

# bridging realities

a response to spatial inequality in Mumbai & Nalasopara

Wong Quin Ee Queenie  
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Tutors:  
Ir. Harald Mooij  
Ir. Hubert van der Meel  
Dr. Ir. Nelson Mota  
Prof. Ir. Dick van Gameren





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## Contents

**01**

background

**02**

spatial  
research

**03**

building design

**04**

building  
technology

**05**

urban design &  
operational model

**06**

impact

**07**

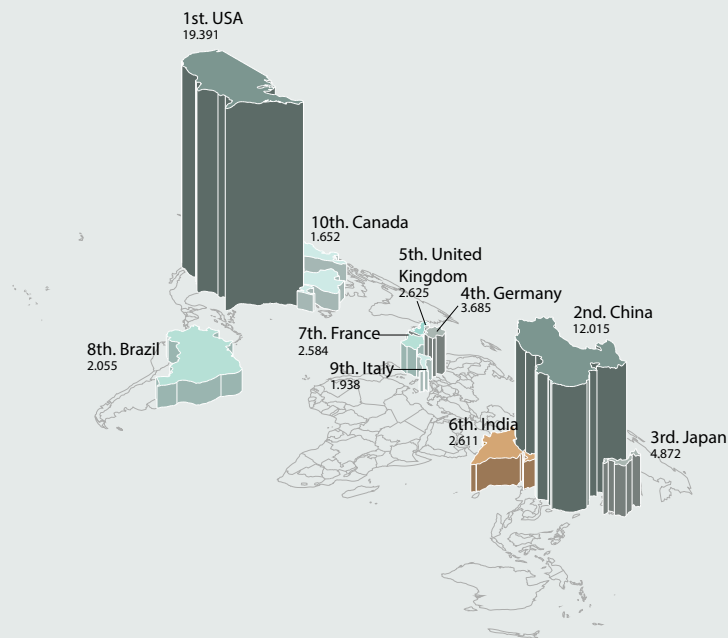
reflection



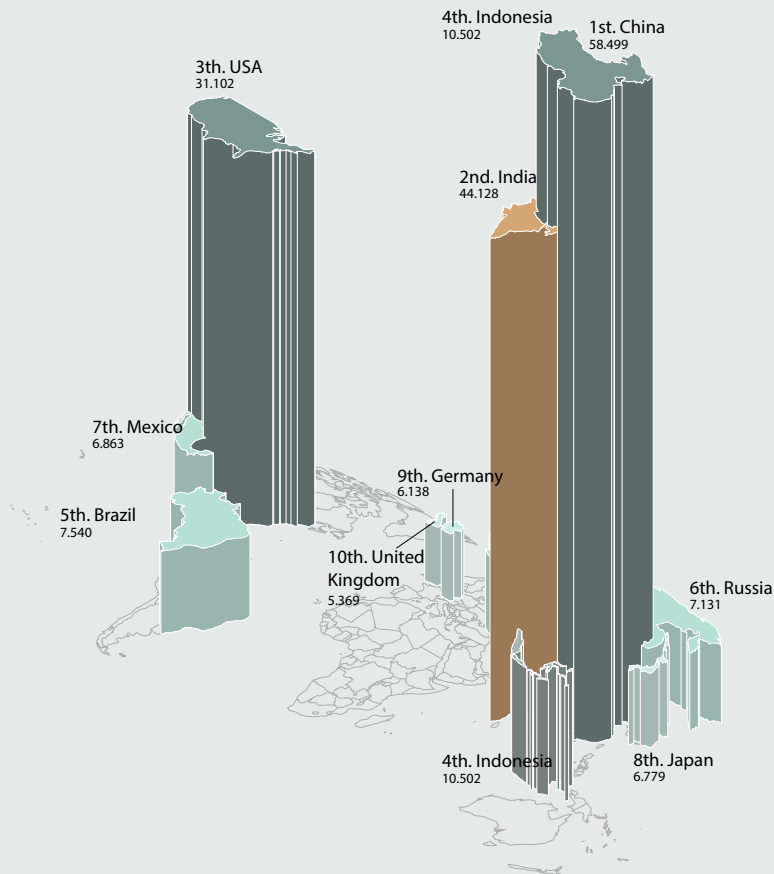
**01**

background

2017



2050



India is projected to be the 2nd largest economy in the world by 2050, being the growth engine of the global economy in terms of GDP





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In 2017, India's richest 1% held 58% of the country's total wealth, while in 2018 the top 1% holds 73% of the wealth.







# Spatial Inequality in Mumbai

 = 1,000,000 people



“Two-thirds of the city’s (Bombay) residents are crowded into just 5 percent of the total area, while the richer or more rent-protected one-third monopolize the remaining 95 percent.”

Suketu Mehta  
Maximum City: Bombay Lost and Found

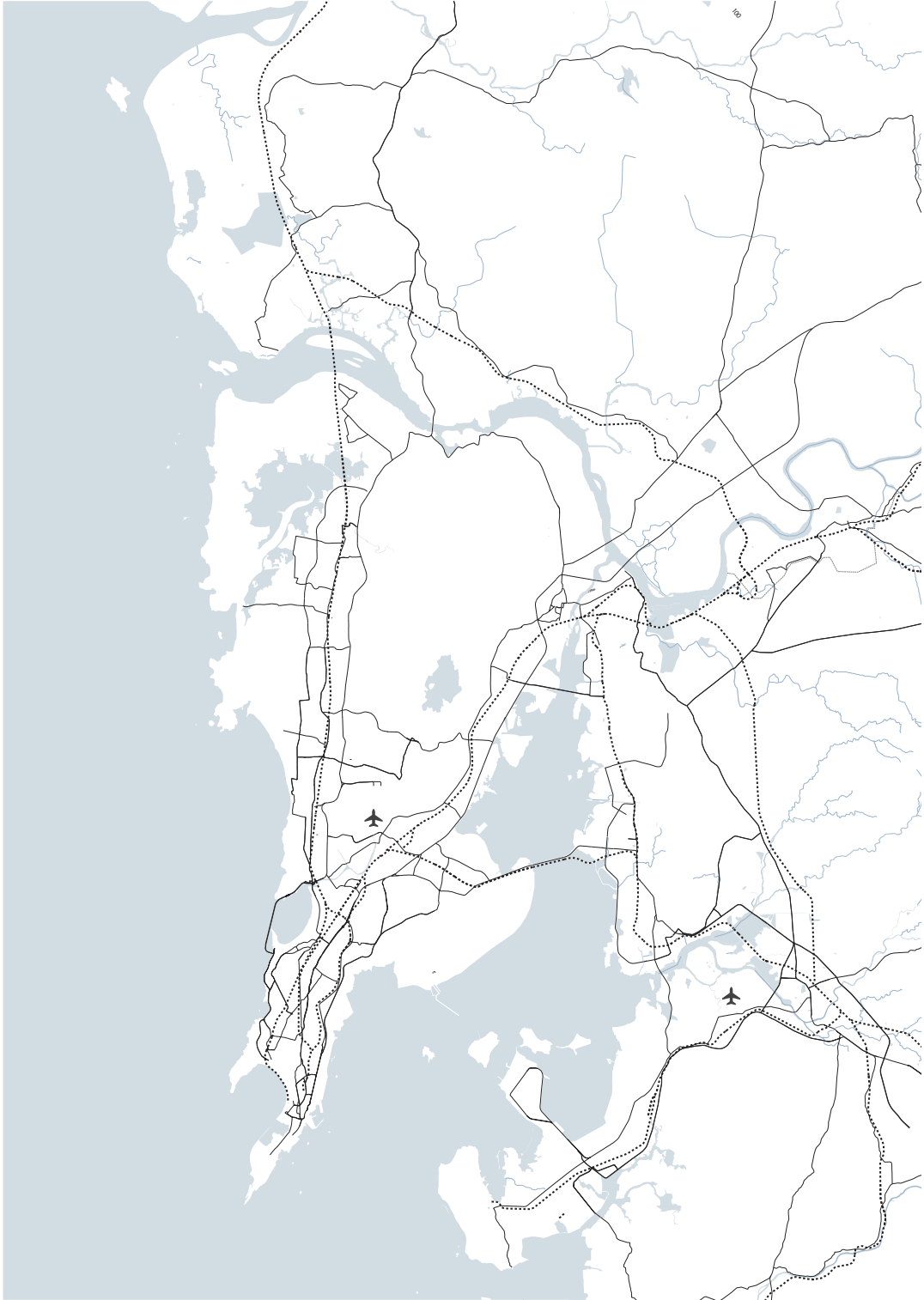
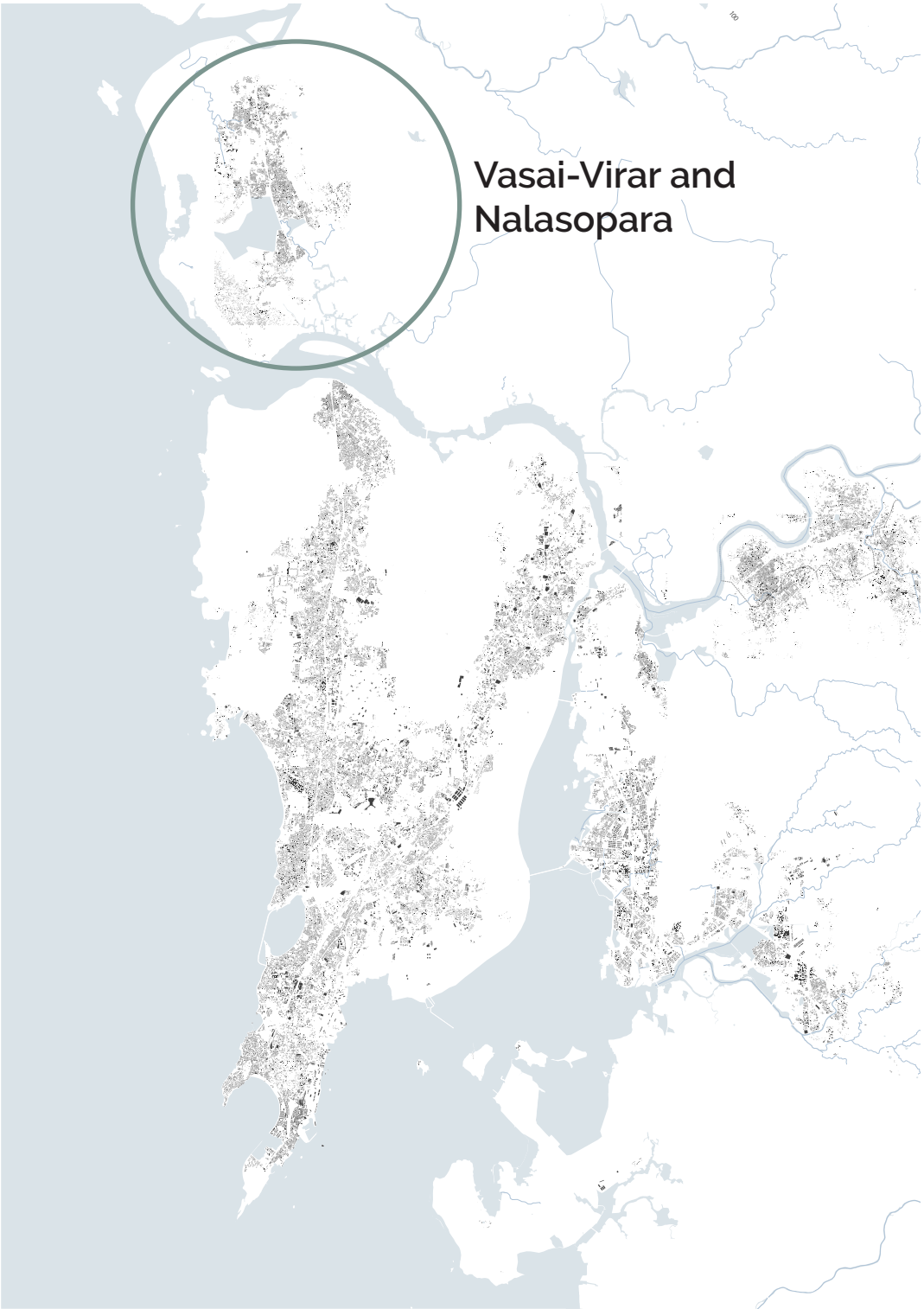


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The Development Plans for Mumbai is criticized as “a form of ‘planned’ exclusion of the poor and the middle class”, which have failed to address issues of slums and affordable housing.









## East West Divide in Nalasopara





## East West Divide in Nalasopara





East West Divide in Nalasopara



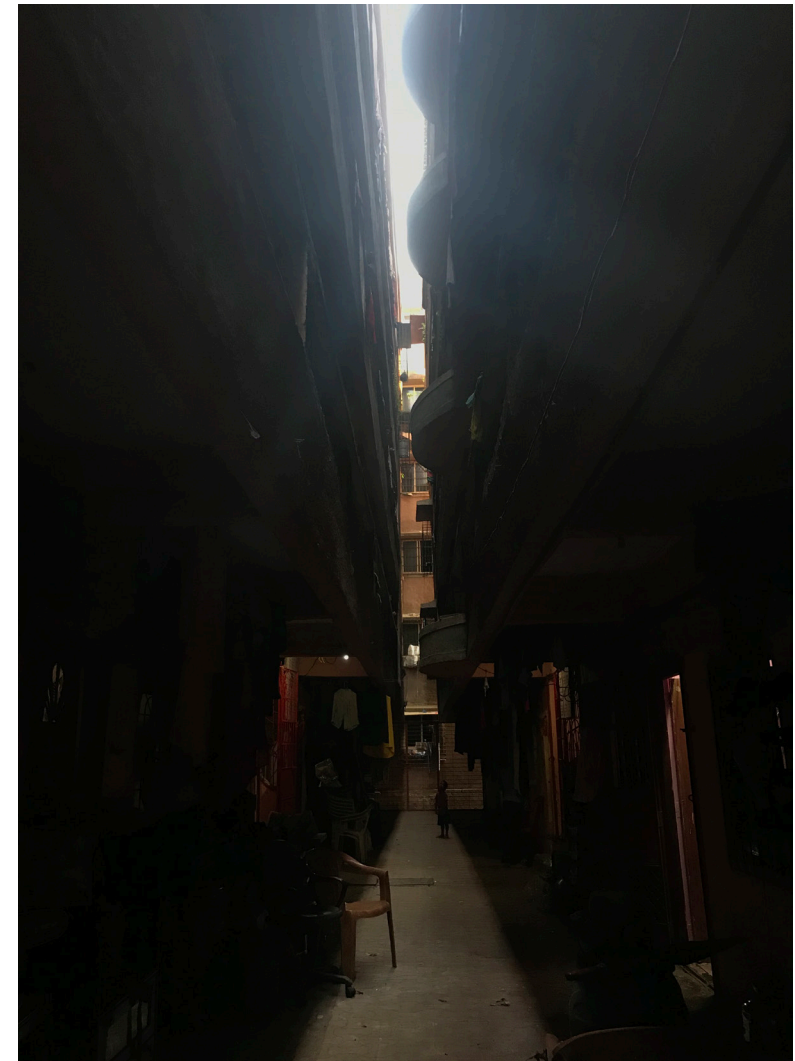




## East West Divide in Nalasopara



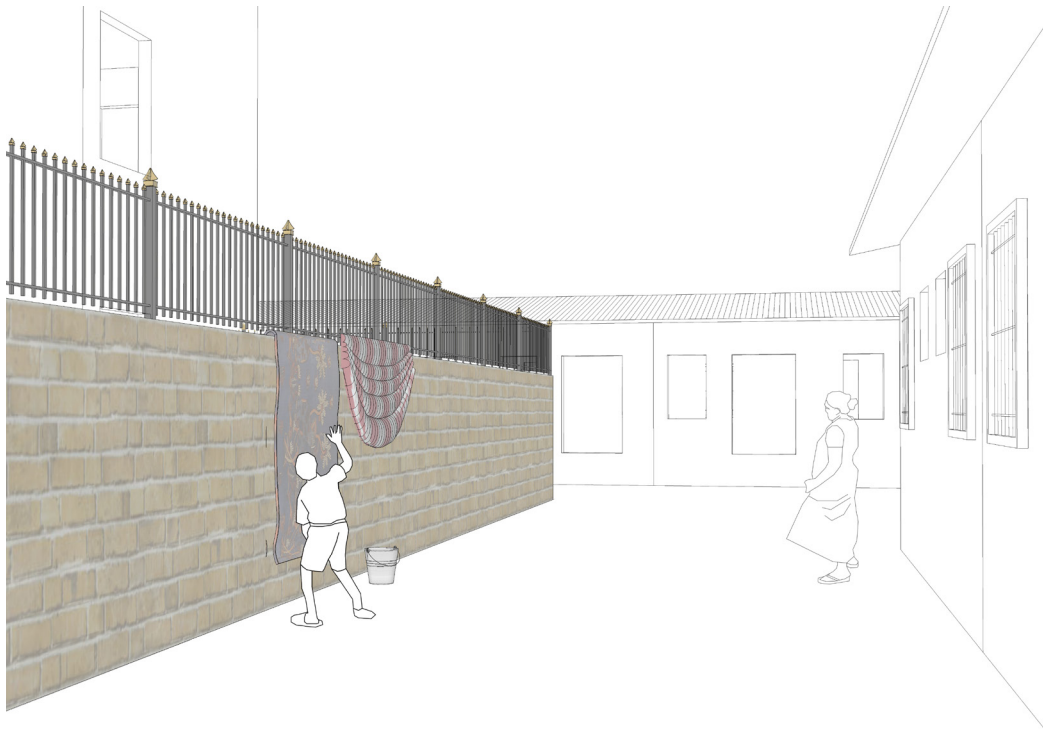
Open spaces in Gated Communities



Open spaces in Handshake Chawls



## Conspicuous Separation



## Ghettoization



Water Supply



Security



Education



Job Opportunities




Connections to the City


Resources made unavailable due to ghettoization




Ghettoization




Water Supply




Security



Education



Job Oppurtunities



Connections to the City

Resources made unavailable due to ghettoization



Social Tension



Insecurity



Violence



Psychologocal Disorders

Results of Exclusion

## Lack of Decision Making Power among People



Slum Rehabilitation Authority (SRA) displaced Resident

- displaced to periphery, lack of connections
- lack of maintenance of new building
- does not feel safe
- lack of water supply
- unemployment



Baithi Chawl Resident

- Baithi Chawl under the threat of being redeveloped into handshake chawl
- builders did not provide the promised compensation and temporary housing
- refuses to move because of lack of water supply in handshake chawls



Sri Prastha Cooperative Housing Resident

- Buildings falling apart
- Residents seriously injured by falling slab
- There has been ongoing rumours of possible redevelopment for the past decade but nothing has happened

## Problem Statement

The **widening of income gap** leads to **spatial inequality** in Mumbai and Nalasopara, which contributes to the unfairness in **accessibility to open space**, **harsh separation** across income groups, **ghettoization** of marginalized groups, and the **lack of decision-making power** among people, which all together **denies people to The Right to the City**

## **“Right to the City”**

**(1) the right to appropriate urban space**

**(2) the right to participate centrally in the production  
of urban space**

**(3) the right to diversity**

*proposed by Henri Lefebvre and  
summarized by Purcell and Duke.*

## Design Goal

The project therefore aims to

Create **accessible and meaningful urban spaces** across income groups,  
**soften boundaries** among income groups while having appropriate borders,  
provide opportunities for **people participation** in the development process,  
and accommodate and encourage **diversity**,

which all together

**bring The Right to the City to the People**



## Research Question

How can housing and urban design allow **equal participation** in the development of the built environment and **equal access to open spaces** across income groups?

### Spatial Level:

1. What are the challenges and strategies for mixed income and participatory housing?
2. What are the aspirations of different income groups?
3. What is the suitable housing configuration to encourage social interaction while keeping appropriate borders?

### Organizational Level:

4. What is the appropriate level of intervention for the government, sponsor, and user?
5. What are the models of participatory design?

**02**

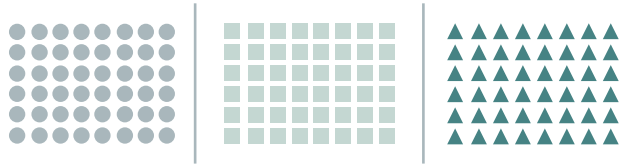
spatial research





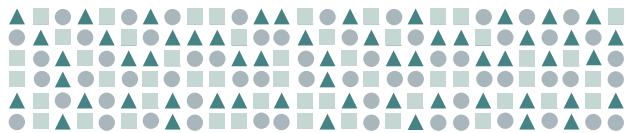
# 1. Challenges and Strategies for Mixed Income Housing

## Clustering Strategies of Income Groups



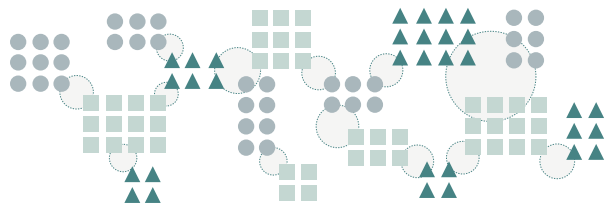
### Completely Separated

- Hard to form social ties
- Harsh separation and exclusion



### Fully Integrated

- Difficulties in building management due to different aspirations
- Inequality in decision making power
- Hard to attract High Income Groups



### Clustered with "Zones of Exchanges"

- Borders as zones of exchanges, as spaces for encounter to encourage formation of social capital

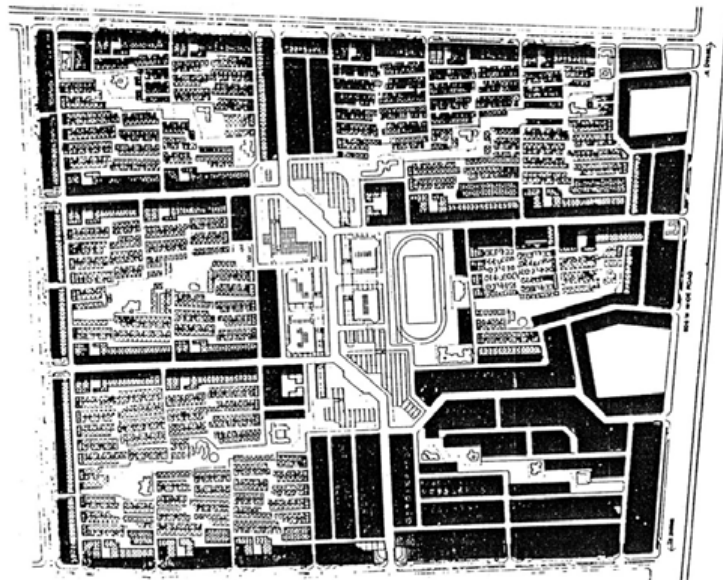
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**"Borders are porous edges... boundary is an edge where things end... Whereas the border is an edge where different groups interact... an active zone of exchange."**

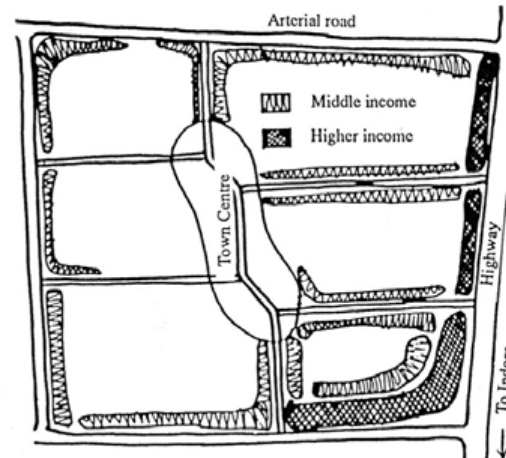
*Richard Sennett  
Building and Dwelling: Ethics for the City*

# 1. Challenges and Strategies for Mixed Income Housing

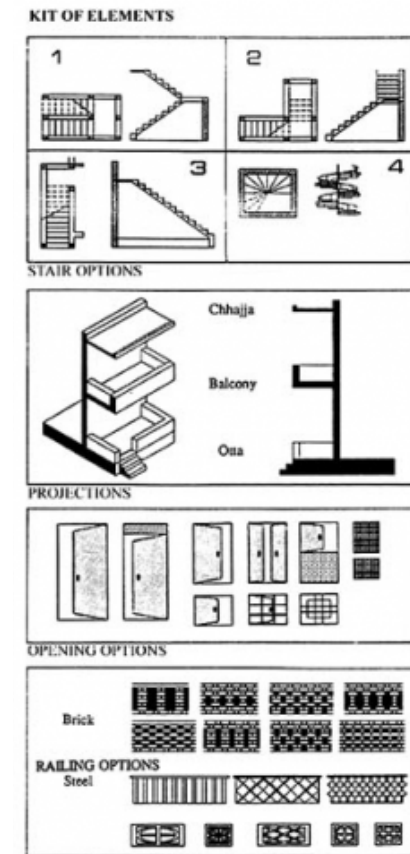
Case Studies - Aranya Township, Indore, India - Balkrishna Doshi



Series of open spaces that lead to center



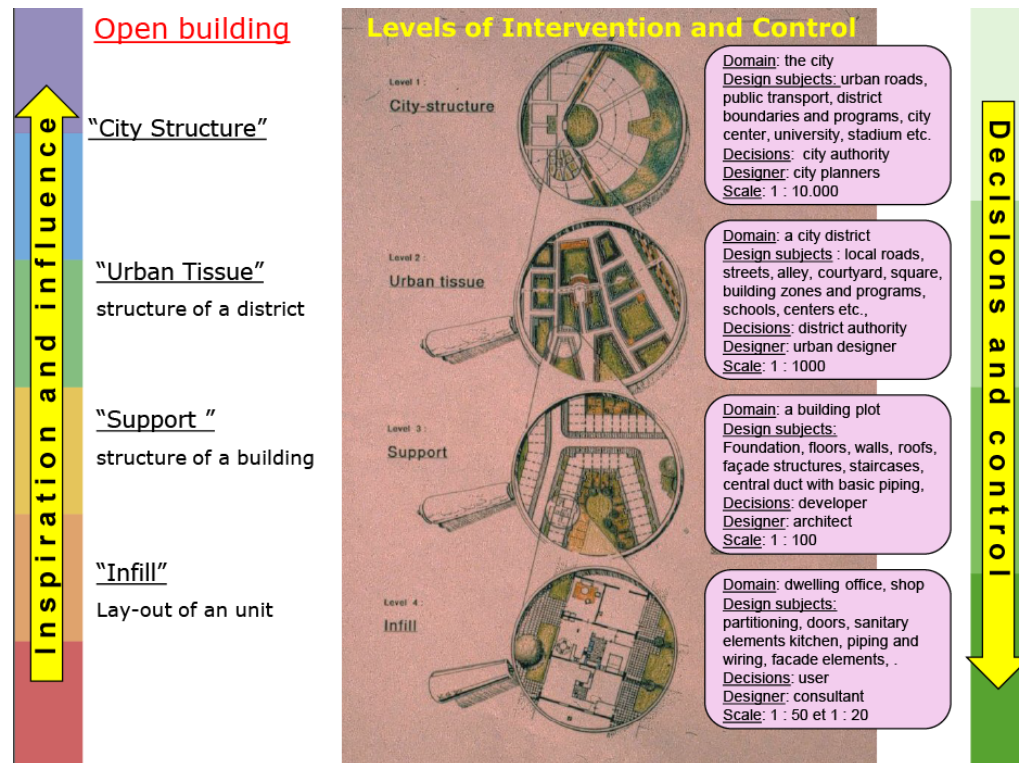
Zoning of income groups: HIG and MIG on the periphery, LIG towards center



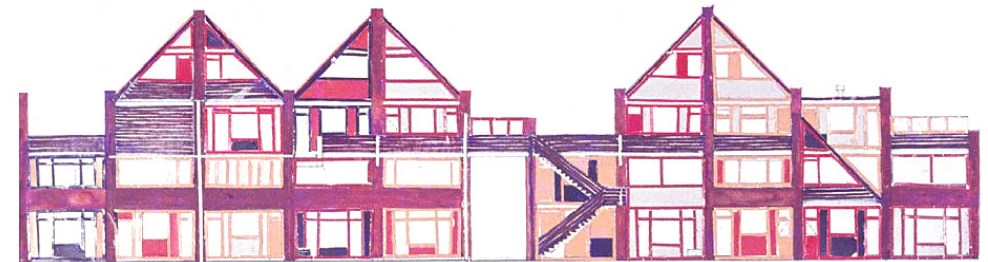
Kits and Parts for users to choose from

# 1. Challenges and Strategies for Mixed Income Housing

Case Studies - Molenvliet, Papendrecht, the Netherlands - Frans van der Werf (Open Building Movement)



Open Building Movement:  
Levels of Intervention and Control



"Diversity Within Wholeness"





2. Aspirations of Income Groups

Typological and Literature References

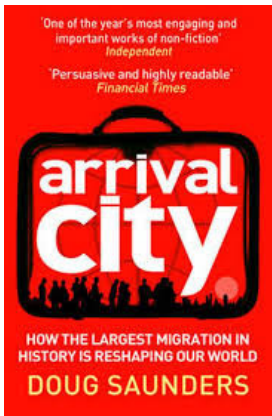
EWS & LIG



Baithi Chawl, Nalasopara



Mid-rise Chawls, Nalasopara



Arrival City  
Doug Saunders

Lower MIG



New Frontiers & Challenges for Affordable Housing Provision in India  
Urmi Sengupta



Gated Communities, Nalasopara



Sriprastha

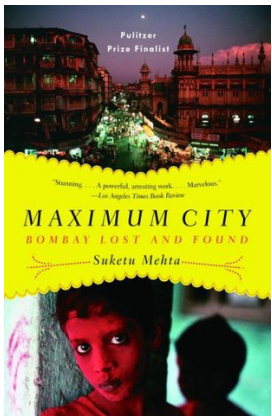
Upper MIG



Global City, Virar  
Rustomjee



Kanchajunga Apartments, Mumbai  
Charles Correa



Maximum City - Bombay Lost and Found  
Suketu Mehta

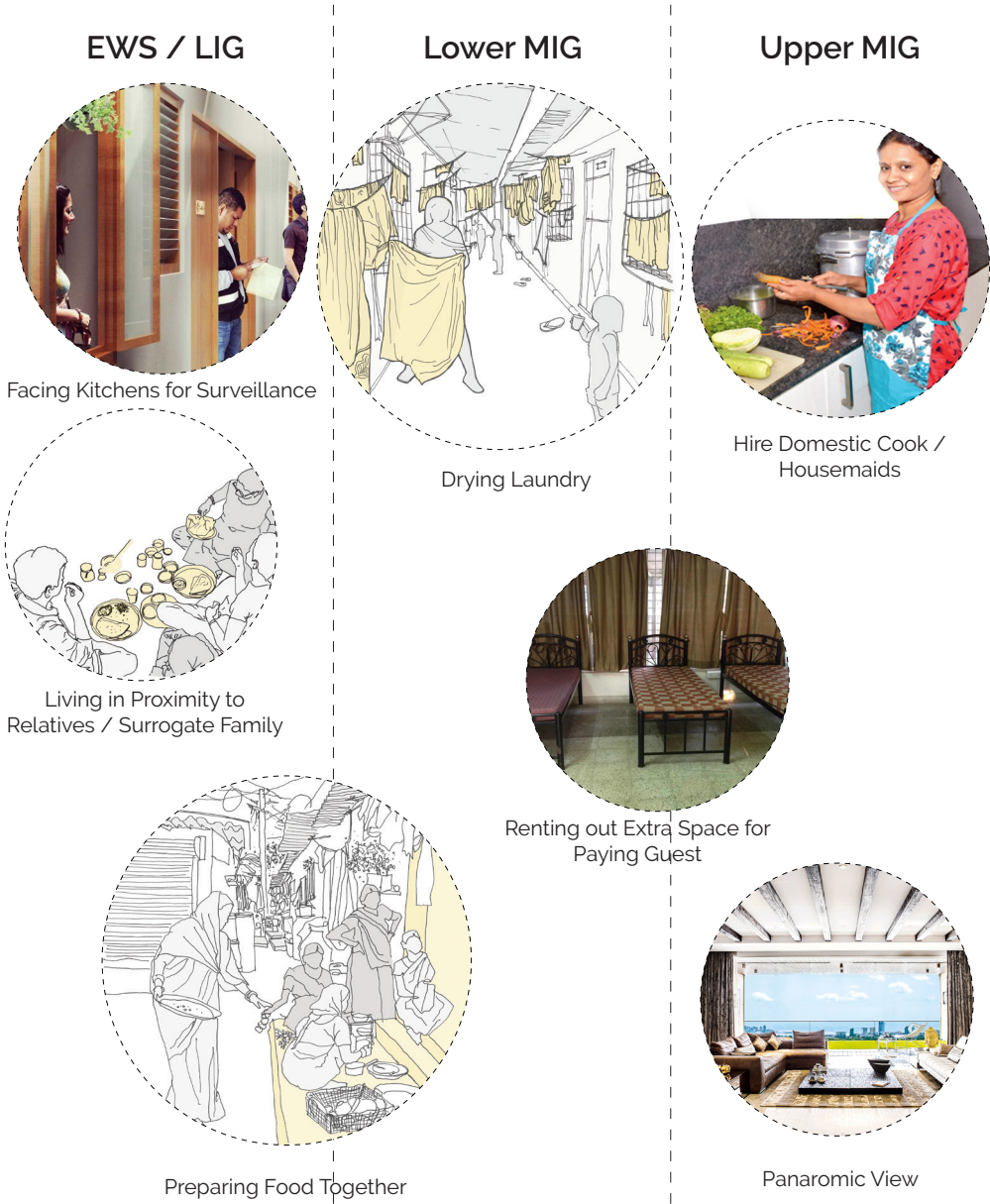


2. Aspirations of Income Groups

Pattern of Inhabitation: Income Generation

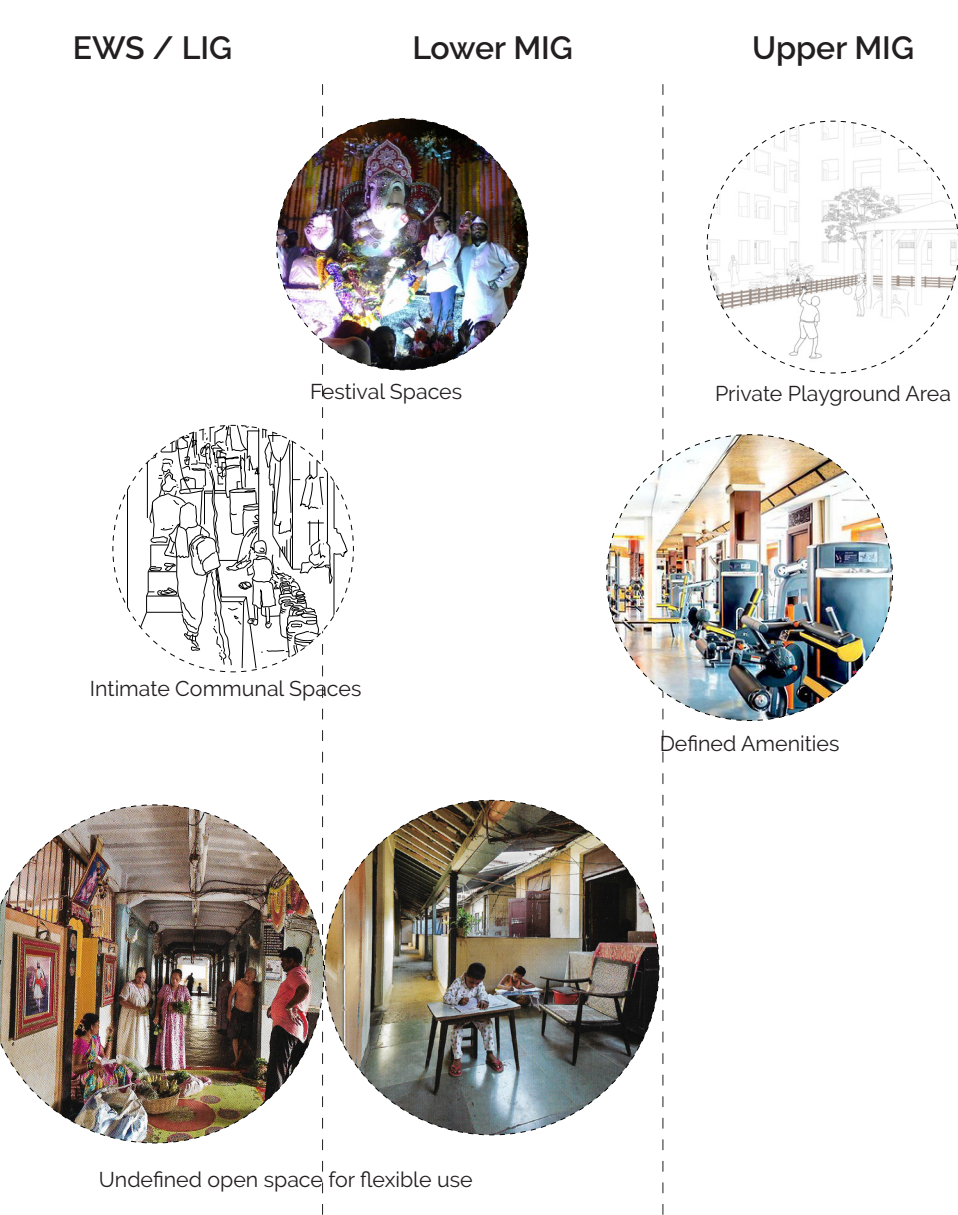


Pattern of Inhabitation: Domestic Spaces

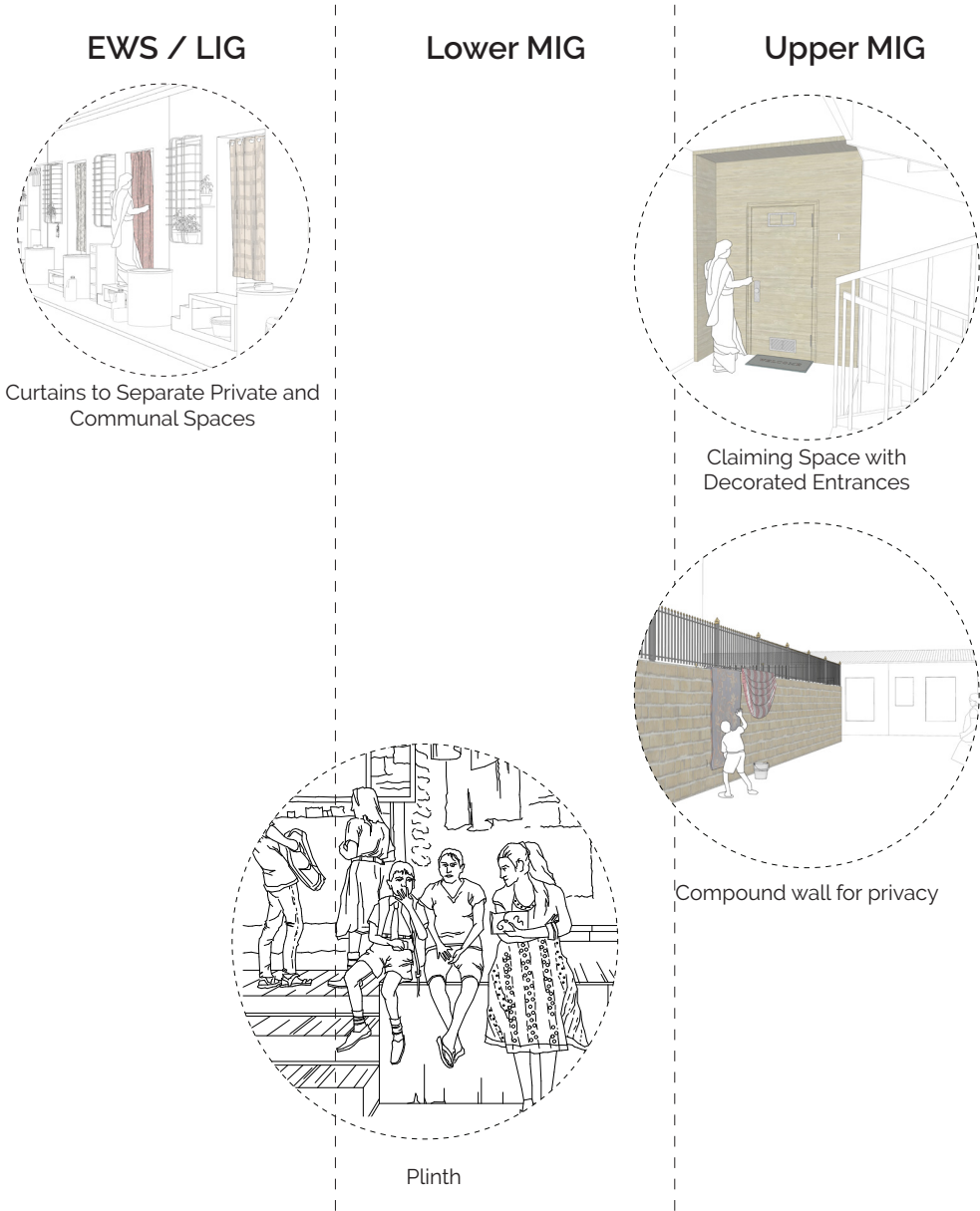


2. Aspirations of Income Groups

Pattern of Inhabitation: Social Spaces and Amenities



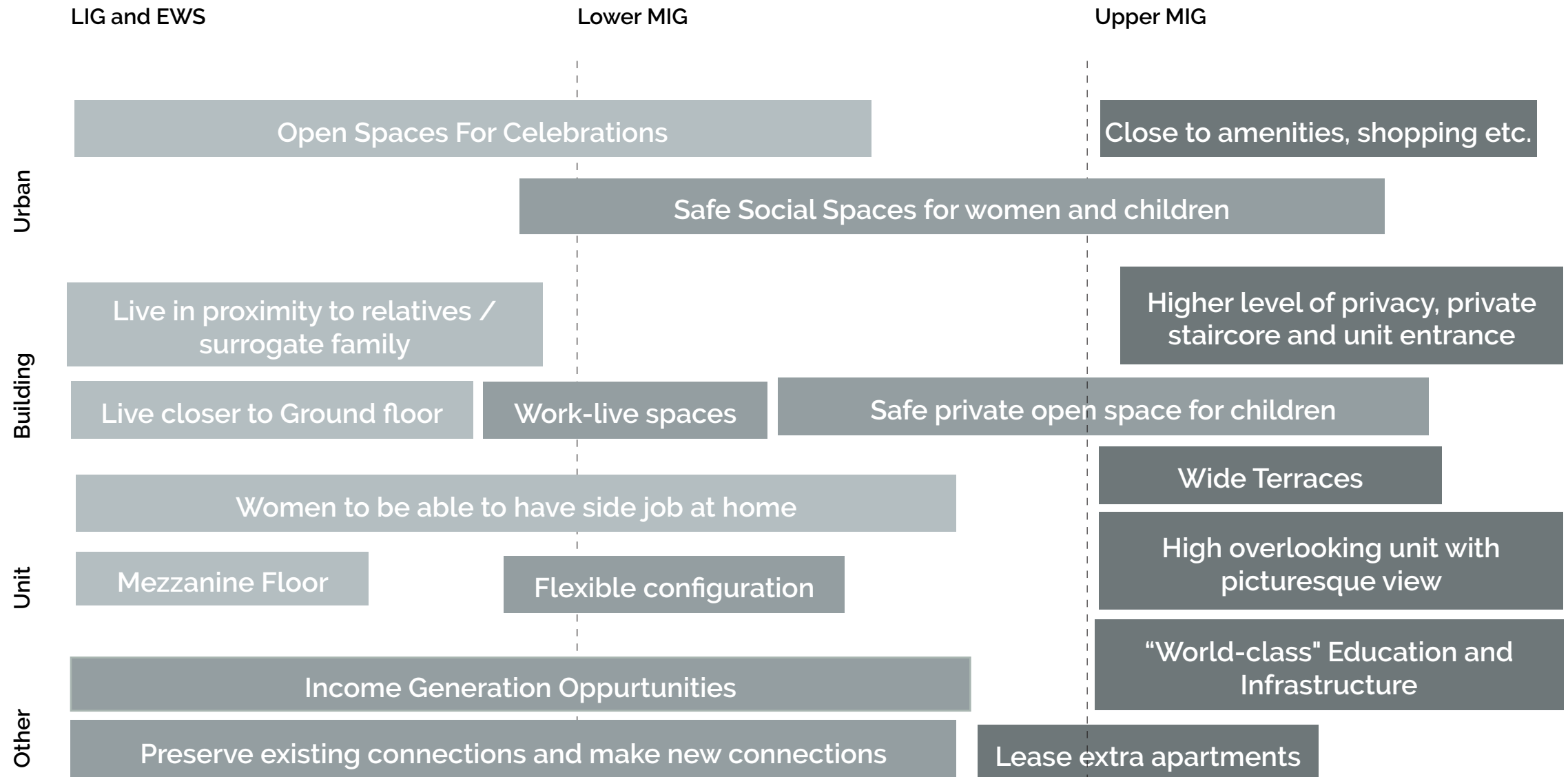
Pattern of Inhabitation: Borders





## 2. Aspirations of Income Groups

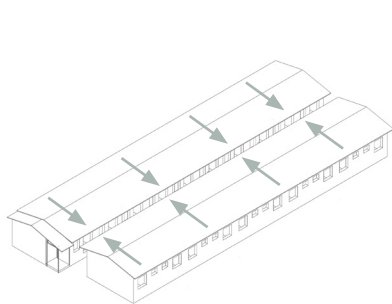
### Aspiration of Income Groups Summary



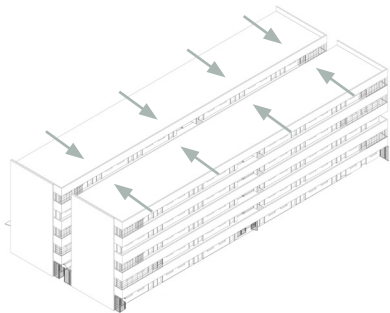
**3. What is the suitable housing configuration to encourage social interaction while keeping appropriate borders?**

