



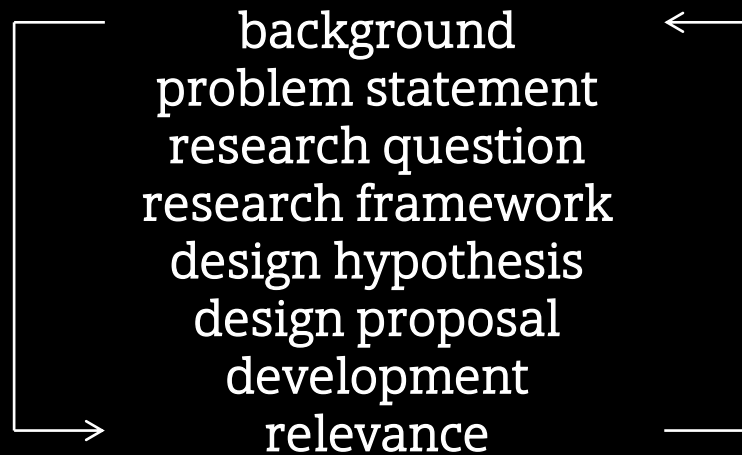








community in the time of market economy



background

problem statement

research question

research framework

design hypothesis

design proposal

development

relevance



Nalasopara in the context of India



India

area: 3,287,259km²



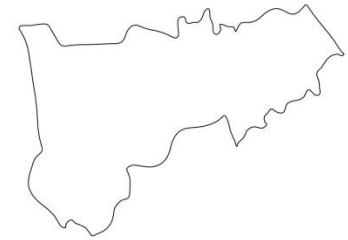
Mumbai M.R.

area: 4,355km²



Vasai Virar

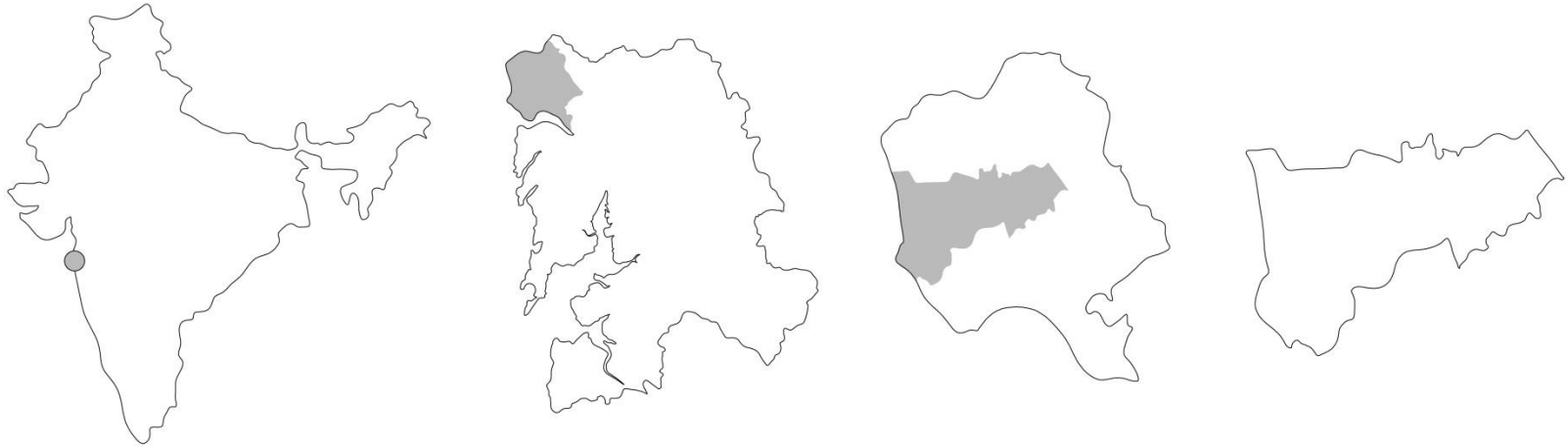
area: 311km²



Nalasopara

area: 43km²

Nalasopara in the context of India



India

Mumbai M.R.

Vasai Virar

Nalasopara

area: 3,287,259km²

area: 4,355km²

area: 311km²

area: 43km²

population: 1,339m.

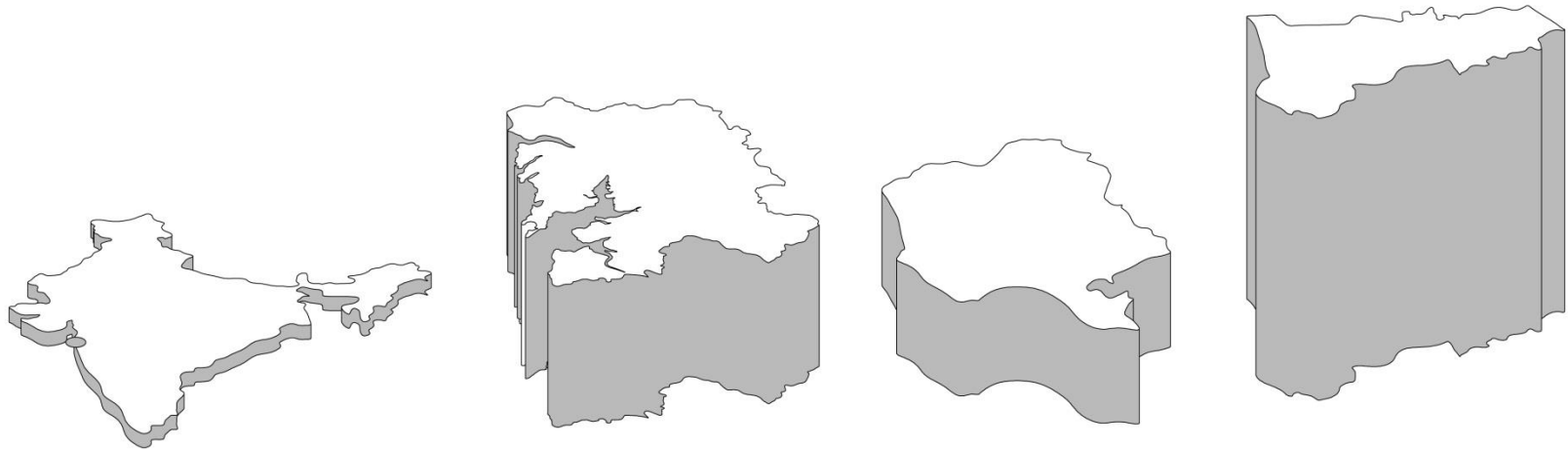
population: 20.87m.

population: 1,221,233

population: 564,664

*Mumbai (Greater Mumbai) City Census 2011 data, <http://www.census2011.co.in/census/city/365-mumbai.html>
Vasai Virar City Census 2011 data, [%7D%7CWeb](http://www.census2011.co.in/census/city/363-vasai-virar.html)
Population Density (Per Sq. Km.), NITI Aayog (National Institution for Transforming India), Government India*

Nalasopara in the context of India



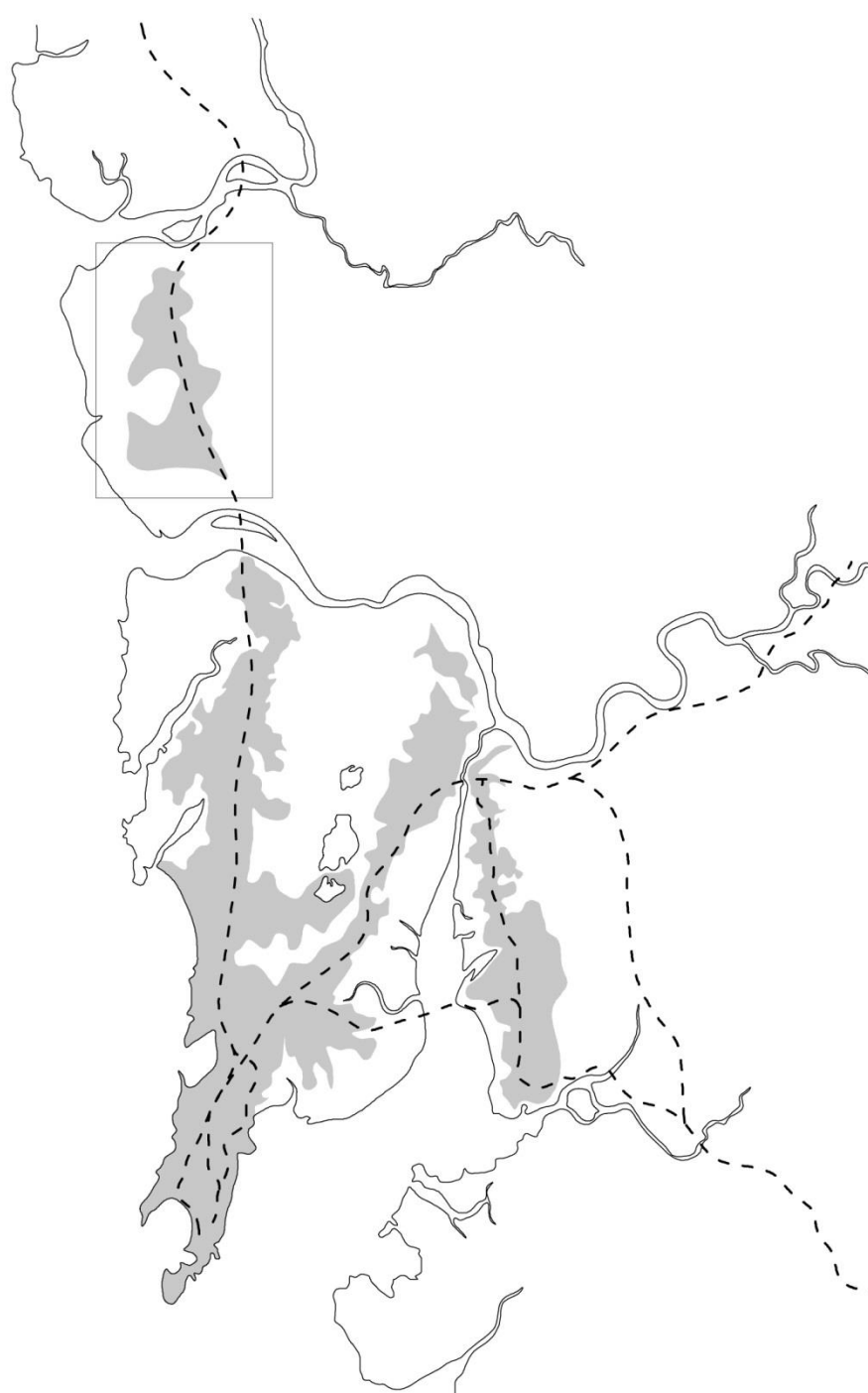
| India | Mumbai M.R. | Vasai Virar | Nalasopara |
|----------------------------------|----------------------------------|----------------------------------|---|
| area: 3,287,259km ² | area: 4,355km ² | area: 311km ² | area: 43km ² |
| population: 1,339m. | population: 20.87m. | population: 1,221,233 | population: 564,664 |
| density: 385,4 h/km ² | density: 4,793 h/km ² | density: 3,200 h/km ² | density: 10,700 h/km² |

*Mumbai (Greater Mumbai) City Census 2011 data, <http://www.census2011.co.in/census/city/365-mumbai.html>
Vasai Virar City Census 2011 data, <http://www.census2011.co.in/census/city/363-vasai-virar.html?%7D%7CWeb>
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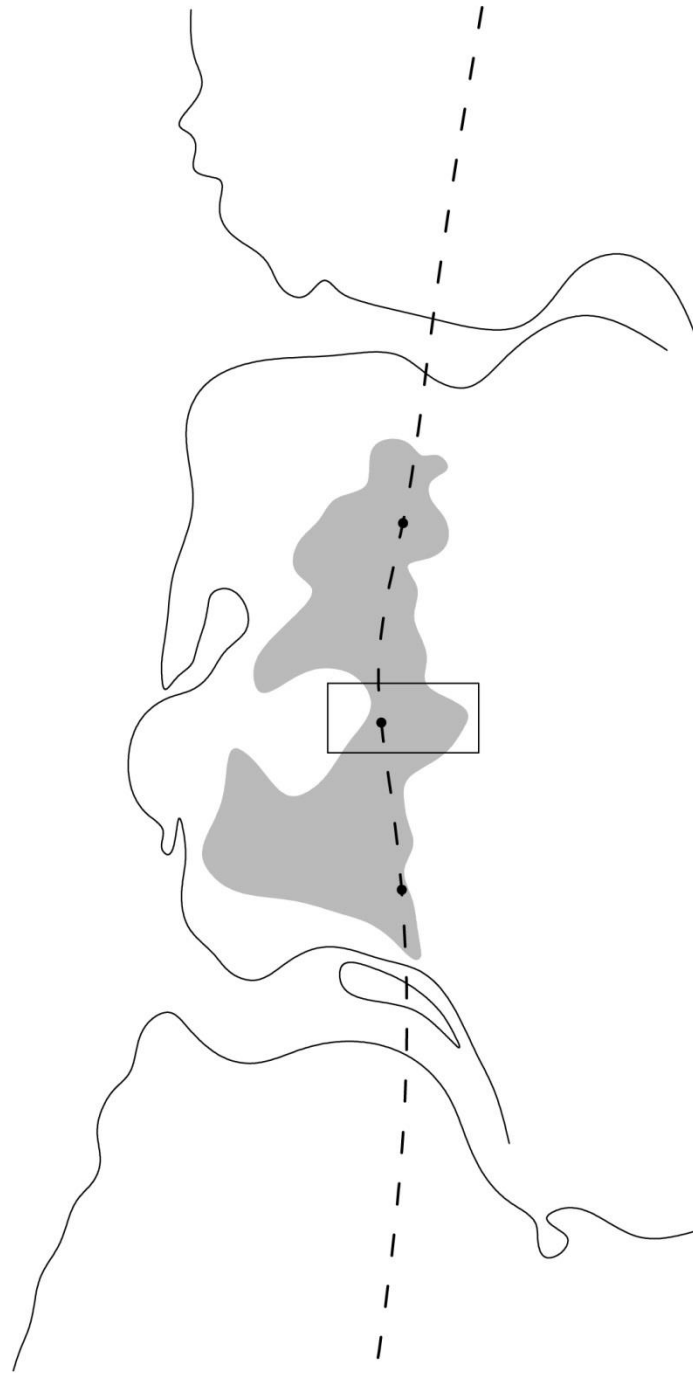


The train as an urban
growth booster
Mumbai



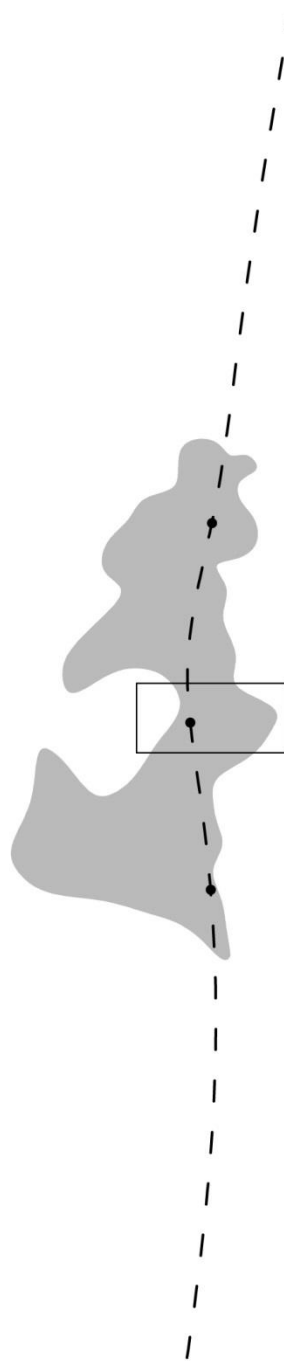
The train as a connector

Vasai Virar - Mumbai



The train as a boundary

Nalasopara West - East



Outbreak in density
single typological answer
lack of communal spaces and
infrastructure



Failure as a response
to the complexity of inhabitants
and newcomers



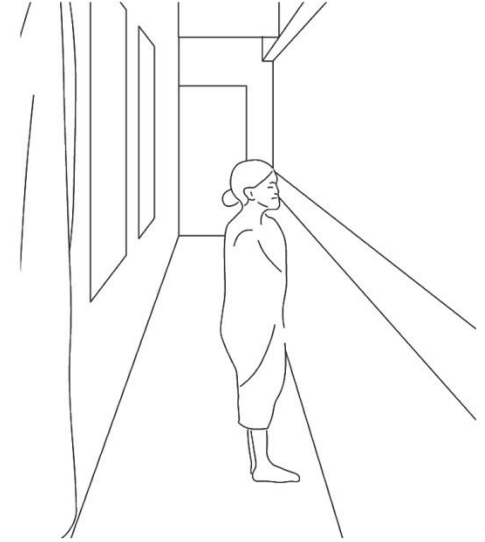
Gaurav

Uttar Pradesh



Mohammed

Rural Maharashtra



Geeta

Central Mumbai
Rajasthan



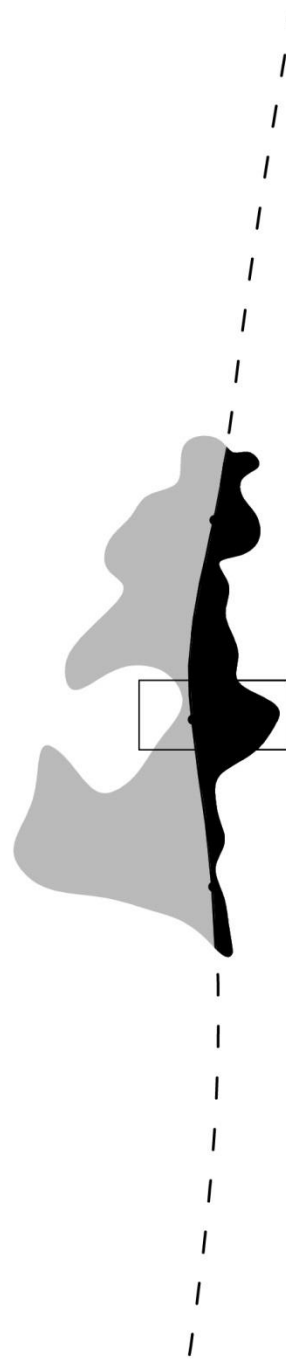
In a context where

Due to the requirements for loans from banks and micro-financing institutes

Only 5 to 6% of the households can afford a house in Mumbai

Developers find it more profitable to develop luxury and semi-luxury dwelling

Risk
colonisation of the monotonous
5-storey chawls in the East



the **disparity** and **disconnection**
between Nalasopara West and East,
the 5-storey chawls as the **single answer** of
dwelling typology in Rahmat Nagar,
the lack of (designed) **meeting places**
and the difficulty of **ownership** are obstacles to
achieve **community** and sense of **belonging**.

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how can the introduction of punctual interventions in the public spaces, related to leisure and commercial activities, **integrate** the two detached and **dissimilar** neighbourhoods of Nalasopara West and East by encouraging the inhabitants of both areas to use those facilities?

how can the placement of high-dense mid-rise **dwelling** clusters on both sides of the railway embrace the formation of intimate **communities**?

how can the **market-driven economy** of contemporary India be used as a tool to pursue this quest?

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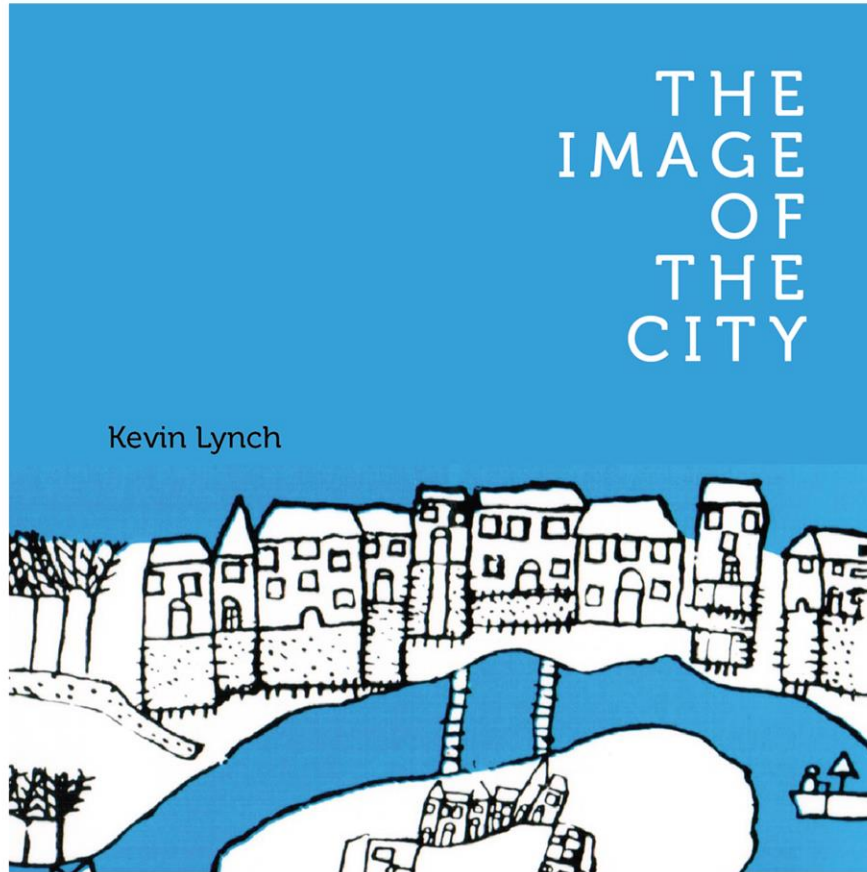
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Imageability of the City

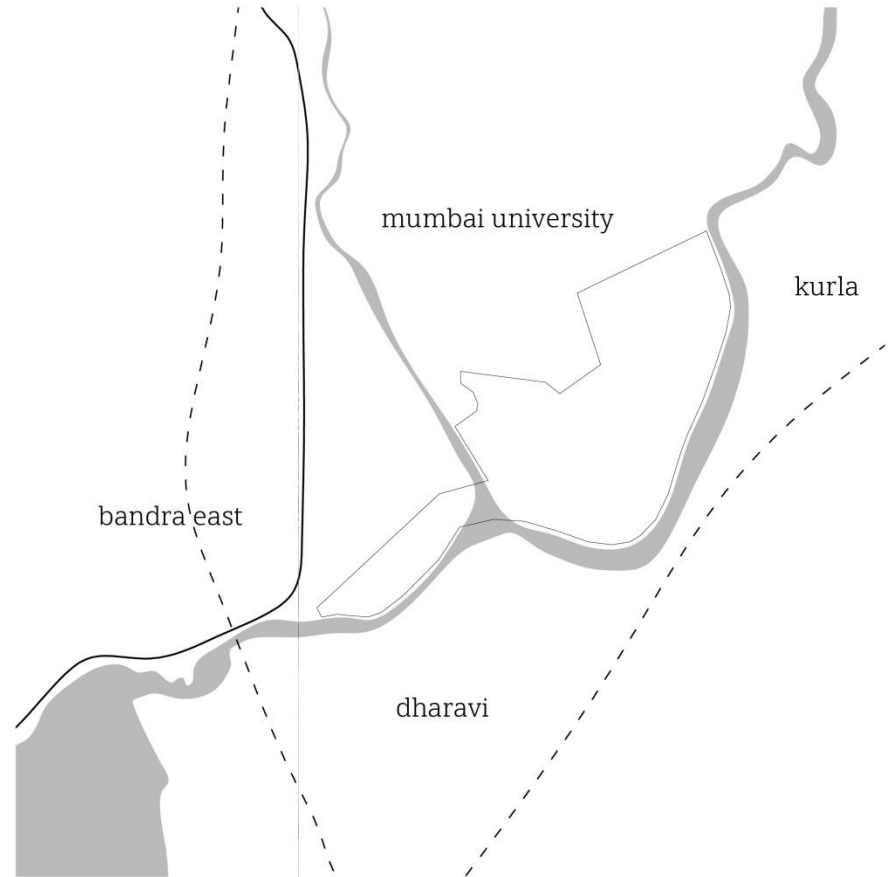
Sequence of places – Continuity and landmarks



Kevin Lynch, *The image of the city* (1960)
Gordon Cullen, *The Concise Townscape* (1961)

Transformation of a boundary into a border

Bandra Kurla Complex



how can the introduction of punctual interventions in the public spaces, related to leisure and commercial activities, **integrate** the two detached and **dissimilar** neighbourhoods of Nalasopara West and East by encouraging the inhabitants of both areas to use those facilities?

