

Repair & Retrofit

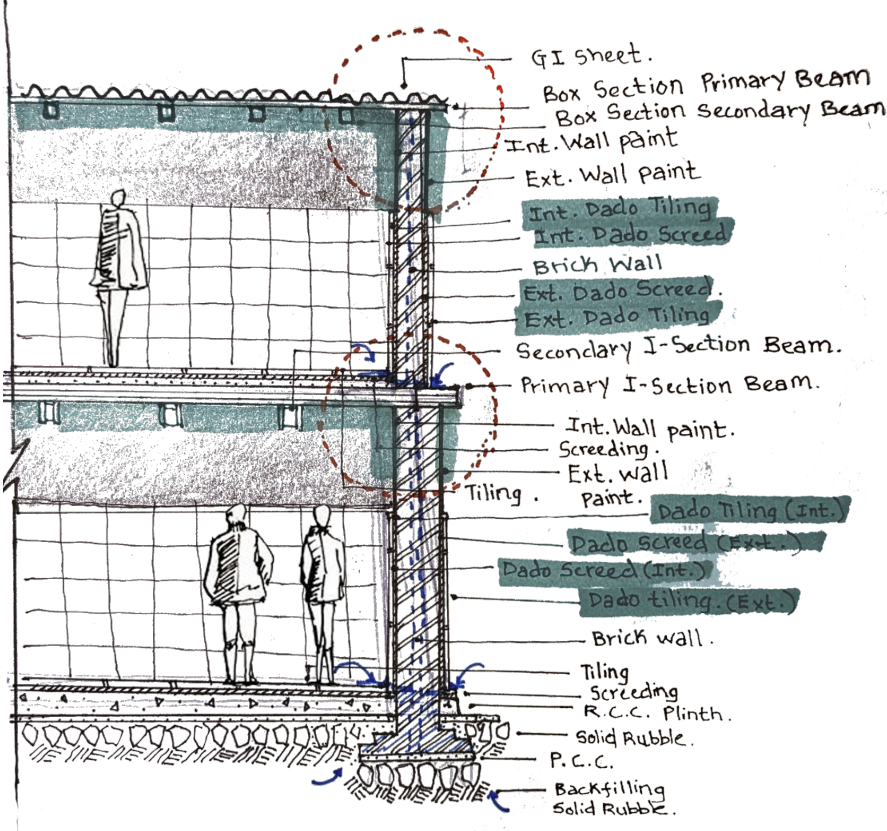
Thakkar Bappa Colony



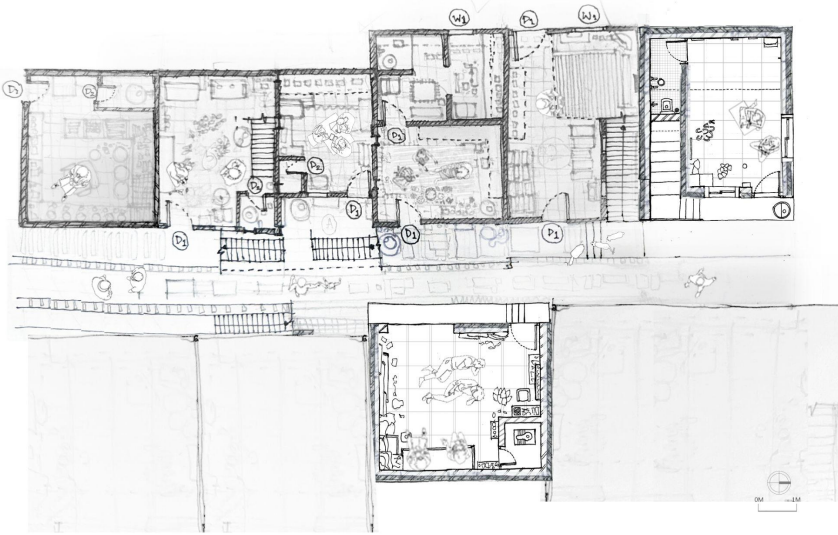
Methods of Study



Cluster divisions for study



Observation Drawings



Cluster Plans



Pathway conditions



Exterior conditions



Roofing methods



Environment conditions

Number of houses surveyed	117
Number of households surveyed	277
Number of people surveyed	1116

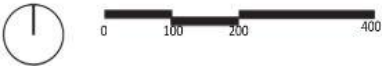
Location of Thakkar Bappa Colony



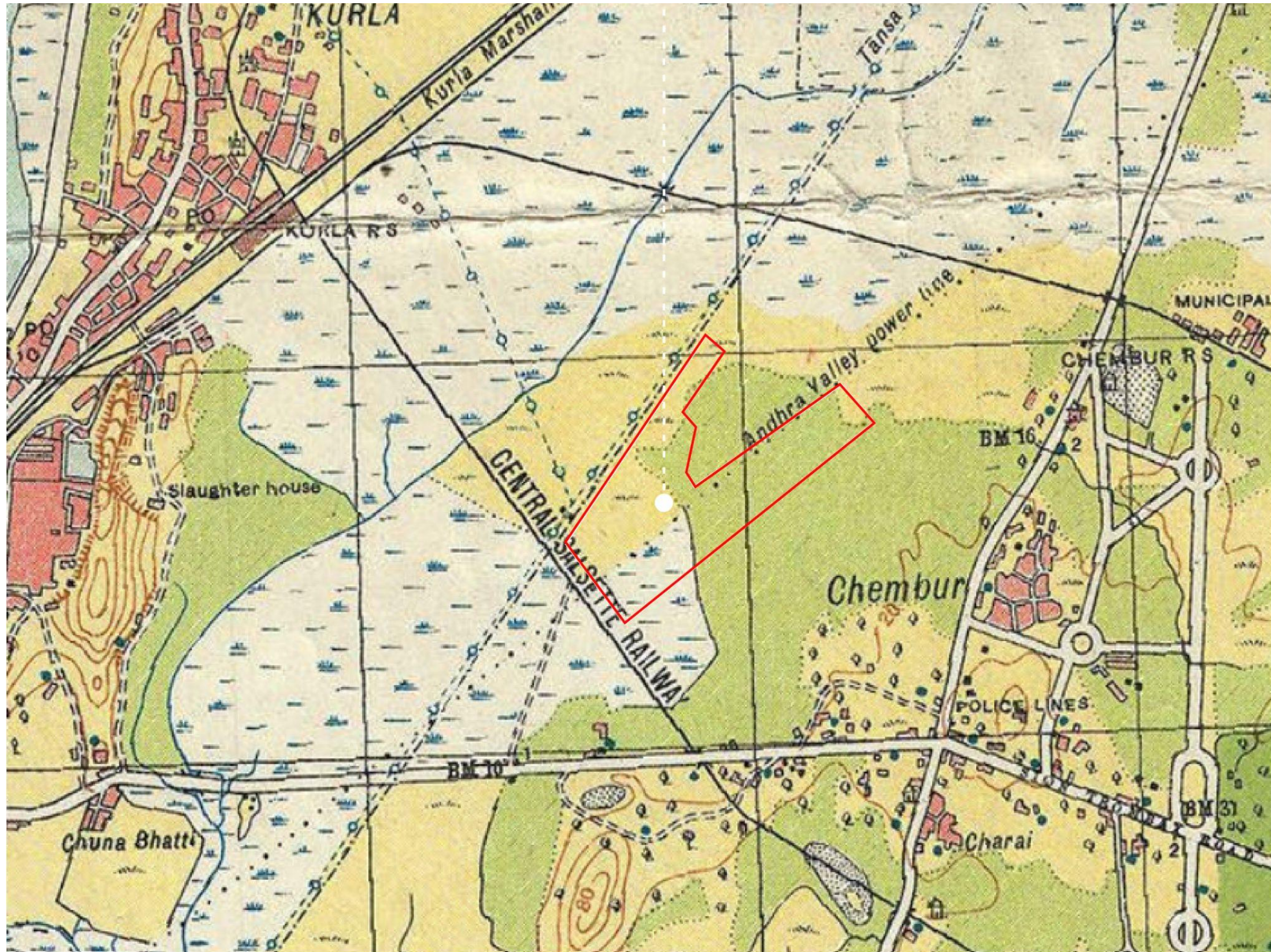
//// - MW Ward



Location of Thakkar Bappa Colony, with critical arterial roads and rail lines



History of Thakkar Bappa Colony



 - Marshy land

In 1931, the land was previously marshy, used as salt pans, and had various electric lines passing through it.

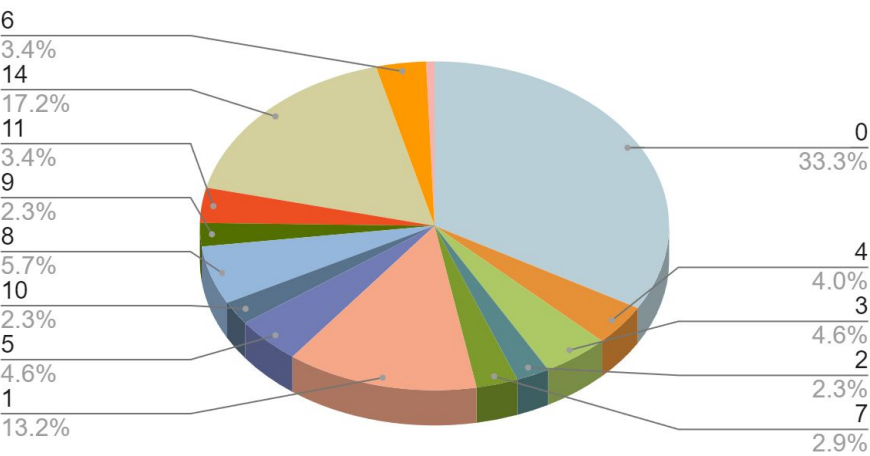


History of Thakkar Bappa Colony



Time wise progression of Thakkar Bappa Colony which likely began as an informal settlement in the post-partition era, gradually growing through the 1990s due to urbanization, migration, and limited access to formal housing.

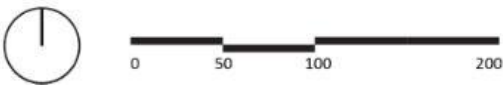
YEARS OF STAY



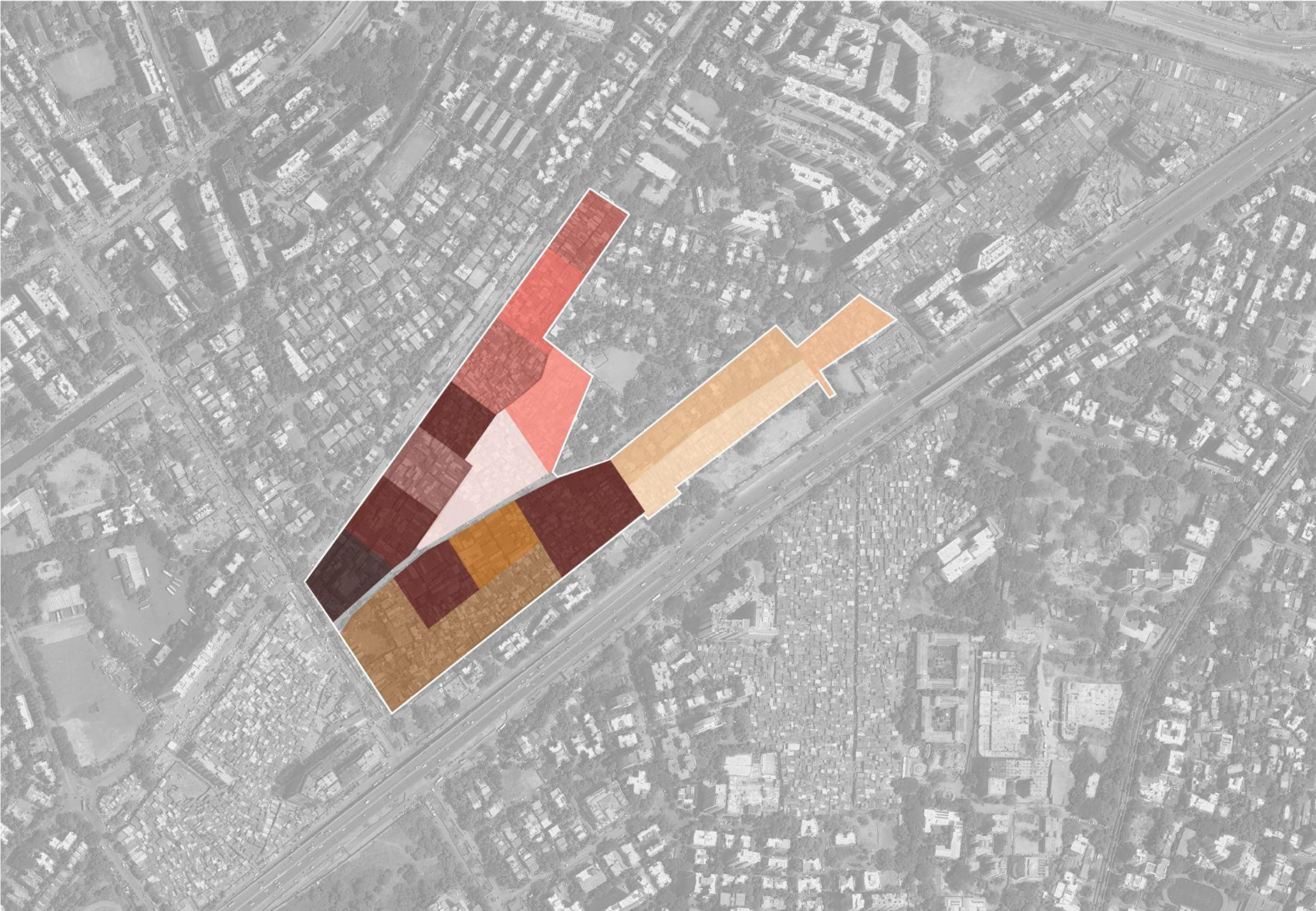
There is a constant influx of migrants, with some moving back to their hometowns after retirement

YEARS OF STAY			
0	Last 5 years	8	Last 45 years
1	Last 10 years	9	Last 50 years
2	Last 15 years	10	Last 55 years
3	Last 20 years	11	Last 60 years
4	Last 25 years	12	Last 65 Years
5	Last 30 years	13	Last 70 Years
6	Last 35 years	14	Last 75 Years
7	Last 40 years		

- 1947
- 1948-1974
- 1975-1990
- Newer extension
- 1990s

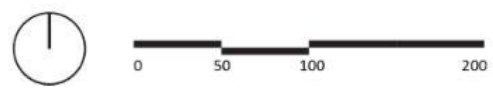


Demarcation of different localities formed in Thakkar Bappa Colony

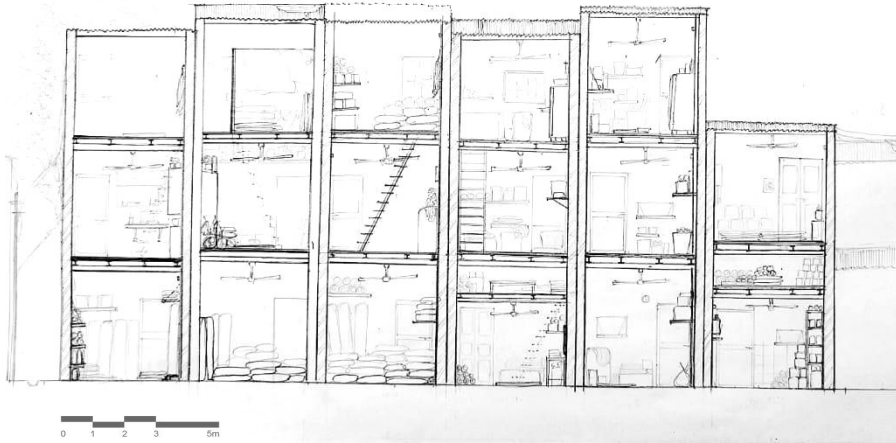
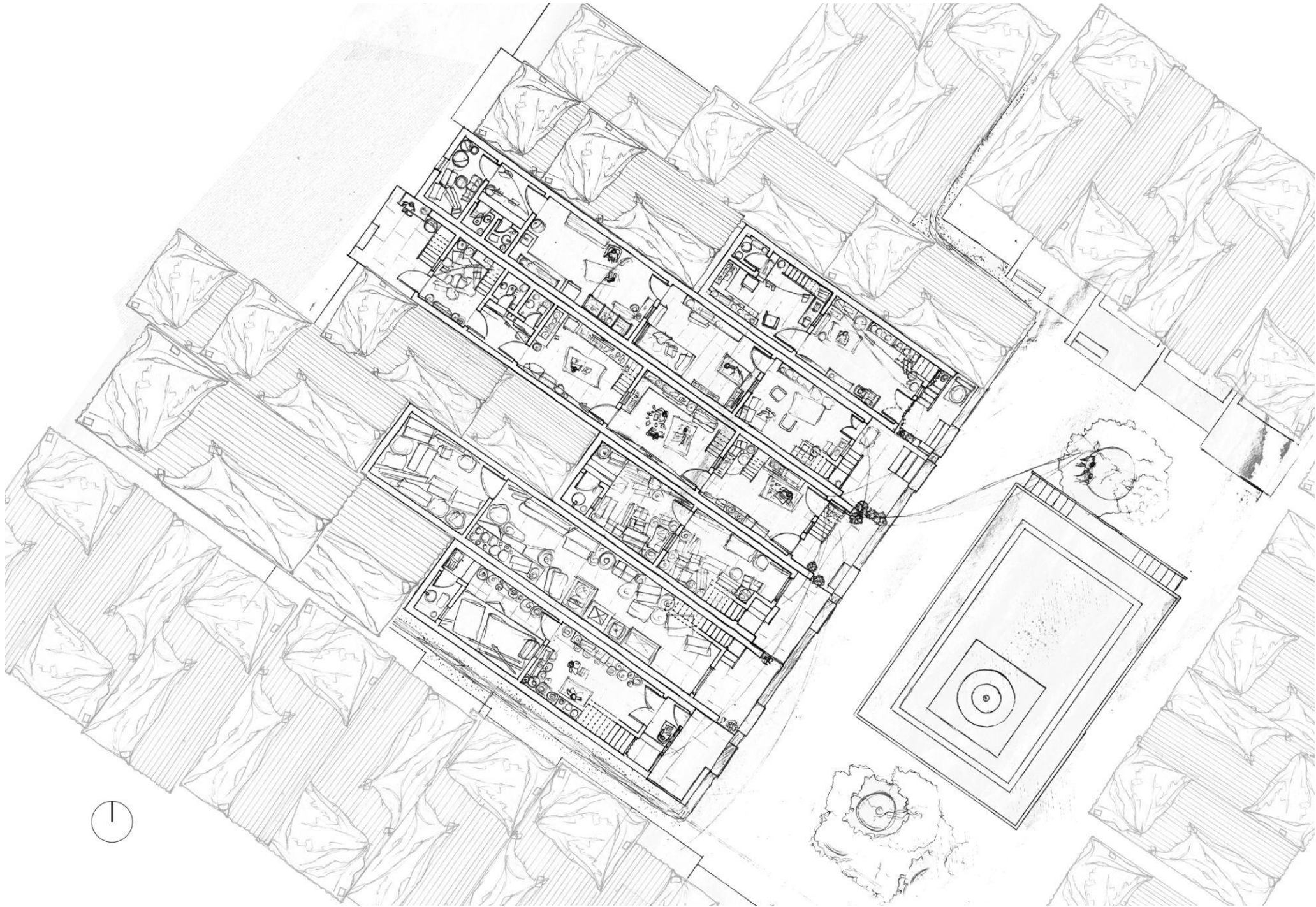


- Pada No 1
- Thakkar Bappa
- Pada No 3
- Adarsh Nagar
- Tashkanbhavan
- Hanuman Mandir
- Bhaiyya Pada
- Vasant Basti
- Pada No 5
- Newer extension
- Indira Nagar
- Shell Colony

The colony divided itself into various smaller padas based on community, landmarks, and municipal boundaries along with the newer extensions to the Thakkar Bappa Colony.



Pada No. 2 (1947)



The pada 2 consists of houses clustered around the Nirbhareshwar Mandir.



Courtyard



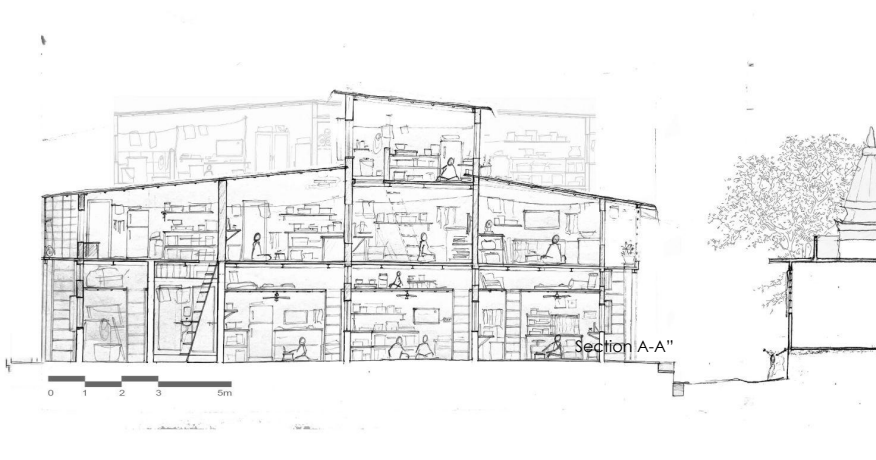
Courtyards by the mandir



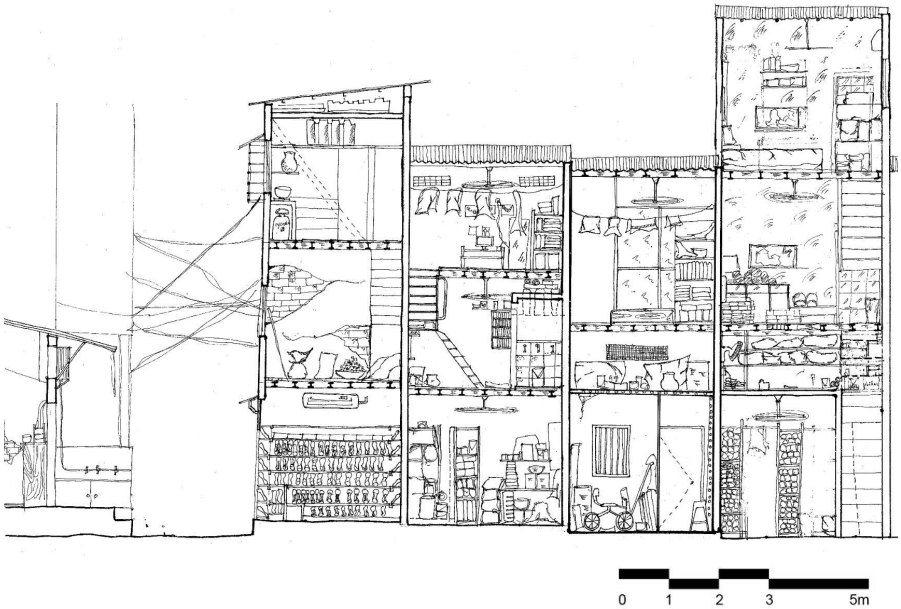
Loft spaces



Living spaces



Pada No. 1 (1948-1974)



Most of the houses are linear arranged side by side, where smaller units are formed eventually and given on rent.



Courtyard



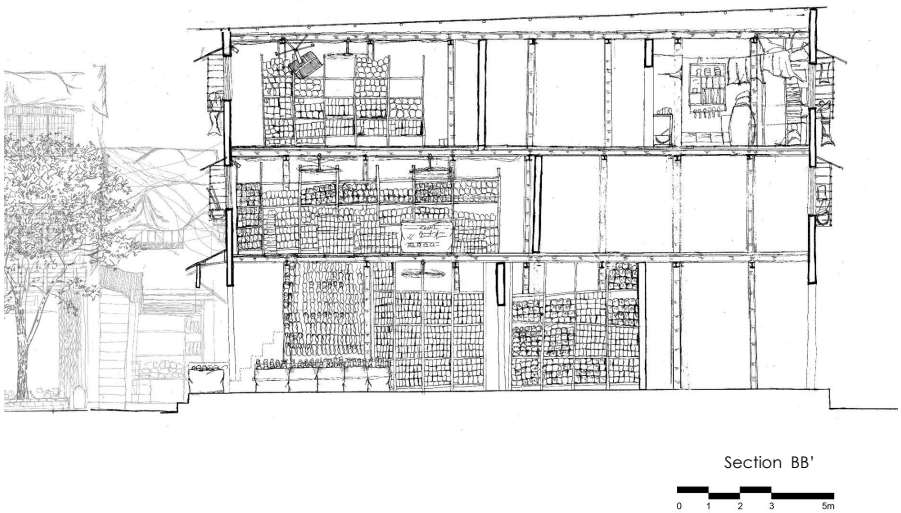
Workspaces



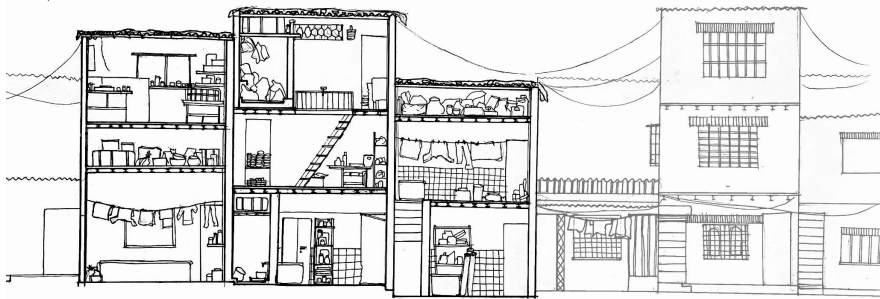
Waterproofing methods



Living spaces



Shell Colony (1990s)



Gullies



Steels stairs for storage lofts

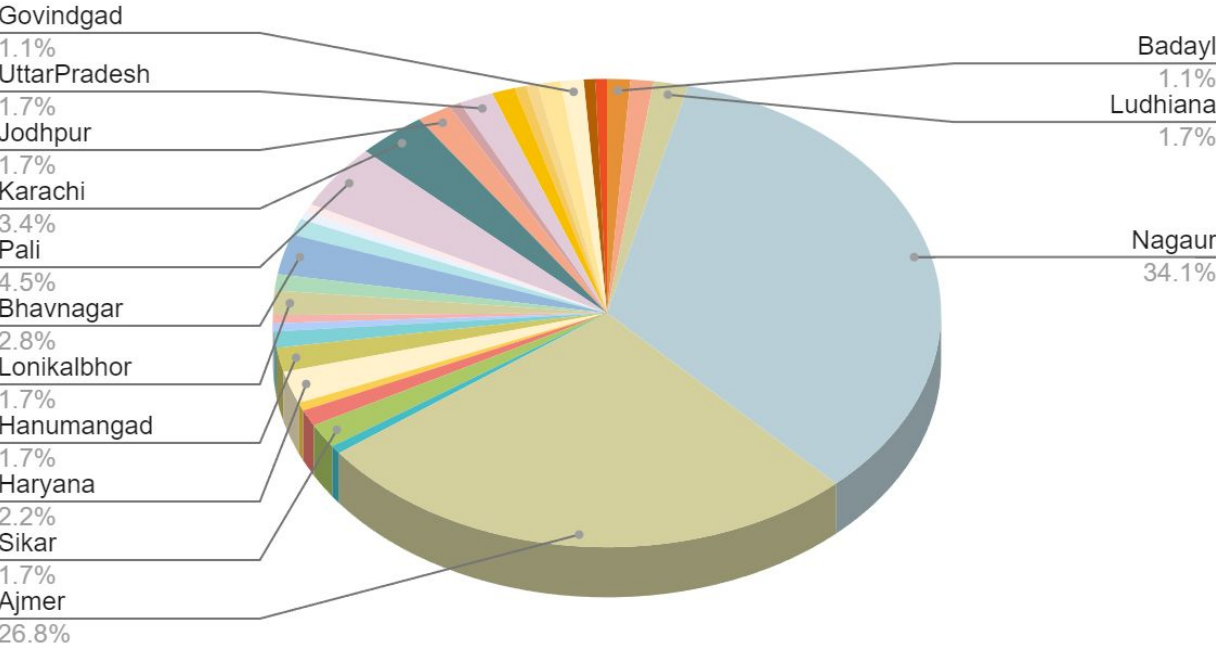


Washing spaces



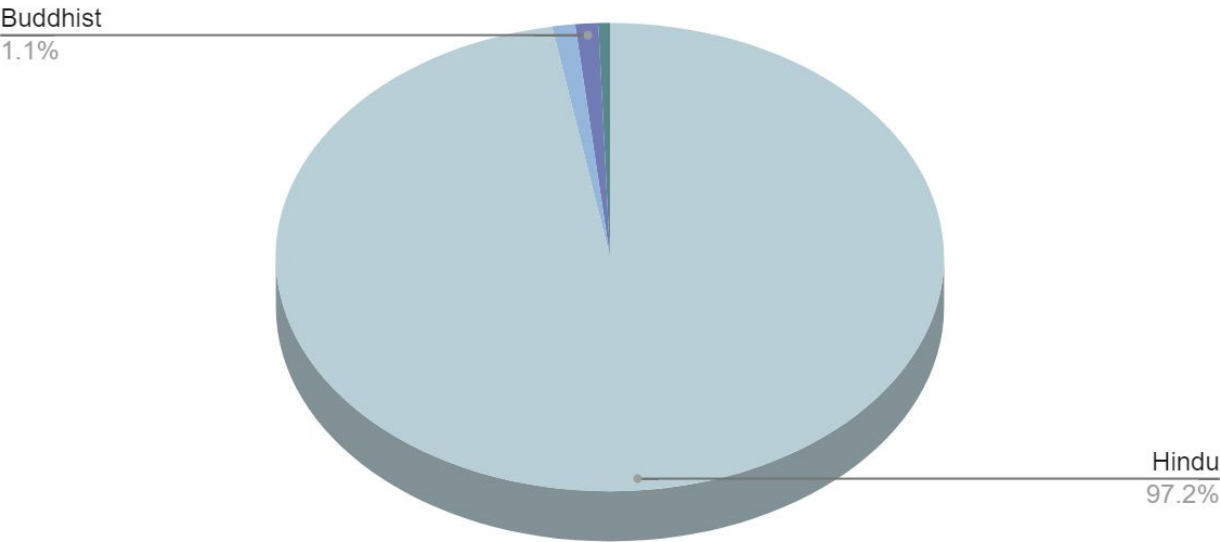
Demography

ORIGIN OF MIGRANTS



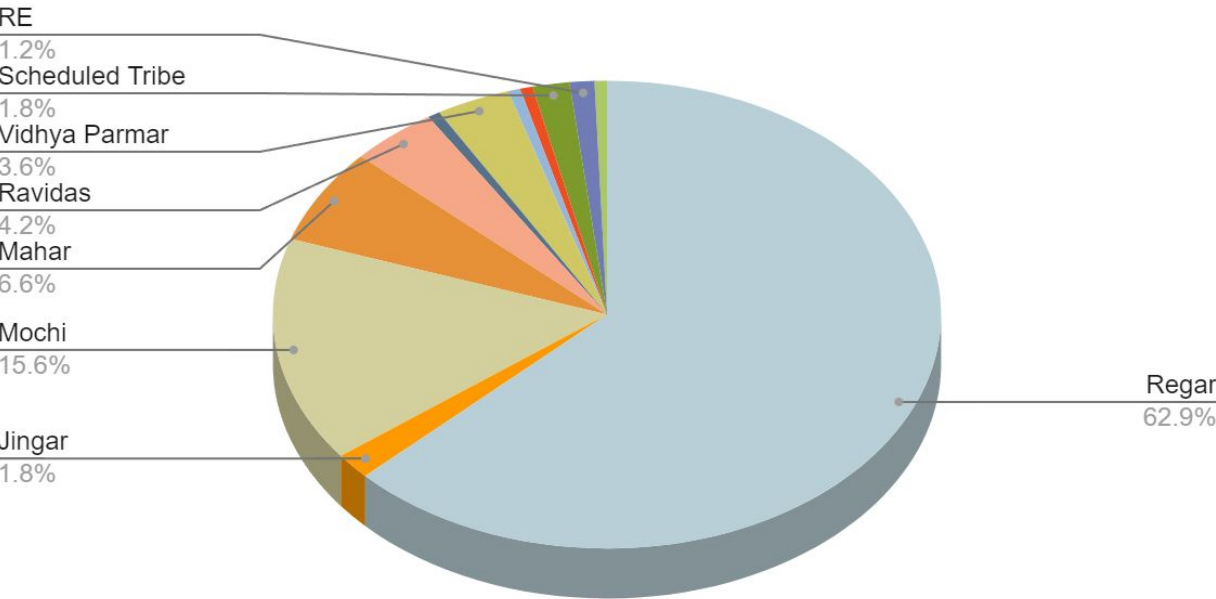
Majority of the population hails from Rajasthan

RELIGION



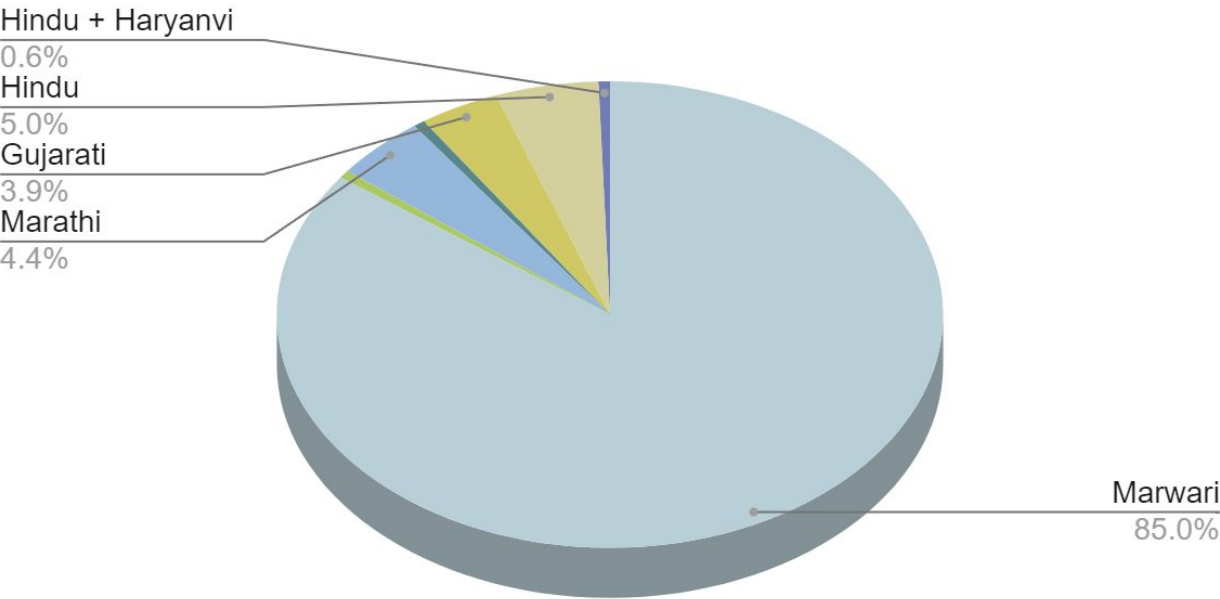
Hindus make the dominant religious group

CASTE



Regards and Mochis are the largest communities within the colony

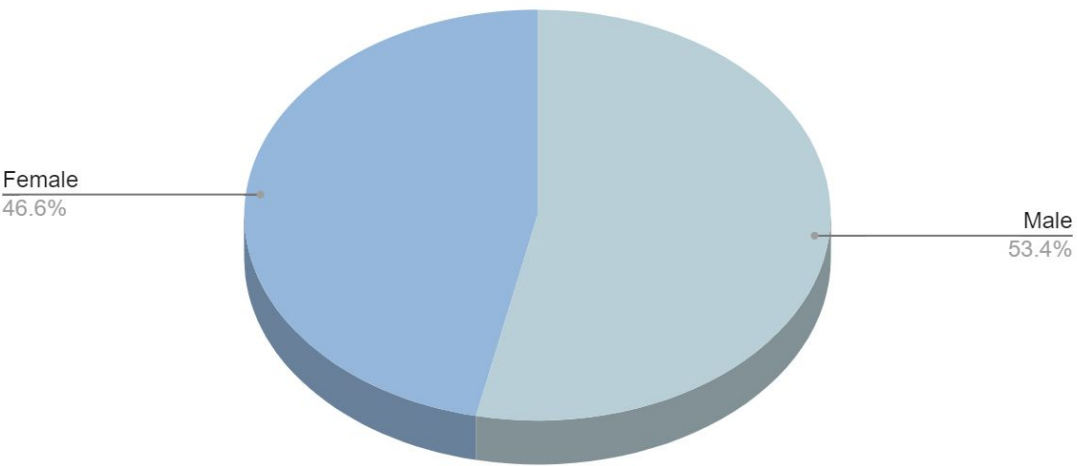
LINGUISTIC COUNT OF PEOPLE



Marwari is the most commonly spoken household language

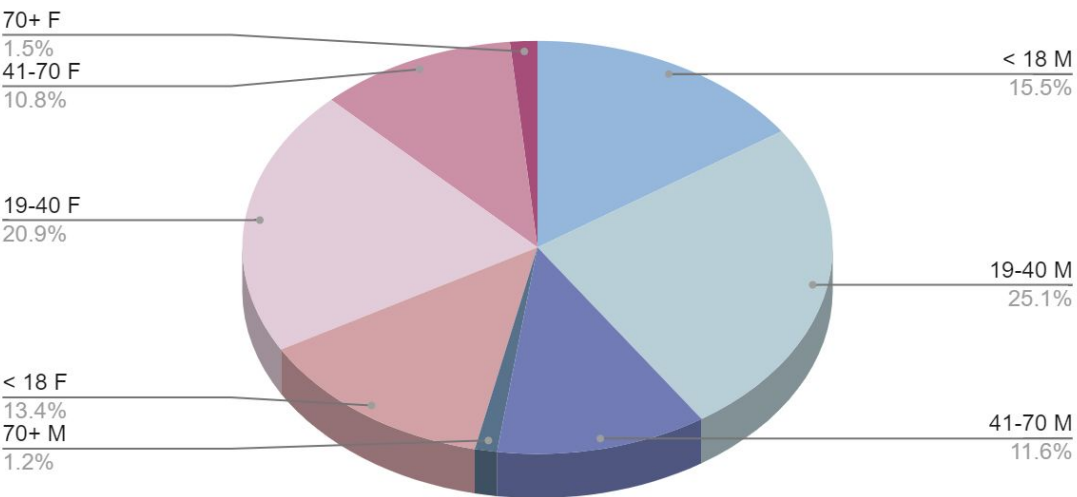
Gendered patterns

GENDER POPULATION

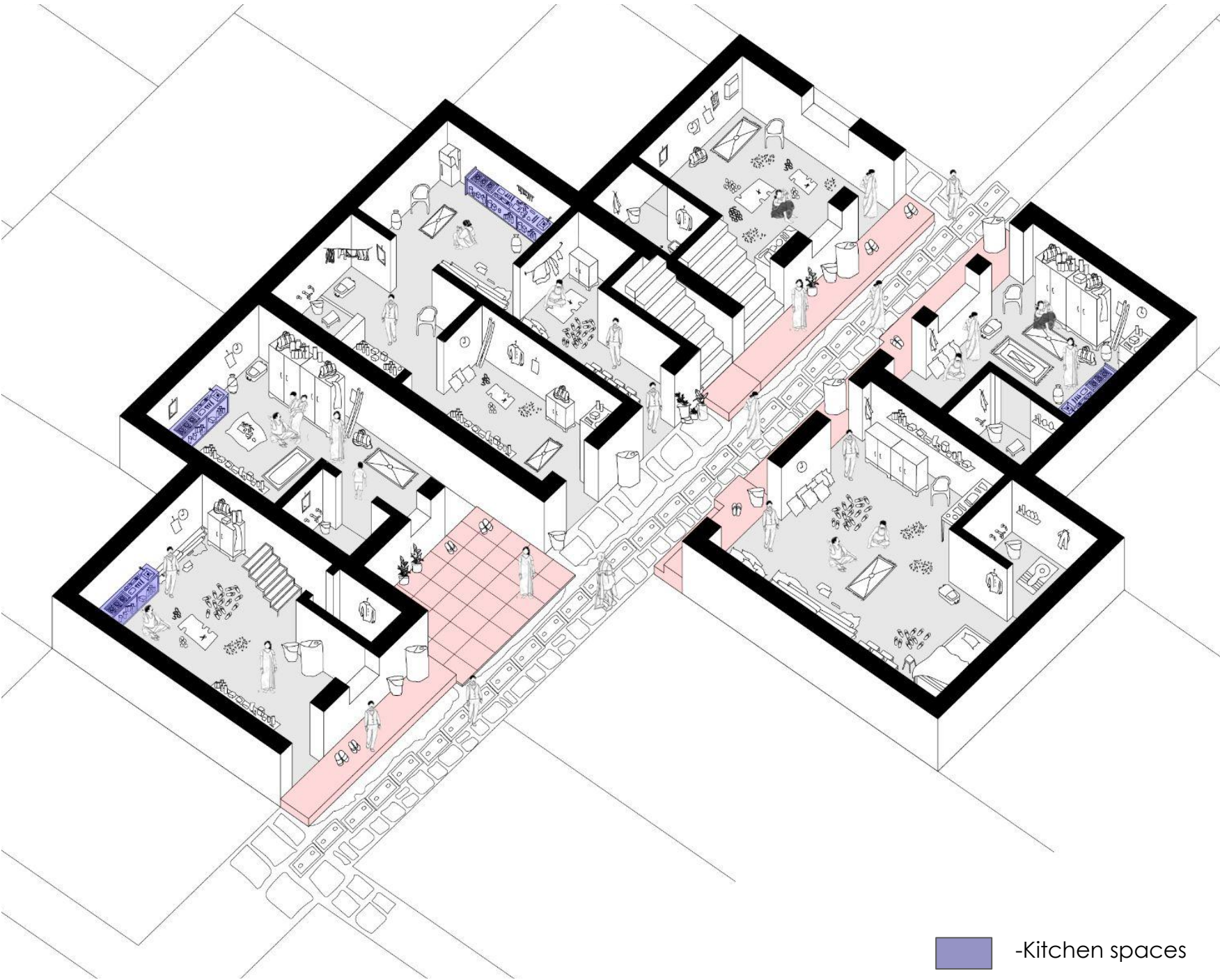


Men have a higher tendency to move out from their hometowns for jobs

GENDER POPULATION BY AGE GROUP



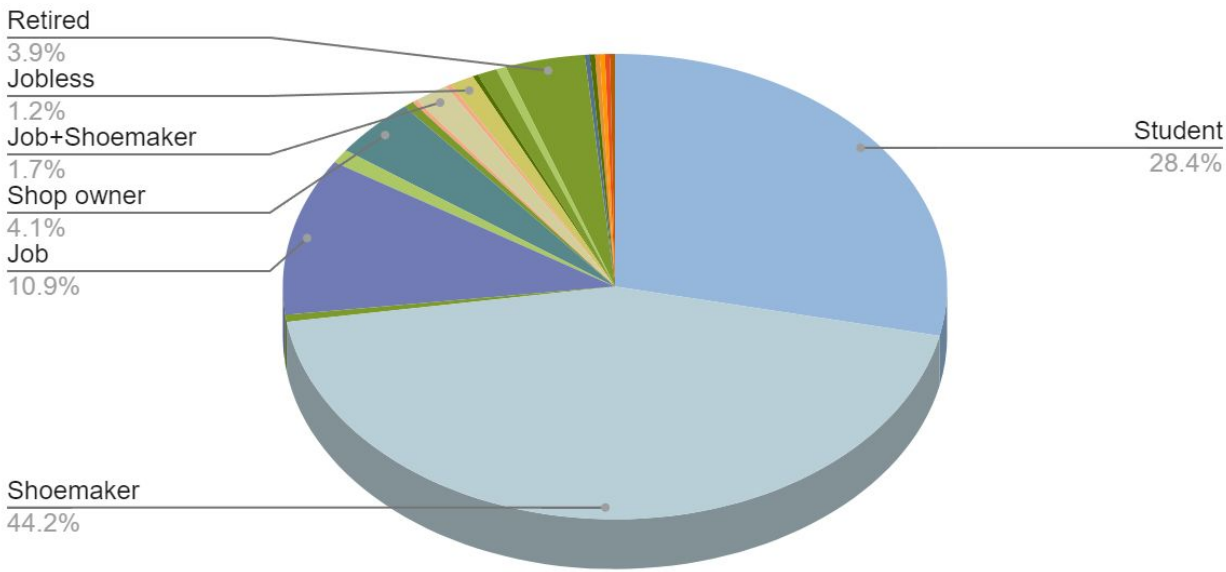
Majority of those above 70 move back to their hometowns



The women and their chores are pushed to the back of the house.

