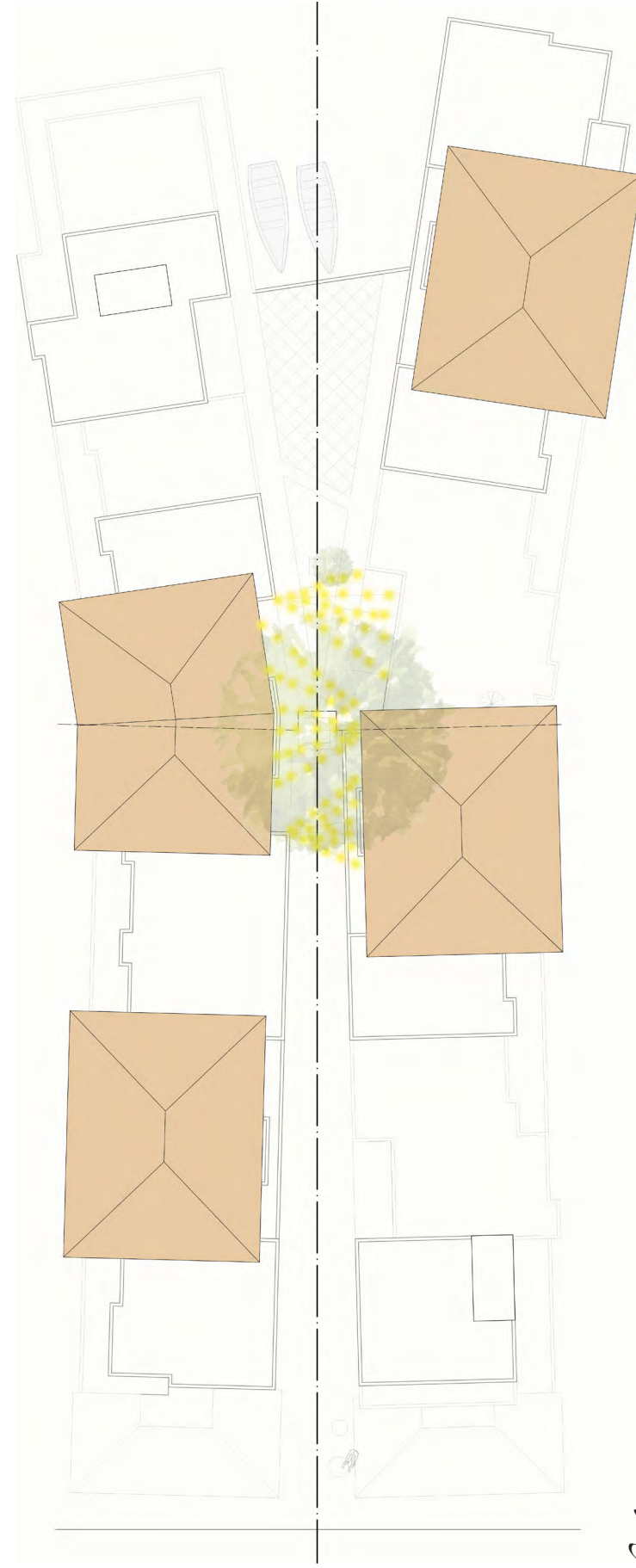
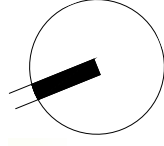
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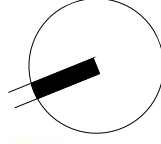
*Second floor plan.*