### 3. Building Configuration Studies

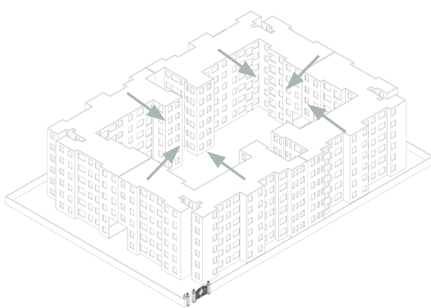
Inward Facing



Baithi Chawls

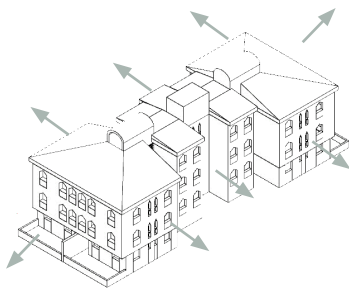


Extruded "Handshake" Chawls



Gated Communities

Outward Facing

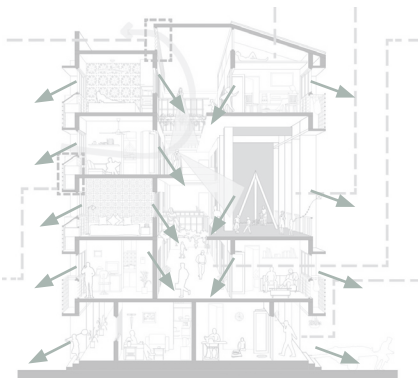


Sriprastha



MHADA Housing Proposal,  
Charles Correa

Facing Bothways



UDAAN, Sameep Padora



Negligence of the edge in inward facing buildings



**03**

building design

## Location: Sriprastha





## Location: Sriprastha





## Location: Sriprastha

### *Issues and Threats*

1. Building is Falling Apart
2. Uncertain Future
3. Reluctance to Invest in Maintenance
4. Concentration of Single Income Tier
5. High Vacancy Rate
6. Lack of Opportunities for Income Generation
7. Lack of Hierarchy and Diversity in Open Spaces



Location: Sriprastha

*Future Scenarios*

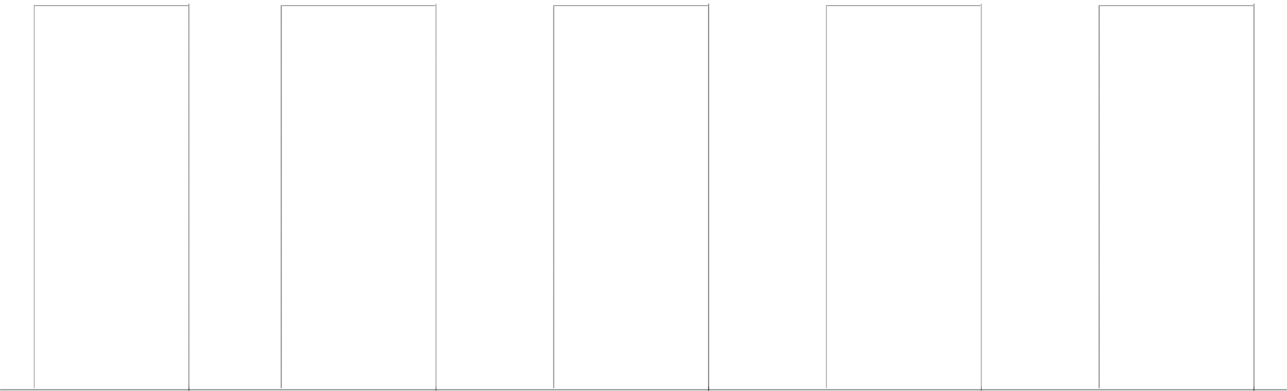
Current Situation



Future Scenario 1: nothing takes place



Future Scenario 2: rumoured development takes place



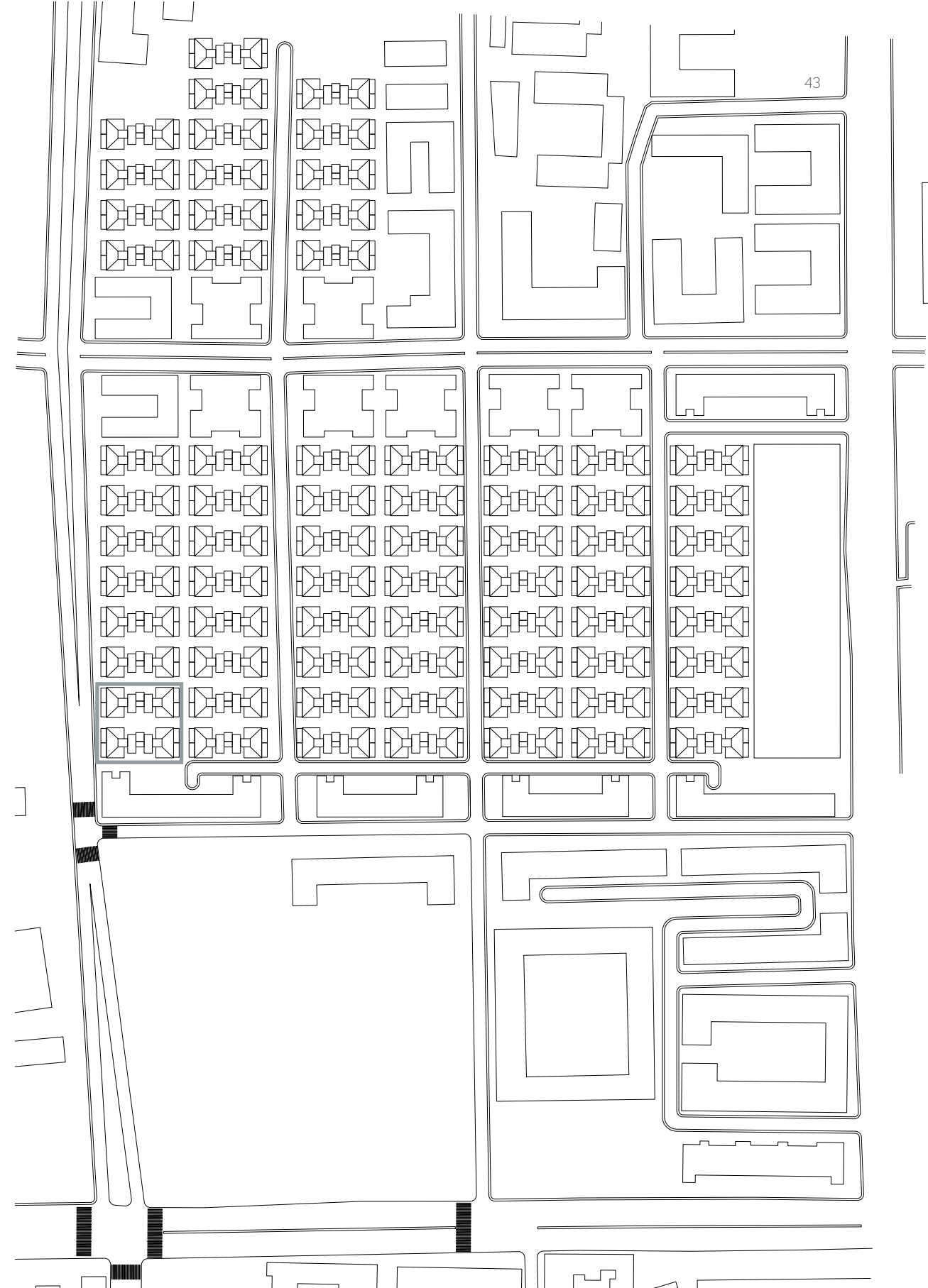
Proposed Scenario: Typological Mix



## Location: Sriprastha

### *Strength and Opportunities*

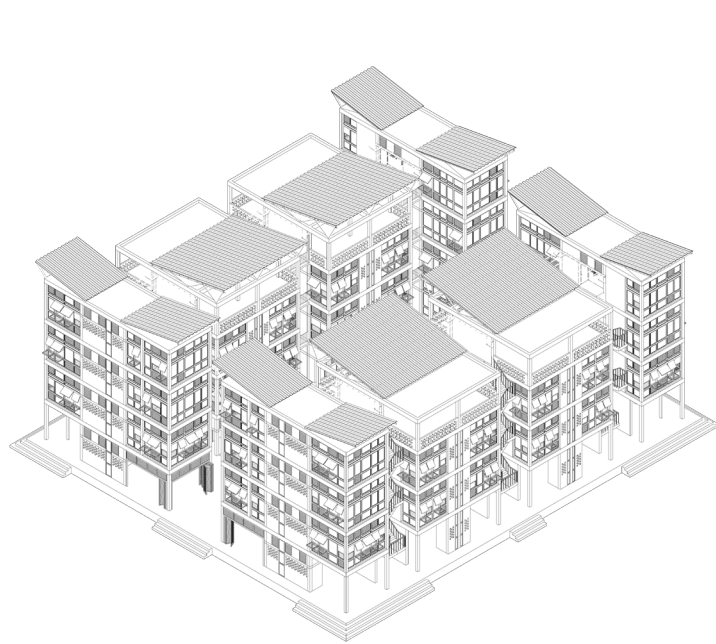
1. Existing Grid Structure
2. Porous Urban Fabric
3. Access to Lower Middle Income Group
4. Existing Connection with People from Nalasopara East
5. Mixed Religious Communities
6. Existing Structure of Housing Cooperative Societies





## Building Strategy

### *Typological Mix*



Low rise - Chain Typology



Mid rise - Slab Typology



High rise - Tower Typology

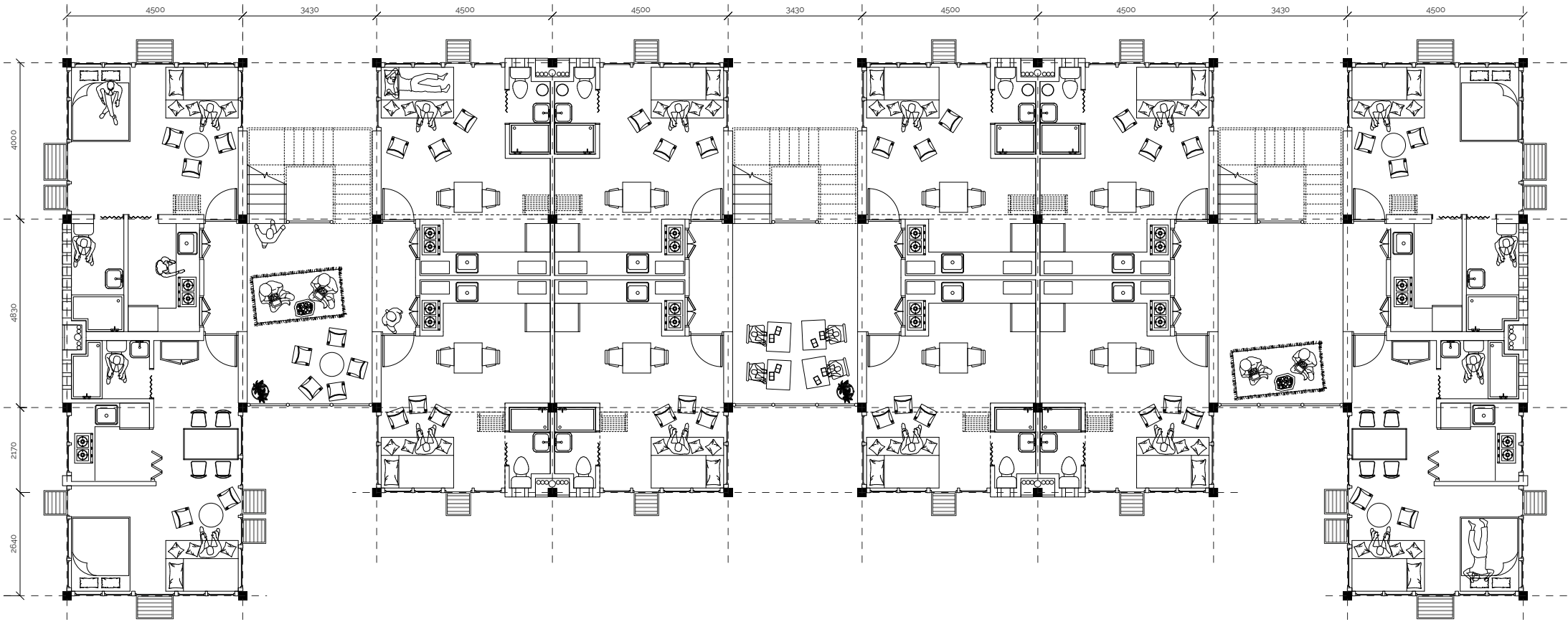
## Building Strategy

*Type 1: Low-rise - Chain Typology*



# Building Strategy

Type 1: Low-rise - Chain

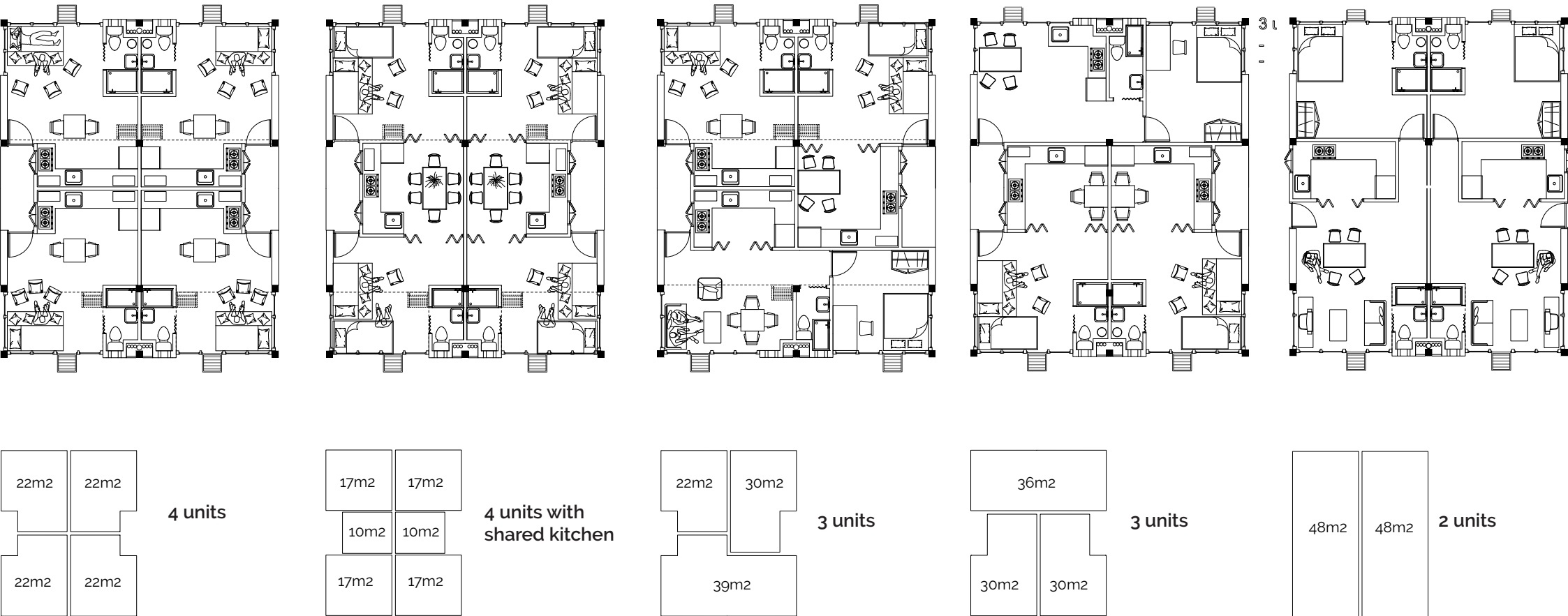


Low-rise - Typical floor plan



# Building Strategy

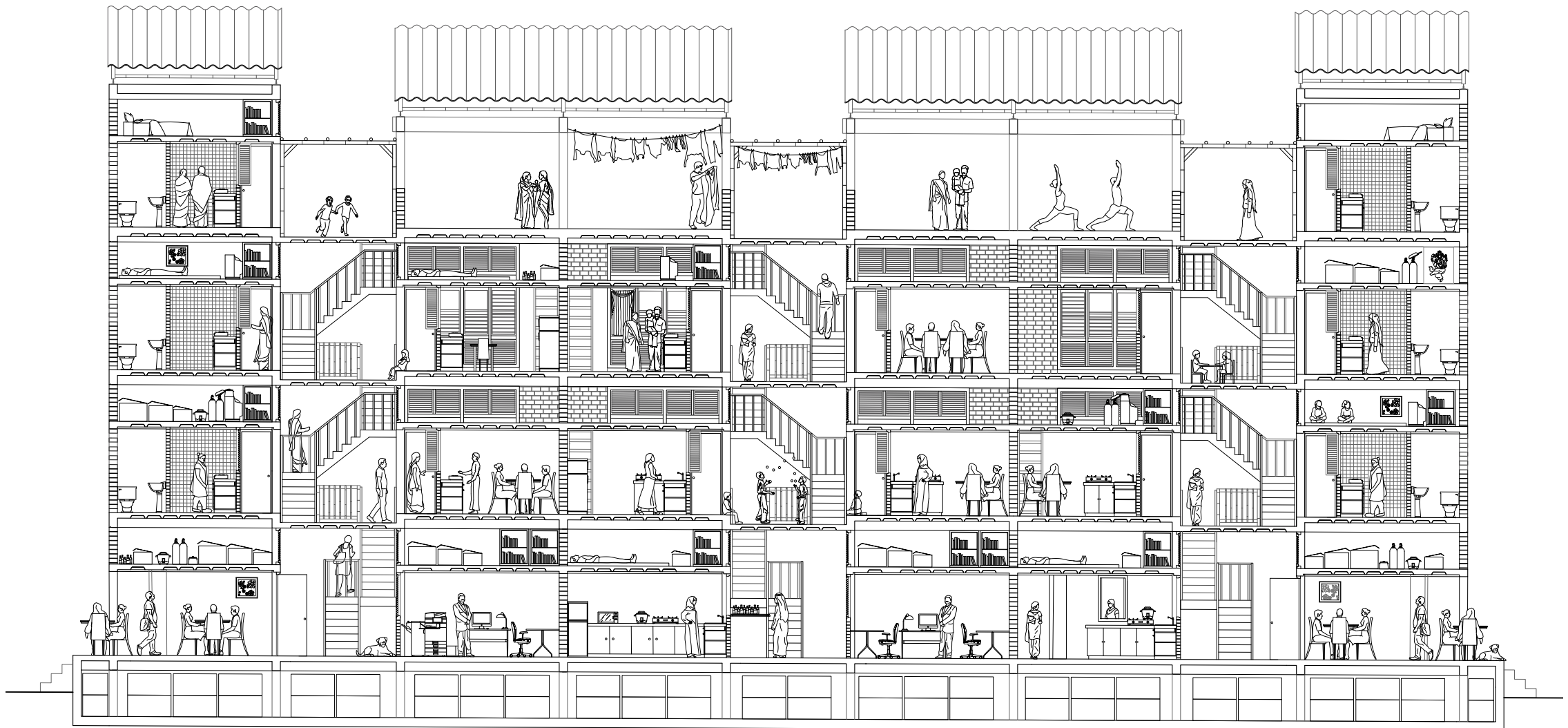
Type 1: Low-rise - Chain



Middle component variations

## Building Strategy

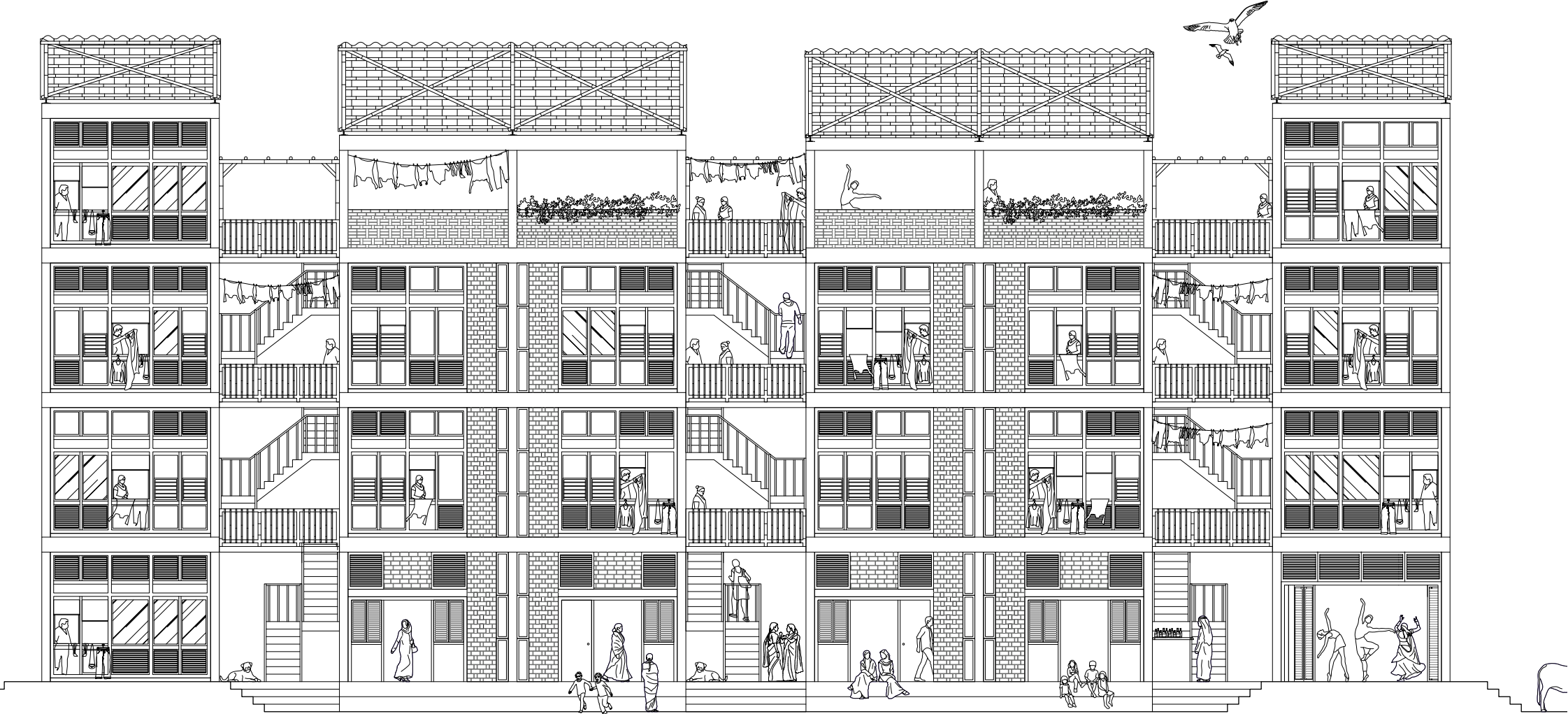
*Type 1: Low-rise - Chain*



Low-rise - Section

# Building Strategy

Type 1: Low-rise - Chain

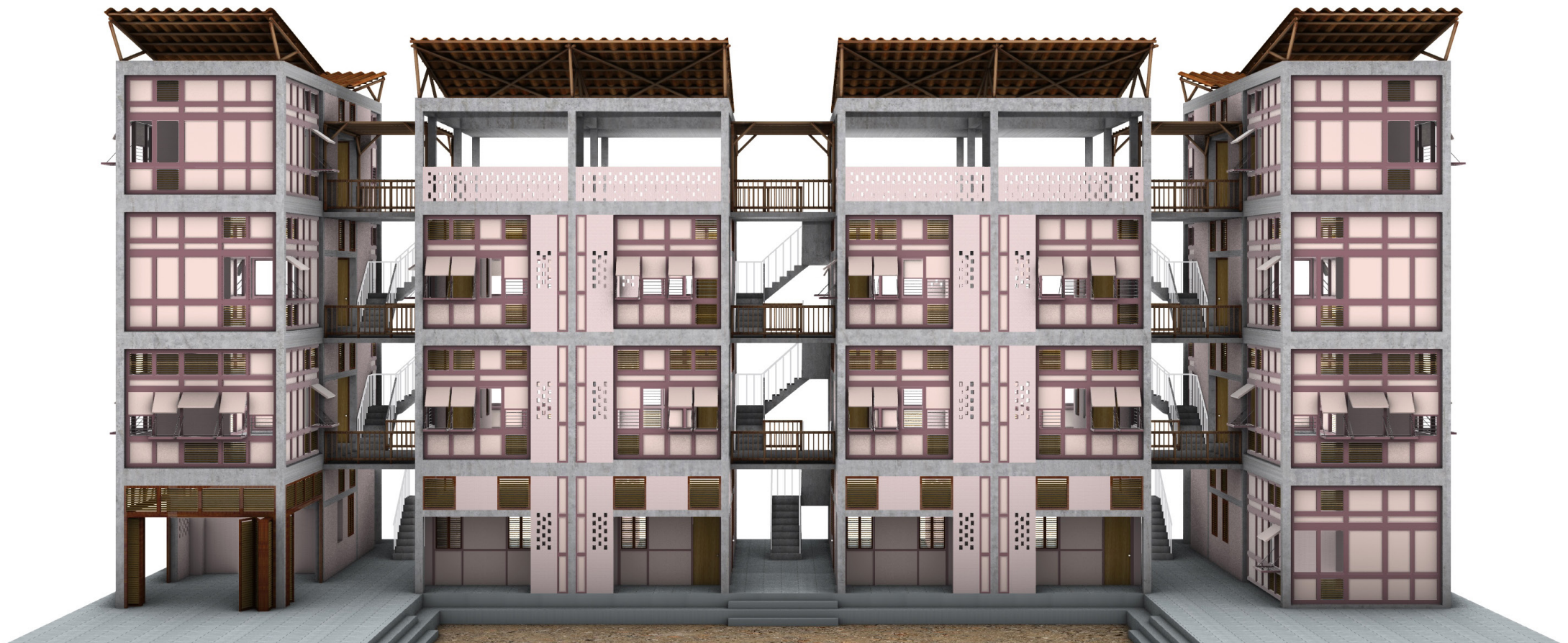


Low-rise - Elevation



## Building Strategy

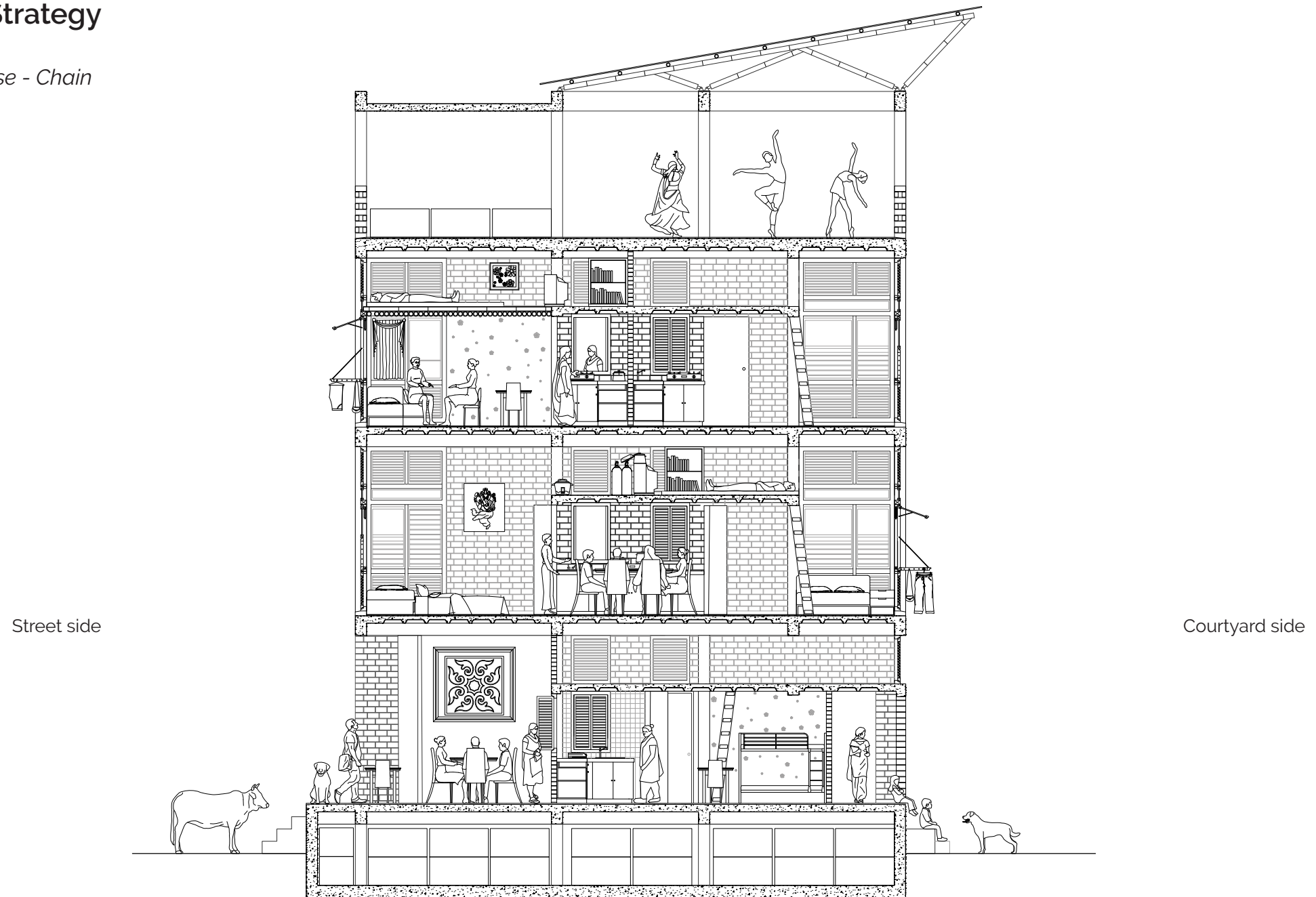
*Type 1: Low-rise - Chain*



Low-rise - Elevation

## Building Strategy

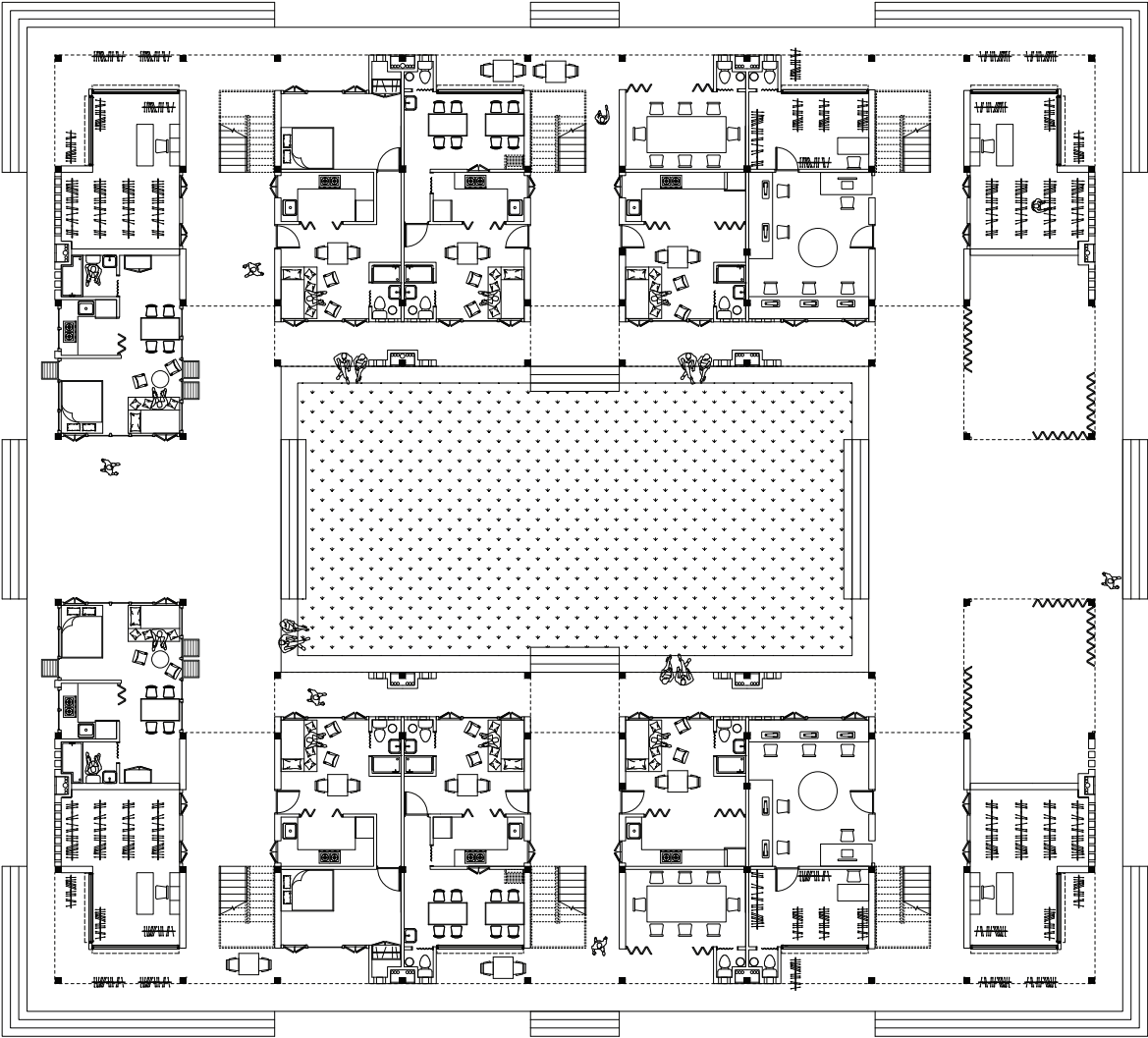
Type 1: Low-rise - Chain



Low-rise - Section

# Building Strategy

Type 1: Low-rise - Chain

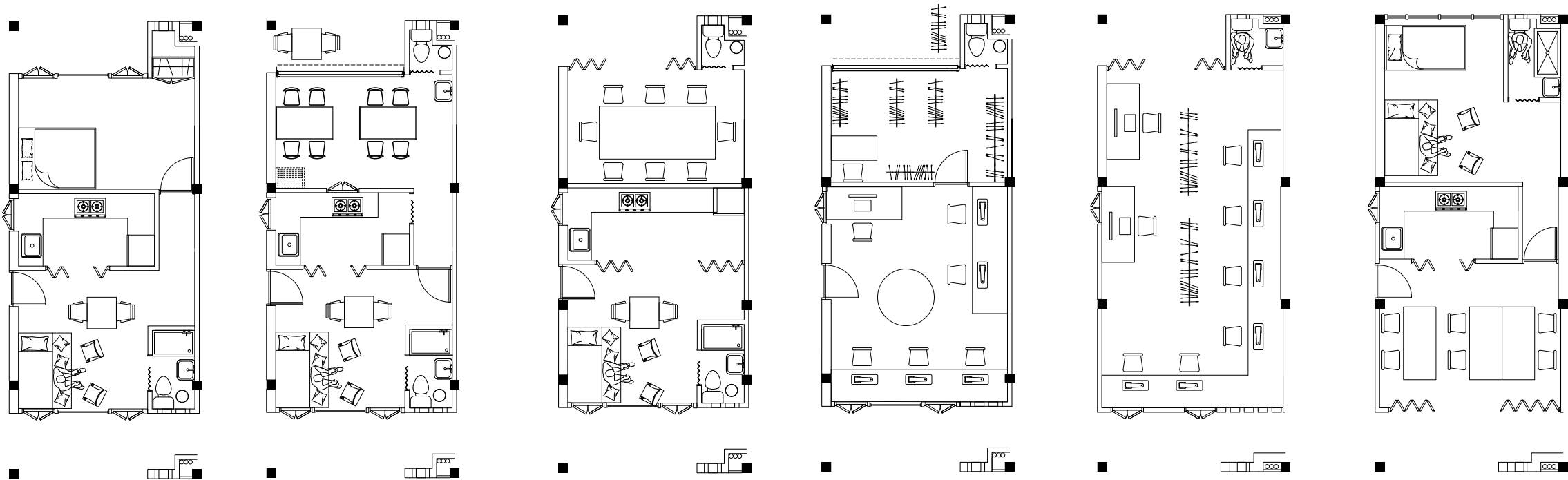


Low-rise - Ground Floor



Building Strategy

Type 1: Low-rise - Chain



Entirely living

43m2 living space  
(++ mezzanine)