Gendered Occupational patterns

OCCUPATIONAL PATTERN IN MALE



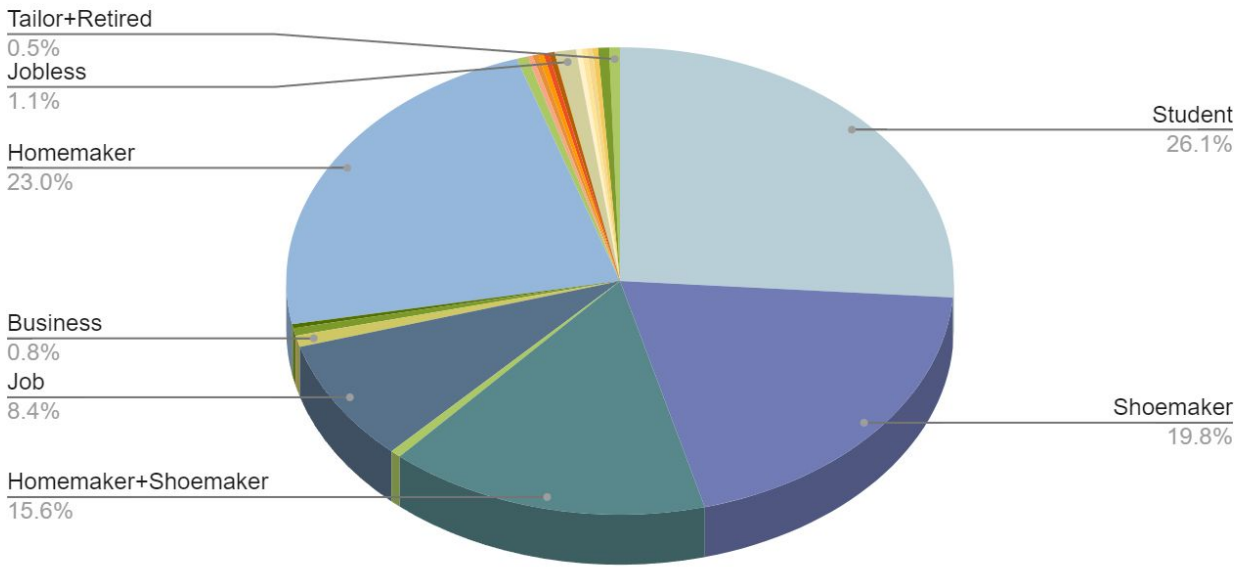
Storage Godowns



Shoemaking process

There is a gradual shift in aspirations among the those studying

OCCUPATIONAL PATTERN IN FEMALE



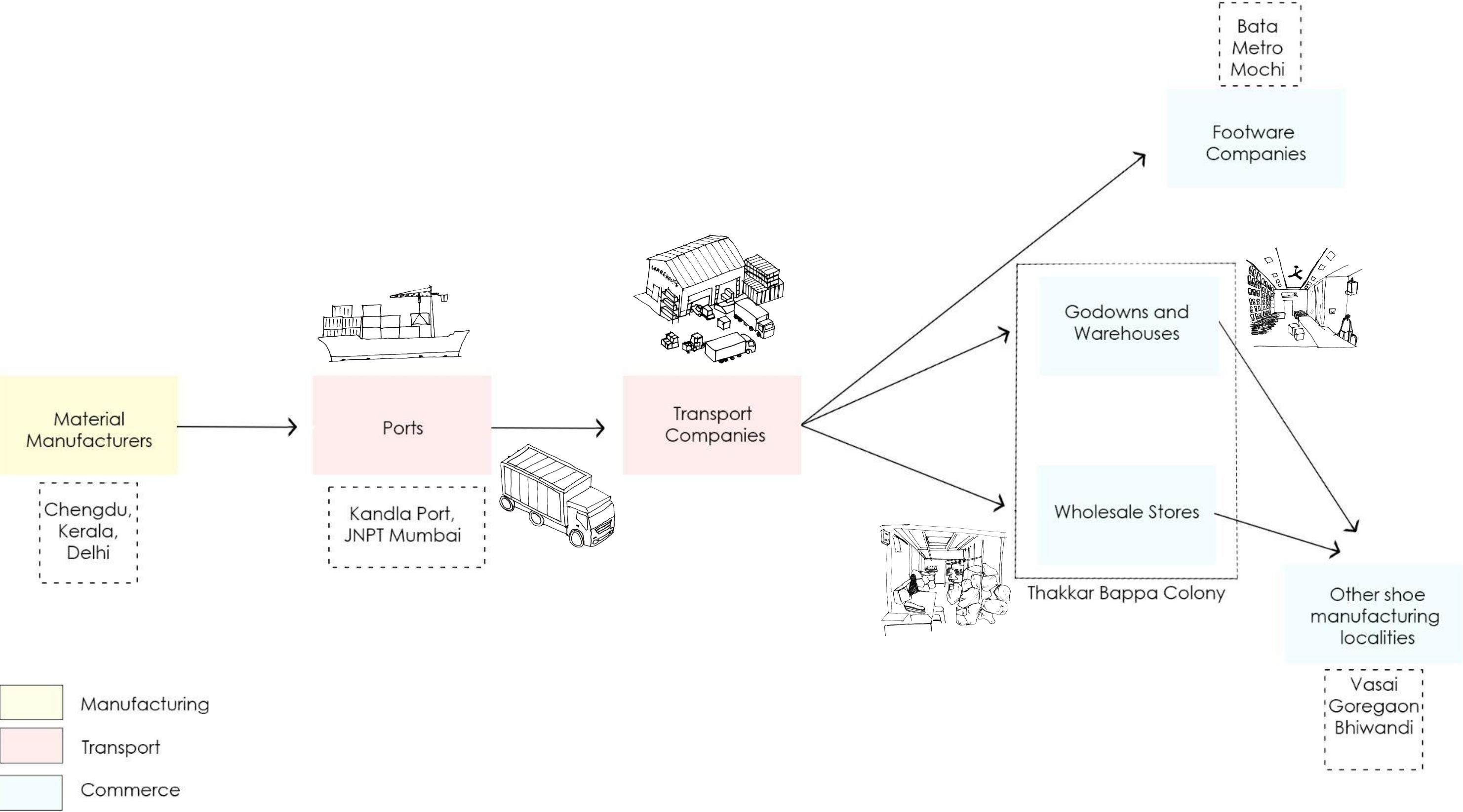
Women are mostly homemakers, while many also take part in shoemaking



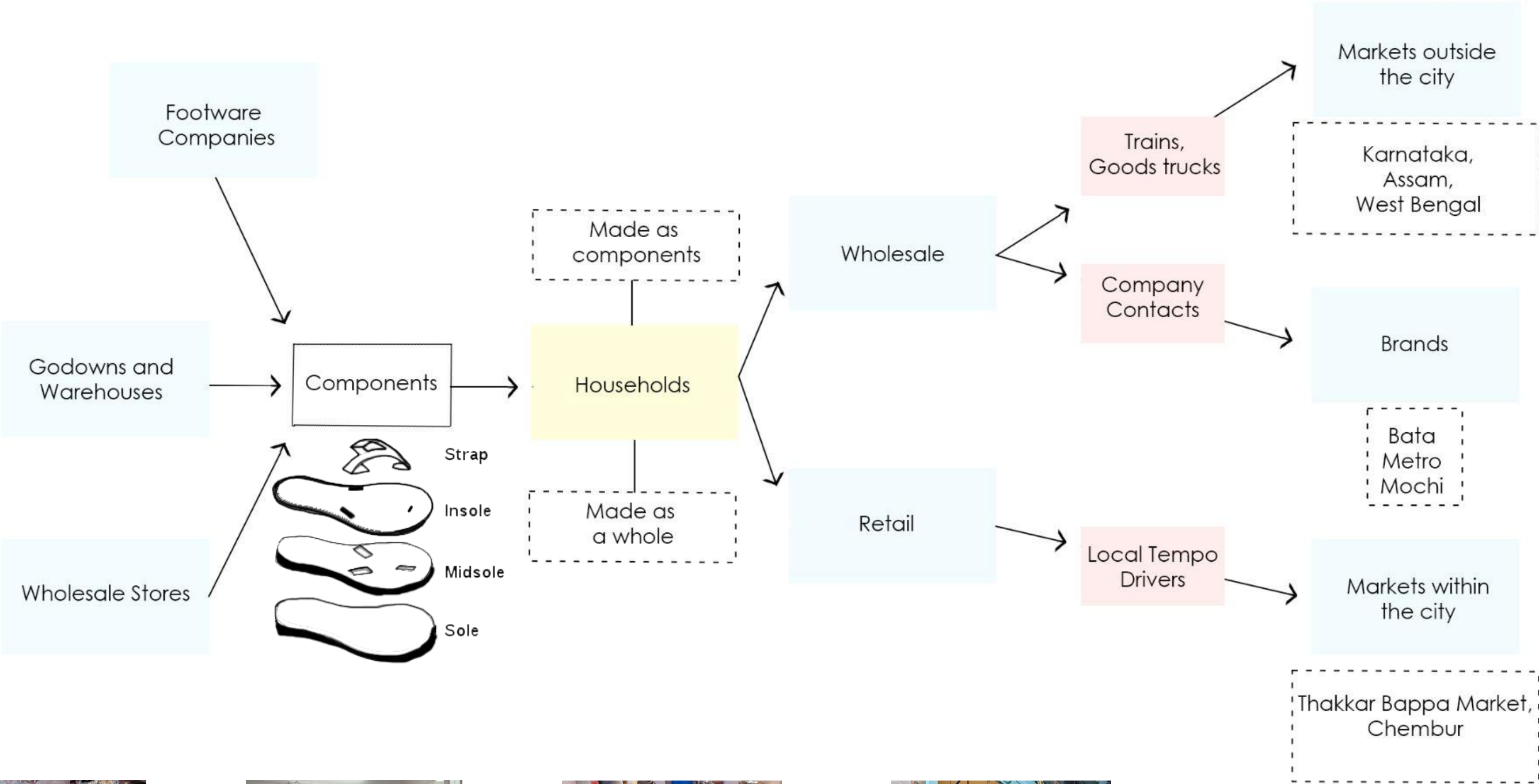
Aanganwadis

Many women work alongside their family, while also taking responsibility of household chores.

Networks of shoe making process



Networks of shoe making process



Finished products



Shoe sole stores



Working as a household



Raw material stores

Analysis of Development Plan and its Implications on Thakkar Bappa Colony



Houses affected by DP plans due to following reasons::

- 1- Road widening
- 2- Open spaces
- 3- TATA Tower
- 4- Metro line
- 5- Eastern express highway

- Existing Open Spaces
- Existing Institution Spaces
- Proposed open spaces
- Proposed Institution spaces
- Proposed social amenities
- TATA HEV tower
- Railway Lines
- Proposed road widening
- Affected houses due to road widening
- Main road and metro lines
- Eastern express highway
- TBC Boundary

The map serves as a visual guide to the public toilet facilities distributed throughout the locality.



Analysis of Sanitation Condition



A map of public toilets in the area, privately maintained toilets tend to be better maintained than those run by municipality.



Pathway conditions



Exterior conditions

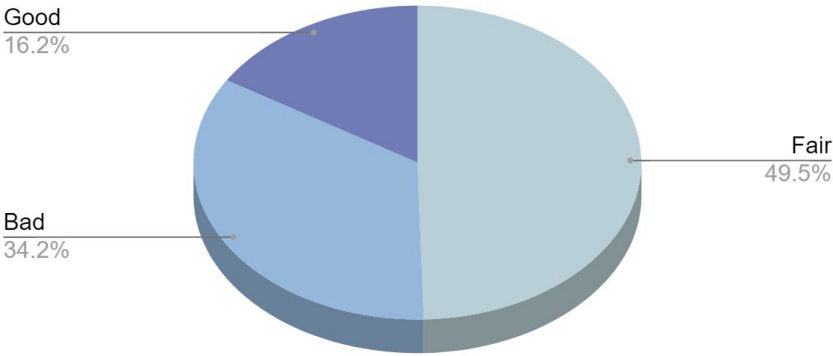


Washing Spaces

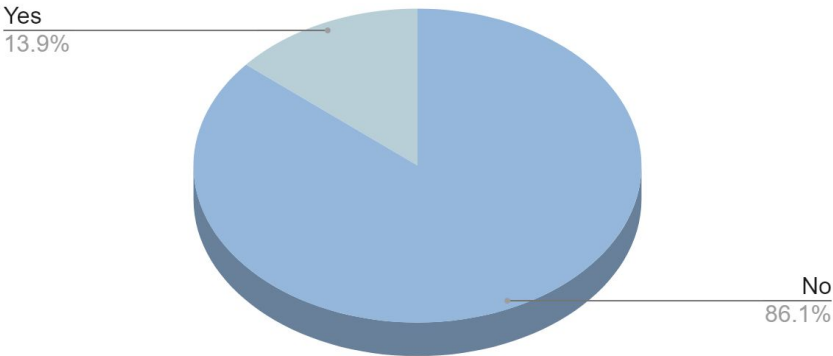


Toilet conditions

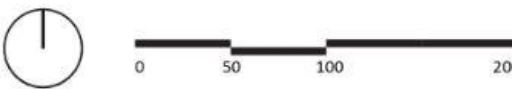
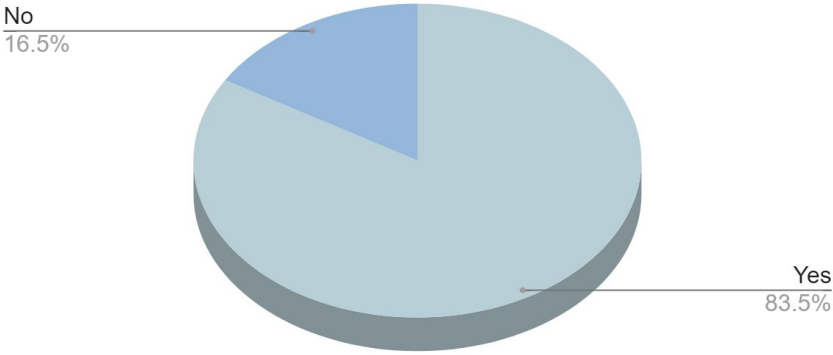
COMMON TOILET CONDITIONS



HOUSES WITH WC



HOUSES WITH MORI

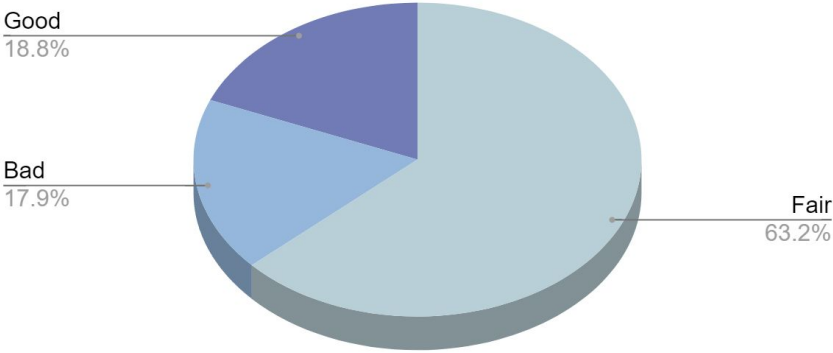


Analysis of Drainage and Sewage lines

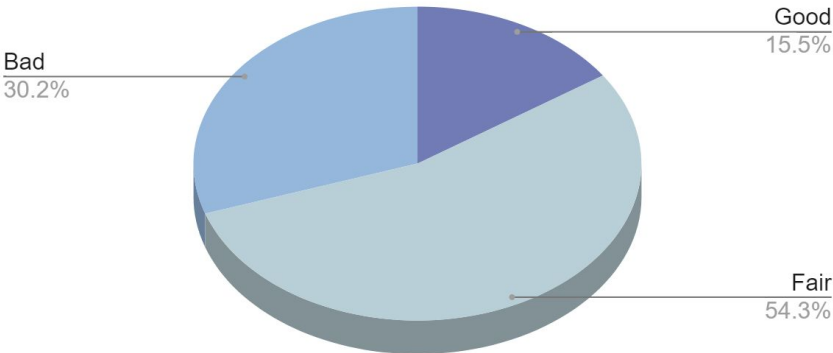


Greywater drains move from the gullies to the larger municipal Nalas present in the arterial roads.

DRAINAGE MANAGEMENT



SEWERAGE MANAGEMENT



- Nalas
- Grey water drainage
- Storm water drainage



Pathway conditions



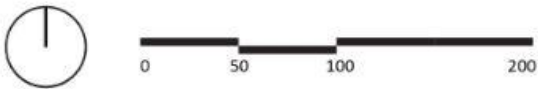
Open drains



Broken tiles

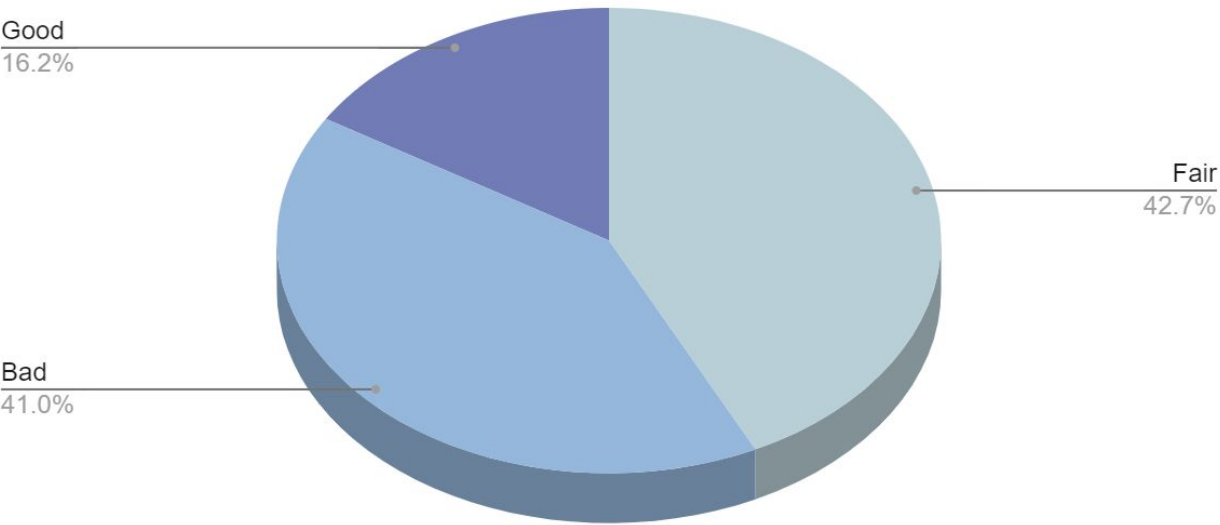


Greywater pipes



Vulnerabilities

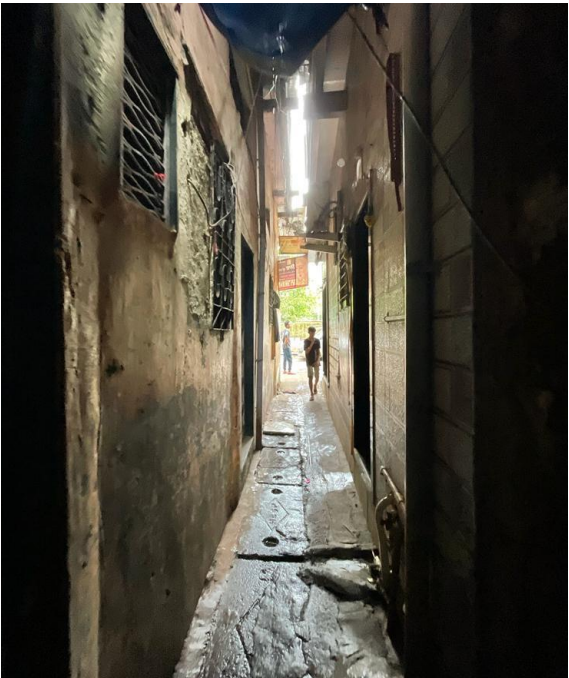
PATHWAY CONDITION



Majority of the narrower lanes have open drains

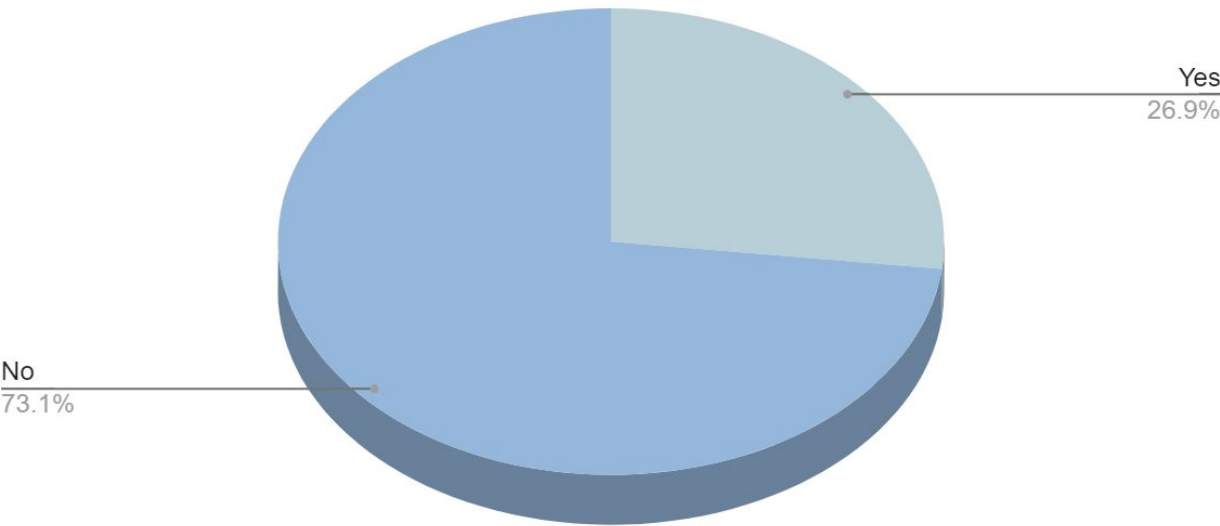


Some pathways have closed drains, and sufficient sunlight



Whereas some pathways have open drains, are narrow with minimal sunlight

LEAKAGE/ SEEPAGE



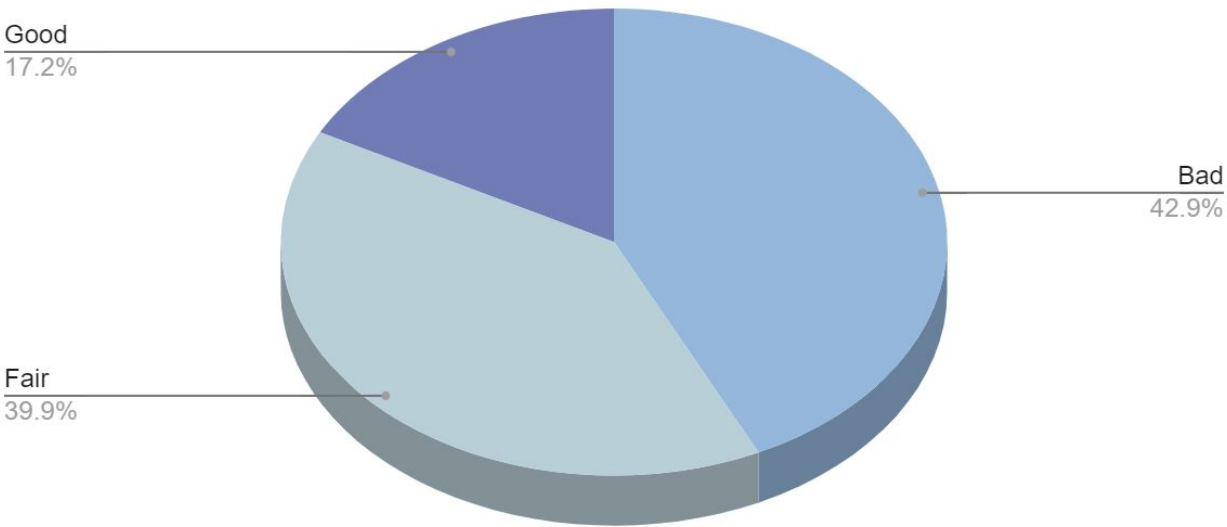
Usage of poor quality materials and lack of waterproof seals cause leakages



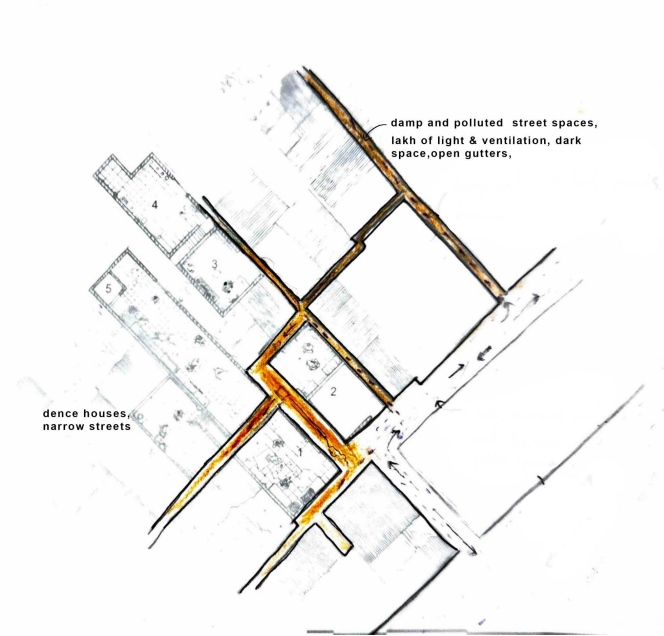
Tarpaulins are easy, quick, and cheap methods of mitigating leakages for the short term

Vulnerabilities

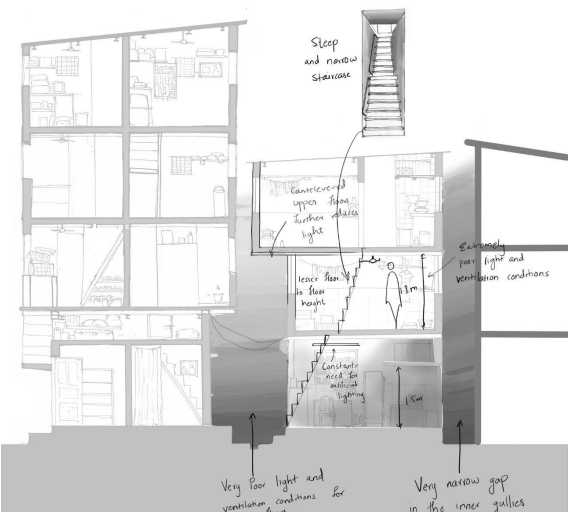
VENTILATION CONDITION



All houses in the cluster are adjacent to each other, not allowing much cross ventilation

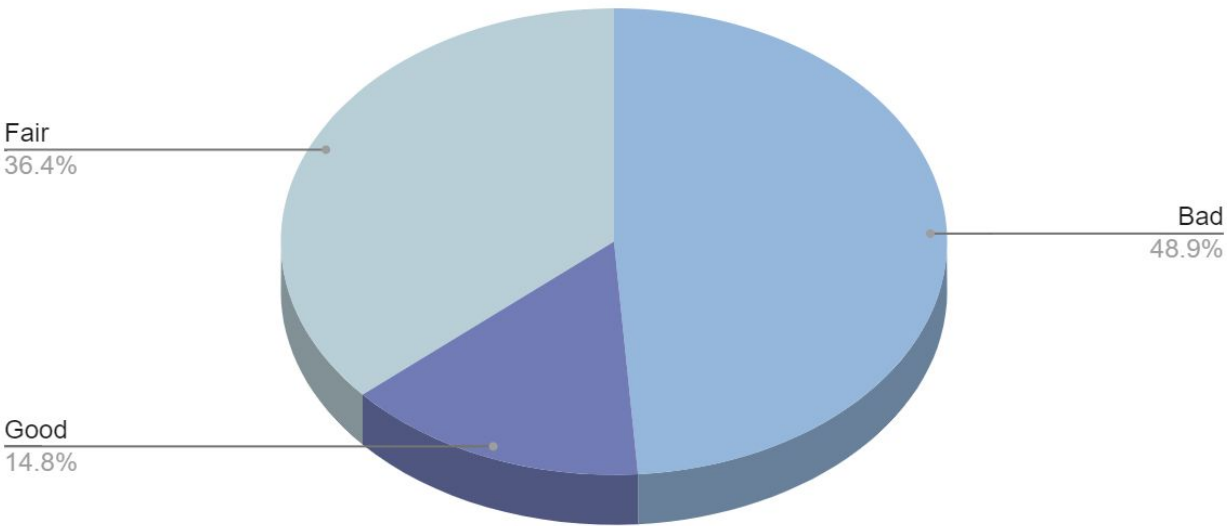


Intensity of light in the gullies



Intensity of light in sections

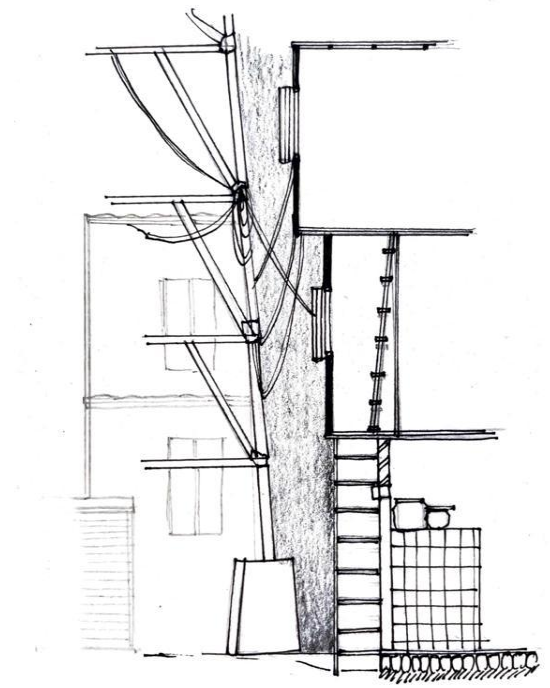
NATURAL LIGHT CONDITION



Cantilevers and tarpaulins prevent direct sunlight entering the gullies

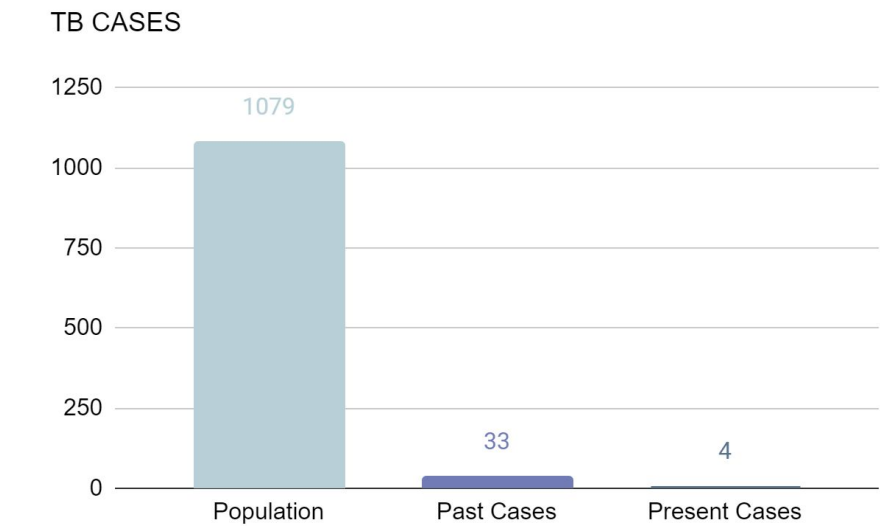


Light intensities within the building



The houses being extremely close to one another blocks out direct sunlight to the gullies

Tuberculosis Cases in T.B.C



- Existing tuberculosis cases
- Clusters surveyed

The map indicates that TB cases have been widespread in the locality, and not concentrated in particular clusters.



Working as a household



Stitching shoe-straps



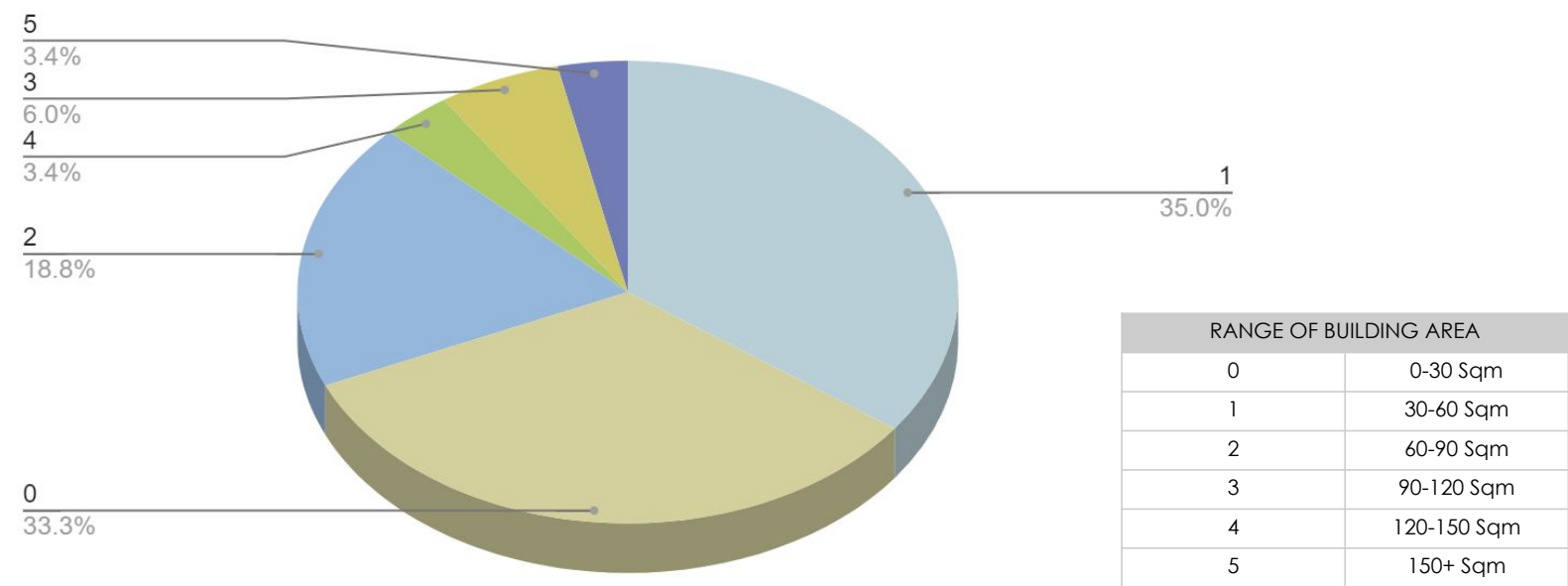
Applying the soles



Applying Latex

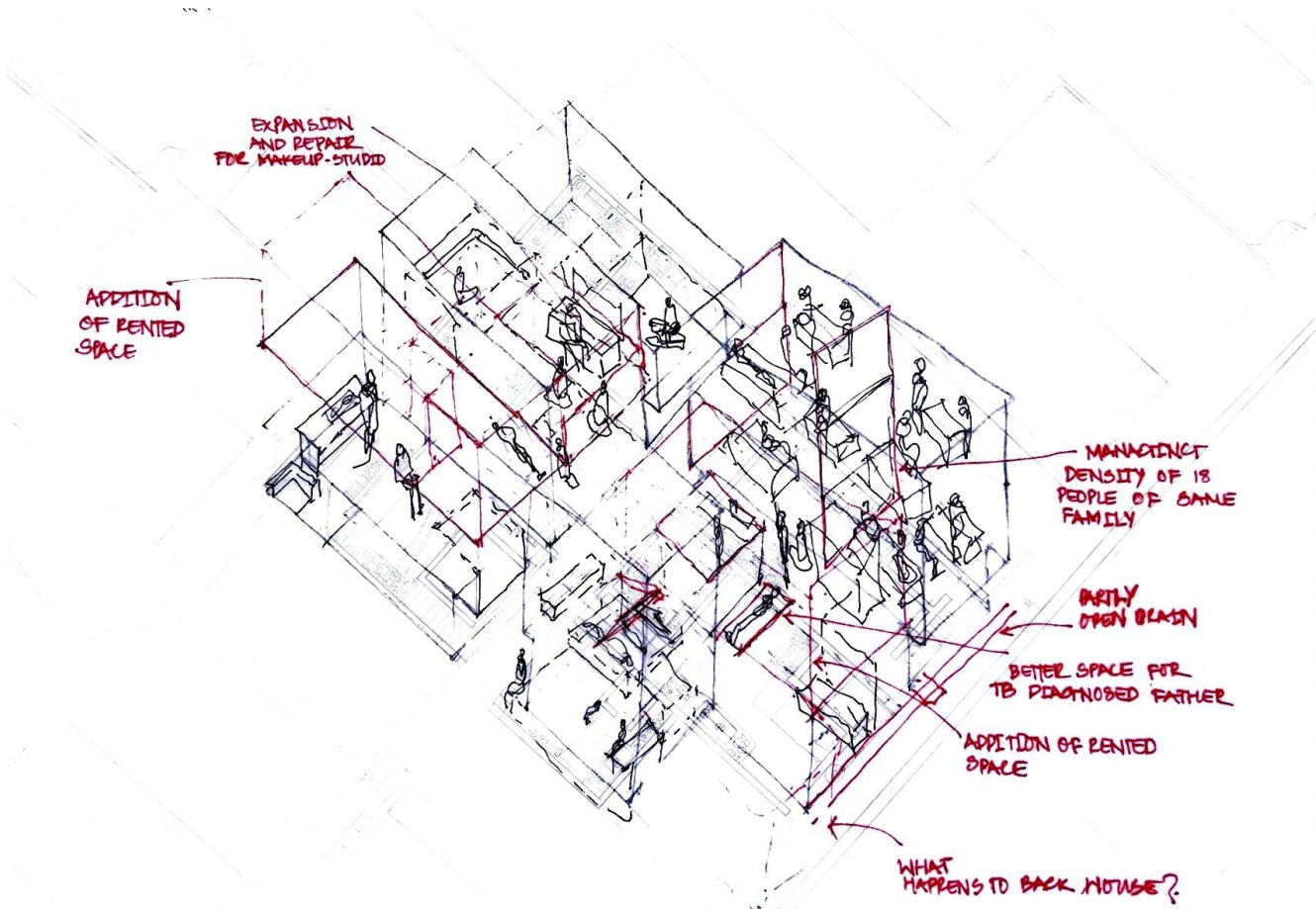
Density / Congestion

RANGE OF BUILDING AREA



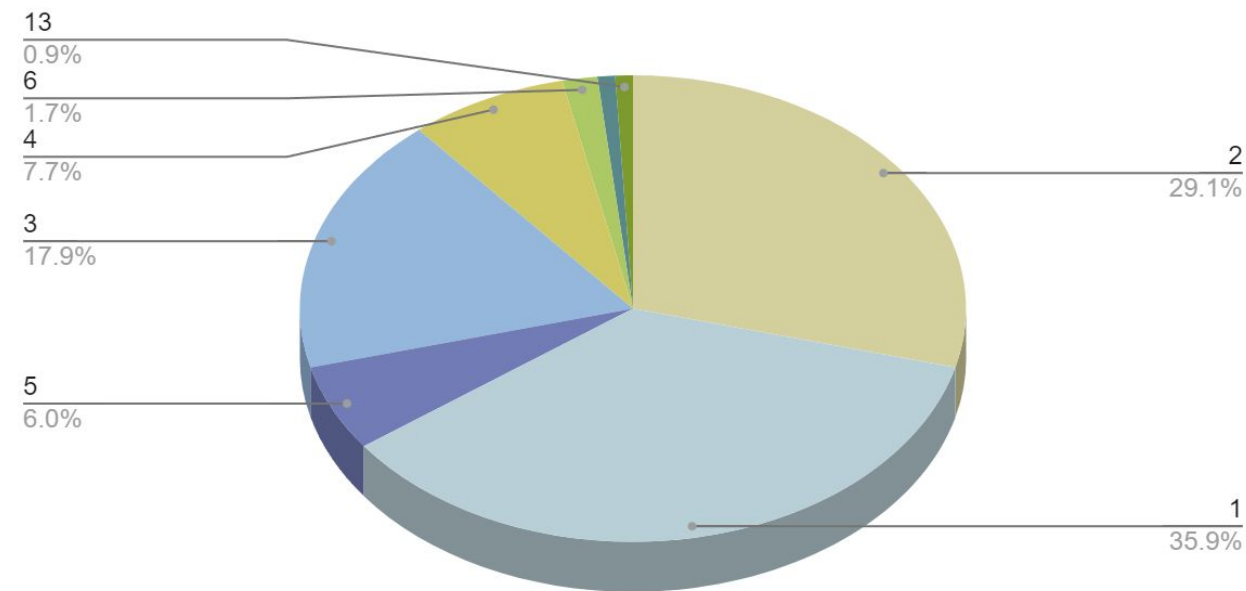
Average area per house is 54.69 Sqm

The floor space is maximised by constructing cantilevers, mezzanines and lofts



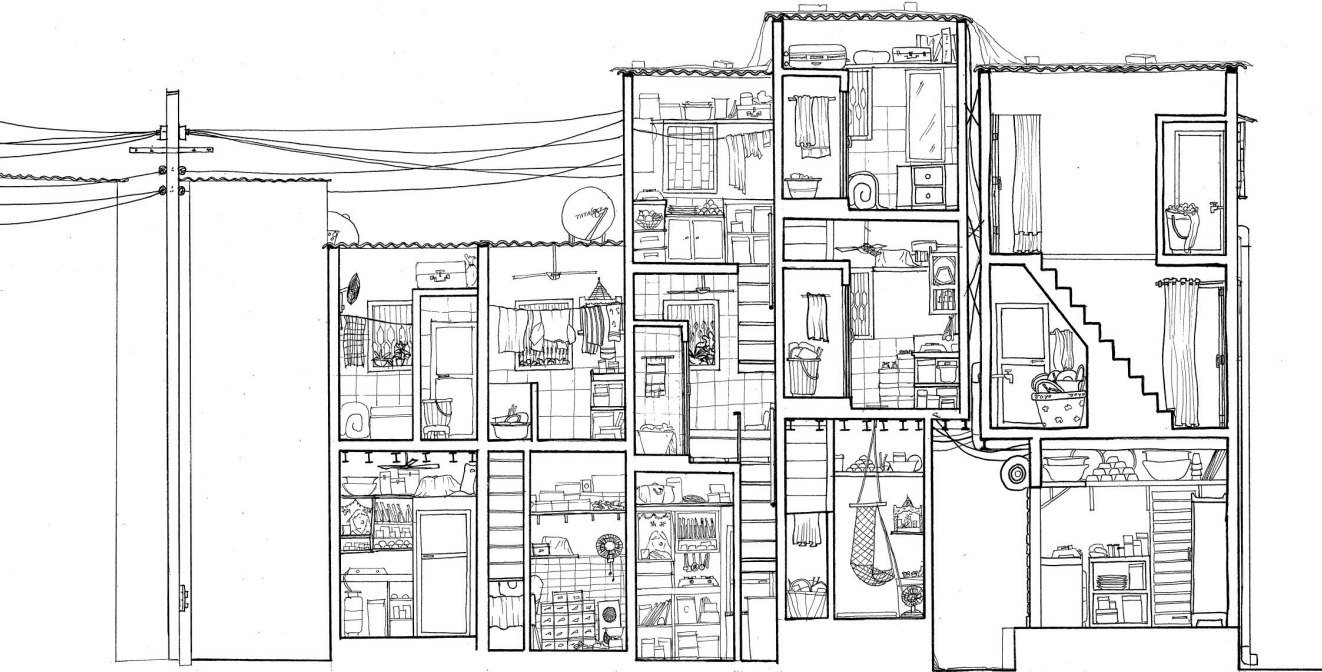
A wireframe diagram of the existing

NUMBER OF HOUSEHOLDS IN A BUILDING



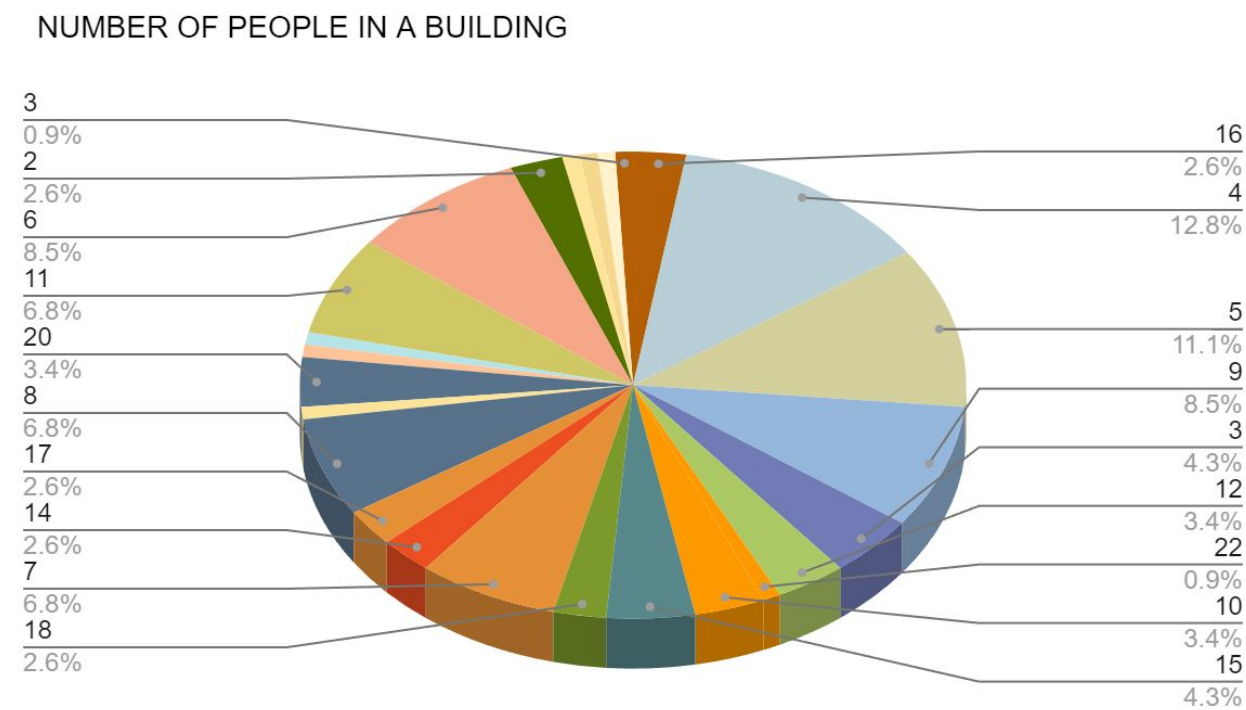
Average number of households are 2.36

Many houses generally have a few rooms and floors given to families on rent



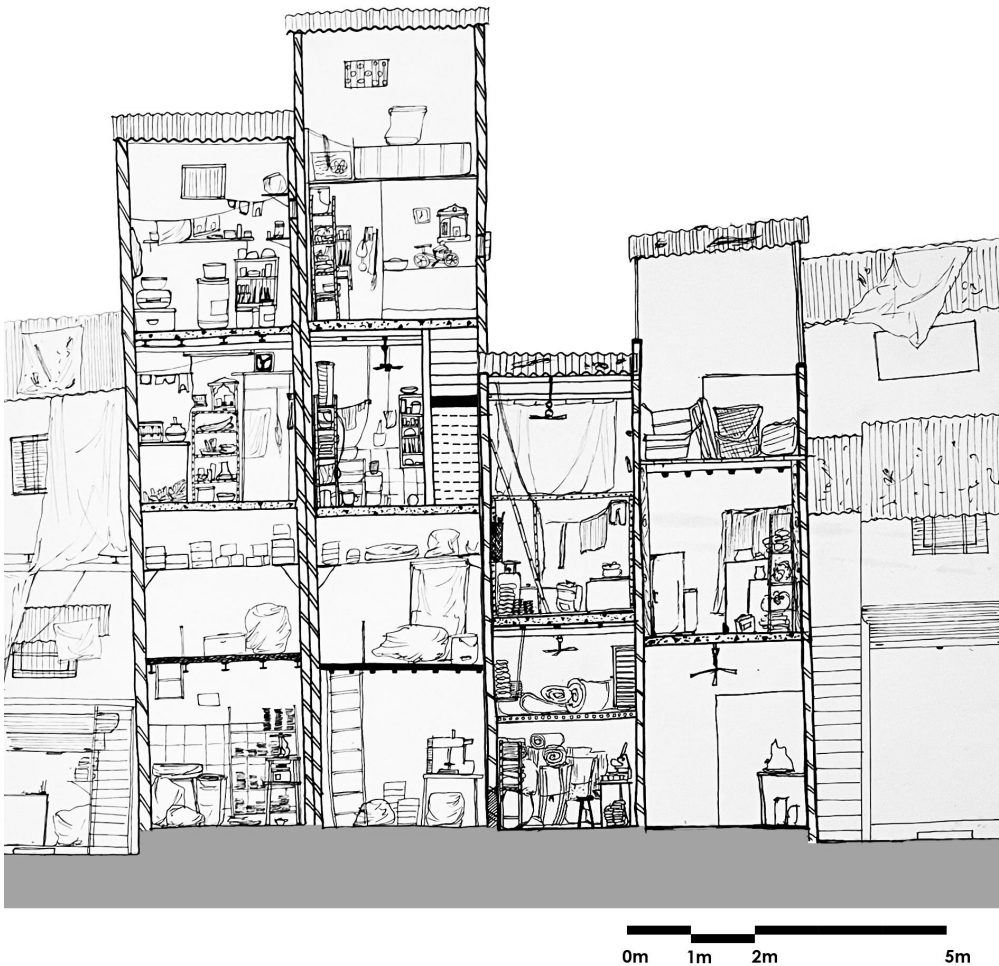
Houses expand vertically, adding floors and cantilevers