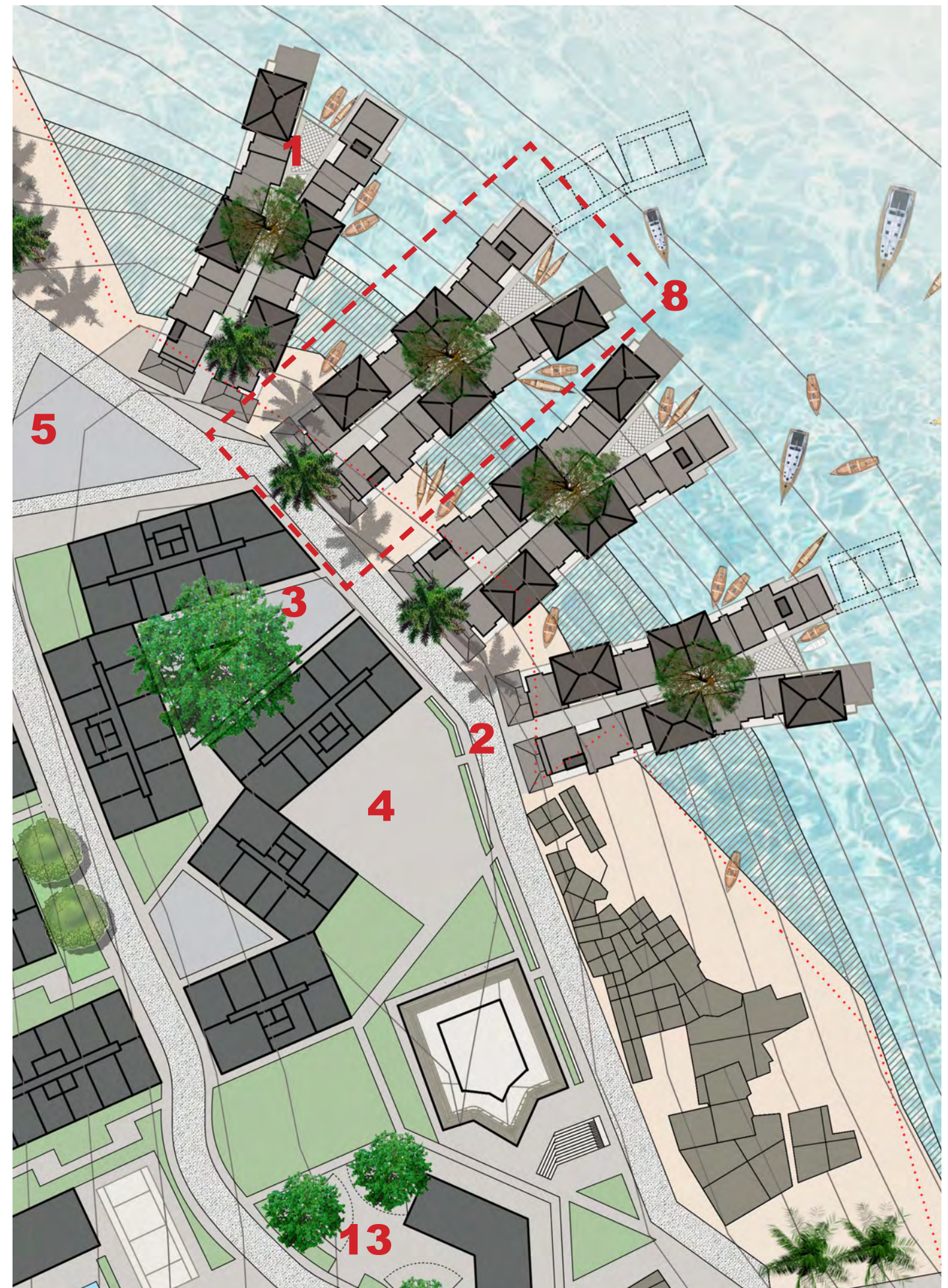
- 1** RETAIL
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- 3** ARTIST'S STUDIO AND RESI.
- 4** RESIDENTIAL STAIR CORE
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- 6** THULASI MADHAM
- 7** FISH COLLECTION AND DOCK
- 8** GALLI
- 9** MULTI PURPOSE TERRACE

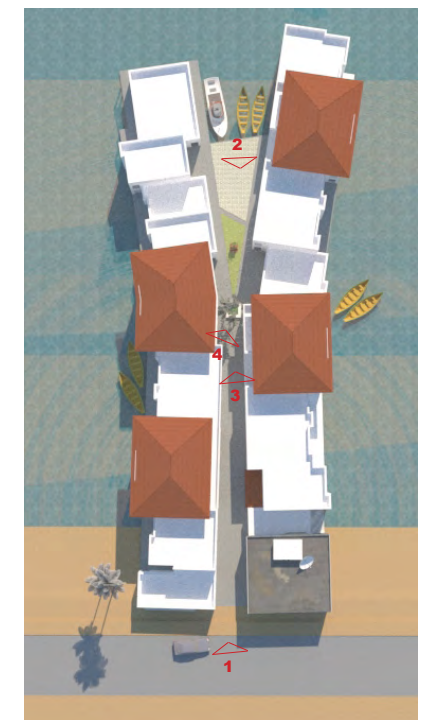
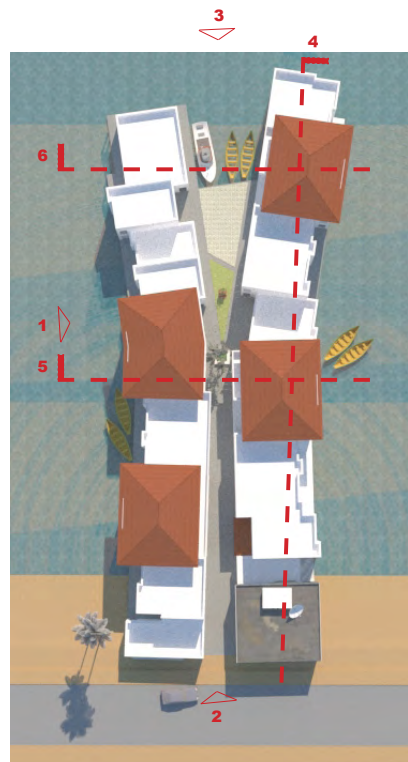
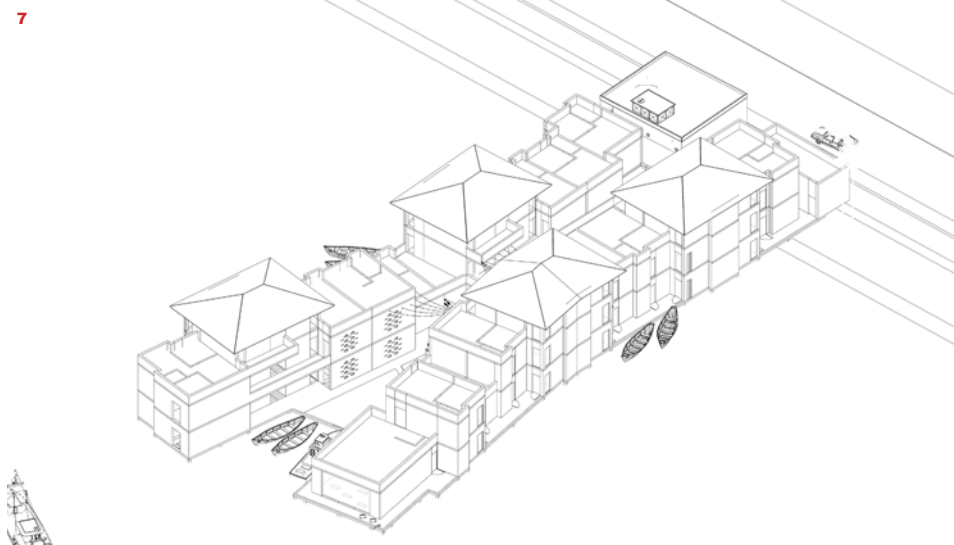
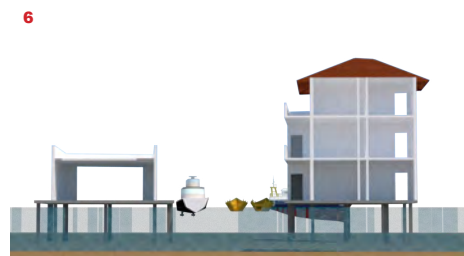