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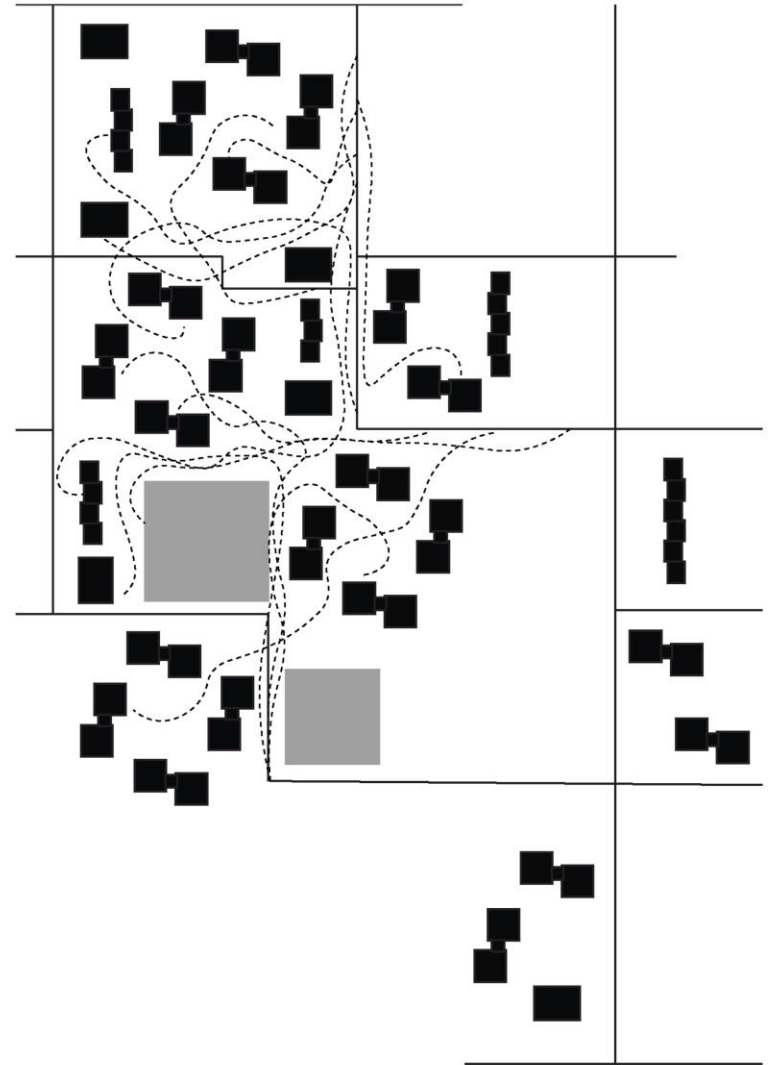
Open to sky space – Participation – Equity – Income generation



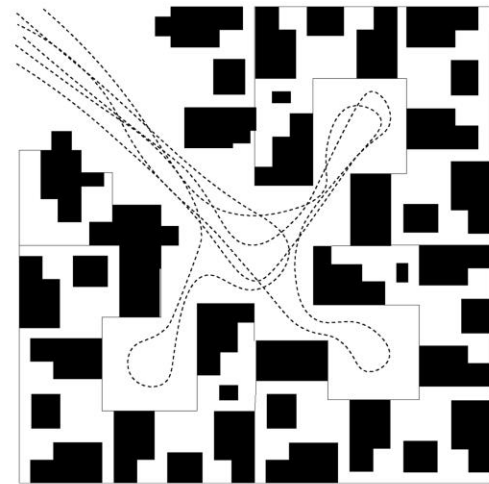
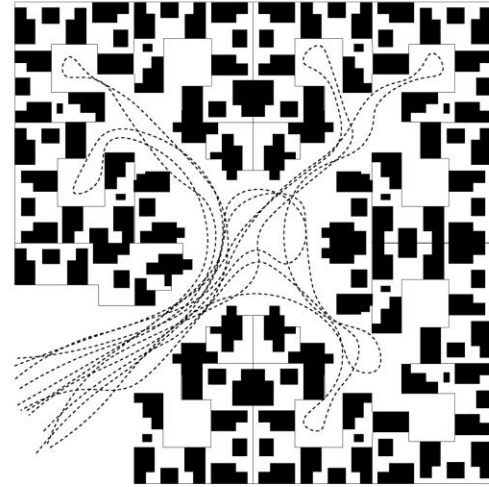
Charles Correa, *The New Landscape: Urbanisation in the Third World*
(Singapore: Mimar Books, Butterworth Architecture, 1985).

Courtyards with different levels of enclosure

Barrio Alfredo Palacios, Buenos Aires (Estanislao Kocourek – 1966)

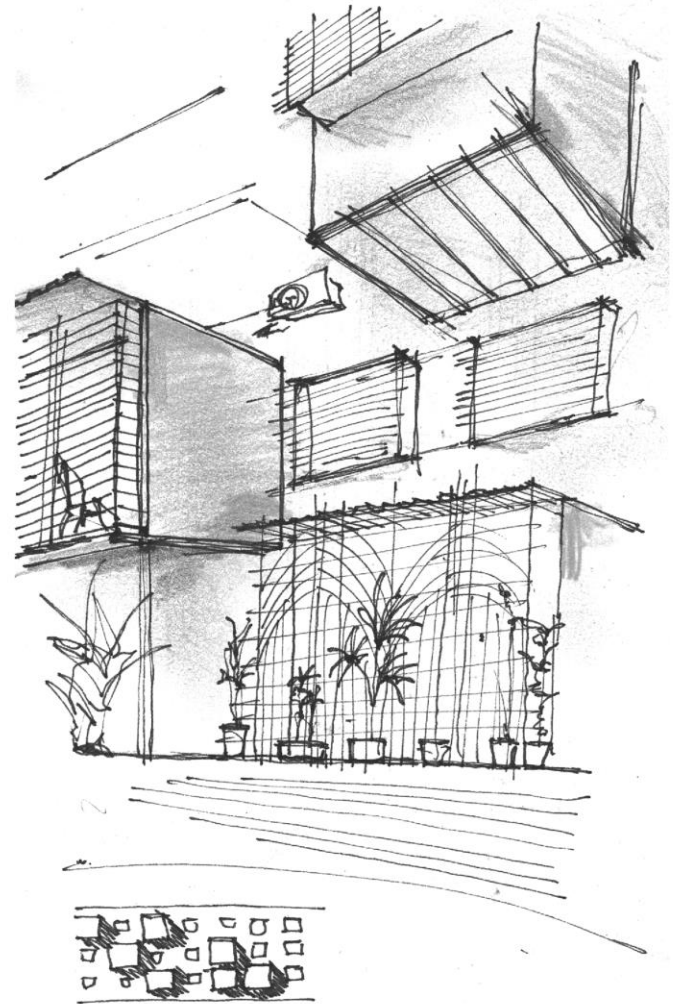
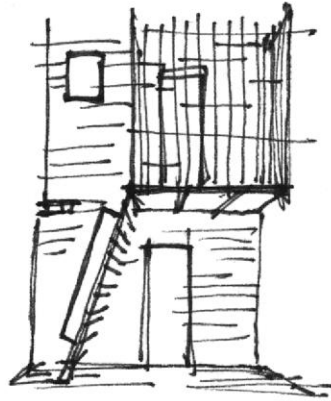
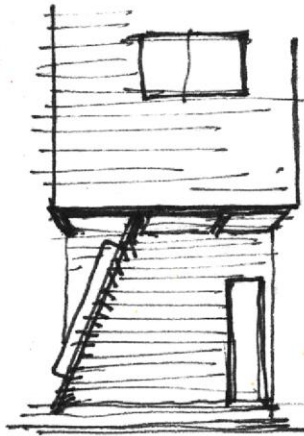
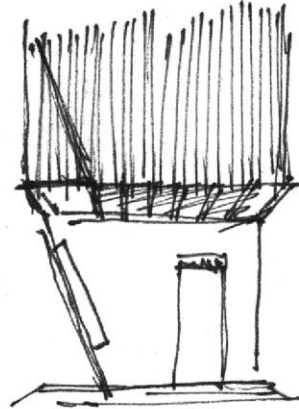
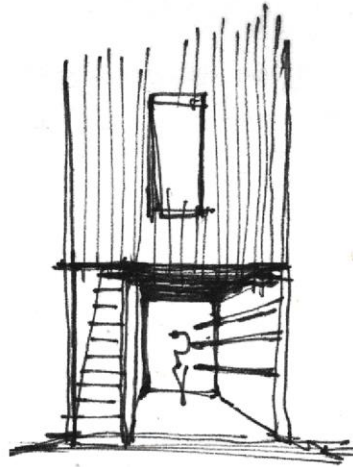


Sequence of courtyards and hierarchy of collective spaces
Belapur Housing, Navi Mumbai (Charles Correa - 1985)



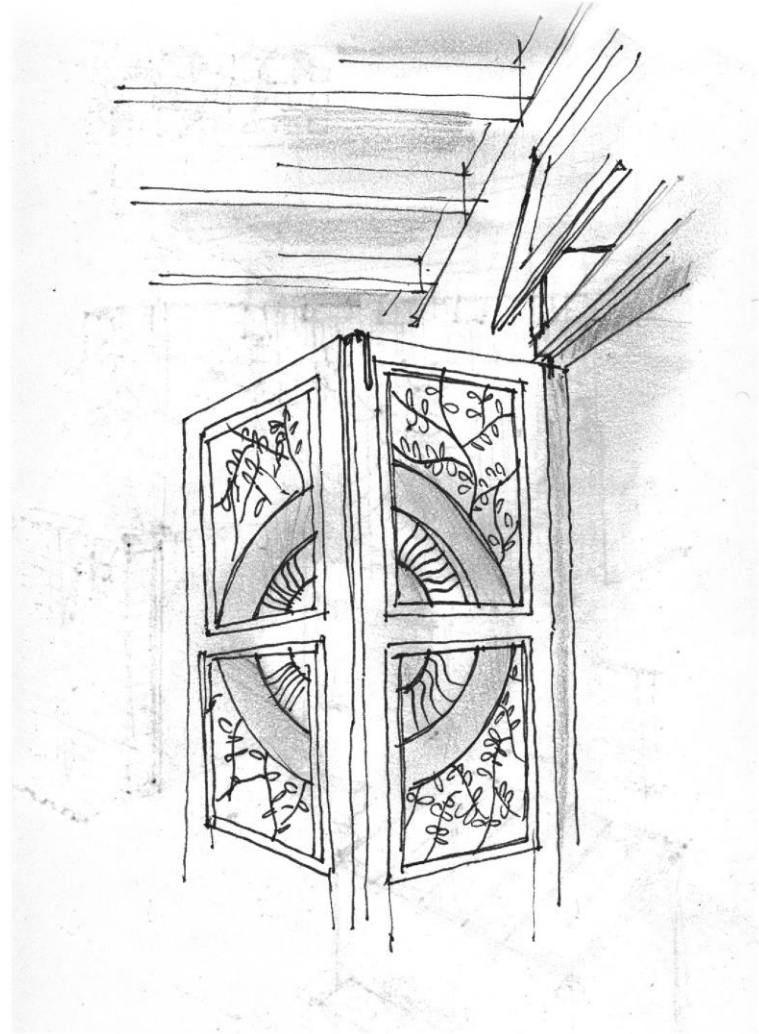
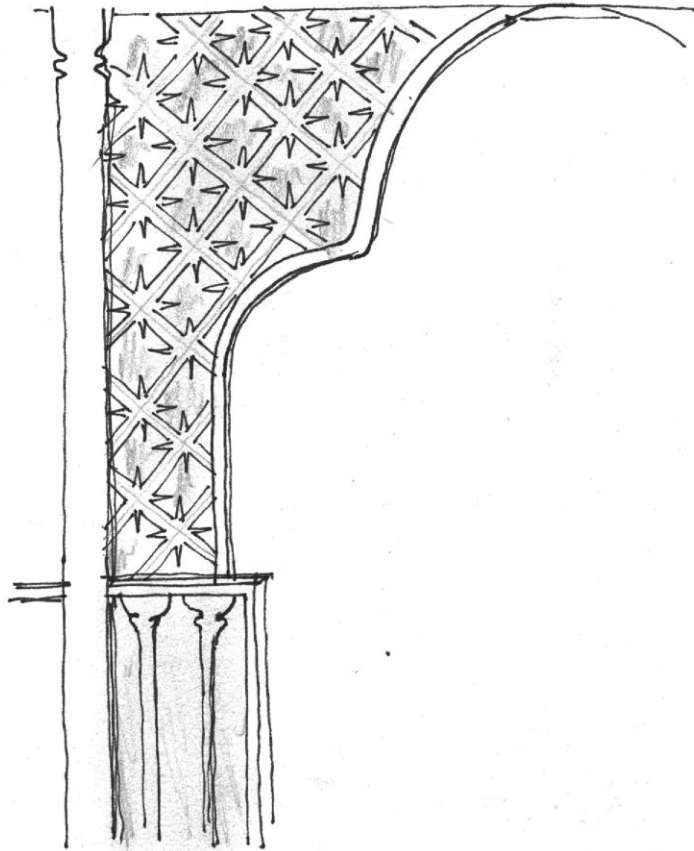
Local patterns of transformation

Techniques of encroachment in the chawls and slums



Local patterns of transformation

Techniques of adaptation and appropriation in the chawls



Sense of place – Familiarity
Nalasopara – Mumbai - India



the street as a
gathering space



the courtyard as an
extension of the house

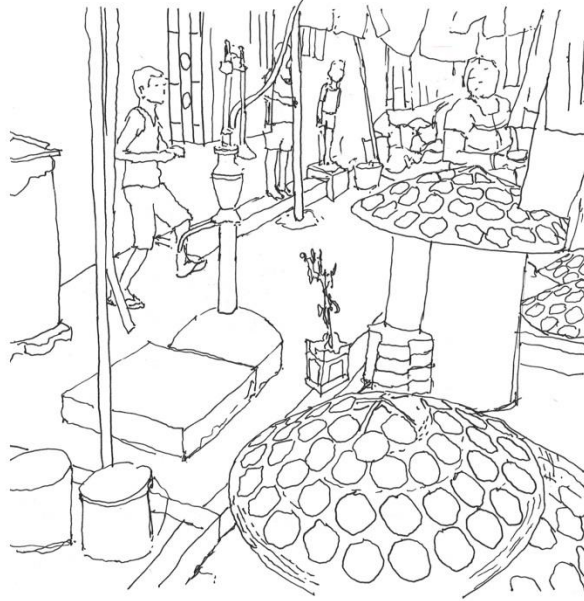


the street as a place for
income generation

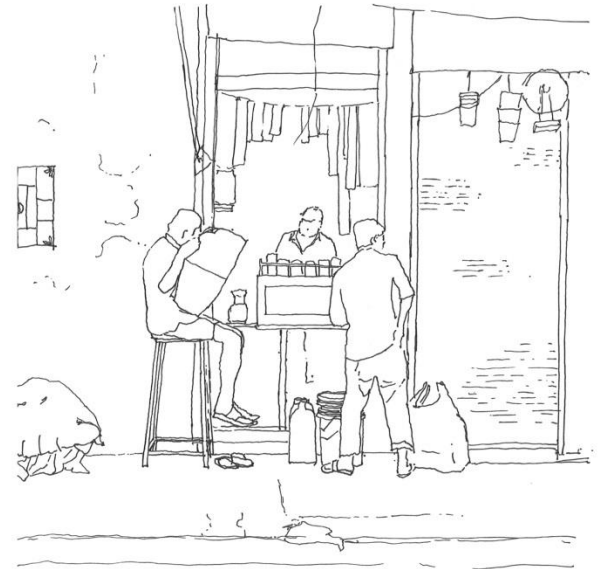
Sense of place – Familiarity
Nalasopara – Patterns of inhabitation



the street as a
gathering space



the courtyard as an
extension of the house



the street as a place for
income generation

how can the introduction of punctual interventions in the public spaces, related to leisure and commercial activities, **integrate** the two detached and **dissimilar** neighbourhoods of Nalasopara West and East by encouraging the inhabitants of both areas to use those facilities?

how can the placement of high-dense mid-rise dwelling clusters on both sides of the railway embrace the formation of intimate **communities**?

how can the **market-driven economy** of contemporary India be used as a tool to pursue this quest?

Competitive density
Necessity to provide a profitable
alternative for developers



PK Das
achieving a sustainable density

FSI beyond 3.0 is physically not possible

affordable dwellings need to have a competitive FSI to be
attractive for developers and economically affordable for
dwellers

PK Das, *Chasing the affordable dream, A plan to house Mumbai's millions*
(Mumbai: Bombaykala Books, 2018).

in order to discuss the possibility of a plan that can be reinterpreted in other development projects within Mumbai, the project:

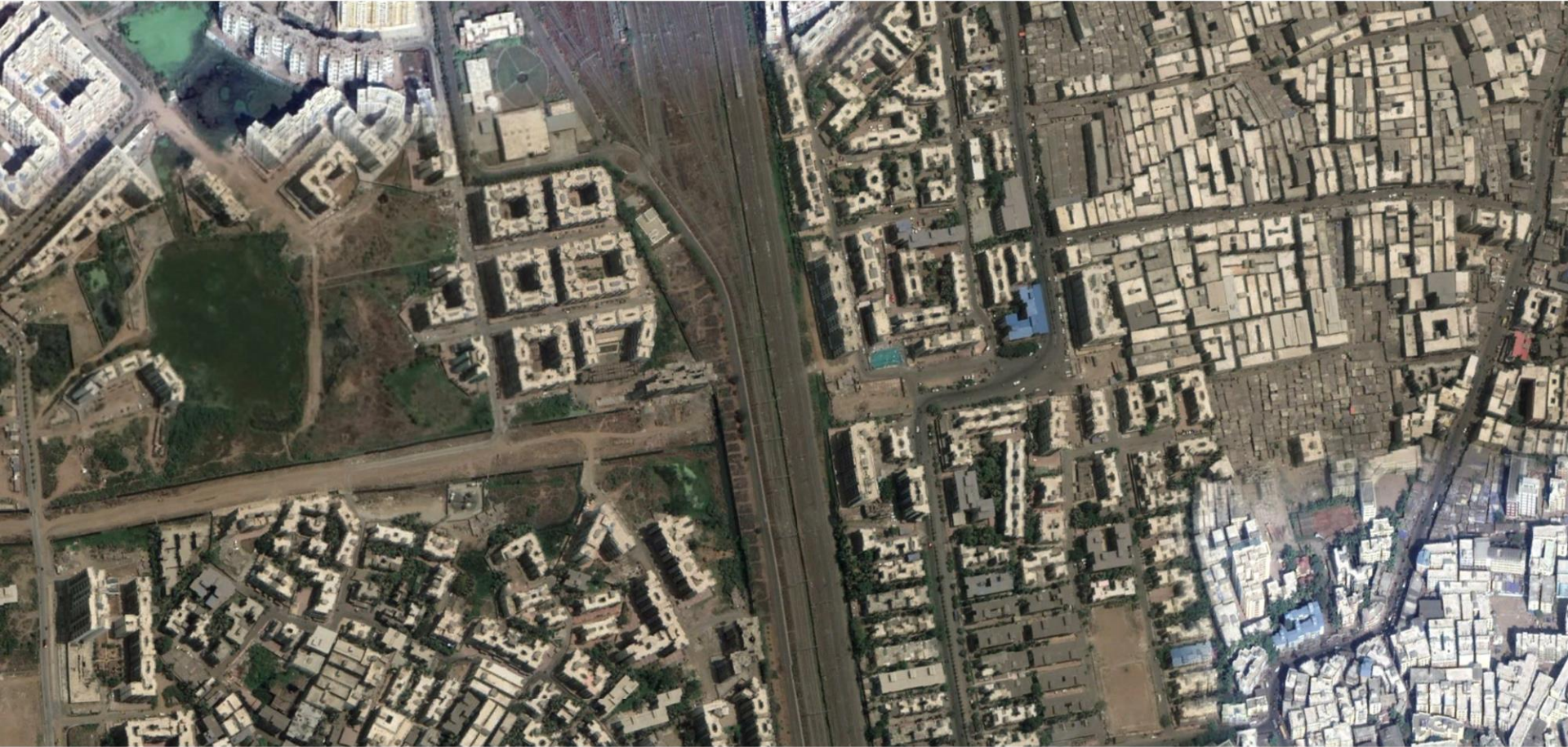
proposes a spatial design that encourages sense of belonging within the inhabitants

deals with the issue of ownership, being flexible to host owners and tenants to be suitable for residents and newcomers

creates a profitable scheme for developers

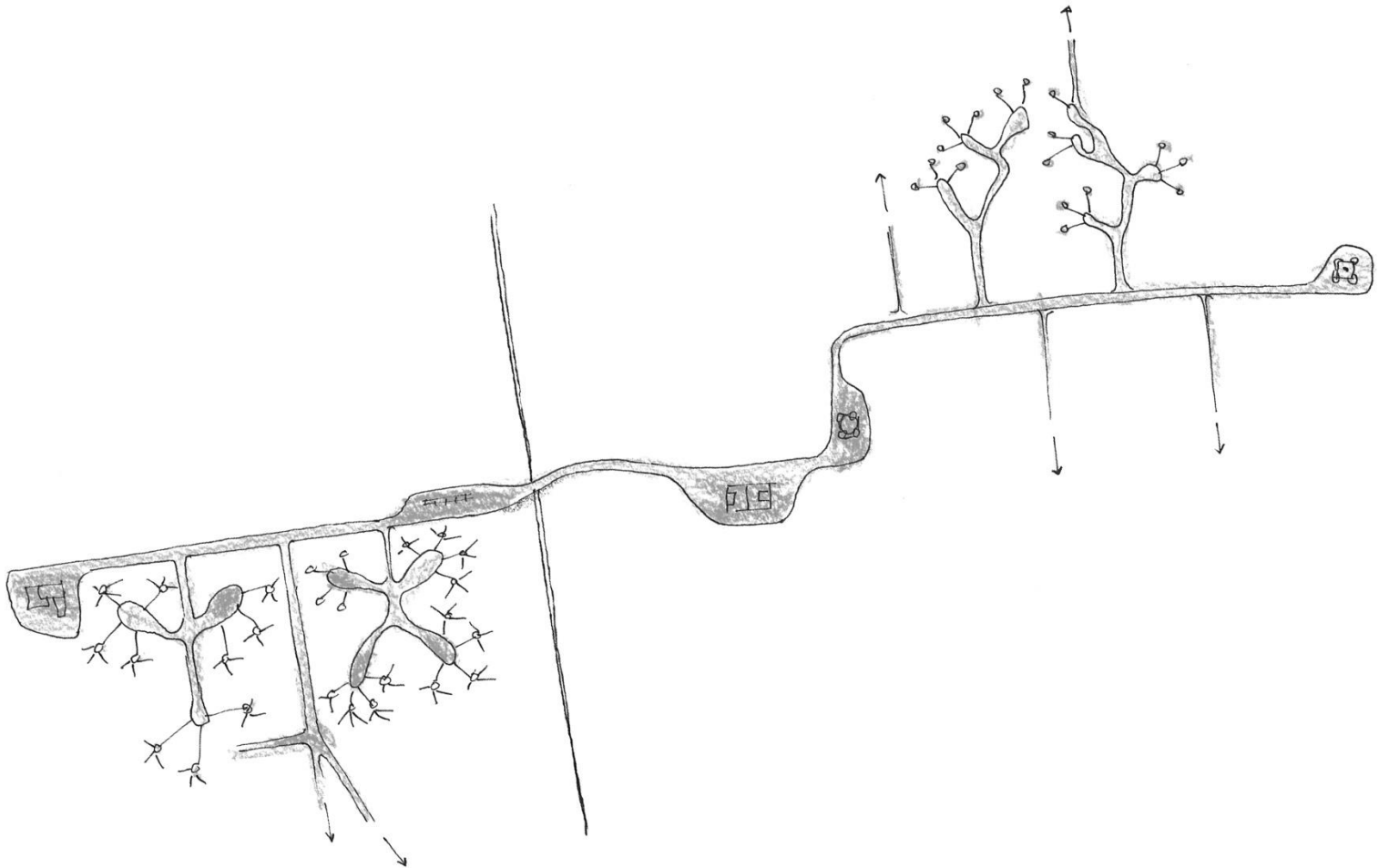
background
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Site plan