Density / Congestion

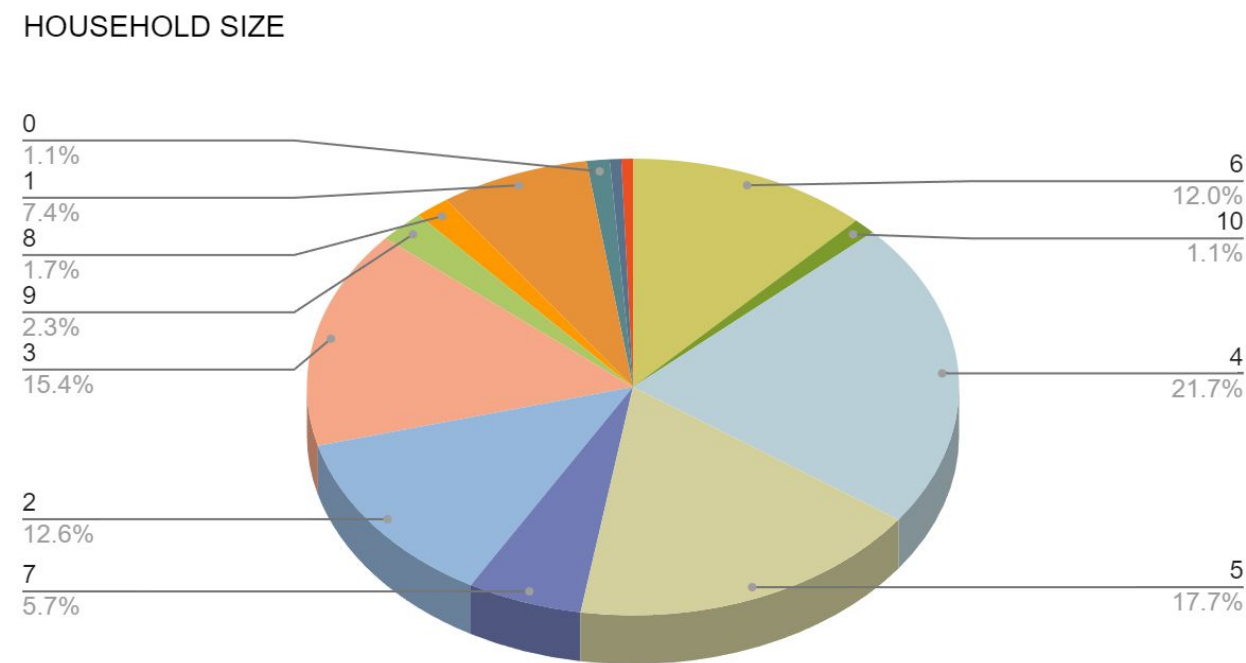


Average number of people per building is 9.69

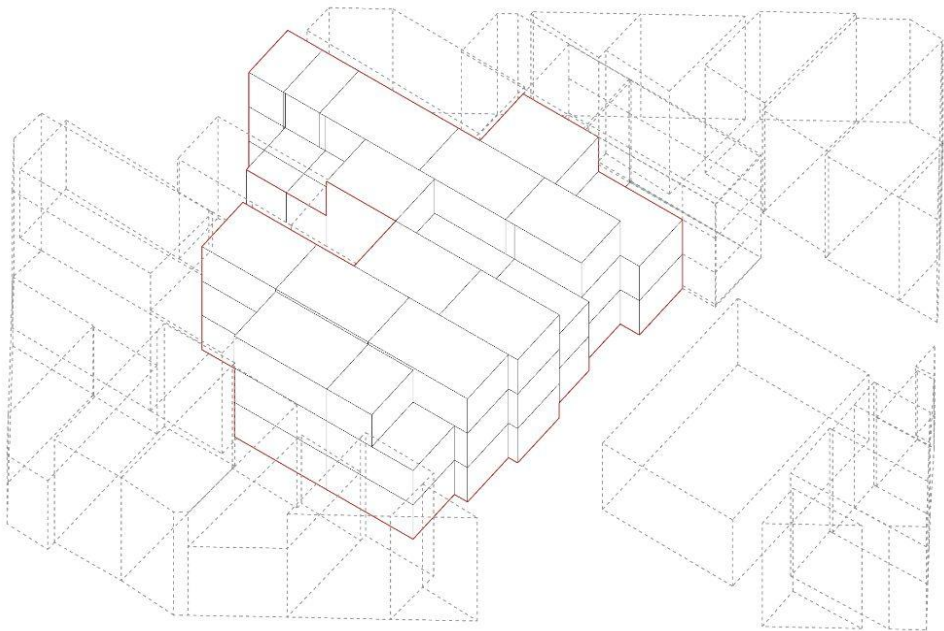
There are usually multiple households in one building



Rented houses are generally on the floors above



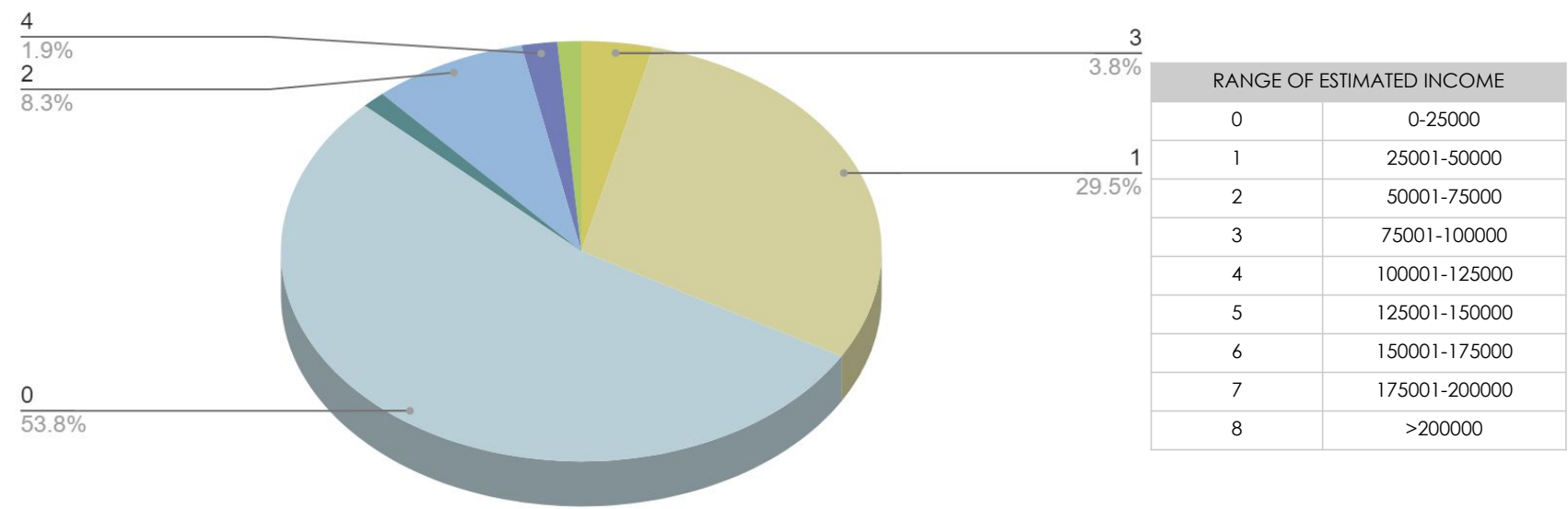
Many of the households in the locality are joint families



All houses are compact, and generally share walls

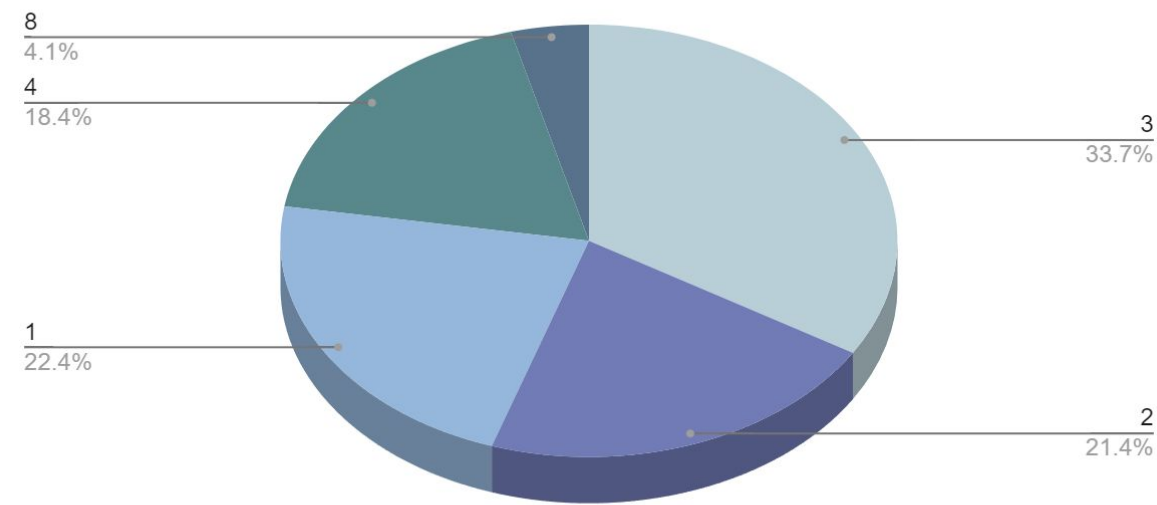
Household income

RANGE OF HOUSEHOLD INCOME



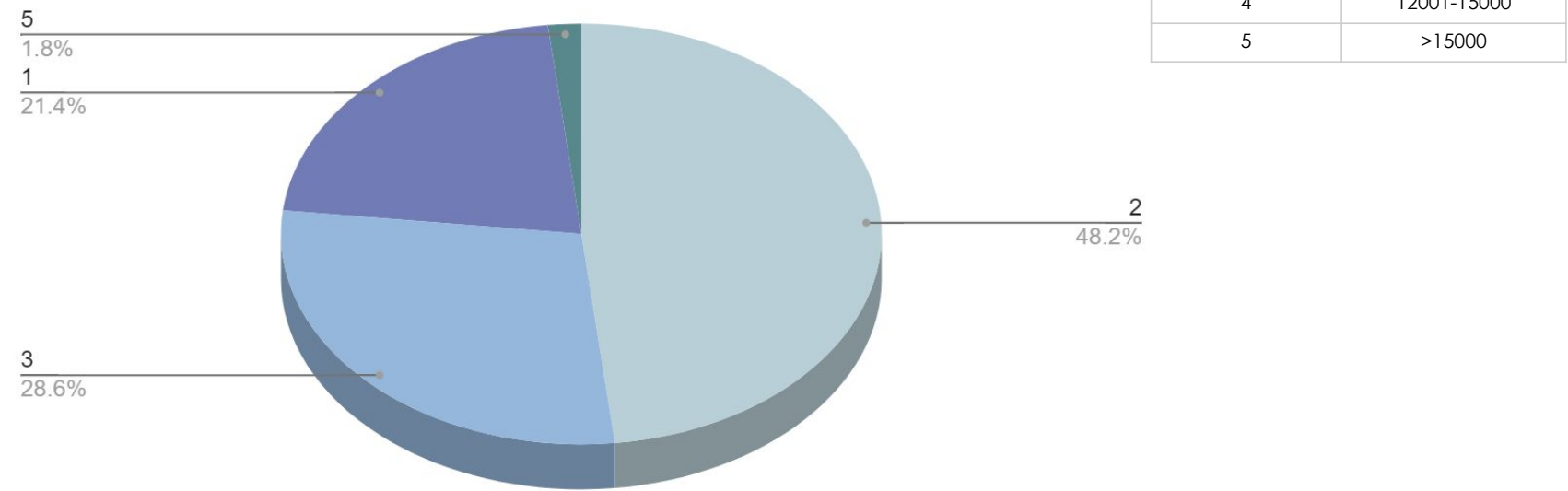
Average monthly household income is ₹42205/-

YEARS SINCE REPAIR



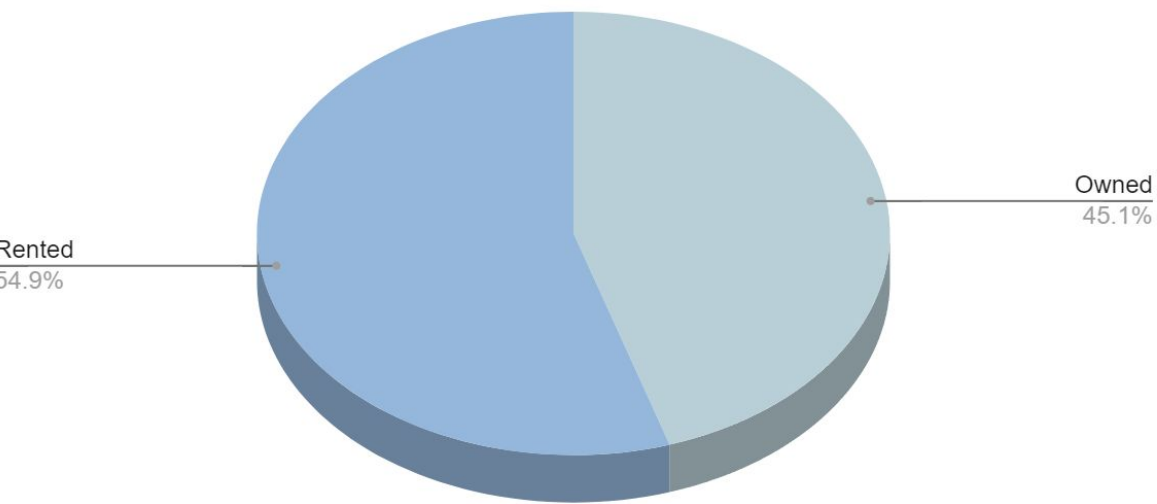
Majority of the houses have been made pakka houses in the last 20 years

RENT AMOUNT



Average monthly rent per household ₹7618/-

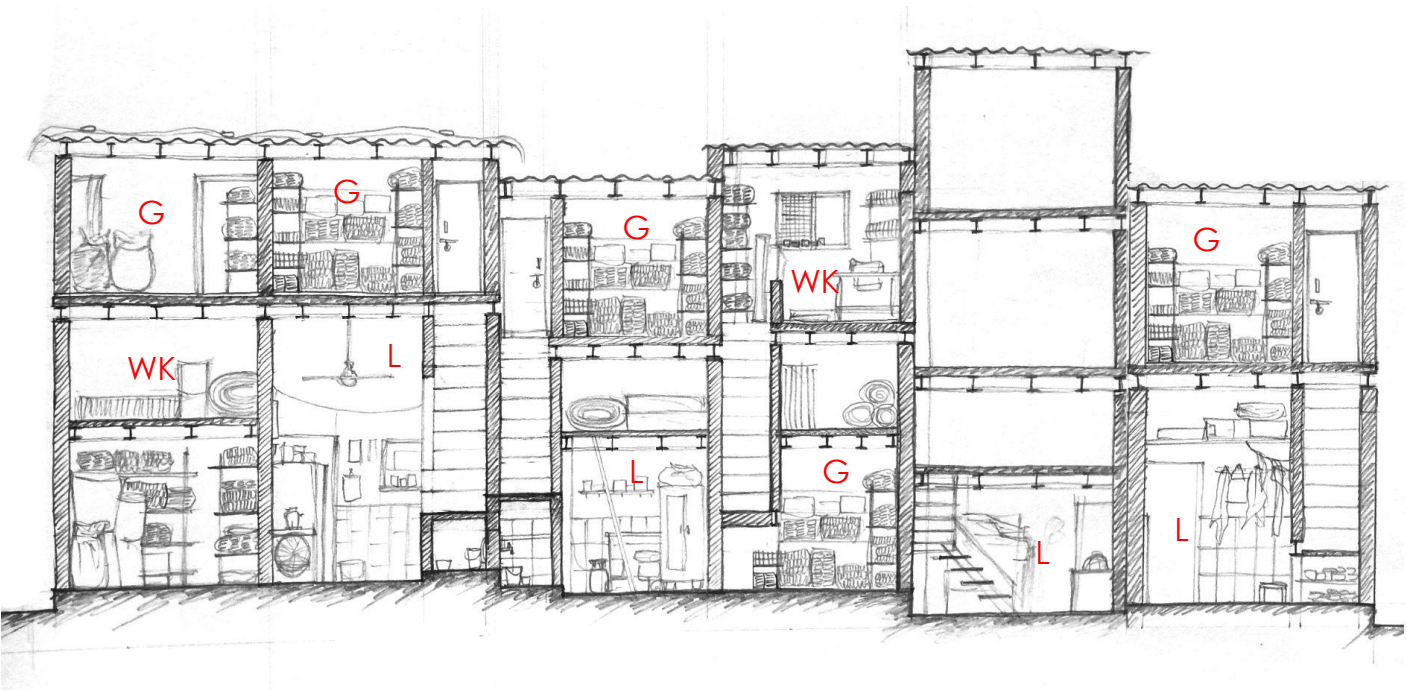
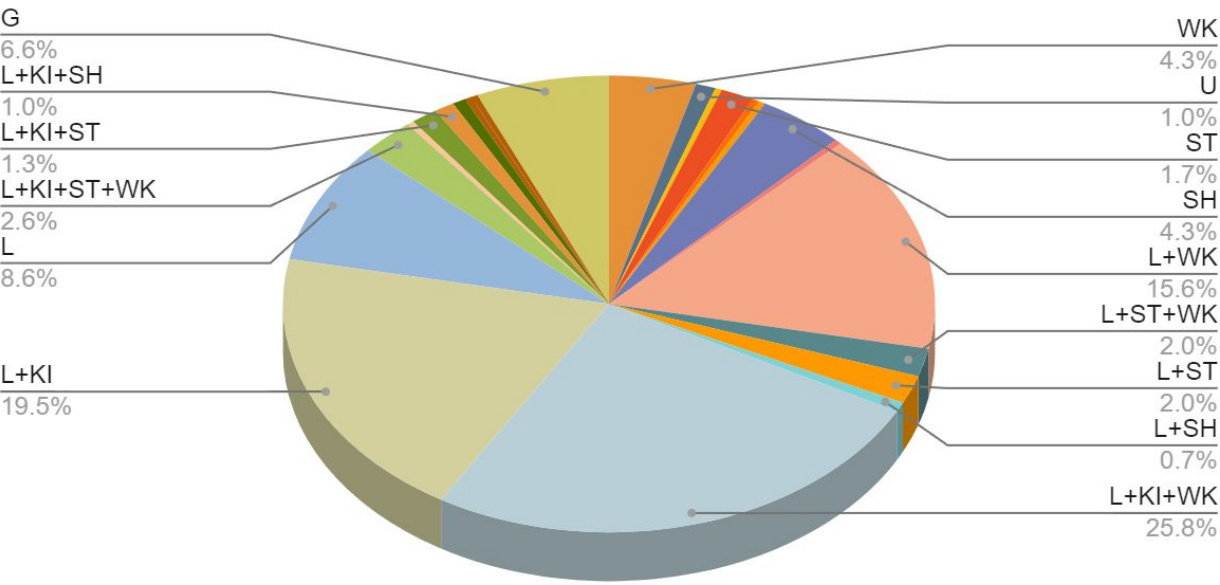
TENURE



Many owners depend on rent as a steady secondary income, and in some cases primary

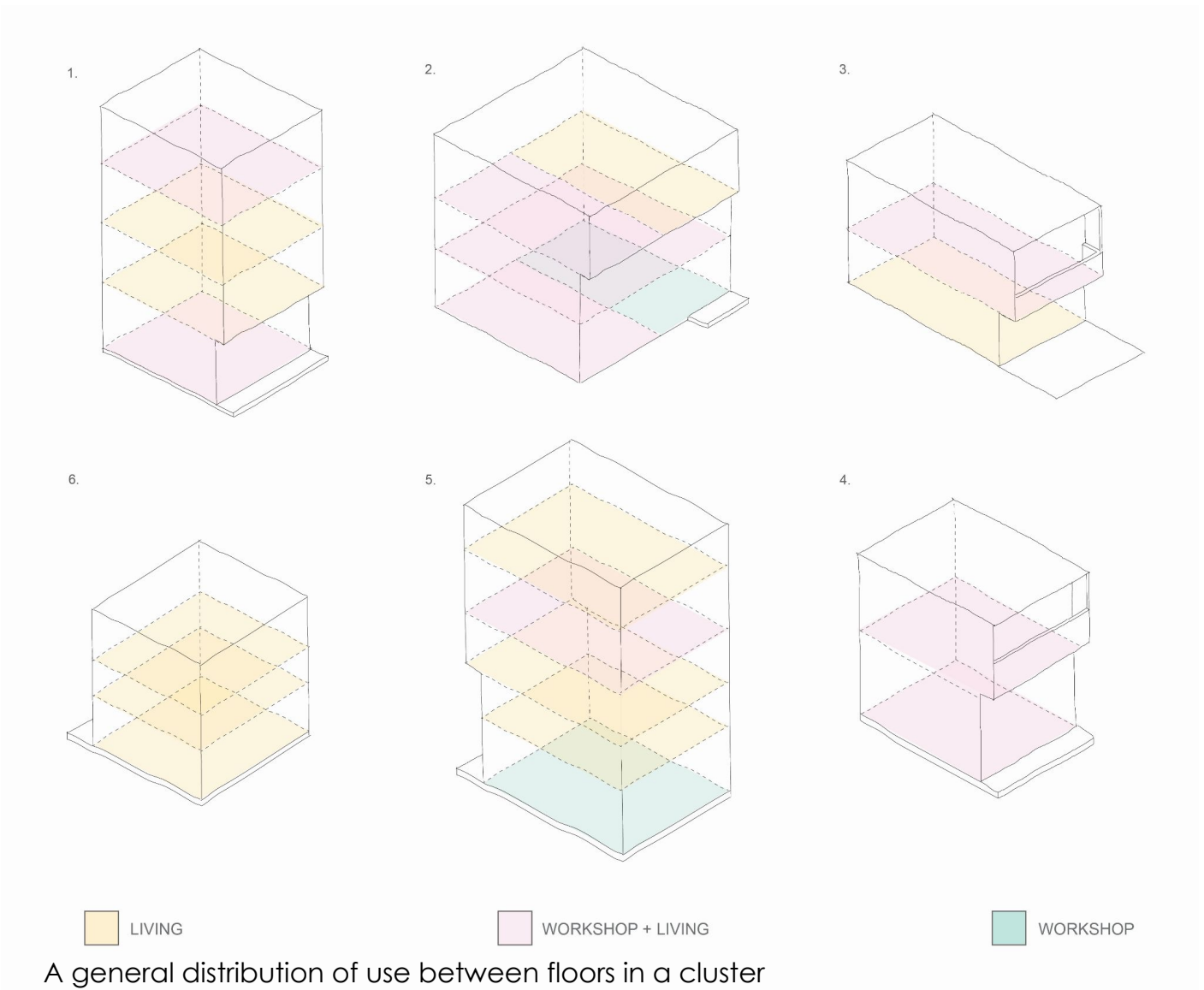
Primary Use of Space

PRIMARY USE



Ground floors are generally used as living spaces

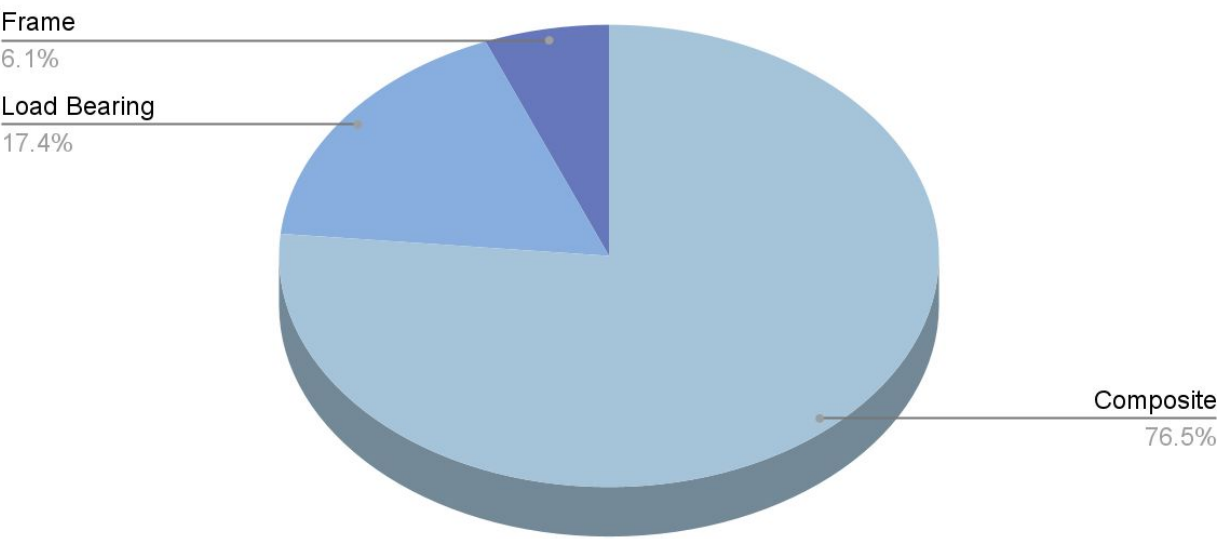
PRIMARY USE	
L	Living
WK	Working/Workshop
ST	Storage
SH	Shops
KI	Kitchen
G	Godown
U	Unused



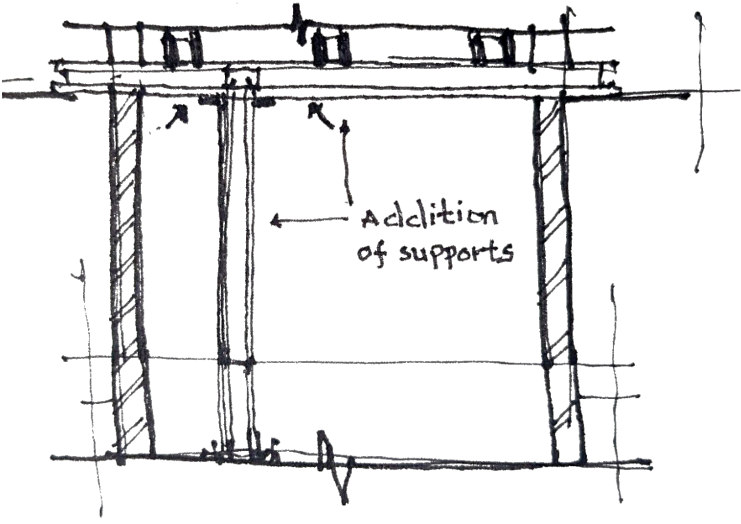
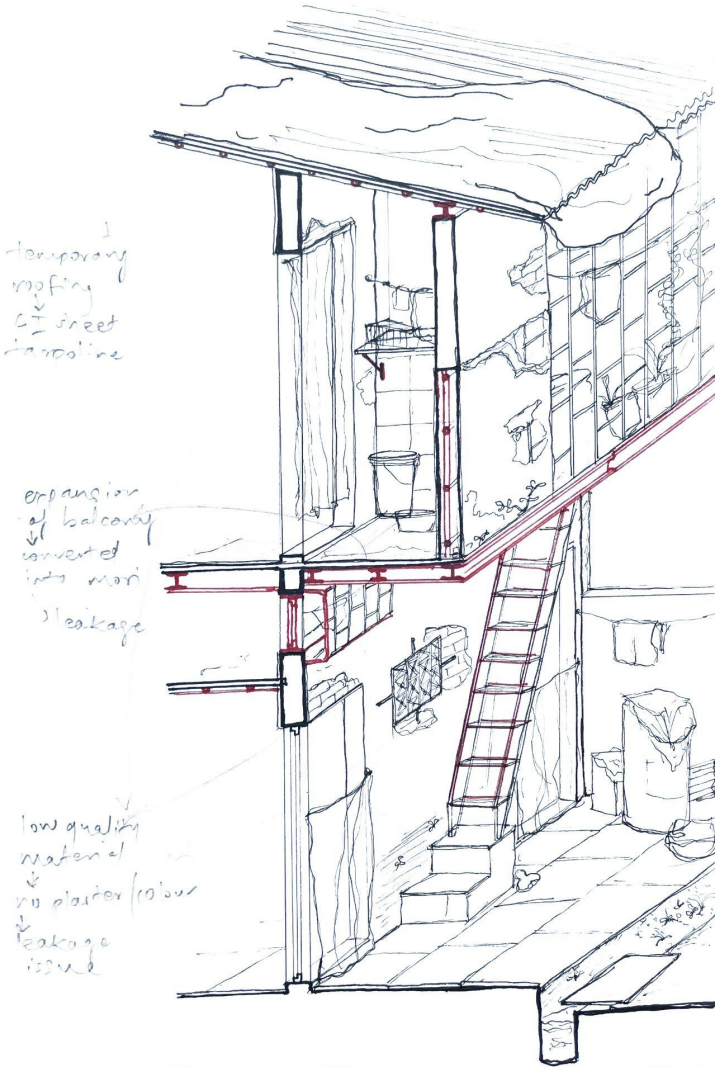
A general distribution of use between floors in a cluster

Structural Systems

STRUCTURAL SYSTEM



Most new constructions are using composite or frame methods



Methods of constructions, and methods to mitigate issues such as buckling

CONCERNS

Demographic shifts

Livelihood shifts

Poor Service

Lack of social space

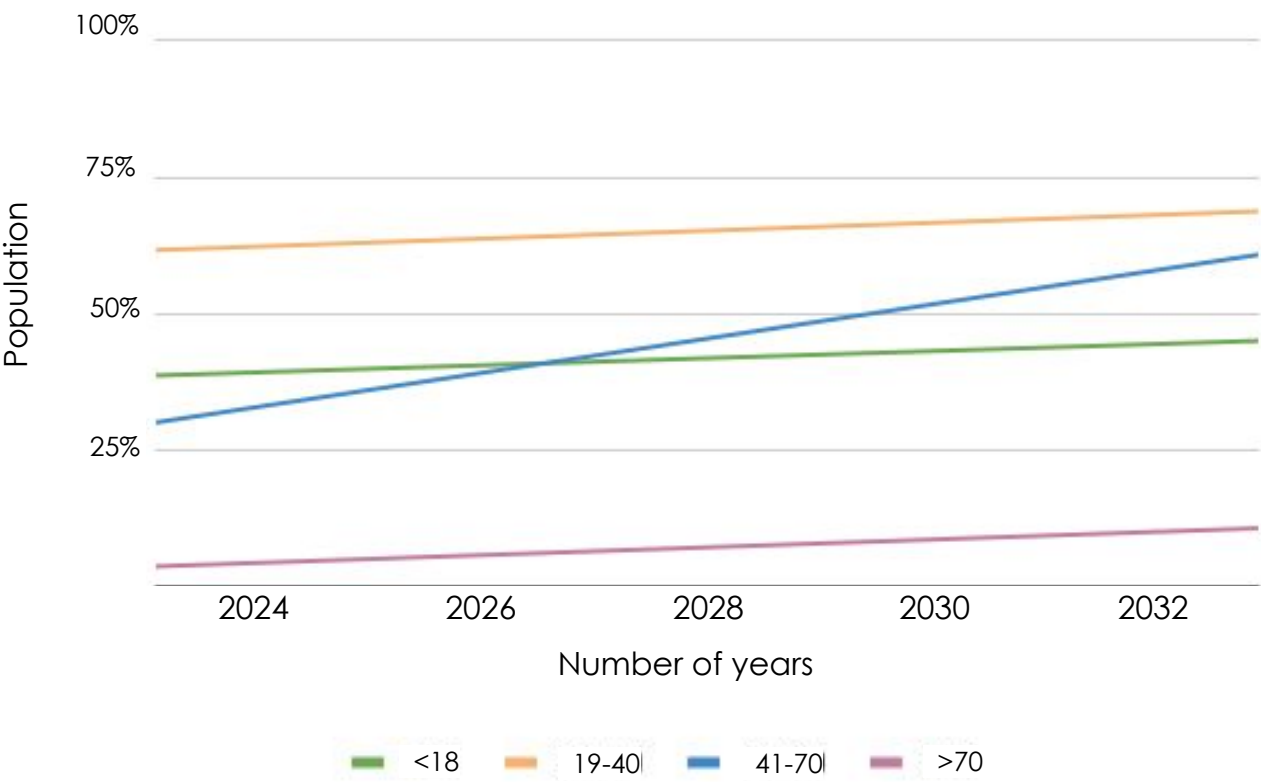
Poor light and ventilation

Poor accessibility

PROJECTIONS | अनुमान

DEMOGRAPHIC SHIFTS

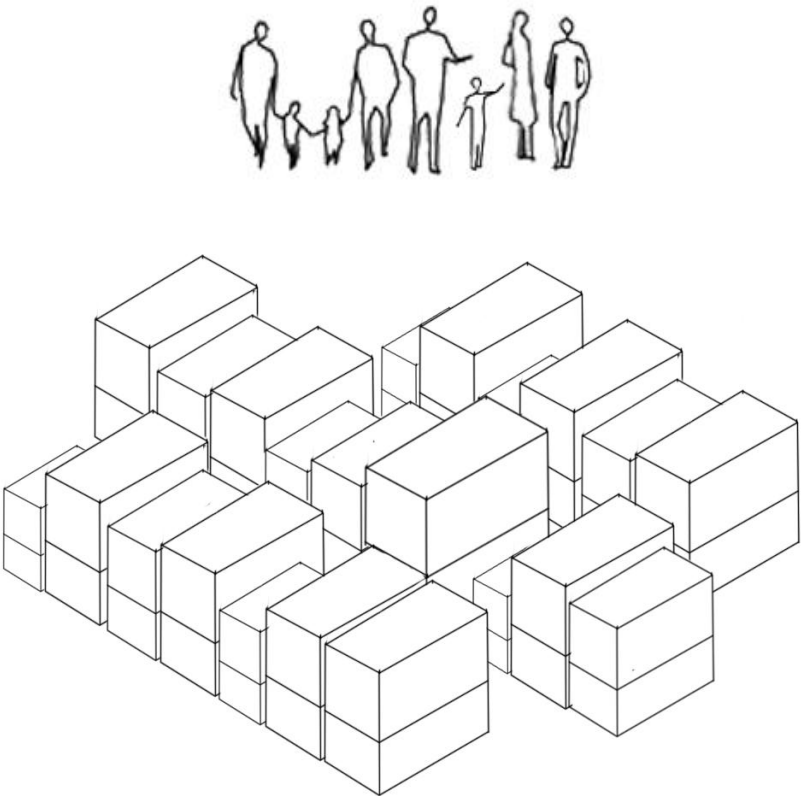
Shift in Family Dynamics



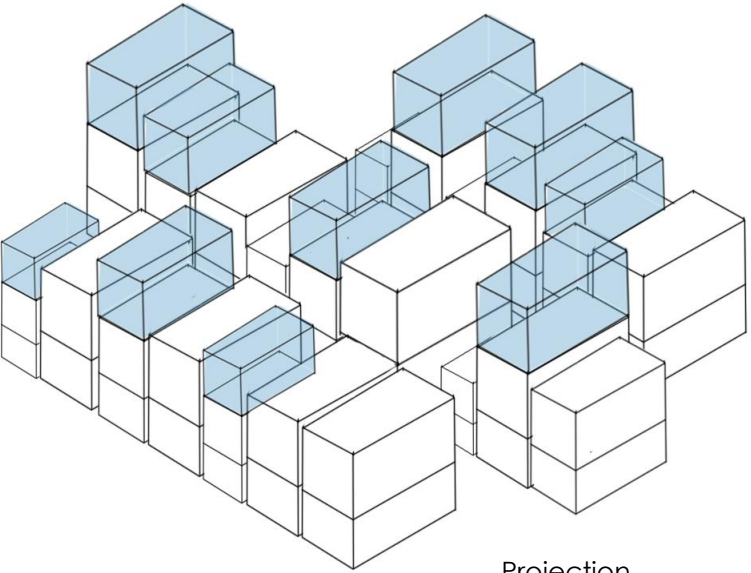
Total current population (2023) : 1071
(of studied houses)

A significant increase in the age group 19-40 and >70 is seen in the next ten years.

With joint families splitting into nuclear families, the need for additional space becomes evident. This shift in family dynamics will lead to home expansions and the addition of extra floors to accommodate the growing needs of these households.



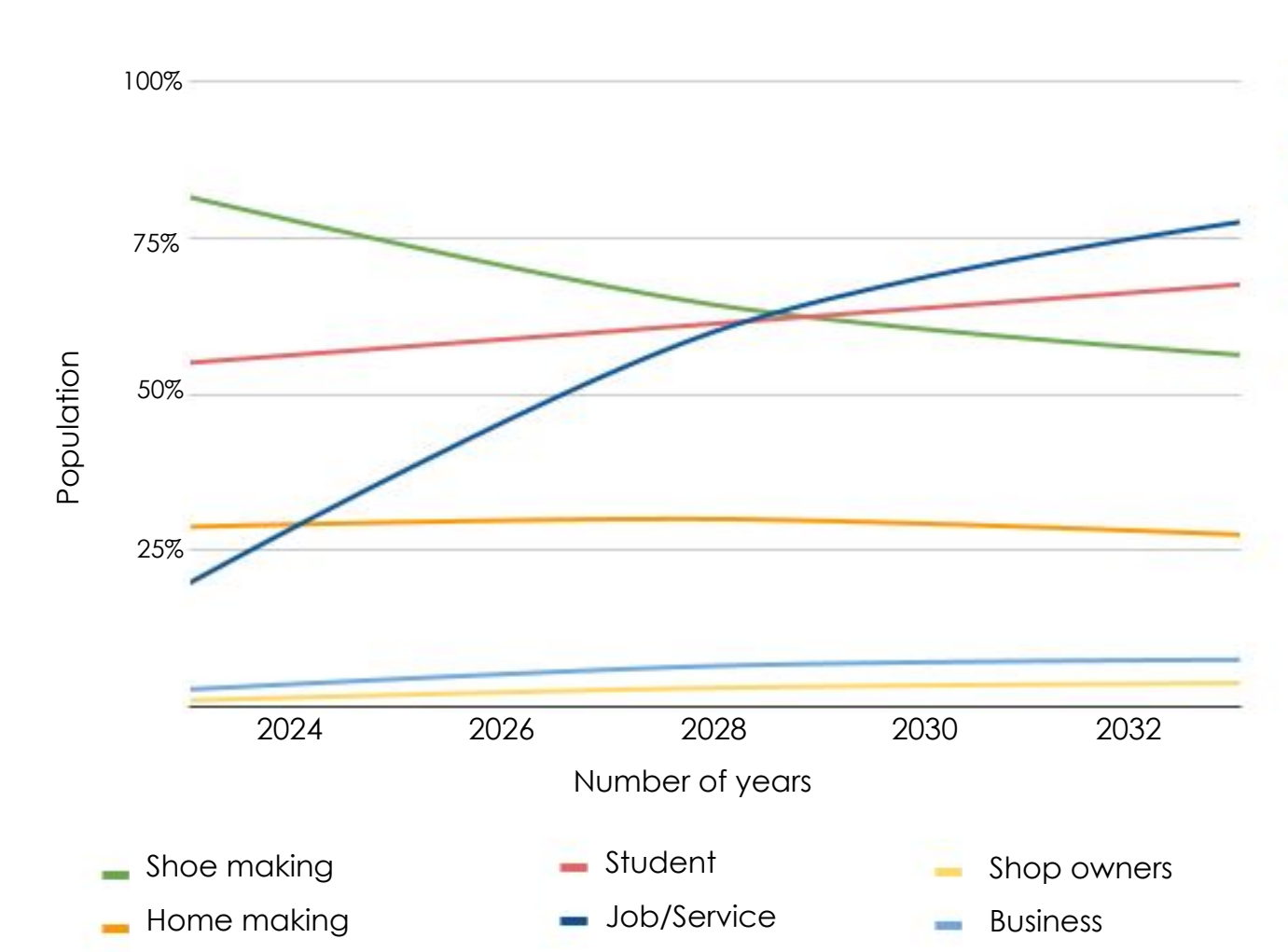
Existing



Projection

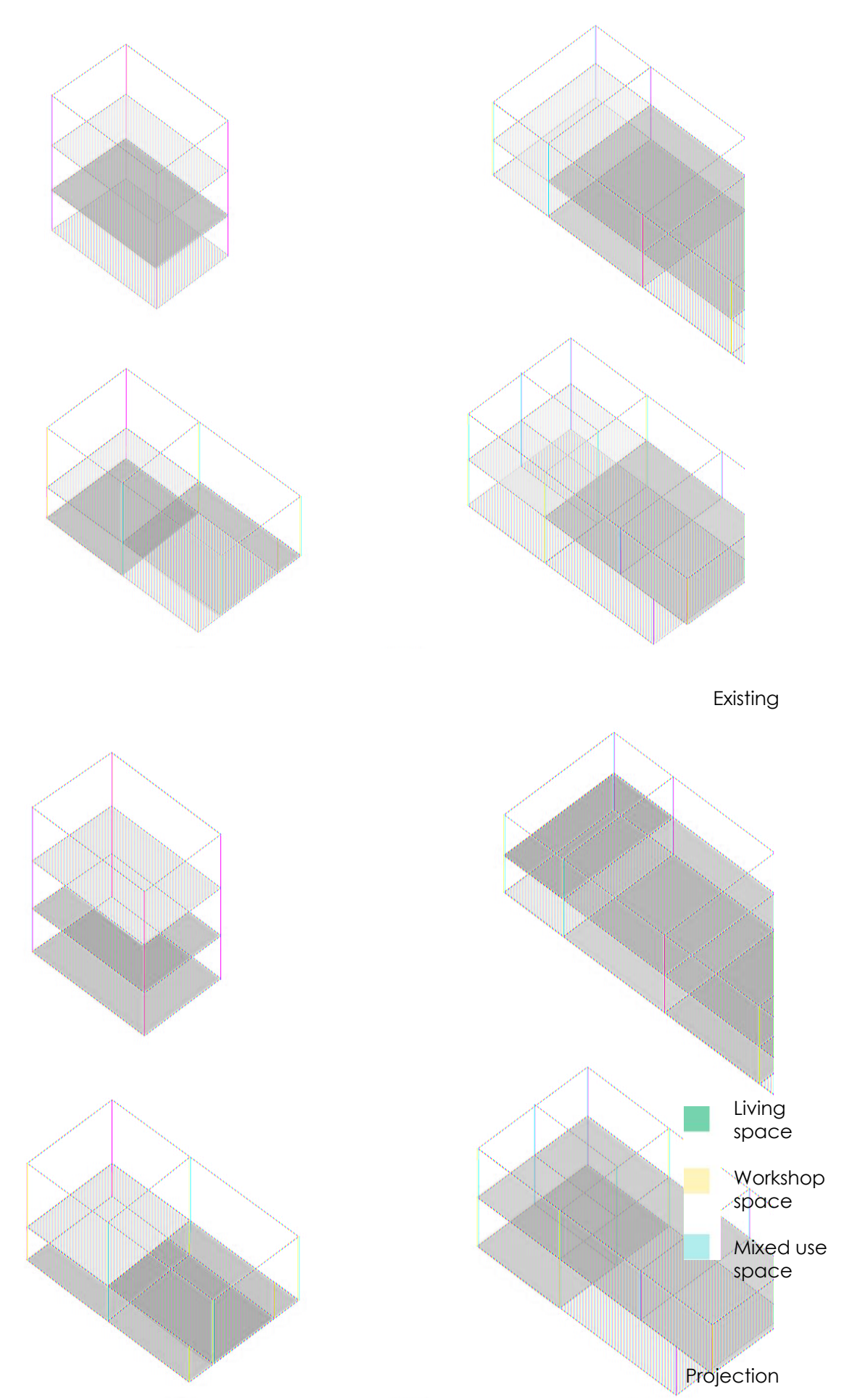
LIVELIHOOD SHIFT

Shift in Programmes



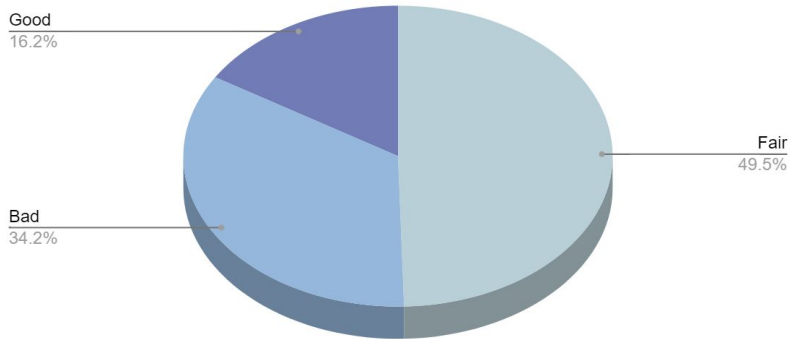
Jobs/services will increase whereas there is a decrease in the shoe making practice.
 More students and businesses emerge as compared to current count.
 There is a change in the usage of space as the occupations shift. The workshops become living spaces and some of them are given on rent as a source of income.