Restaurant + living

15m2 restaurant  
+ 6m2 kitchen  
+ 16m2 living space  
(++ mezzanine)

Living & leased

- 15m2 production space  
- 22m2 living space  
(++ mezzanine)

Production + retail

15m2 retail space  
+ 22m2 production space  
(++ mezzanine)

Production

39m2 production space  
(++ mezzanine)

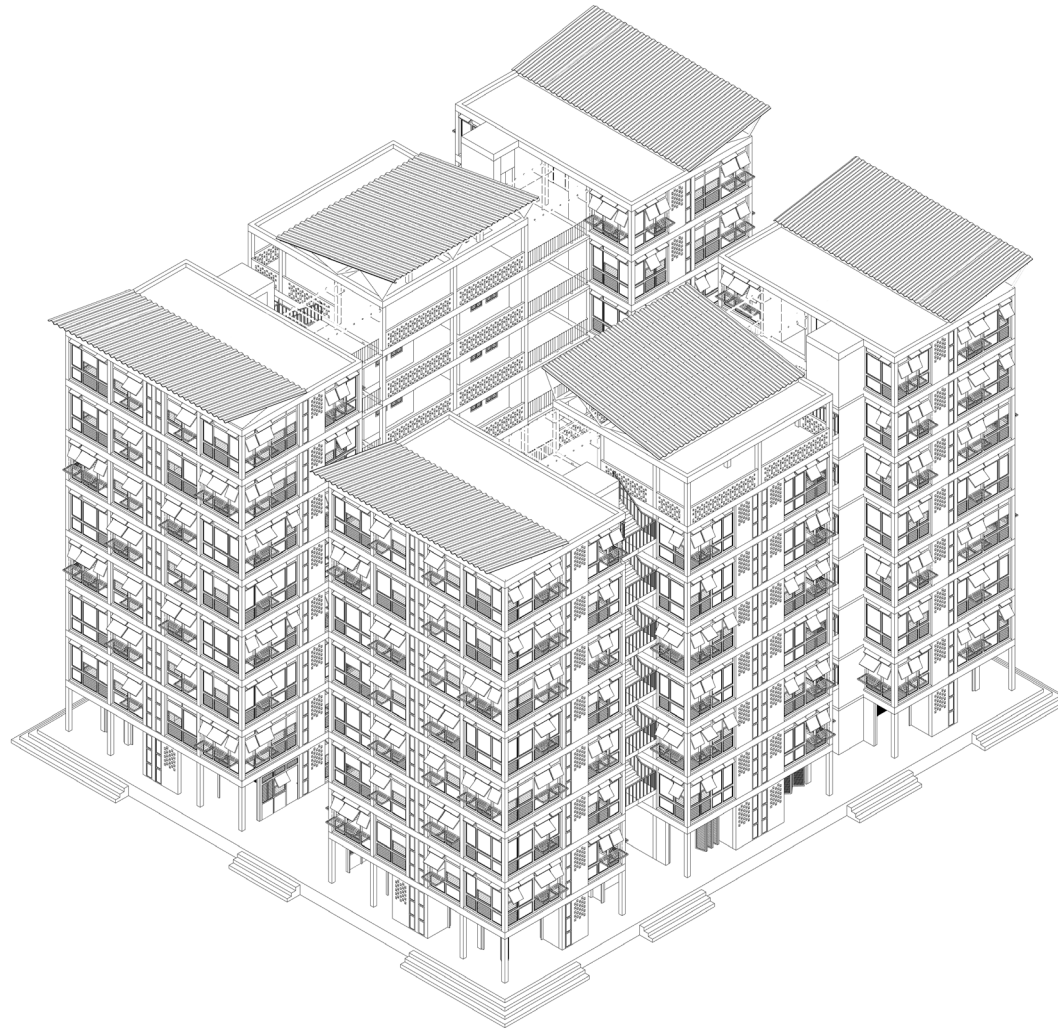
Living + community

Day:  
16m2 community space  
+27m2 living space  
  
Night:  
43m2 living space  
(++ mezzanine)

GF unit variations

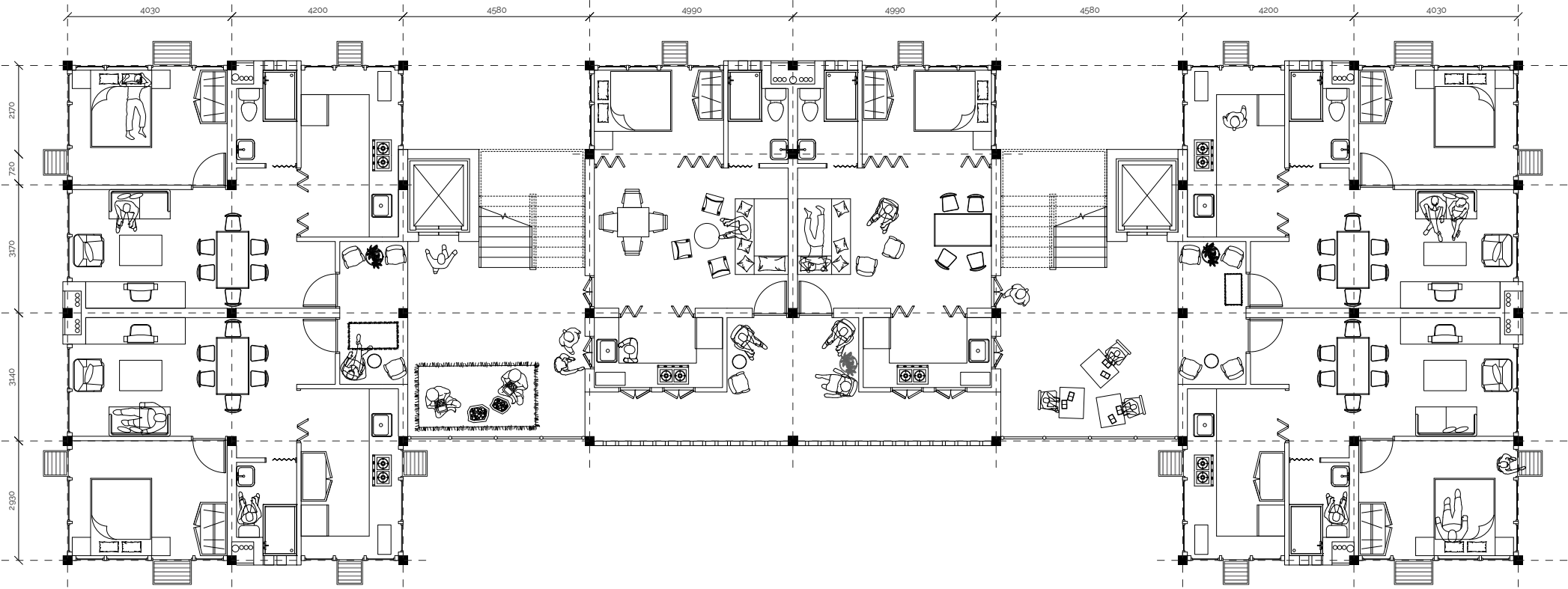
## Building Strategy

*Type 2: Mid-rise - Slab Typology*



# Building Strategy

Type 2: Mid-rise - Slab

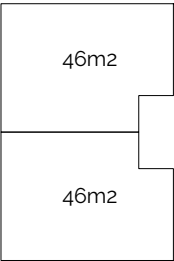
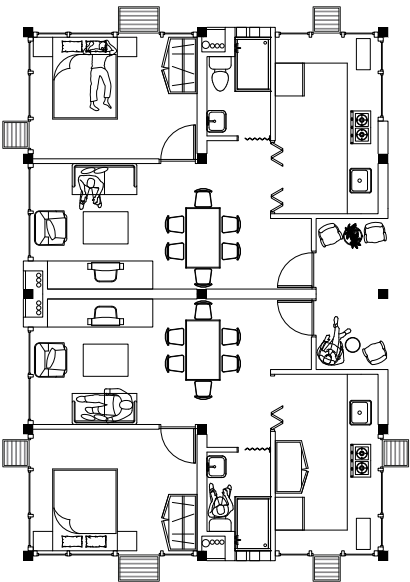


Mid-rise - Typical floor plan

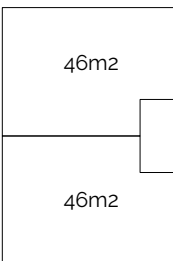
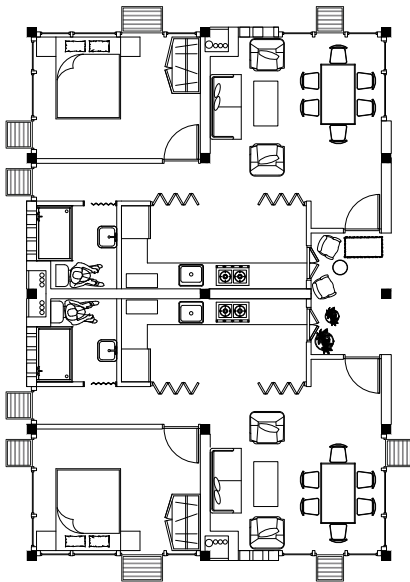


Building Strategy

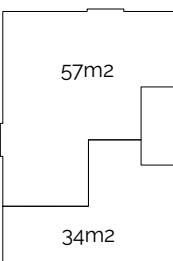
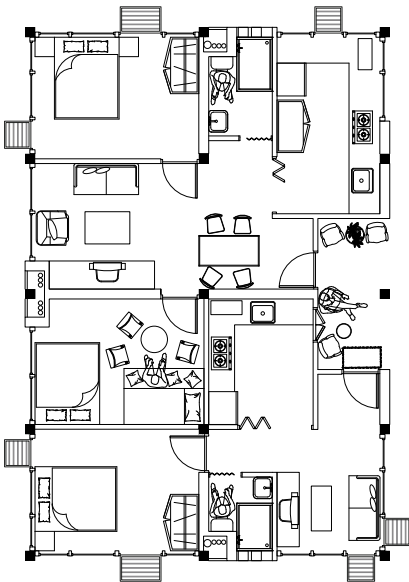
Type 2: Mid rise - Slab



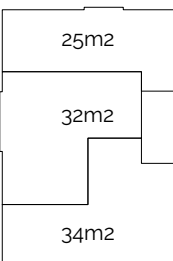
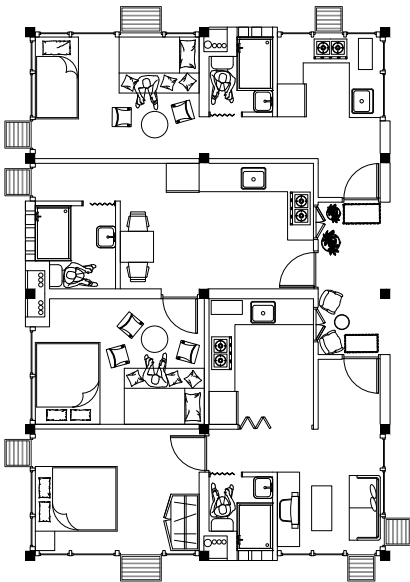
2 units



2 units



2 units

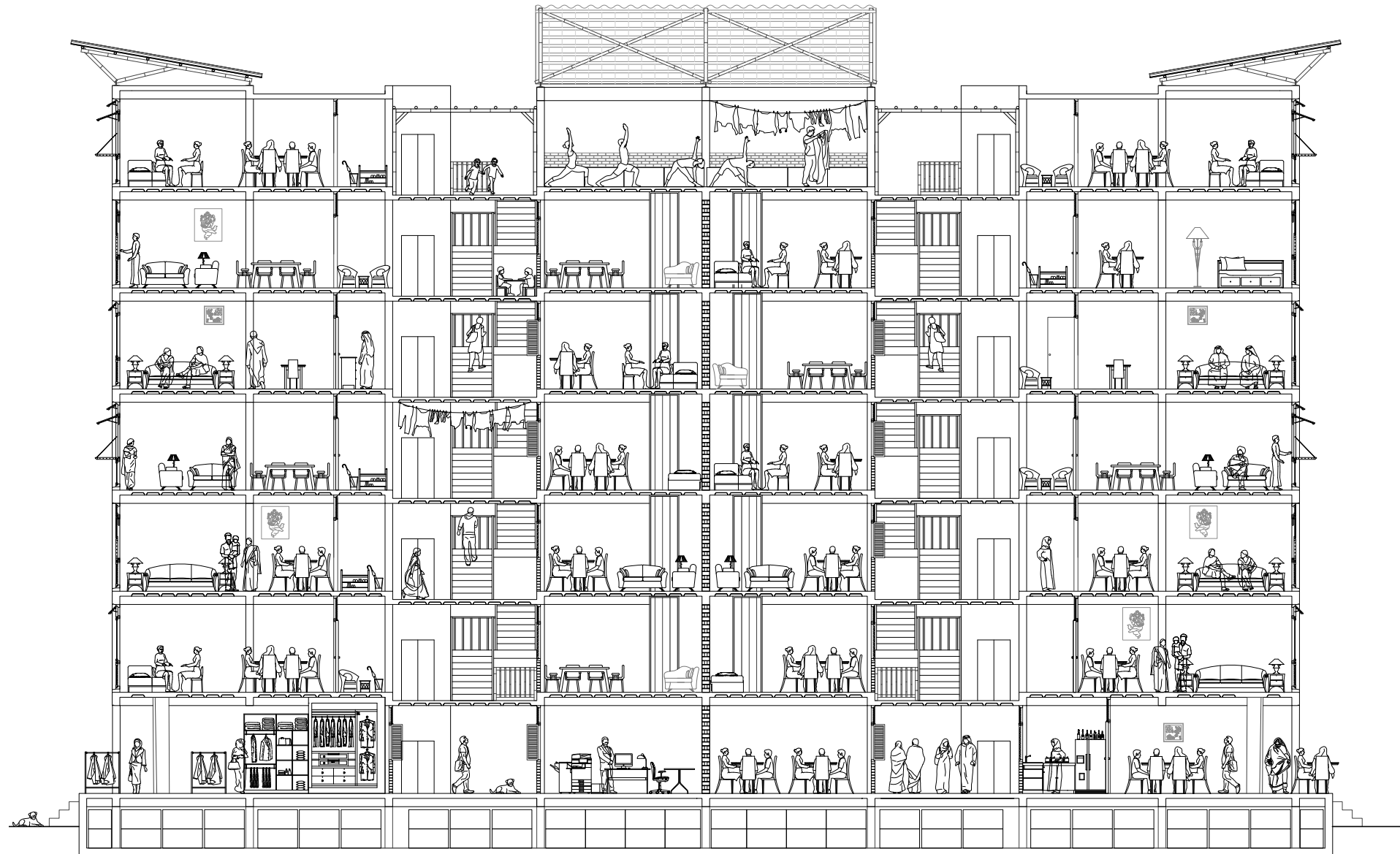


3 units

Corner component variations

## Building Strategy

*Type 2: Mid-rise - Slab*



Mid-rise - Section

Building Strategy

Type 2: Mid-rise - Slab



Mid-rise - Elevation



## Building Strategy

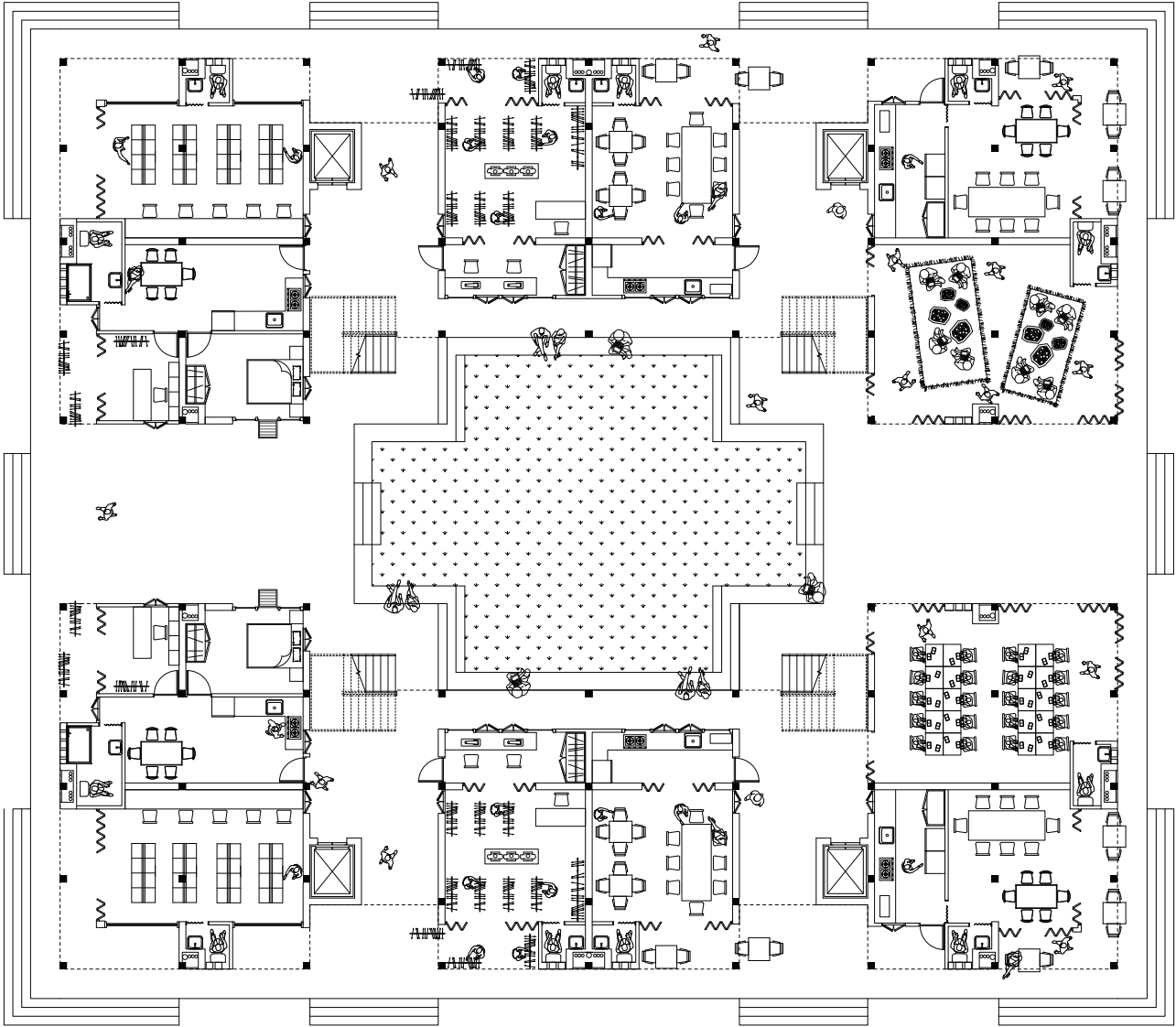
*Type 2: Mid-rise - Slab*



Mid-rise - Elevation

# Building Strategy

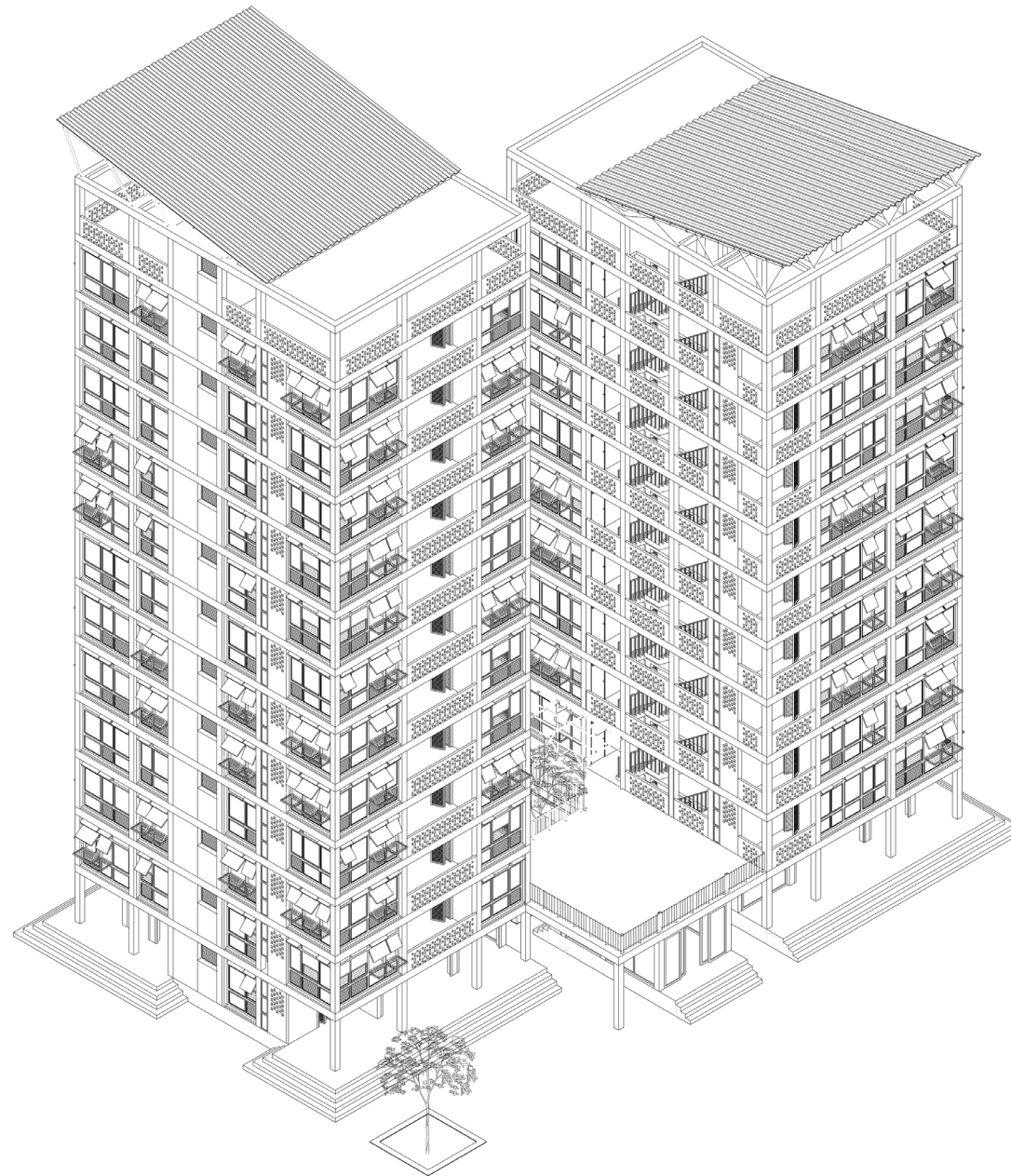
Type 2: Mid-rise - Slab



Mid-rise - Ground Floor

## Building Strategy

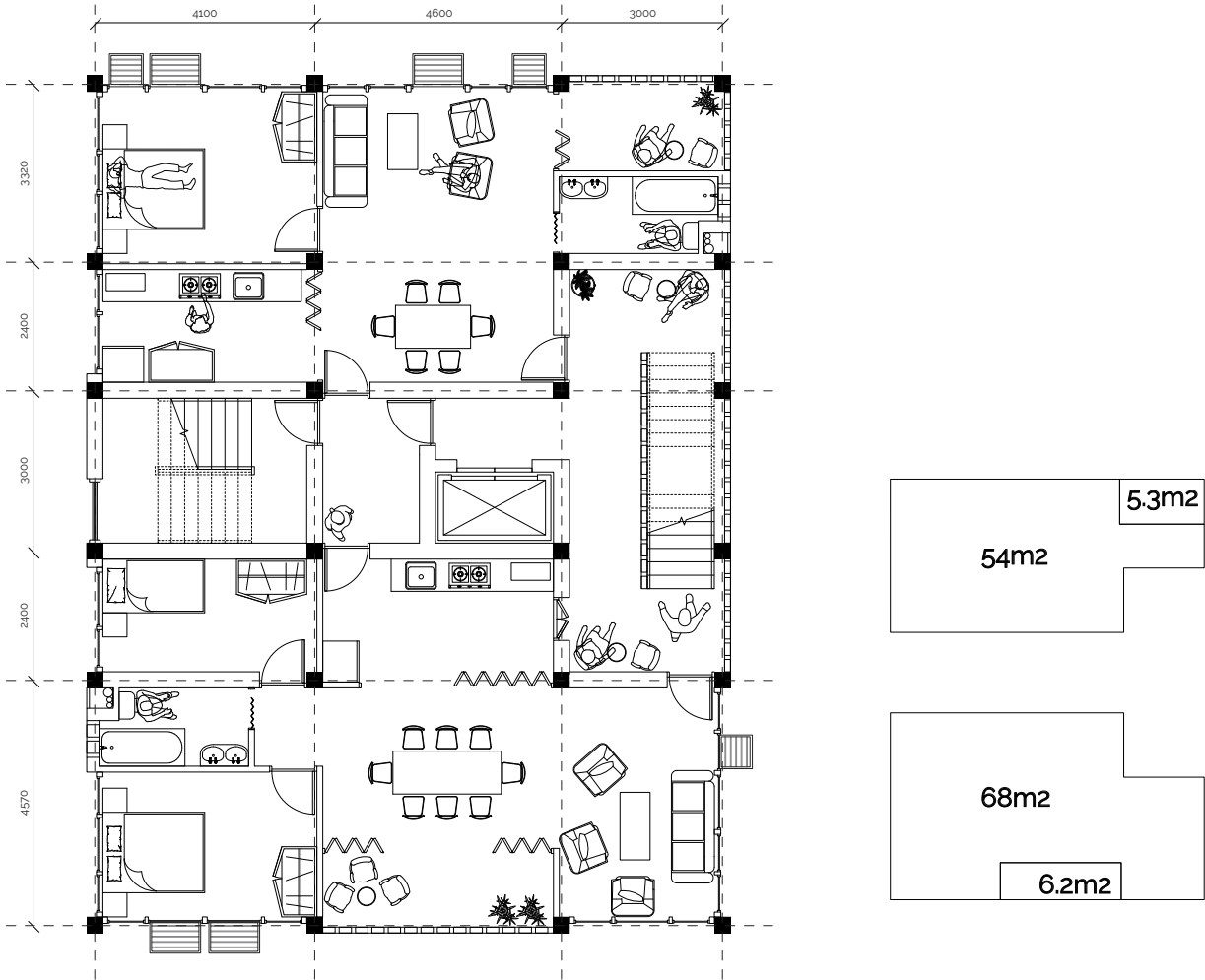
*Type 3: High-rise - Tower*





Building Strategy

Type 3: High-rise - Tower



High-rise - Typical Floor

## Building Strategy

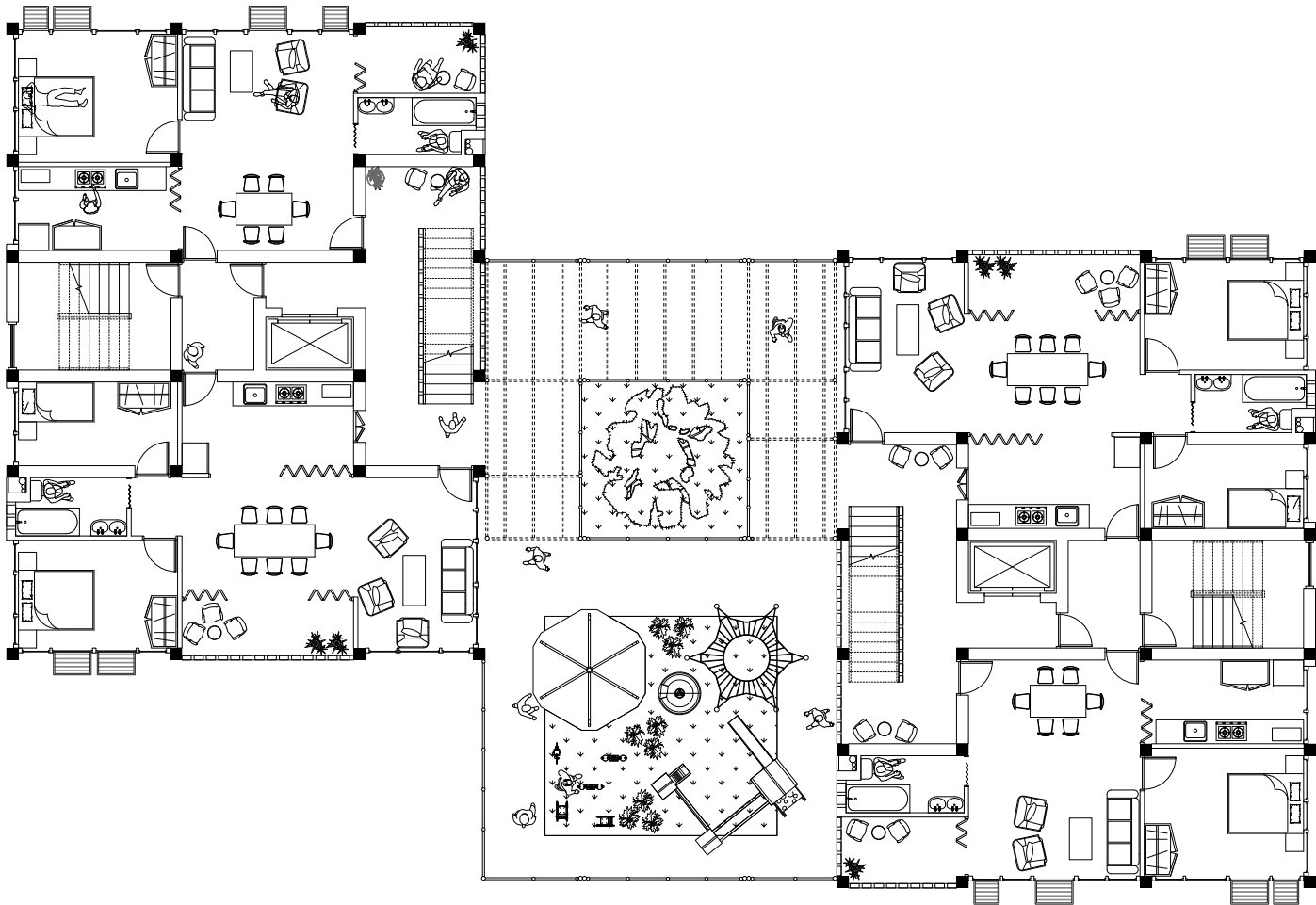
*Type 3: High-rise - Tower*



High-rise - Elevation

# Building Strategy

Type 3: High-rise - Tower

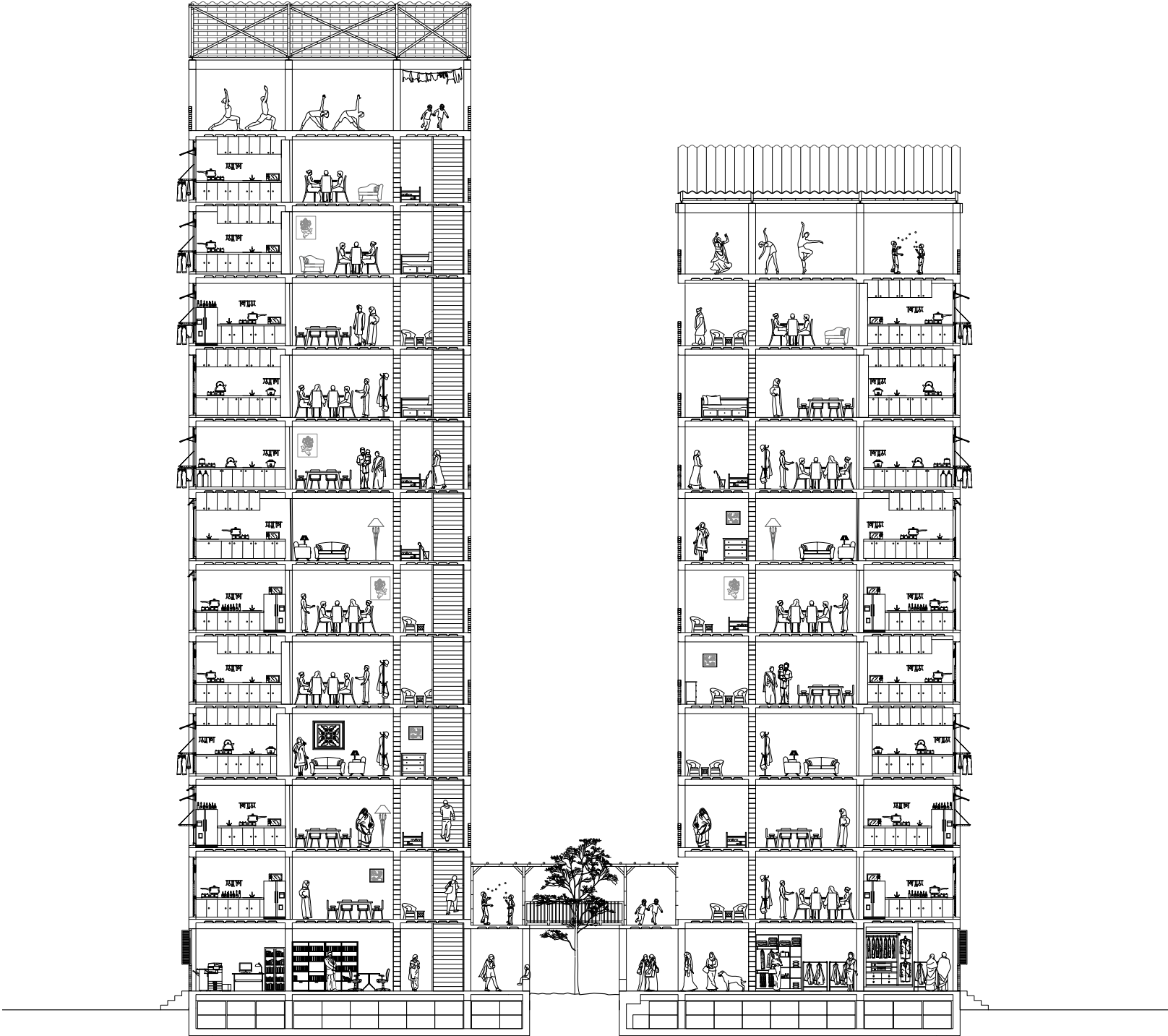


High-rise - 1F Podium Plan



# Building Strategy

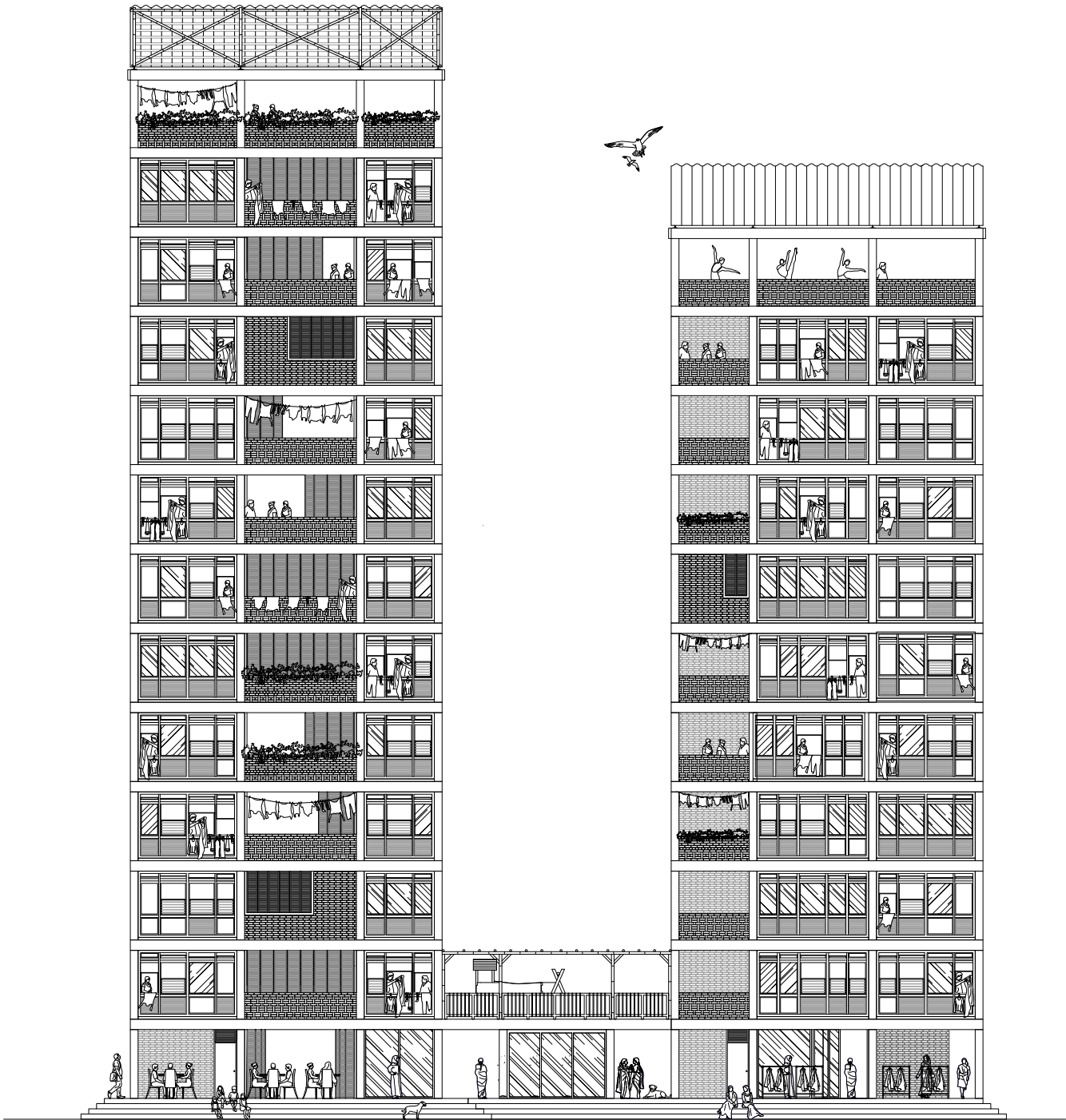
Type 3: High-rise - Tower



High-rise - Section

# Building Strategy

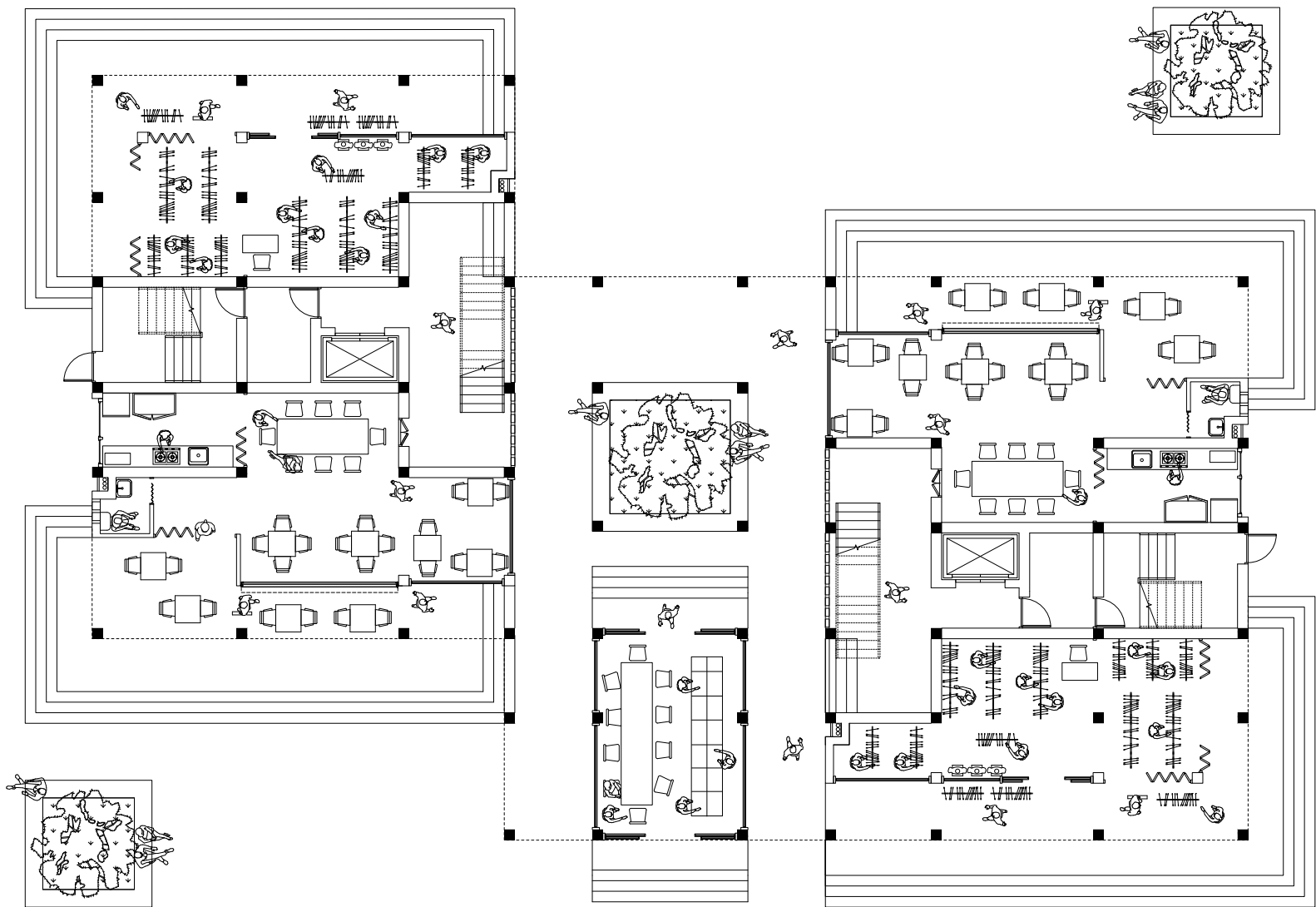
Type 3: High-rise - Tower



High-rise - Elevation

# Building Strategy

Type 3: High-rise - Tower

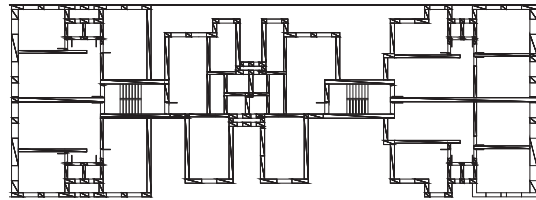


High-rise - GF Plan



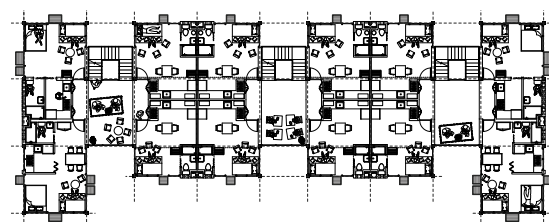
## Typology Comparison

### *Spatial Aspects*



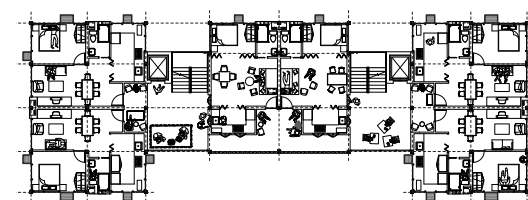
**Sri Prastha**

- no elevator
- no common space among units
- dark circulation spaces



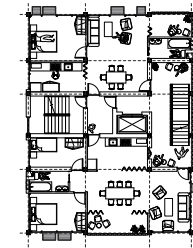
**Low rise - Chain Typology**

- no elevator
- each 2-4 units share unprogrammed open space
- shared courtyard space and multi-purpose hall on GF
  - facing kitchens among neighbours for security surveillance
- flexible Work-Live units on GF
- opportunity to add mezzanine