*Roof plan.*

- 1** RETAIL
- 2** WORKLIVE
- 3** ARTIST'S STUDIO AND RESI.
- 4** RESIDENTIAL STAIR CORE
- 5** TEMPLE TREE/ THINNAI
- 6** THULASI MADHAM
- 7** FISH COLLECTION AND DOCK
- 8** GALLI
- 9** MULTI PURPOSE TERRACE



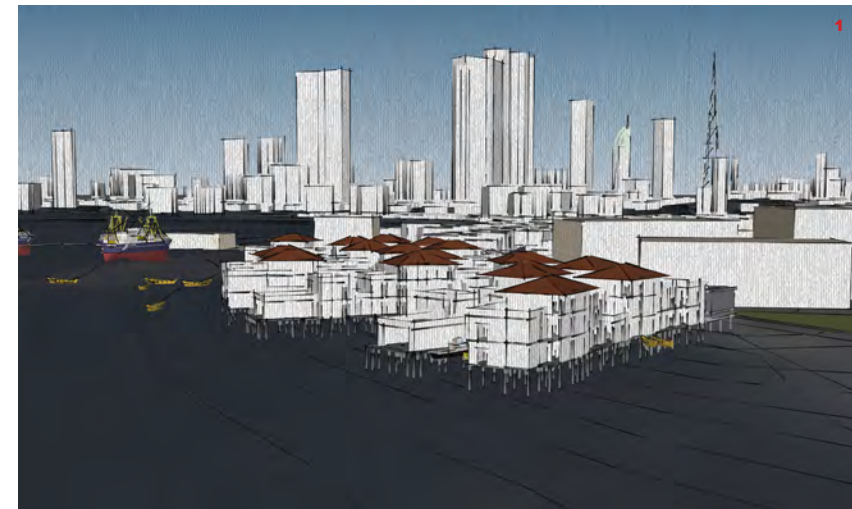








*Site Massing images*





## An Urban Koliwada Redevelopment of a Fishing Village in Mumbai, India.

Ashvini Mary Dinoy

### Inferences

*Principles of planning*

With the risk of sounding cheesy, the biggest take away from my thesis is that as architects we need to design with our hearts and then our mind from my perspective.

Having worked for 12 years before my thesis in three Metropolitan cities- Chennai,India, New York and D.C., doing what would sell came in as a second nature to me, but it was time to break that mold. While designing a project, architects tend to have their own agenda and also try to cater to the needs of the client but very often the end-user is neglected.

Below is a checklist that I arrived at for use while planning for a community that are influenced by the steps that you make to create a a traditional kolam design:

- Study the end user.
- Identify the traditions and lifestyles associated with the community that can influence your design.
- Identify the patterns on site- landmarks, existing paths, historic landmarks and other unique nodes in the site.
- Create the dots - the key nodes of the project
- Connect the dots - create your labyrinth

Architecture can influence the way people live and its is a very powerful tool. Used wisely, it will create a '*Social Utopia*'.

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## An Urban Koliwada

Redevelopment of a Fishing Village in Mumbai, India.

Ashvini Mary Dinoy

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## Image sources

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