In the next 10 years there will be rise in the demand for living spaces coupled with the decline in the demand of workshop spaces as there will be shift in occupation from shoemaking to the expanding service sector

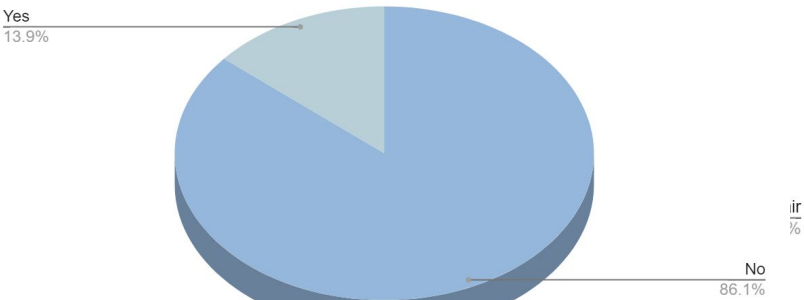


POOR SERVICES
Need for private toilets

COMMON TOILET CONDITIONS



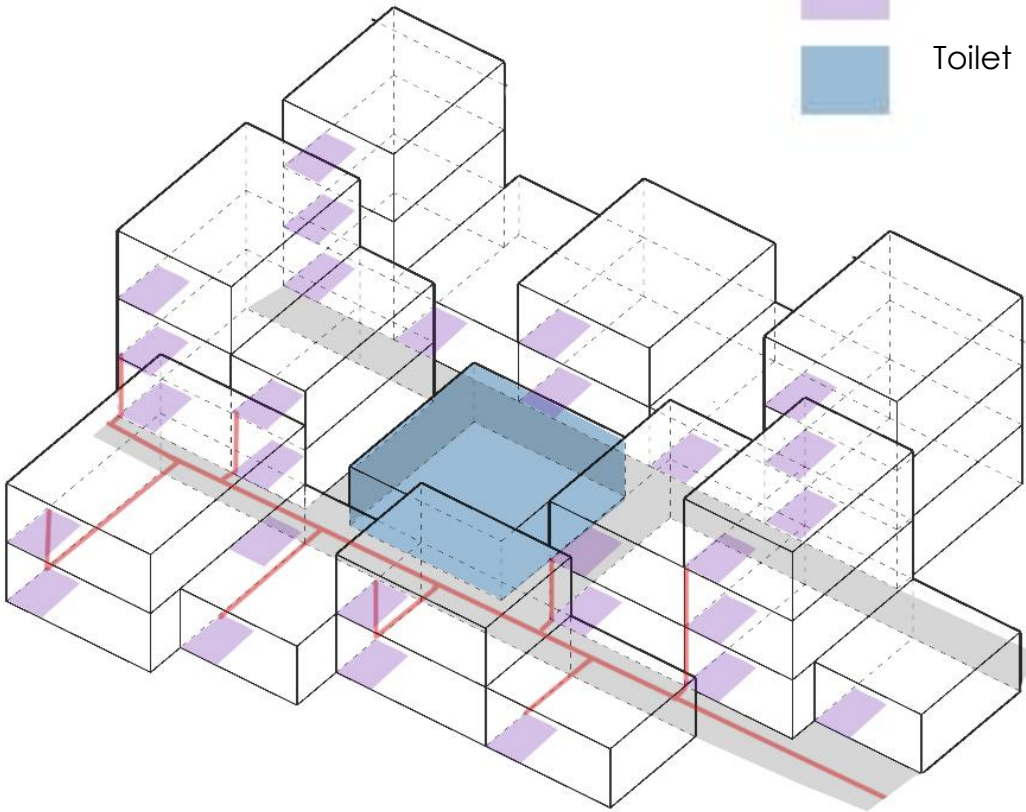
FLOORS WITH WC



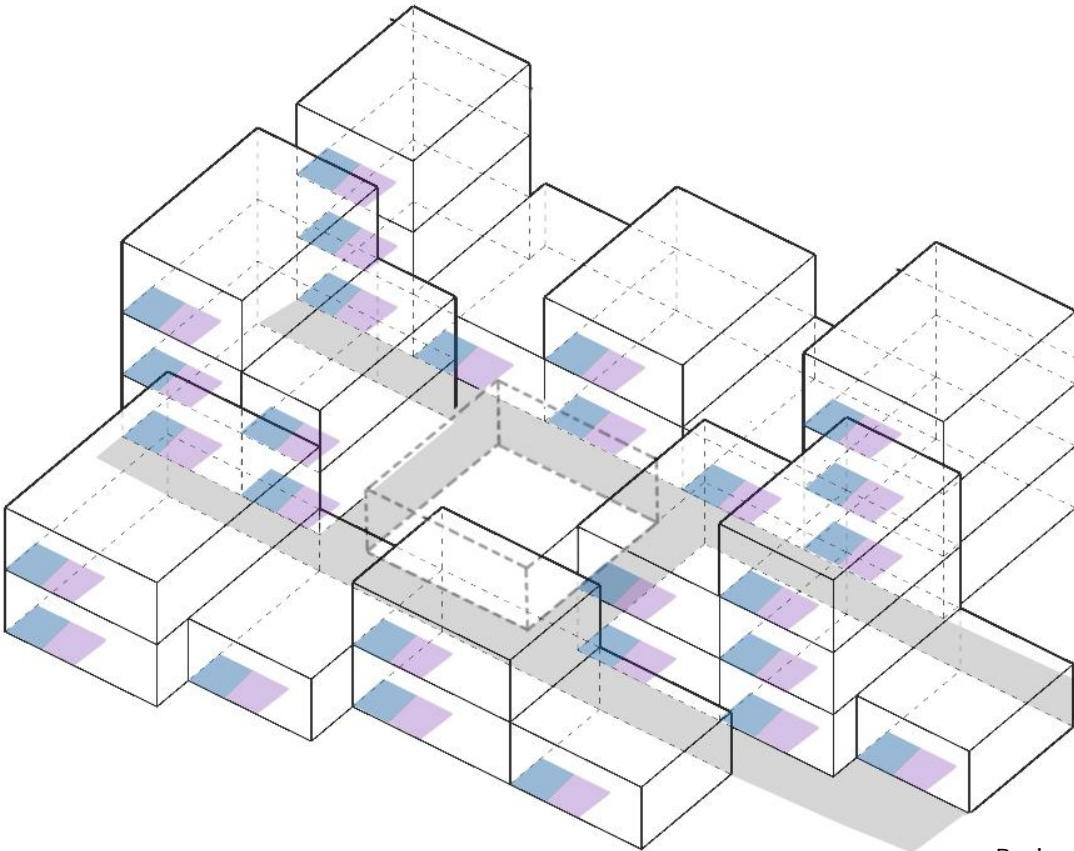
The overall toilet condition in Thakkar Bappa colony is fair
While, 34.2% of people think its poor.
86.1% of people don't have a WC in their households

Currently, only a few people in the community have private toilets, while the rest rely on communal facilities. Given that most residents prefer having private toilets, it will result into addition of individual toilets into each household

- Drain line
- Pathway
- Mori
- Toilet



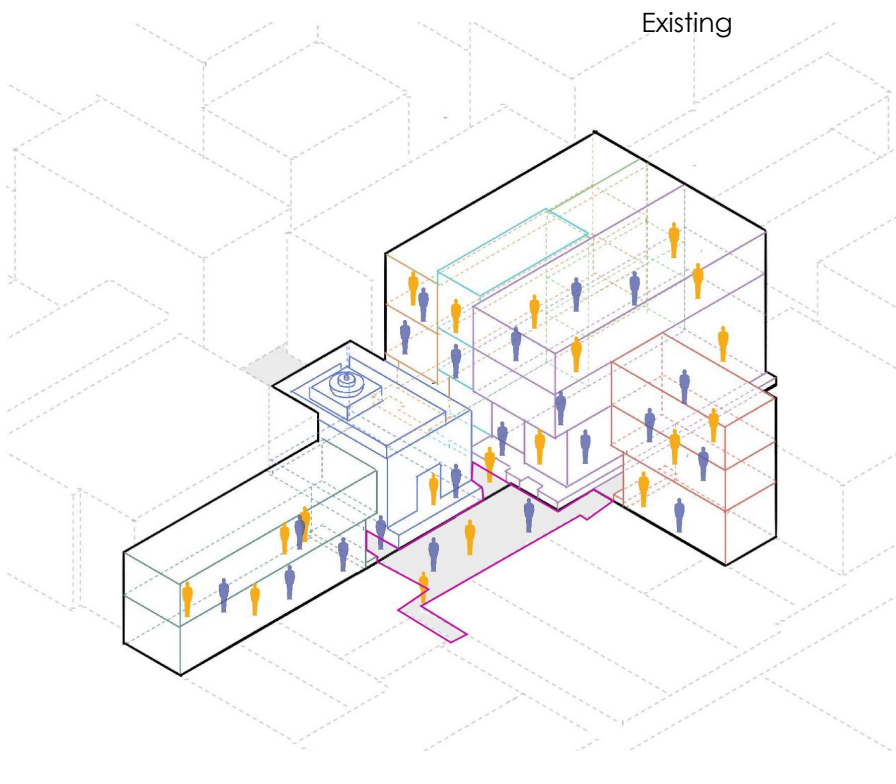
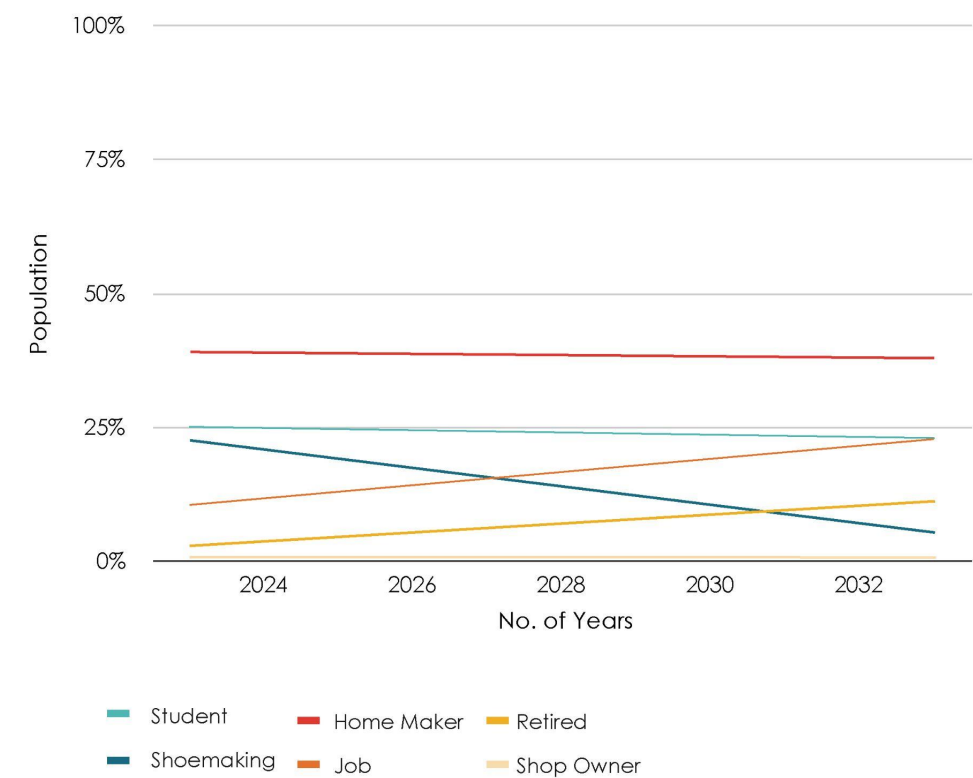
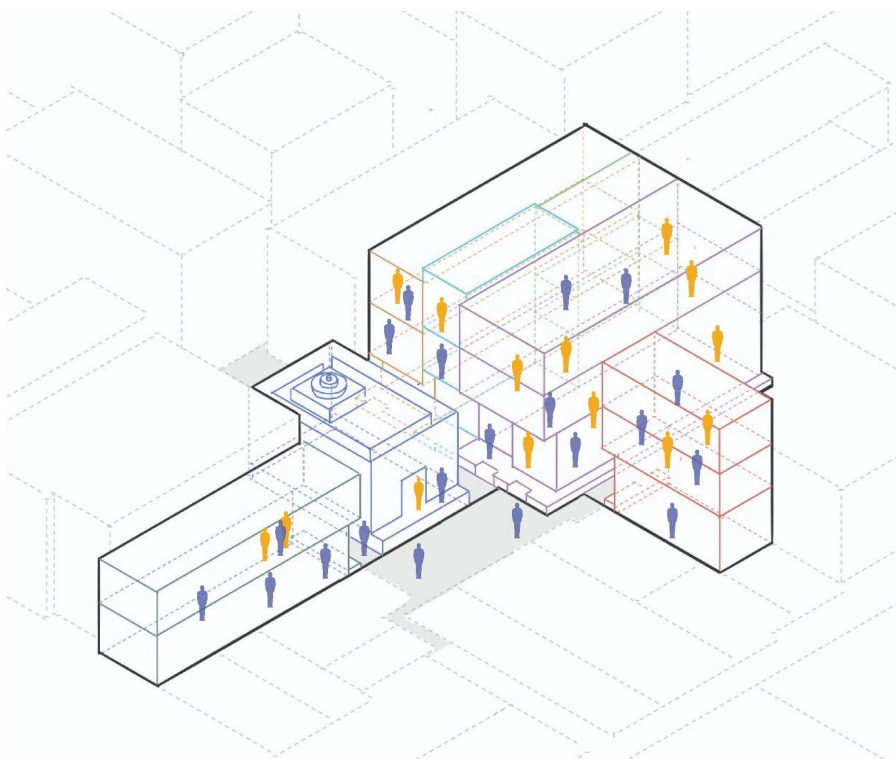
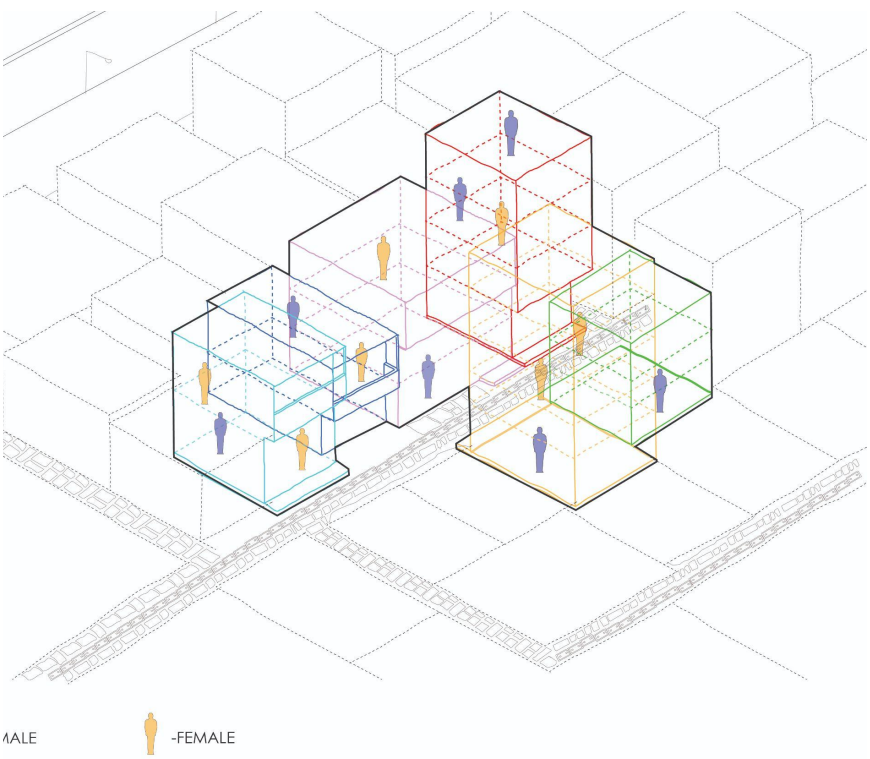
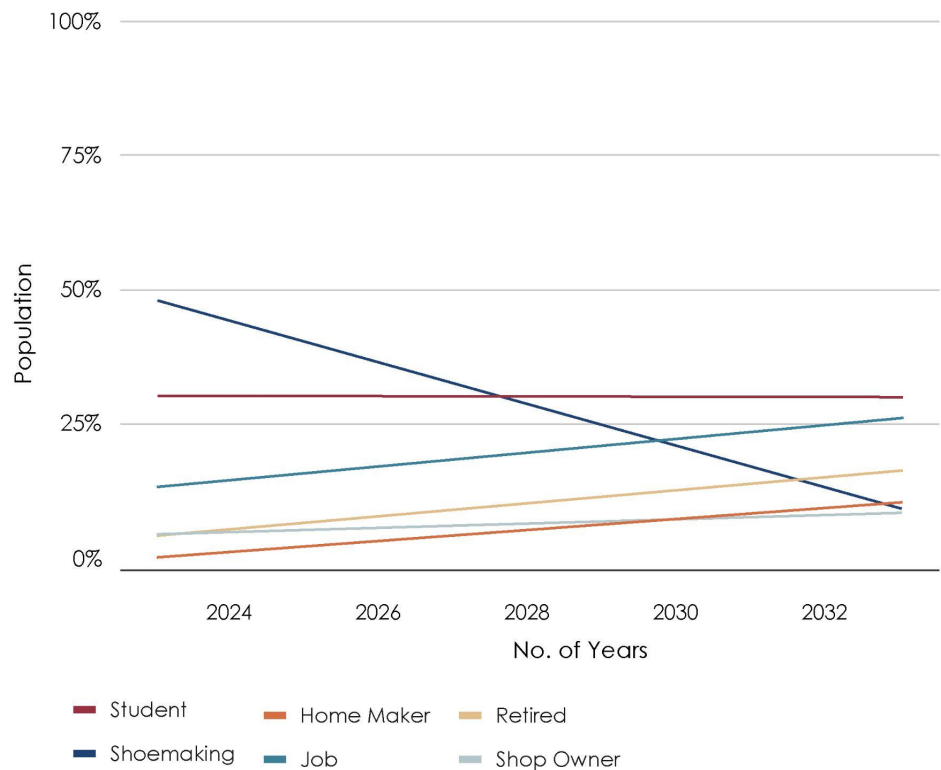
Existing



Projection

LACK OF SOCIAL SPACE

Need for community interaction



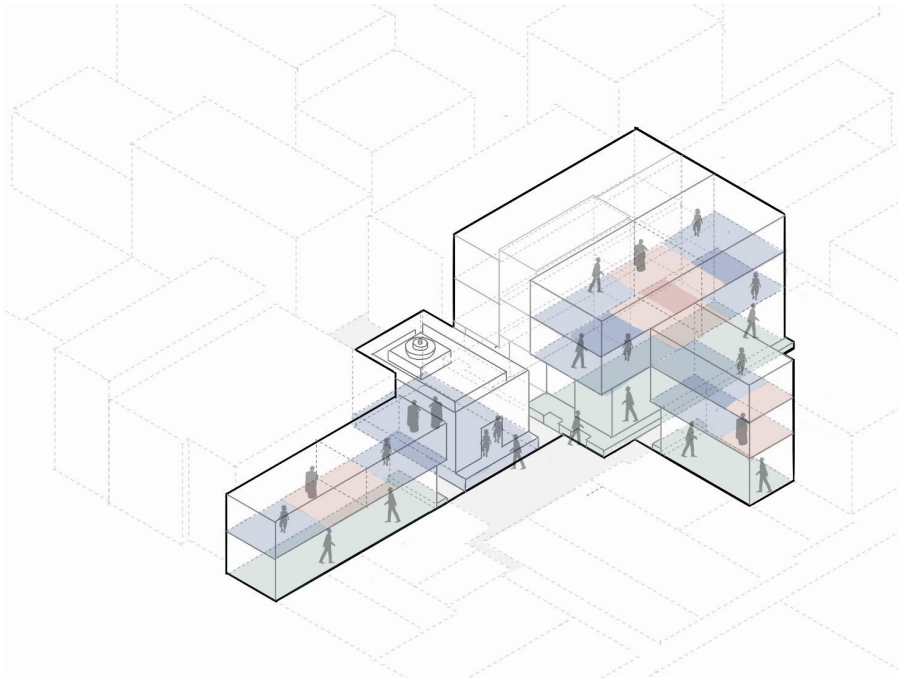
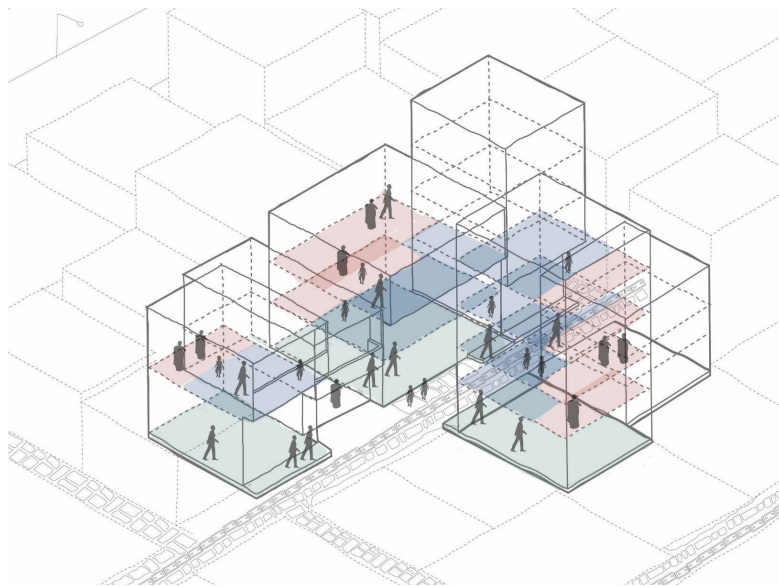
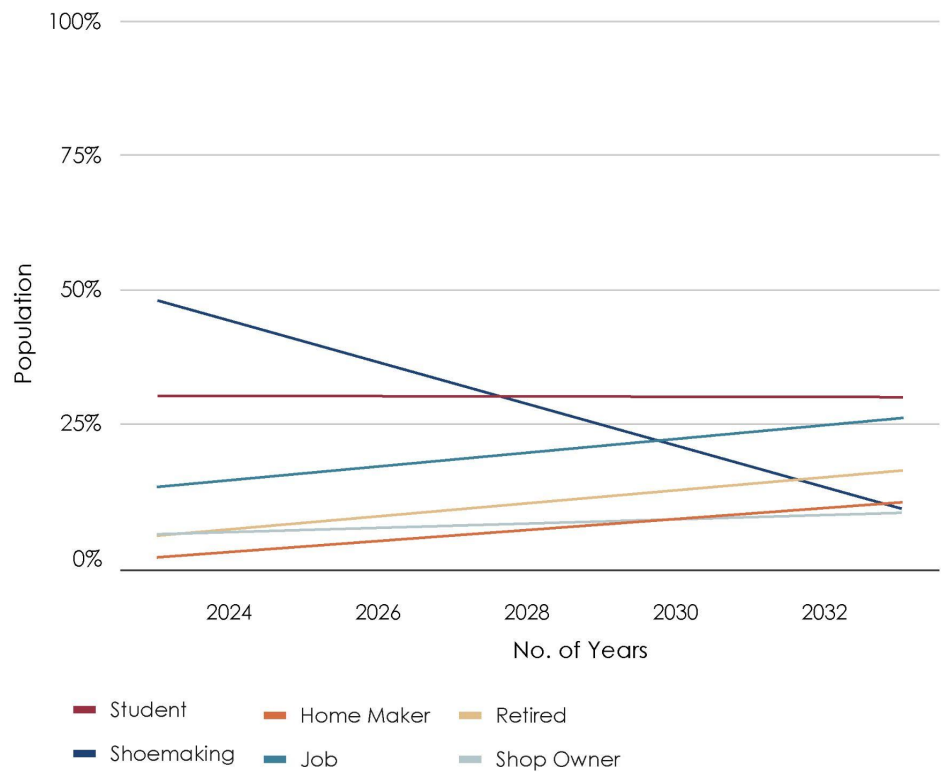
Presently, both young girls and boys in our community are pursuing the same educational opportunities, and they aspire to join the service sector in the coming years. This shift is expected to lead to greater mobility among females within the settlement, in contrast to women who have been primarily housebound and only go out with a specific purpose.

Projection

Projection

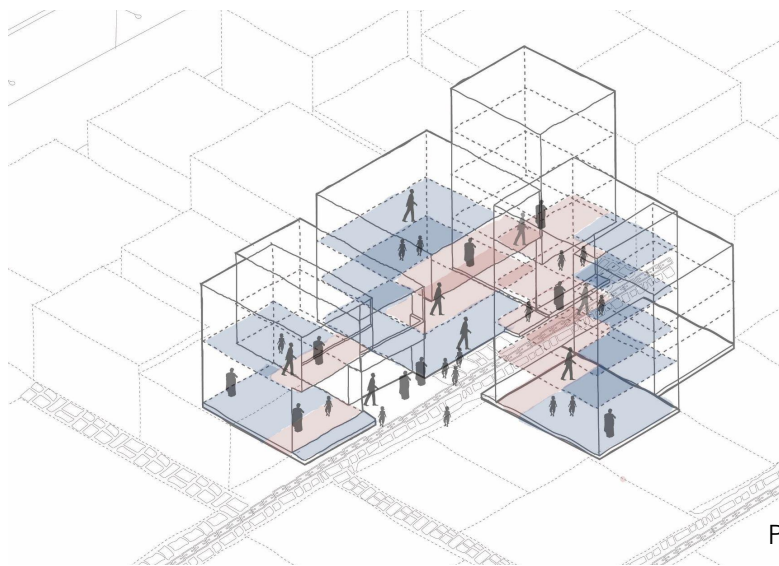
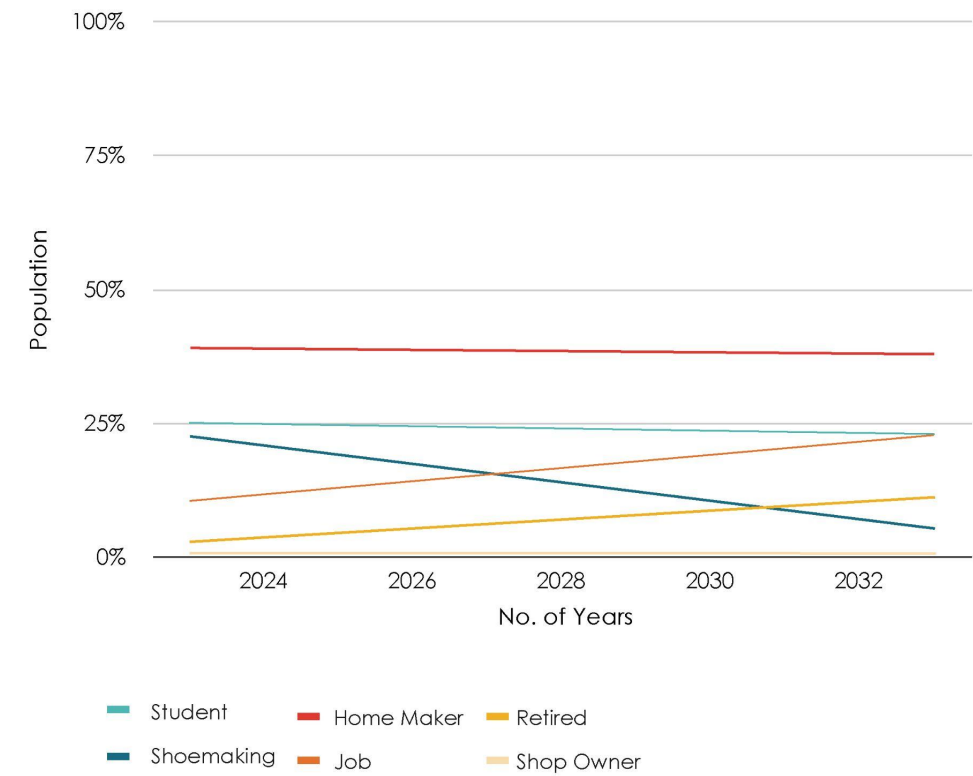
LACK OF SOCIAL SPACE

Gender concerns

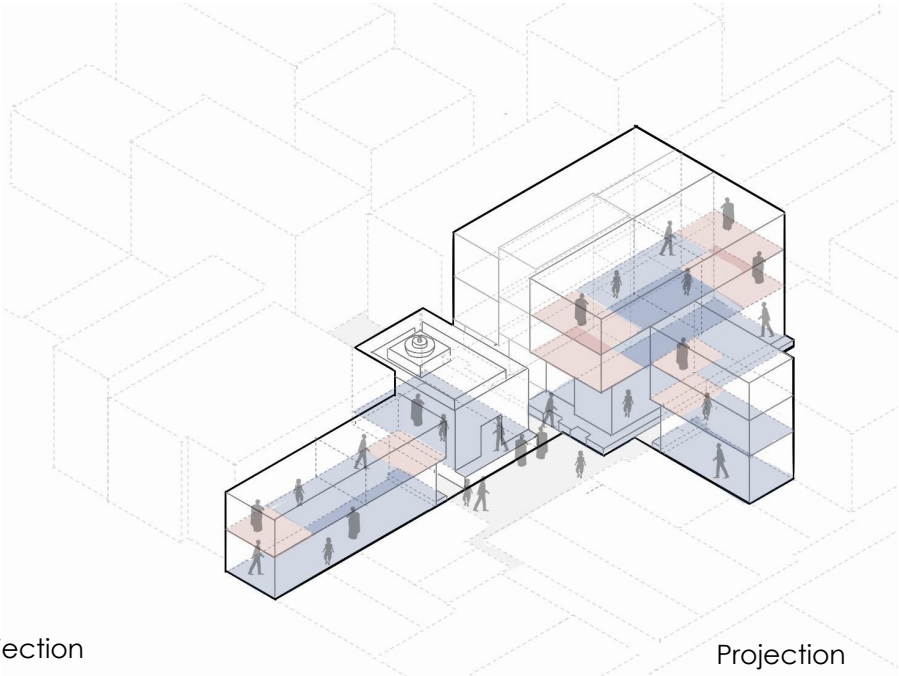


Existing

Existing



Projection

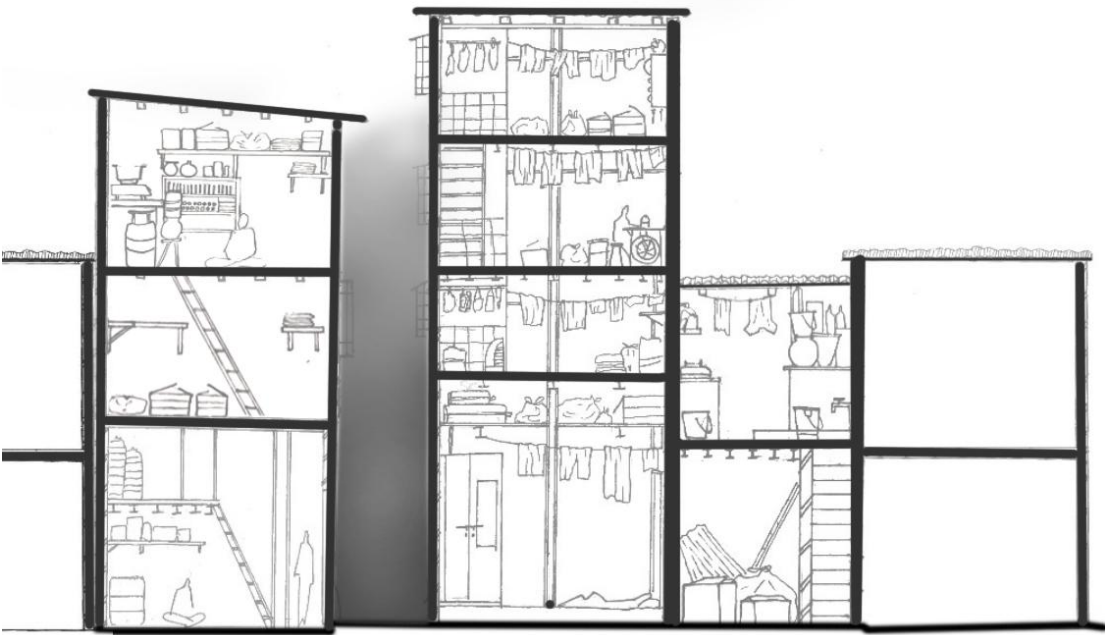
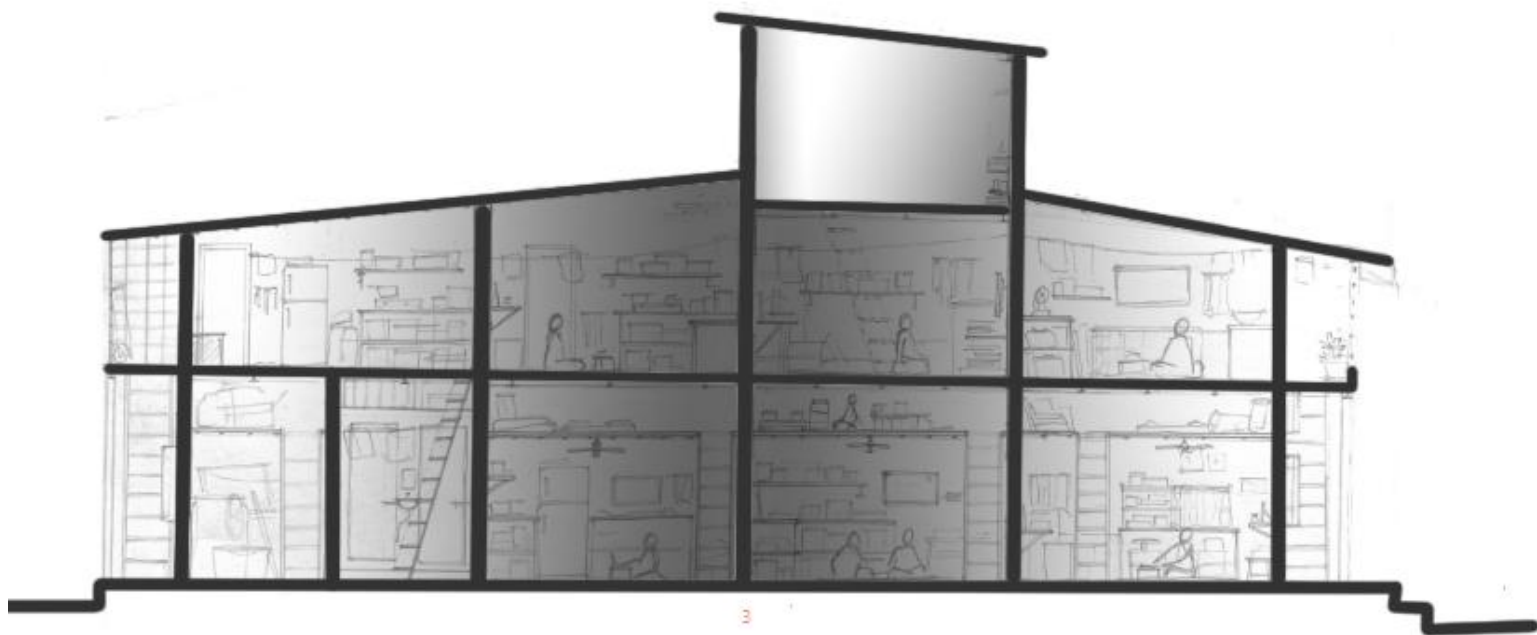


Projection

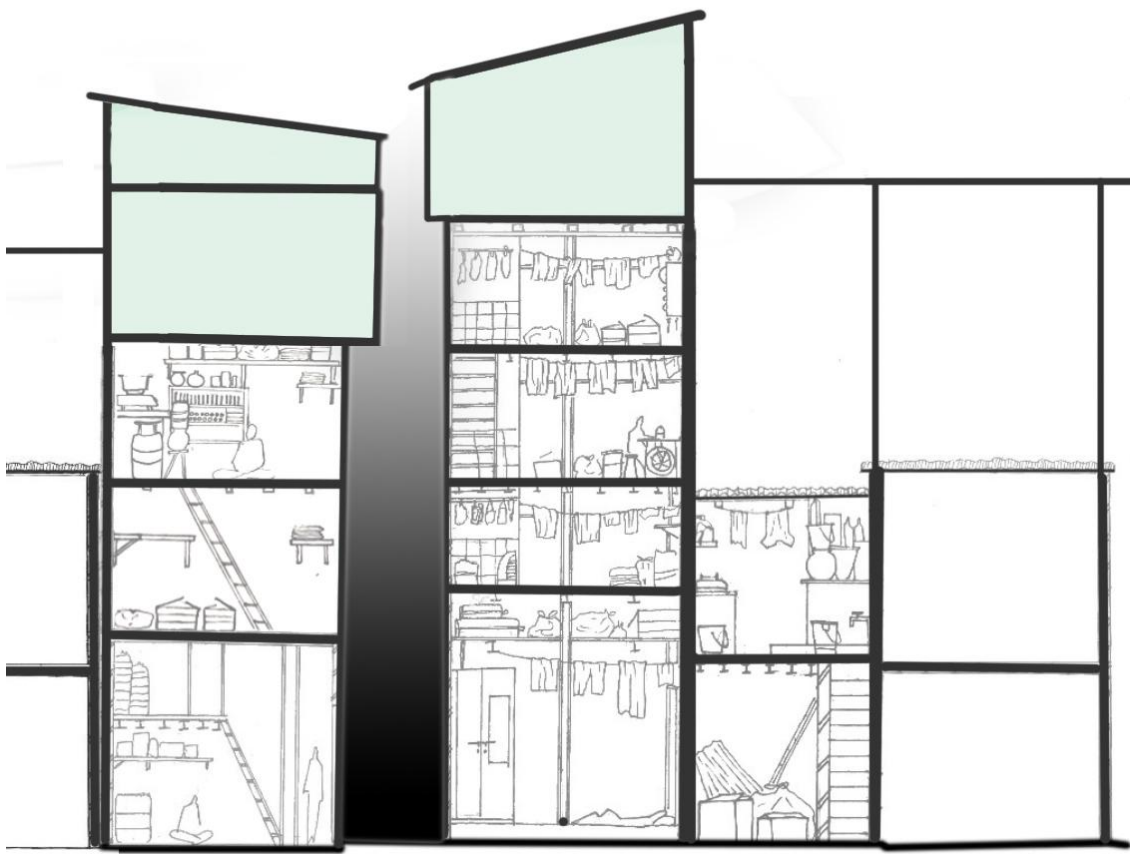
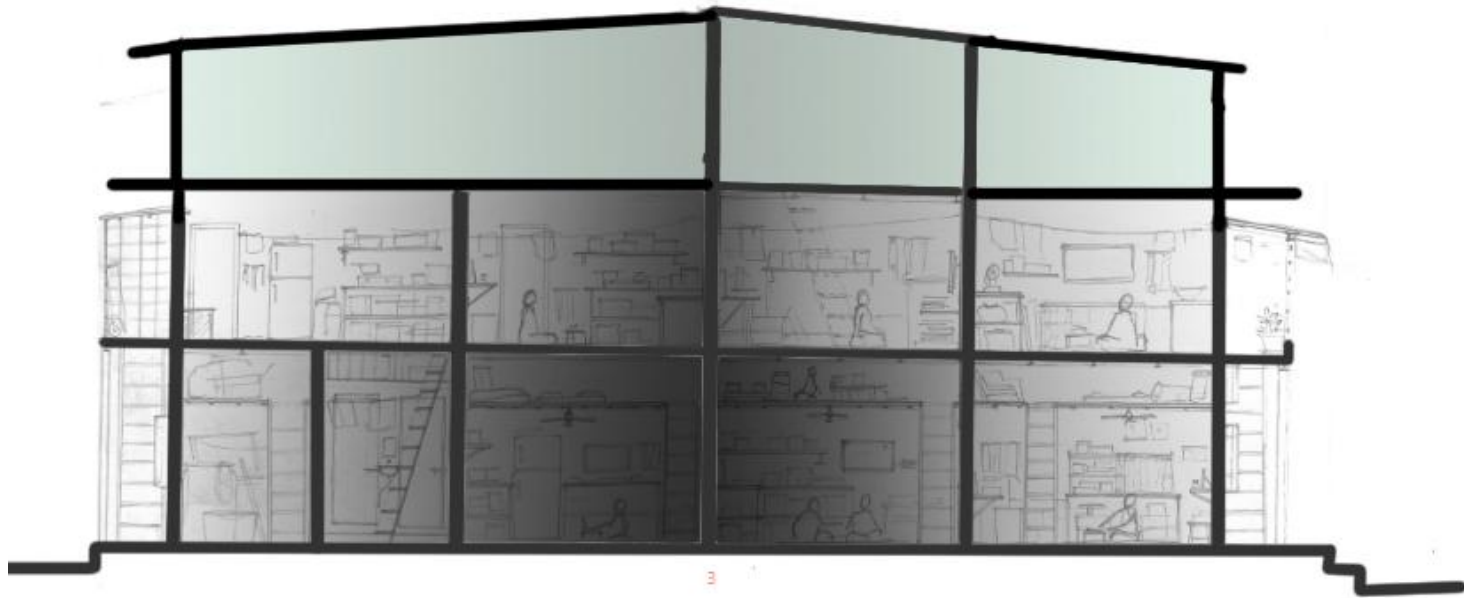
There is a lack of social space in the settlement due to narrow alleyways. Houses are being built too close to one another and dominance on the open spaces by men. There is an active need to form social spaces for women and children to increase their mobility in the settlement.

- SPACE OCCUPIED BY EVERYONE
- SPACE OCCUPIED BY MEN
- SPACE OCCUPIED BY WOMEN

LACK OF LIGHT AND VENTILATION
Dark alley spaces



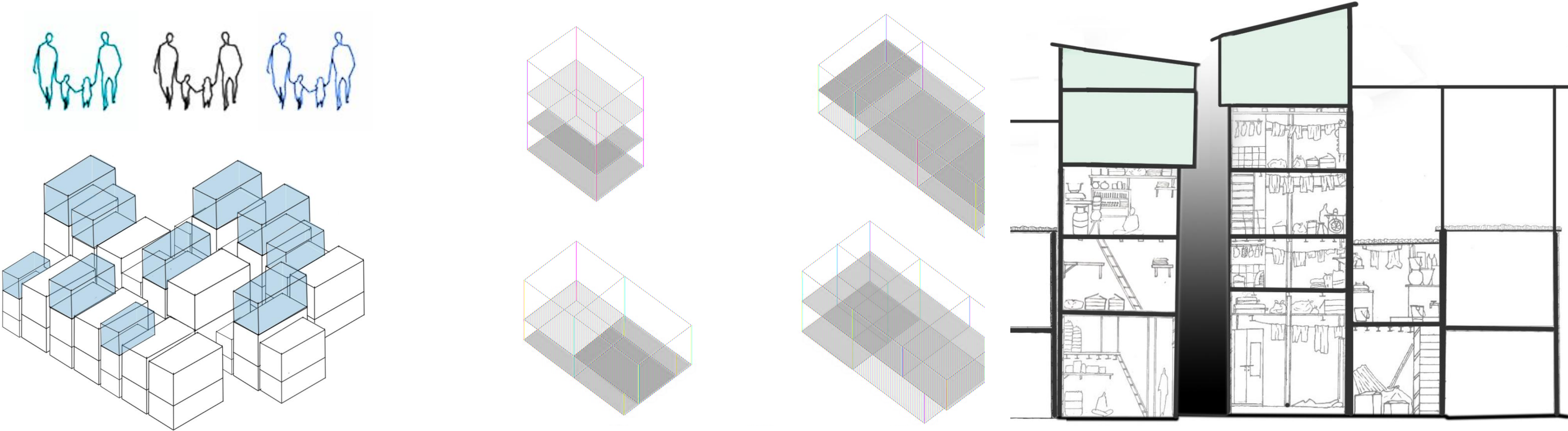
Existing



Projection

Currently the entire settlement faces light and ventilation issues because of the above floors getting cantilevered. The galls are so narrow and all the lower floors have to deal with light ventilation issues. Also there is need for space and extensions are happening by addition of floors. If this continues the it will become a serious concern for the life below.