**Mid rise - Slab Typology**

- with elevator
- each 2-3 units share unprogrammed open space
- shared courtyard space and multi-purpose hall on GF
  - larger threshold area before entering unit
  - flexible Work-Live units on GF
- multiple ducts for flexible unit configuration

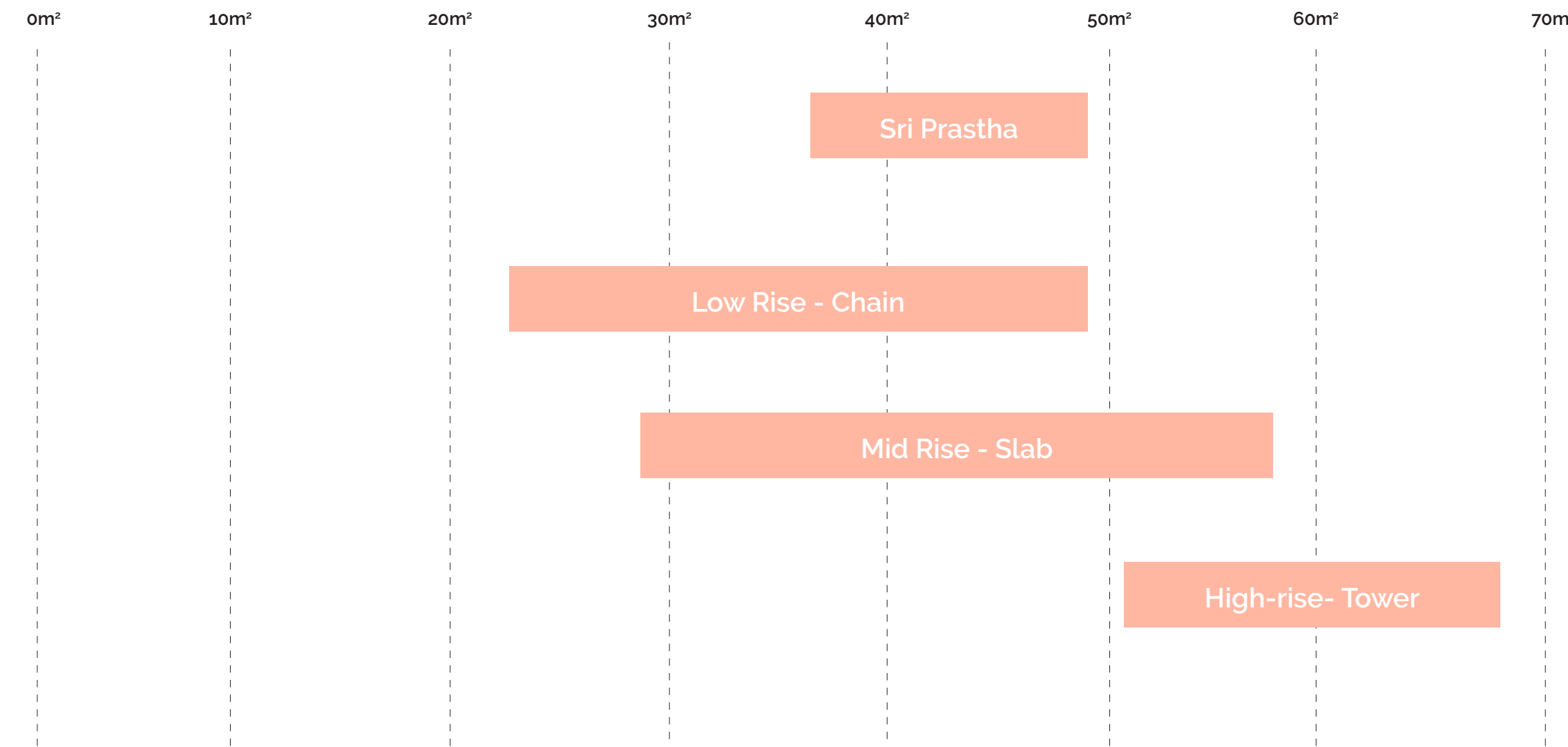


**High rise - Tower Typology**

- with elevator
- each unit has its own entrance
- each unit has its own balcony
- panoramic view from the top
- GF is completely for commercial or amenities
- Private communal podium on 1F

# Typology Comparison

Unit Sizes



# Typology Comparison

## Society Figures



**Sri Prastha**

Number of dwelling per two buildings: 36  
Unit sizes : 35 - 48 m²  
Plot FSI: 1.4  
Storeys: 3  
Target Group: Lower MIG



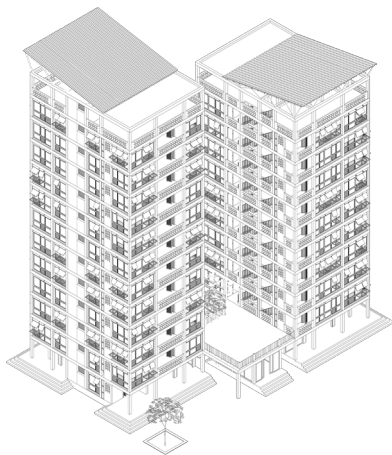
**Low rise - Chain Typology**

Number of dwelling per two buildings :  
38 - 80 (depending on unit combination)  
Unit sizes : 22-50m²  
Plot FSI: 2.64  
Storeys: 4 (with mezzanine)  
Target Group: EWS, LIG, Lower MIG



**Mid rise - Slab Typology**

Number of dwelling per two buildings:  
76 - 104 (depending on unit combination)  
Unit sizes : 31-57m²  
Plot FSI: 3.5  
Storeys: 7  
Target Group: LIG, Lower MIG, Middle MIG



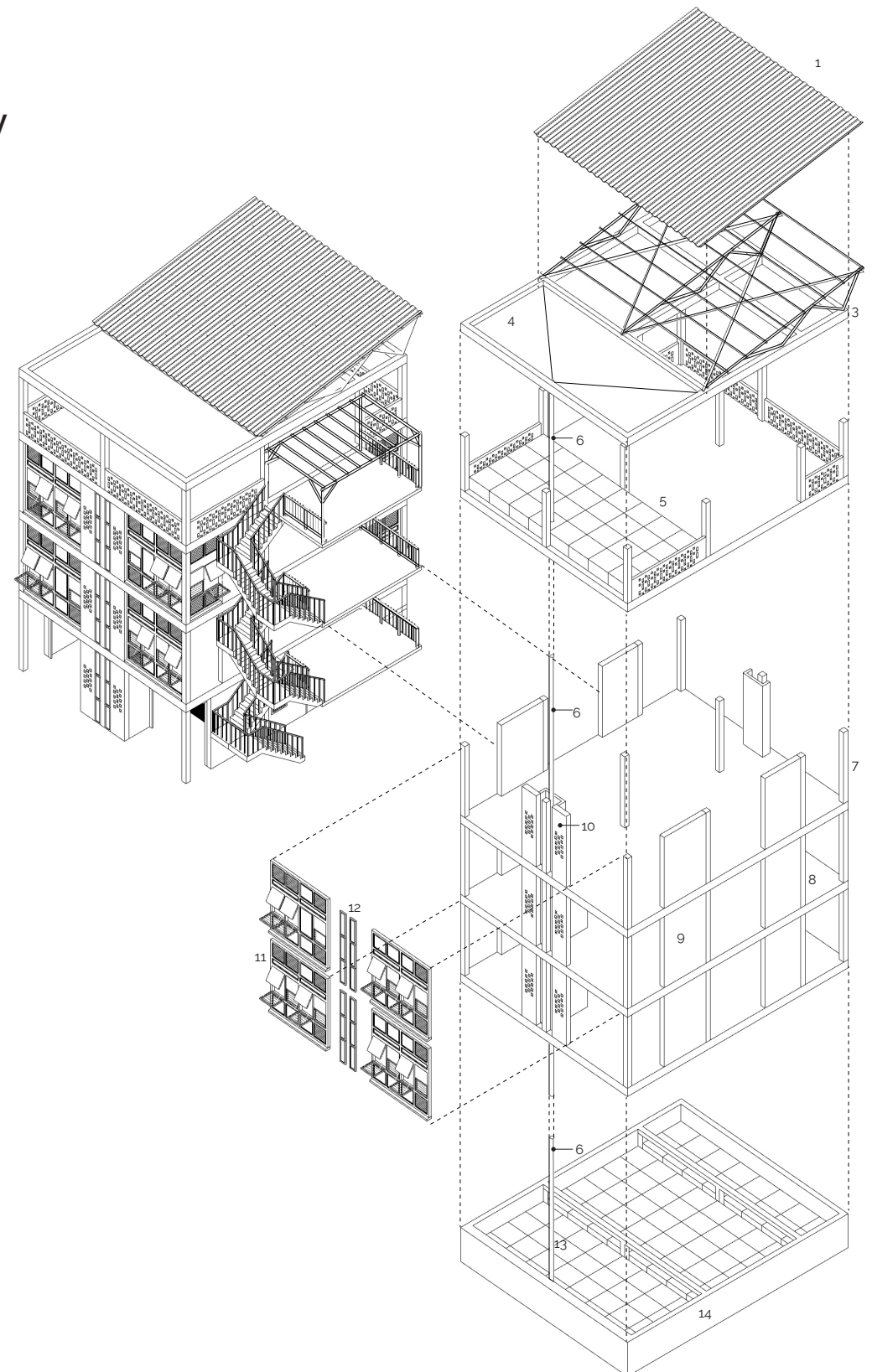
**High rise - Tower Typology**

Number of dwelling per two buildings:  
40 (+5 commercial spaces)  
Unit sizes : 54-68m²  
Plot FSI: 2.5  
Storeys: 10-12  
Target Group: Middle MIG, Upper MIG





## Construction & Materiality



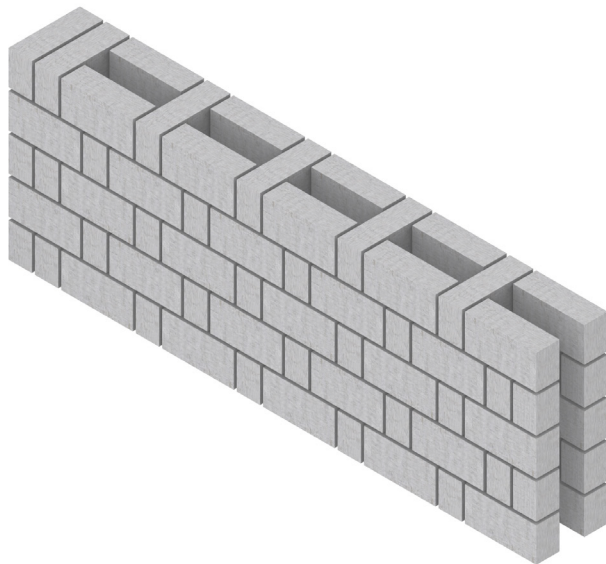
Structure

Comparison of Common Masonry Types in India

	Raw Material	Density	Availability	Cost and Cost Benefits	Finishing	Environmental Impact
Red Clay Bricks	Clay	1800 kg/mm <sup>3</sup>	High, Locally Available	Rs 3200/m <sup>3</sup> , overall cost is more, requires most mortar	Can be exposed	Made from topsoil, reduces agricultural land. Higher CO2 emission due to firing
✓ Fly Ash Bricks	Fly Ash, Cement, Sand/ Stone dust	2200 kg/mm <sup>3</sup>	High, Locally Available	Rs 3100/m <sup>3</sup> , overall cost is more, requires most mortar	Can be exposed	Use flyash produced by thermal power plants, Very low CO2 emission during manufacturing
✓ AAC Blocks	Cement, Fly ash, Aluminium Powder, Air Entraining Agent (for lightweight purposes)	550-650 kg/mm <sup>3</sup> , Saves Steel in High Rise	Highly Available in Tier I & II Cities where High-Rise construction occurs	Rs 4200/m <sup>3</sup> , Individual block is expensive but overall cost is low, consumes less mortar, cheaper in bulk	Has to be plastered due to high porosity	Manufacturing waste is recycled, less CO2 emission during manufacturing
CLC Blocks	Cement, Fly ash, Foaming Agent (for lightweight purposes)	800kg/mm <sup>3</sup> Saves Steel in High Rise	Less Available	Rs 4000/m <sup>3</sup> , Individual block is expensive but overall cost is low, consumes less mortar, cheaper in bulk	Has to be plastered due to high porosity	Use flyash produced by thermal power plants, Very low CO2 emission during manufacturing

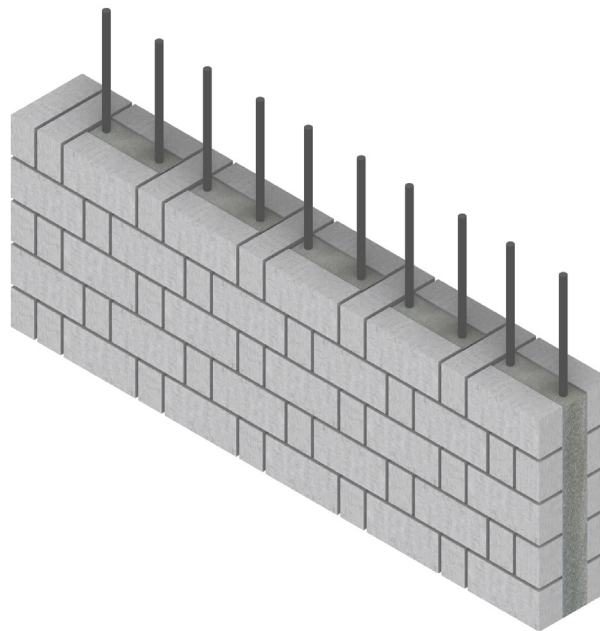
## Structure

### Stabalizing Wall



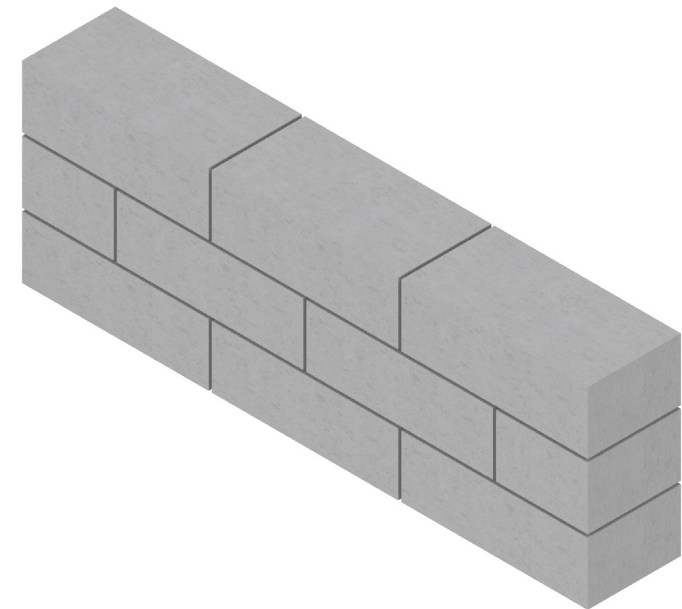
Fly ash brick - Rat trap bond

Stabalizing elements in Low rise Typology



Fly ash brick - Reinforced Rat trap bond

Stabalizing elements on the facade in Mid-rise & High-rise Typology



AAC Blocks

Internal stabalizing elements in Mid-rise & High-rise Typlogy

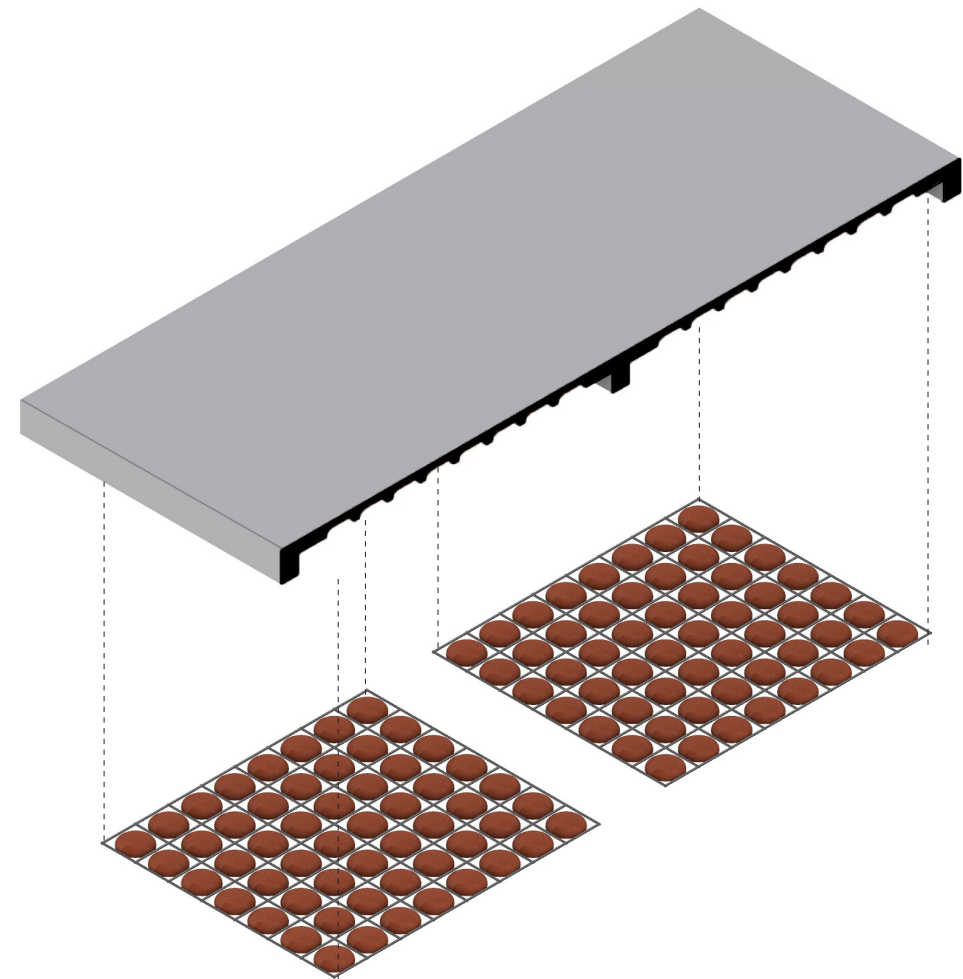
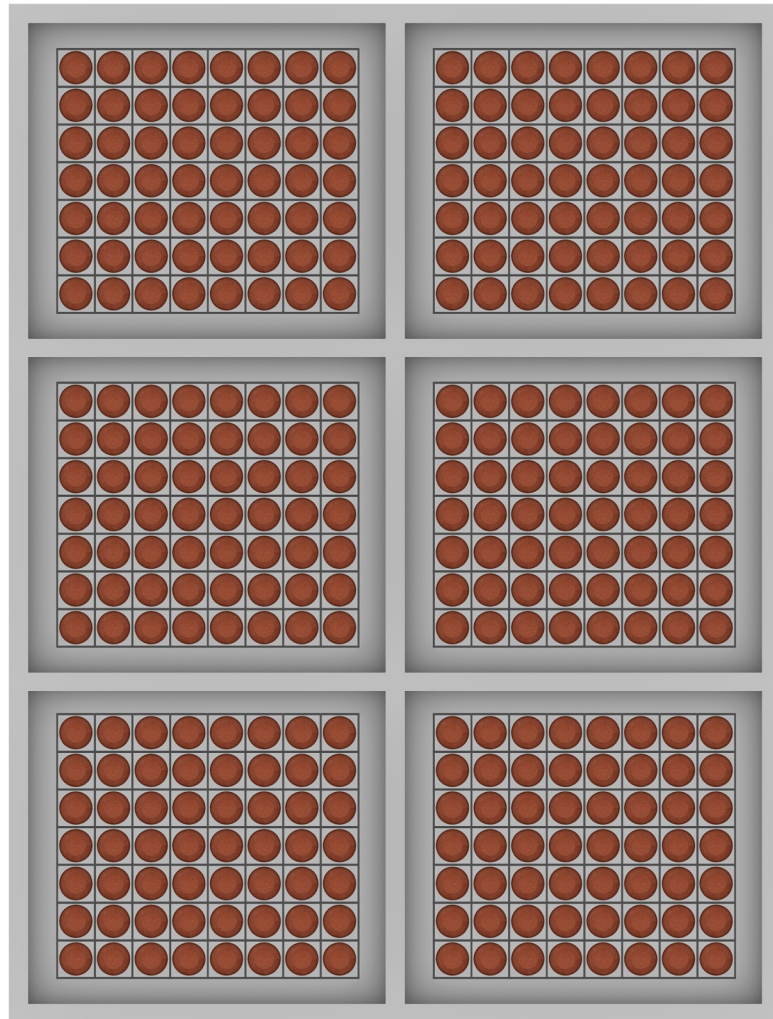
#### ***Rat Trap bond***

- *Requires approximately 25% less bricks and 40% less mortar than traditional masonry bond*
- *Cavity induced in wall provides better thermal insulation, resulting in cooler interiors during summer and warmer interiors during winter.*