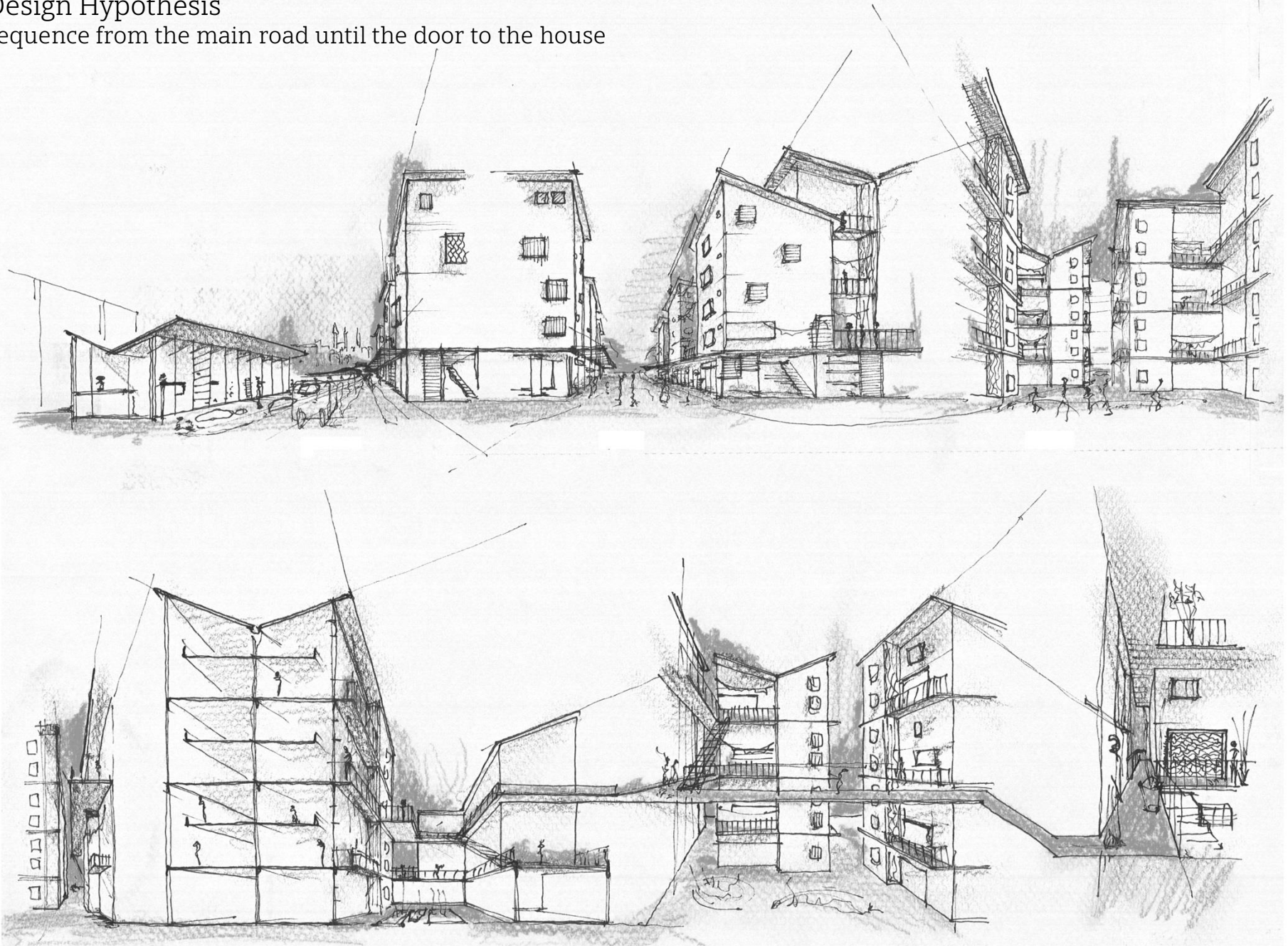
Design Hypothesis

Hierarchy of public and collective spaces



Design Hypothesis

sequence from the main road until the door to the house



Site plan



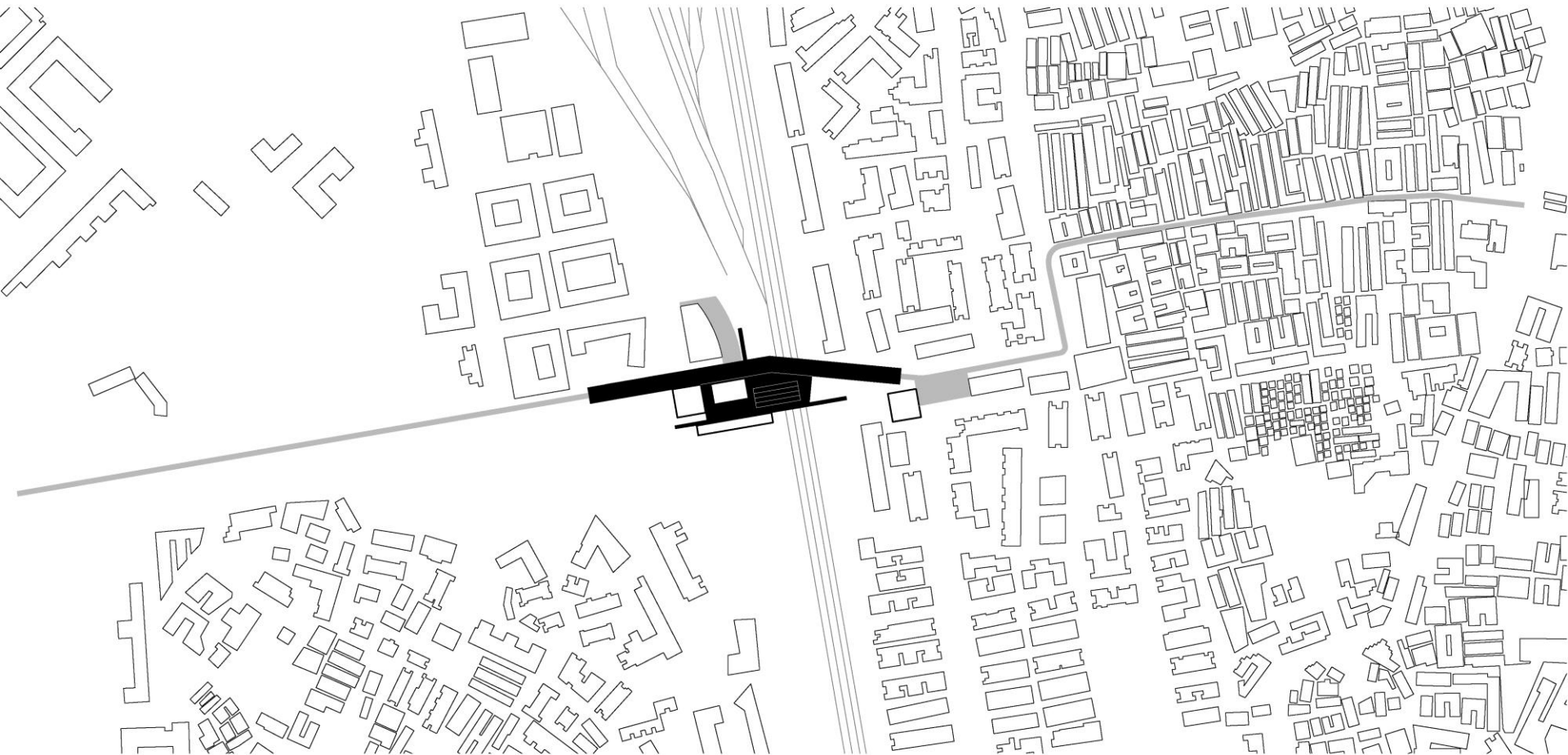
0 20 50 100 200m

Main connecting axis



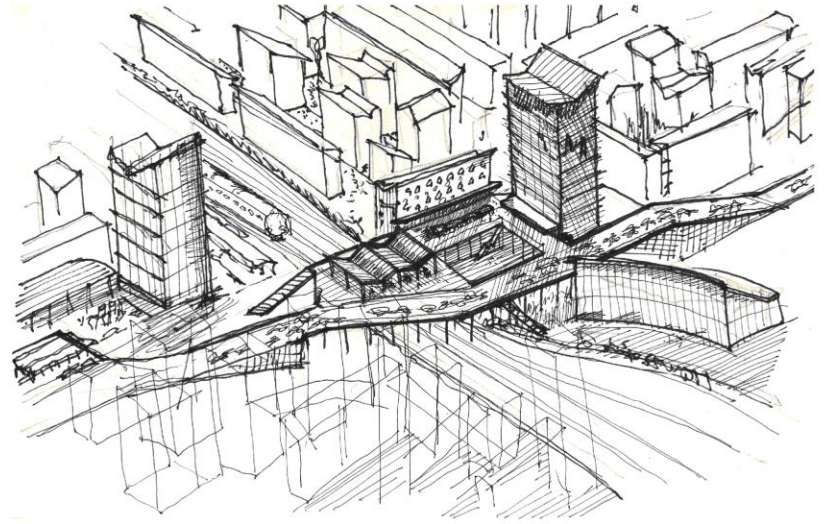
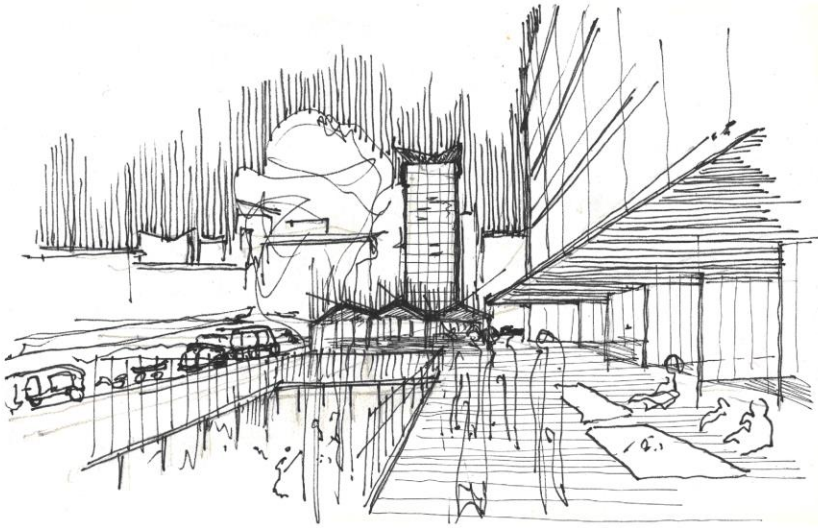
0 20 50 100 200m

The bridge as the urban catalyst



0 20 50 100 200m

The bridge as the urban catalyst

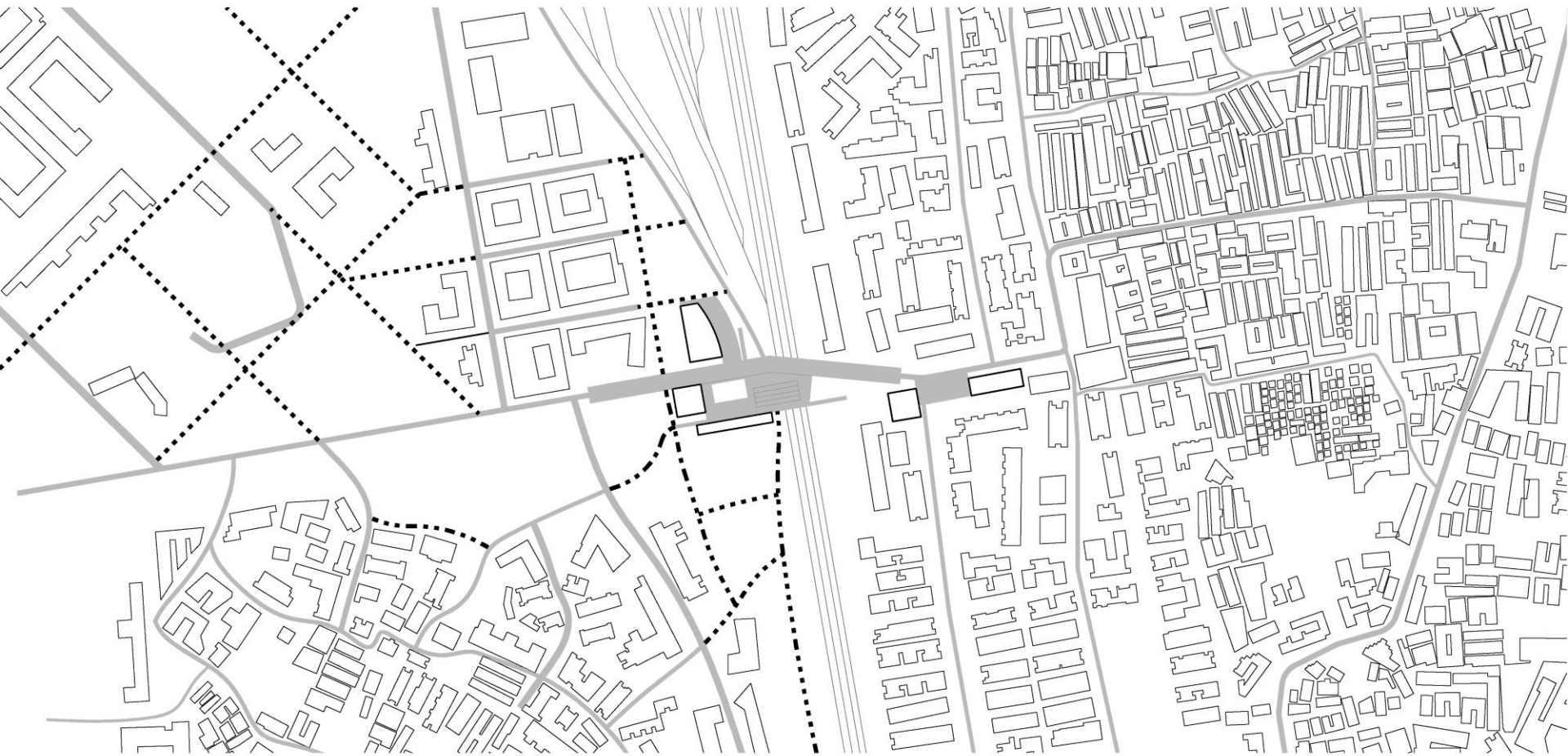


Existing infrastructure



0 20 50 100 200m

Connecting infrastructure in Nalasopara West



0 20 50 100 200m

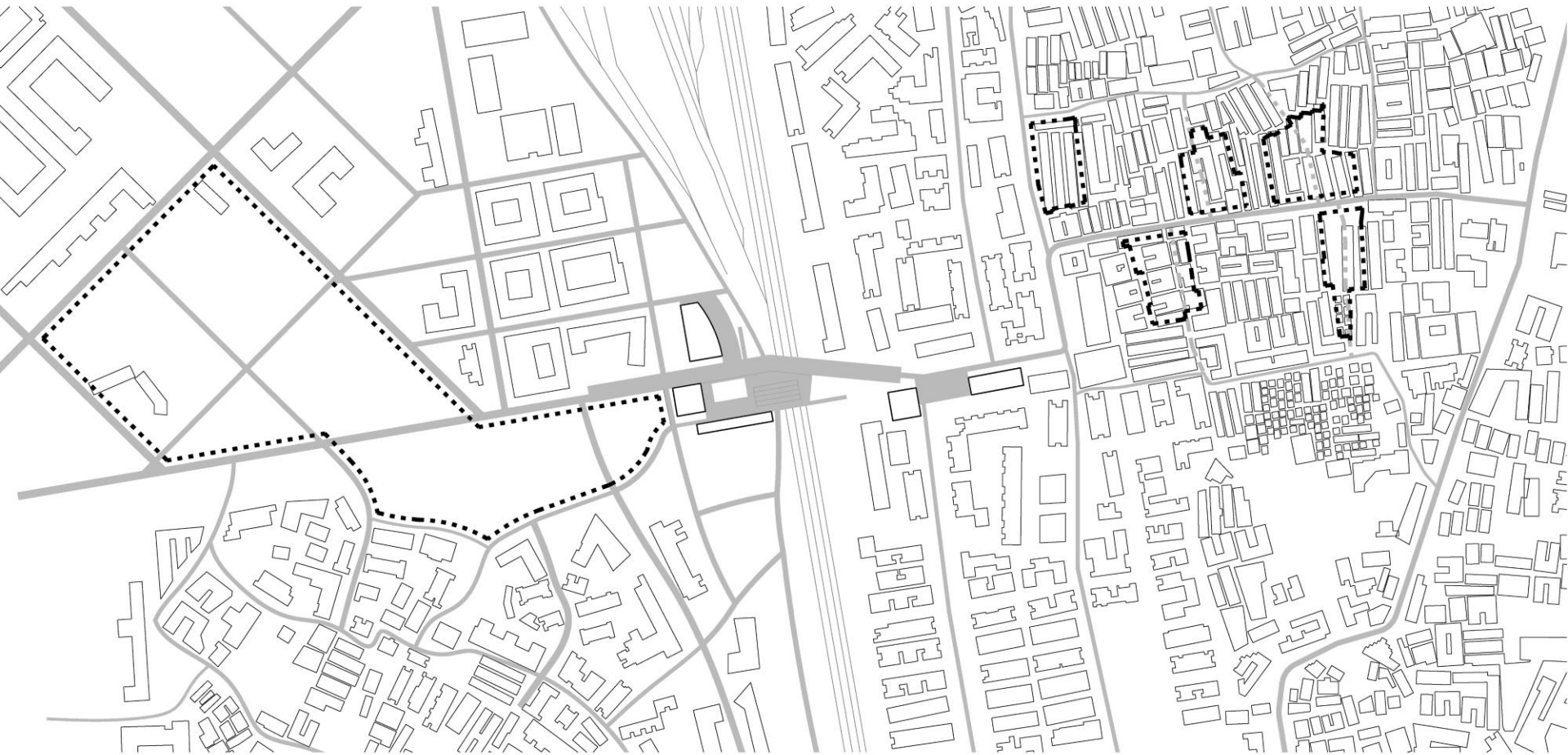
Connecting infrastructure in Nalasopara East

Strategic areas to re-develop



0 20 50 100 200m

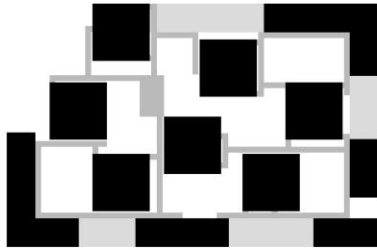
Locations of the housing project



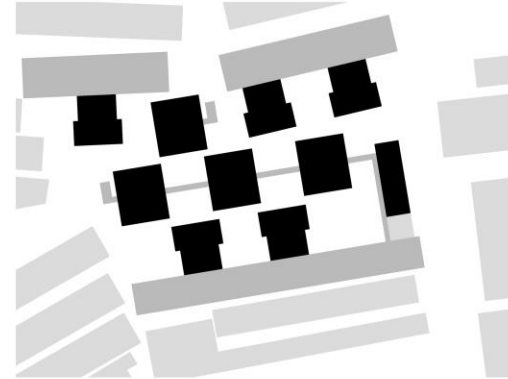
0 20 50 100 200m

System of clustering – First proposal

West: New Frame + Infill



East: Existing Chawls as Frame



- ✓ Porosity towards the public street
- ✓ Direct relation house - courtyard

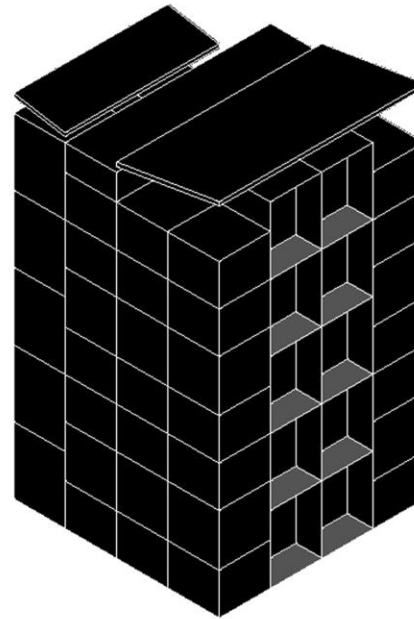


- X Hierarchy of places
- X Privacy and intimacy of courtyards

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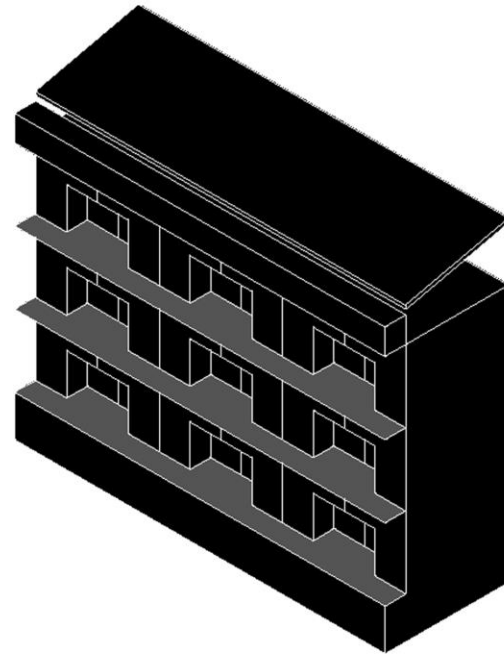
Configuration of the Cluster

The free-standing block and the emphasis on private space



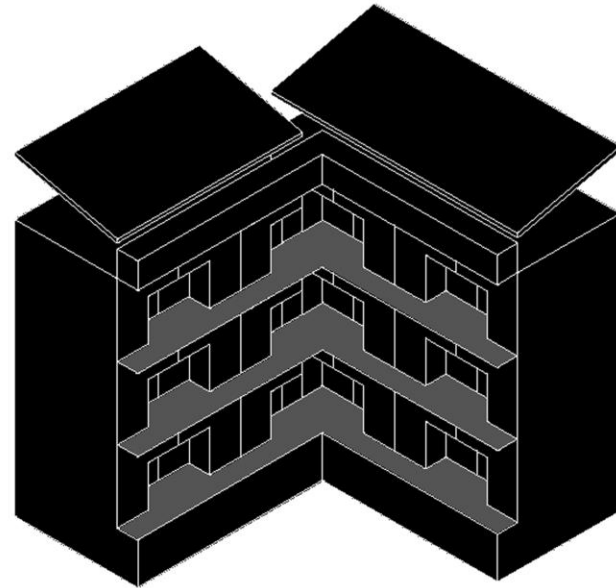
Configuration of the Cluster

The corridor block and the emphasis on collective space



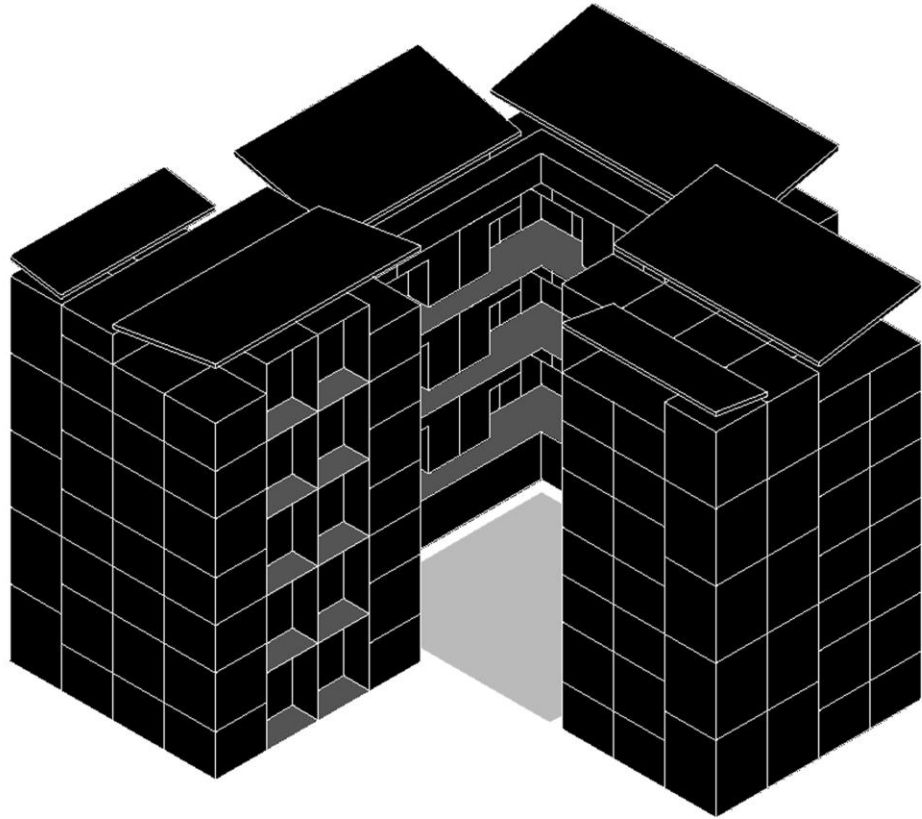
Configuration of the Cluster

The corner and the definition of an 'Inside' and 'Outside'