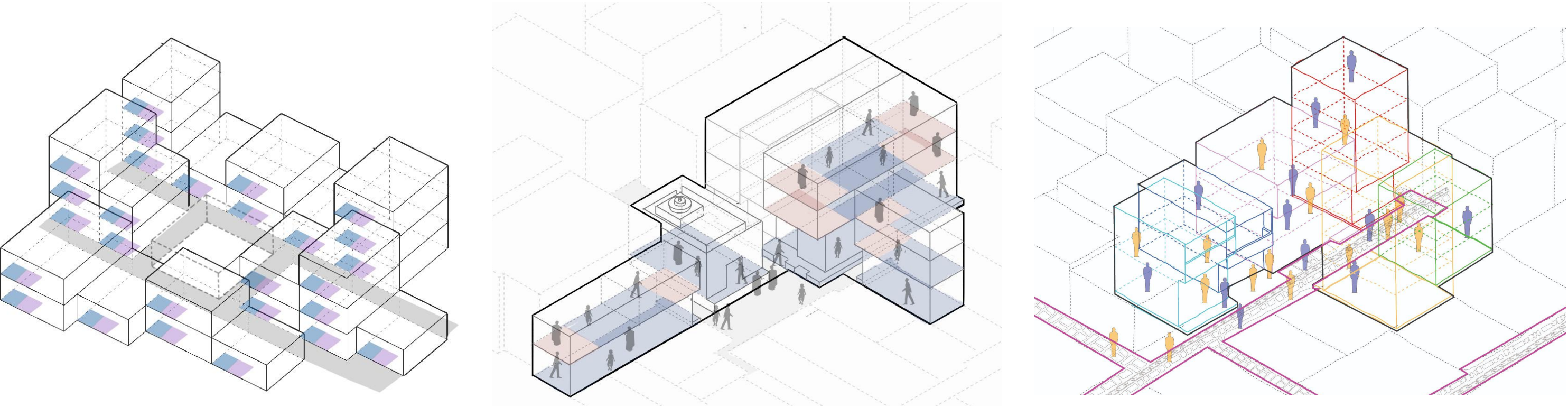
Summary



Extensions & Redevelopment

Upgradation and Modification

Retrofit



Upgradation and Modification

Extensions & Retrofits

Extensions & Retrofits

STRATEGIES CONCERNS	REPAIR	UPGRADATION AND MODIFICATION	RETROFIT	EXTENSION	REDEVELOPMENT
Demographic shifts					
Livelihood shifts					
Lack of social space					
Lack of light and ventilation					
Poor services					
Poor accessibility					

STRATEGIES CONCERNS	REPAIR	UPGRADATION AND MODIFICATION	RETROFIT	EXTENSION	REDEVELOPMENT
Demographic shifts		Creating shared balconies	Adding mezzanines	Conversion of rental block to commercial block	Modular floor plans
Livelihood shifts		Opening up walls	Workspaces made into living spaces	Working spaces converted to living spaces	Collapsible furniture
Lack of social space		Releasing thresholds	Adding terrace spaces	Addition of courtyard	Addition of corridors
Lack of light and ventilation	Fenestrations	Rethinking walls	Opening up light wells	Skylights	Double heighted volumes
Poor services	Waterproofing	Addition of toilets	Addition of toilets	Addition of toilets	Addition of toilets
Poor accessibility		Addition of staircases	Addition of staircases	Adding lifts	Addition of staircases

Repair

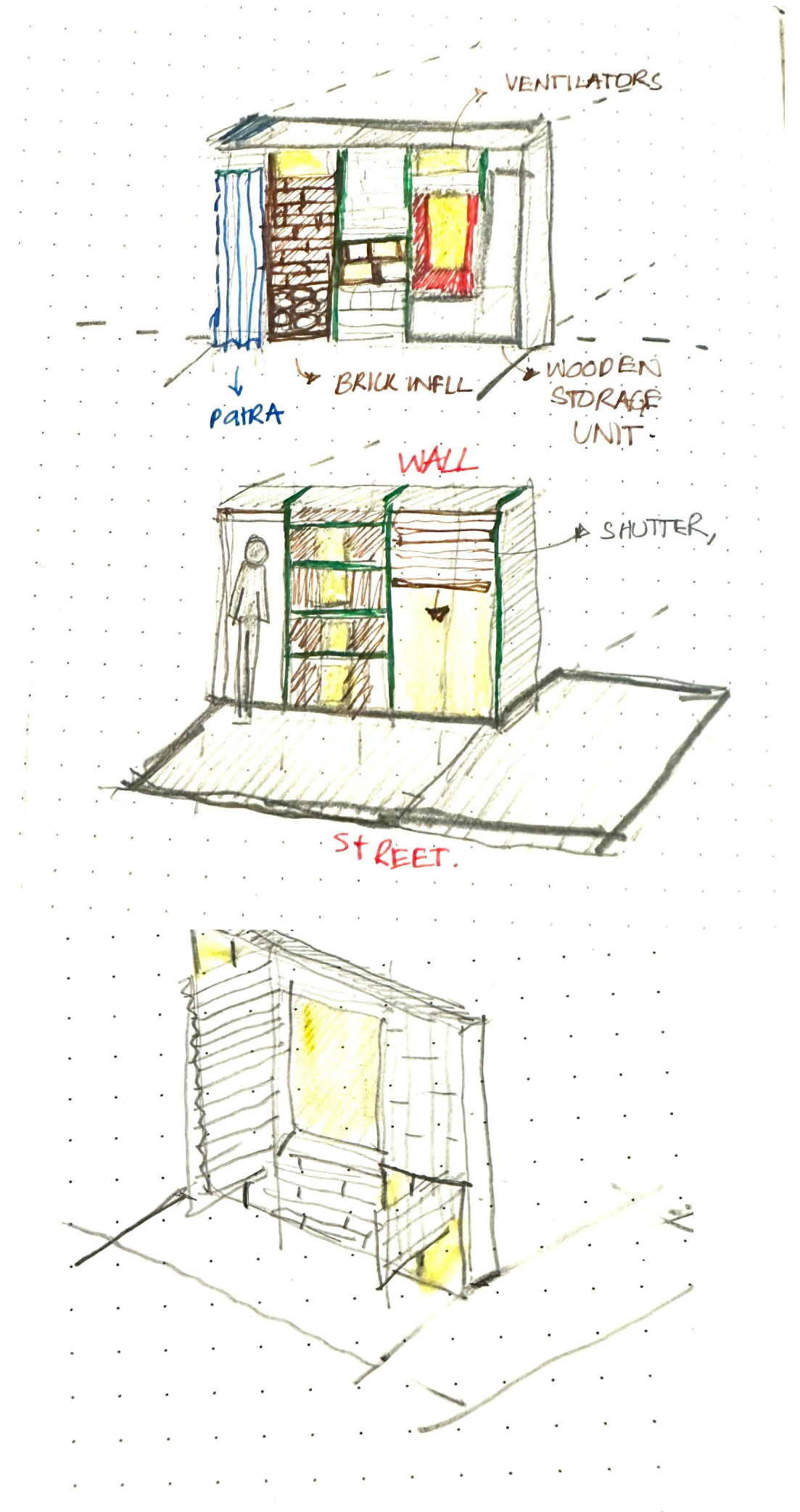
For particular conditions that exist in the colony, we can choose to repair the structures and preserve their spatiality. A repair consists of renewing or refreshing the structural systems, the materiality and other common failures in the clusters without changing the spatial conditions of space. Yet simple acts of repair like waterproofing or changing flooring materials can renew and change the way a space is viewed and subsequently change how it is experienced.

It is usually the fastest and most cost-effective way to make minor changes in the structure. As a result, the spatial connotations of repair in some conditions get mitigated. Where some strategies like retrofitting and redevelopment focus on addressing the concerns raised through spatial solutions, repair often does it as a negotiation between cost, implementation and effectiveness.

Upgradation and Modification

Changes to the space can be made on a scale smaller than retrofitting and greater than repair. These surgical interventions that change or modify the existing condition and subsequently result in the upgrading of space are termed upgradation and modification. The implementations of upgradation and modification can be done without necessarily changing the larger spatial orientations present in the existing conditions.

Upgradation and modification can range from changing the materiality of the walls, roofs and fenestrations to the complete reprogramming of how the thresholds and walls work. These strategies can be implied in various forms at various levels that give it immense potential and lead to a better spatial condition that looks forward and adapts itself to the current as well as the projected changes in the cluster.



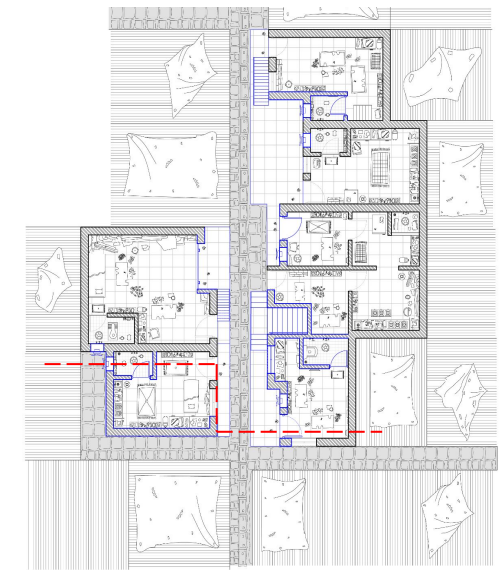
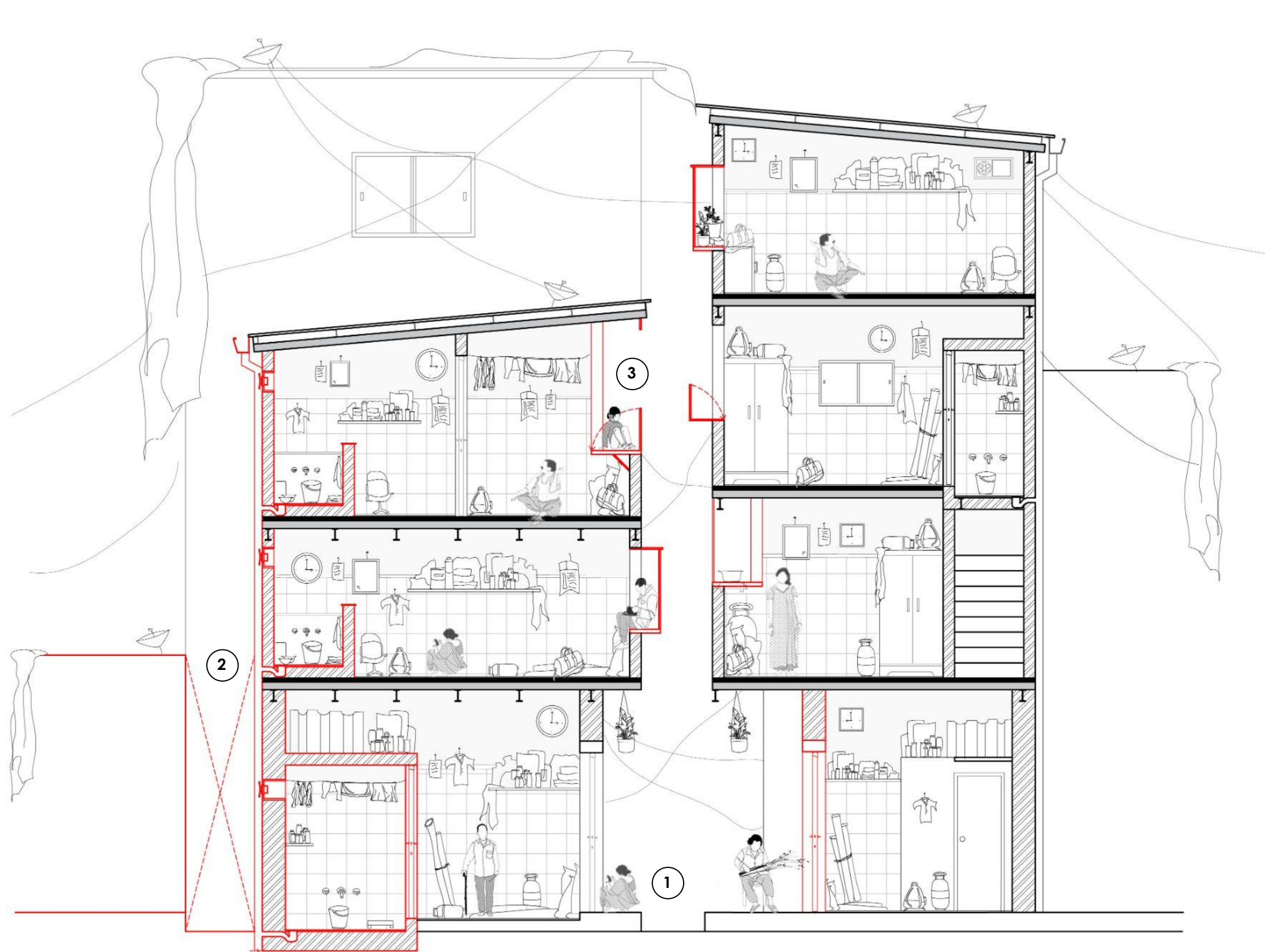


- ① Rethinking threshold
- ② Service lane
- ③ Modifying walls to reconfigure programmes

Rethinking the threshold for these houses to make them more interactive on the ground. Also opening out a service lane shared by 4 houses for better light and ventilation and drainage.

Concerns addressed:

- Demographic shifts
- Livelihood Shifts
- Lack of social space
- Lack of light and ventilation
- Poor services



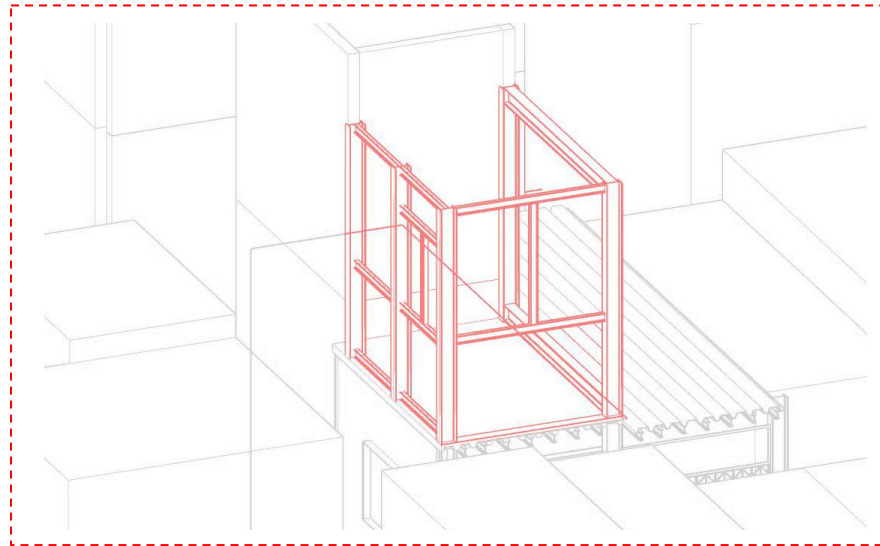
- ① Rethinking threshold as social space on ground.
- ② Service lane
- ③ Modulating the skin of the building to make openings.

Reconfiguring services, social space on ground, modulating building skin

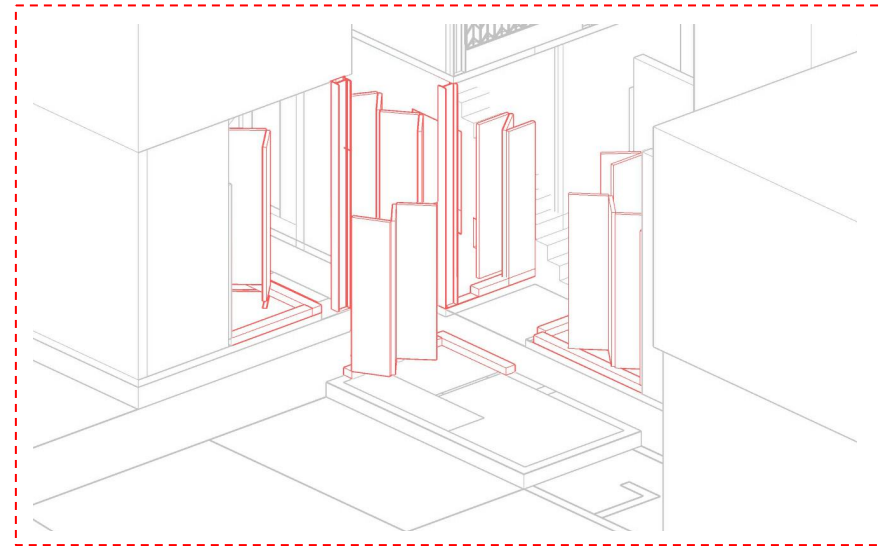
Concerns addressed:

- Lack of social space
- Lack of light and ventilation
- Poor services

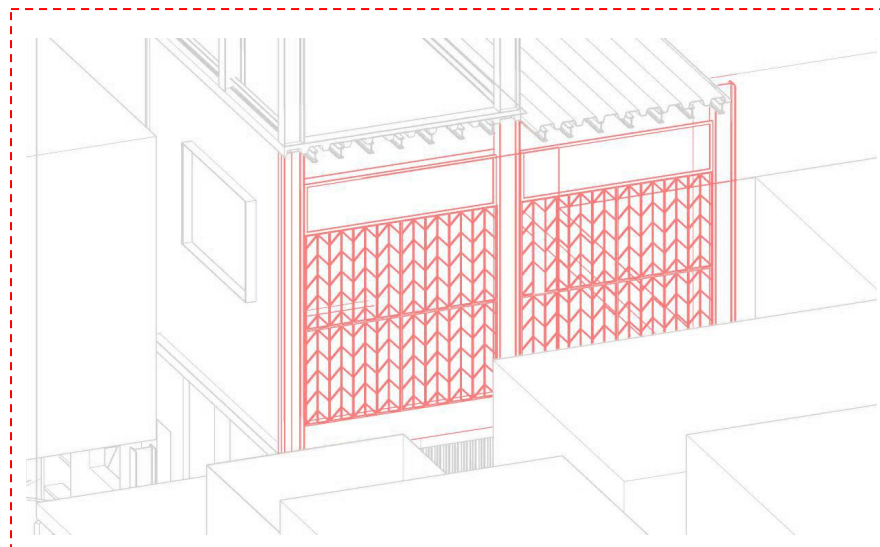




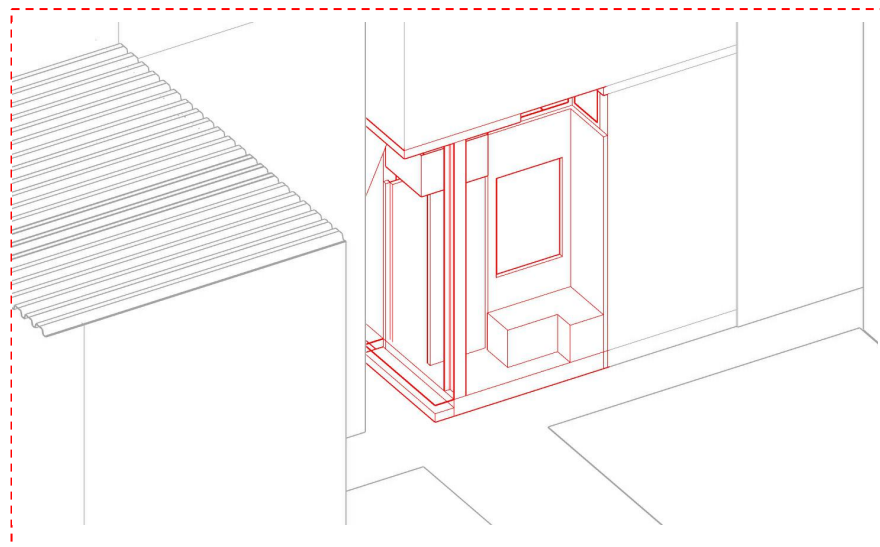
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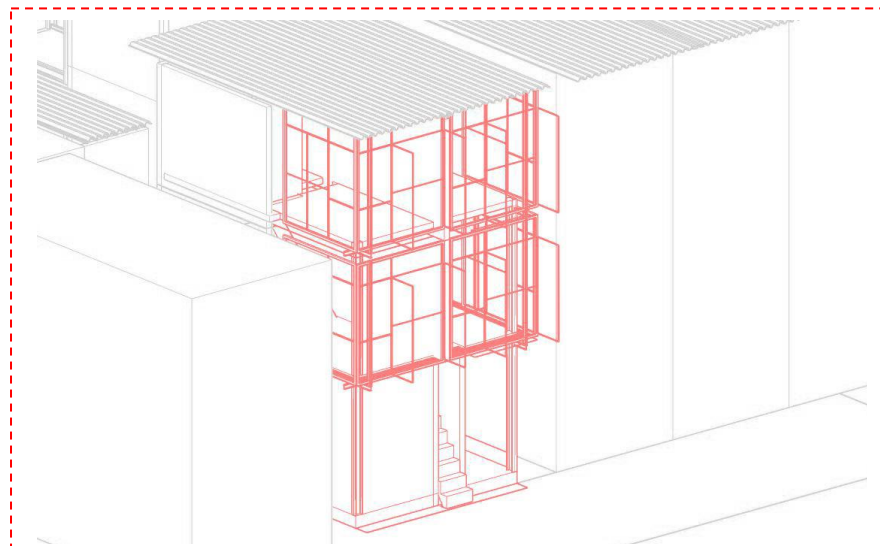
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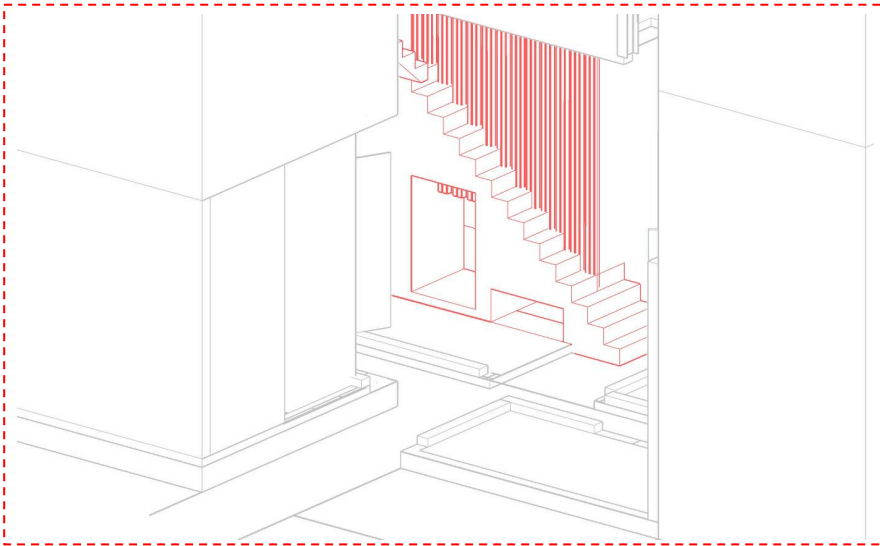
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4

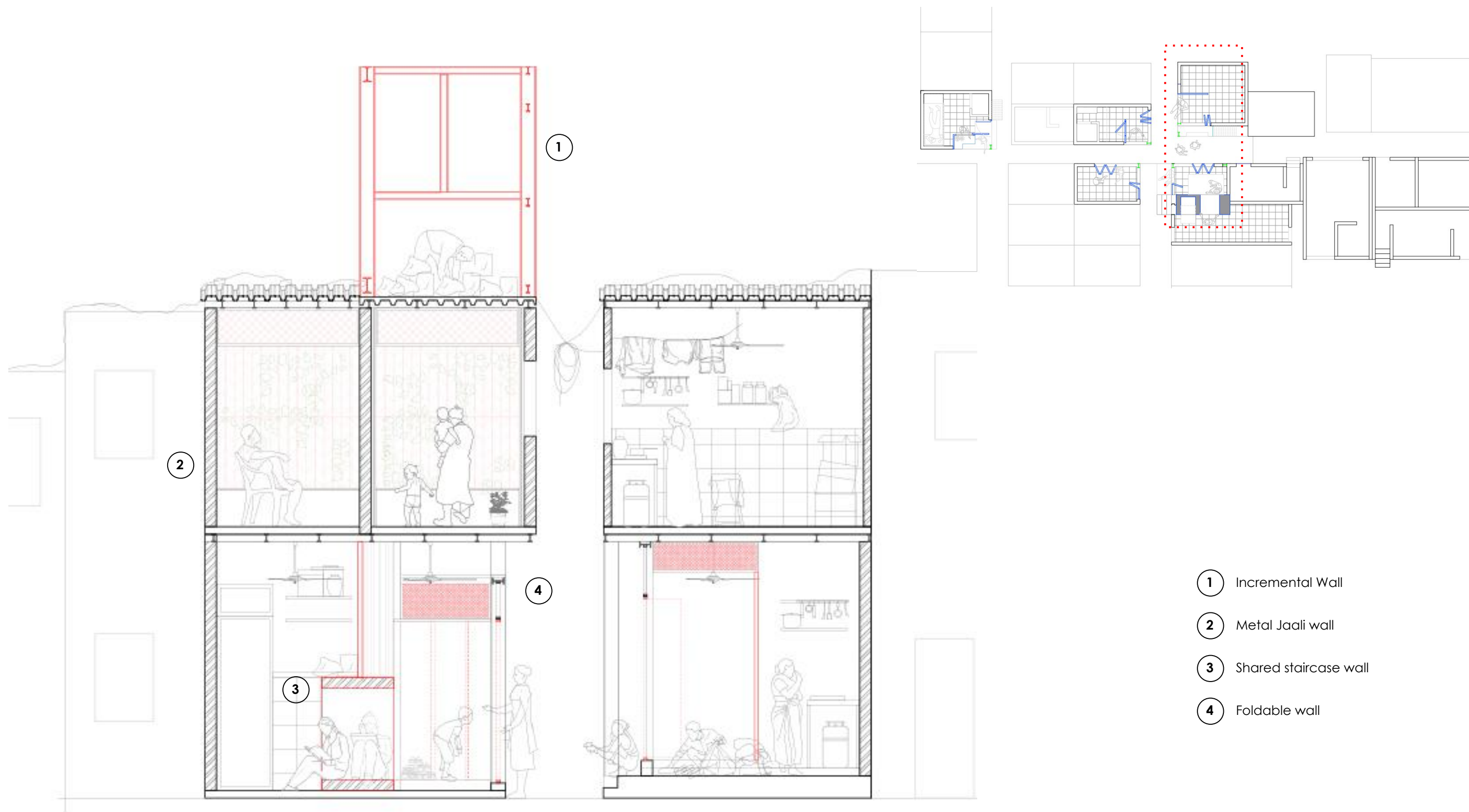


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6

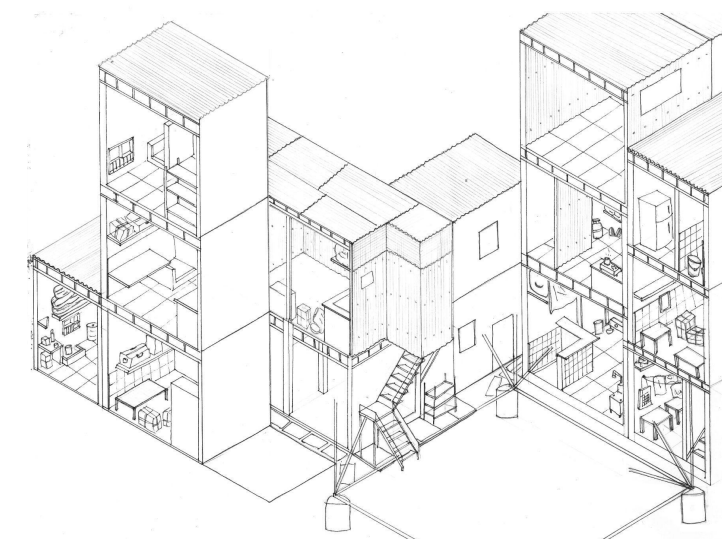
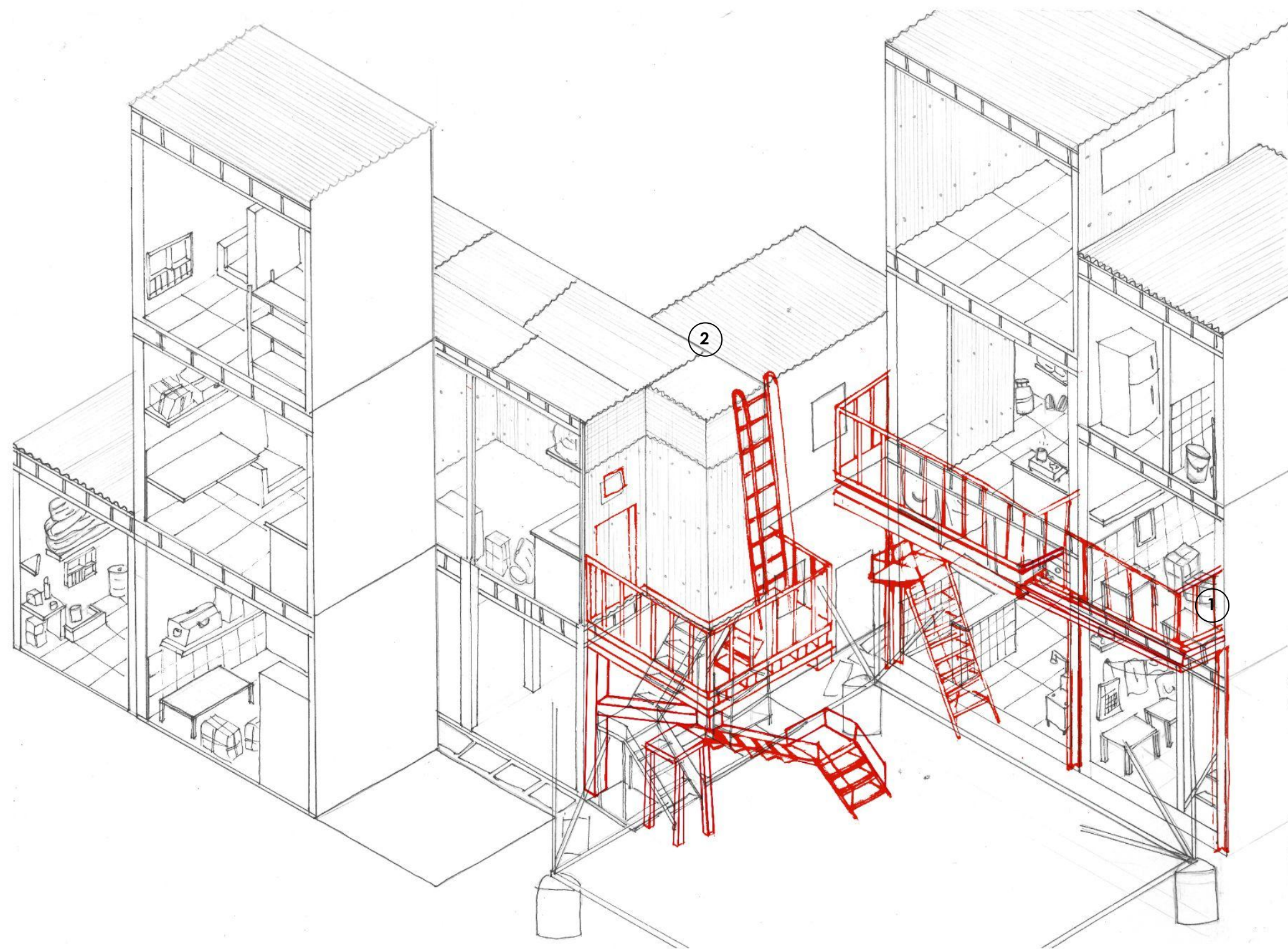
- 1 Incremental wall
- 2 Folding wall
- 3 Metal jaali wall
- 4 Pocket wall
- 5 Hoarding wall
- 6 Shared staircase wall



The different types of walls allows reconfiguration and extension of spaces as wished by the user.

Concerns addressed:

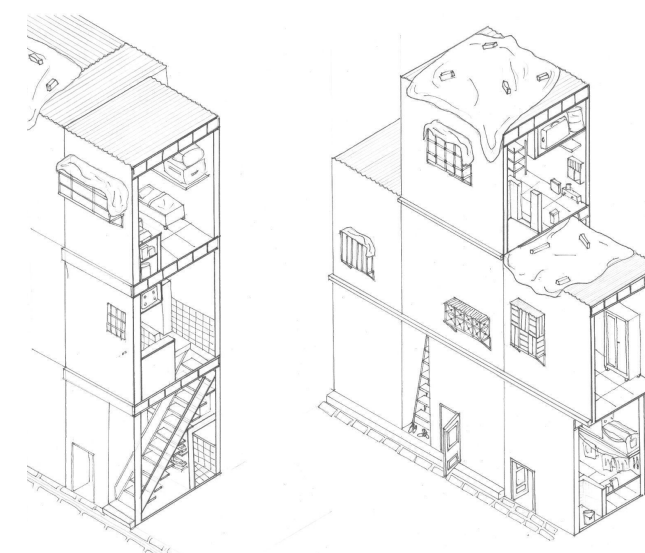
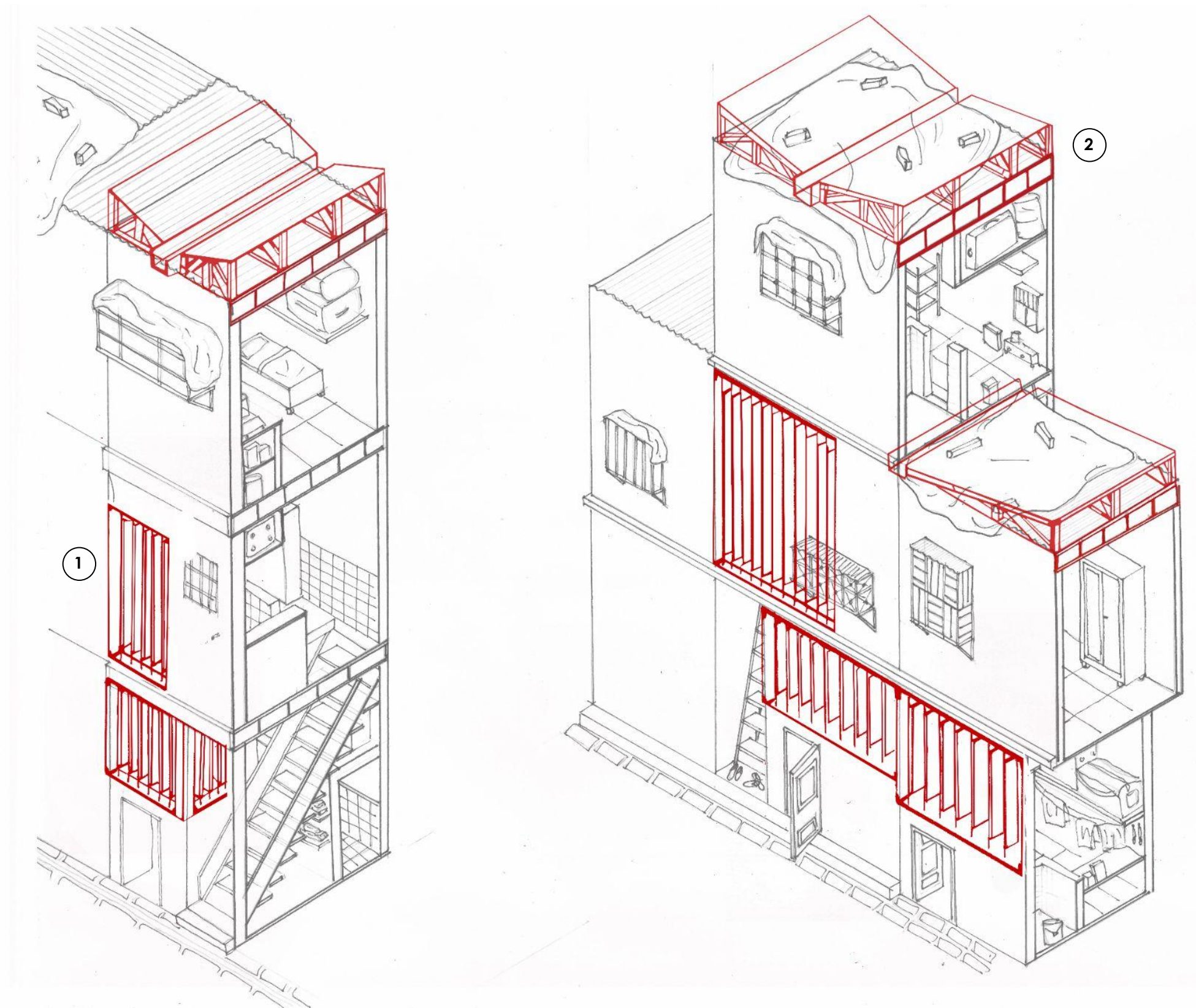
- Demographic shifts
- Livelihood Shifts
- Lack of social space
- Lack of light and ventilation
- Poor accessibility



- ① Balconies as extensions
- ② Access to rooftops

Separating the working and living through balconies as extensions, decreasing congestion within the houses. Giving access to rooftops to avoid the risk of using the network tower.

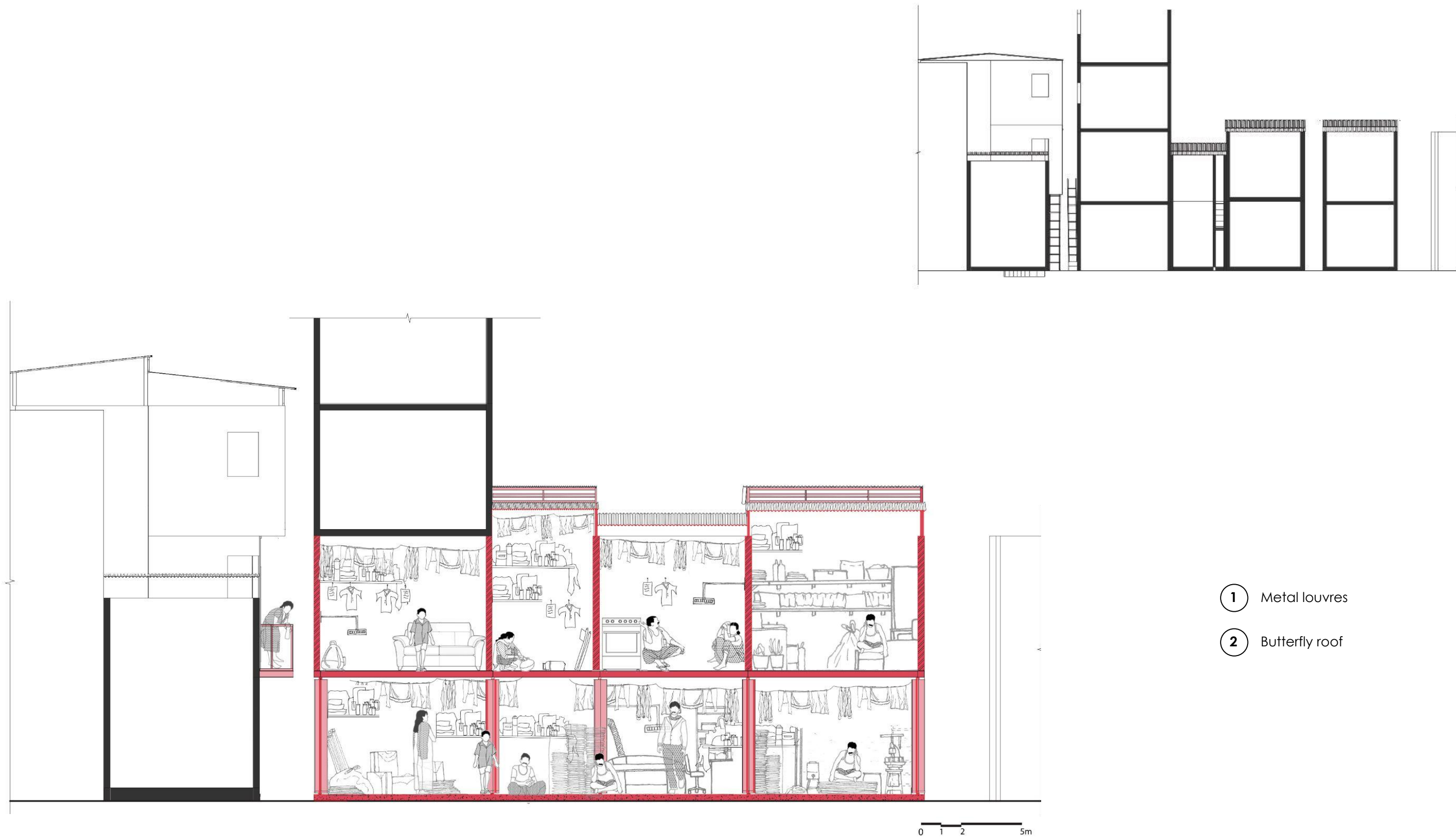
- Concerns addressed:**
- Livelihood Shifts
 - Lack of social space
 - Lack of light and ventilation
 - Poor services
 - Poor accessibility



- ① Metal louvres
- ② Butterfly roof

Making the alley more porous, by the addition of louvres. Butterfly roof that helps improve light and ventilation condition on the top floors.