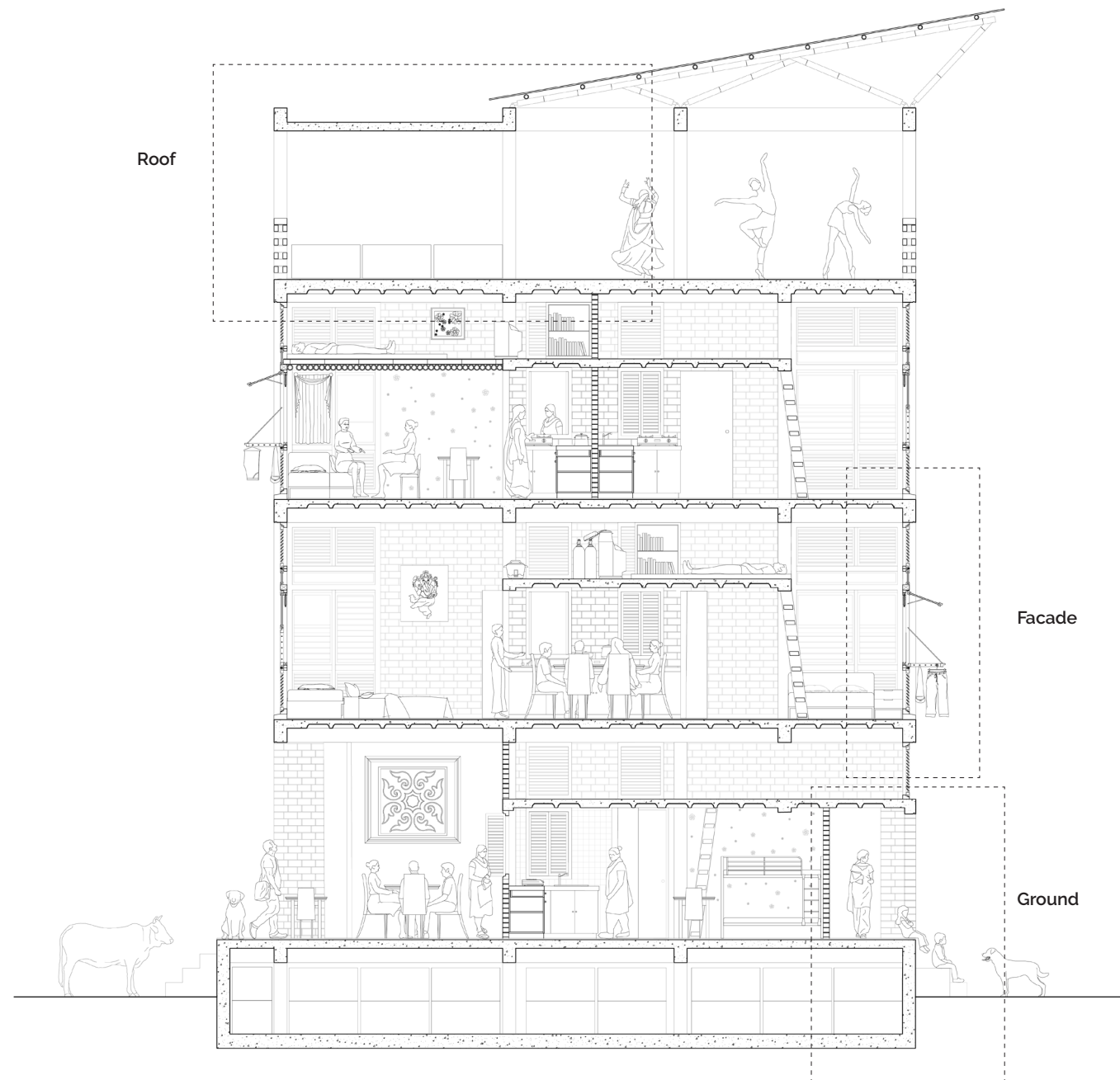
## Structure

### *Filler Slab*



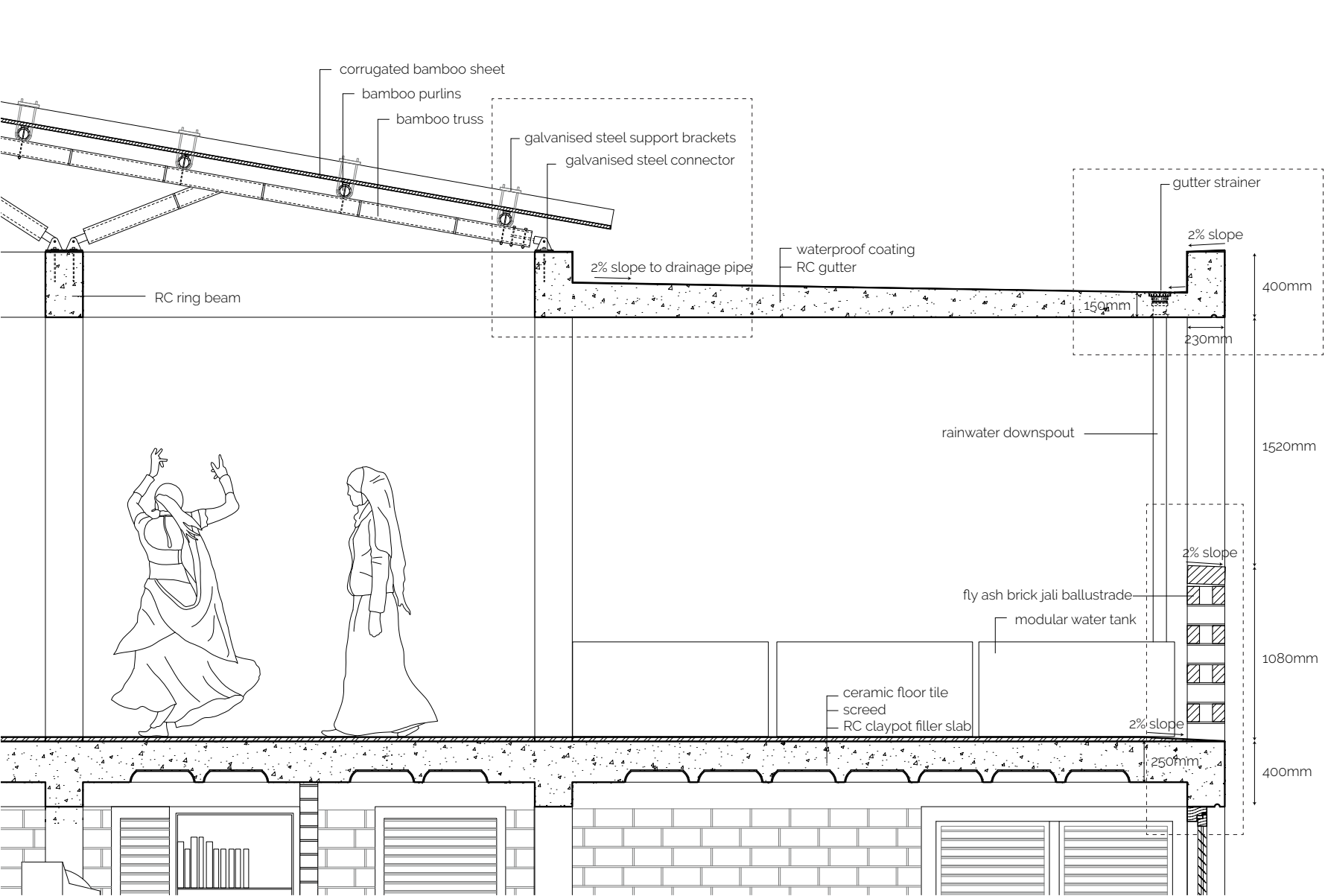
## Construction & Materiality

*Building section 1:50*



Construction & Materiality

Roof 1:20



corrugated bamboo sheet



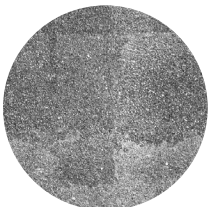
bamboo



broken recycled china tiles



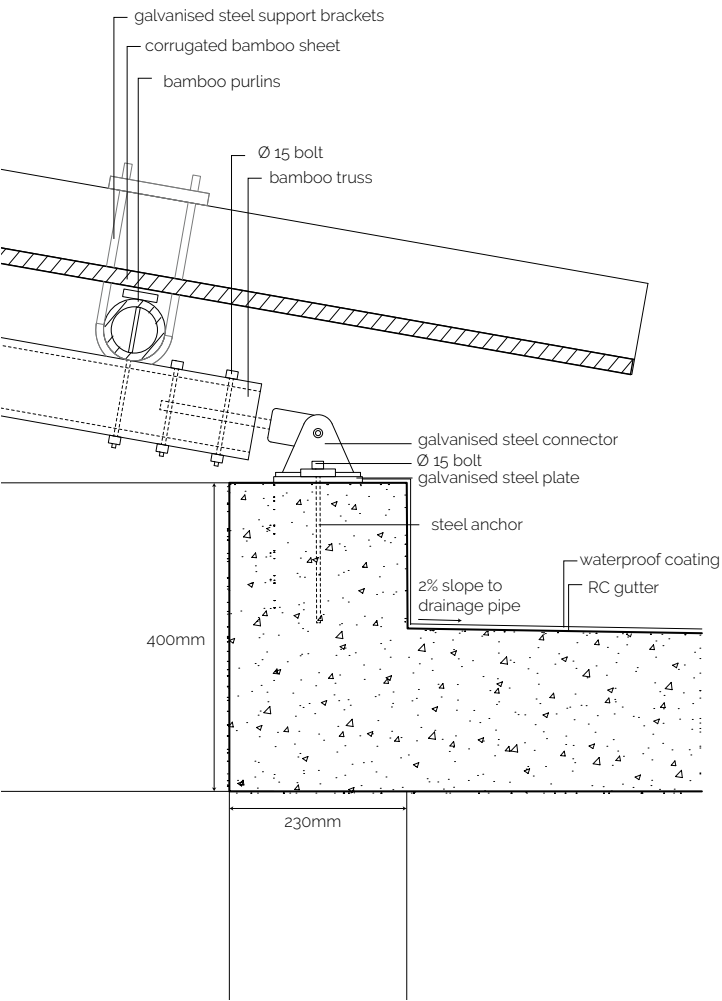
fly ash brick



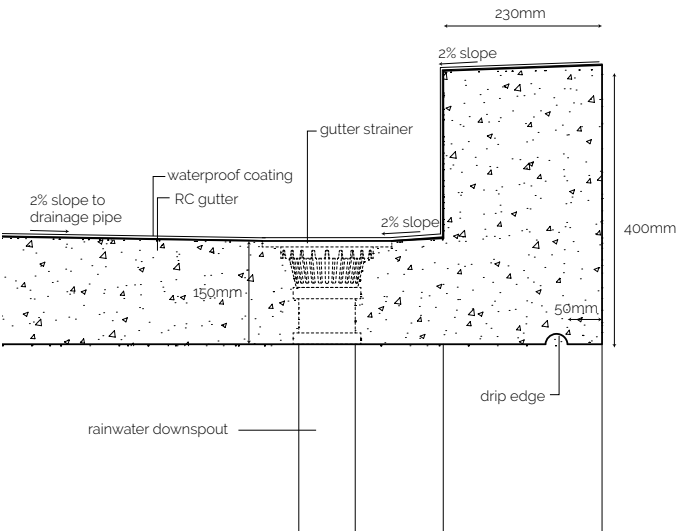
reinforced concrete

Construction & Materiality

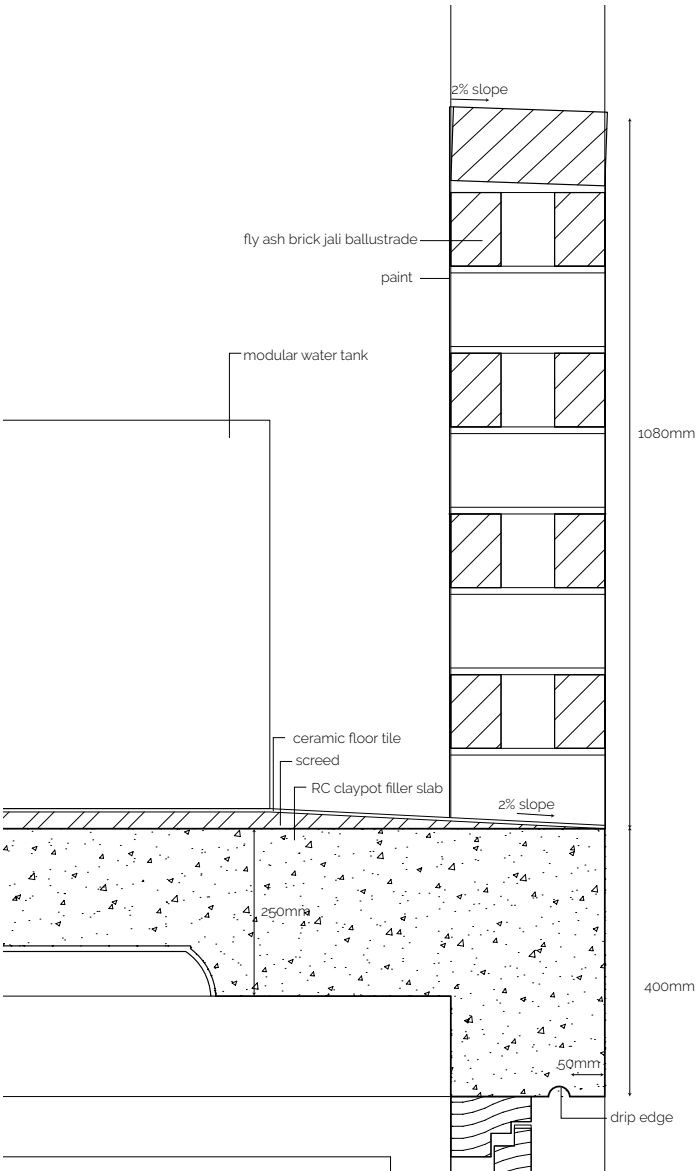
Roof Details 1:5



Concrete gutter and bamboo roof connection



Gutter strainer and downspout

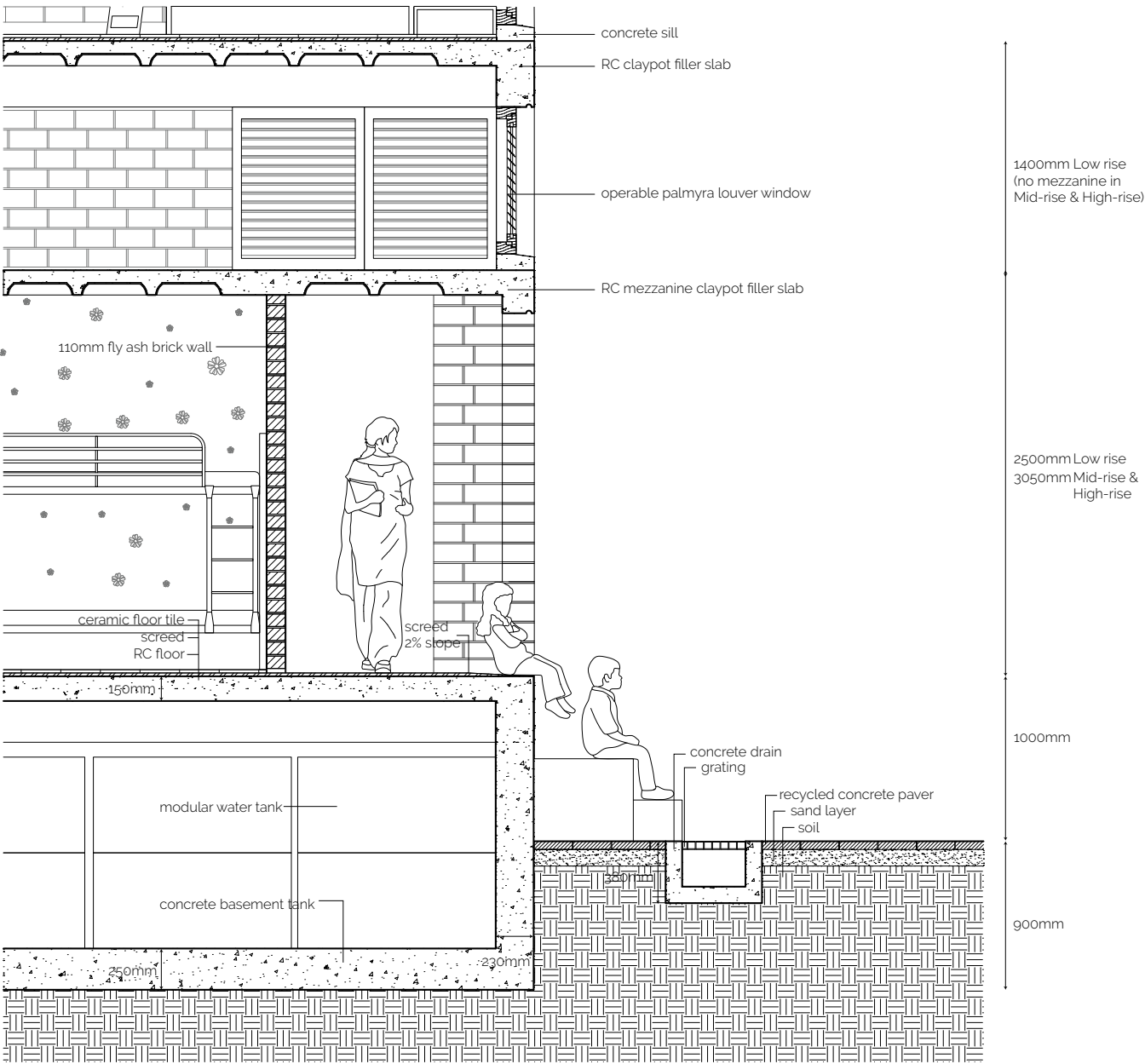


Brick ballustrade



# Construction & Materiality

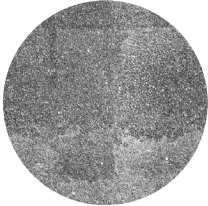
Ground 1:20



recycled concrete paver

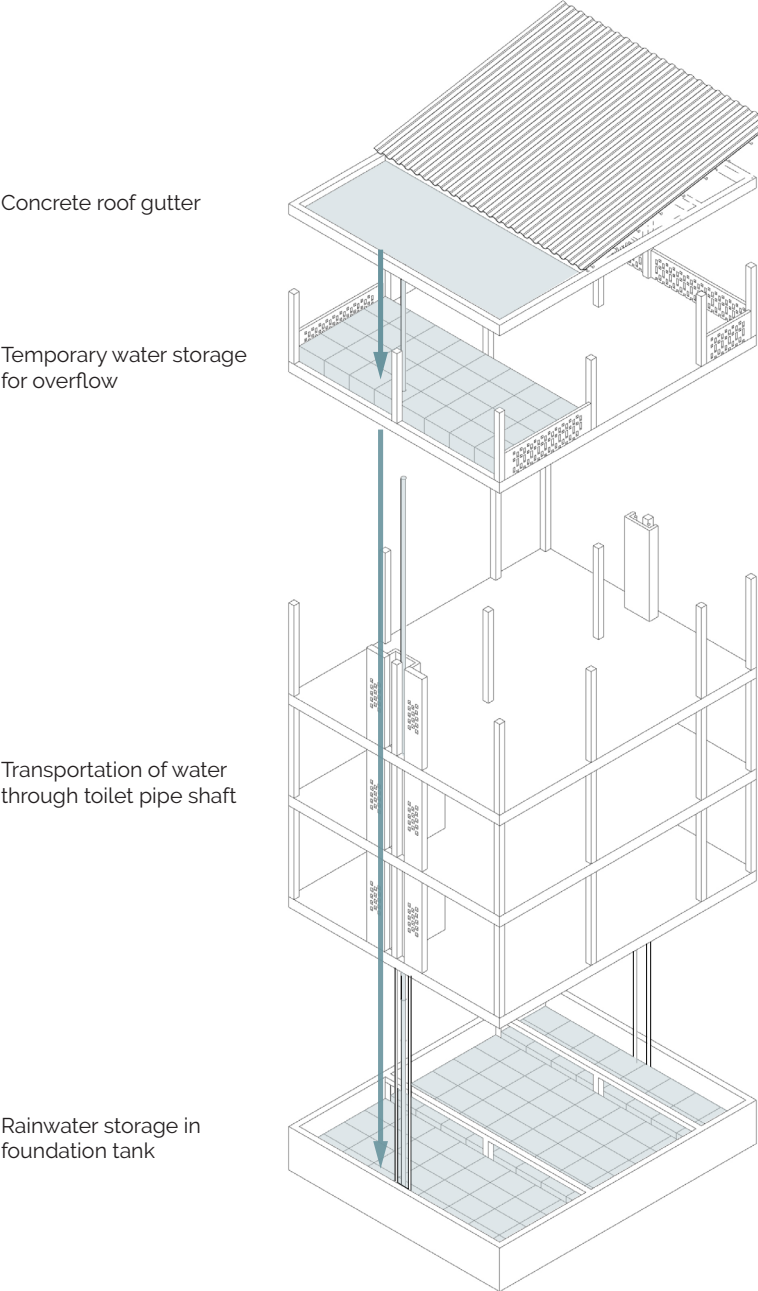


fly ash brick

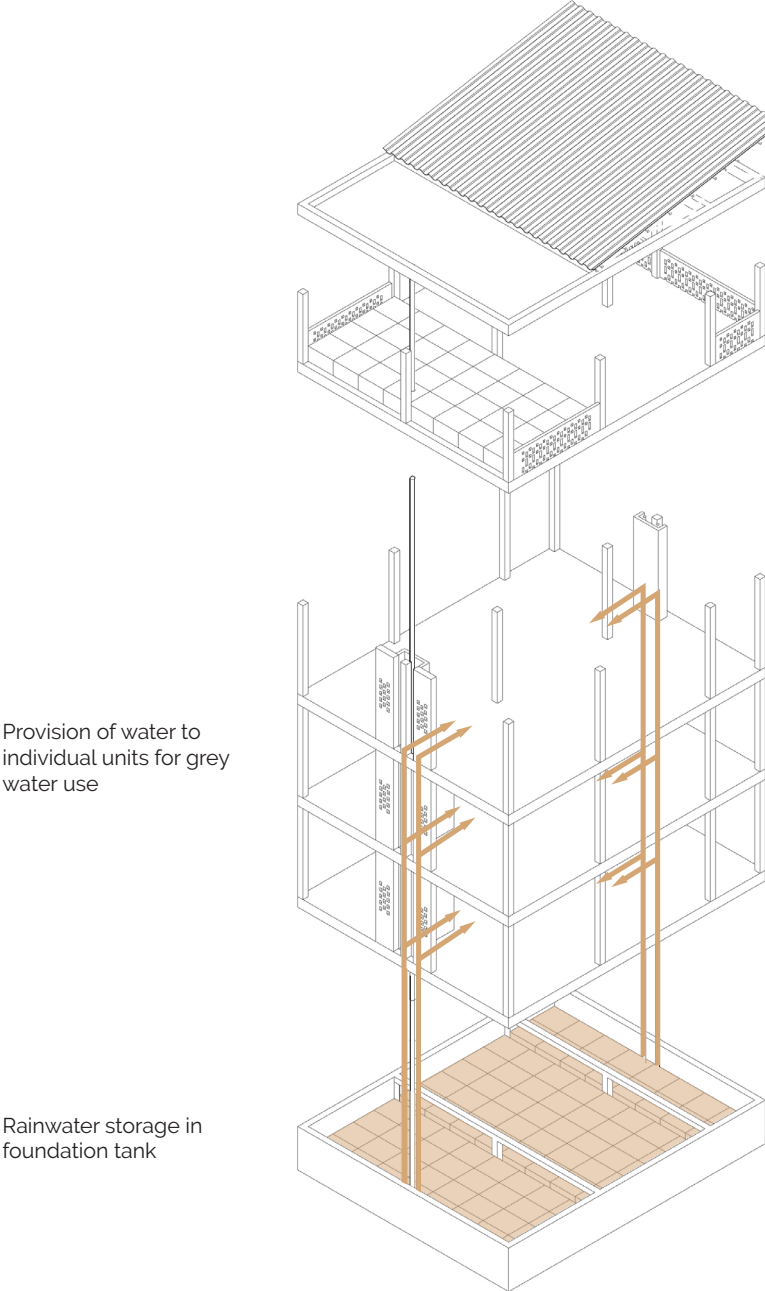


reinforced concrete

# Water Management



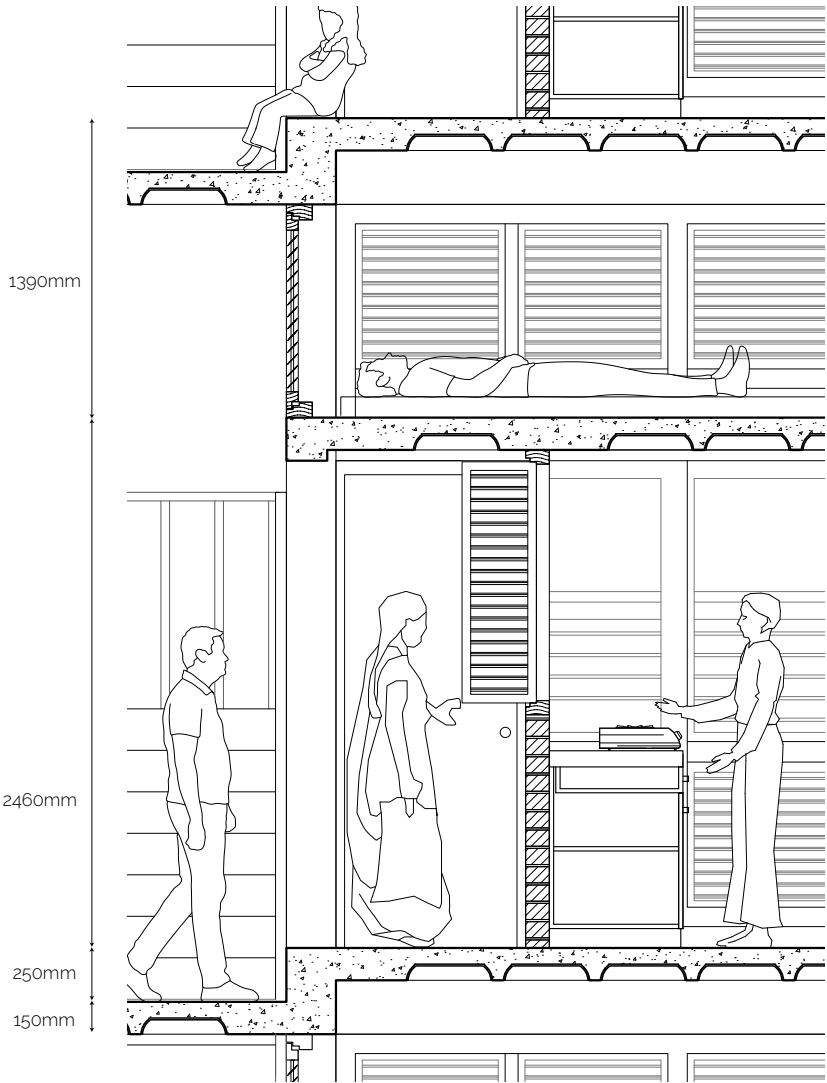
Rainwater Collection and Storage



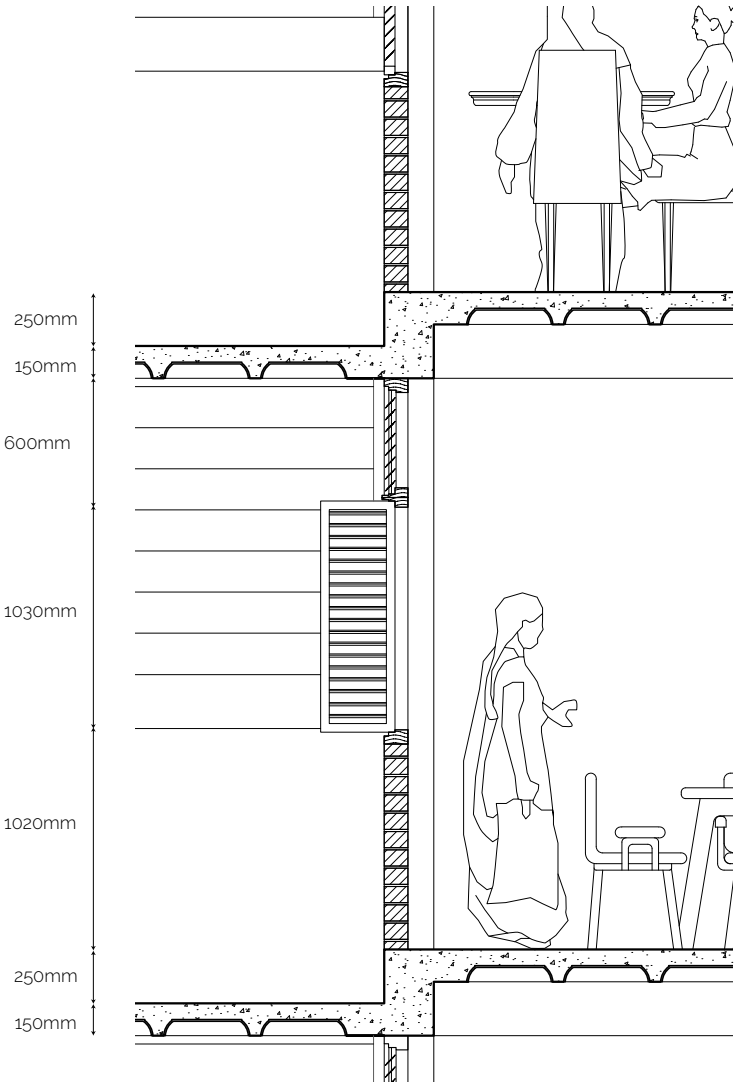
Provision of Water from Foundation Tank

# Construction & Materiality

## Internal Facade



Low-rise internal facade



Mid-rise and high-rise internal facade



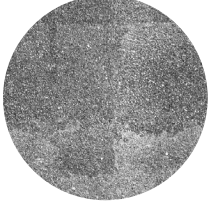
palmira louvers



wood frame



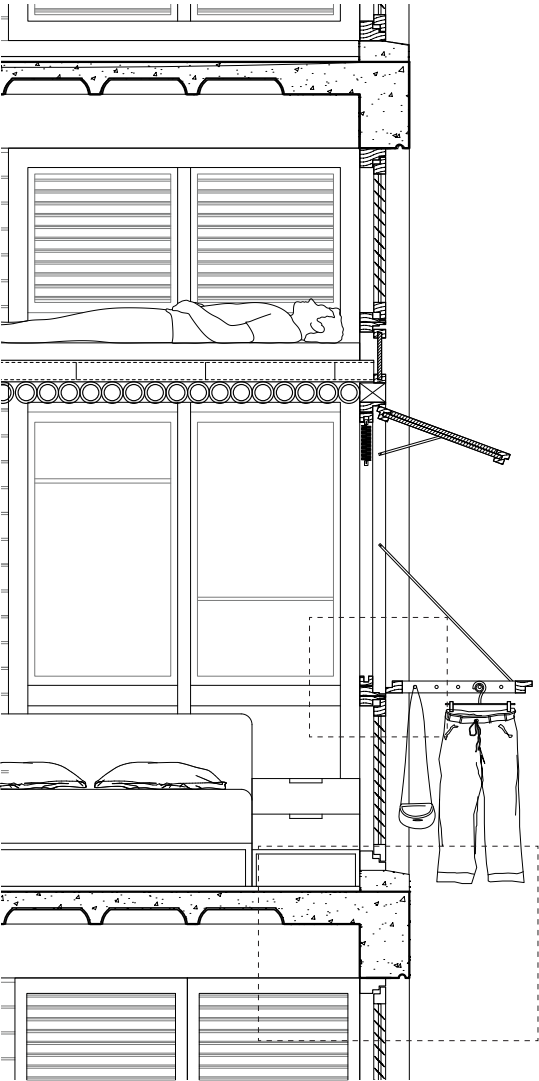
fly ash brick



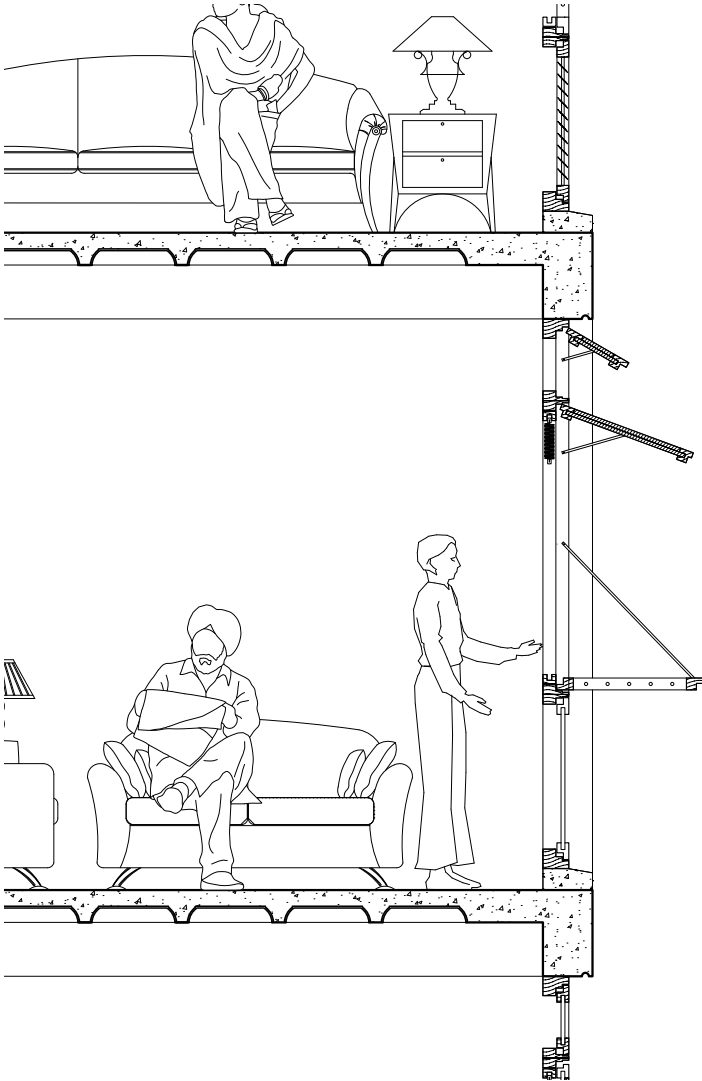
reinforced concrete

Construction & Materiality

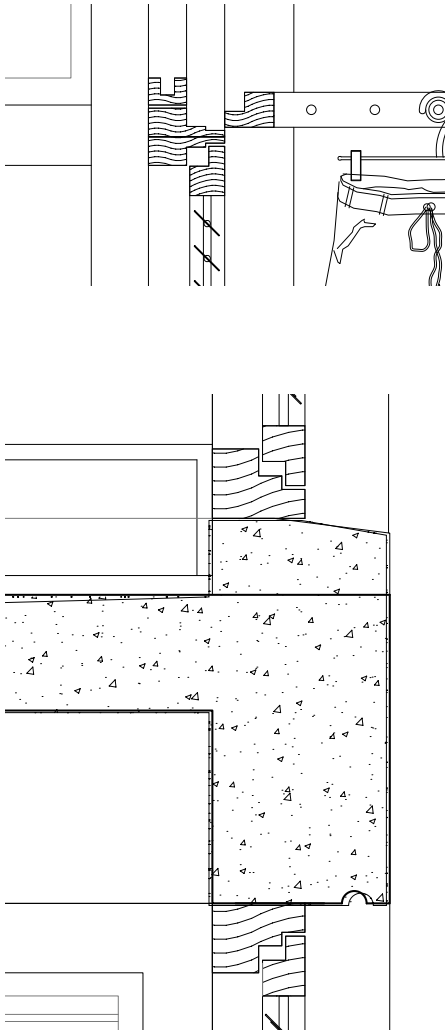
External Facade 1:20



Low-rise external facade



Mid-rise and high-rise external facade



1:5 facade details



palmyra louvers



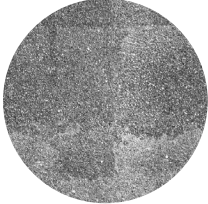
coir ply



wood frame



fly ash brick

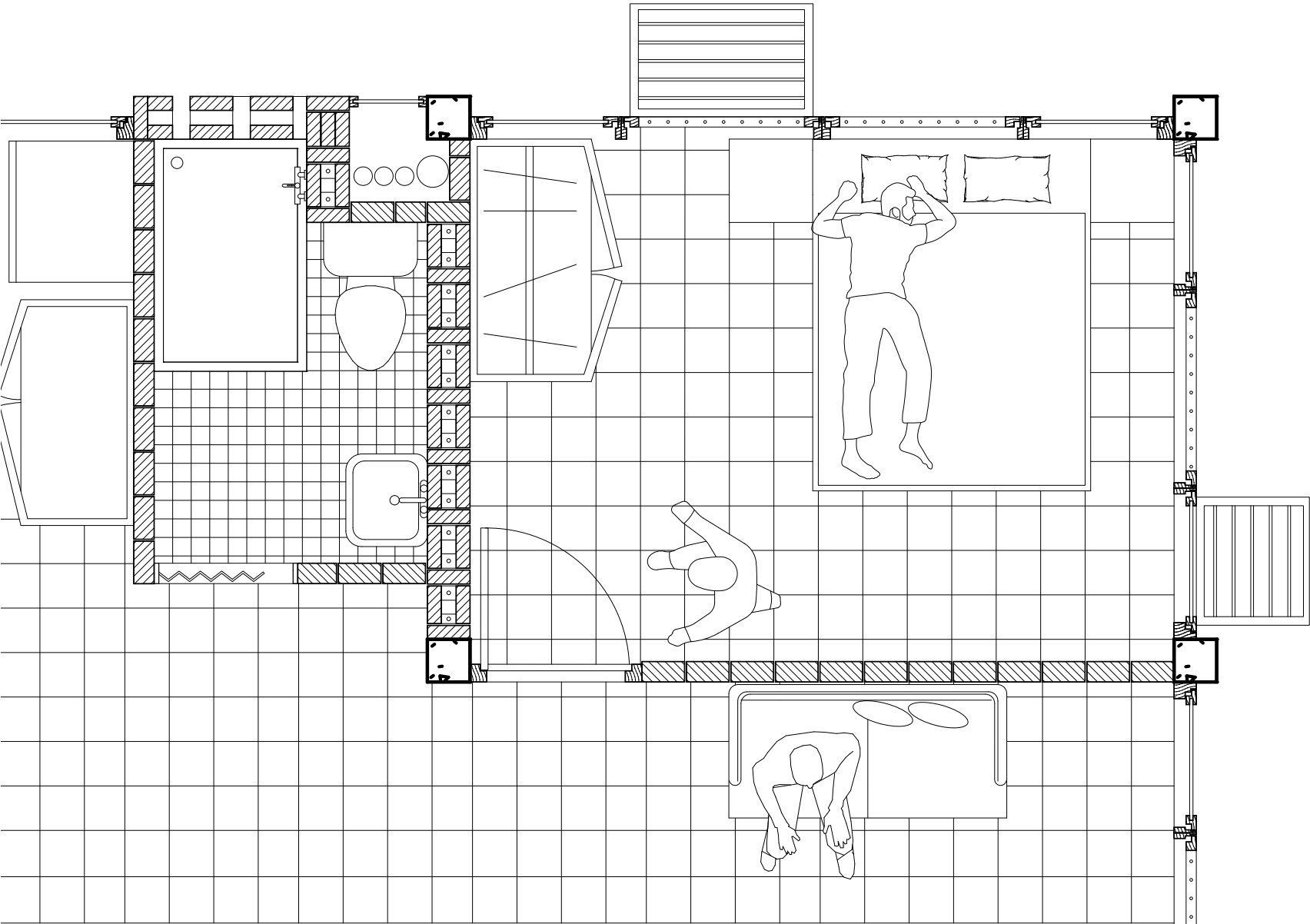


reinforced concrete



Construction & Materiality

External Facade Plan 1:20



palmira louvers



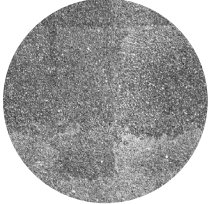
coir ply



wood frame



fly ash brick



reinforced concrete

# Construction and Materiality

External Facade Elevation 1:20 - materials



bamboo



palmyra louvers



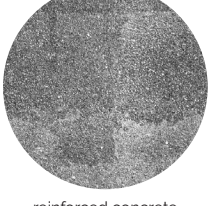
coir ply



wood frame



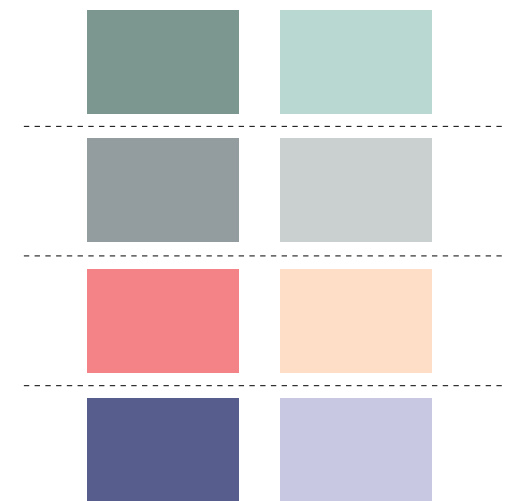
fly ash brick



reinforced concrete

## Construction and Materiality

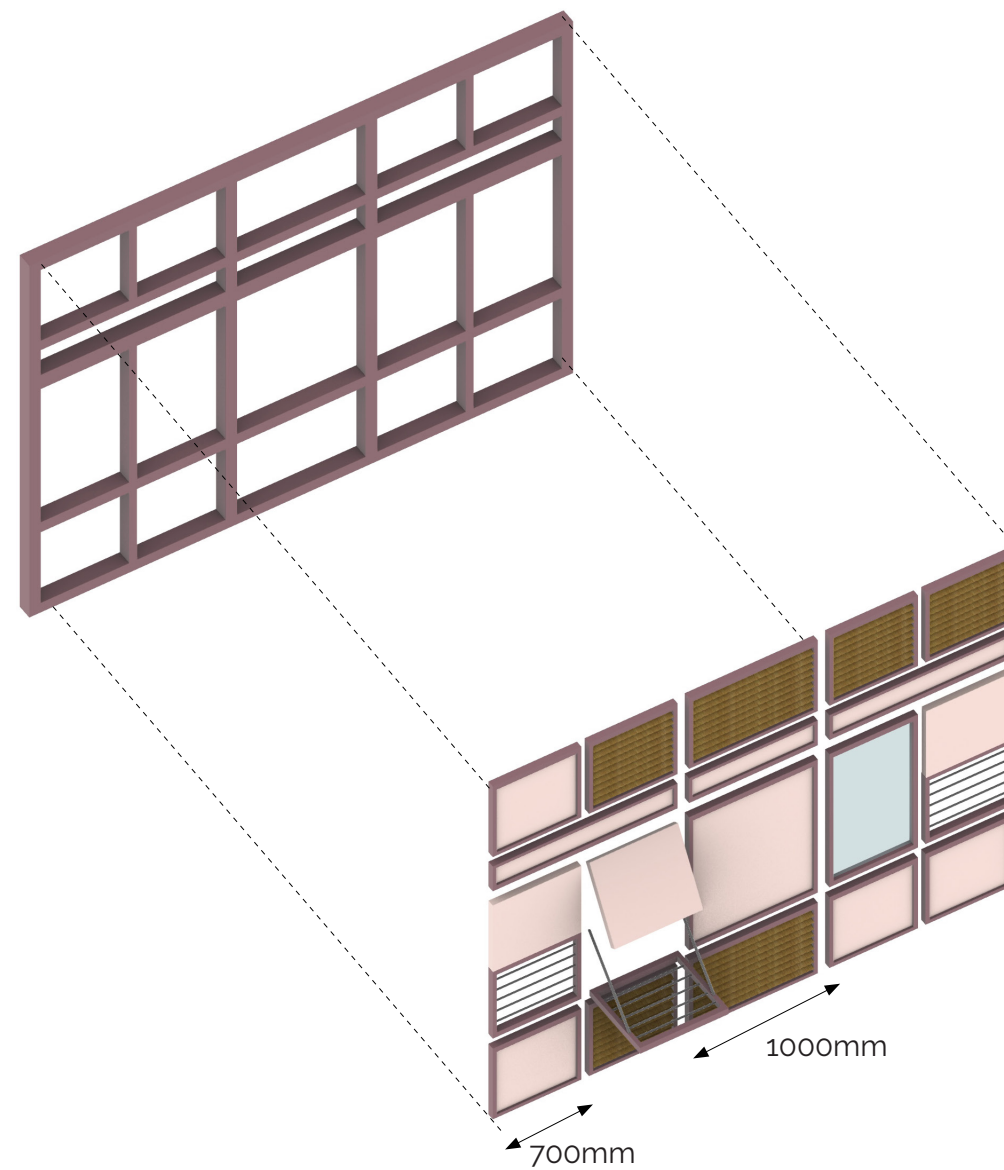
*External Facade Elevation 1:20 - colour scheme*