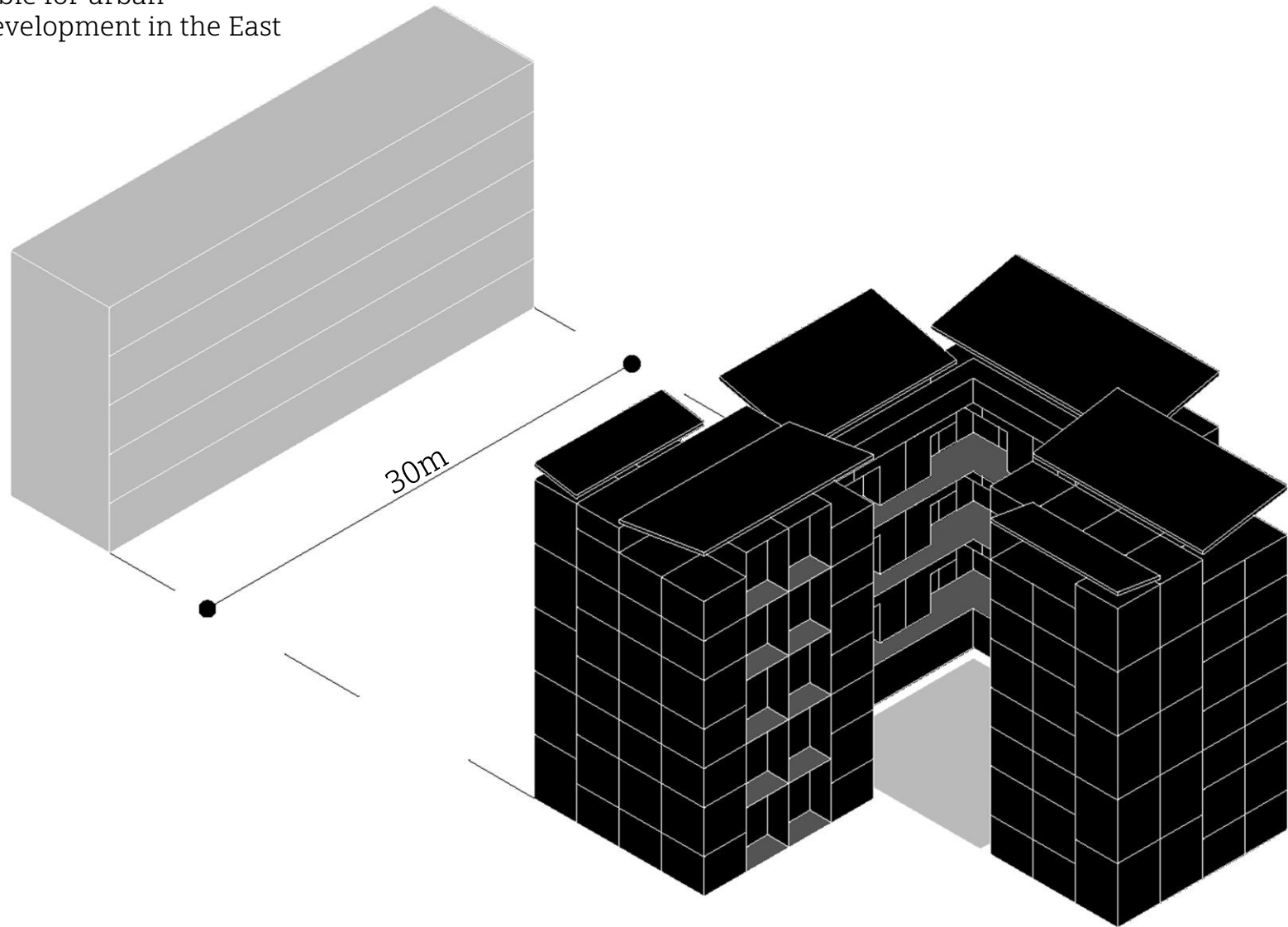


Configuration of the Cluster

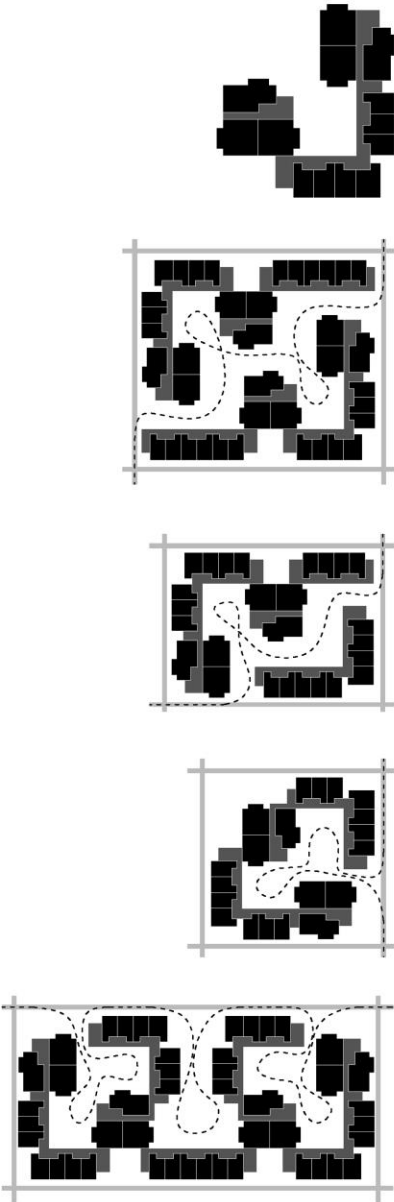
The combination of the typologies and the courtyard for their integration



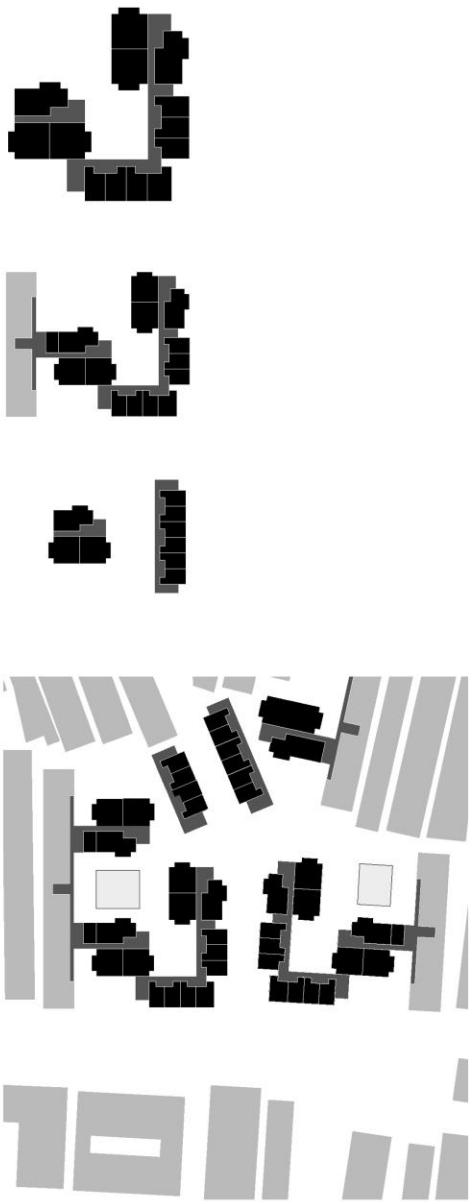
Configuration of the Cluster
Suitable for urban
Re-development in the East