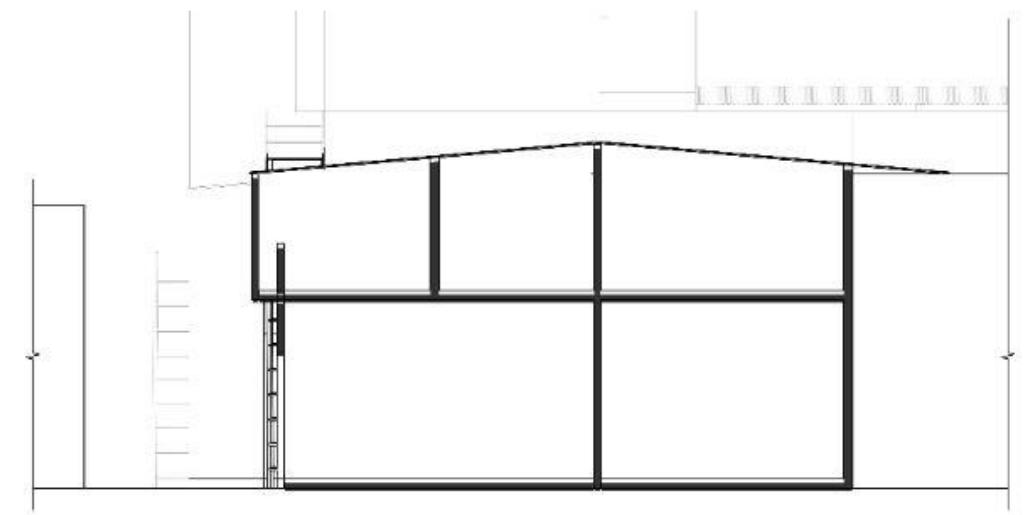
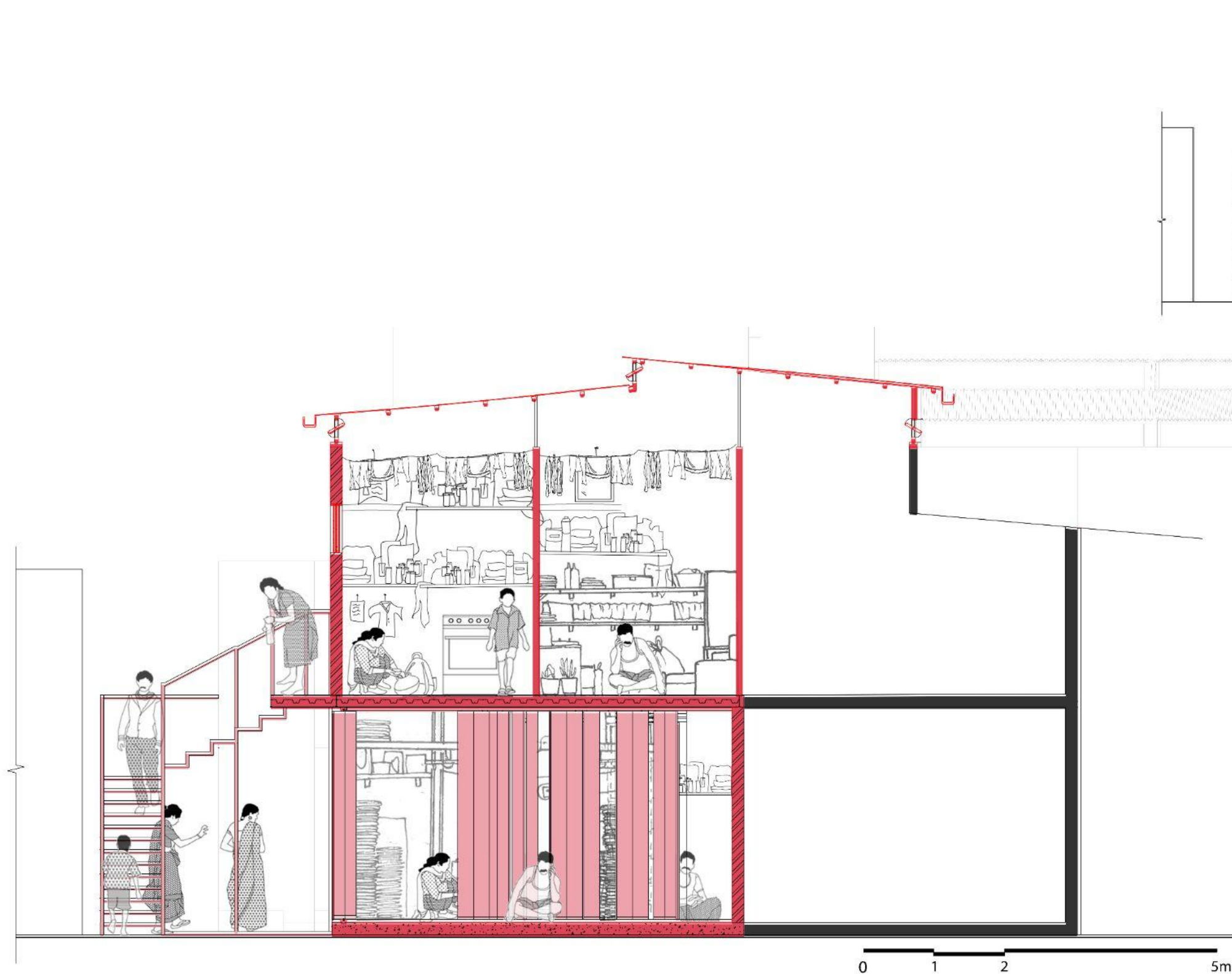
Concerns addressed:
 - Lack of social space
 - Lack of light and ventilation



Opening up the workspace on the ground floor to make a cohesive space that can be modulated using swivelling, moveable panels

Concerns addressed:

- Demographic shifts
- Livelihood Shifts
- Lack of social space
- Lack of light and ventilation
 - Poor services
 - Poor accessibility



- ① Metal louvres
- ② Butterfly roof

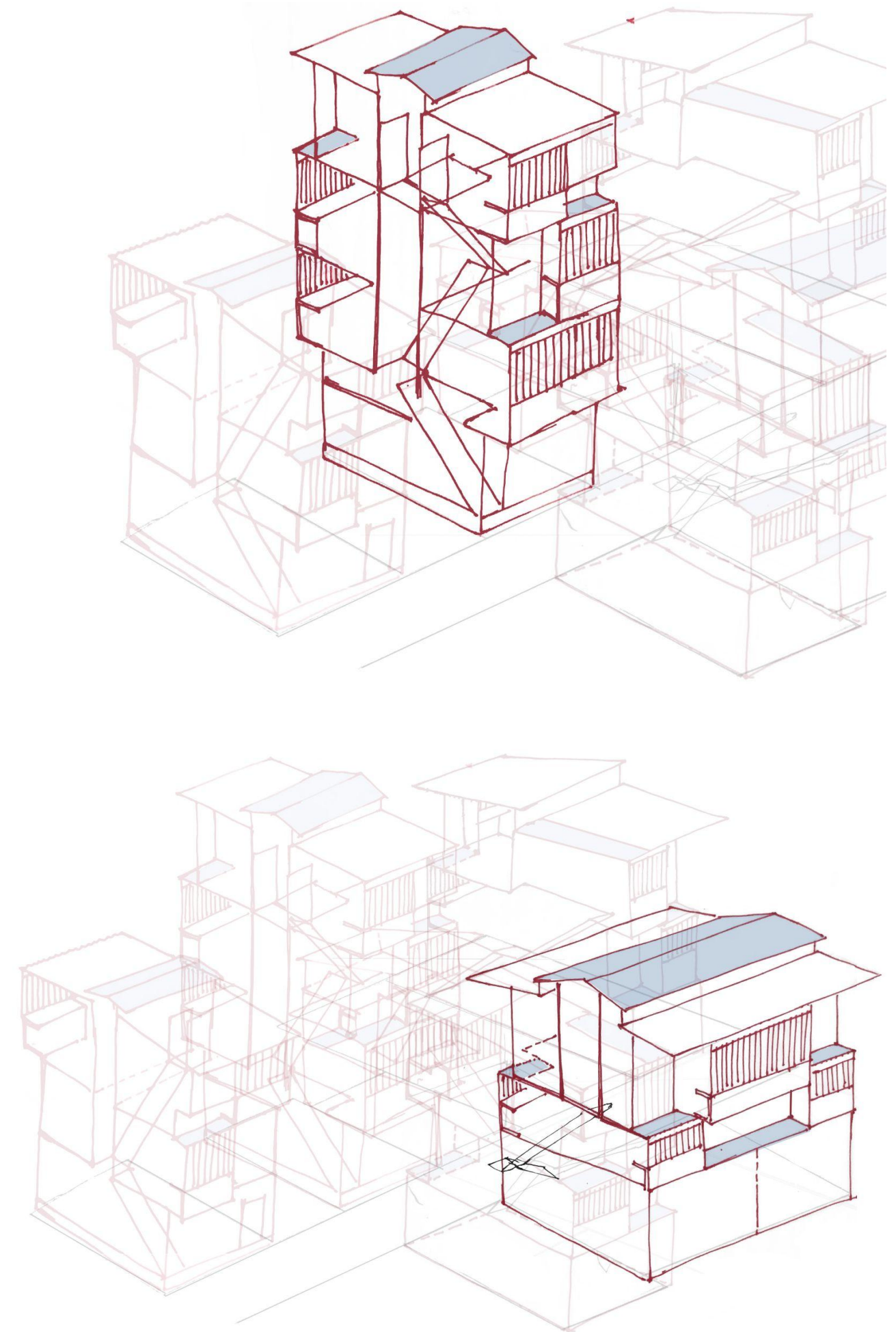
A shared staircase and balcony becomes an interface to increase the transactional capacity of the cluster while a raised, split roof provides the necessary light and ventilation to the upper floors

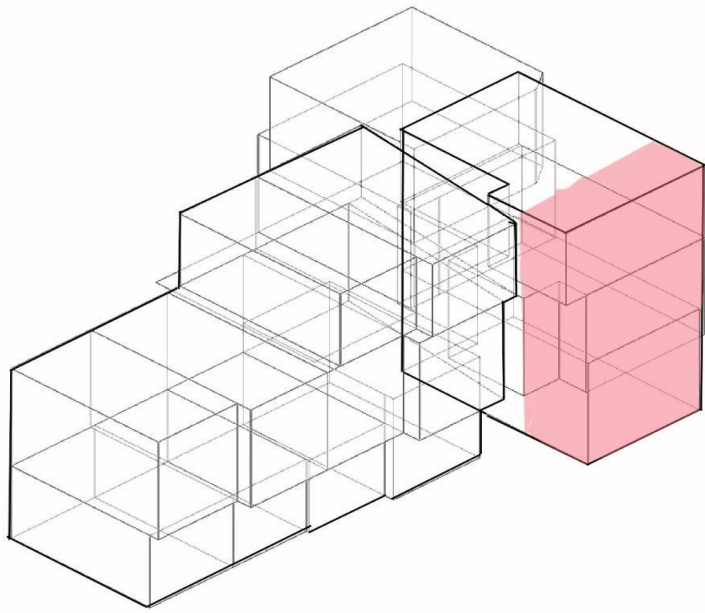
Concerns addressed:

- Demographic shifts
- Livelihood Shifts
- Lack of social space
- Lack of light and ventilation
- Poor services
- Poor accessibility

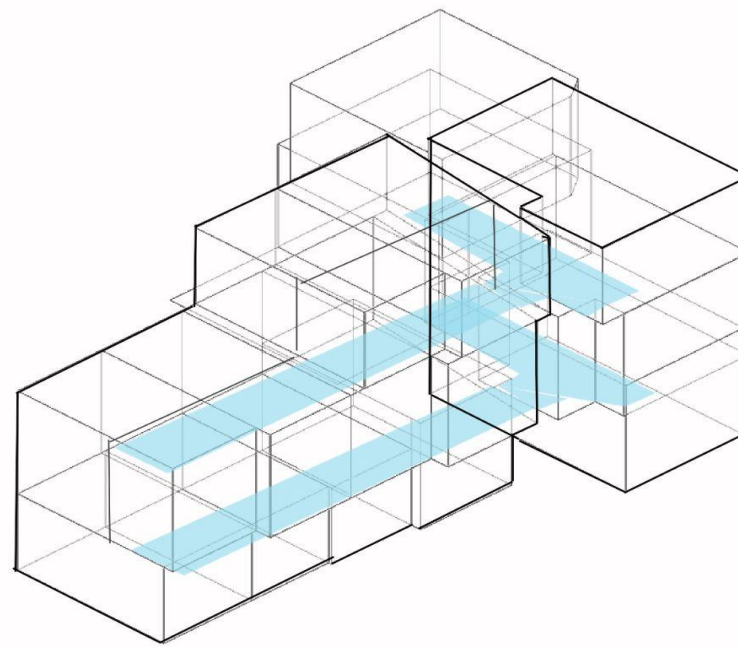
Retrofit

Retrofitting means to alter or modify a space with respect to its design and materiality after it has been previously built, which may have a shift in its spatial configuration that involves altering and regulating the structure, changing the materials, etc. Retrofitting also defines transforming the interior layouts or the spatial organizations to cater the evolving needs of the people living. It includes altering room sizes, replacing or reconfiguring the partitions to enhance the functionality of the space accommodating new possibilities. These alterations altogether result in changing spatiality of the building ensuring that it stays relevant and effective for an gradually changing environment.

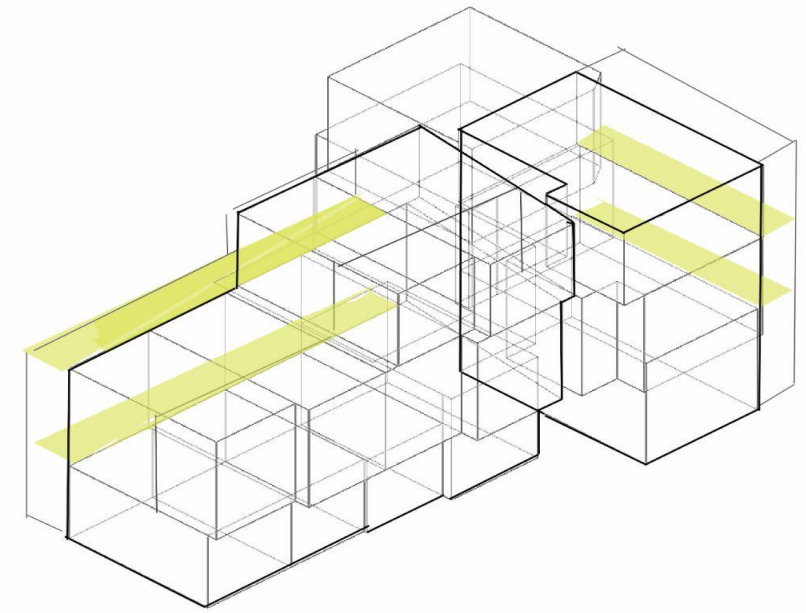




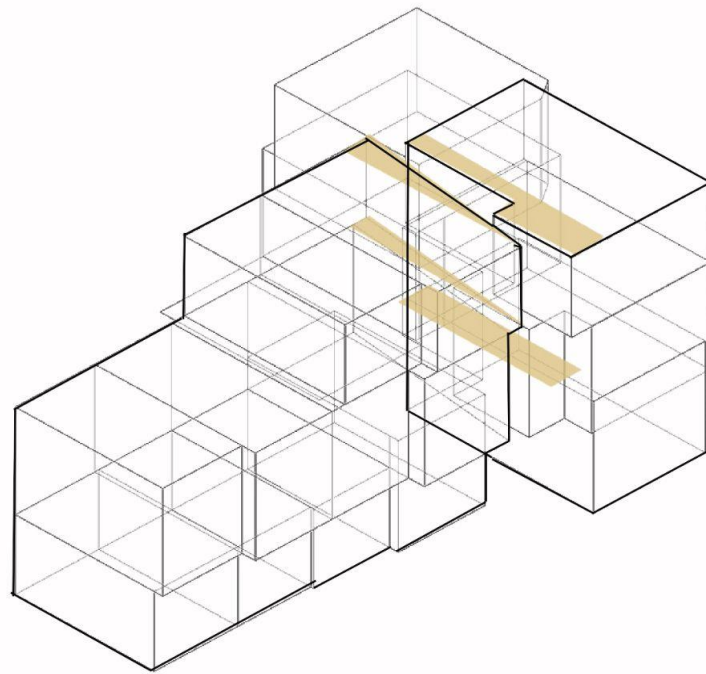
Common Staircase block



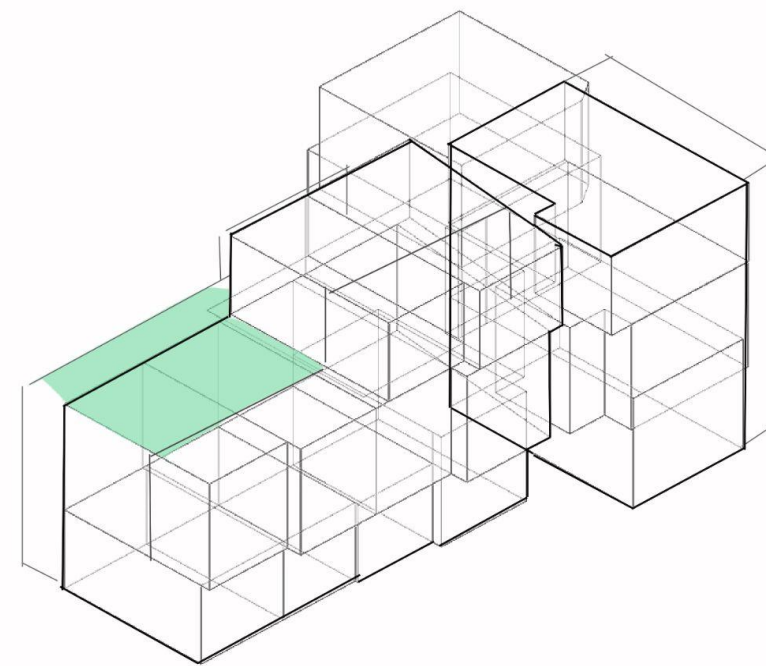
Creating connecting passages by offsetting walls



Extending space on back to give consumed space for passages

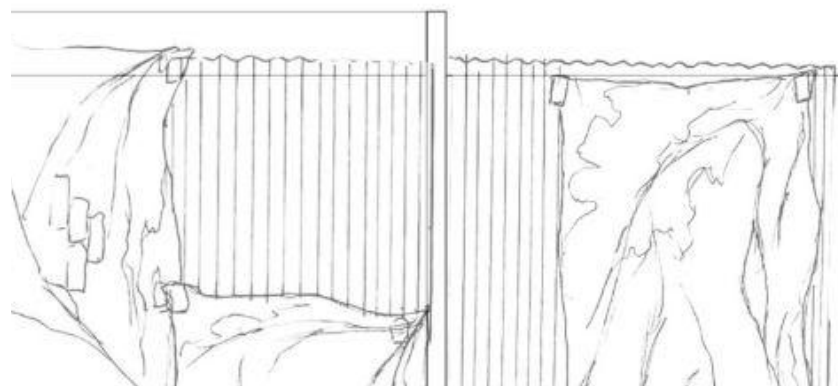
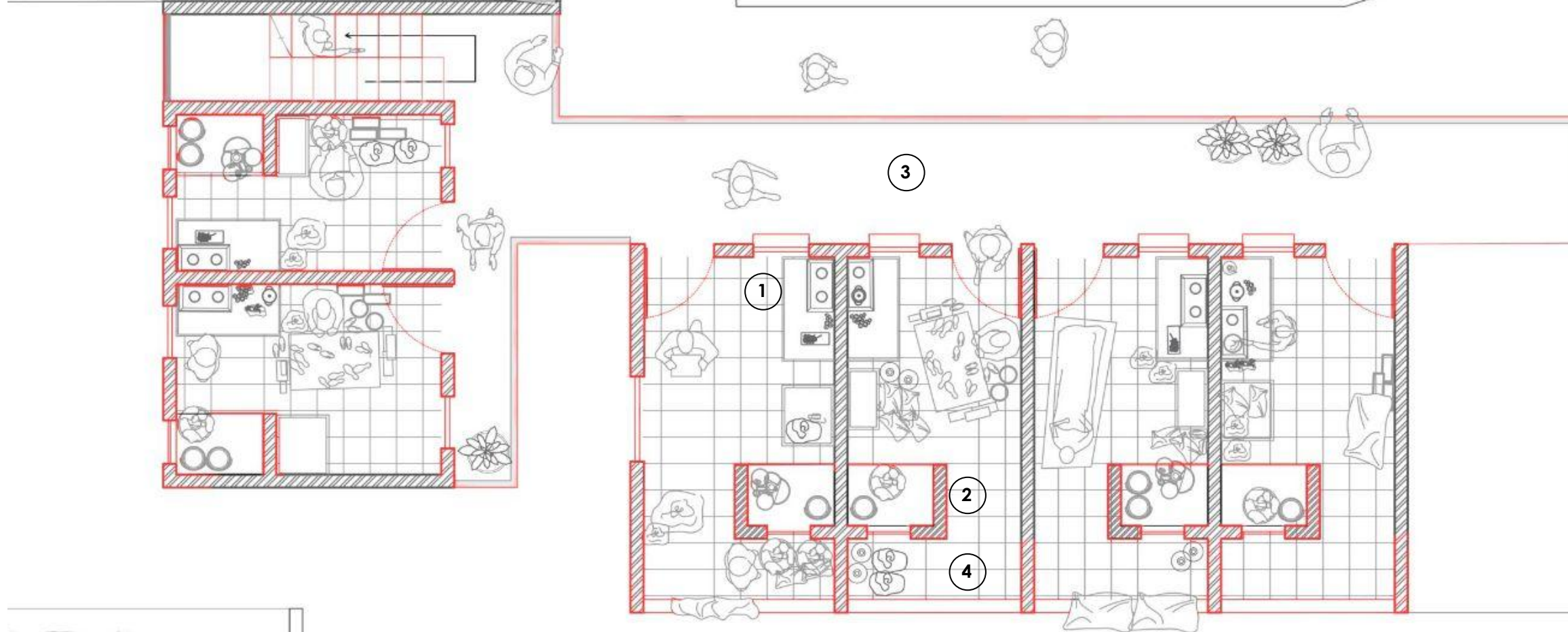
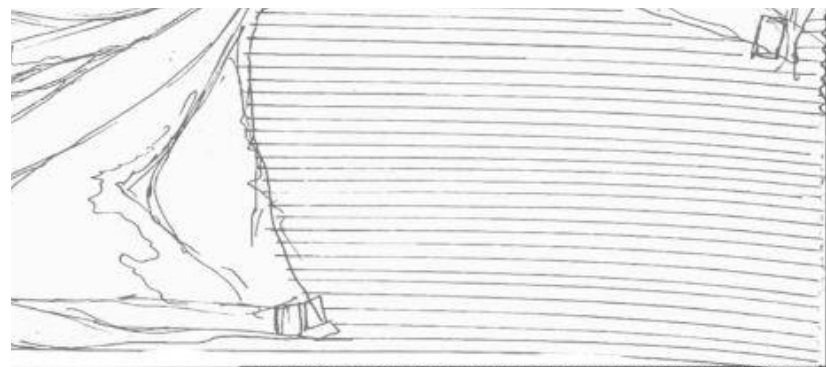


Removing extrusions of upper floors to open alley at ground

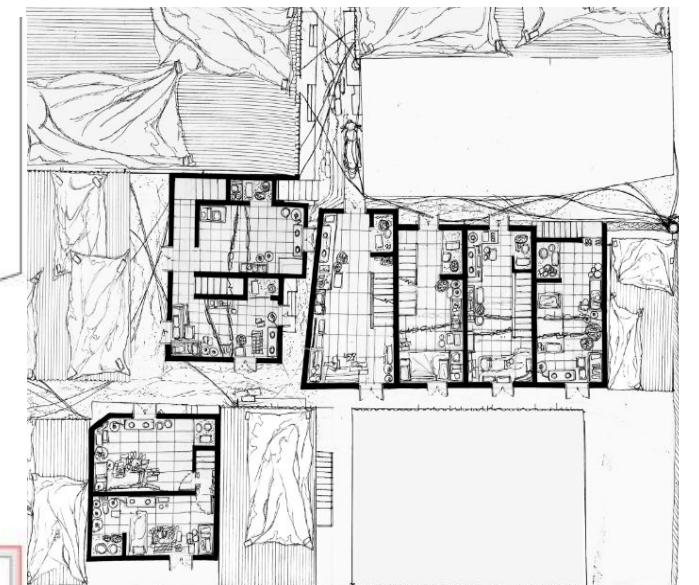


Open gathering space

- Concerns addressed:**
- Lack of social space
 - Livelihood shifts
 - Lack of light and ventilation
 - Poor services
 - Poor accessibility



PROPOSED FIRST FLOOR PLAN

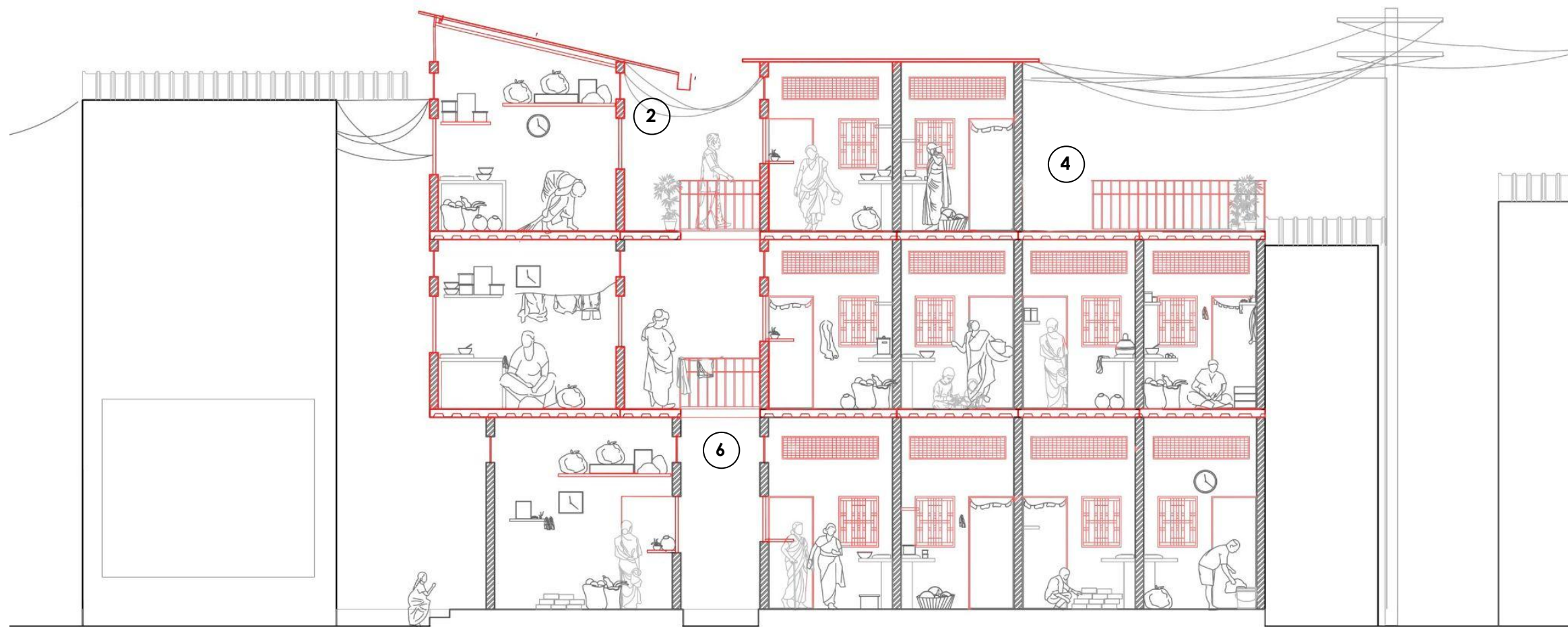


EXISTING FIRST FLOOR PLAN

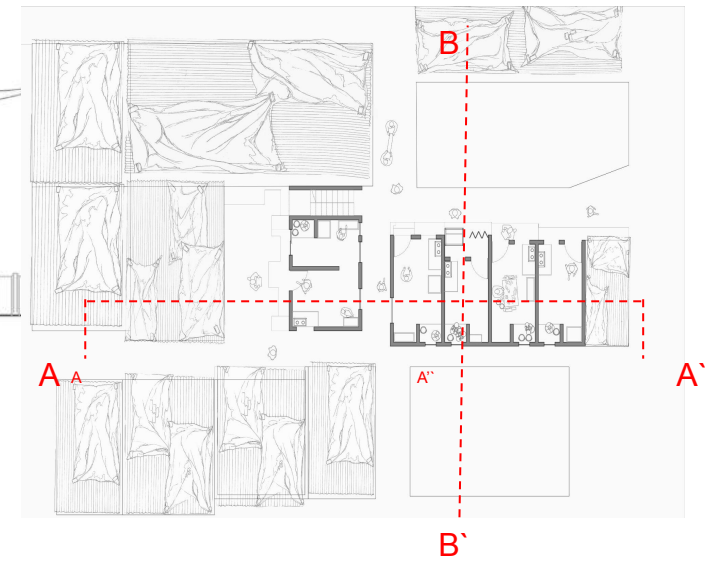
- 1 Shifting kitchen to front
- 2 Aligning mores vertically
- 3 Common passage
- 4 Balconies as extensions



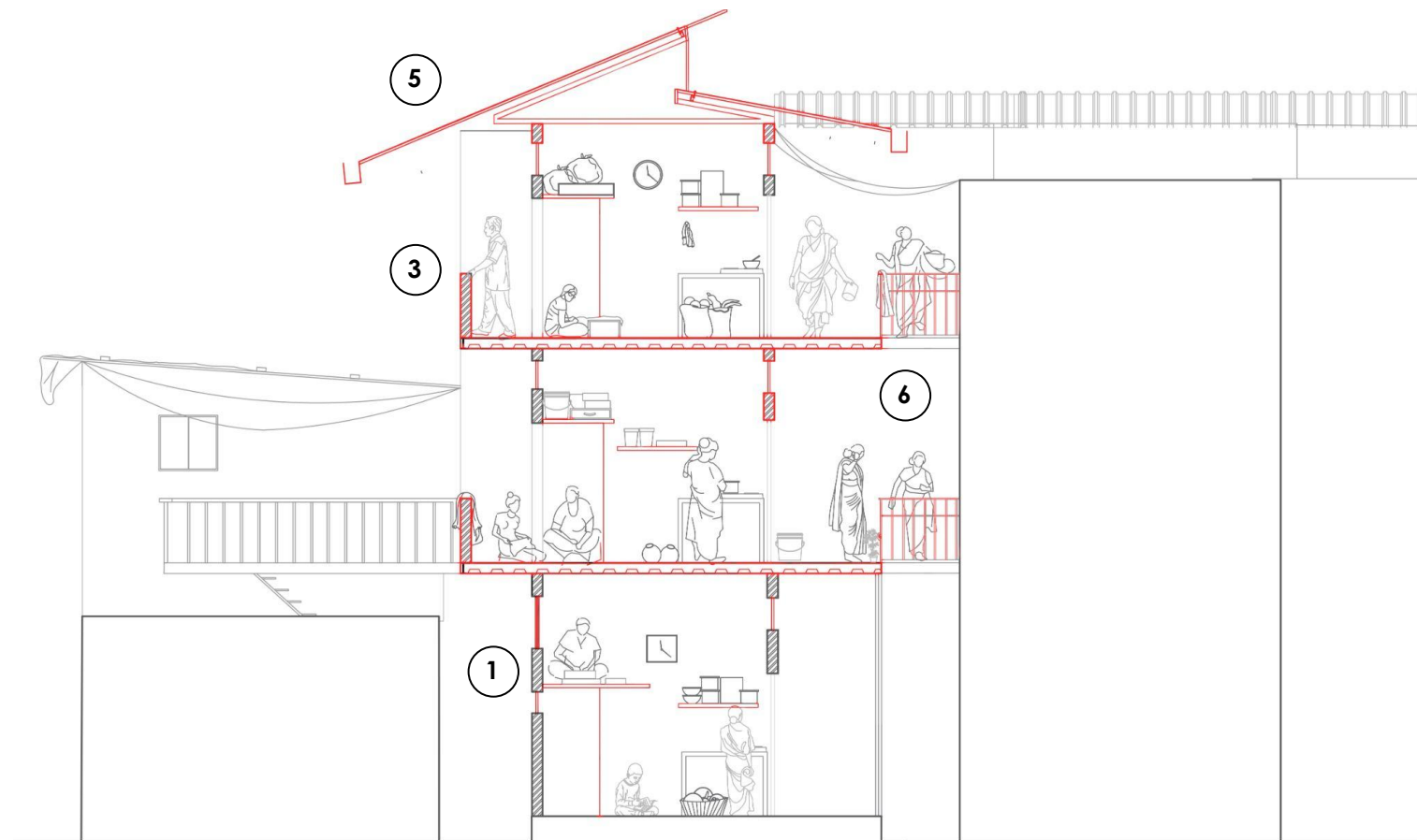
Provision of common external staircase to improve vertical circulation and interaction. Changing internal spatial configuration.



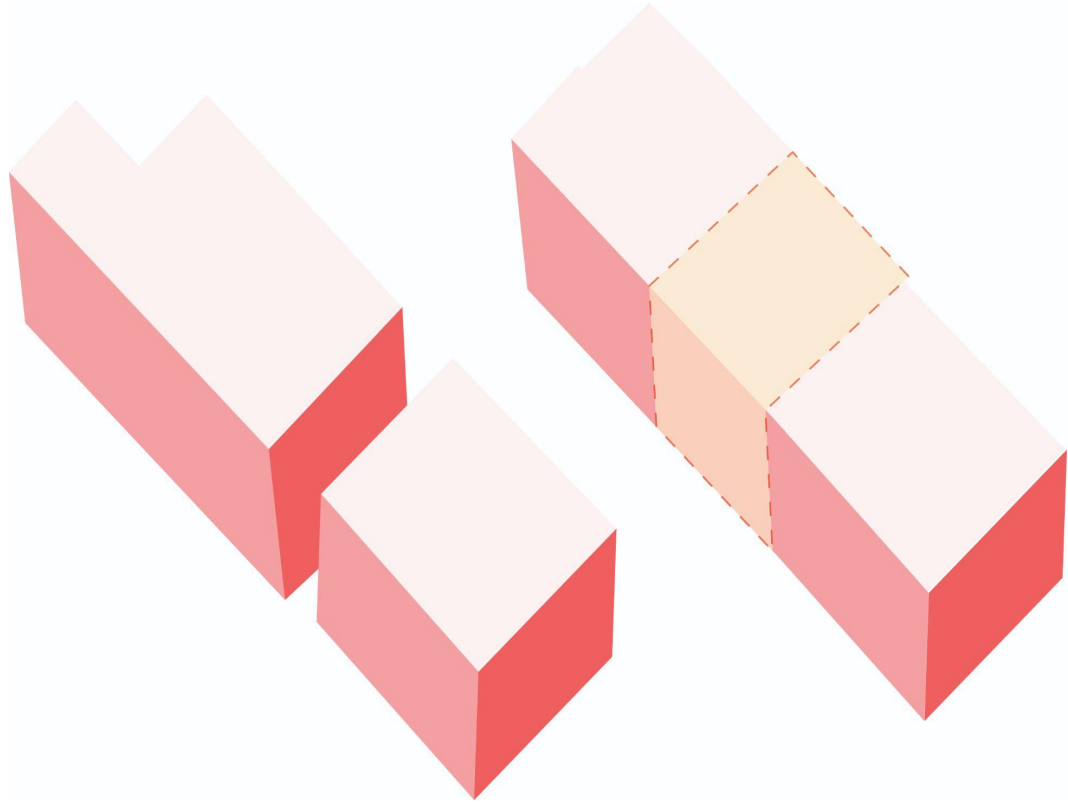
PROPOSED SECTION AA'



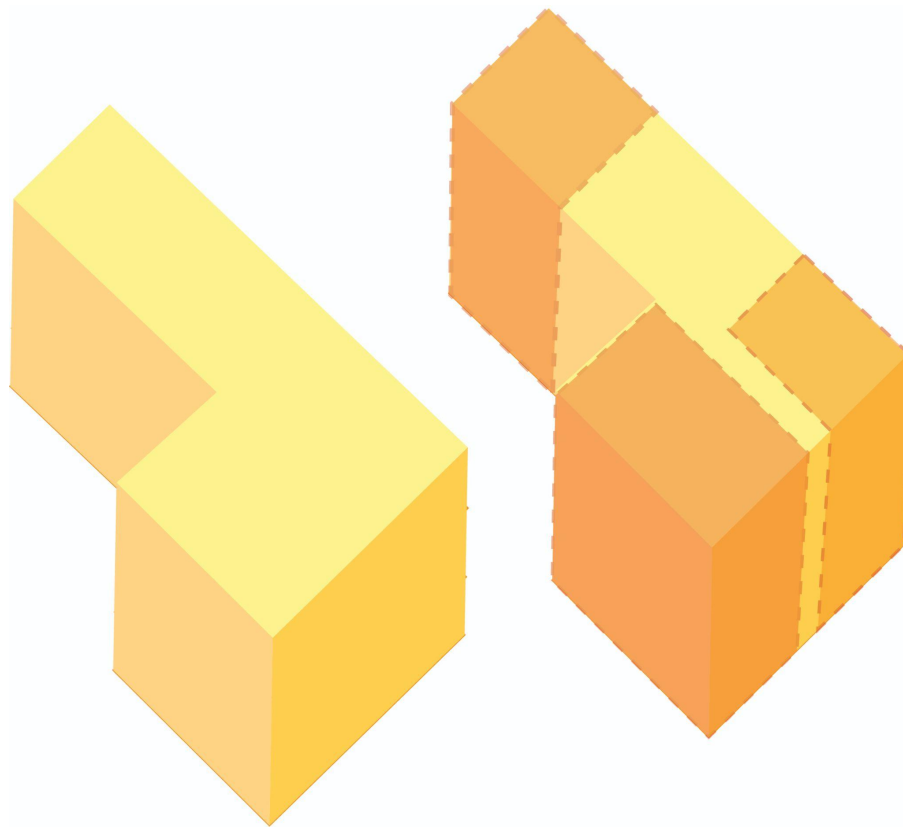
- ① Mezzanine floors as additional space
- ② Moulding skin for ventilation
- ③ Balconies
- ④ Gathering space
- ⑤ Roof modulation
- ⑥ Common passage



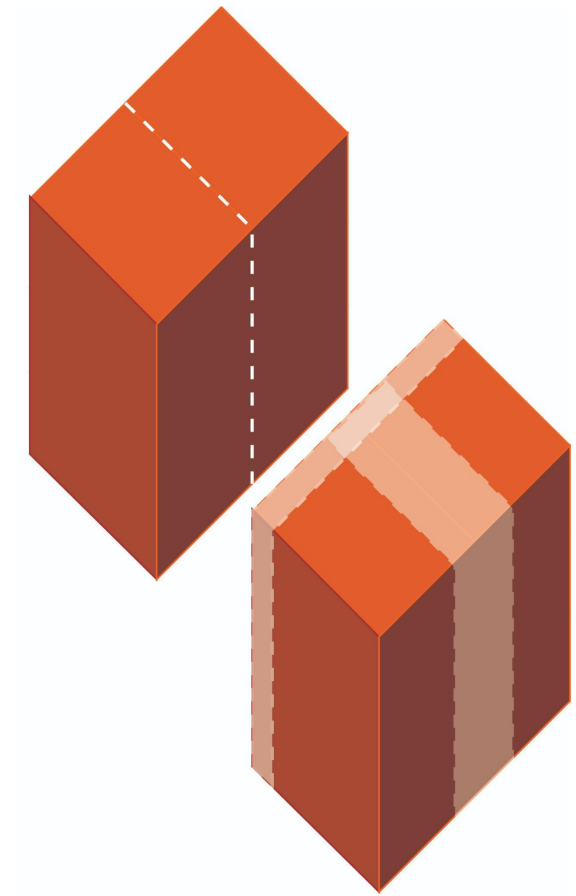
PROPOSED SECTION BB'



The existing structures were both considered together as one mass, then this one mass was divided to each one with equal amount of living and working space and creating a large court yard space in between.



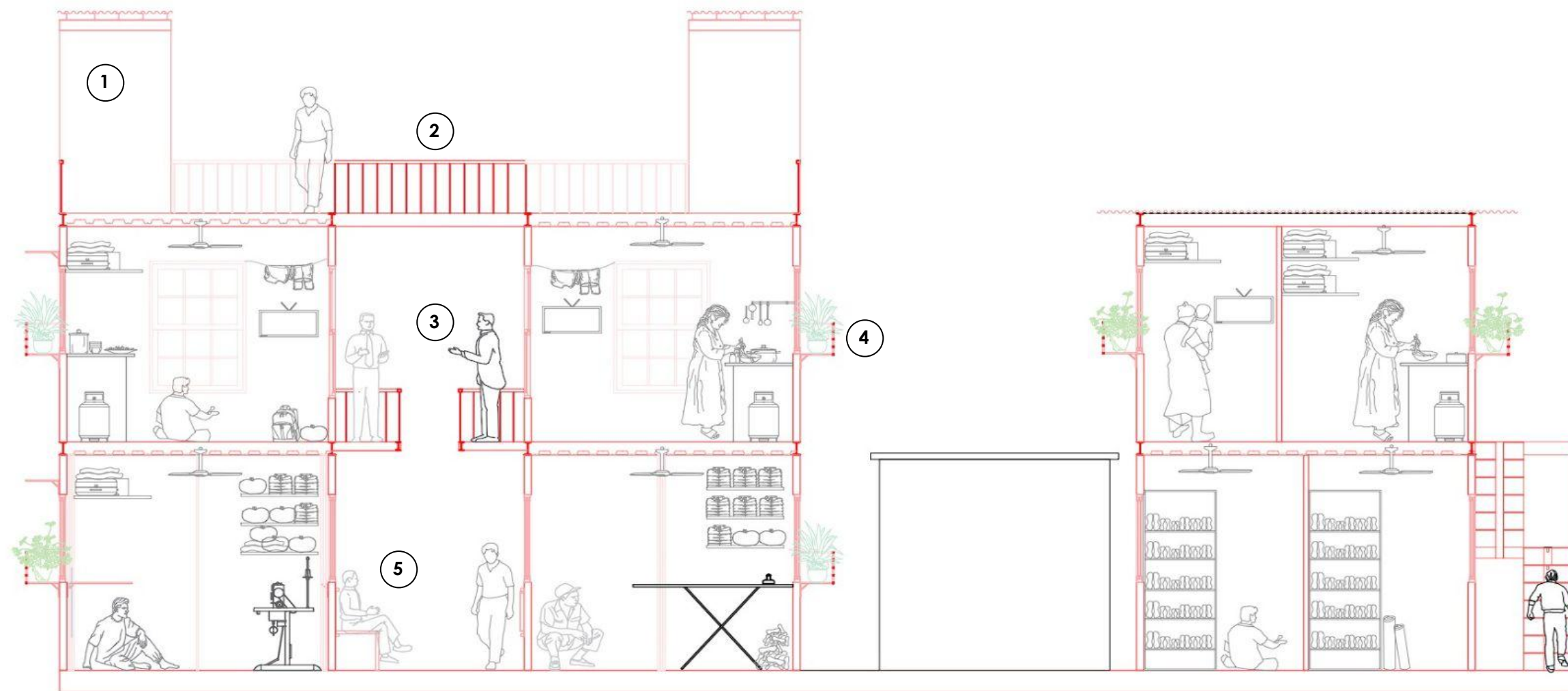
The existing structures were both considered together as one mass, then i started to rethink the structure on the basis of creating a series block, living space, working space and open spaces which also make the neighbourhood porous by attracting the public as well to interact within it.



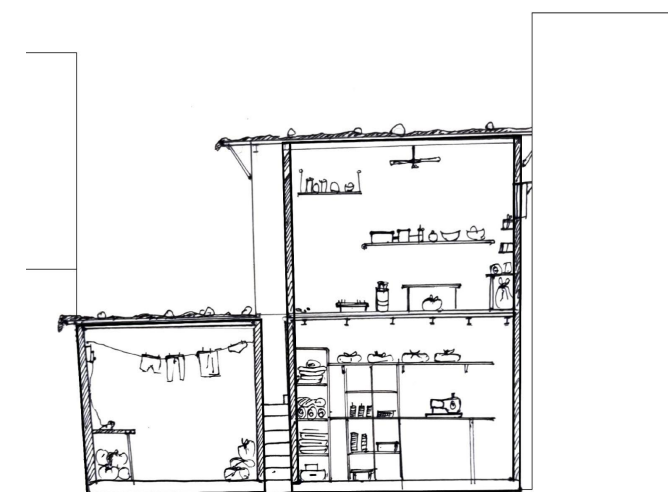
With existing connected structures, i tried to keep the structural skeleton as it is and make porous from its facade and in between them. This creates the opportunity for more light and ventilation as well new ways of interaction to emerge in the neighbourhood.

Concerns addressed:

- Lack of social space
- Livelihood shifts
- Lack of light and ventilation
- Poor services
- Poor accessibility



PROPOSED SECTION

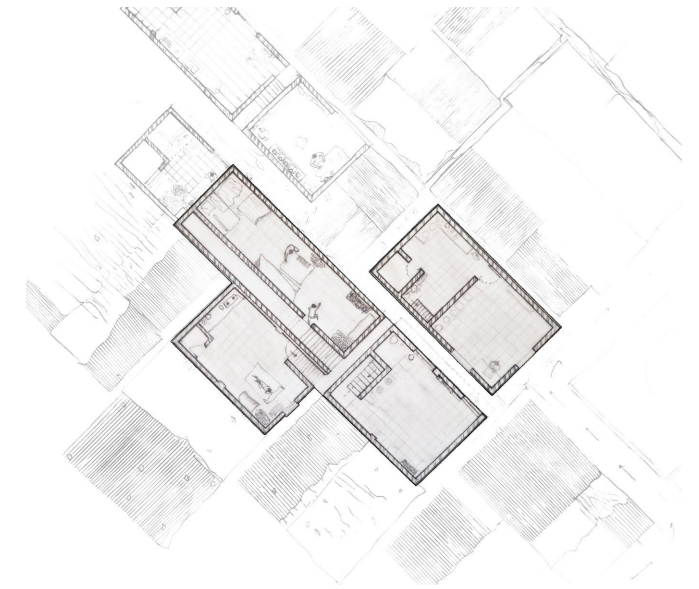
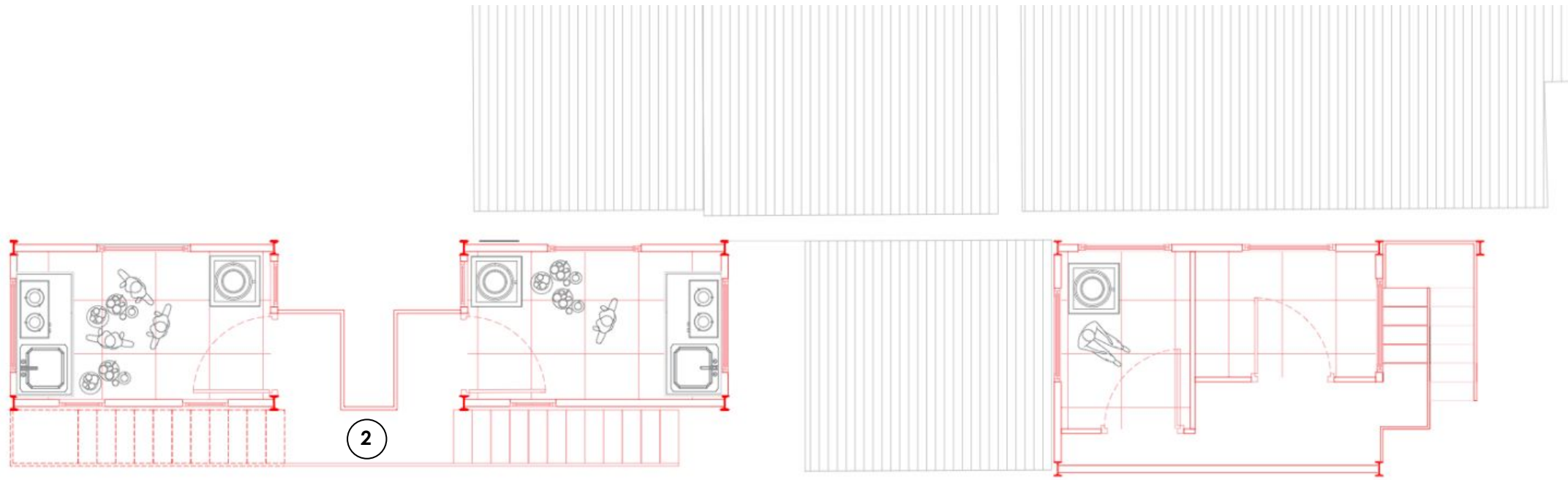


EXISTING SECTION

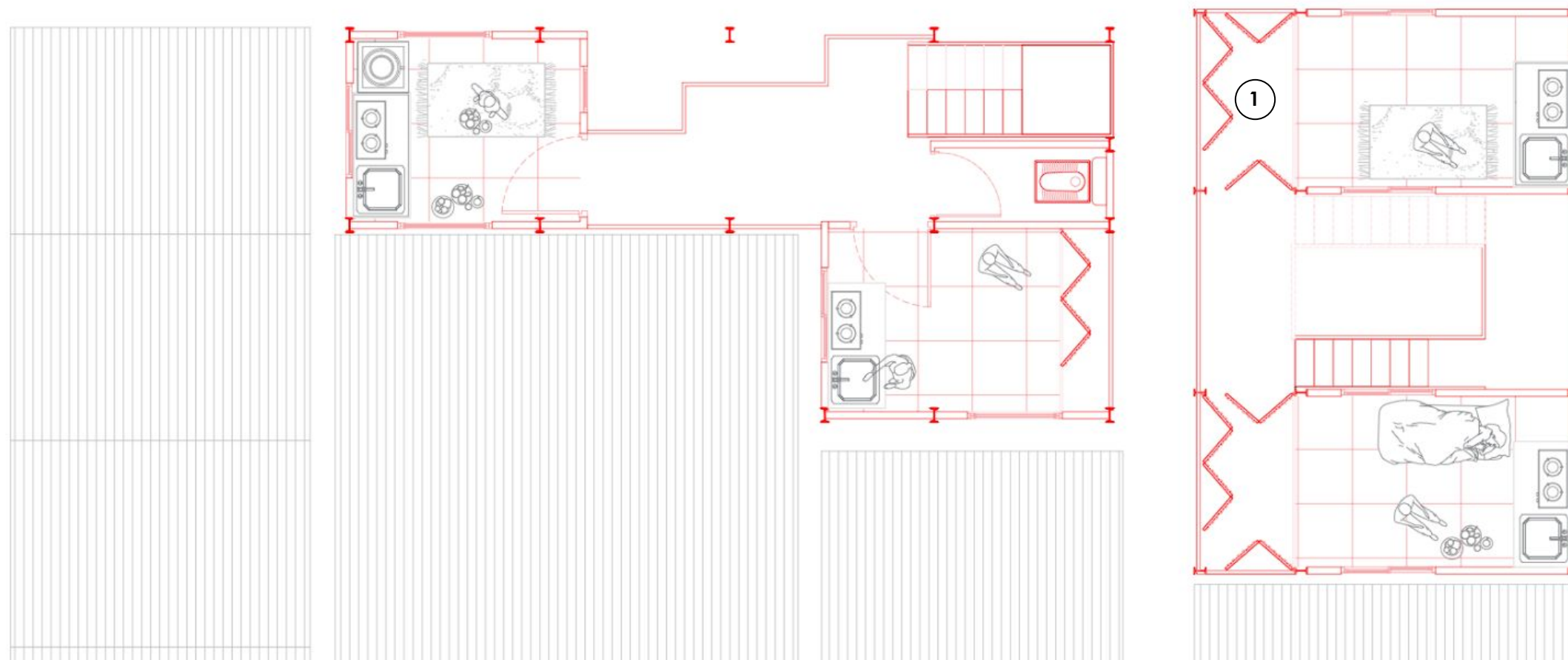
- 1 Toilets for individual households.
- 2 Common terrace for public activities.
- 3 Large fenestrations for light & ventilation.
- 4 Balcony spaces for public interactions.
- 5 Modular folding seating spaces.