Pairing of Facade Colour Scheme

## Construction and Materiality

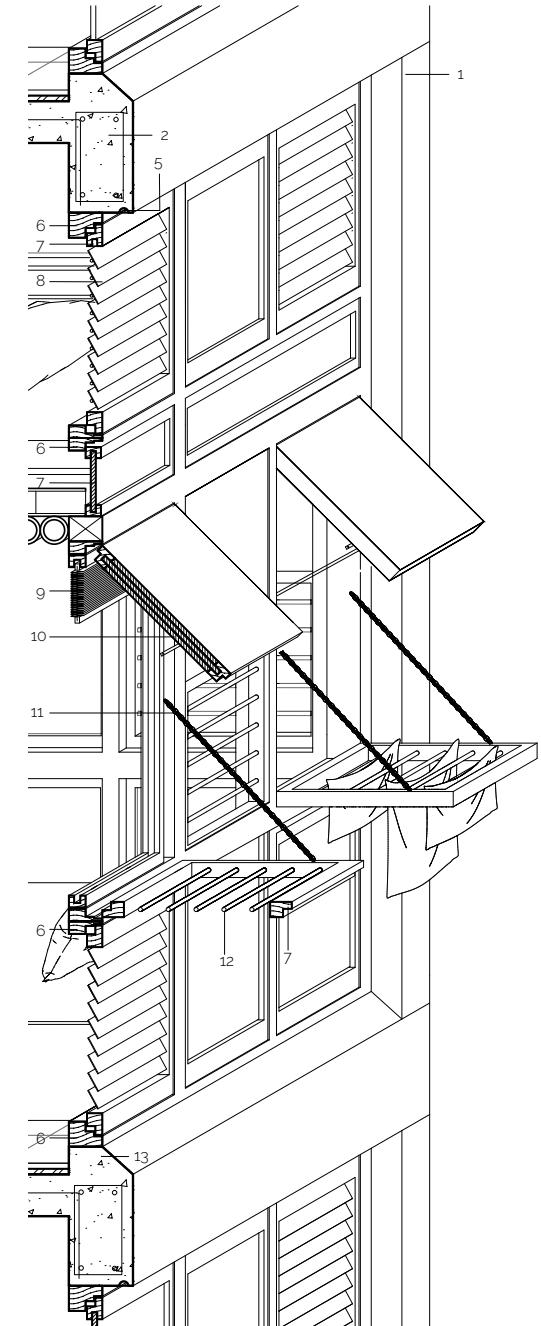
### *Facade Component Catalogue*



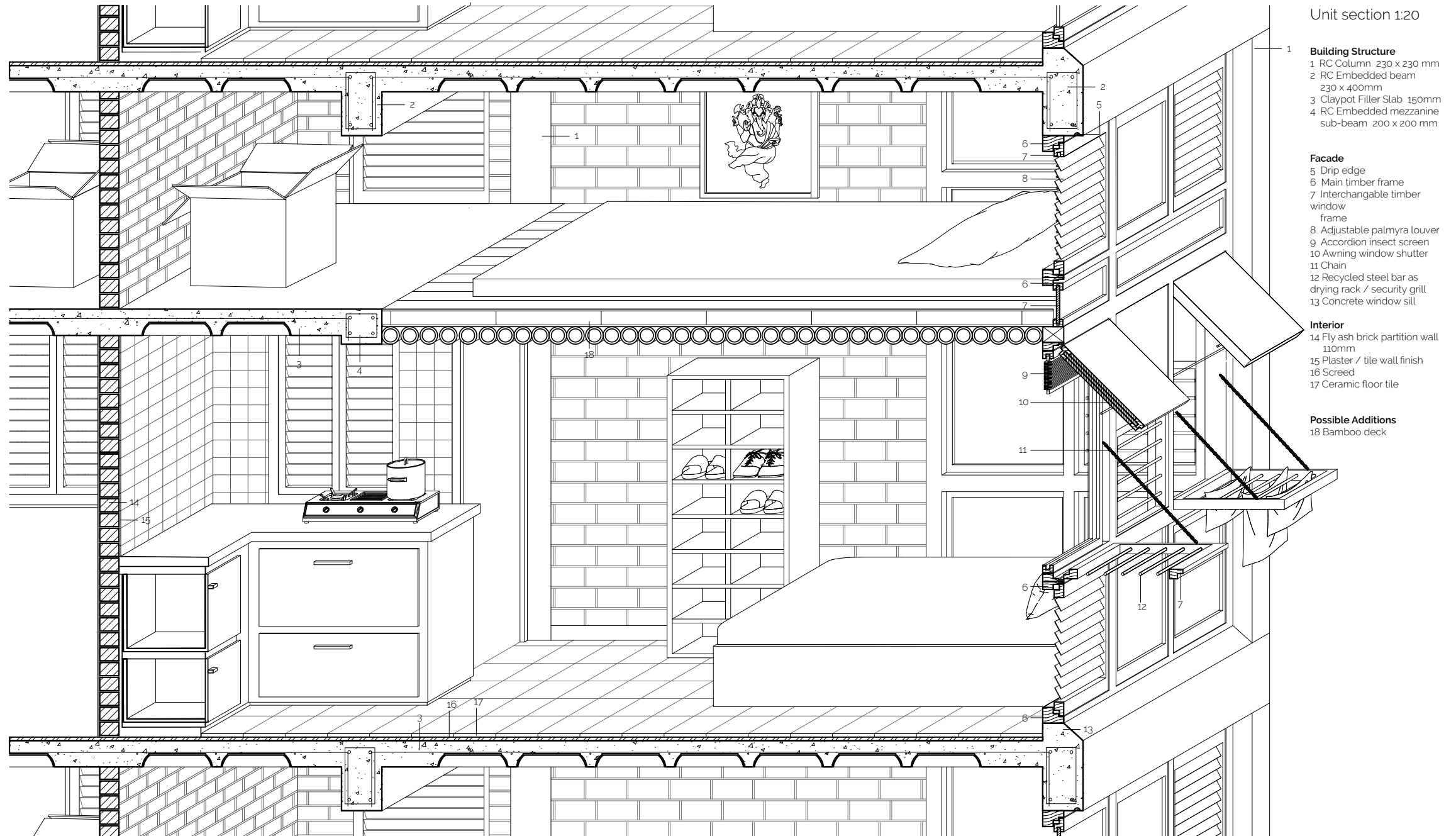


## Construction and Materiality

### *Facade Component Catalogue*



## Construction and Materiality

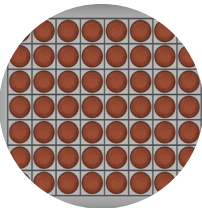


# Construction and Materiality

Potential Recycled Materials from demolished buildings in Sri Prastha



Laundry drying grill



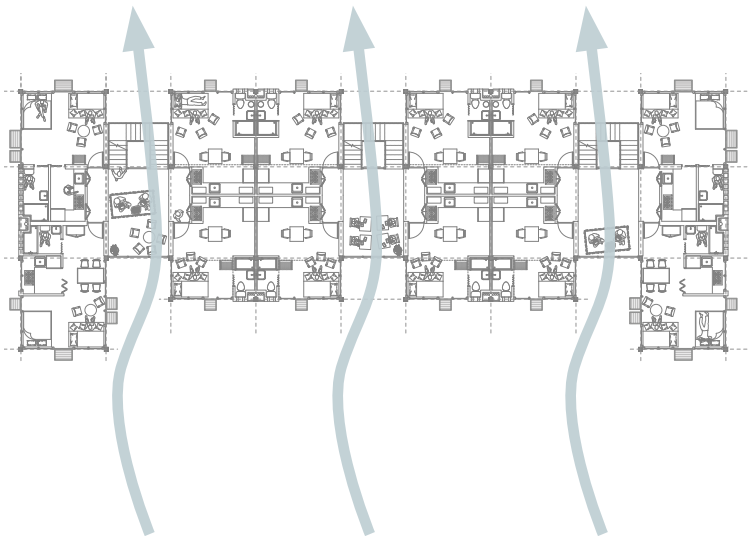
Brick as filler material



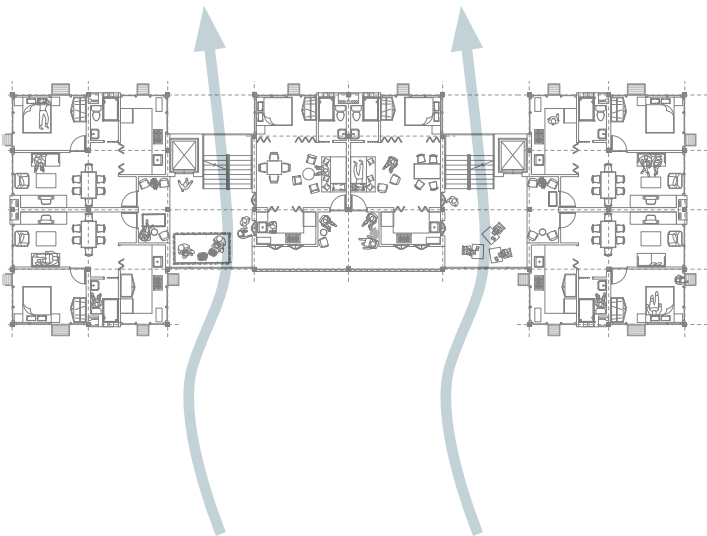
Concrete pavers

# Ventilation

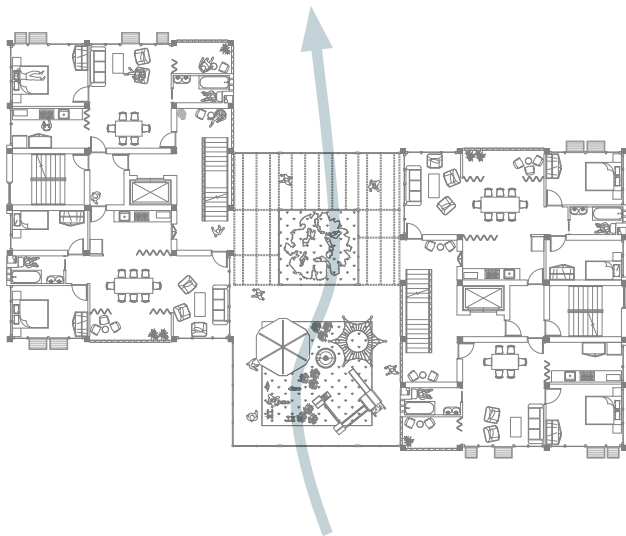
Urban and Building



Low-rise - Chain



Mid-rise - Slab

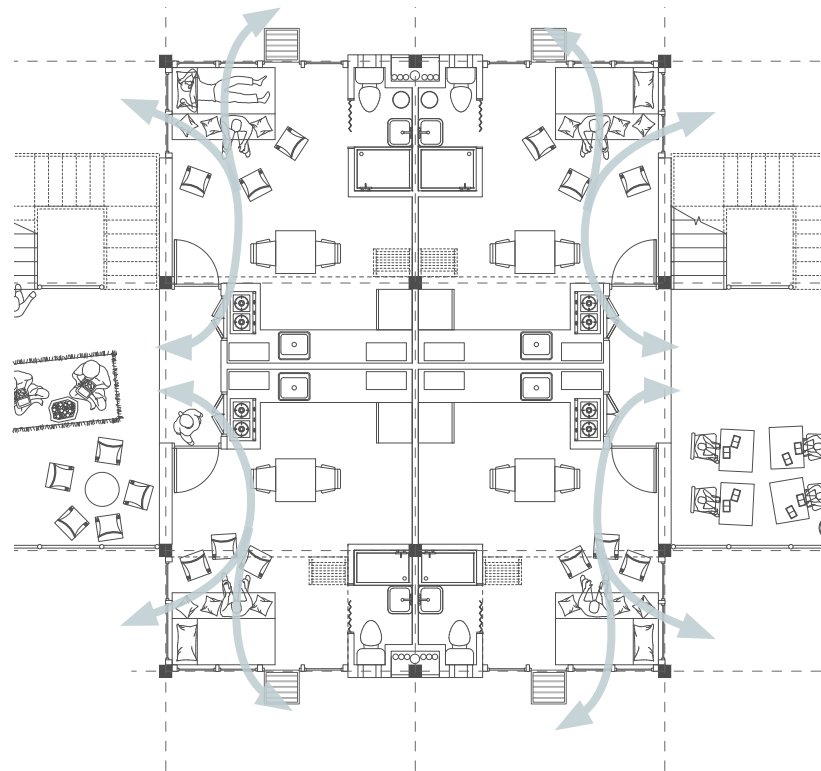


High-rise - Tower



## Ventilation

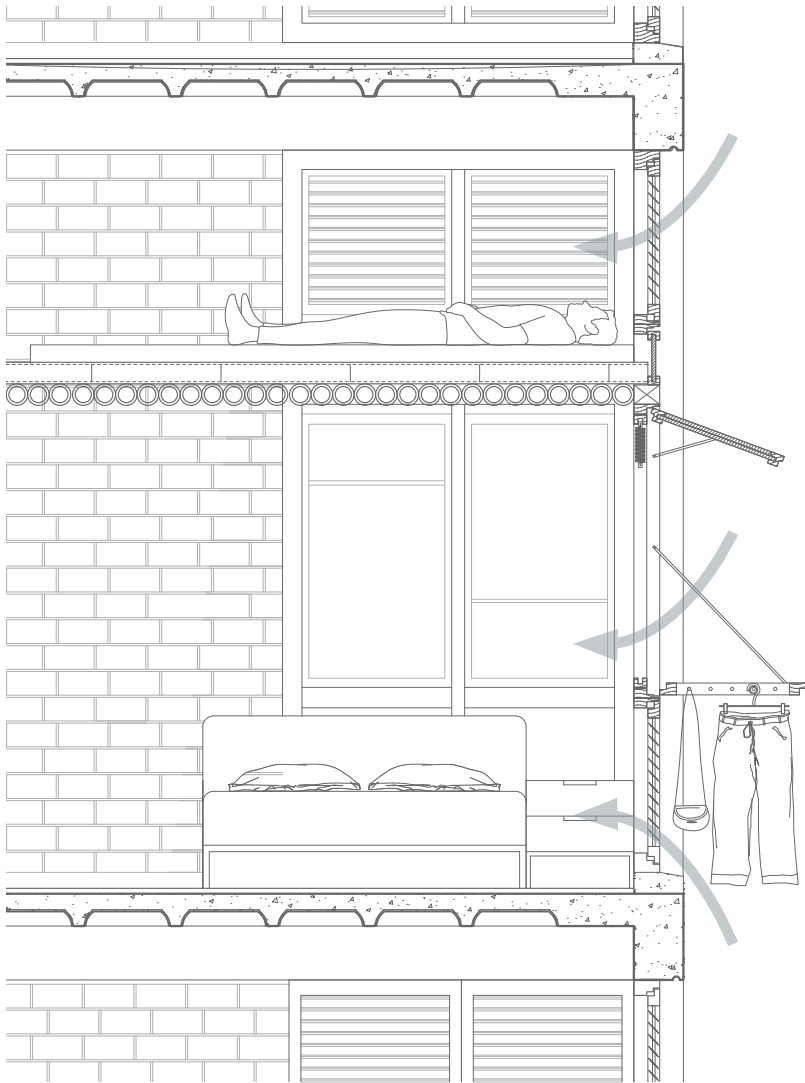
*Unit*



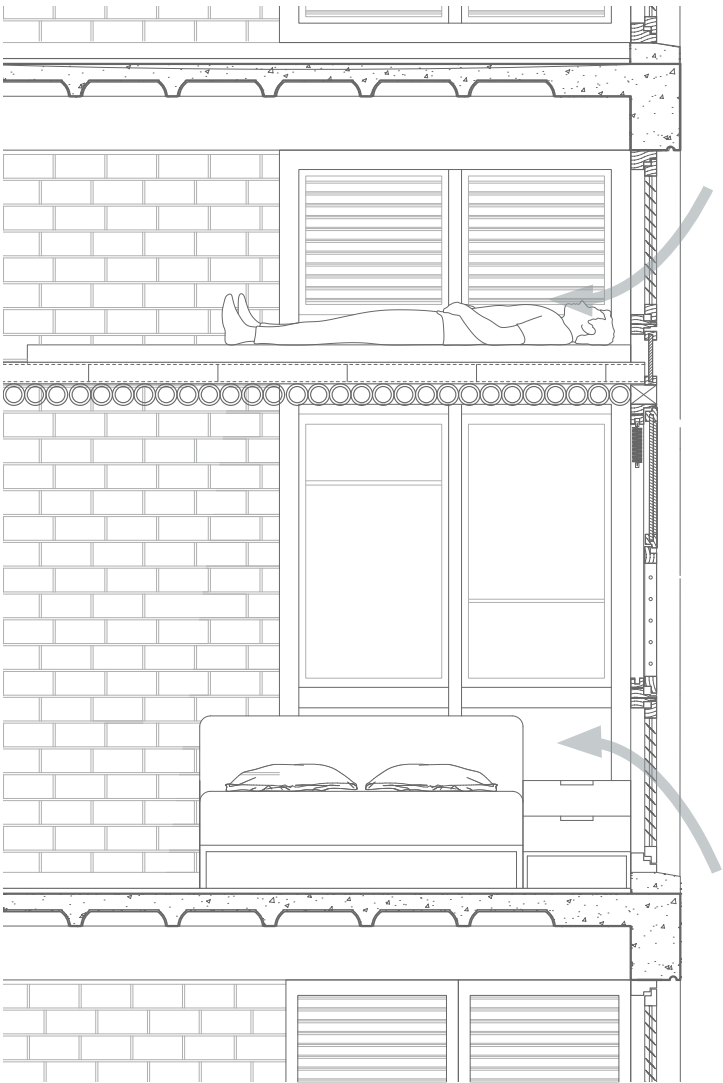
Cross ventilation through units

# Ventilation

Facade

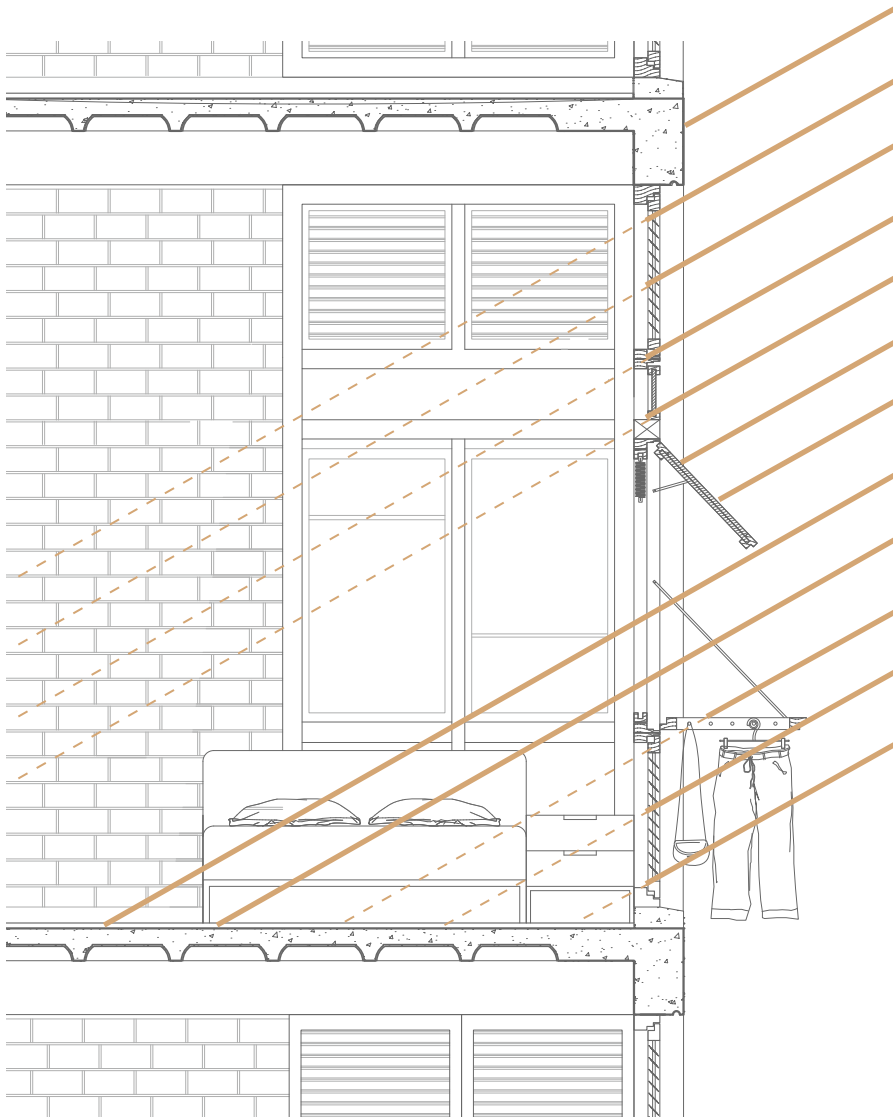


Day



Night

## Sun shading



**05**

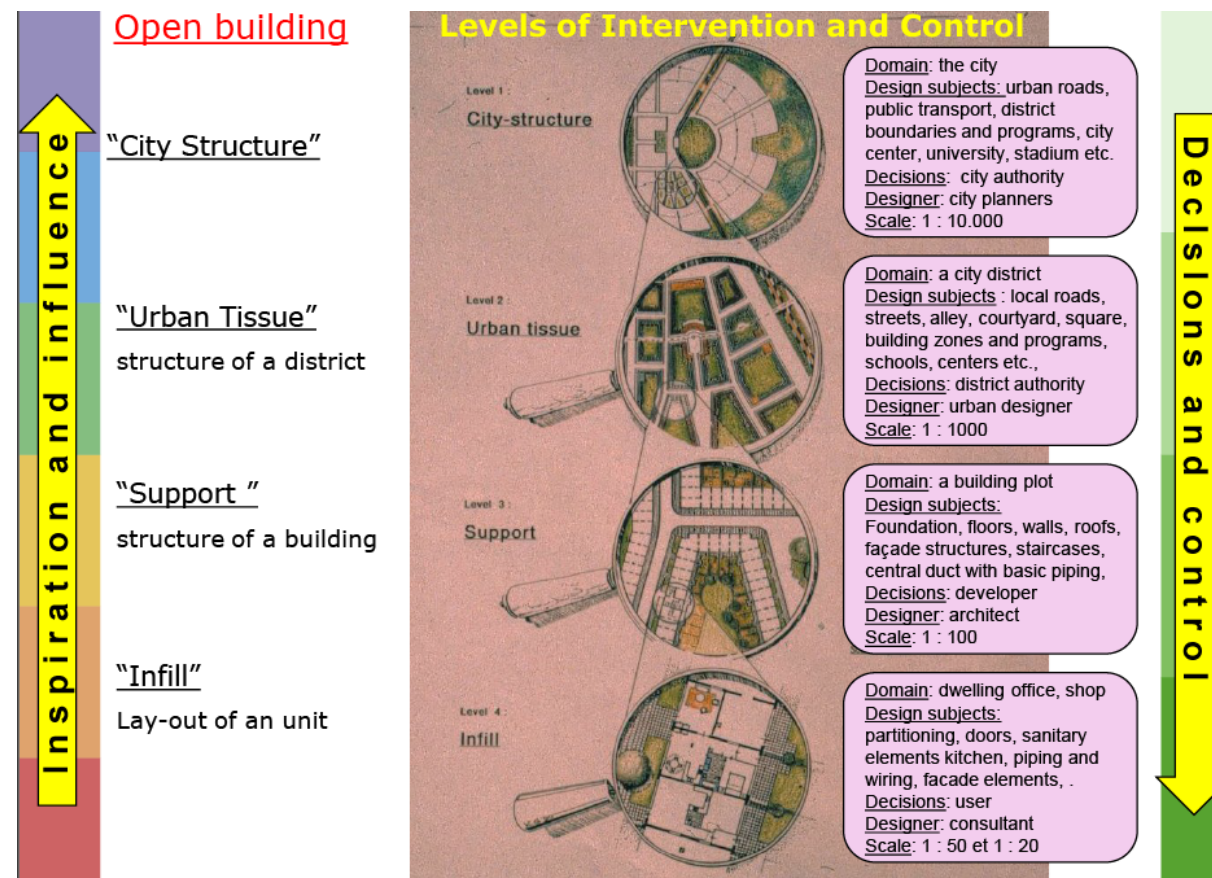
urban design & operational model





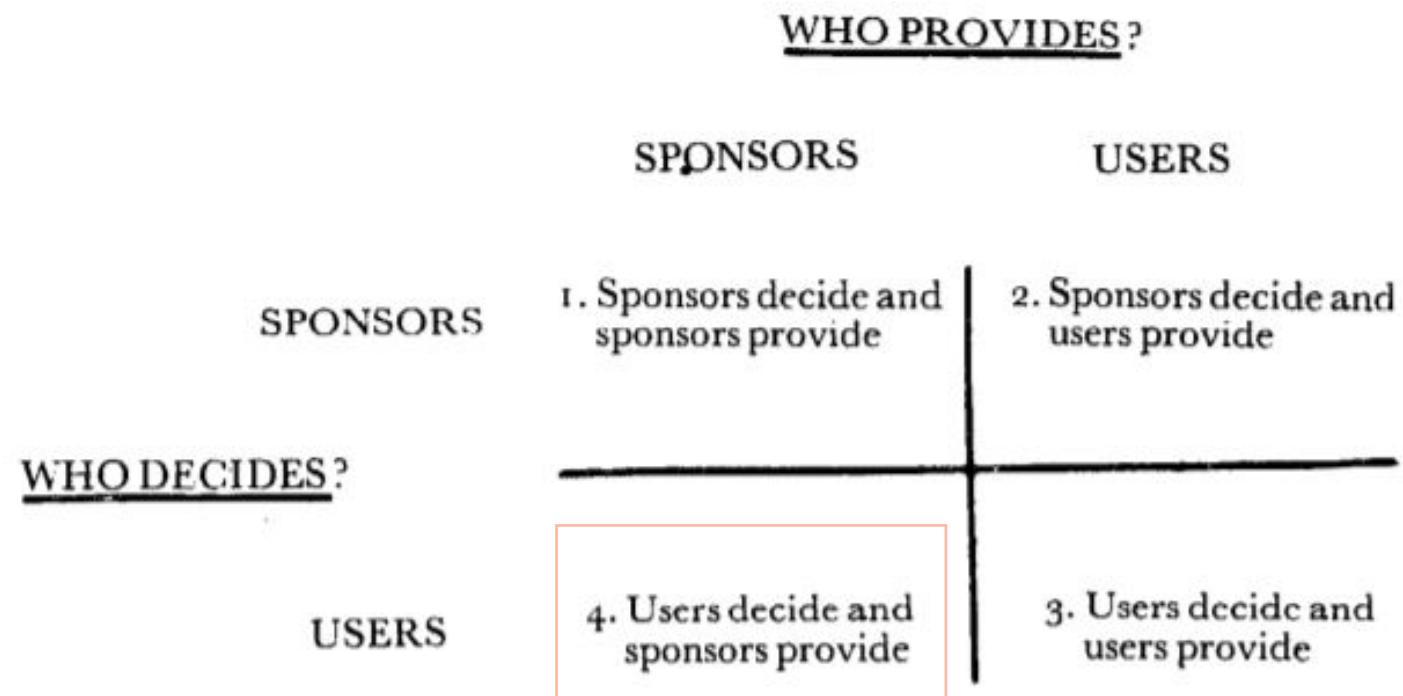
## Levels of Intervention and Participation

Example: Open Building



Ideal Levels of Intervention and Control in the "Open Building" Concept by Frans van der Werf

Whose participation: whose decision and whose action?

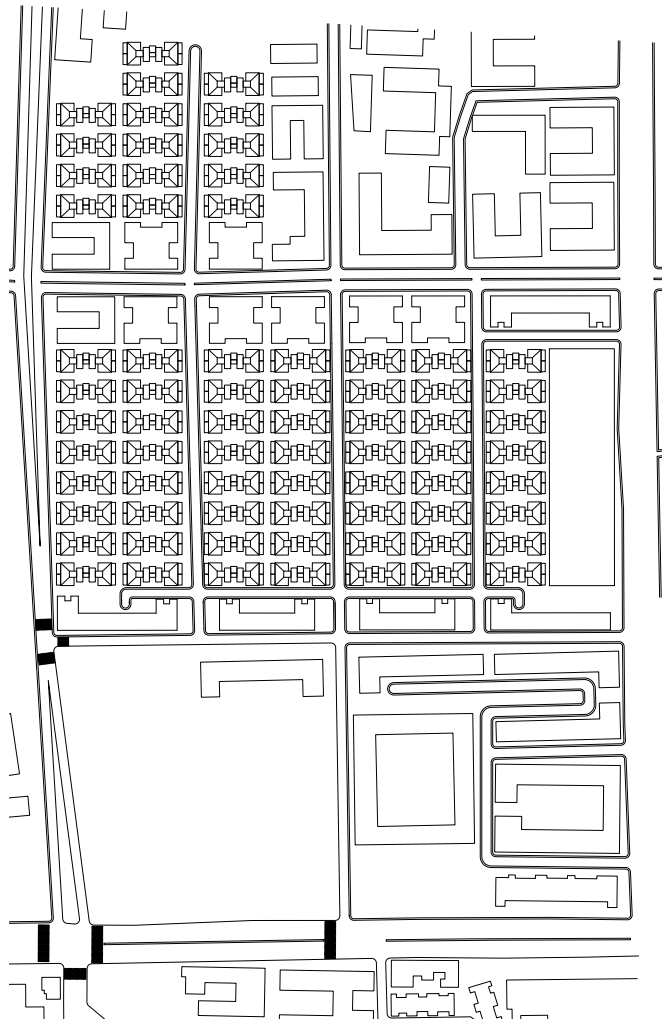


Models of participatory design  
by John Turner

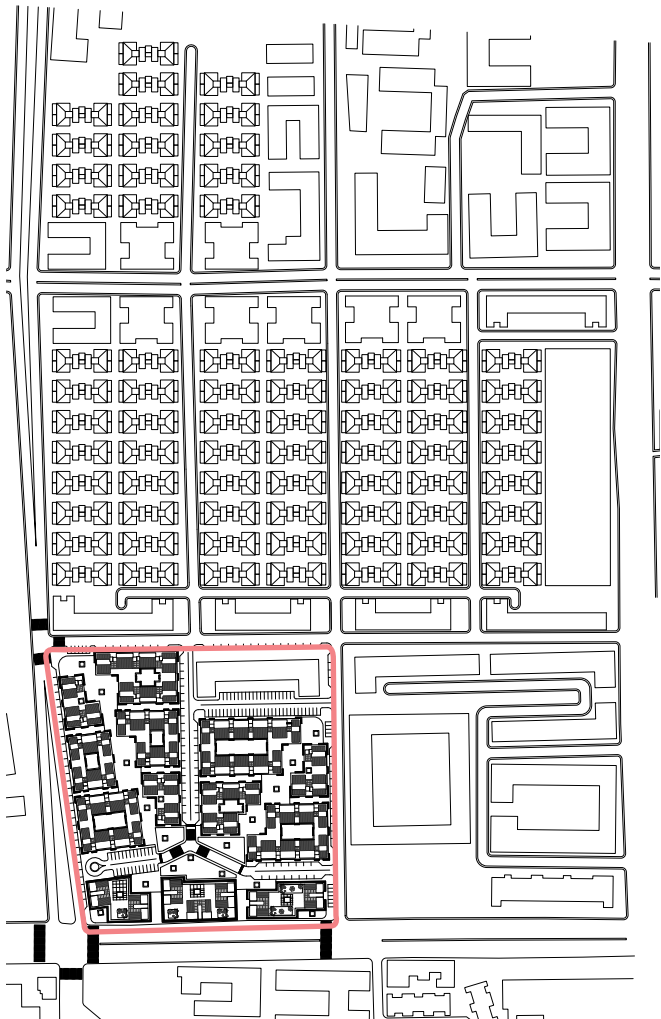
# Urban Strategy



## Phases



Existing



Phase 1: Development on empty plot

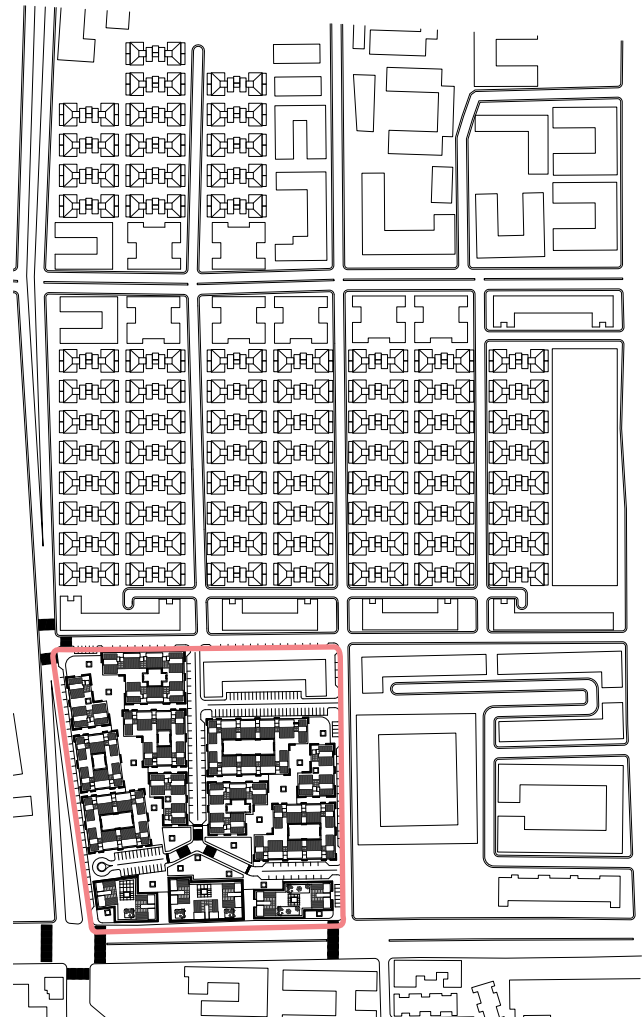


Phase 2: Redevelopment of existing Sriprastha



## Urban Strategy - Phase 1

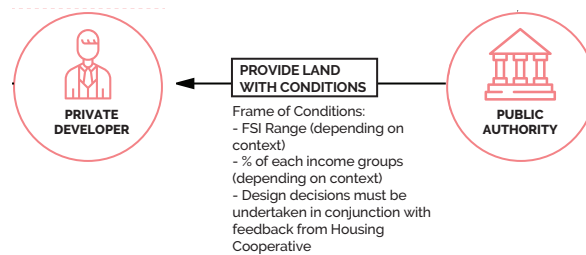
*Public-Private Partnership - Mixed-development Cross-subsized Housing*



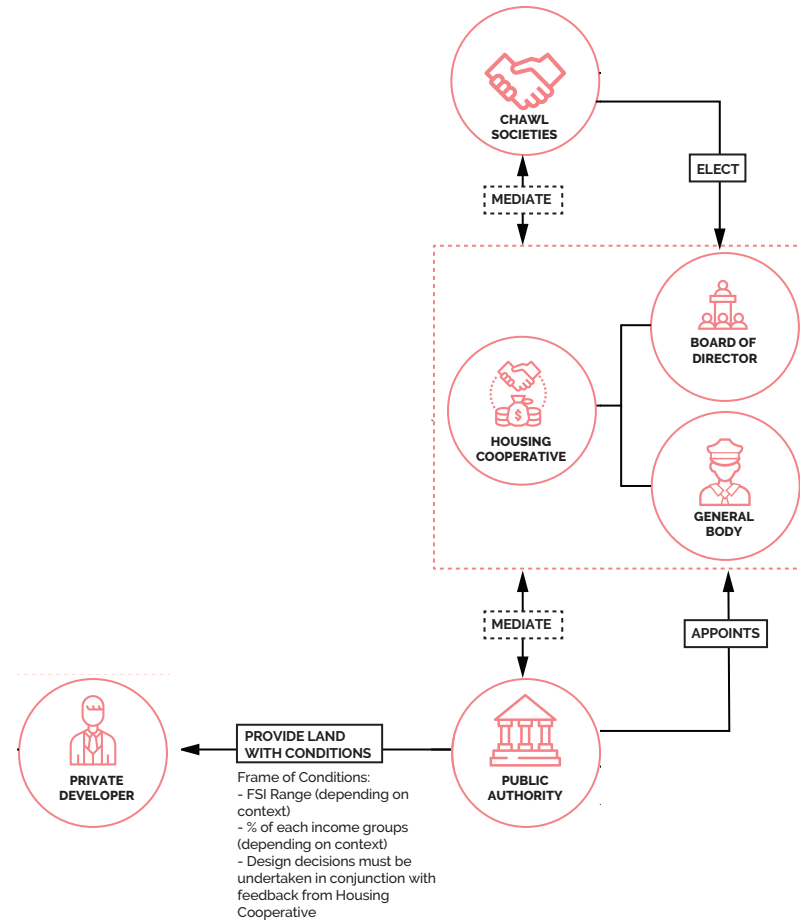
Phase 1: Development on empty plot

## Phase 1: Public-Private Partnership - Mixed-development Cross-subsized Housing

1. The authority provides land to be developed by private developer, with certain conditions that has to be fulfilled.



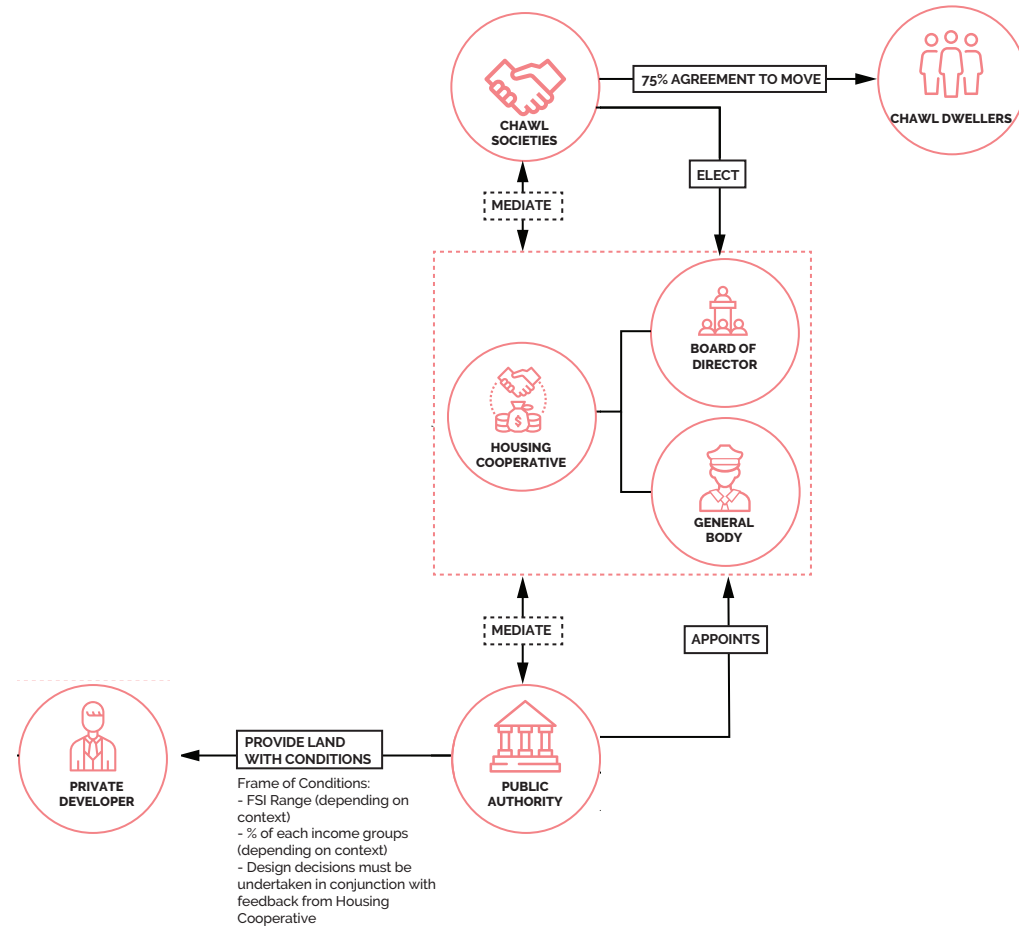
## Phase 1: Public-Private Partnership - Mixed-development Cross-subsized Housing



1. The authority provides land to be developed by private developer. The private developer agrees to a set of conditions.

2. A housing cooperative is established to act as a mediator. It consists of members appointed by the authority and members from the chawls societies.

## Phase 1: Public-Private Partnership - Mixed-development Cross-subsized Housing



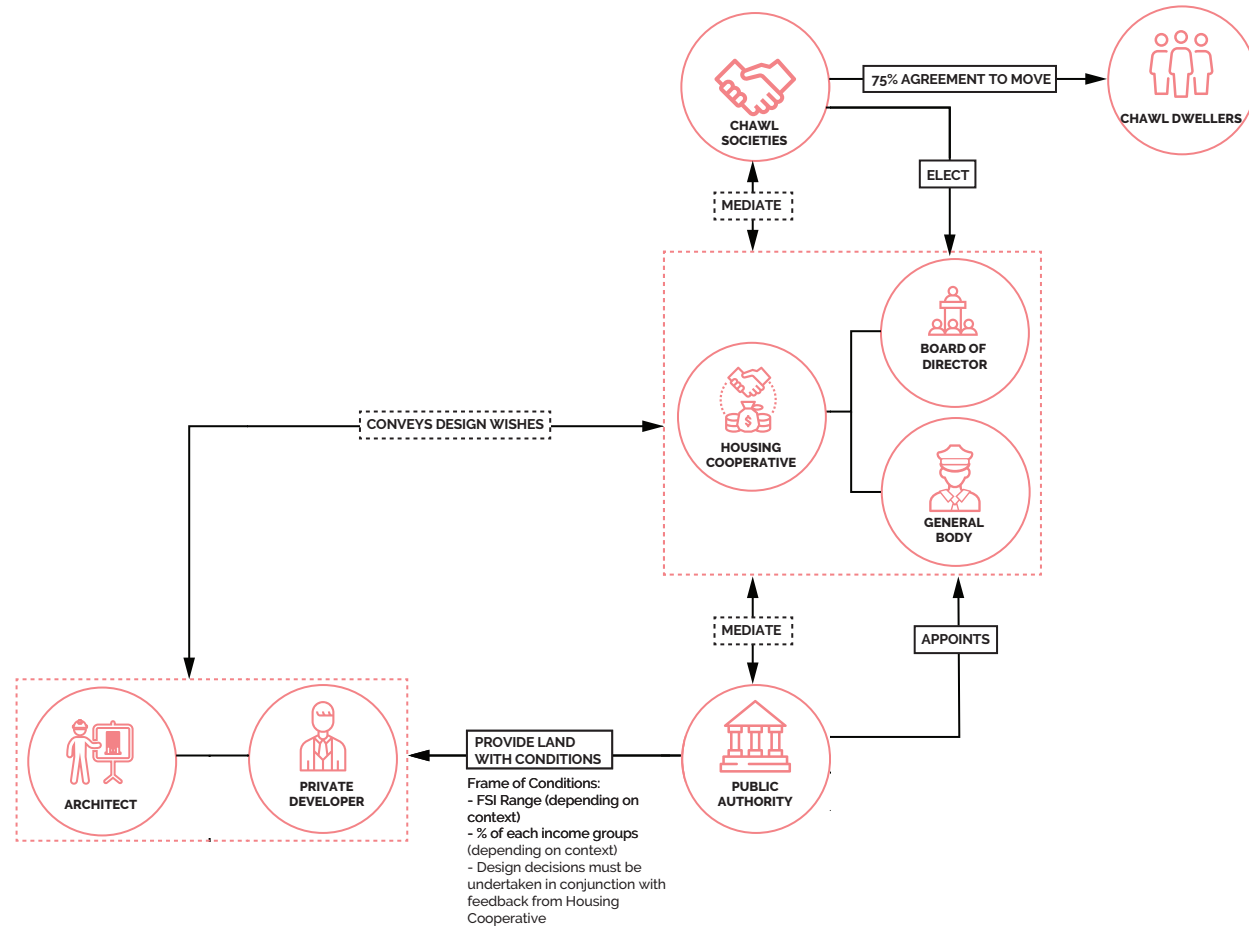
1. The authority provides land to be developed by private developer. The private developer agrees to a set of conditions.

2. A housing cooperative is established to act as a mediator. It consists of members appointed by the authority and members from the chawls societies from Nalasopara East.

3. Interested Societies obtain a 75% agreement from its residents to move.



## Phase 1: Public-Private Partnership - Mixed-development Cross-subsized Housing



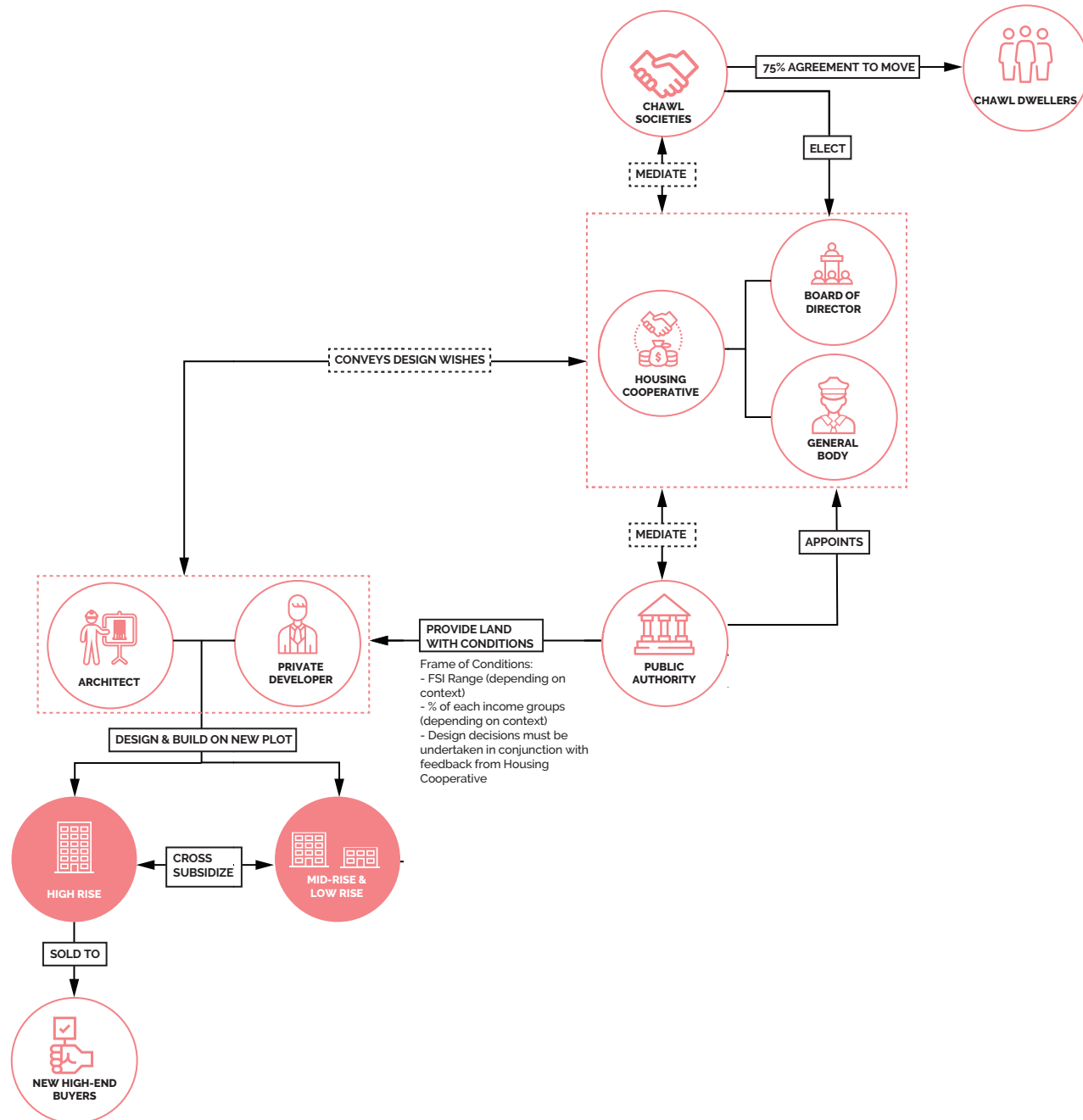
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4. The housing cooperative collects design wishes from its members and convey them to the architect and developer.

## Phase 1: Public-Private Partnership - Mixed-development Cross-subsized Housing



1. The authority provides land to be developed by private developer. The private developer agrees to a set of conditions.

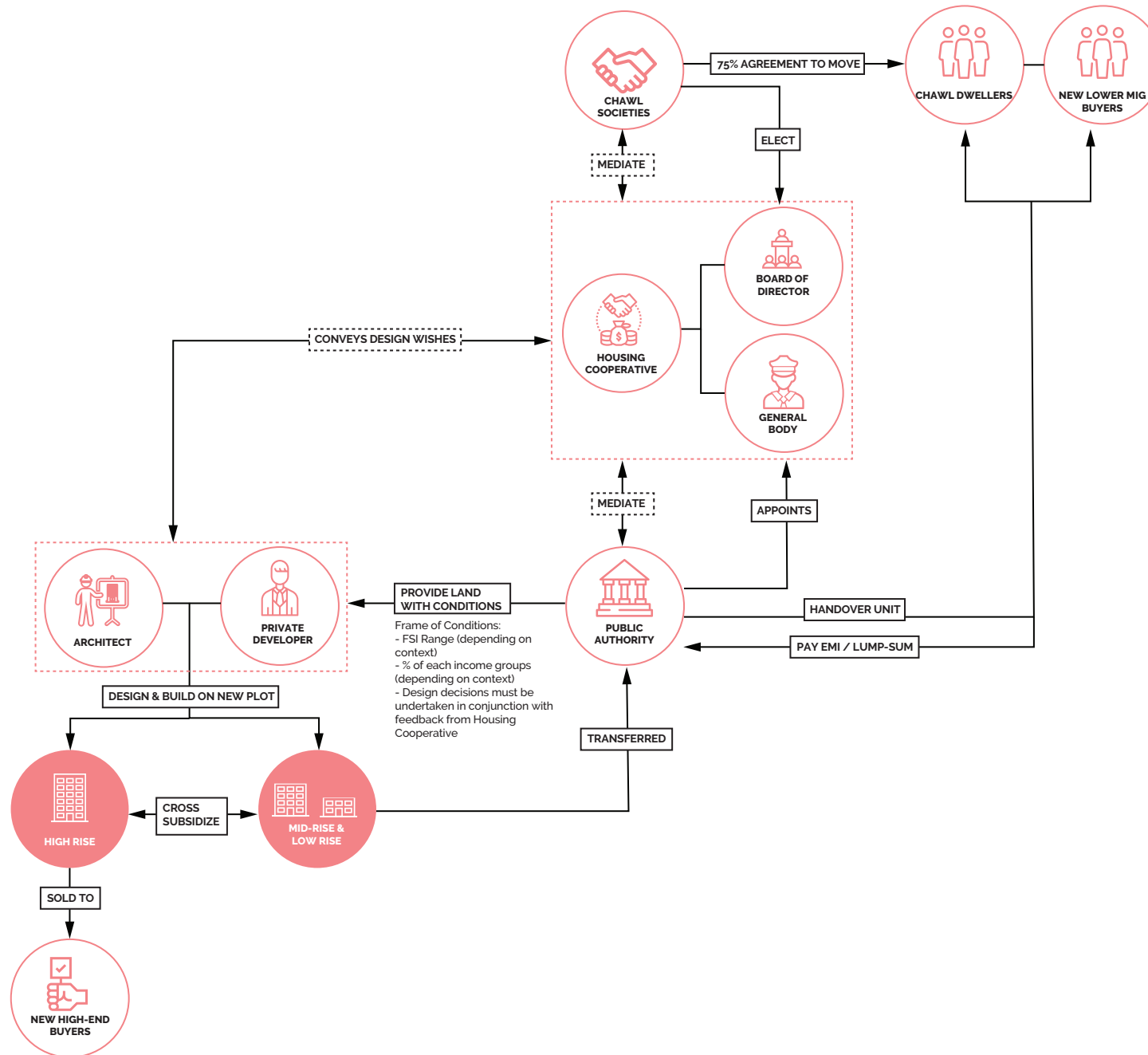
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3. Interested Societies obtain a 75% agreement from its residents to move.