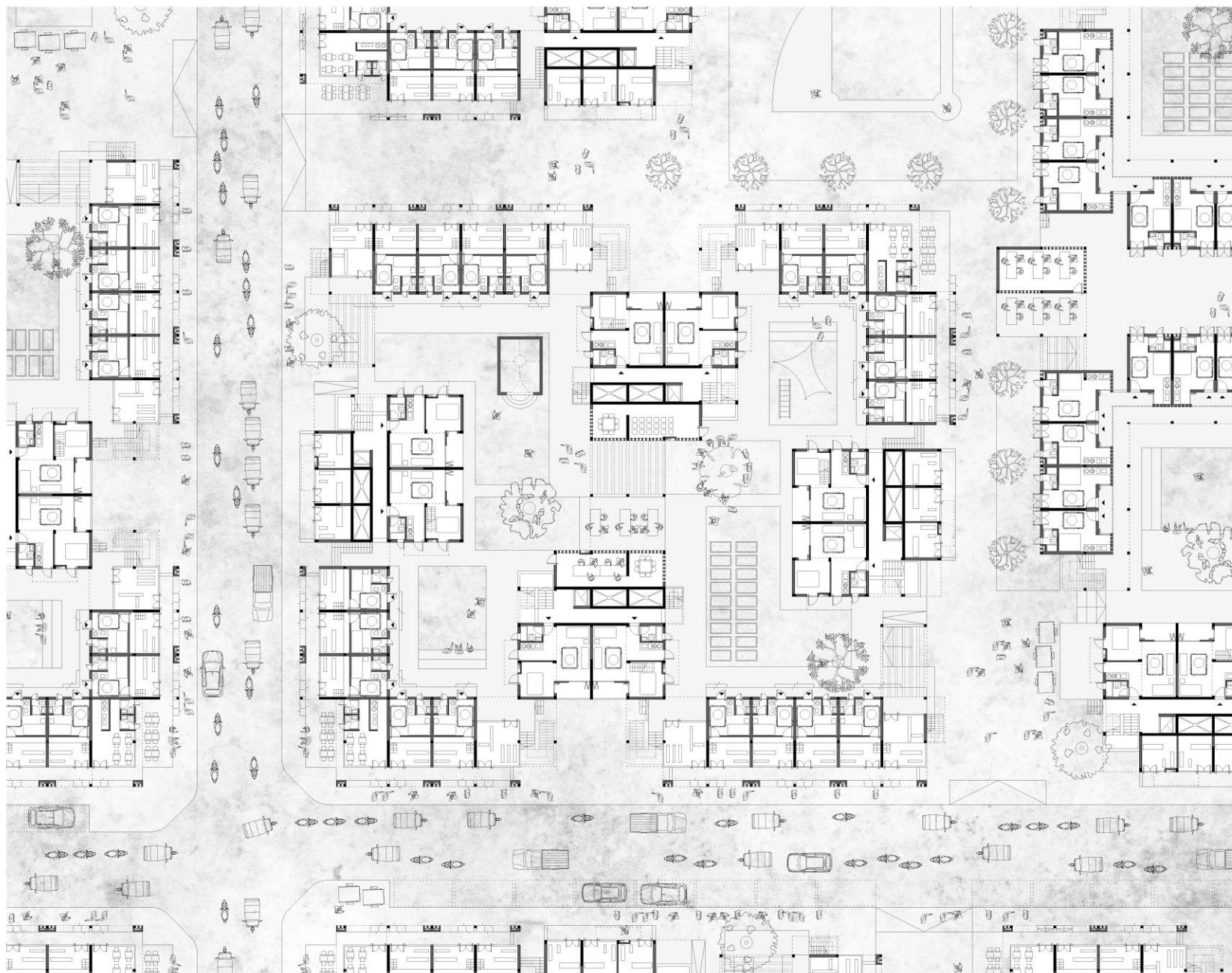


Nalasopara West

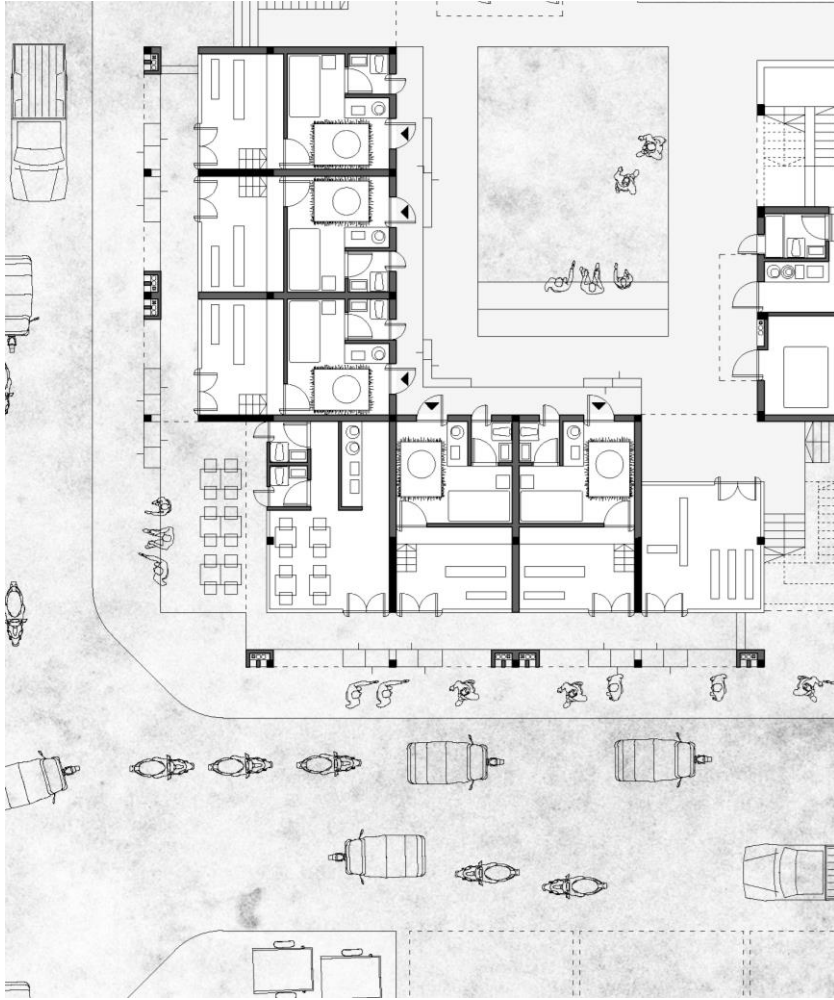


Nalasopara East

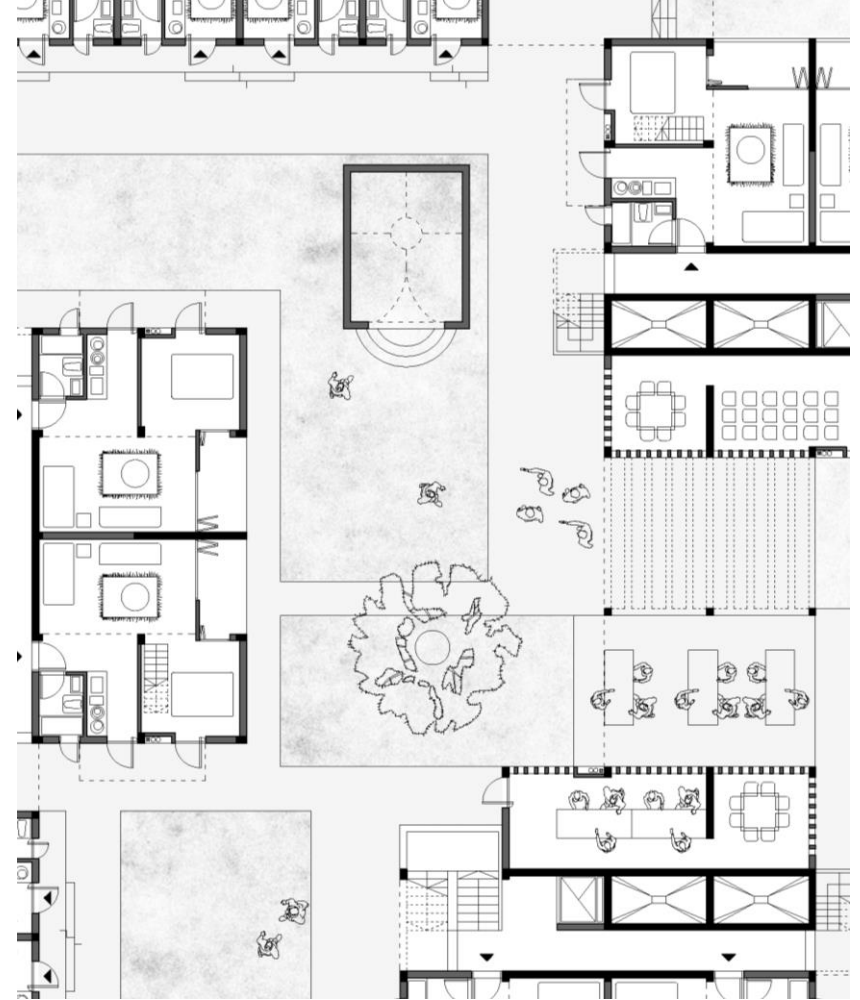




Nalasopara West – Ground Floor Plan

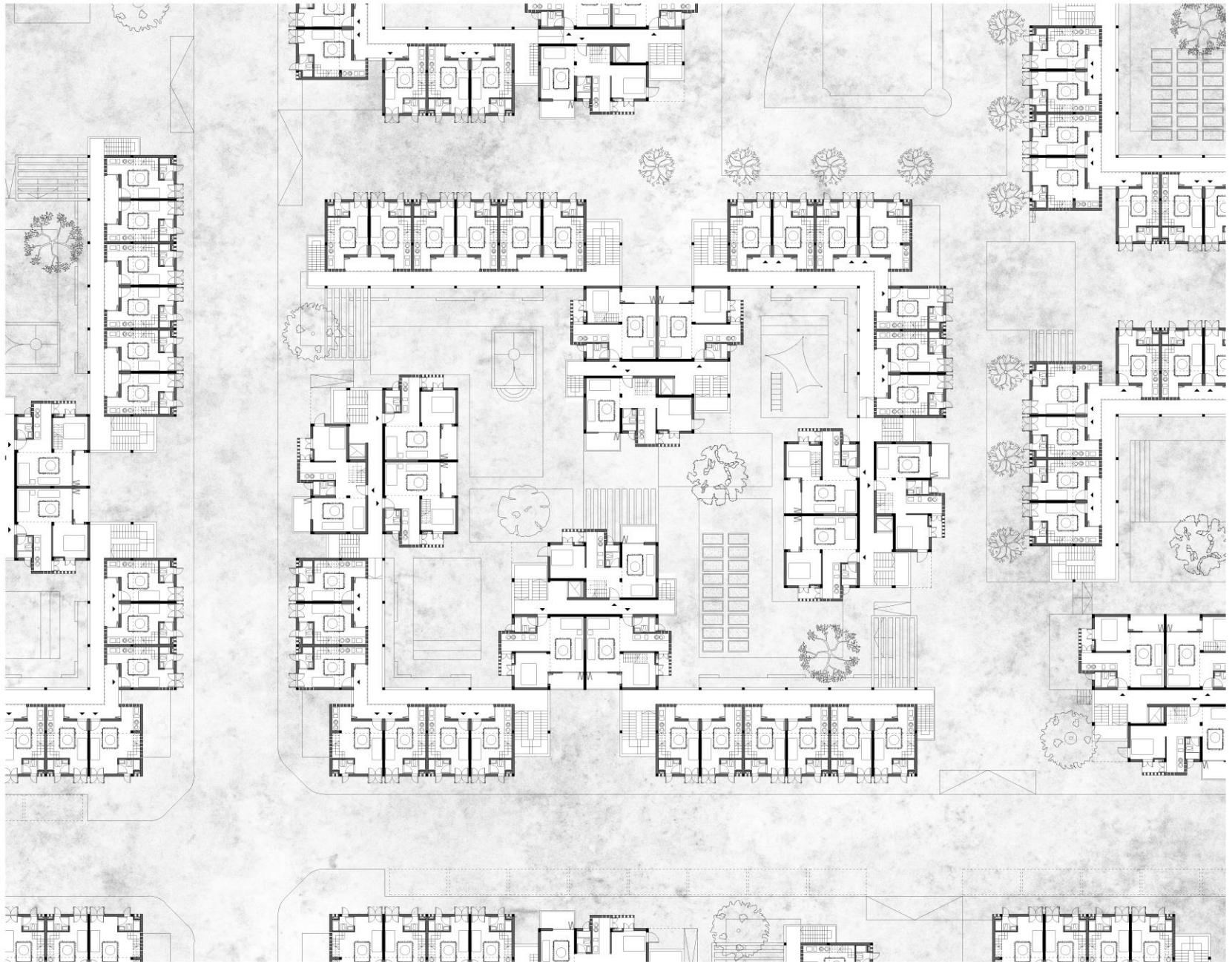


Street corner

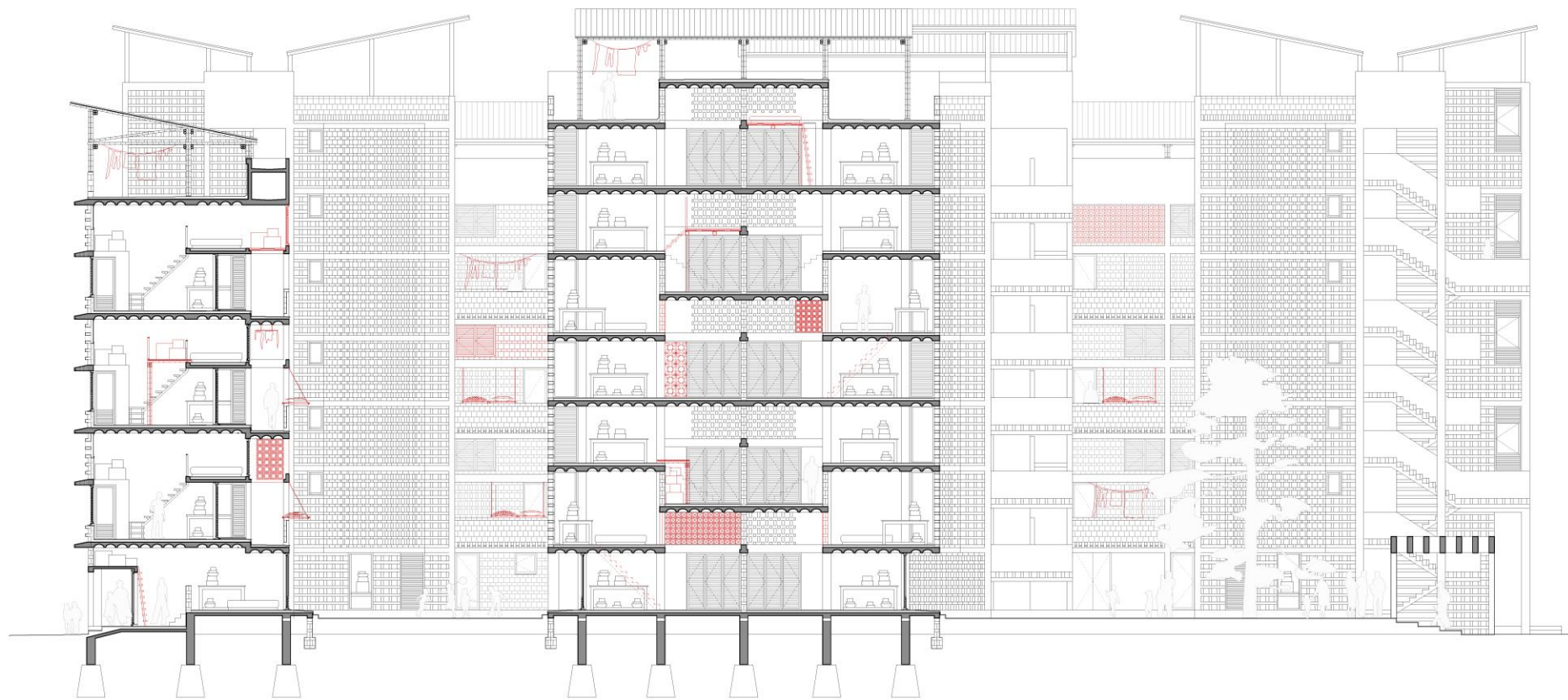


Core of the communal space





Nalasopara West – Third Floor Plan



Nalasopara West – Longitudinal Section



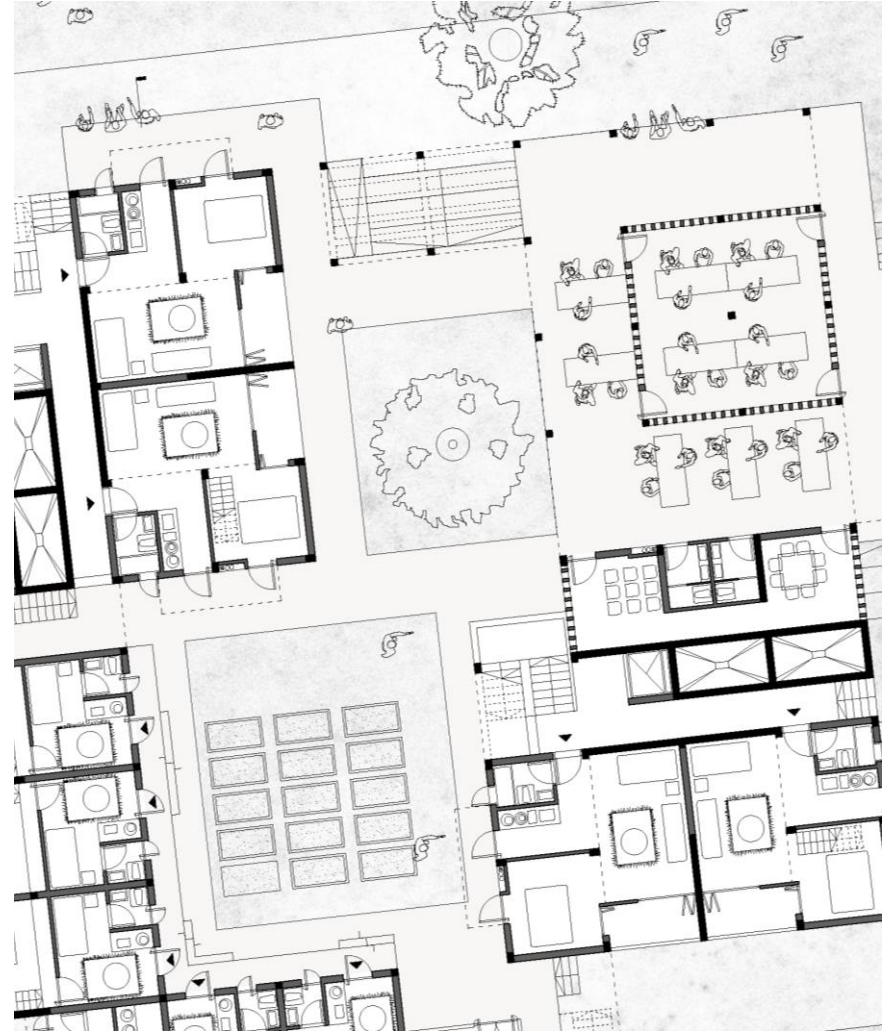
Nalasopara West – Longitudinal Section



Nalasopara East – Ground Floor Plan



Threshold to the community

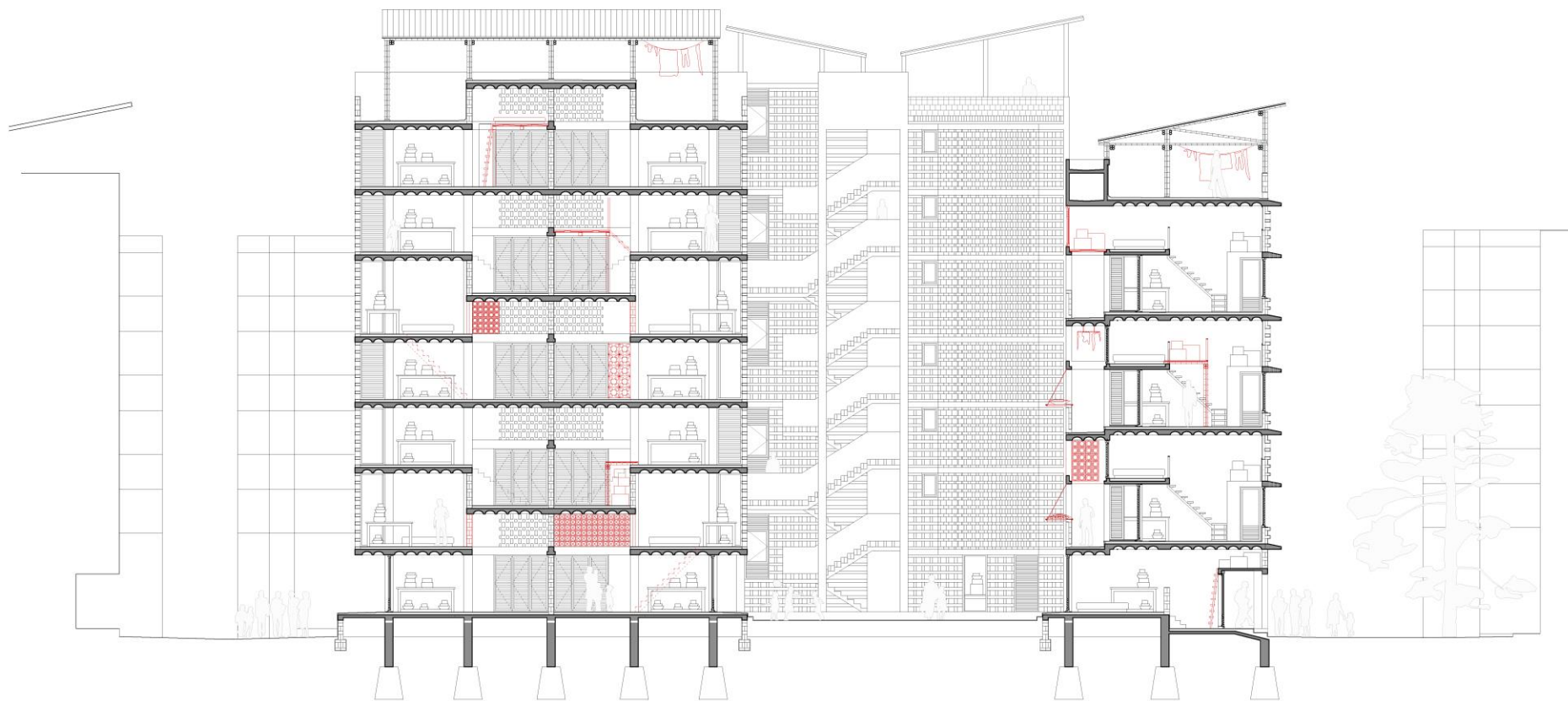


Sequence of courtyards

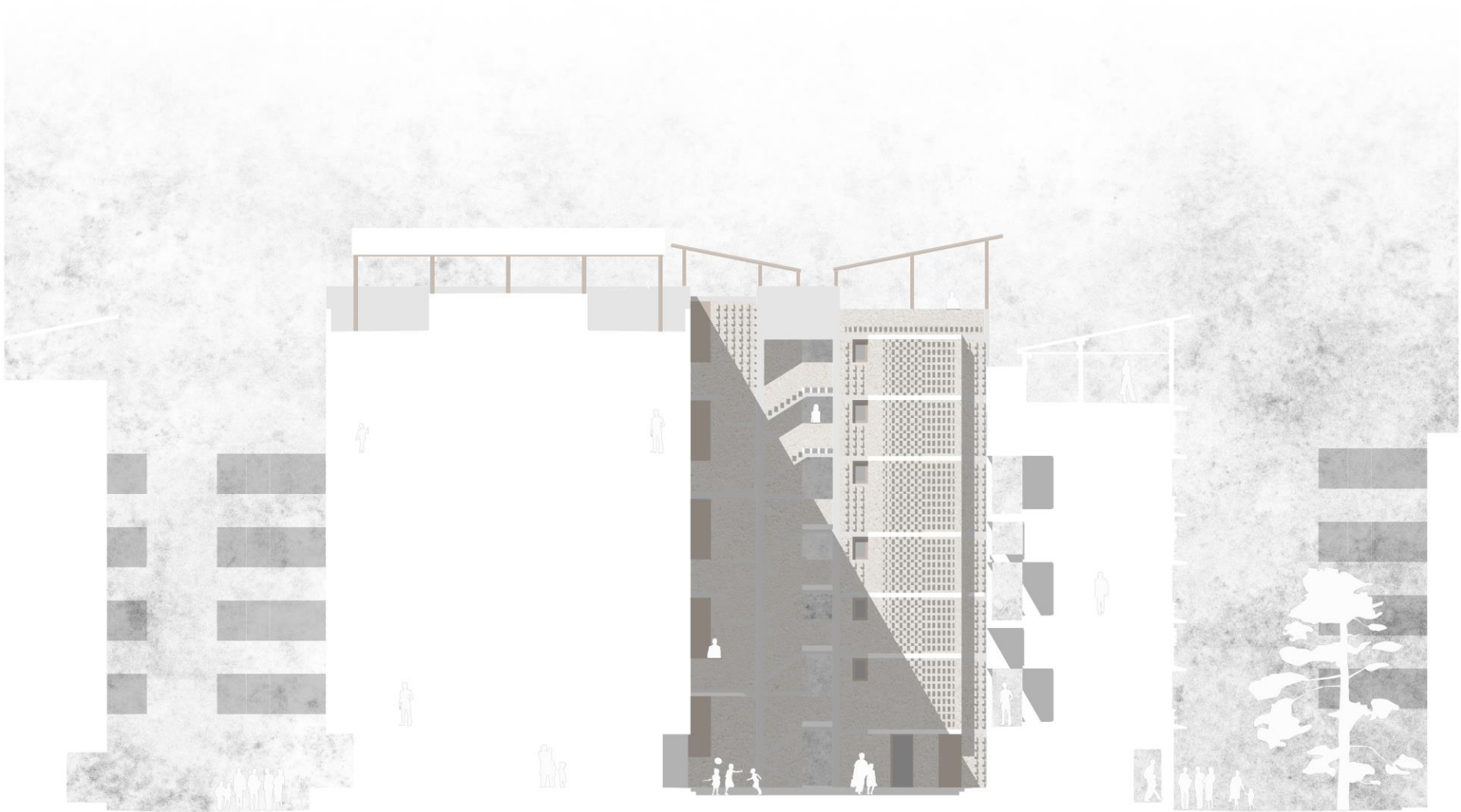




Nalasopara East – Third Floor Plan



Nalasopara East – Cross Section





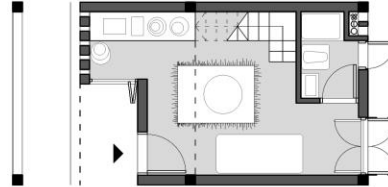
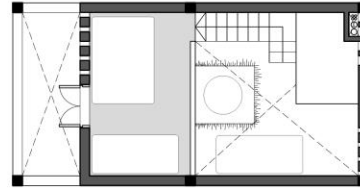


Open Cluster



Dwelling Types

Type A
28m²

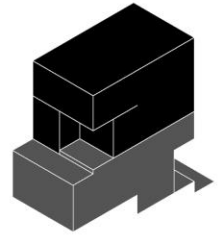


Type B
Working +
Bedroom
19m²



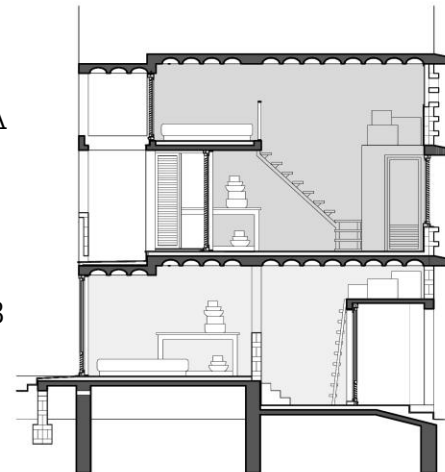
A

B

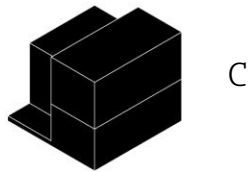


A

B

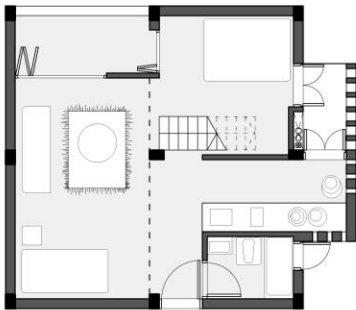
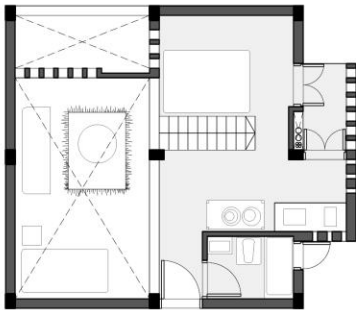
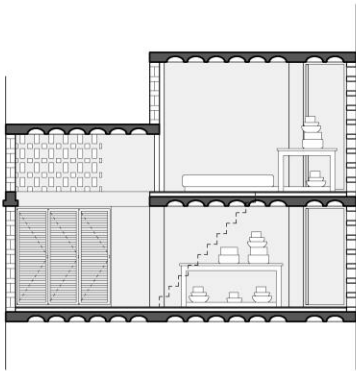


Dwelling Types

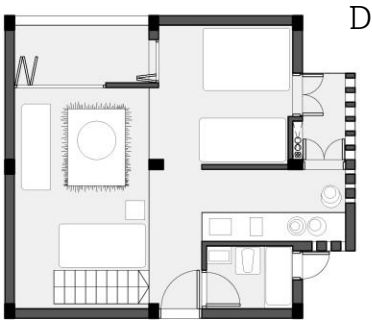


C

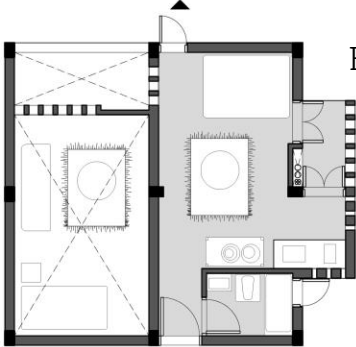
Type C
House + Rent
54m²



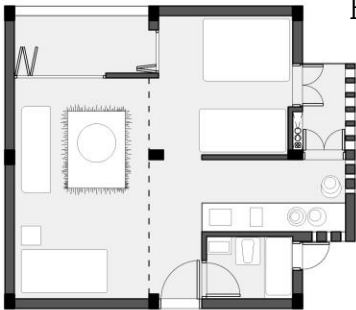
3,00 3,00



D



E

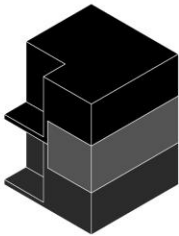


F

3,00 3,00

3,00 3,00

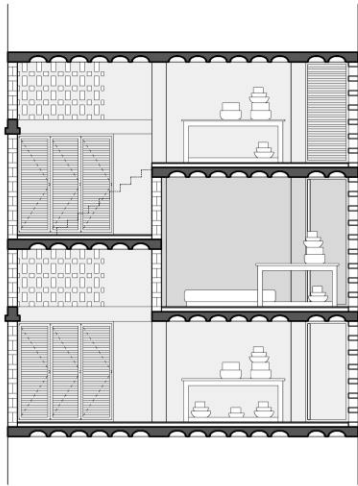
D
E
F



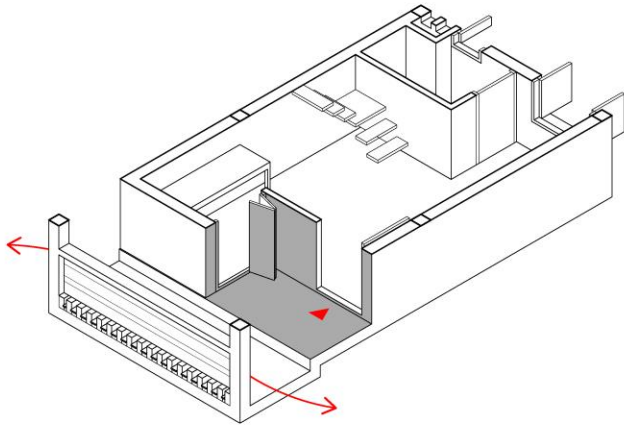
Type D
36m²

Type E
18m²

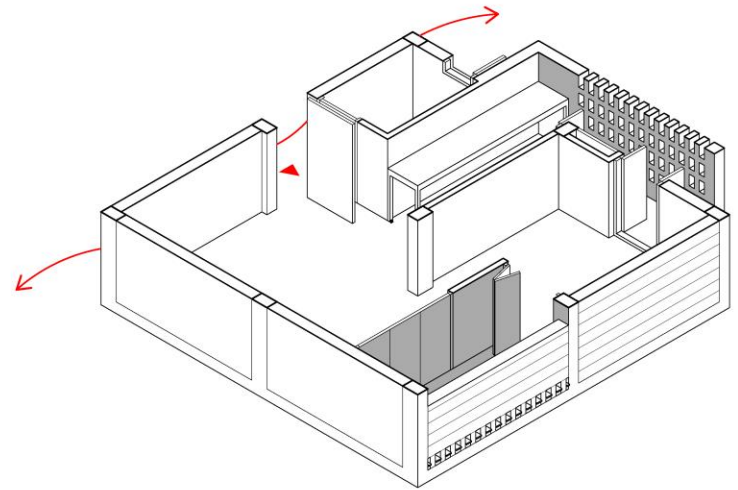
Type F
36m²



Variations in the Dwelling Types Access and Outdoor Spaces



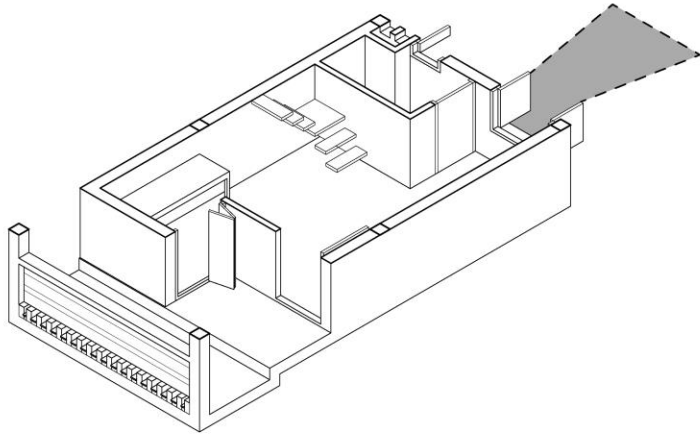
Outdoor space connected to the
collective space