Extended balcony spaces for public interaction , light-ventilation and common terrace public space.



EXISTING FIRST FLOOR PLAN



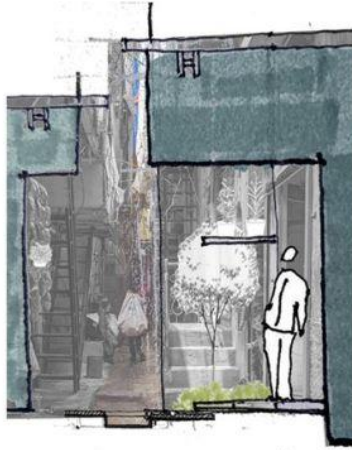
PROPOSED FIRST FLOOR PLAN

- ① Foldable door openings
- ② Large mid landing spaces for social interactions.

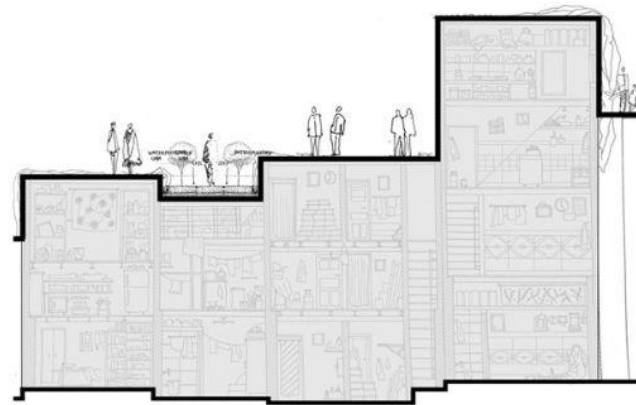


More open spaces for public by creating balconies and large midlanding spaces incorporated in common staircase.

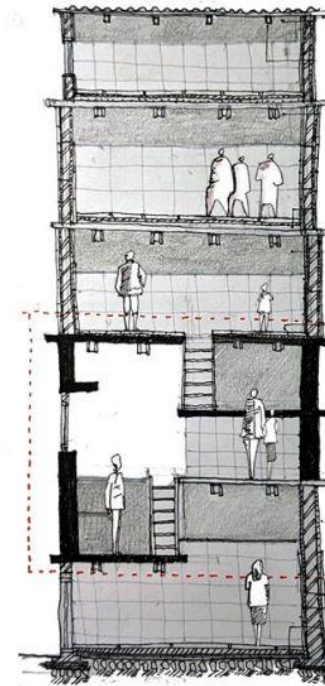
WIDGETS



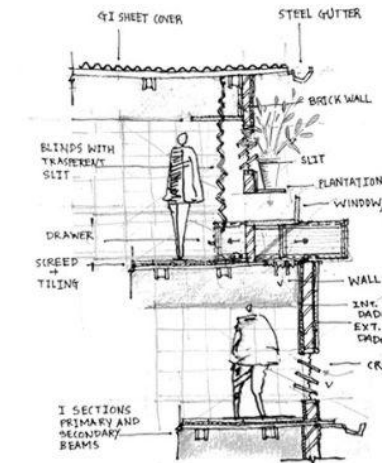
① Niches on the street



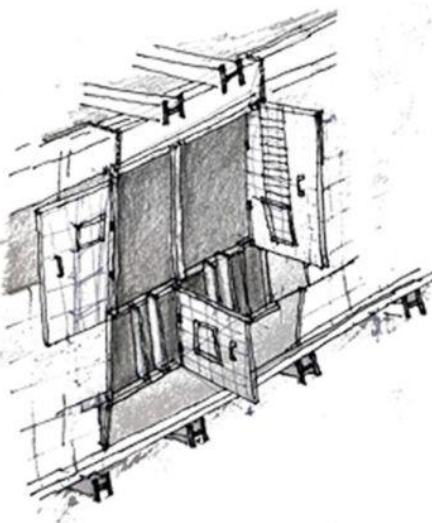
② Shifting the ground above



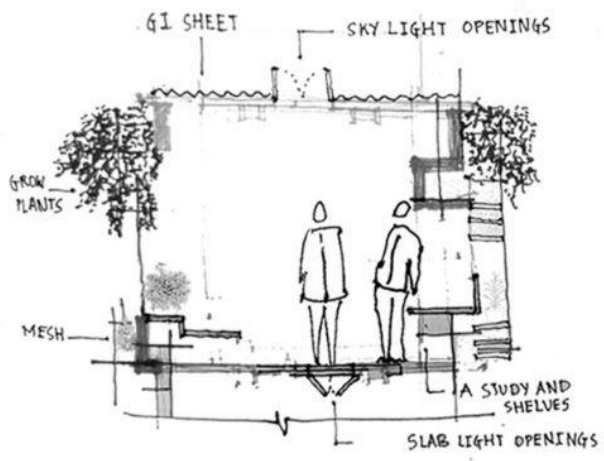
③ The growing family



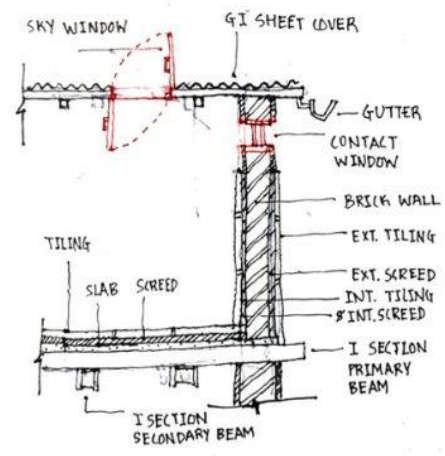
④ Transformable openings



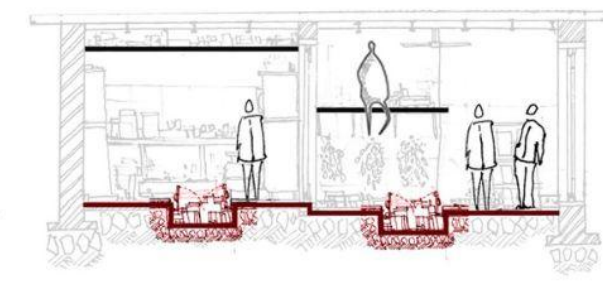
⑤ Folding walls



⑥ Facade mesh

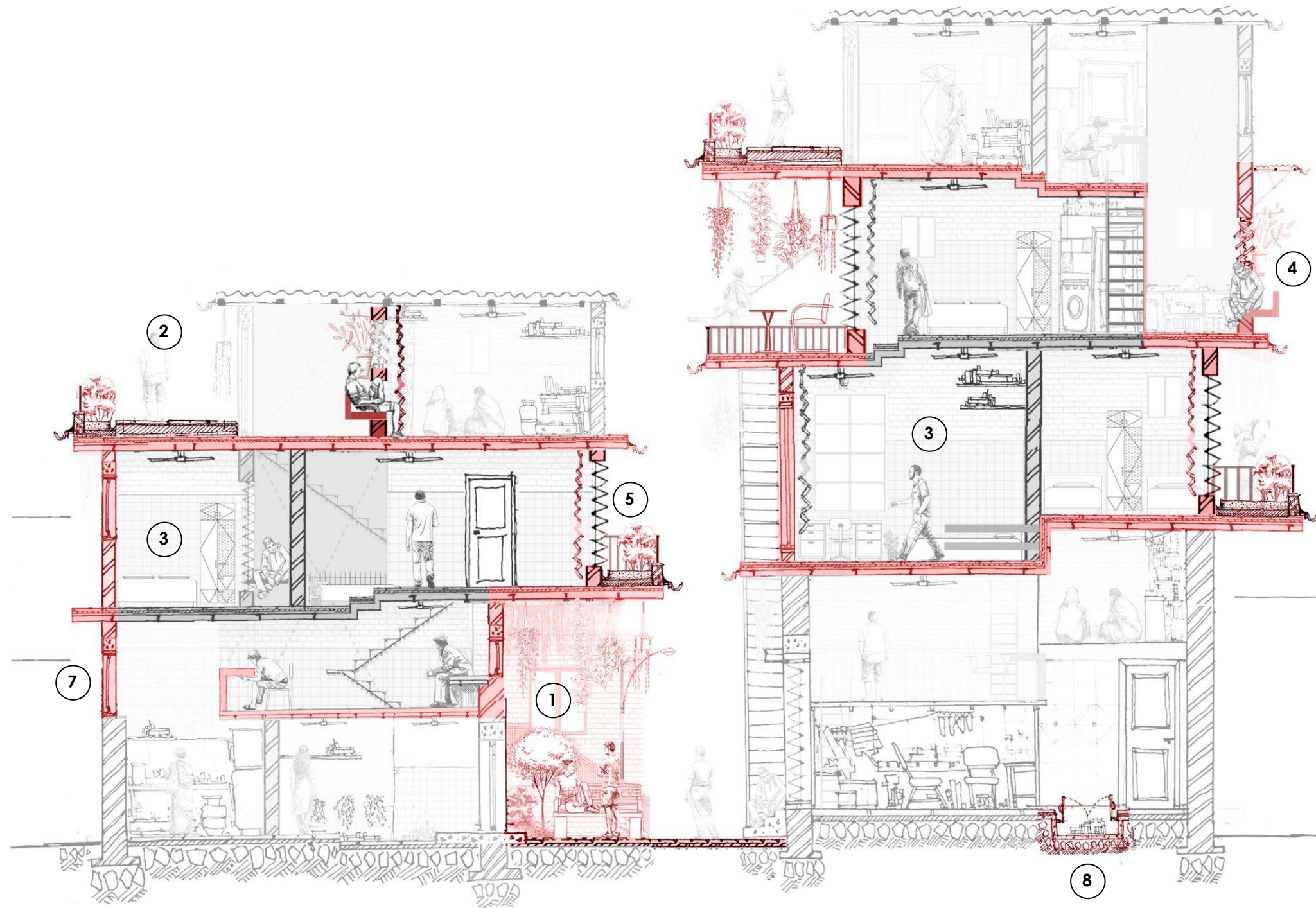


⑦ Protective dampness

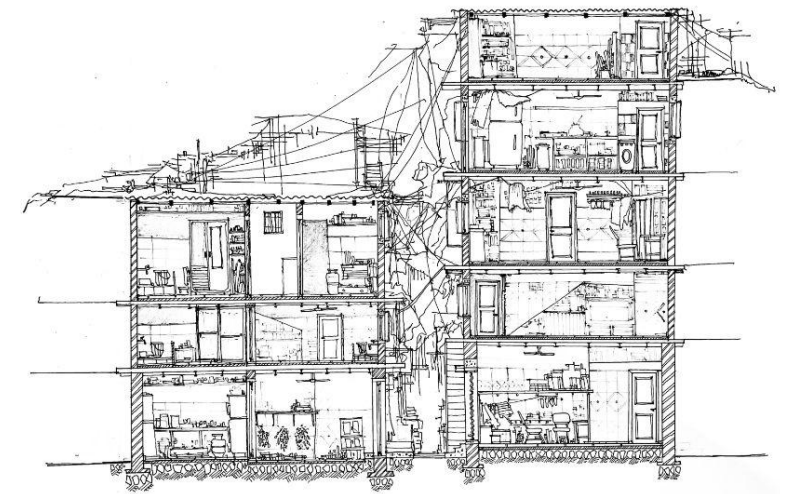


⑧ Storage underneath

- Concerns addressed:**
- Demographic Shifts
 - Poor Light & Ventilation
 - Poor Access
 - Poor Services
 - Congestion
 - Lack of Social Interaction



PROPOSED SECTION

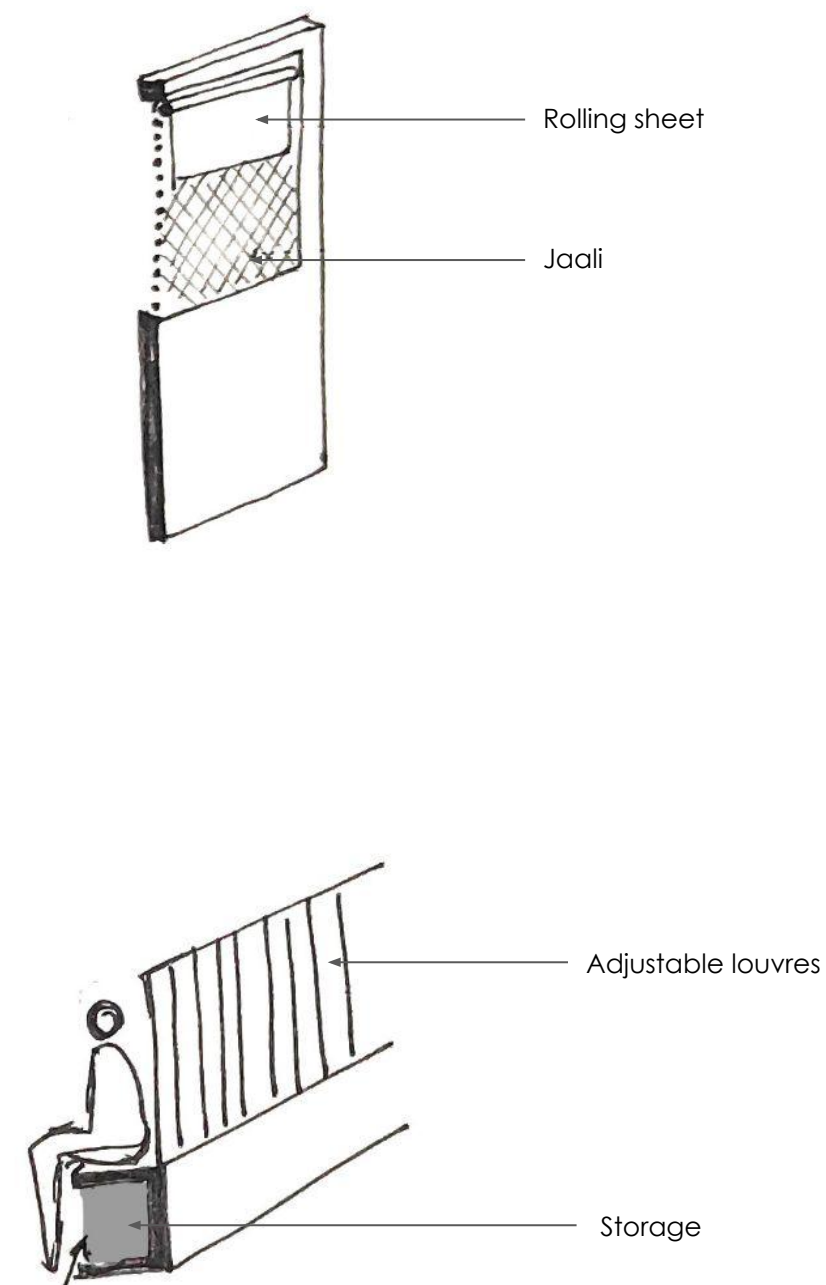
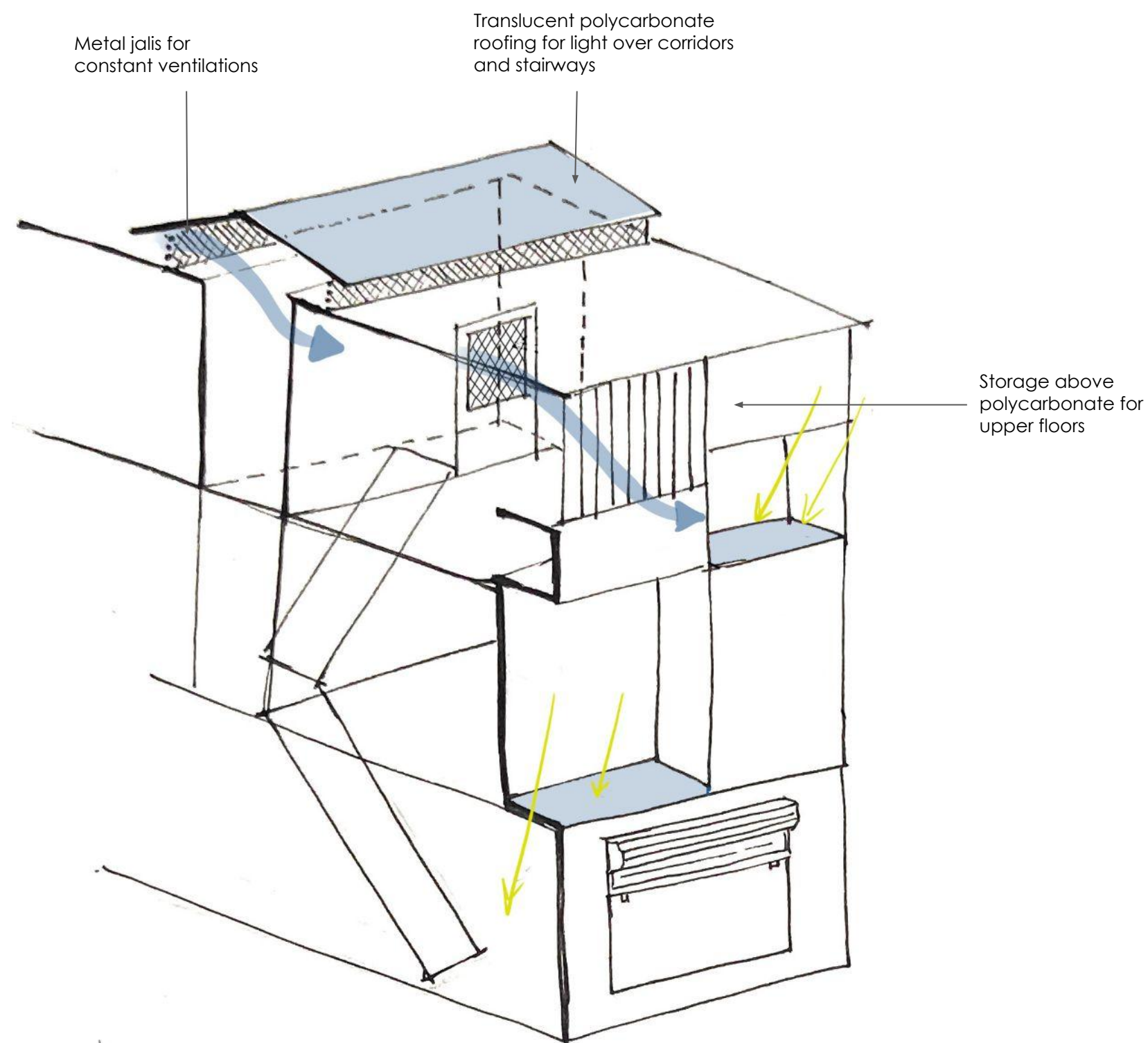


EXISTING SECTION

- ① Niches on the street
- ② Shifting the ground above
- ③ The growing family
- ④ Transformable openings
- ⑤ Folding walls
- ⑥ Facade mesh
- ⑦ Protective dampness
- ⑧ Storage underneath



Small-small spatial devices integrate themselves to the existing structure to improve living conditions.



Creating a system of voids to upgrade the living habitation

- Concerns addressed:**
- Lack of social space
 - Lack of light and ventilation
 - Poor services
 - Poor accessibility



PROPOSED FIRST FLOOR PLAN

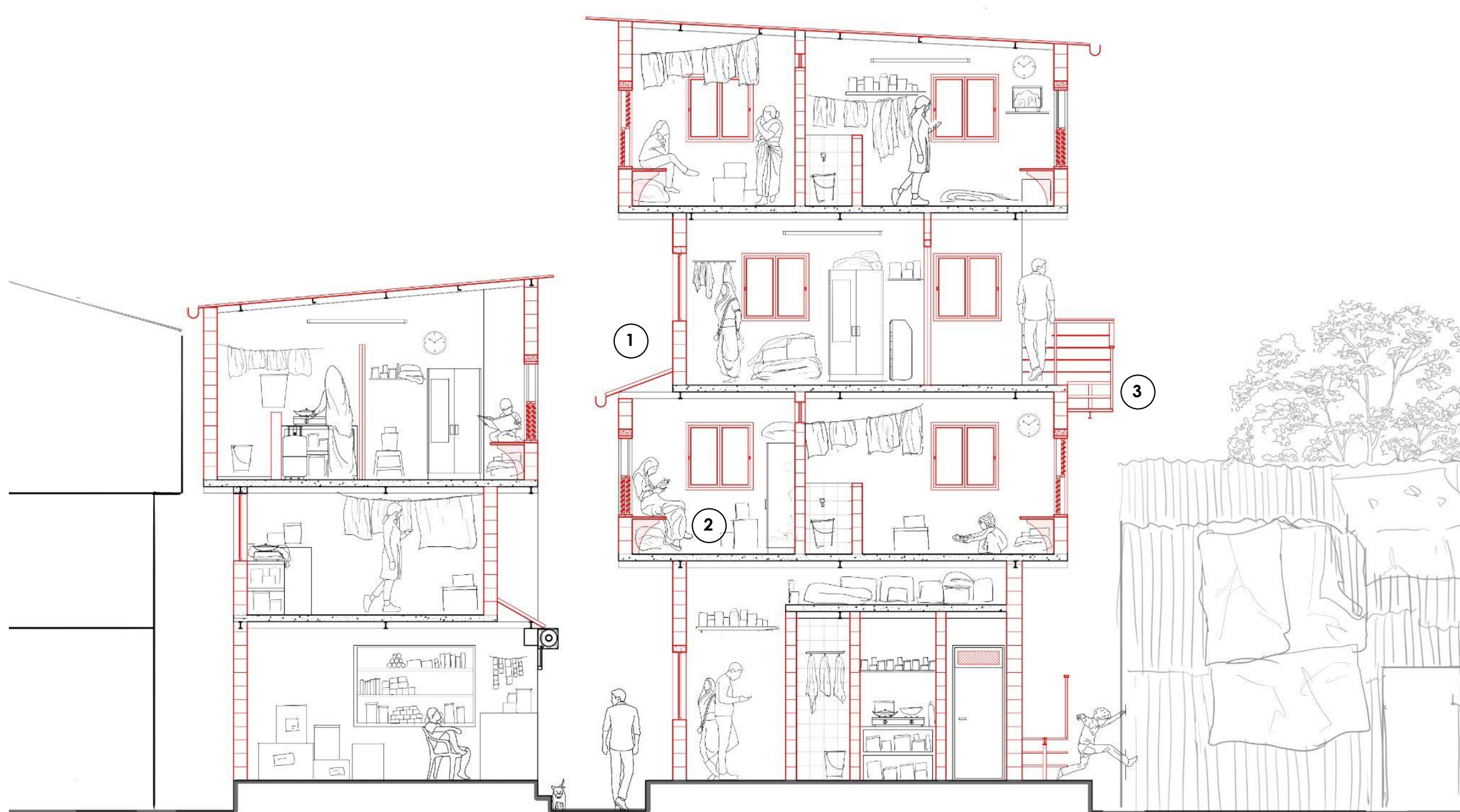
The internal wall layouts are reconfigured to facilitate thorough ventilation and efficient plumbing for mories. Provision of external staircases with better lighting conditions and ease of access.



EXISTING FIRST FLOOR PLAN

- ① Reconfiguring mories together.
- ② Windows near kitchen platforms.
- ③ Sliding doors for flexible partitions.





PROPOSED SECTION

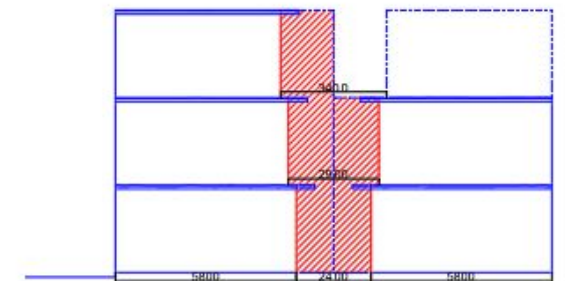
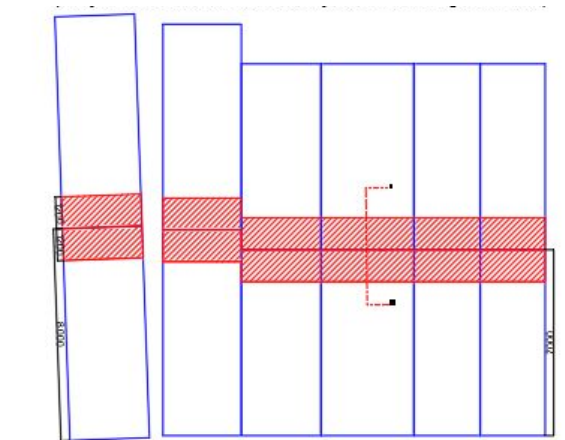
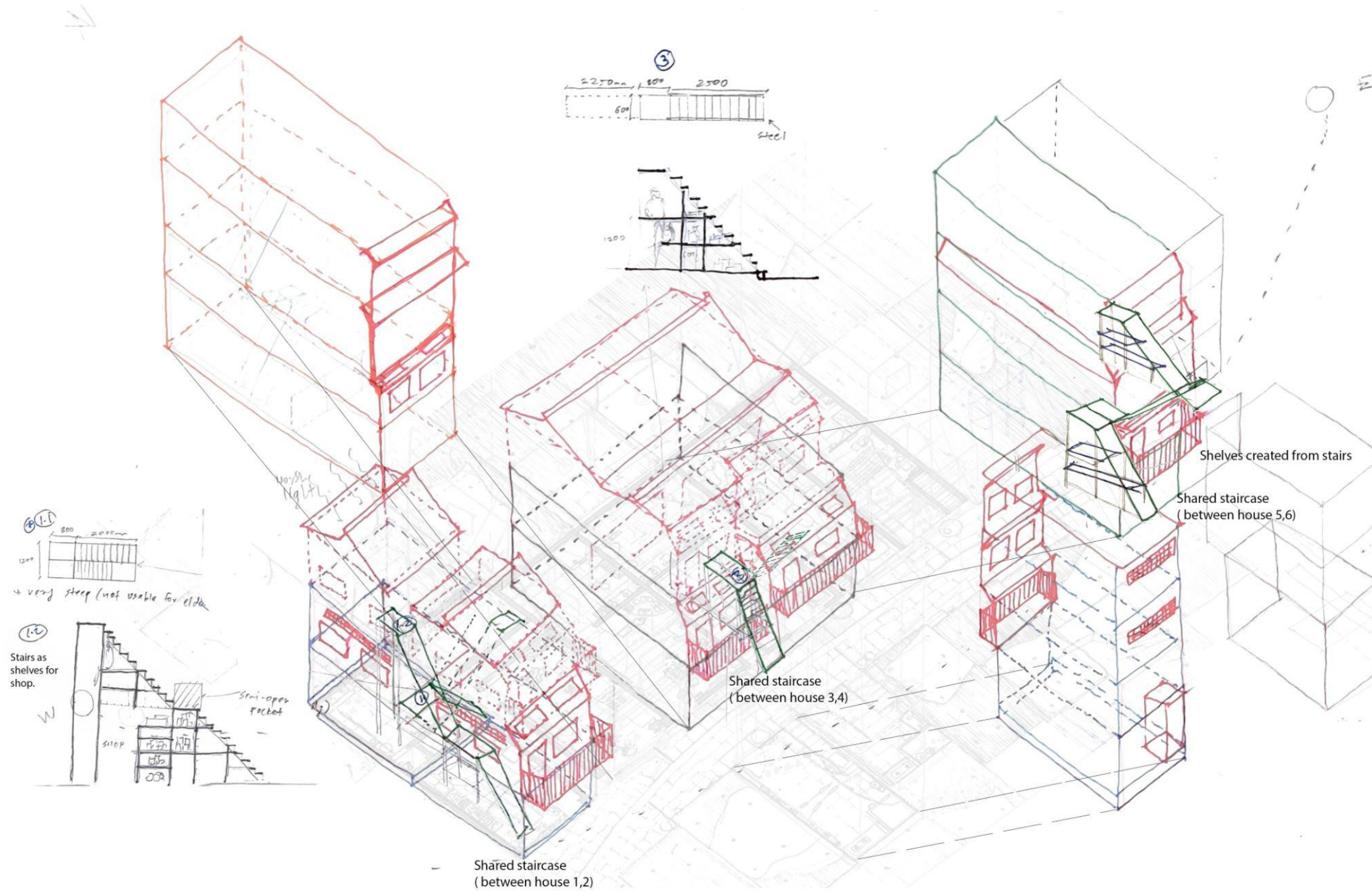
Modulating external walls allowing more light to reach lower floors. The polycarbonate roof introduces natural light into the interiors. Whereas windows serve multifunctional purpose.



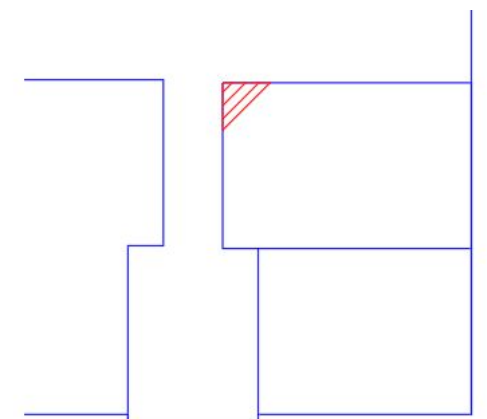
EXISTING SECTION

- 1 Providing polycarbonate to improve light conditions.
- 2 Window as a function of storage and interaction along with light and ventilation.
- 3 Improving Staircase accessibility





SECTION AA



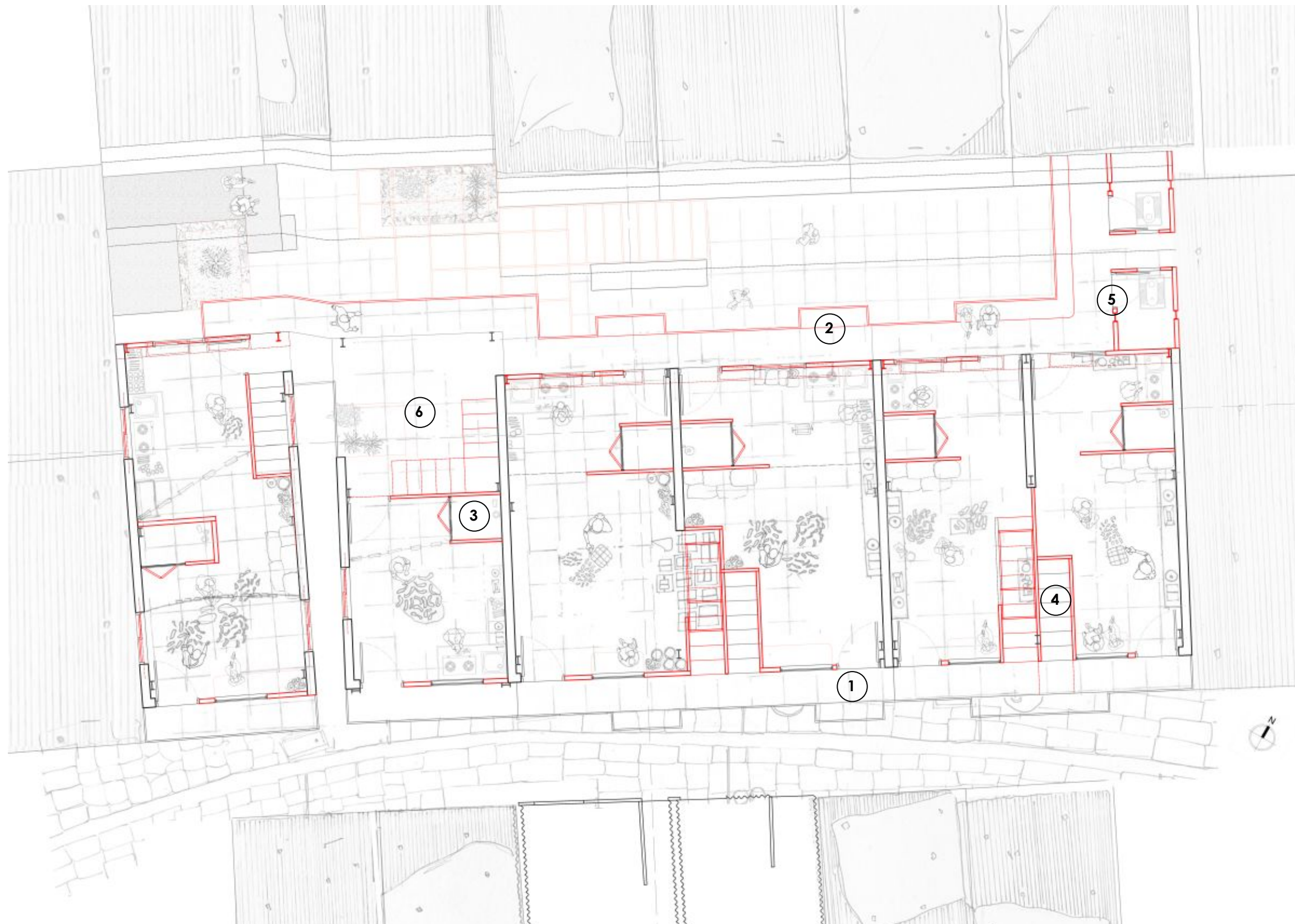
Creating backyards and common public spaces.

Looking at how stairs can become shared and more accessible but also a public space for kids to play and also becomes an extension to storage space for house.

Giving cutouts will create pocket balconies and skylights and windows and gather light from north and south directions. Having shared balconies will help create a social space for among the community to gather.

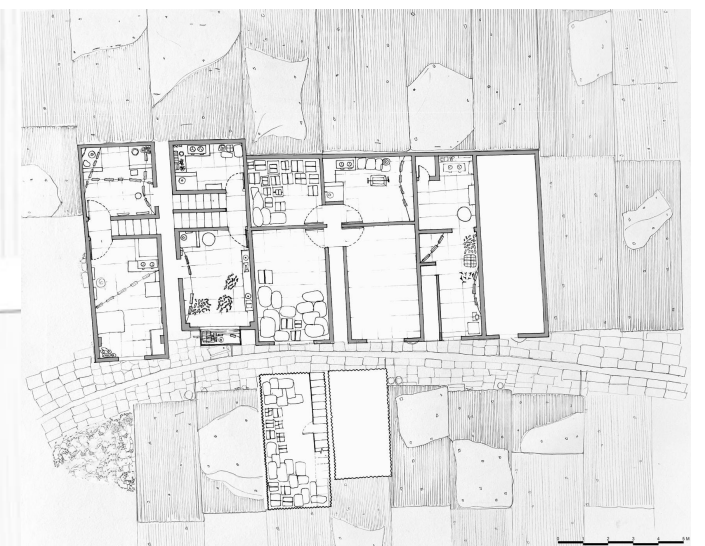
Concerns addressed:

- Demographic shifts
- Lack of social space
- Livelihood shifts
- Lack of light and ventilation
- Poor services
- Poor accessibility



PROPOSED SECOND FLOOR PLAN

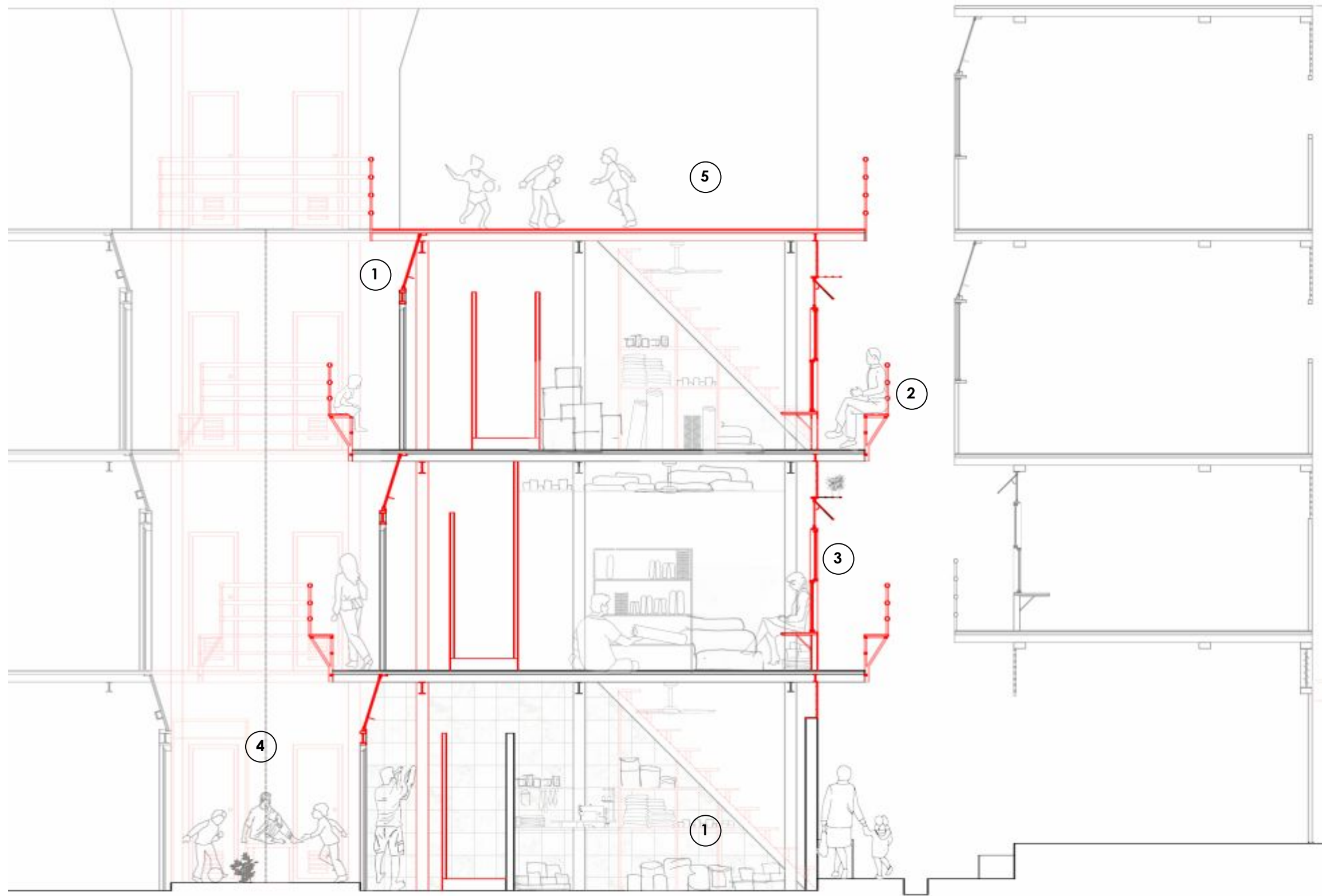
Pockets of terraces and social spaces are created along balconies. Storage spaces are also created beneath the shared staircases. Public toilets are given towards the end of balconies.



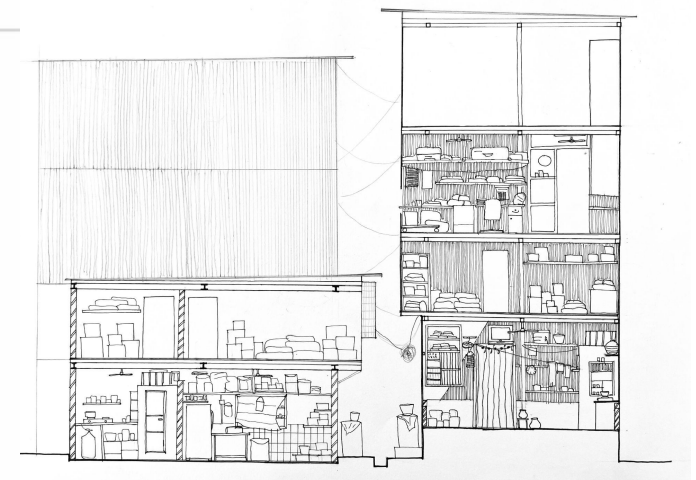
EXISTING FIRST FLOOR PLAN

- ① Balconies
- ② Pocket seating spaces
- ③ Covered mori addition
- ④ Shared staircase
- ⑤ Public toilet
- ⑥ Pocket terrace





PROPOSED SECTION



EXISTING SECTION

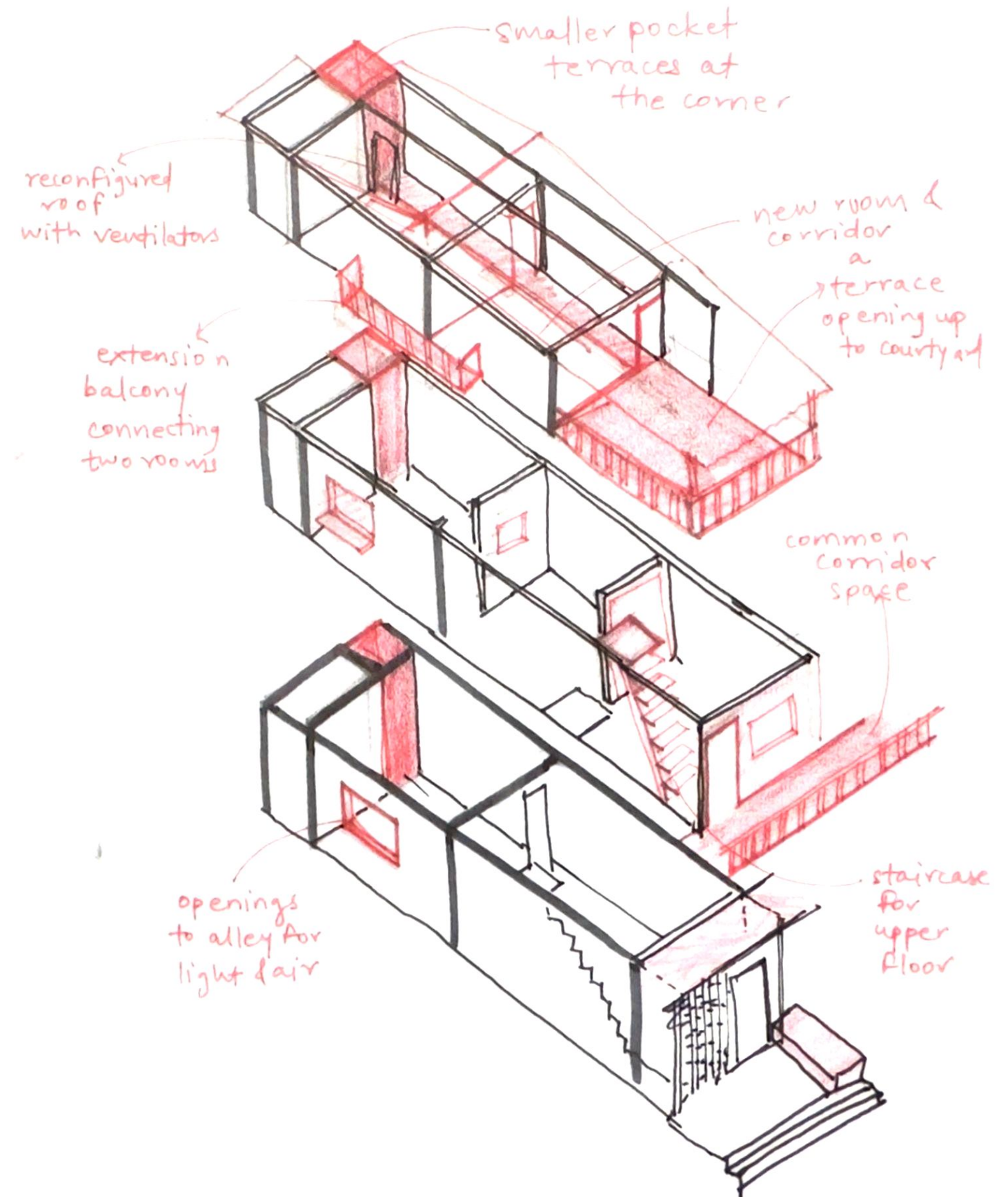
- ① Sky light
- ② Pocket seating spaces
- ③ Modulation of skin for ventilation
- ④ Backyard space
- ⑤ Terrace
- ⑥ Storage spaces below staircase

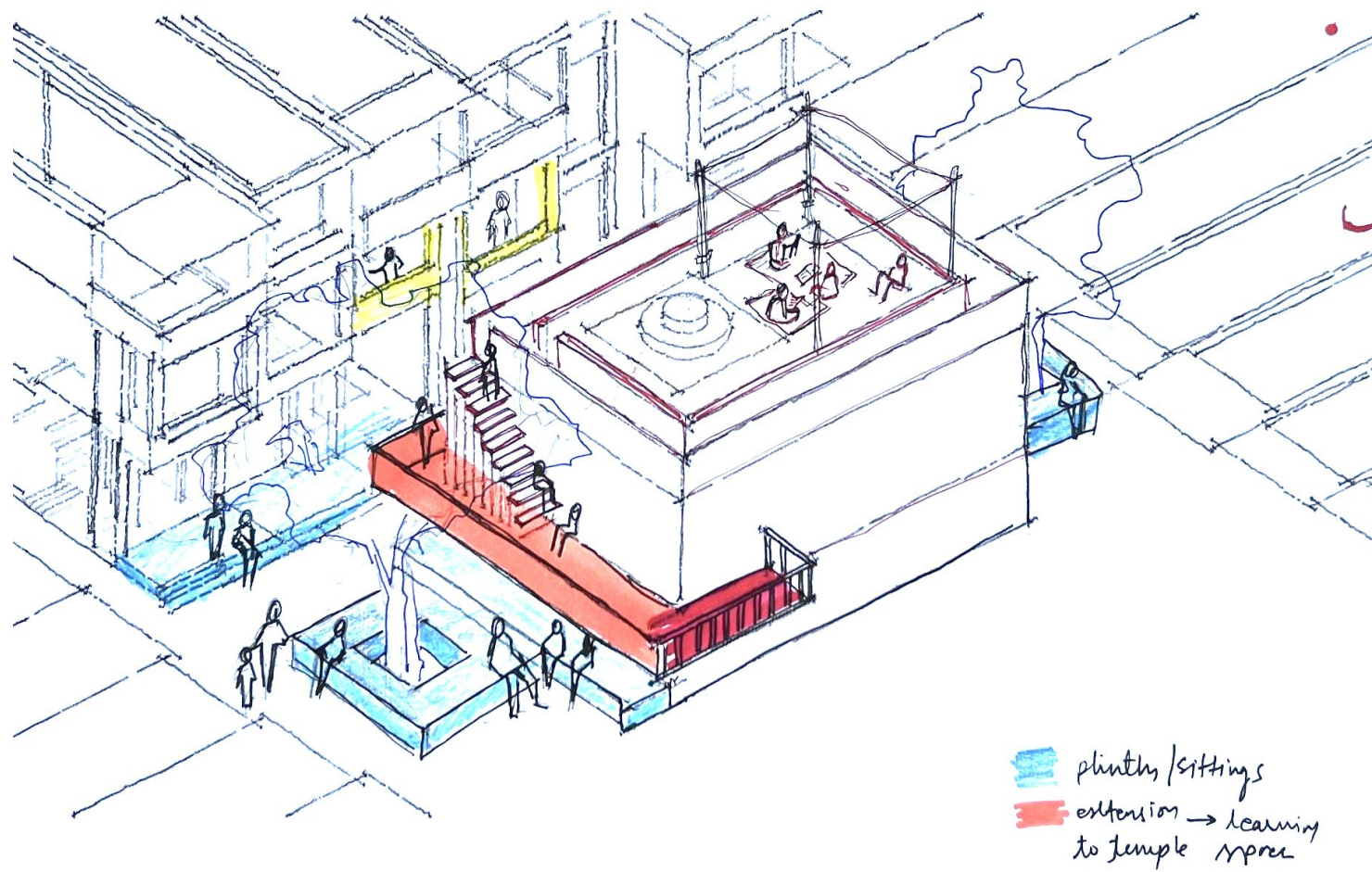


Sitting spaces are being created on the railing of the balconies. The backyards become open spaces for the old people and kids to play. Box grills are given which allows the hot air to flow out.