4. The housing cooperative collects design wishes from its members and convey them to the architect and developer.

5. The developer builds affordable housing and the higher end apartments that cross-subsidizes each other. The high rise apartments are sold to new high-end users.

## Phase 1: Public-Private Partnership - Mixed-development Cross-subsized Housing



Phase 1: Public-Private Partnership - Mixed-development Cross-subsized Housing

Financing

	Market Price	Public-Private Partnership Cross-subsidized Model
Land Price	Rs 2,000/ sqft	Nominal rent to Government: Rs 550/sqft
Construction Cost	Rs 20,00 / sqft	Rs 20,00 / sqft
Total Cost	Rs 4000 / sqft	Rs 2550 / sqft
Sale price	Sri Prastha Market Price: Rs 5,600/ sqft	35% Upper MIG Rs 6000/ sqft 35 % Lower MIG Rs 4400 / sqft 30% LIG Rs 100 / sqft  Average: 3670 / sqft
Profit Margin by developer	40%	43.9%





## Urban Strategy - Phase 2

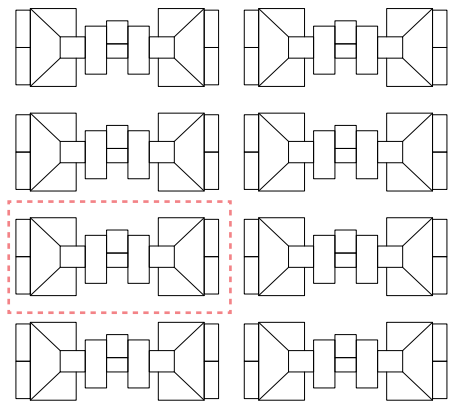
*In-situ Replacement of Existing Housing*



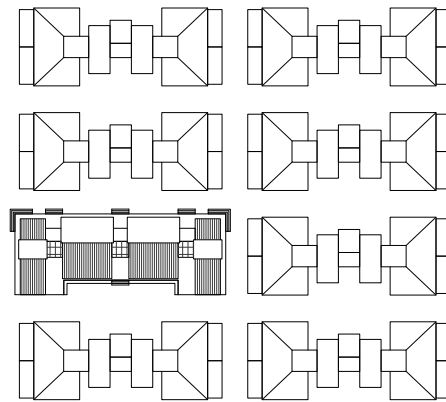
Phase 2: Redevelopment of existing Sriprastha

## Urban Strategy - Phase 2

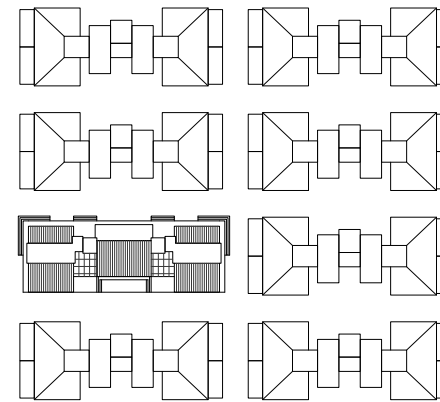
### *In-situ Replacement of Single Buildings*



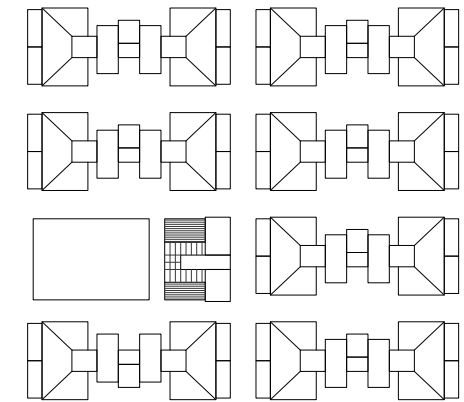
Existing



Low-rise



Mid-rise

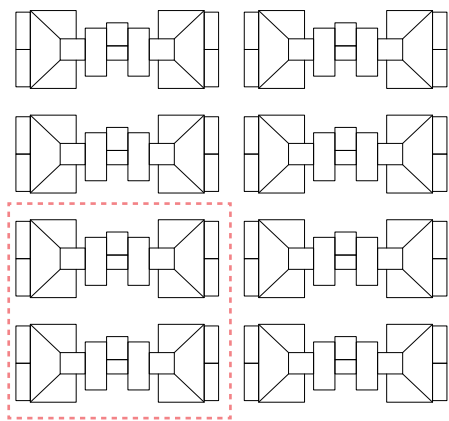


High-rise

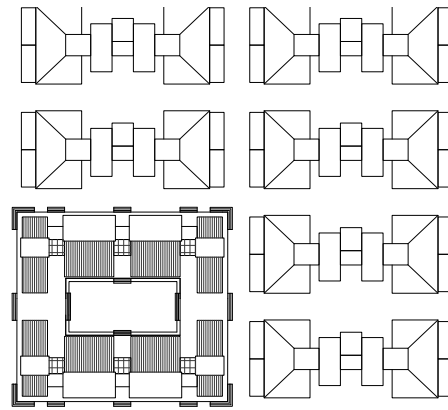
- Improved building qualities
- Increases income group diversity
- Defines street edge

## Urban Strategy - Phase 2

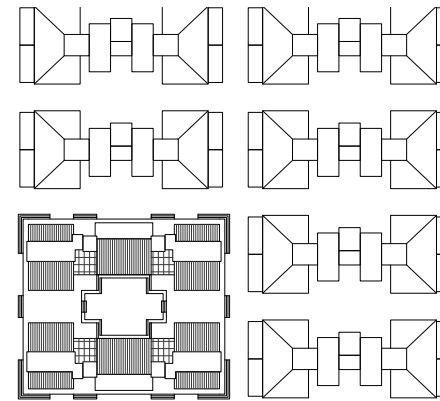
### *In-situ Replacement of Societies*



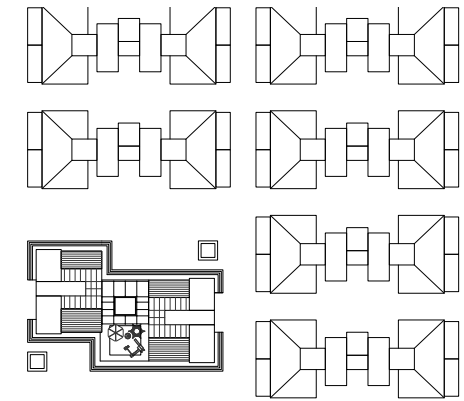
Existing



Low-rise



Mid-rise



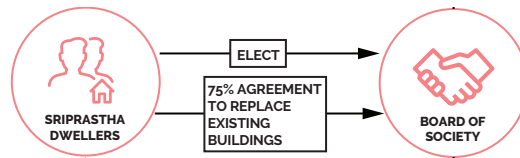
High-rise

- Improved building qualities
- Increases income group diversity
- Defines street edge
- Courtyard within society, strengthens internal relationship within cluster
- Strengthens hierarchy of in between spaces
- Ensures enough distances between buildings

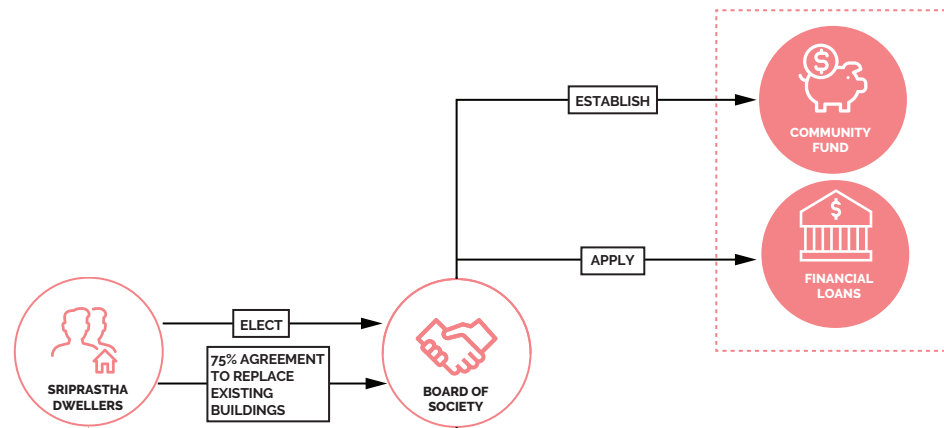


## Phase 2: In-situ Replacement of Existing Housing Societies

1. Original residents in Sri Prastha establish a society board and achieve a 75% agreement internally to replace existing buildings in the society.



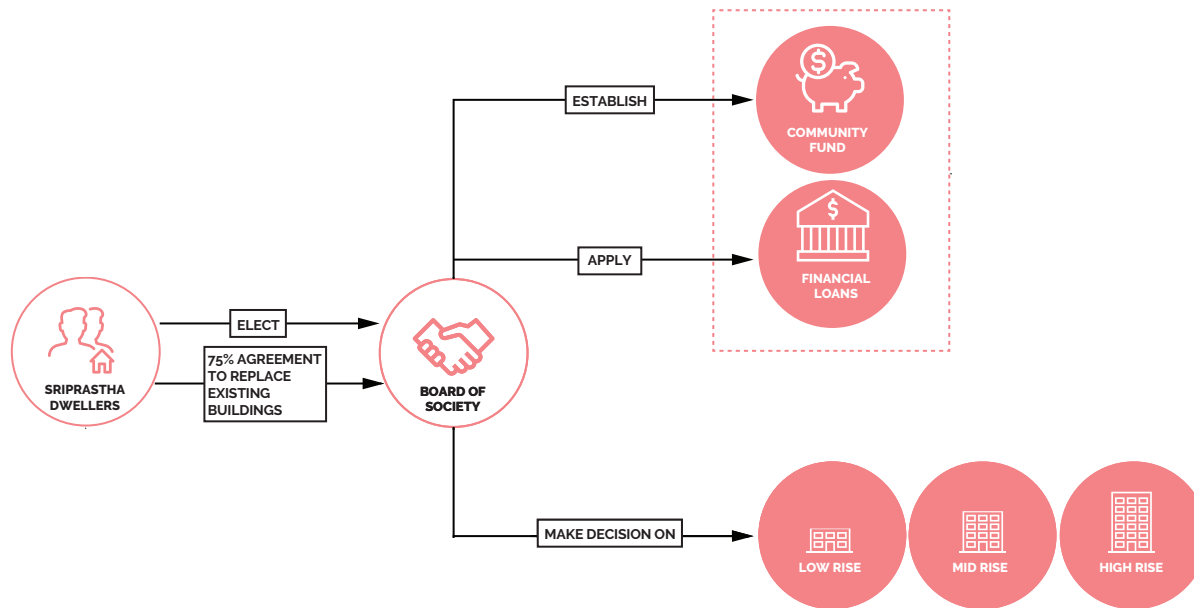
## Phase 2: In-situ Replacement of Existing Housing Societies



1. Original residents in Sri Prastha establish a society board and achieve a 75% agreement internally to replace existing buildings in the society.

2. A community fund is established within the society, while the society tries to secure loans.

## Phase 2: In-situ Replacement of Existing Housing Societies

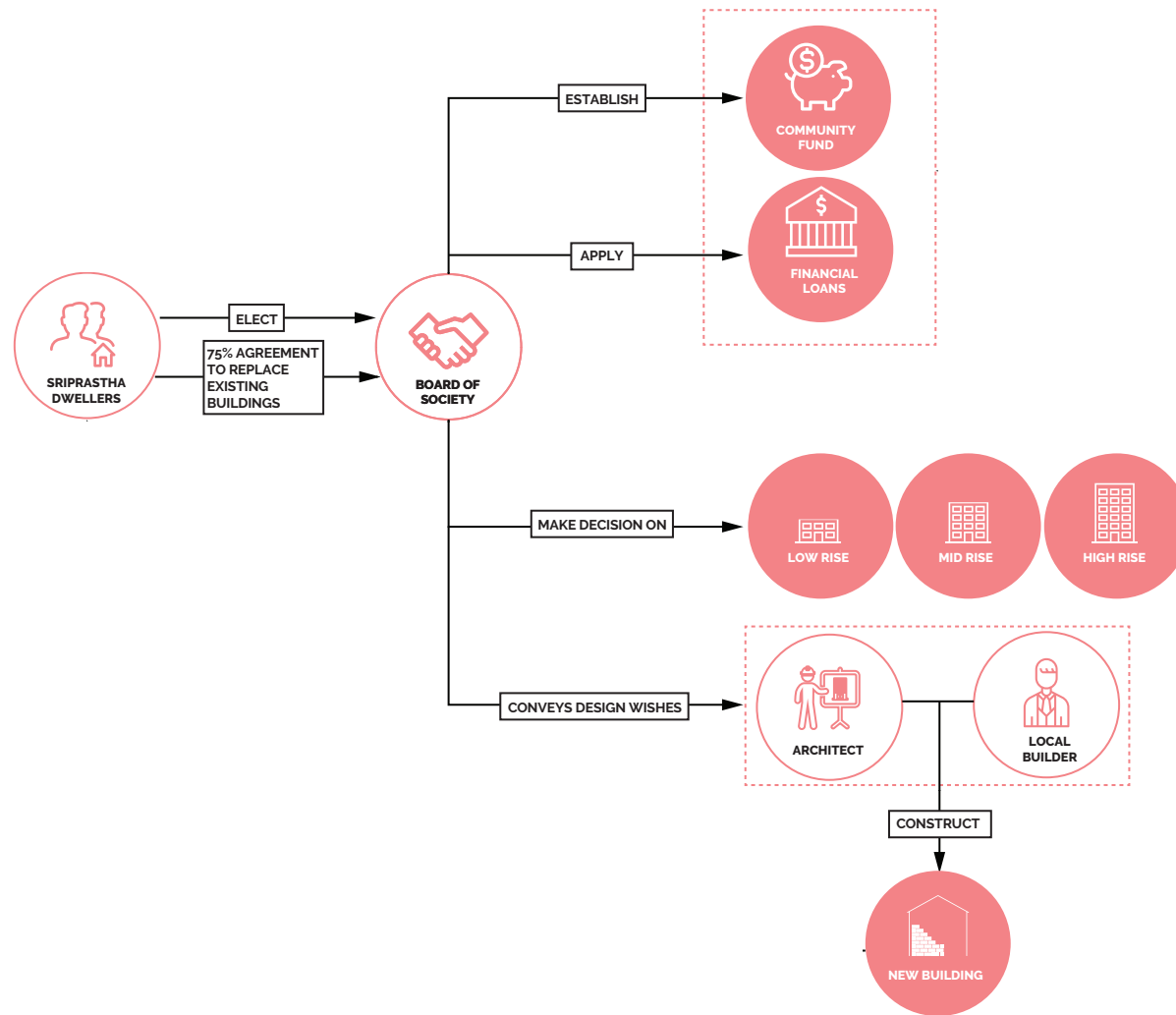


1. Original residents in Sri Prastha establish a society board and achieve a 75% agreement internally to replace existing buildings in the society.

2. A community fund is established within the society, while the society tries to secure loans.

3. Original residents make a collective decision on the typology of their choice.

## Phase 2: In-situ Replacement of Existing Housing Societies



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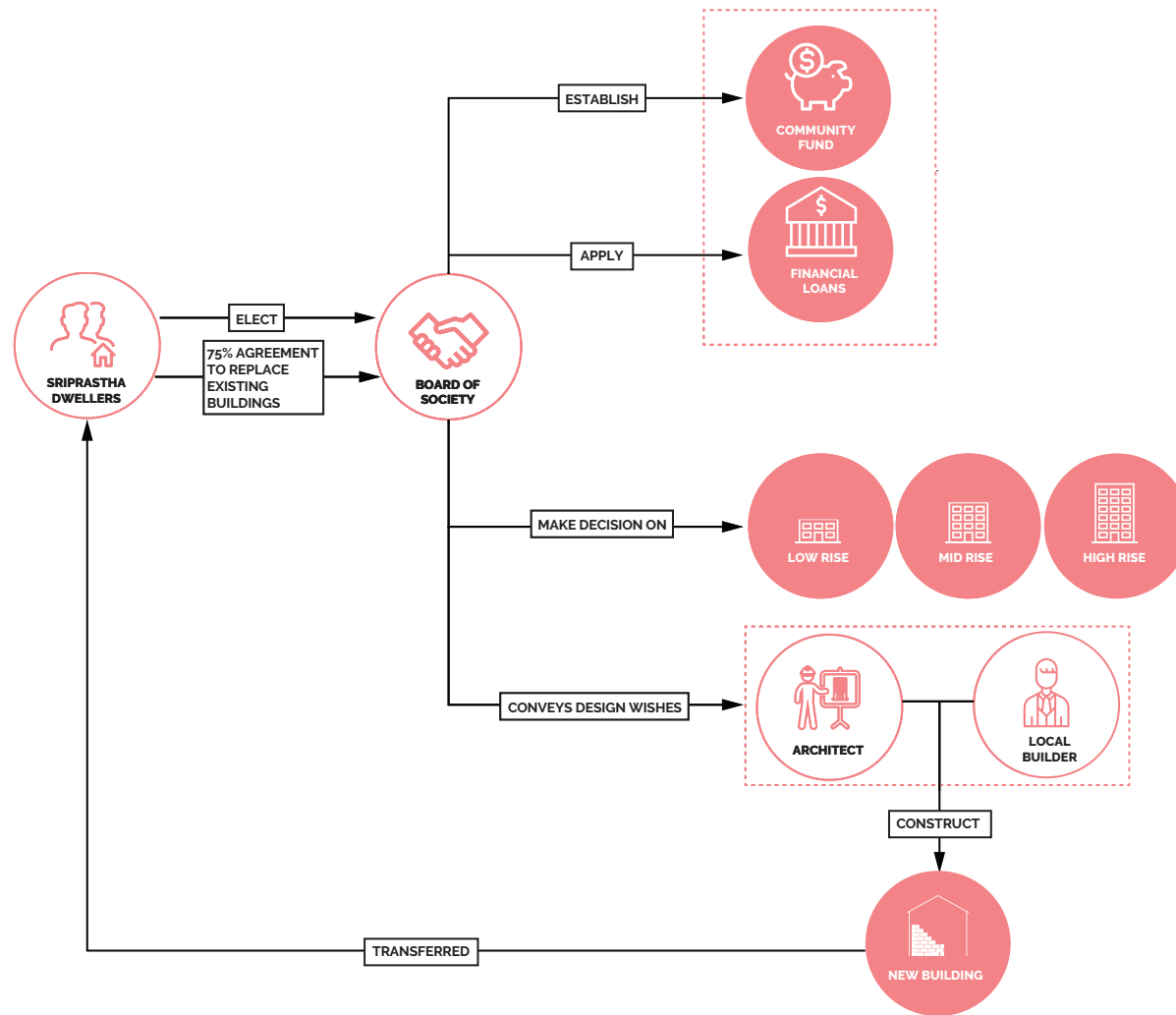
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4. The decision is conveyed to the architect and local builder, who would construct the desired type.



## Phase 2: In-situ Replacement of Existing Housing Societies



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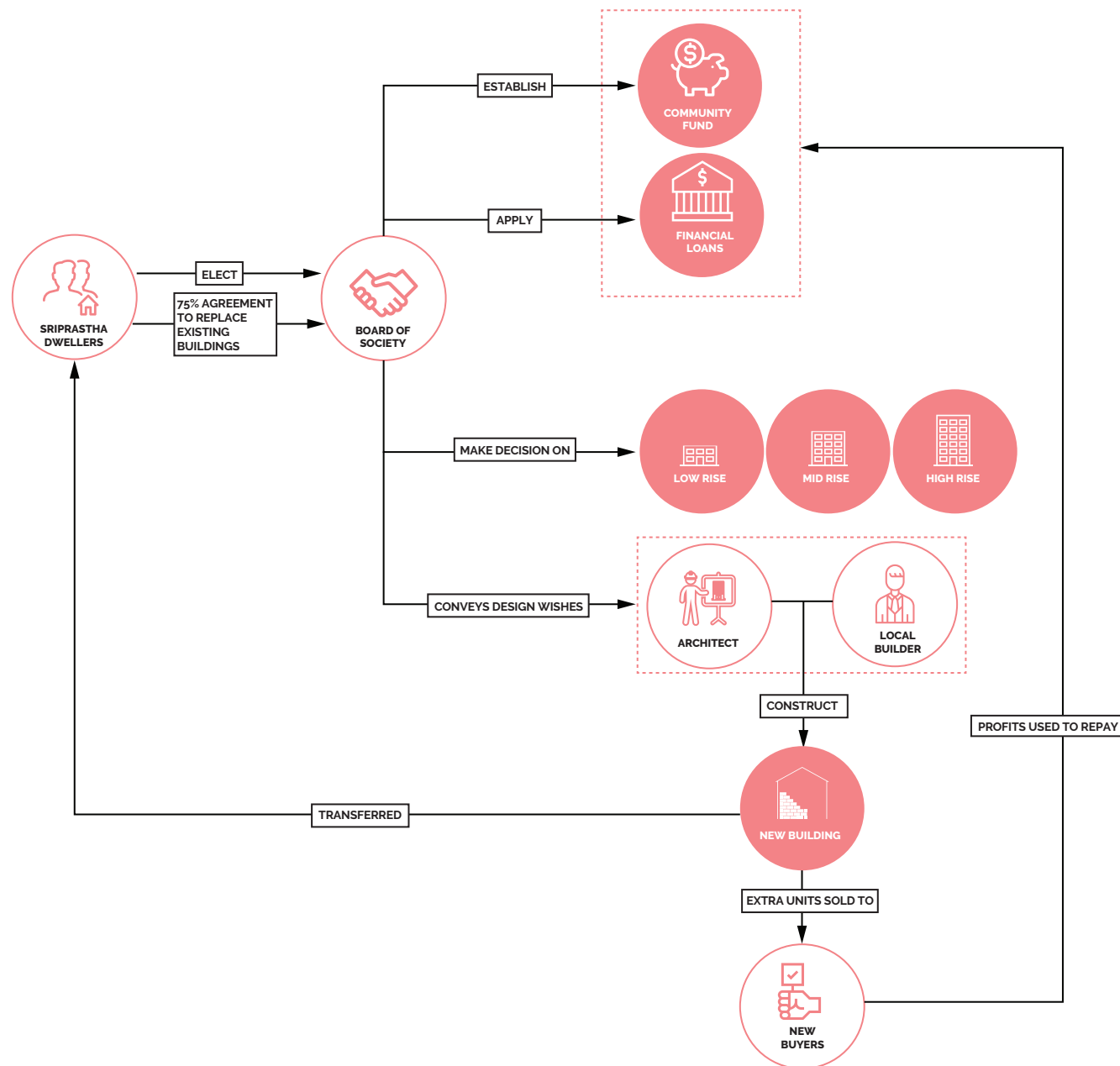
2. A community fund is established within the society, while the society tries to secure loans.

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4. The decision is conveyed to the architect and local builder, who would construct the desired type.

5. New units are handed over to the original dwellers.

## Phase 2: In-situ Replacement of Existing Housing Societies



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2. A community fund is established within the society, while the society tries to secure loans.

3. Original residents make a collective decision on the typology of their choice.

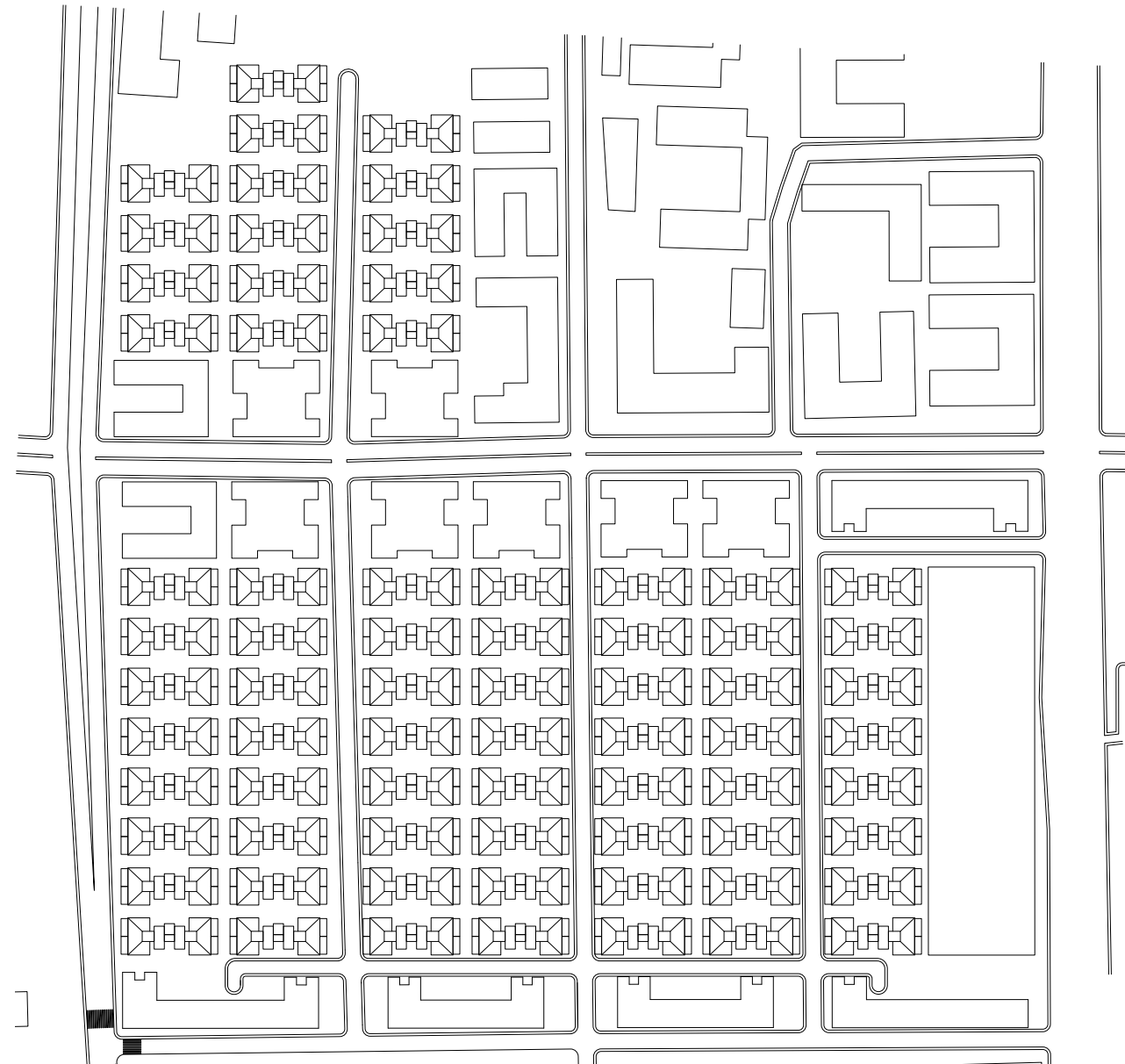
4. The decision is conveyed to the architect and local builder, who would construct the desired type.

5. New units are handed over to the original dwellers.

6. Extra units are sold to new buyers, and the profit is used to repay the loans and the community fund.

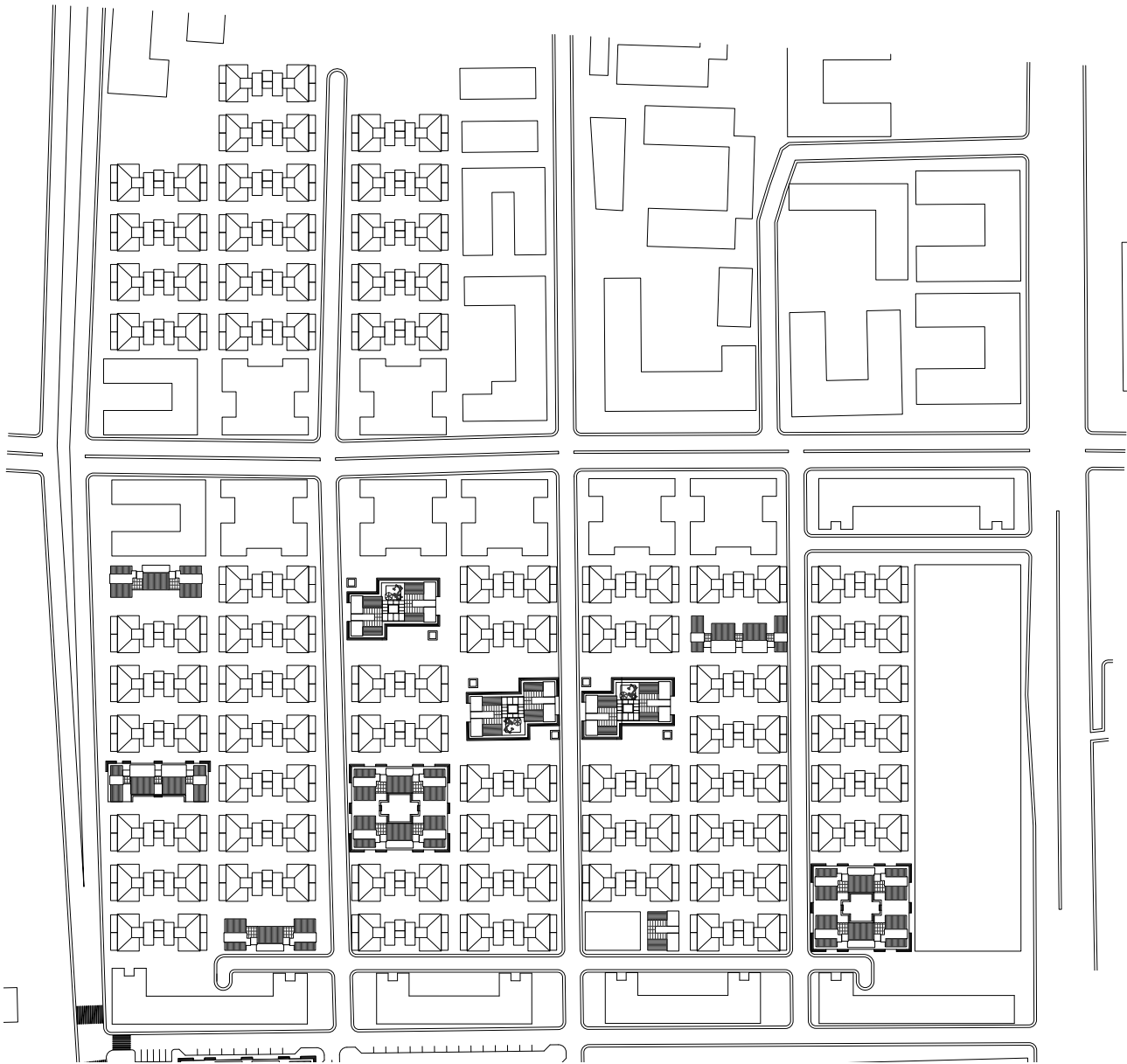
## Urban Strategy - Phase 2

*Replacement of Existing Sri Prastha*



# Urban Strategy - Phase 2

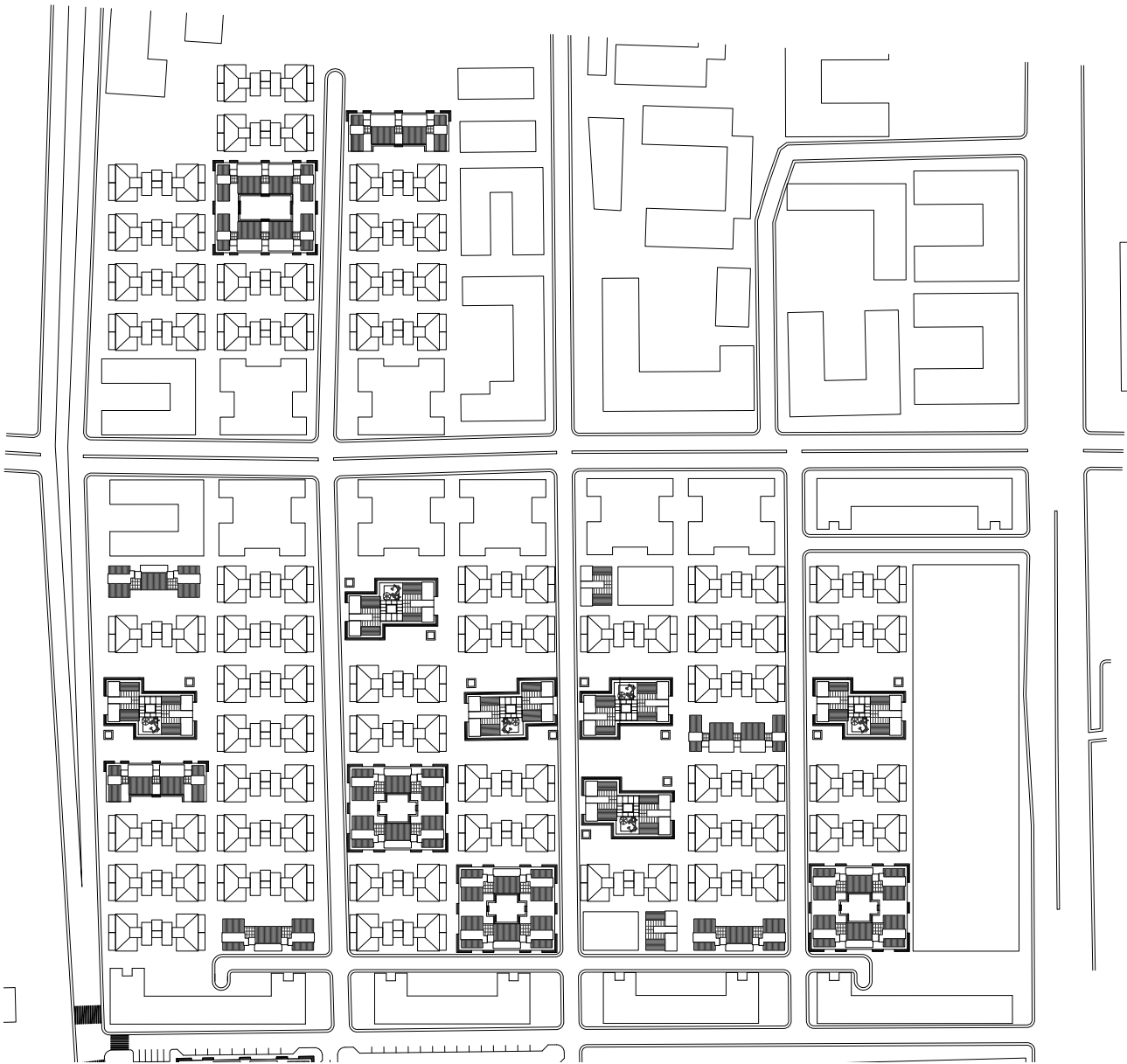
Possible Scenarios of Replacement





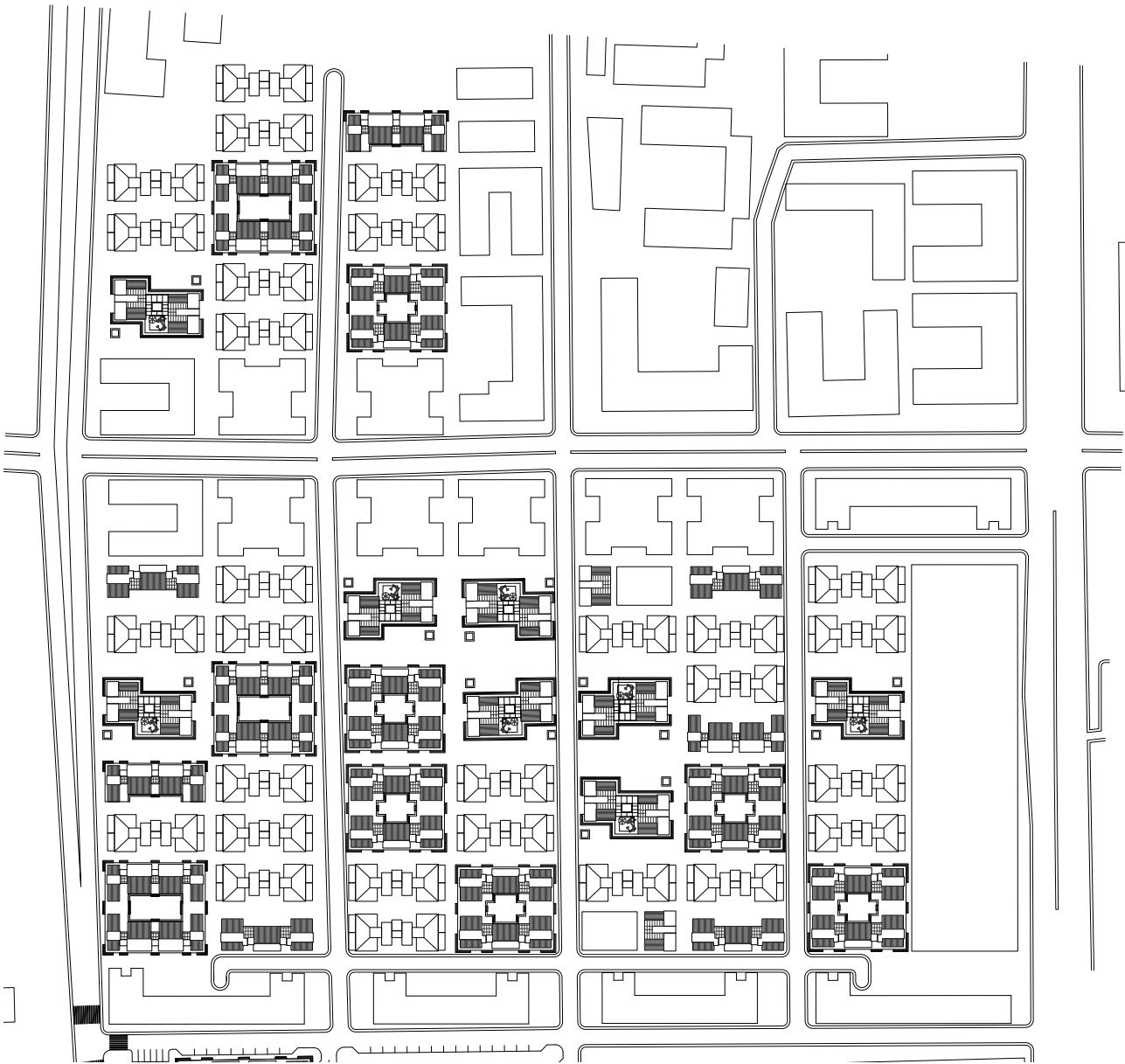
# Urban Strategy - Phase 2

Possible Scenarios of Replacement



# Urban Strategy - Phase 2

Possible Scenarios of Replacement



## Urban Strategy - Phase 3

*Expanding the project*



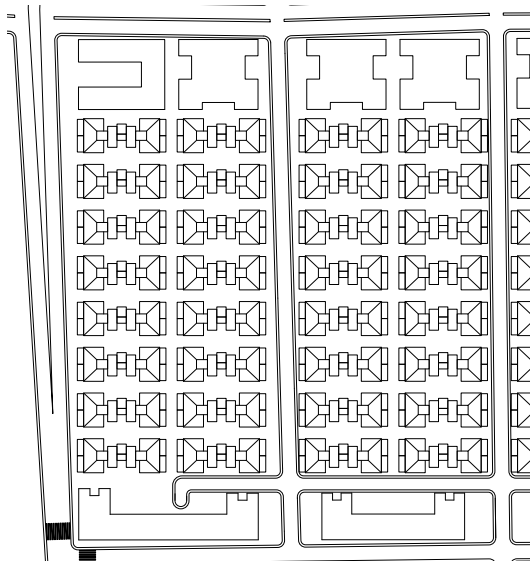
# 06

## impact



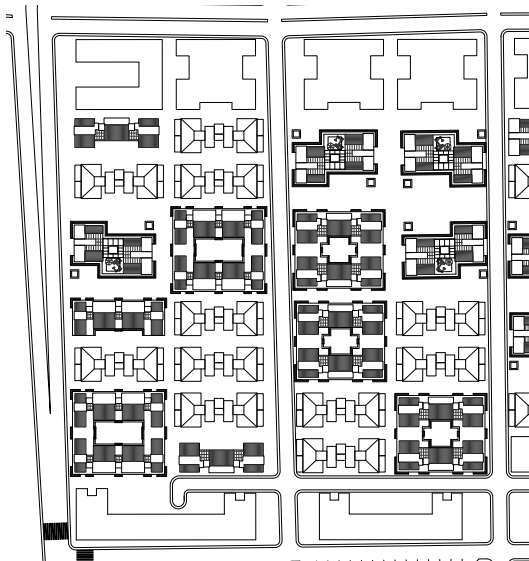
# Urban

## Old and New Comparison: Figures



Existing Sri Prastha

Units per hectare: 180



Redeveloped Sri Prastha

Units per hectare:  
if 10% choose to redevelop: 196  
if 30% choose to redevelop : 214  
if 60% choose to redevelop: 258  
if 90% choose to redevelop: 312