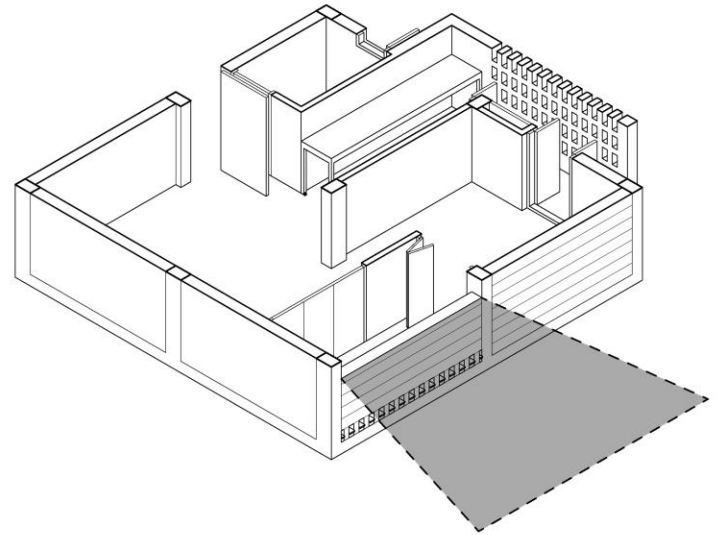
Private outdoor spaces

Variations in the Dwelling Types

Expansion of Visuals

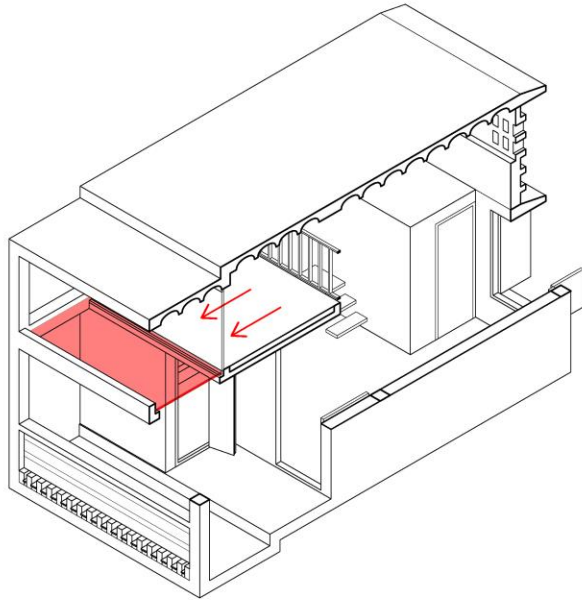


Visual range of 7-9 meters
between buildings

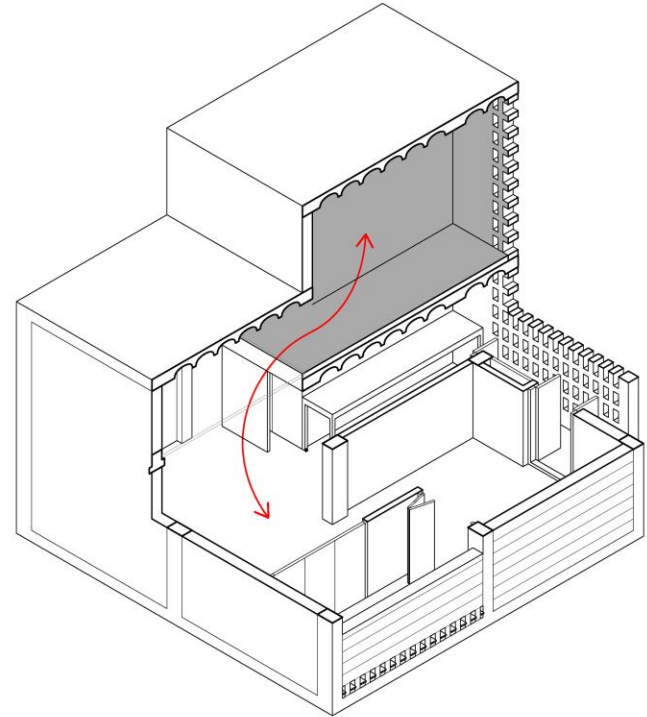


Visual range of 10-18 meters
between buildings

Variations in the Dwelling Types Appropriation

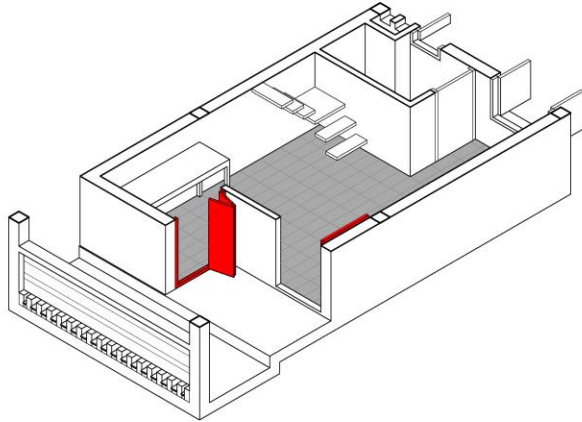


Encroachment over the collective
corridor and the inside of the
dwelling

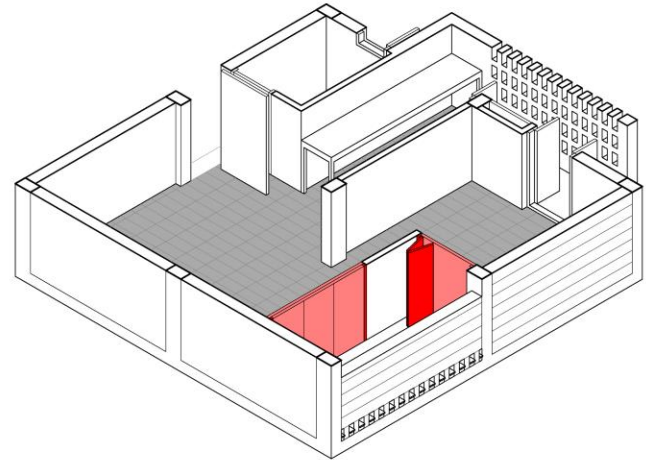


The middle units can be annexed to
the lower ones for rental or house
expansion

Variations in the Dwelling Types Materials

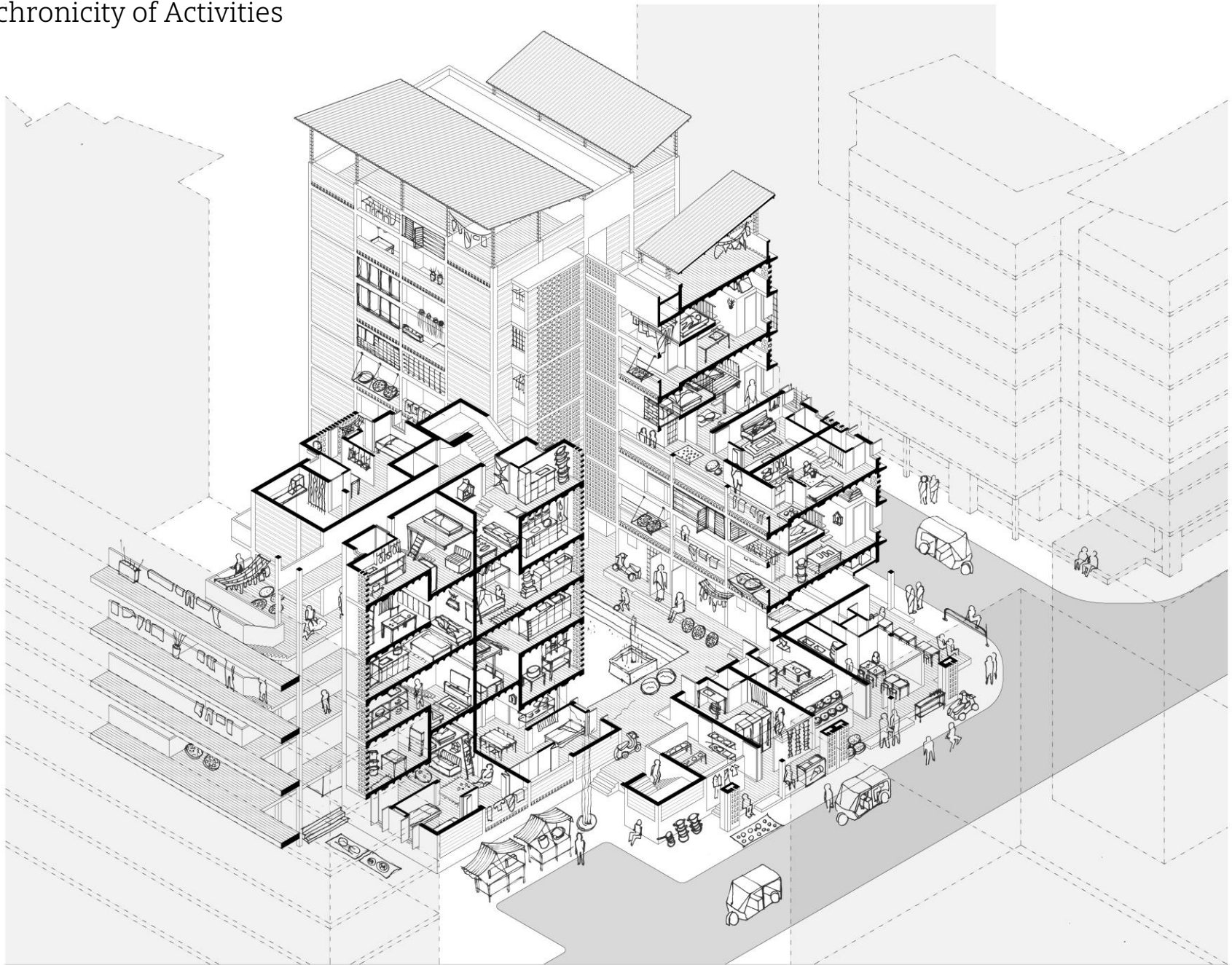


Affordable floor ceramic tiling and
only wooden louvres in the protected
openings

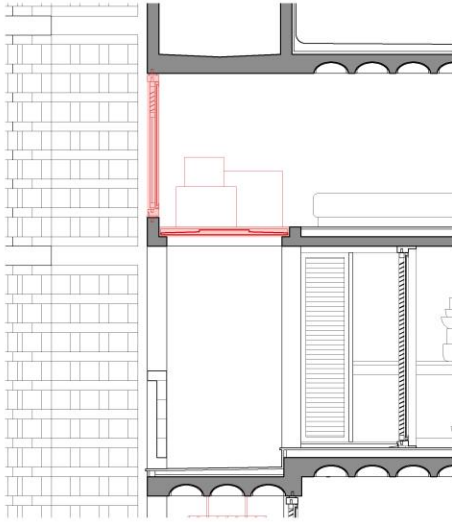


Higher quality floor ceramic tiling
and glass + louvres in all the
openings

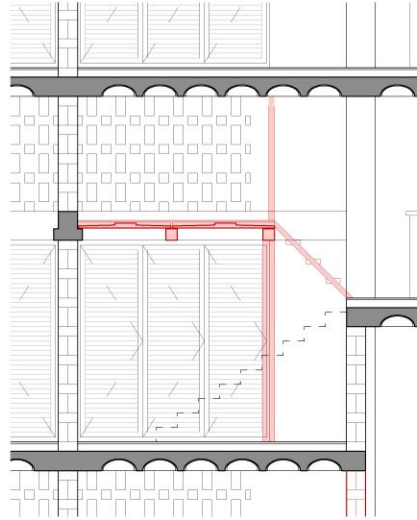
Synchronicity of Activities



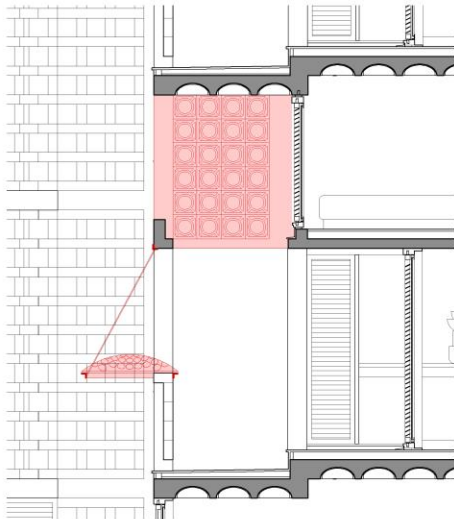
Structural scheme and possible adaptations



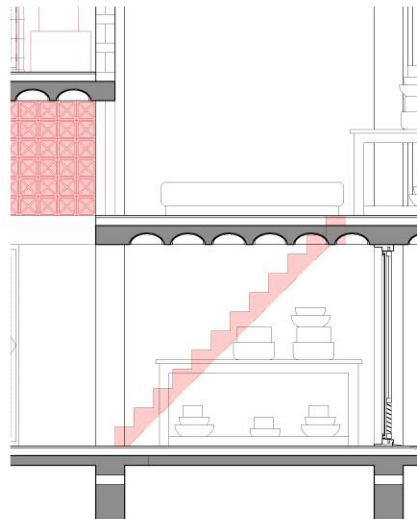
Encroachment over corridor



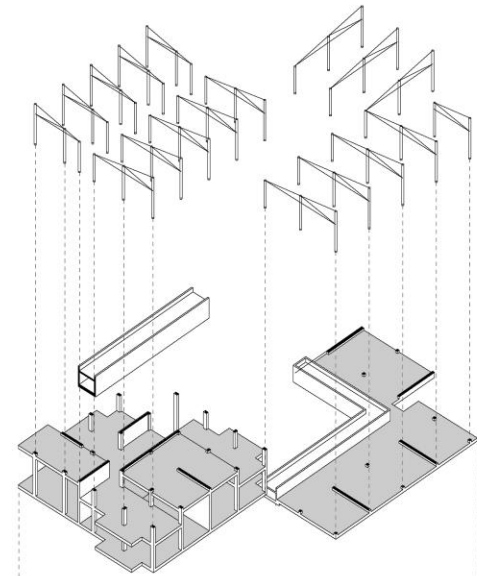
Storage in the 1 1/2 height



Hanging of platforms

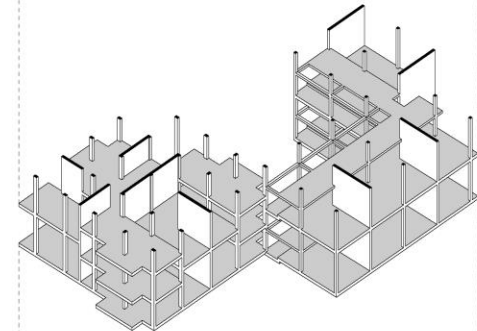


Combination of units in section



Bamboo
Roofing

Concrete
Gutters +
Tanks



3,00*3,00
3,60*3,60
In Situ
Concrete
Grid

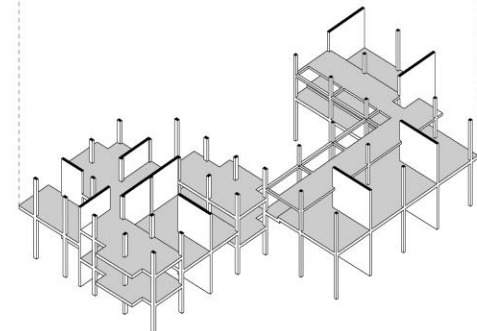


Image of the Cluster – After Construction



Image of the Cluster – Modifications and Appropriations



Image of the building

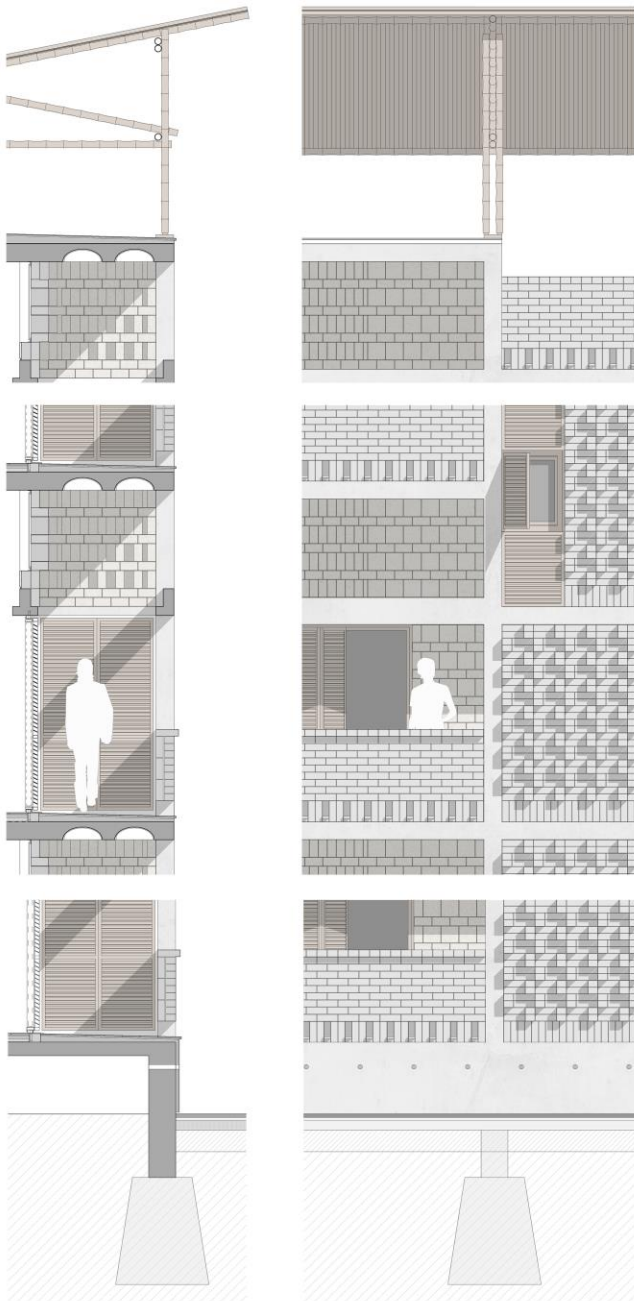
Free-
Standing
Block

West
Facade

Roofing

Typical
Sector

Foundation



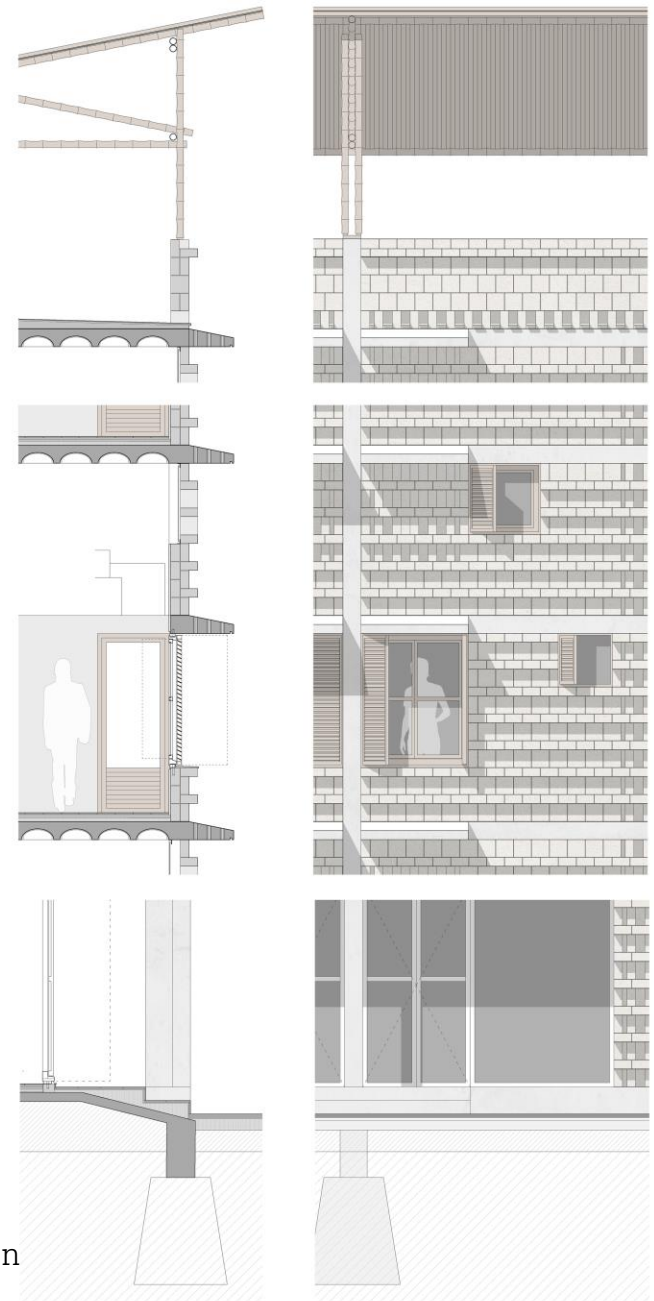
Corridor
Block

South
Facade

Roofing

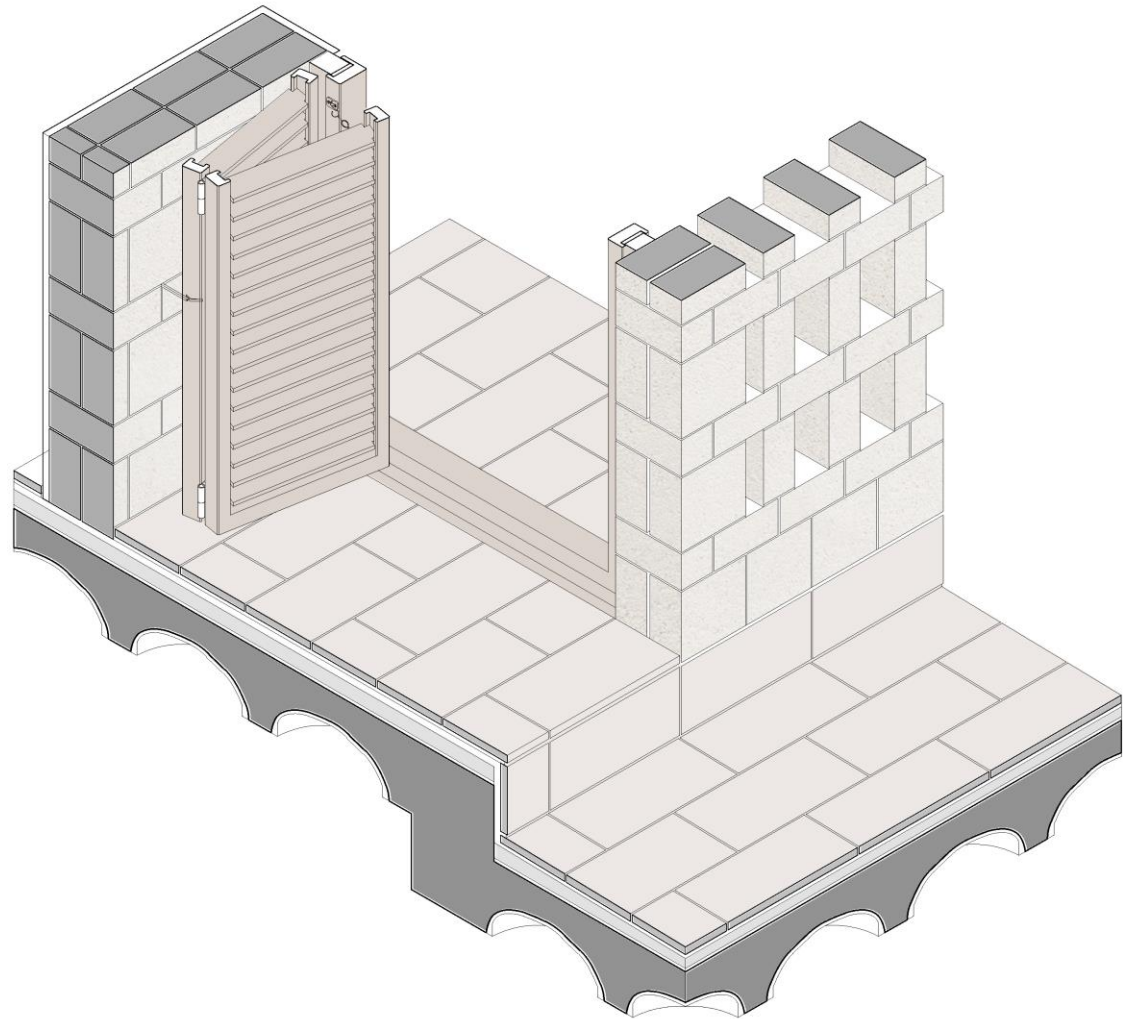
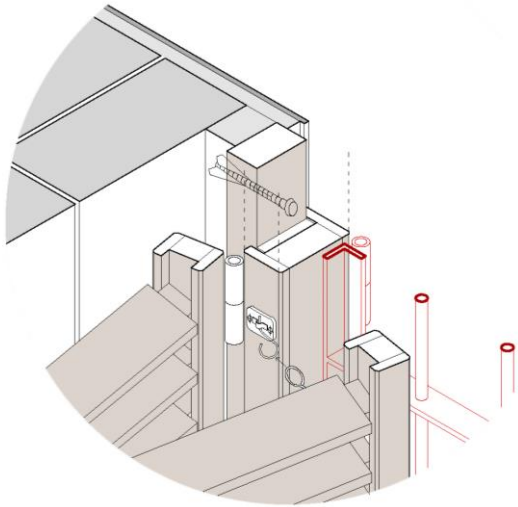
Typical
Sector

Foundation

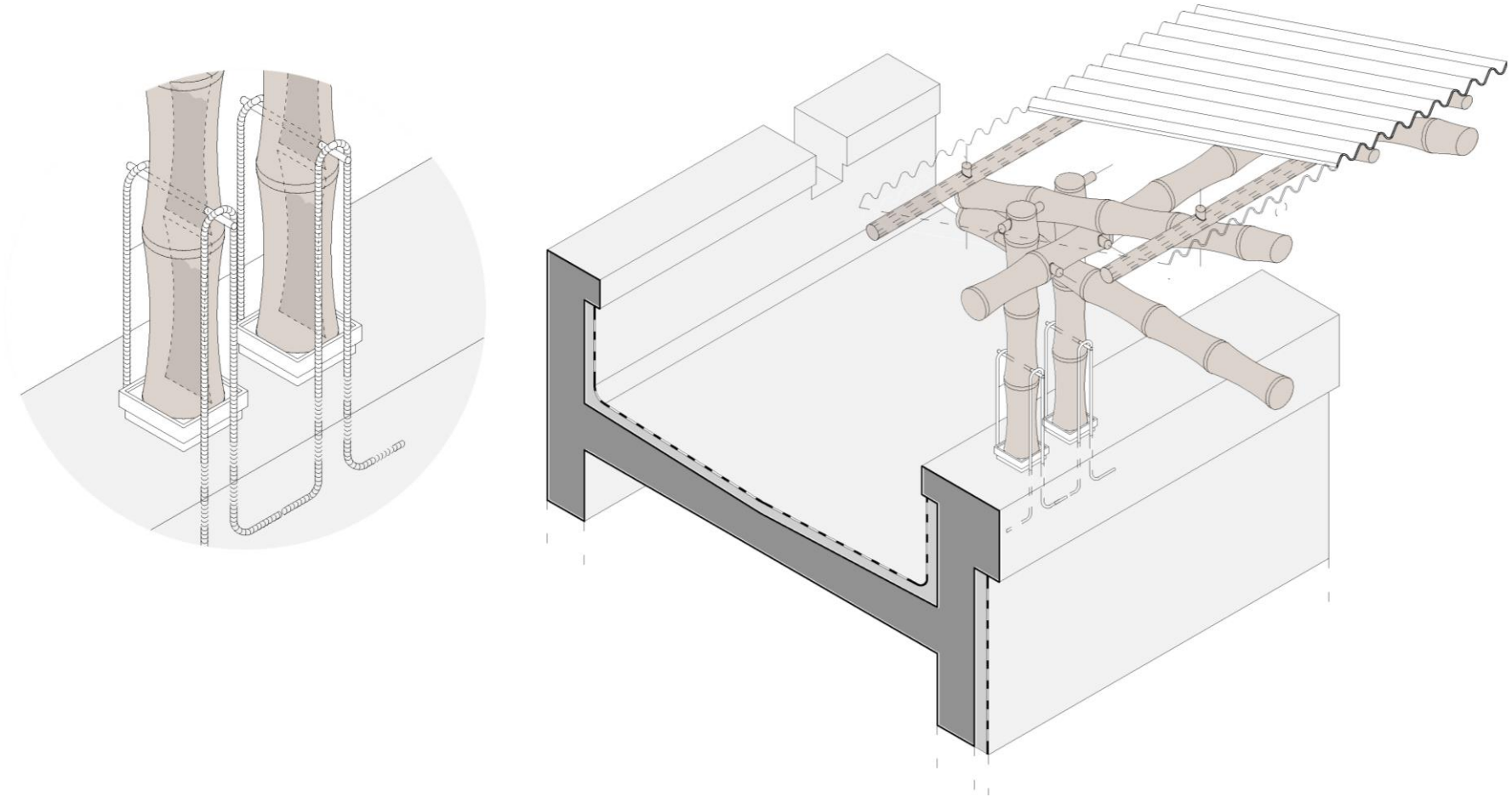


Detail: the threshold

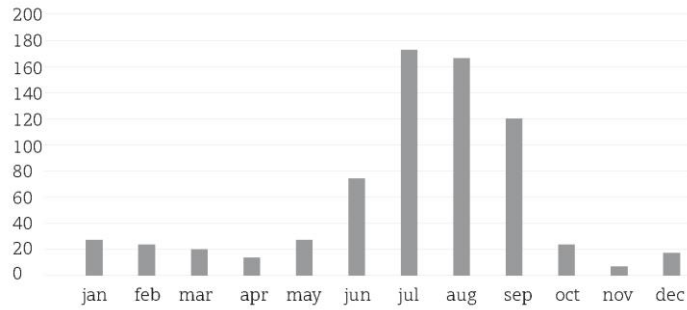
Openings and possibility for modification



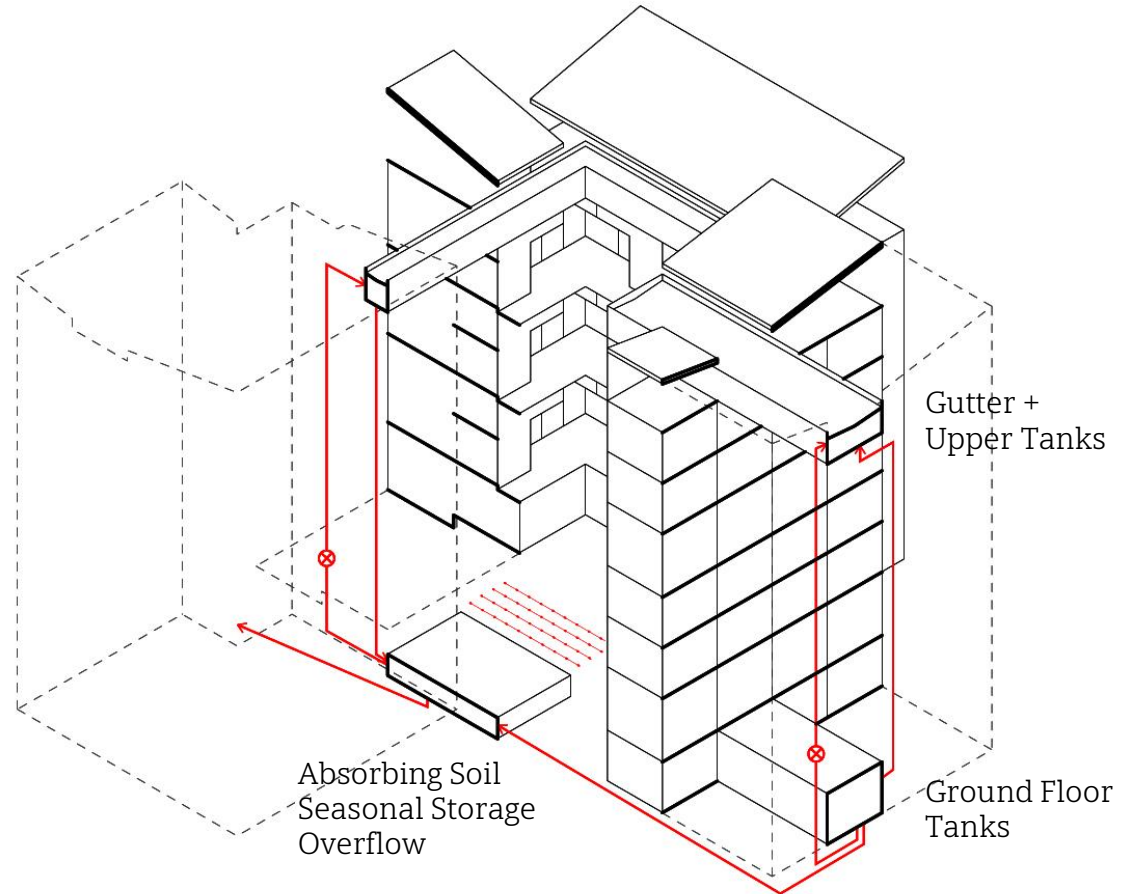
Detail: the joint concrete – bamboo
Structural transition at the roofing



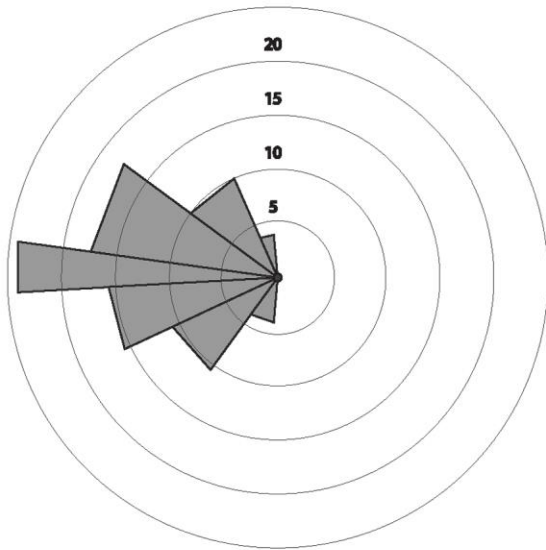
Water Strategy



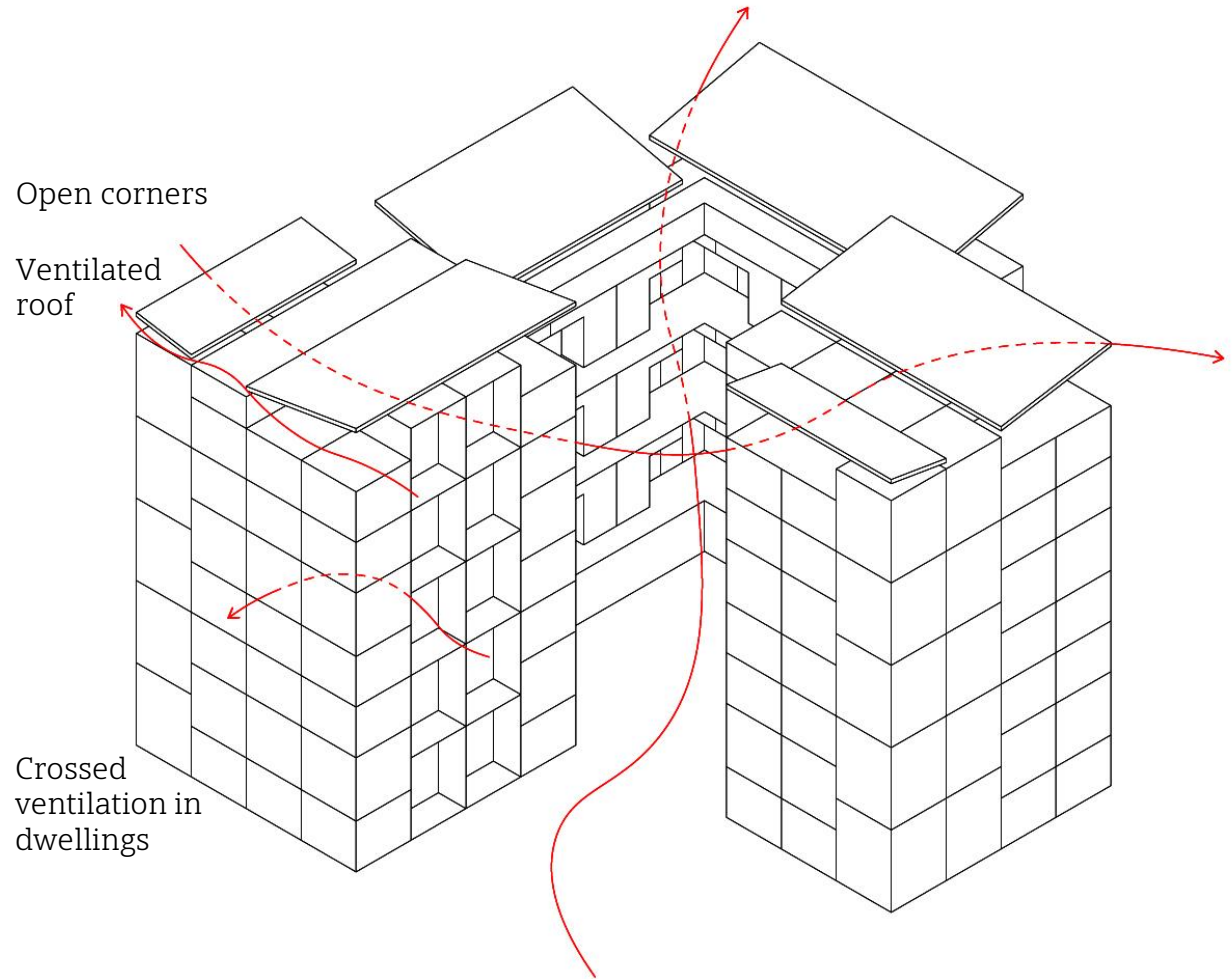
Yearly precipitations in Mumbai



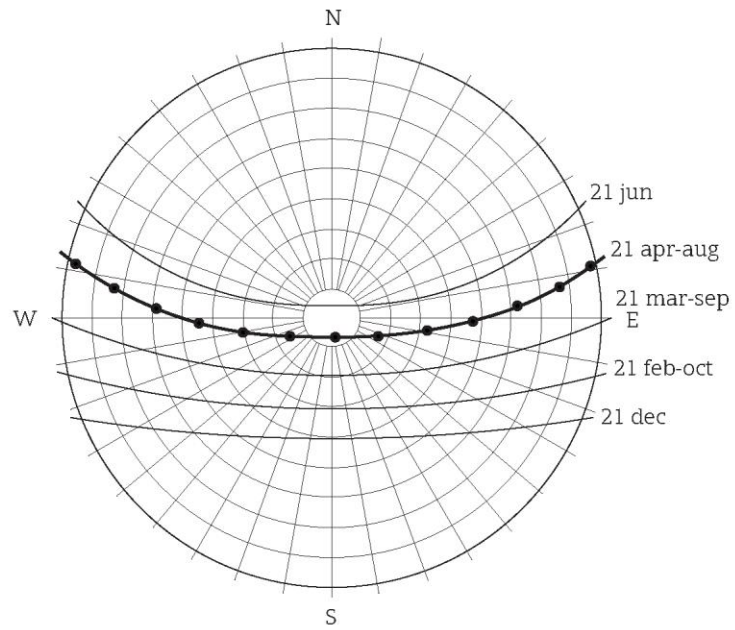
Wind and Ventilation Strategy



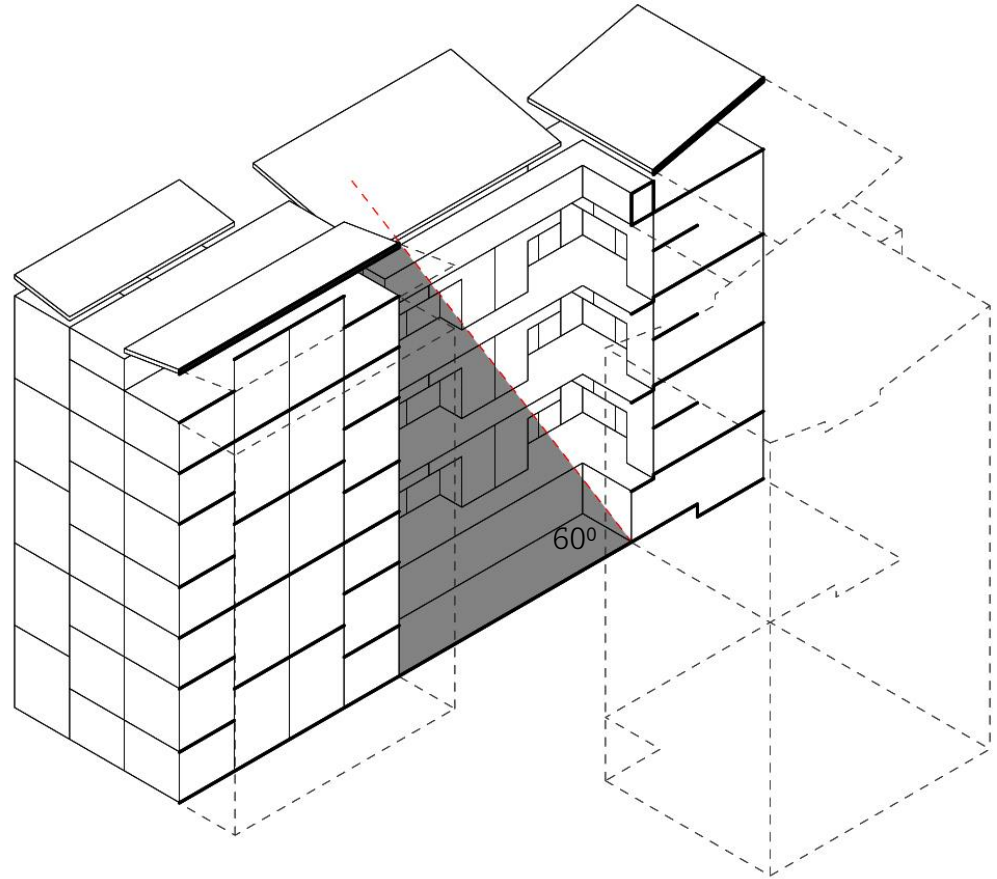
Windrose Mumbai



Sunlight Strategy

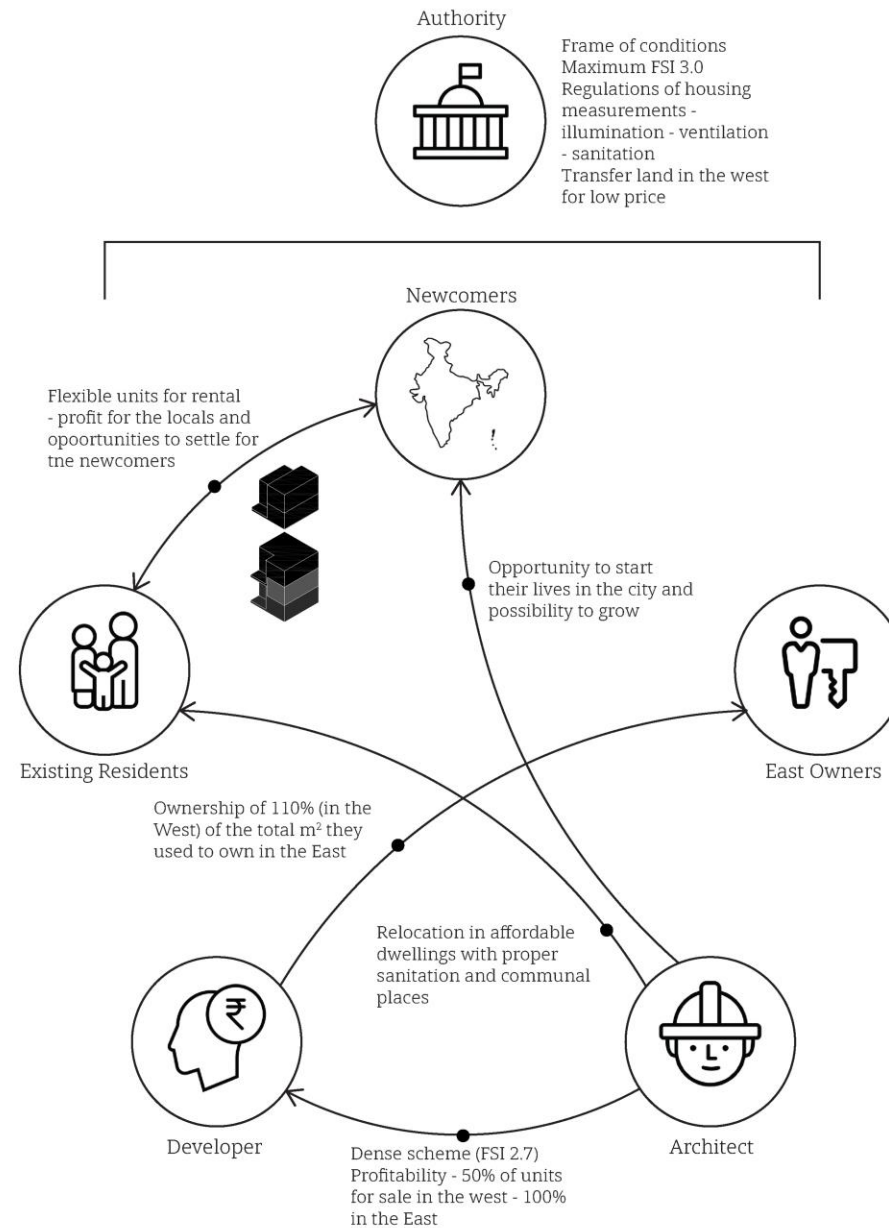


Solar Diagram Mumbai



background
problem statement
research question
research framework
design hypothesis
design proposal
development
relevance

Stakeholders Involved



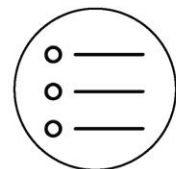
Cost Calculation – Profitability and Affordability



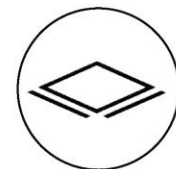
Land Price
15.000 ₹ / m² *



Construction
16.000 ₹ / m² **
(+10% demolition)



Charges
7.698 ₹ / m² **



Market Price
60.000 ₹ / m² ****



Dwellings for Sale
2.760 m²



Relocation
1.280 m²

Total Costs
1.190 Lakh ₹
37% Profit Margin

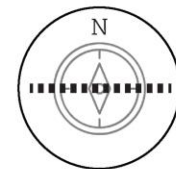
Total Earnings
1.632 Lakh ₹



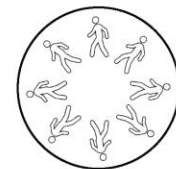
Current Stage:
32% of new dwellings
for relocation
37% profit)



Replicability:
20% to 60% of
new dwellings for
relocation
(20% to 50% profit)

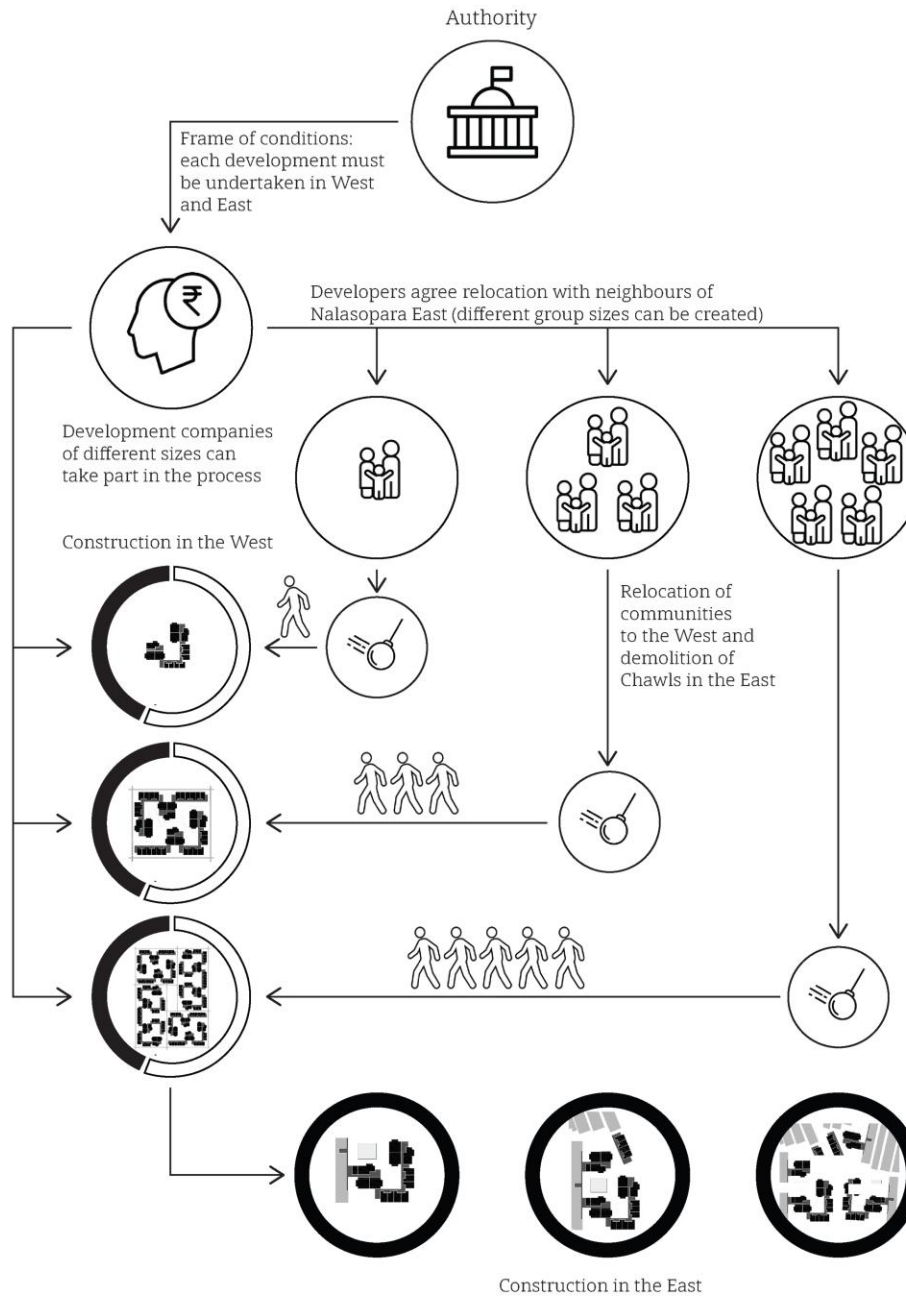


West - East integration
by public amenities,
infrastructure and
architectural image