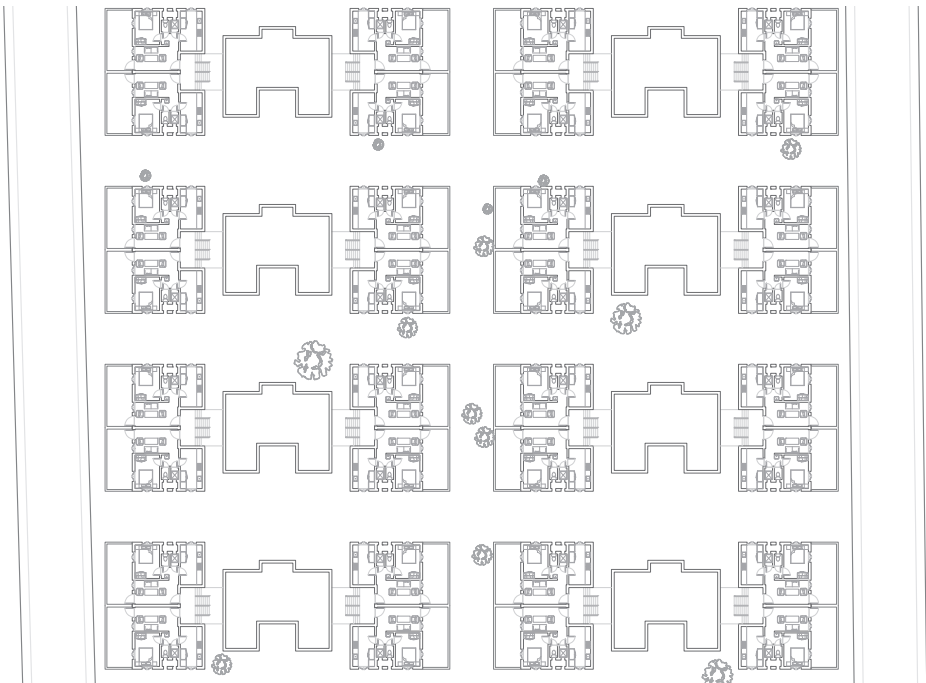


New Plot

Units per hectare: 250-296

# Urban

## Old and New Comparison: Spatial Qualities



Current

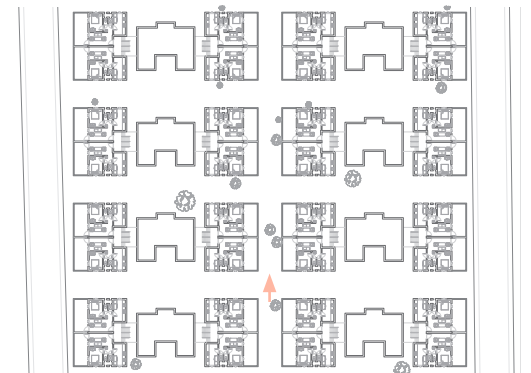
Homogeneous and meaningless open soaces



Potential Future

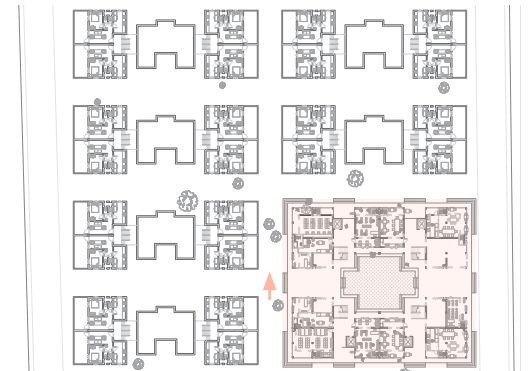
- Defines Street on the edge of the society
- Defines courtyard within the society
- Activation of the corner, creates diverse in between spaces, converting leftover lane into community spine





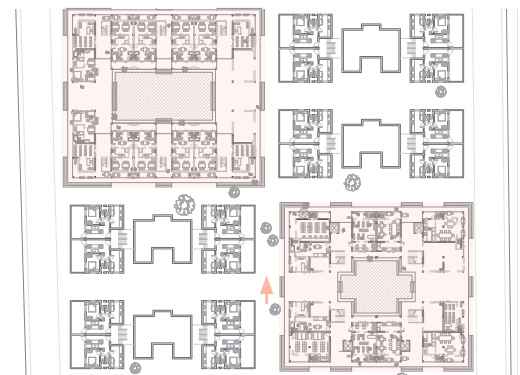
*Building Corner - Before*





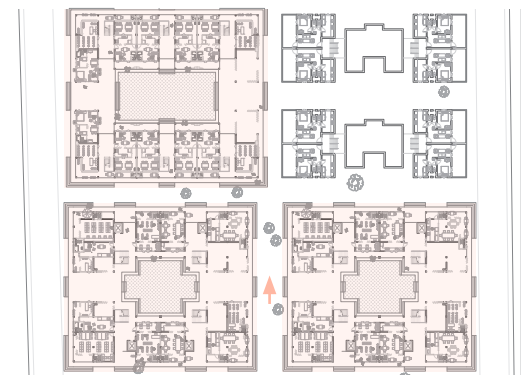
*Building Corner - 1 Society Replaced*





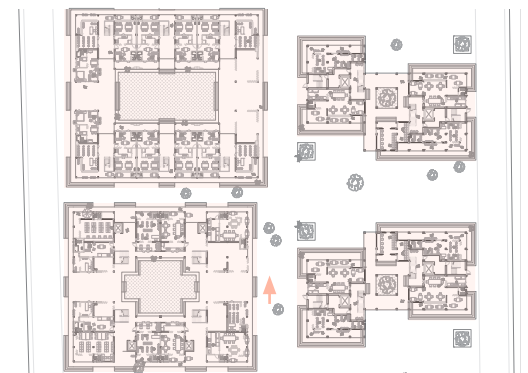
Building Corner - 2 Societies Replaced





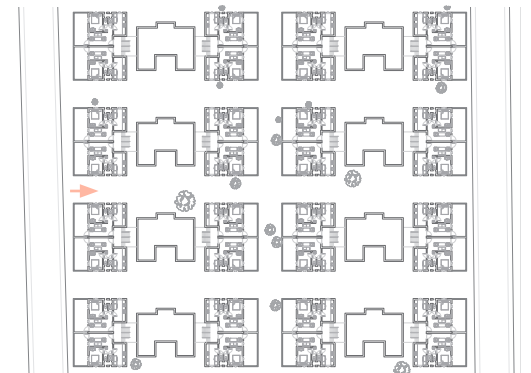
Building Corner - 3 Societies Replaced





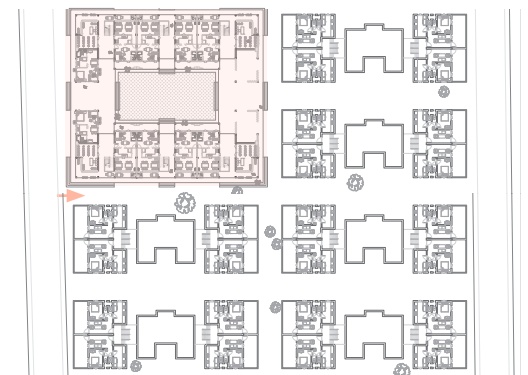
*Building Corner - 4 Societies Replaced*





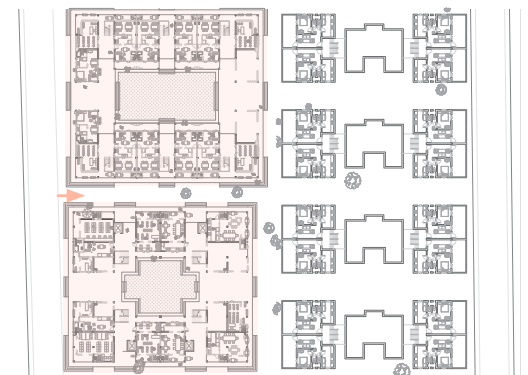
*Between societies - Existing*





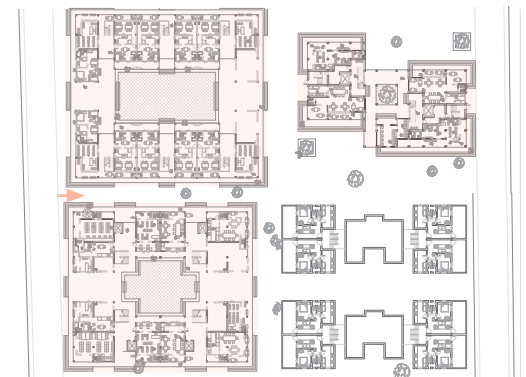
*Between existing Sriprastha buildings and new Societies*





*Between new Societies*





*Between new Societies*





*Society Courtyard - Existing*





*Society Courtyard - Low rise*





*Society Courtyard - Mid-rise*





*Society 1F Podium - High-rise*

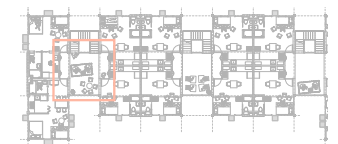




*Ground Floor Public Void Deck - High-rise*



## Hierarchy of Open Spaces in New Plot

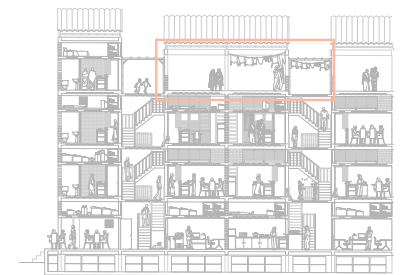


Shared terrace:  
2-4 households

1. Shared Terrace



## Hierarchy of Open Spaces in New Plot

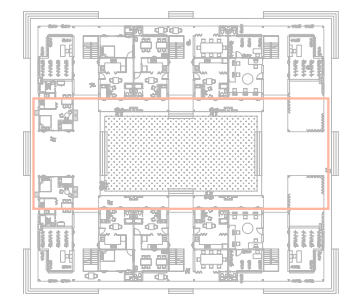


Rooftop terrace:  
10-20 households

### *2. Rooftop Terrace*



## Hierarchy of Open Spaces in New Plot

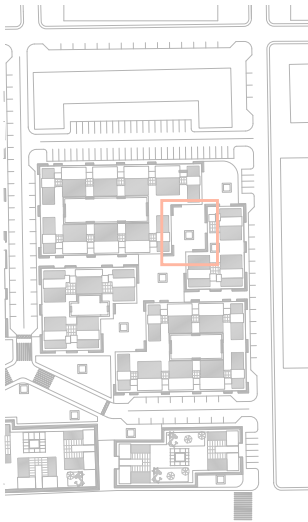


Shared courtyard:  
40-80 households

### 3. Courtyard



Hierarchy of Open Spaces in New Plot

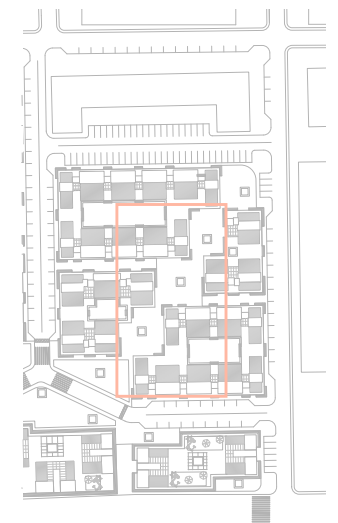


Square:  
approximately 200 households

4. Square



## Hierarchy of Open Spaces in New Plot



Community spine:  
approximately 600 households

### 5. Community Spine



Hierarchy of Open Spaces in New Plot

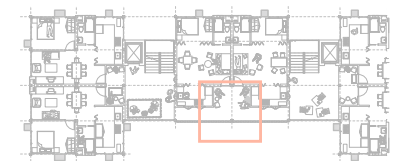


Community spine:  
approximately 1800  
households

6. Urban Center



## Threshold

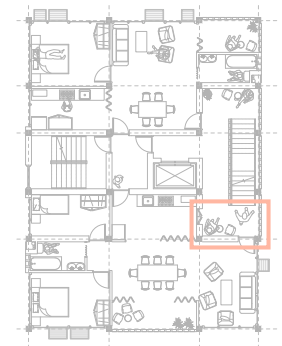


Mid-riseThreshold space:  
2 household

*Mid-rise Threshold Space*



## Threshold



High-rise threshold space:  
1 household

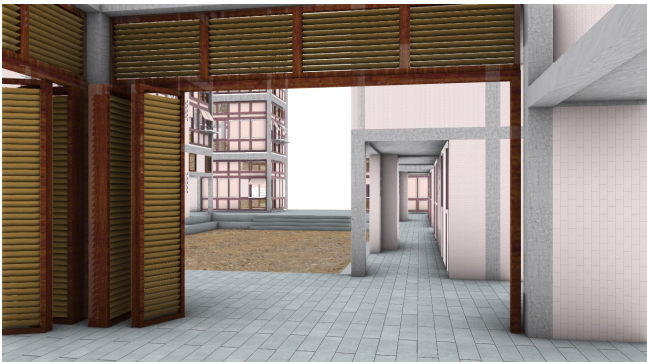
*High-rise Threshold Space*

Amenities



Primary Amenities

Every high-rise society will be required to provide amenities on the Ground Floor. Therefore the primary amenities on the new plot will be concentrated in the urban center, while in the existing Sri Prastha it will be at societies that have chosen the high-rise typology.



Tertiary Amenities

The tertiary ammenities would occur within the society. Since the buildings consist of concrete skeletons, residents could easily transform the rooftop terrace or the multi-purpose hall on the ground floor into the required amenities.



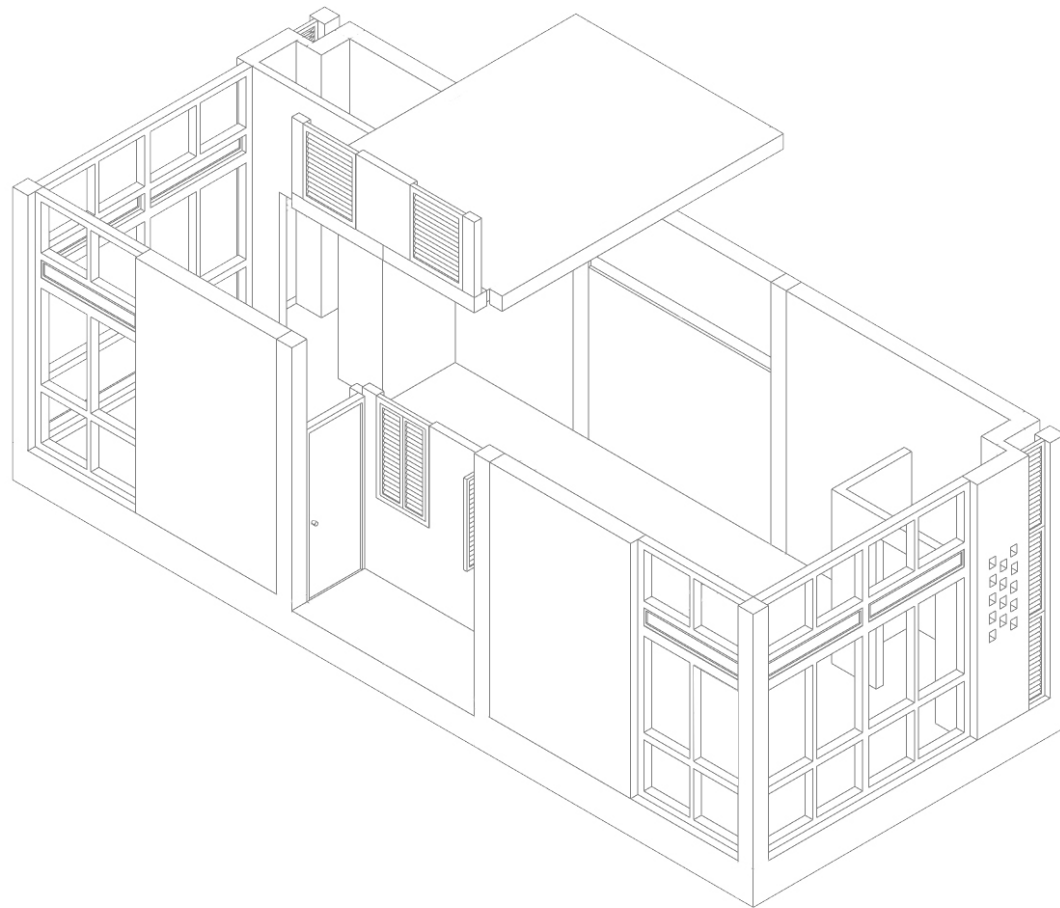
Secondary Amenities

The secondary amenities would occur in a more organic manner, i.e. within the work-live units of the low and mid rise typology.

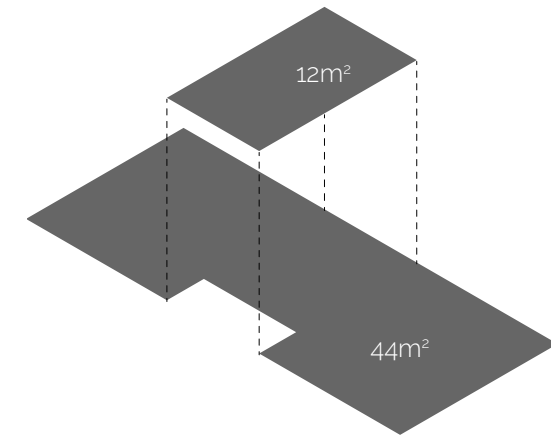




## Narrative: The Chronicle of Narvel's Home

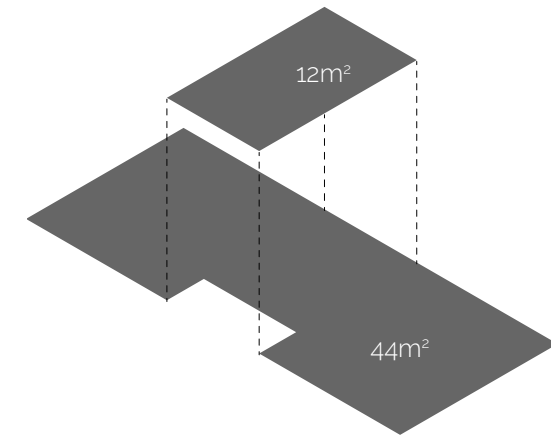
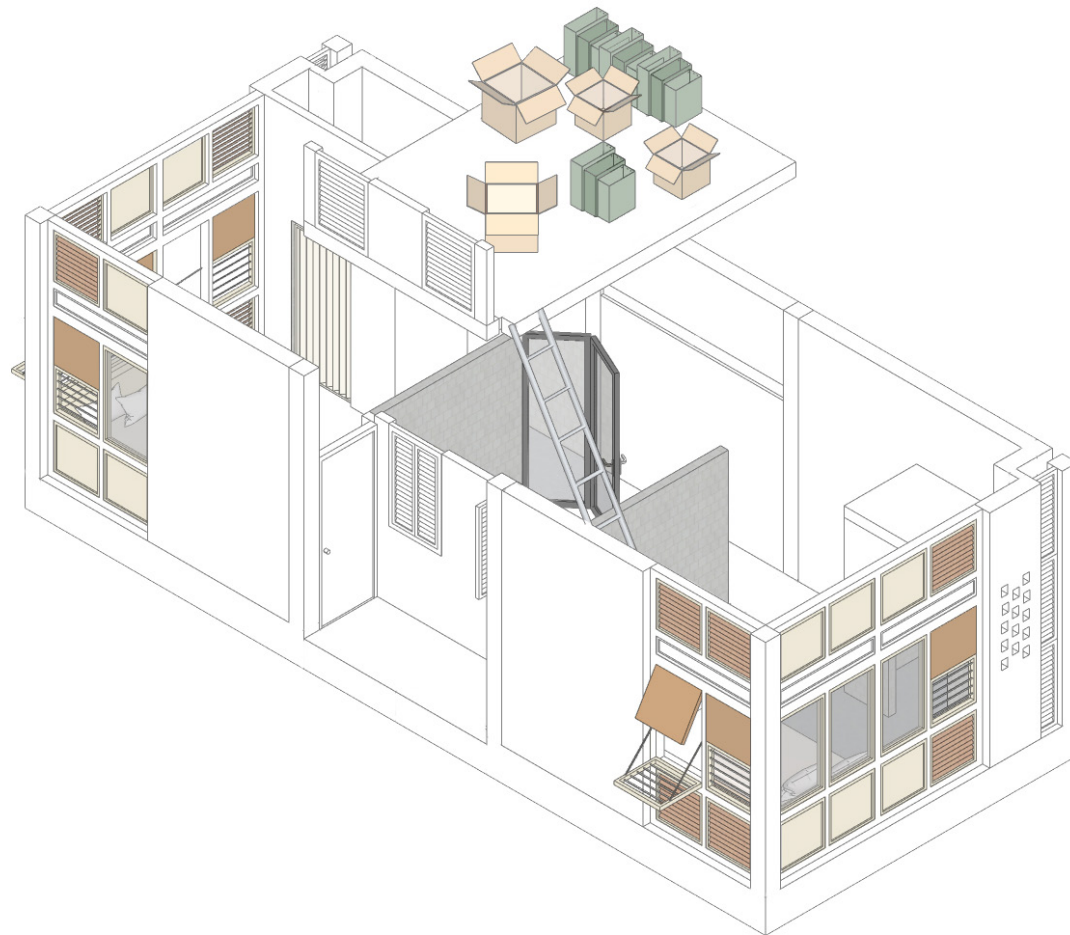


*Newly Built*



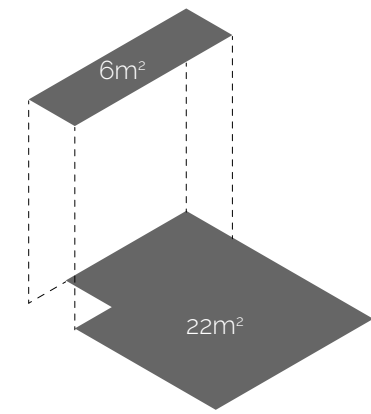
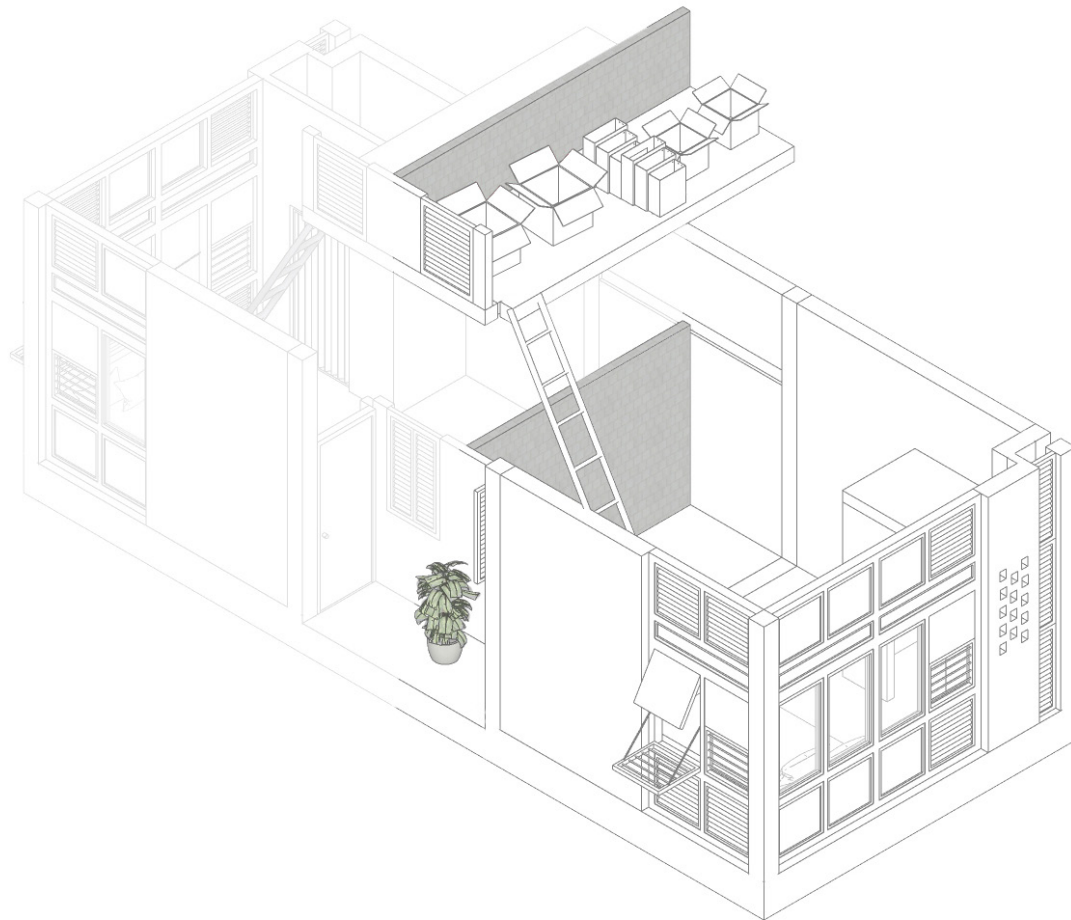


## Narrative: The Chronicle of Narvel's Home

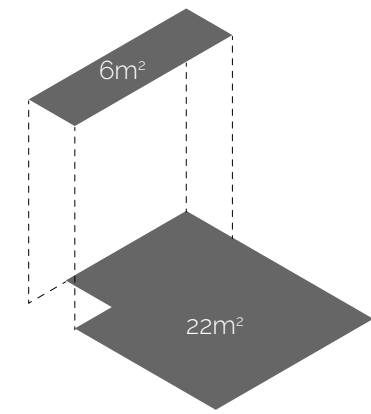
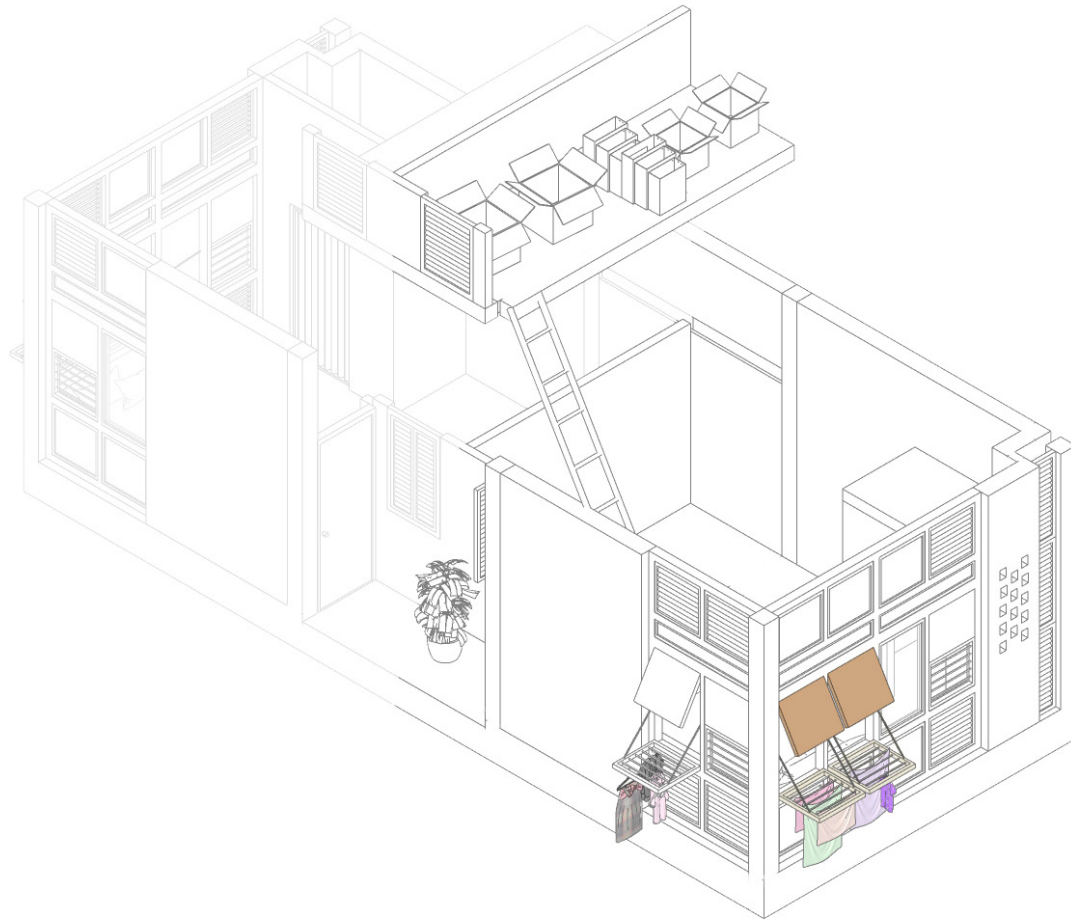


2020

## Narrative: The Chronicle of Narvel's Home

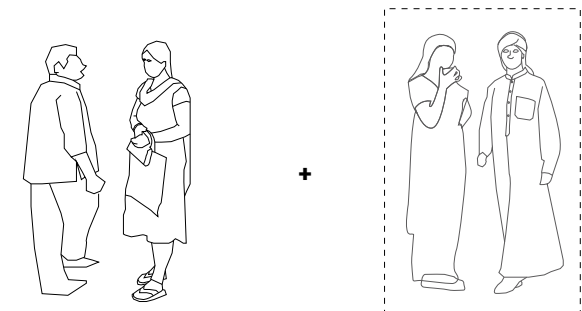
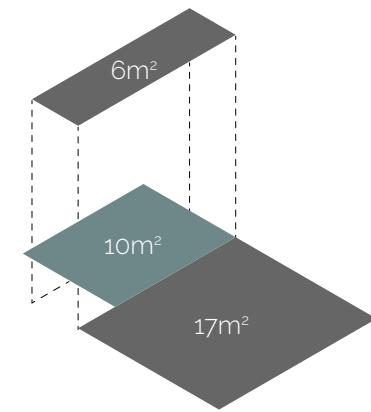
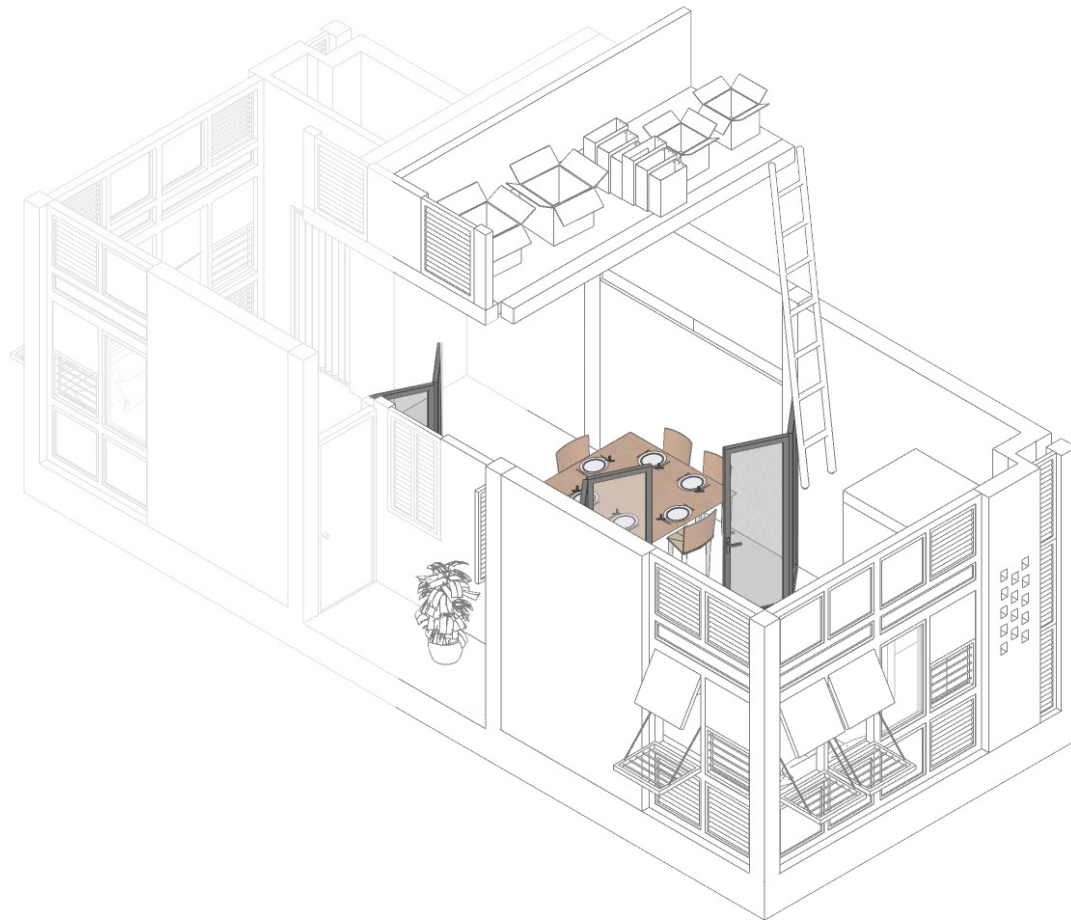


## Narrative: The Chronicle of Narvel's Home

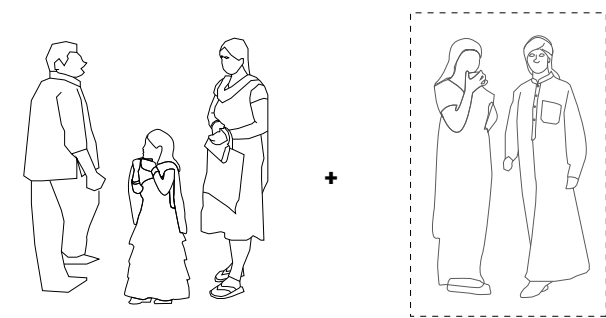
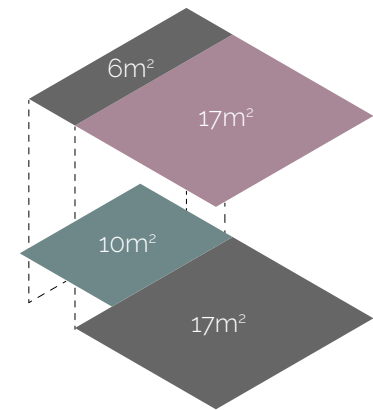
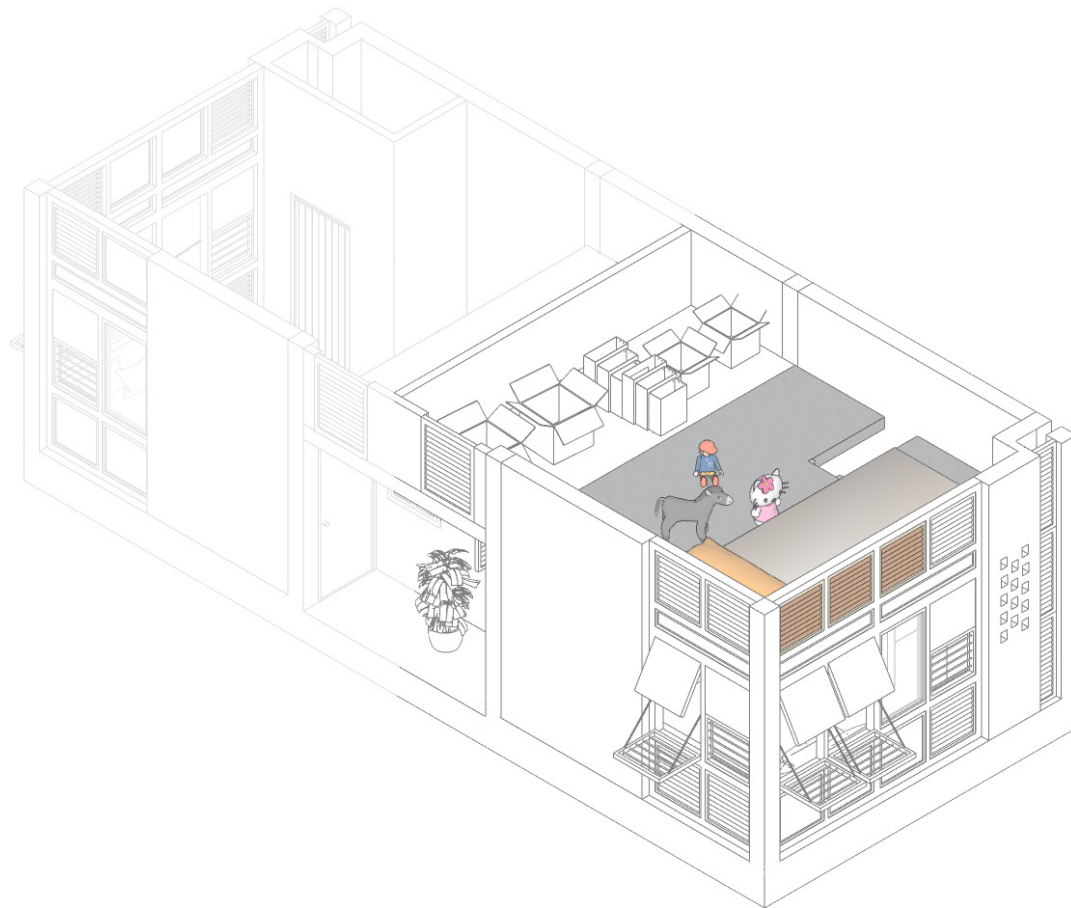




## Narrative: The Chronicle of Narvel's Home

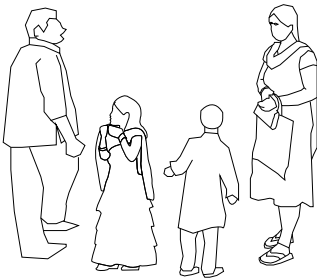
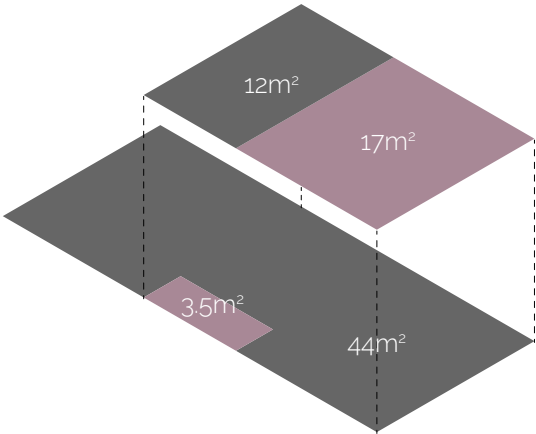


## Narrative: The Chronicle of Narvel's Home



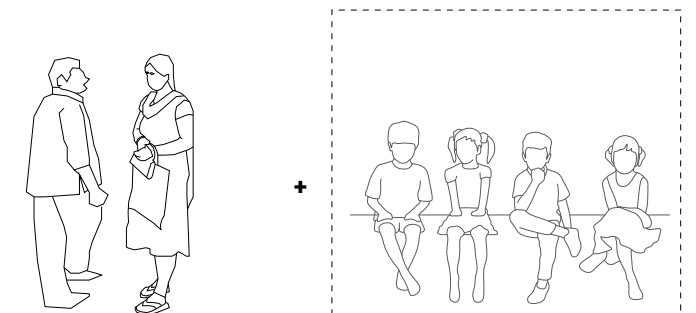
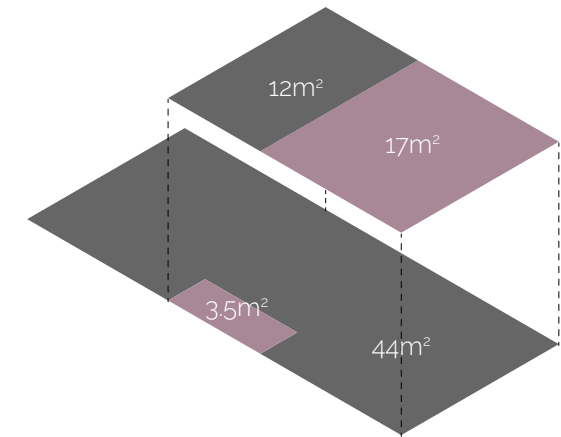
2029

Narrative: The Chronicle of Narvel's Home





## Narrative: The Chronicle of Narvel's Home



2050

# **07** reflection

**Model as a communication tool**



**Standardization ↔ Diversification**

# Standardization ↔ Diversification

## 1. Similar appearance

- Same Palette of Materials
- Same Facade Module and Components

## 2. Same Construction Method

- Locally available construction techniques and materials
- Same water management method

## 3. Similar Logic in Building Configuration

- All units are corner units
- Unit entrance are always ventilated

## 4. Similar Consideration for Activation of GF

- Raised floor and steps

# Standardization



# Diversification

1. Typological Mix based on aspirations
2. Flexible options for unit layout
3. Room for addition / alteration
4. Buildings that could be extended / shortened to respond to different site conditions



Kuala Lumpur



Shanghai



Hong Kong



Mumbai





namaste!