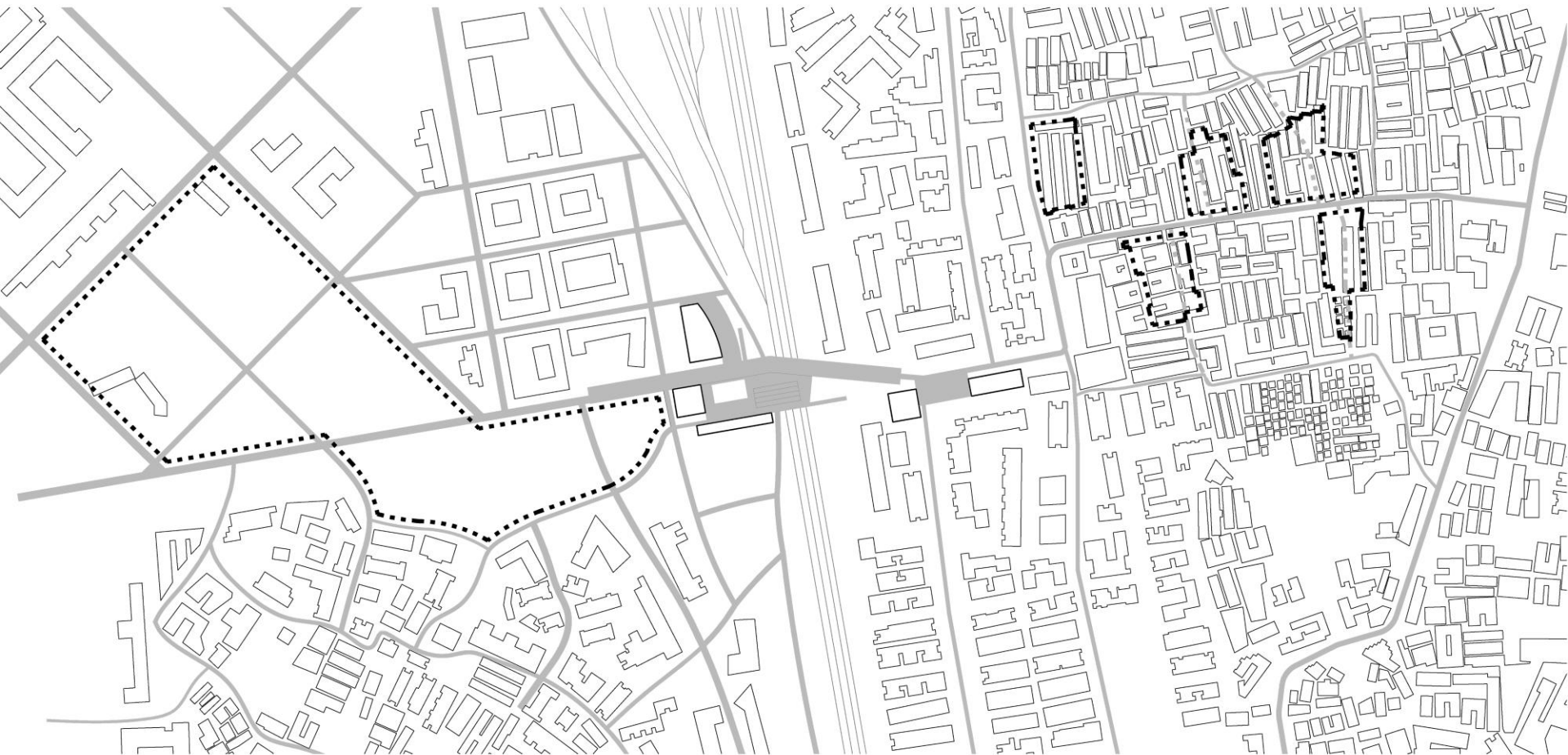


Relocation of
dwellers within the
neighbourhood

Policy and Development



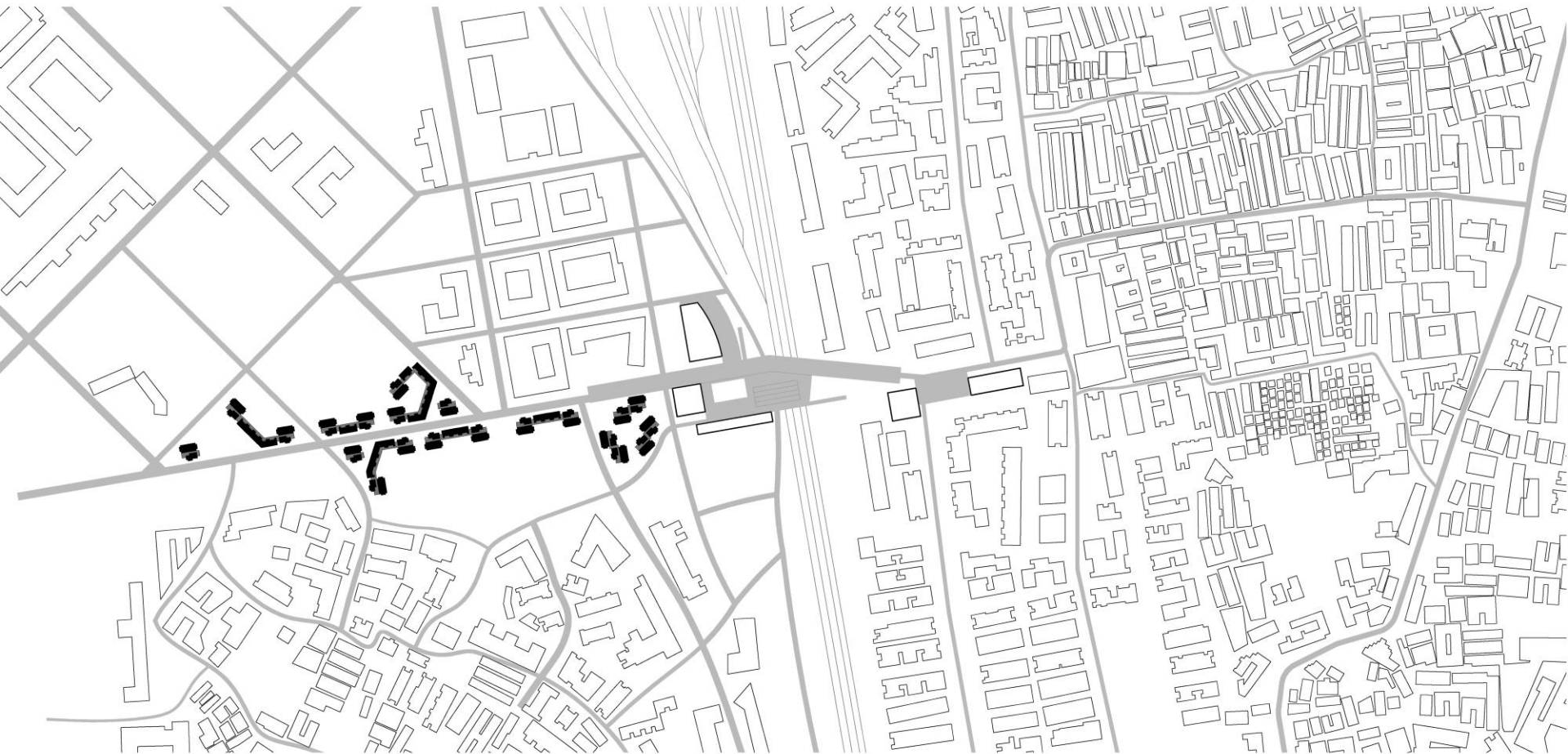
Areas of Intervention



0 20 50 100 200m

Development: First Operation

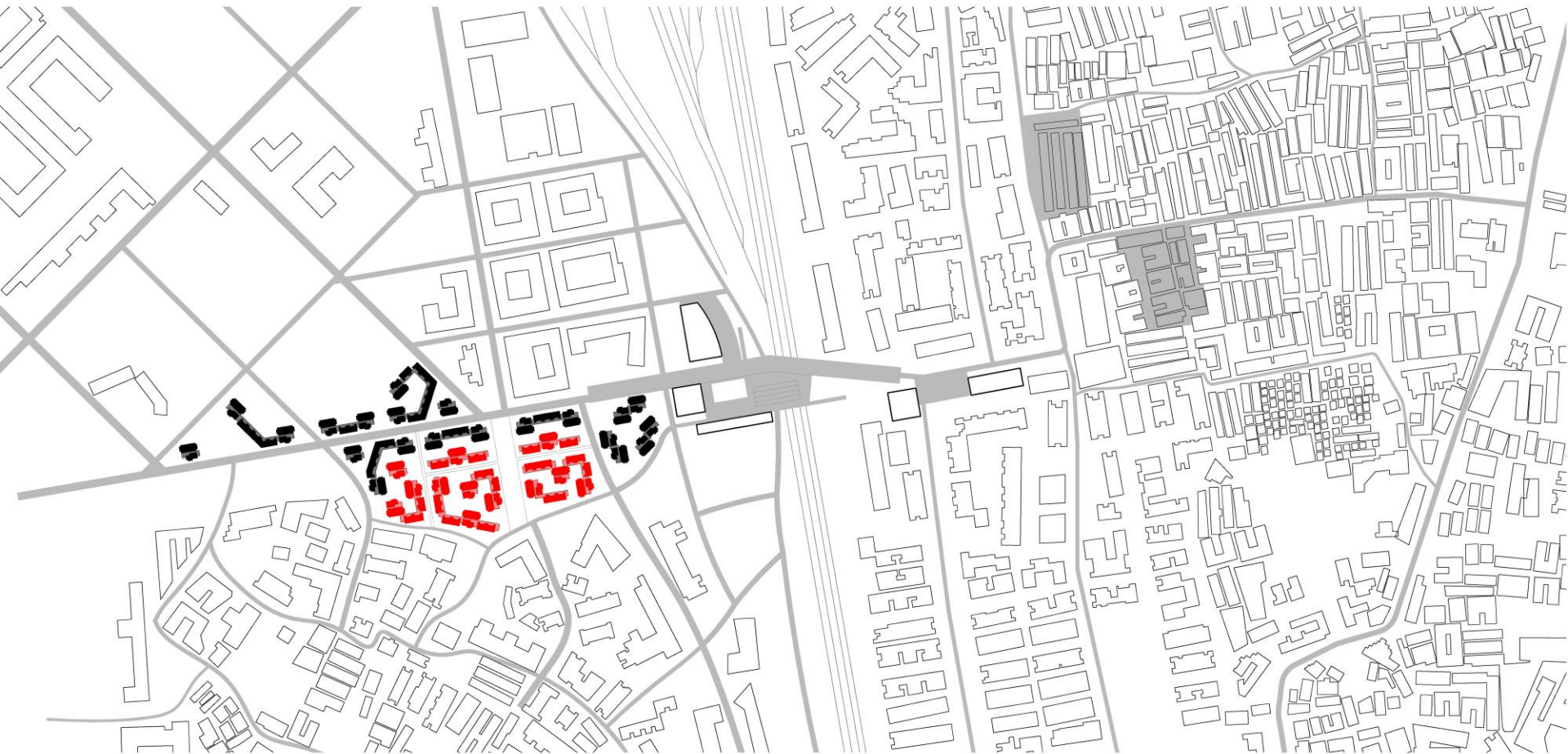
Consolidation of the main road as connecting and commercial axis
West: up to 620 new dwellings



0 20 50 100 200m

Development: Possible Large-Scale Operation

West: up to 836 new dwellings / East: 420 dwellings demolished – Up to 260 new dwellings
50% of new west development destined for relocation



0 20 50 100 200m

Development: Possible Large-Scale Operation

West: up to 836 new dwellings / East: 420 dwellings demolished – Up to 260 new dwellings
50% of new west development destined for relocation



0 20 50 100 200m

Development: Possible Small-Scale Operation

West: up to 250 new dwellings / East: 112 dwellings demolished – Up to 80 new dwellings
44% of new west development destined for relocation



0 20 50 100 200m

Development: Possible Small-Scale Operation

West: up to 250 new dwellings / East: 112 dwellings demolished – Up to 80 new dwellings
44% of new west development destined for relocation



0 20 50 100 200m

Development: Possible Operations



0 20 50 100 200m

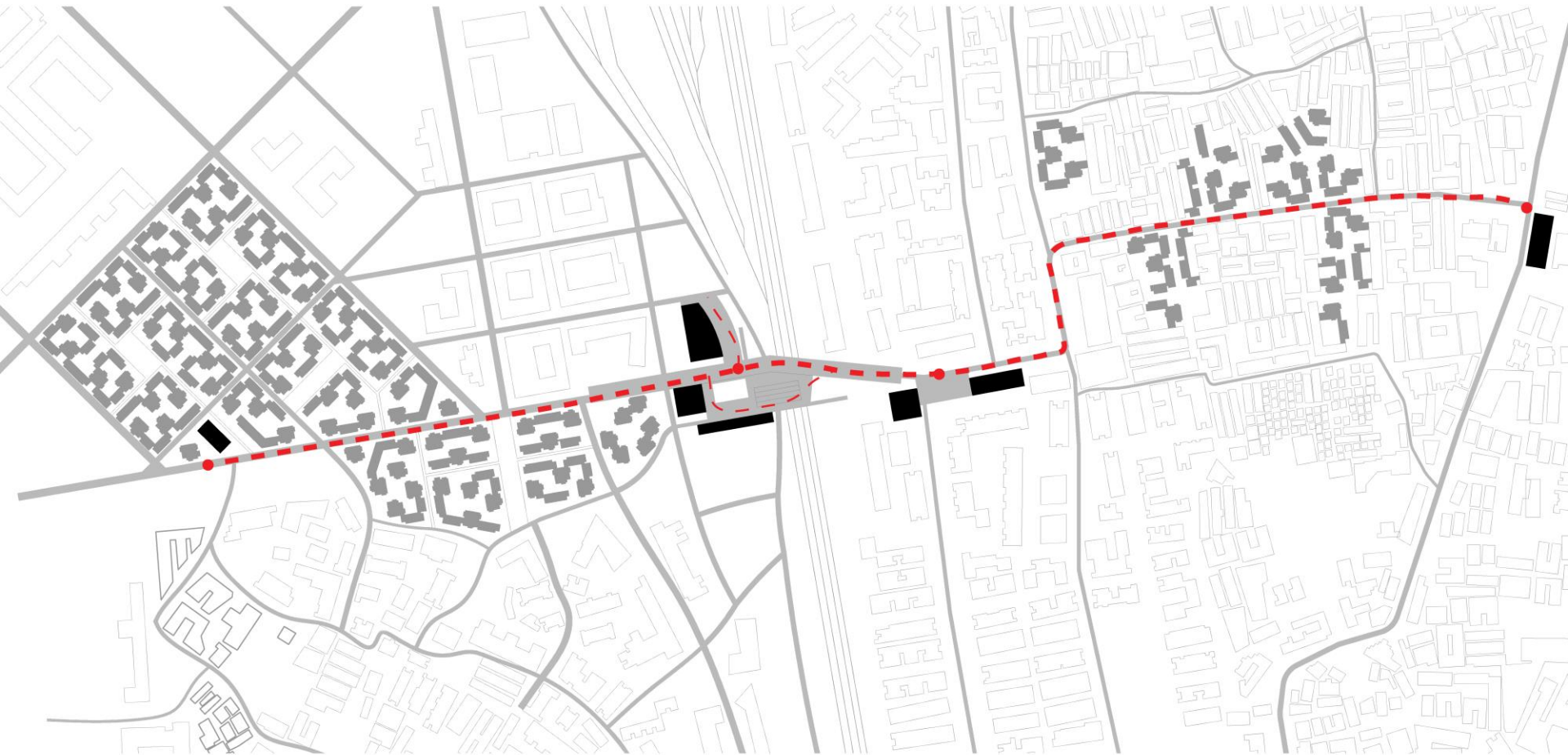
Development: Final Outcome

West: up to 3,658 new dwellings / East: 1,440 dwellings demolished – Up to 924 new dwellings
38% of new west development destined for relocation



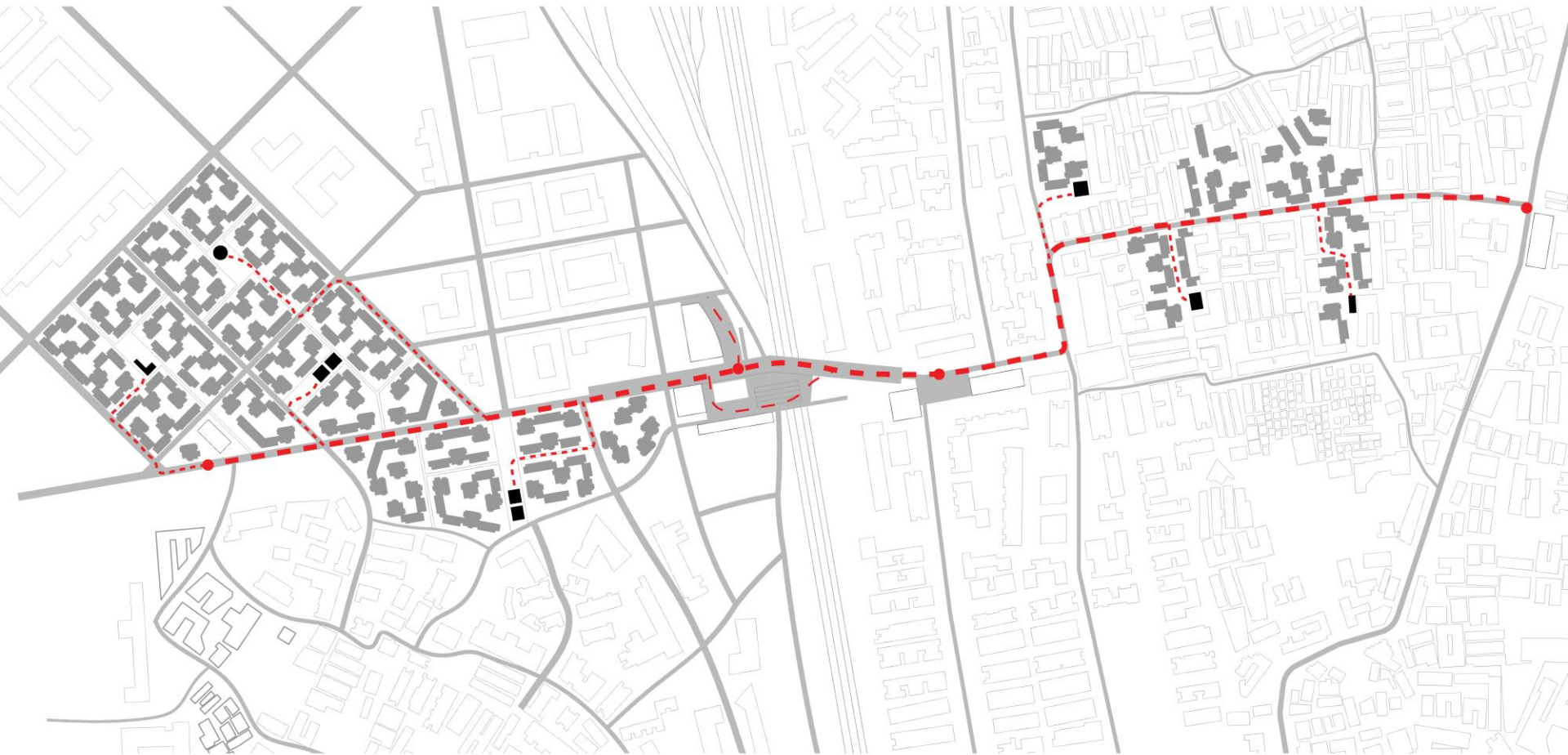
0 20 50 100 200m

Urban amenities along the main road



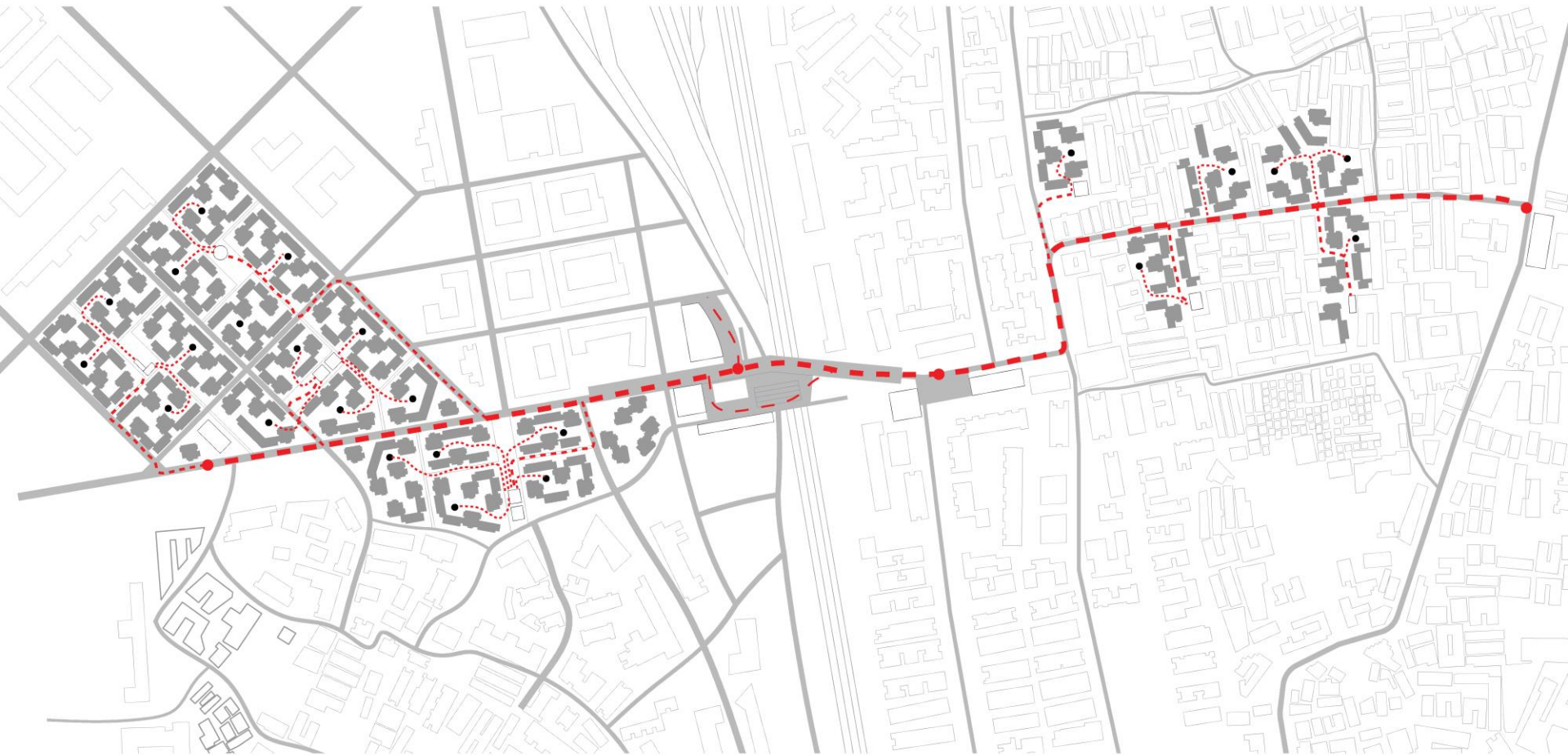
0 20 50 100 200m

Mid-scale amenities in the cores of the communities



0 20 50 100 200m

Small-scale amenities in the courtyards



0 20 50 100 200m

background
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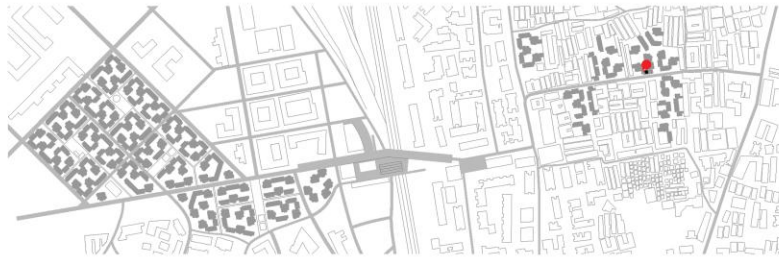
Urban sequence from East to West

01. The house threshold



Urban sequence from East to West

02. The courtyard



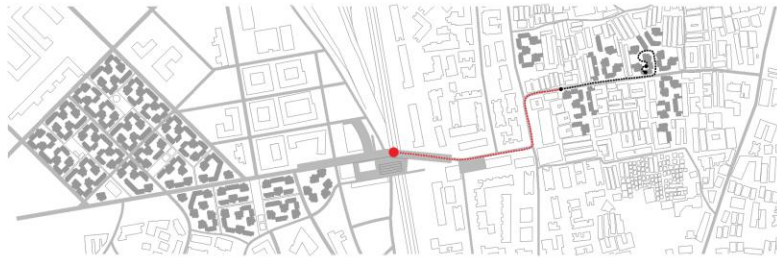
Urban sequence from East to West

03. The integration with the existing



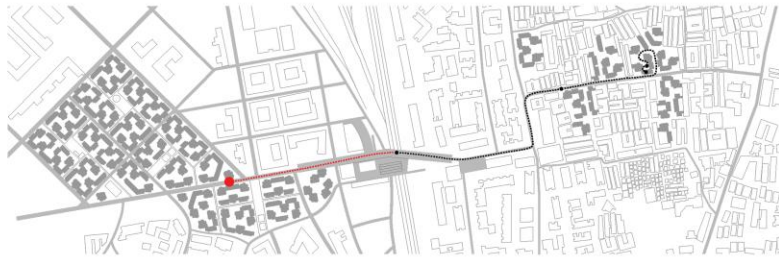
Urban sequence from East to West

04. The bridge



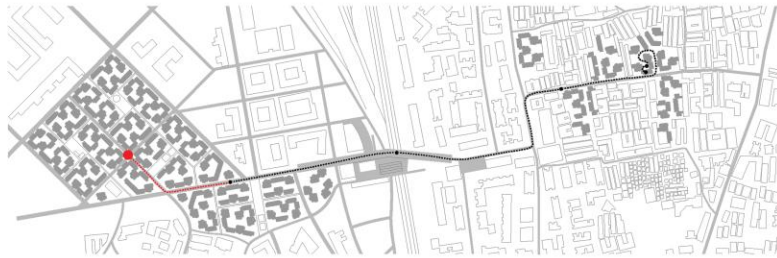
Urban sequence from East to West

05. The main street



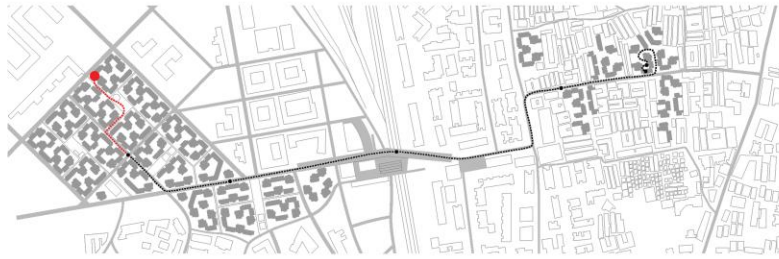
Urban sequence from East to West

06. The corner



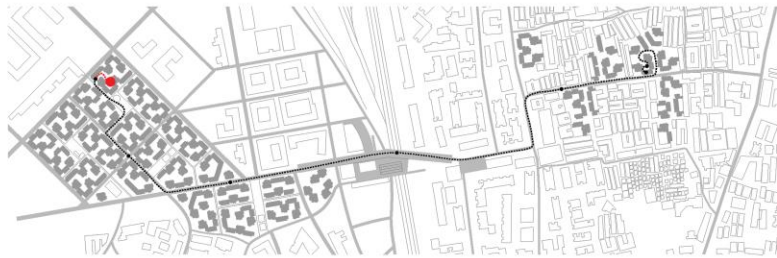
Urban sequence from East to West

07. The community threshold



Urban sequence from East to West

08. The house



thank you