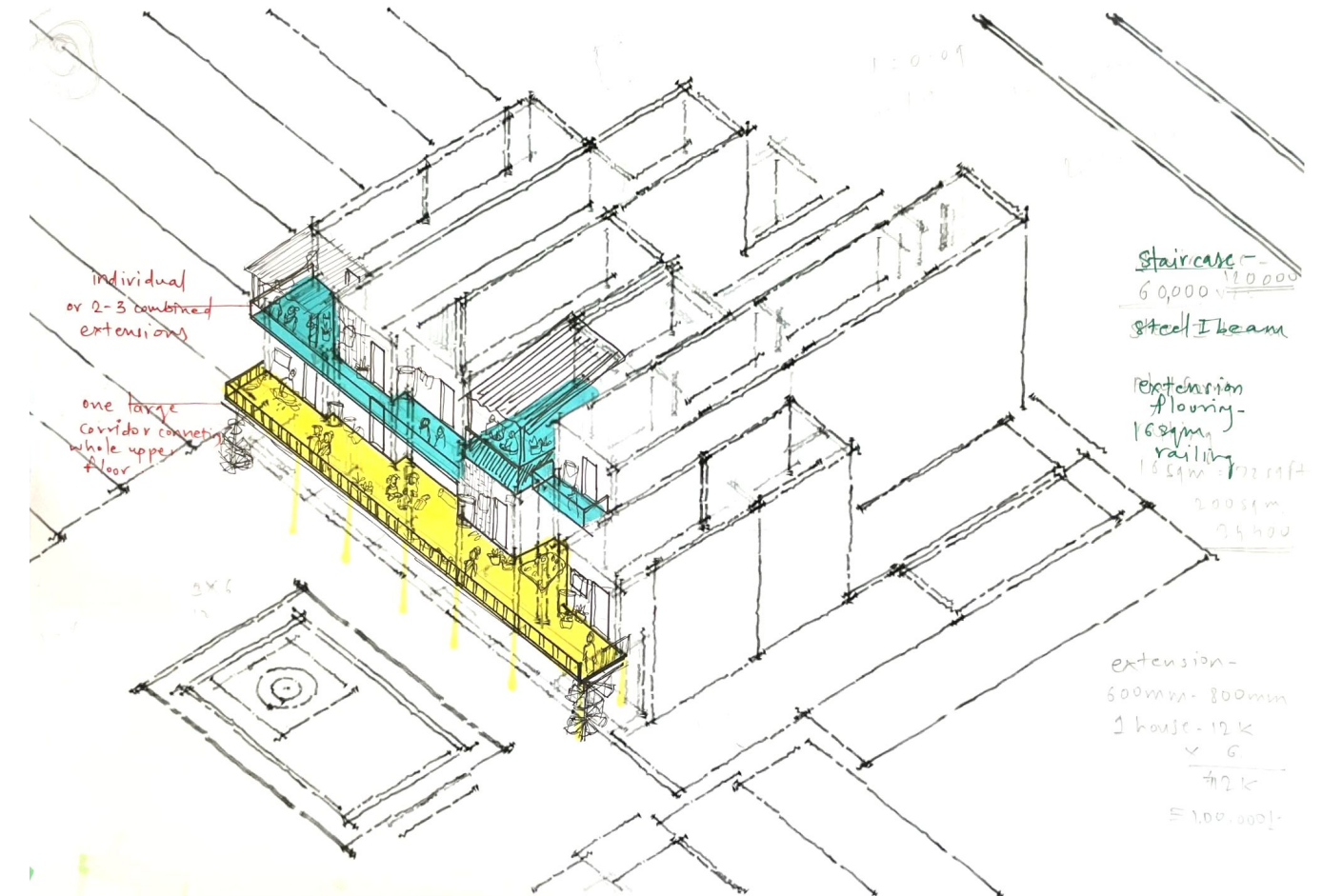
Extensions

An extension refers to the addition of new space to an existing building or structure. Essentially, it involves adding an additional room or making existing rooms larger, by adding certain elements like balconies or corridors in such cases while keeping them at the same ground level. This can be achieved through various methods such as annexing a new area or renovating existing spaces to accommodate the desired expansion. In the context of Thakkar Bappa extending floors or internal spaces is an efficient method which can be used. Extensions are usually a method through which a space can be extended without relocating the existing space. The purpose of extension can be used to create more living space, open out spaces to public, providing storage space etc. It can create also incorporate entities more than human like plants and ecosystems, which in turn can attract other birds, living organisms to inhabit the similar space.





External corridor for all the houses on upper floors connected to the temple by a common staircase.



- Concerns addressed:**
- Demographic shifts
 - Livelihood Shifts
 - Lack of social space
 - Lack of light and ventilation
 - Poor accessibility

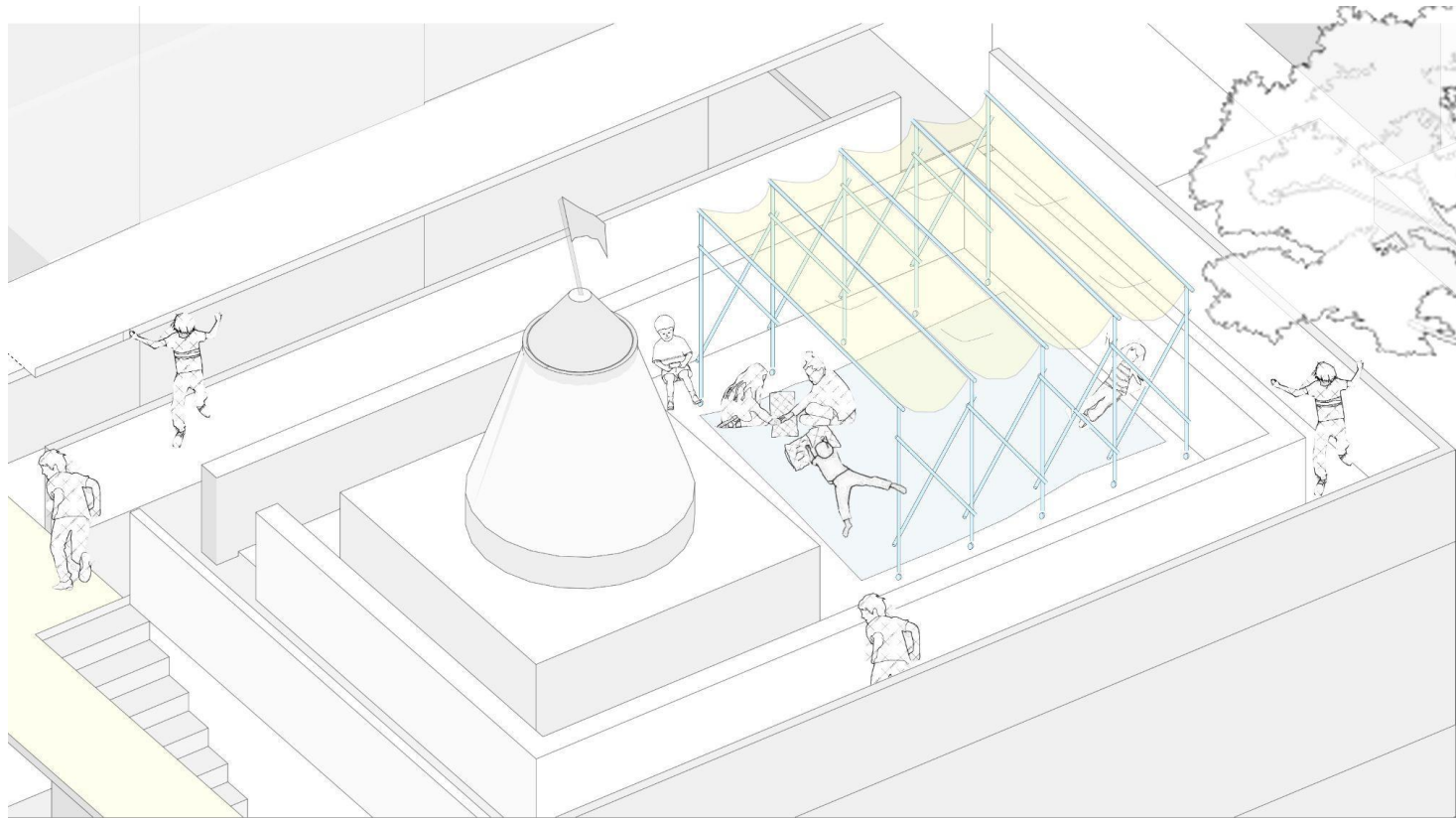


- ① Retractable structure
- ② Light well
- ③ Shared courtyard
- ④ Common circulation
- ⑤ Toilets

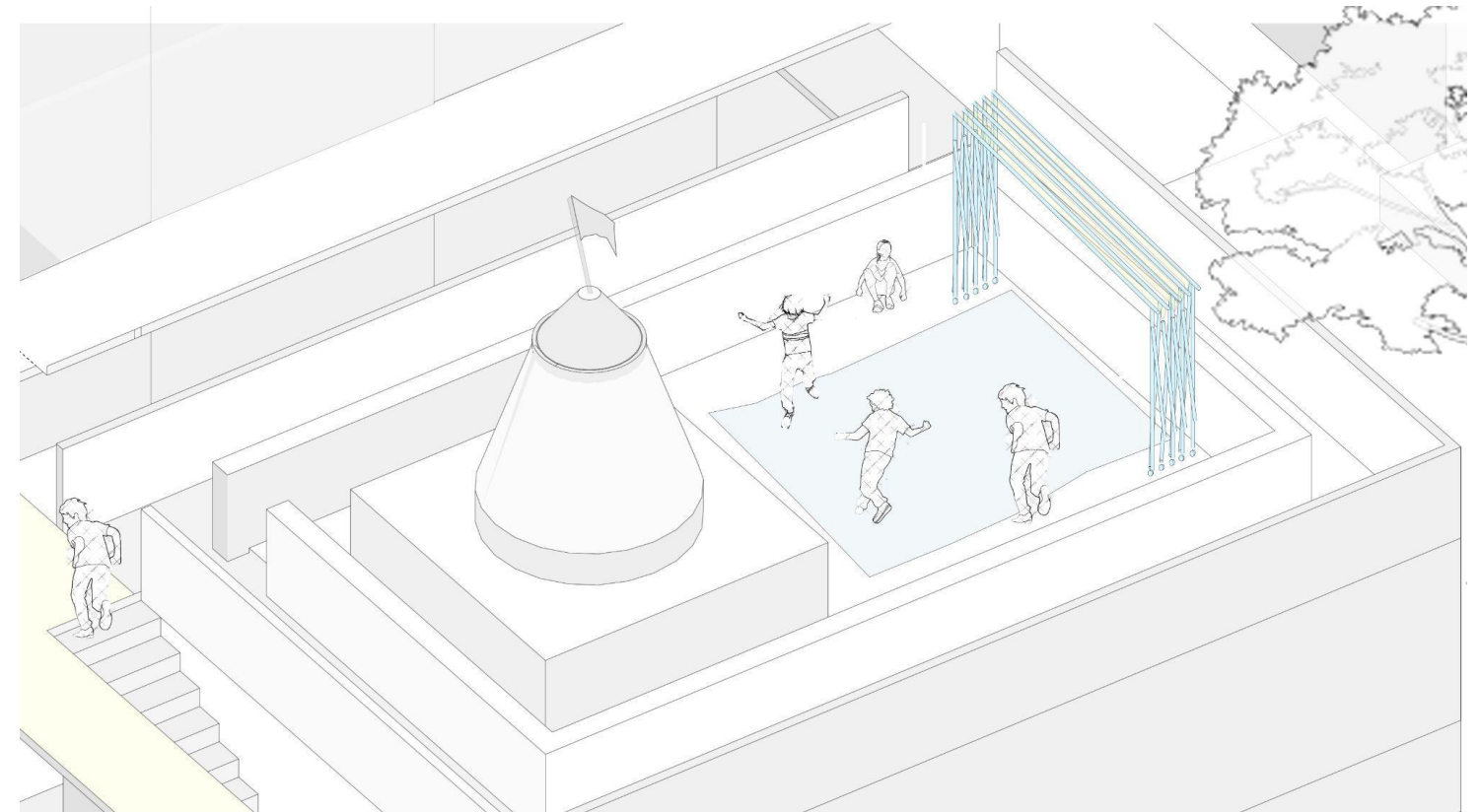
A shared courtyard space at the centre of the houses.

Concerns addressed:

- Demographic shifts
- Livelihood Shifts
- Lack of social space
- Lack of light and ventilation
- Poor accessibility

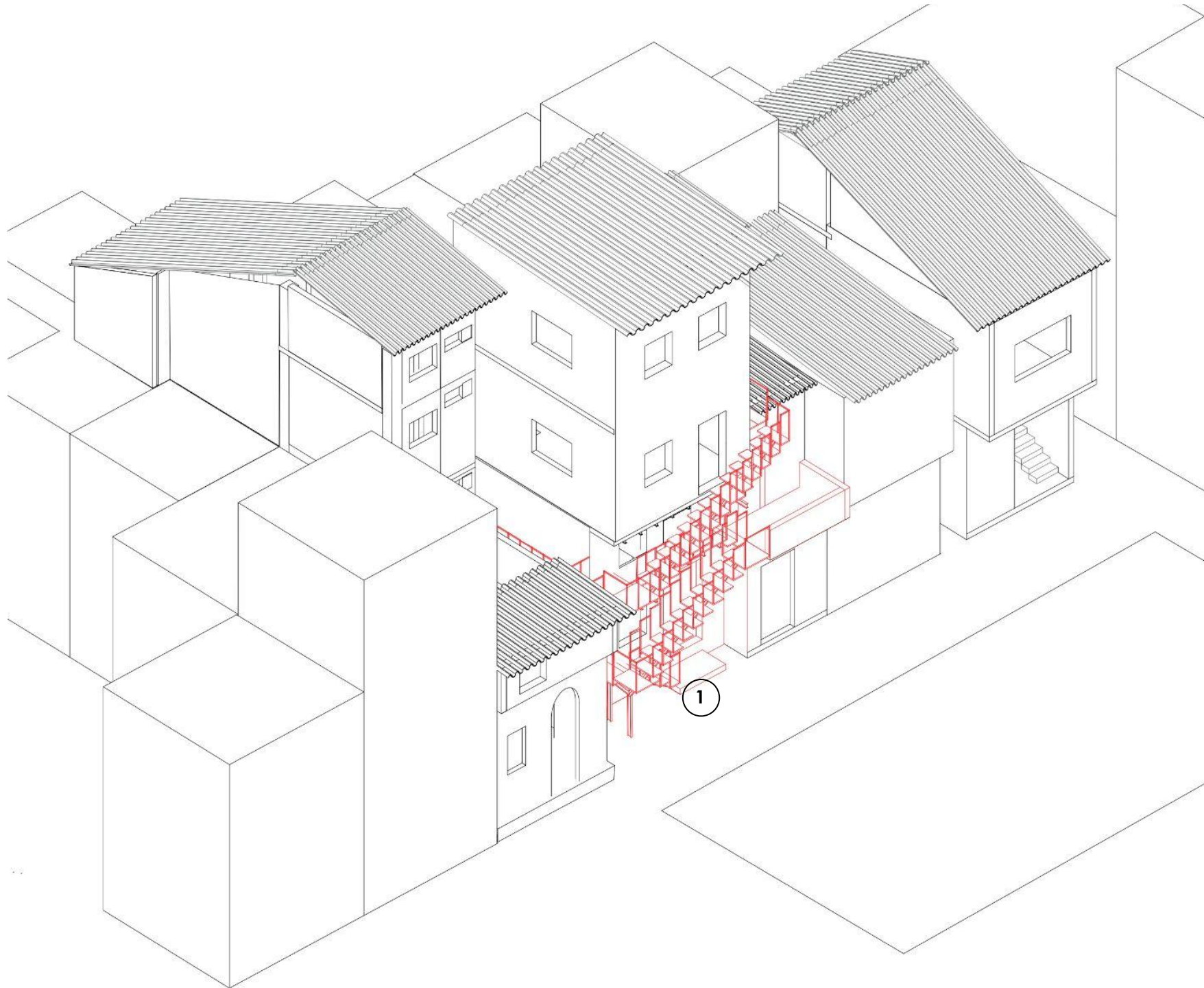


Expanded

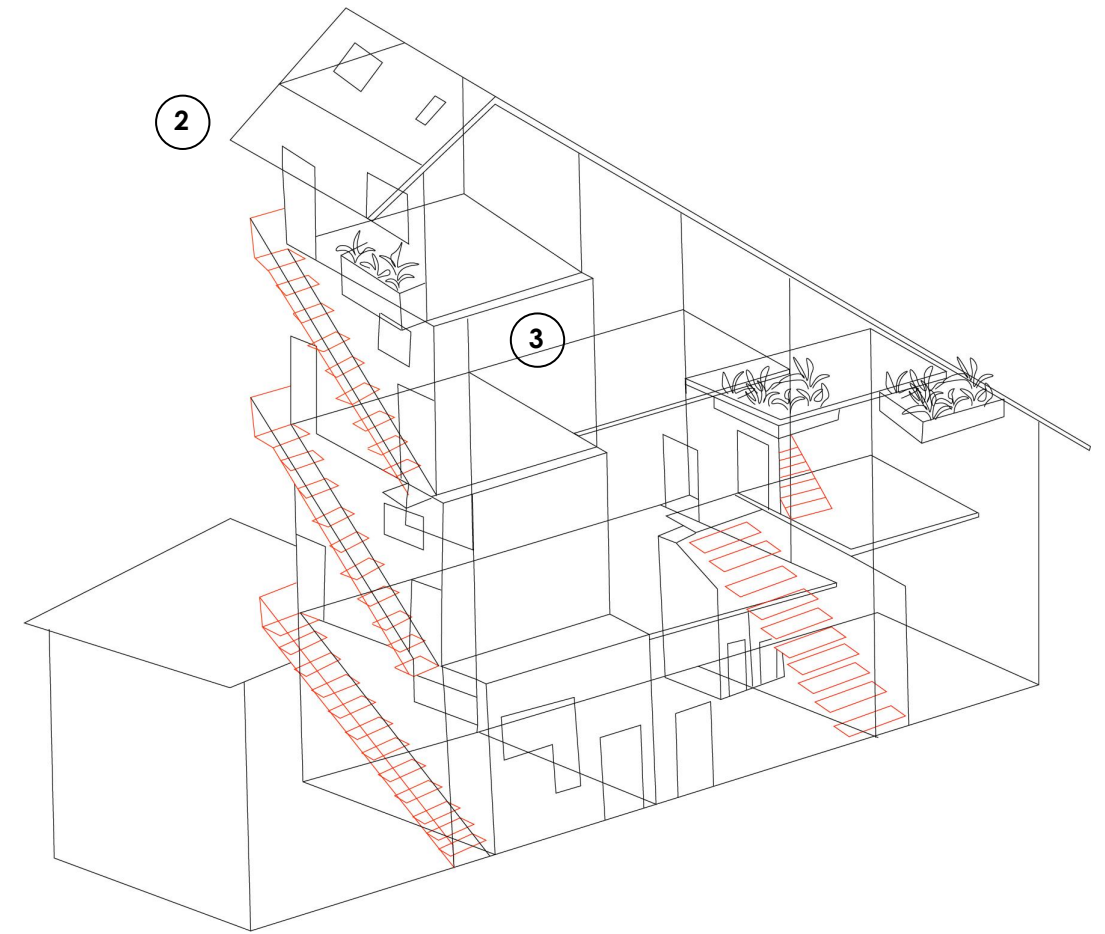


Contracted

A community infrastructure which provides an interactive space to the children to play and learn.



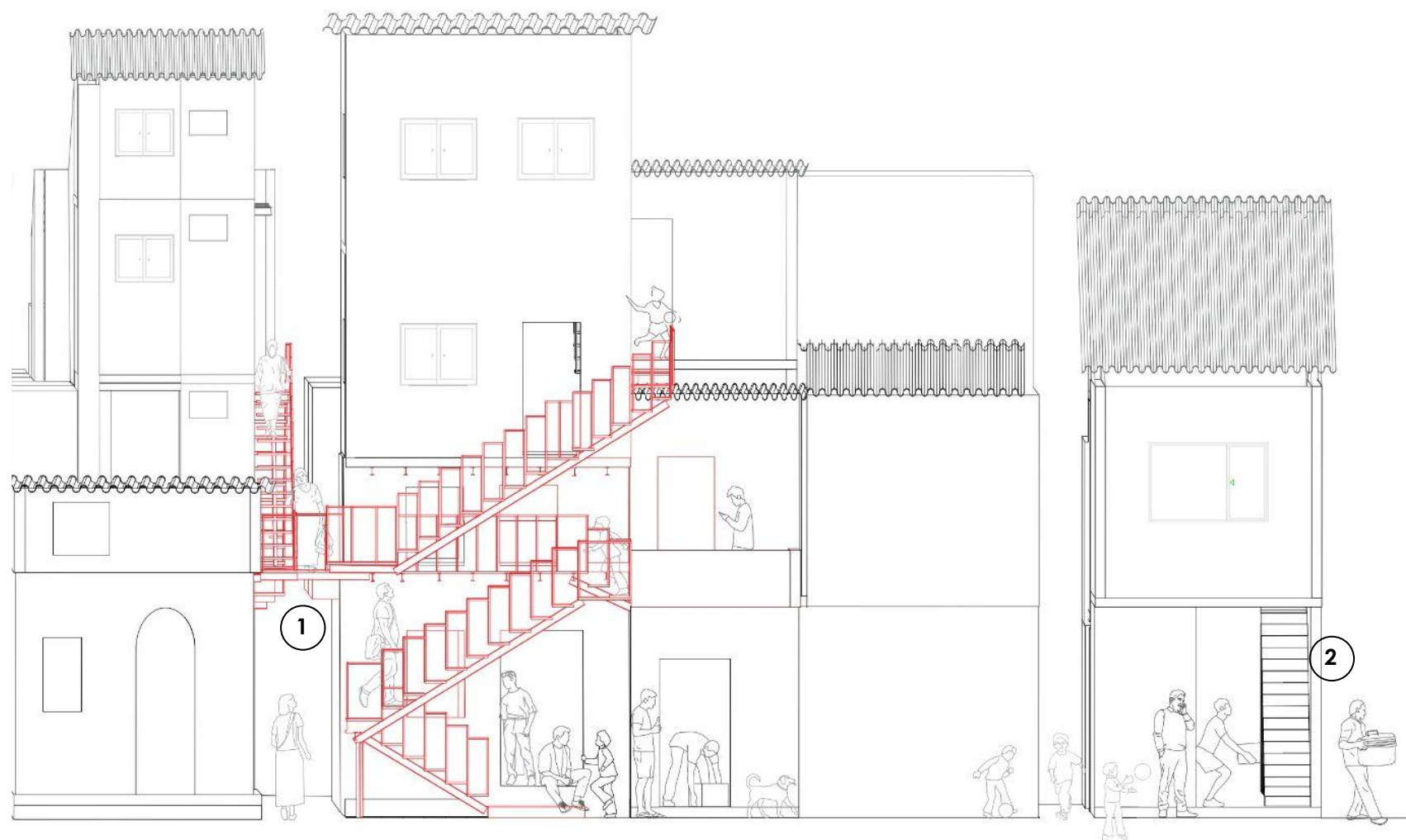
Changing roof heights allows better light and ventilation.



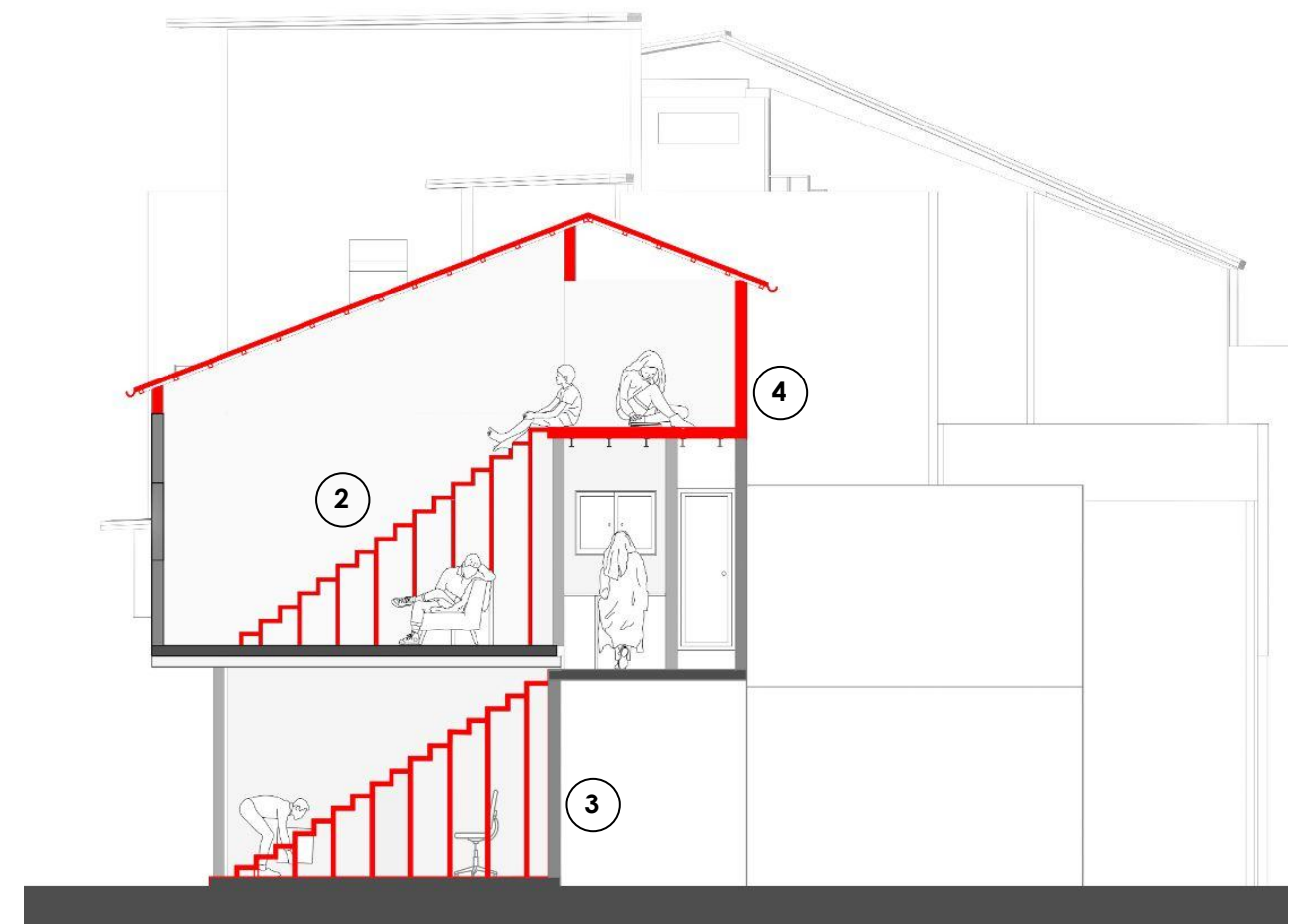
- ① External staircase
- ② Modulated roofs
- ③ Staggering floor slabs

Concerns addressed:

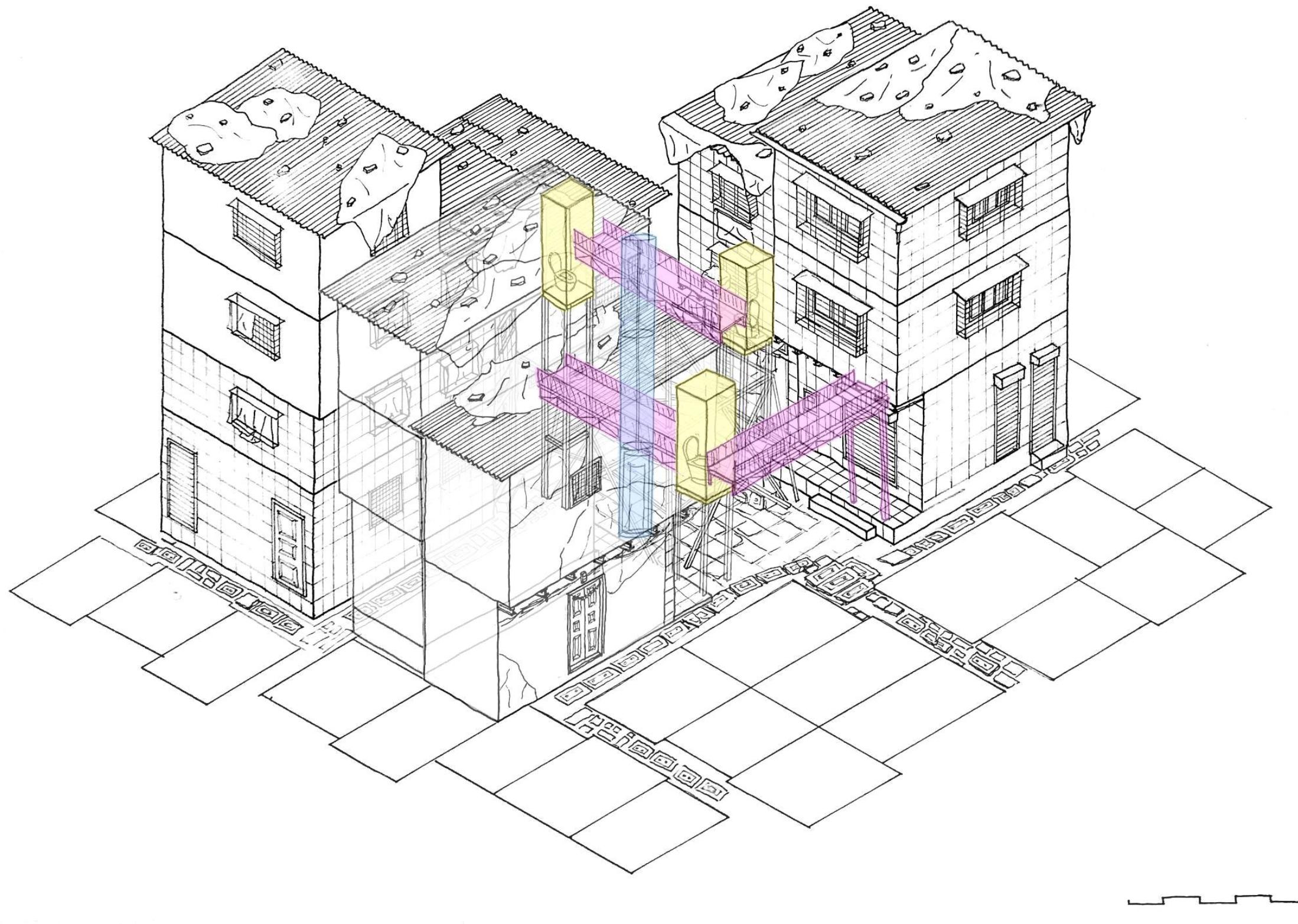
- Demographic shifts
- Livelihood Shifts
- Lack of social space
- Lack of light and ventilation
- Poor accessibility



External staircase act as social spaces and extension of the house.



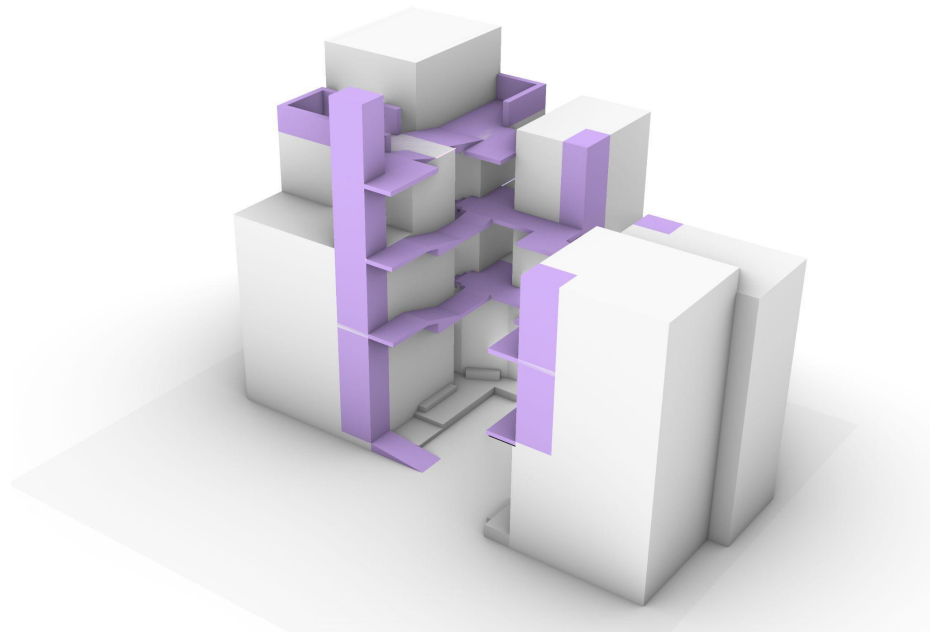
- ① External staircase
- ② Internal staircase
- ③ Storage
- ④ Mezzanine



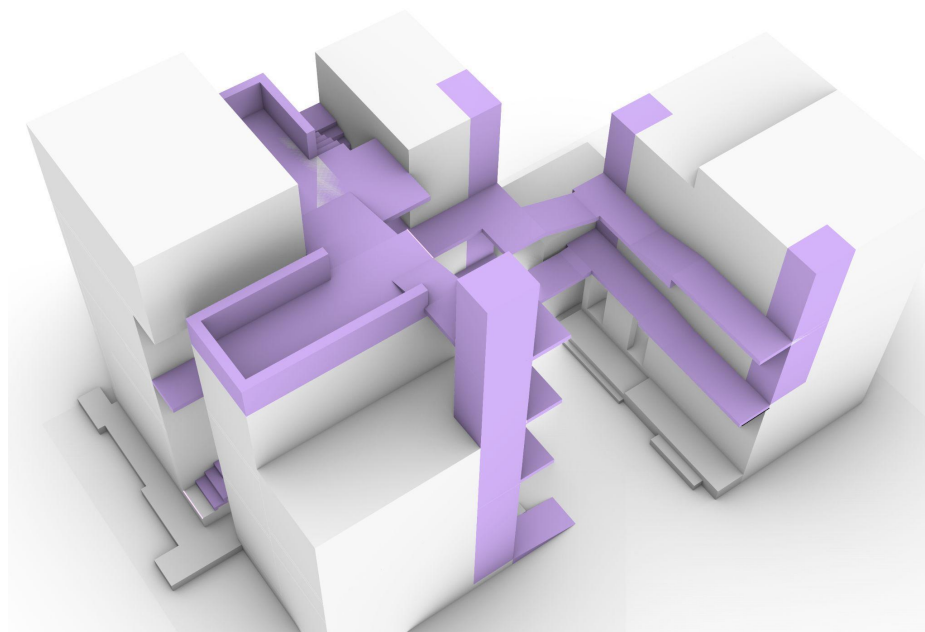
- Toilets
- Lift
- Corridors

Creating small toilet blocks with light structure, common corridor and adding elevator.

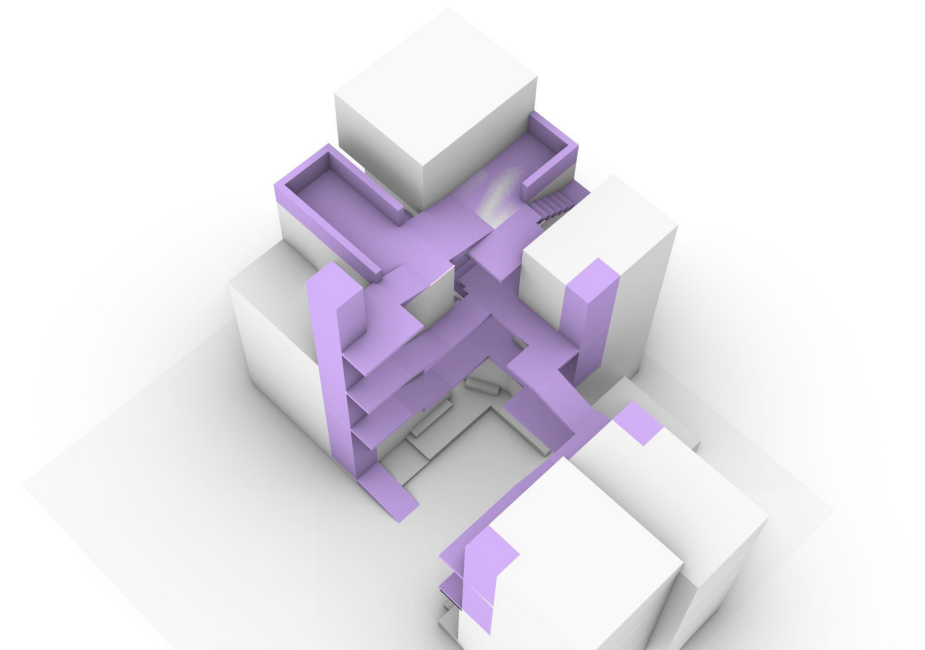
- Concerns addressed:**
- Poor services
 - Lack of social space
 - Lack of light and ventilation
 - Poor accessibility



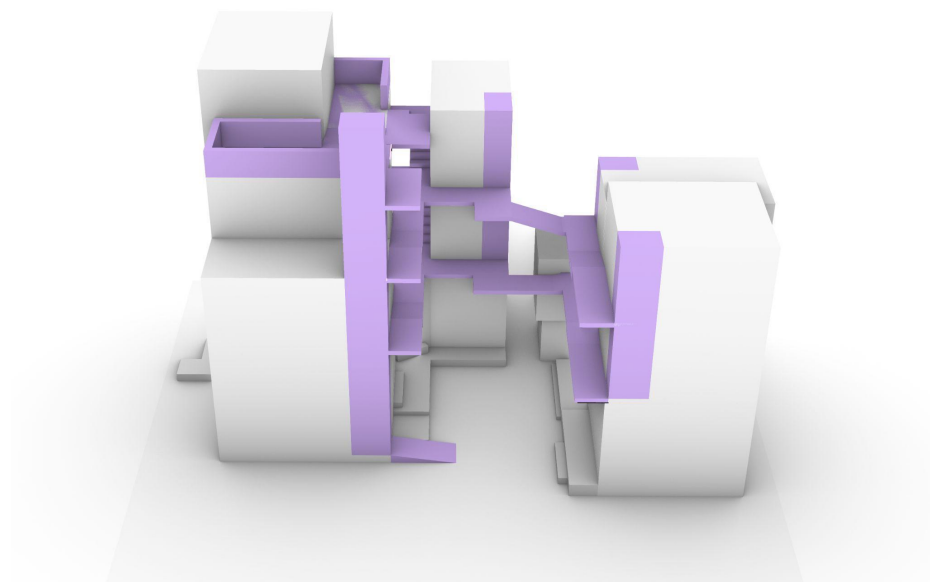
Hydraulic elevator fused within a house



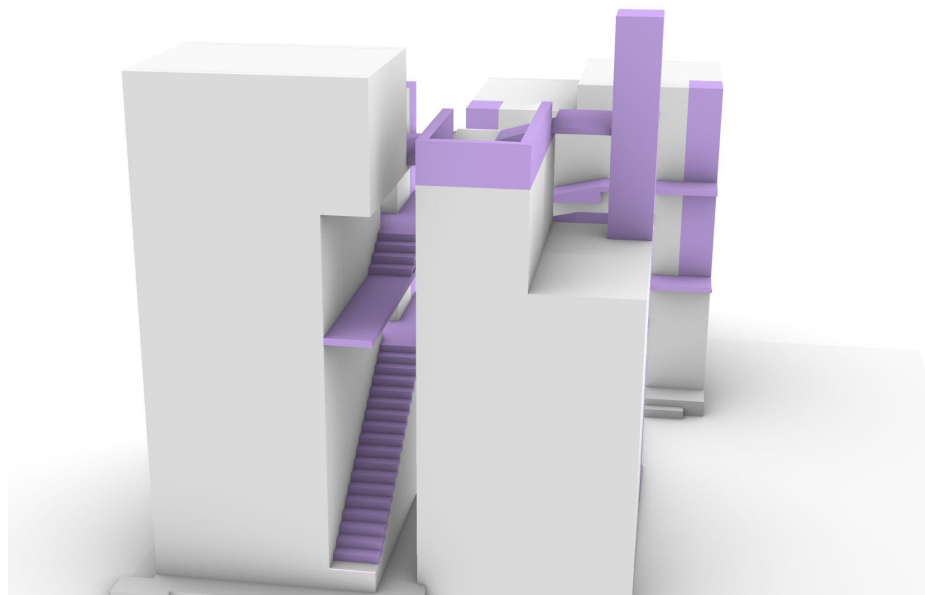
Common toilet block merged with 3 of the existing houses



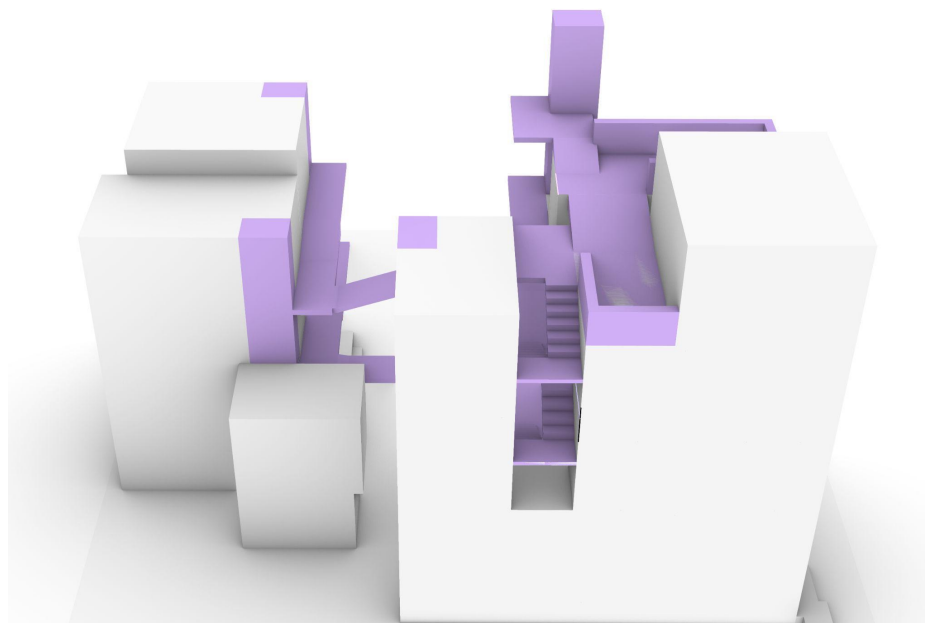
Open space introduced by adding terraces on the upper floor.



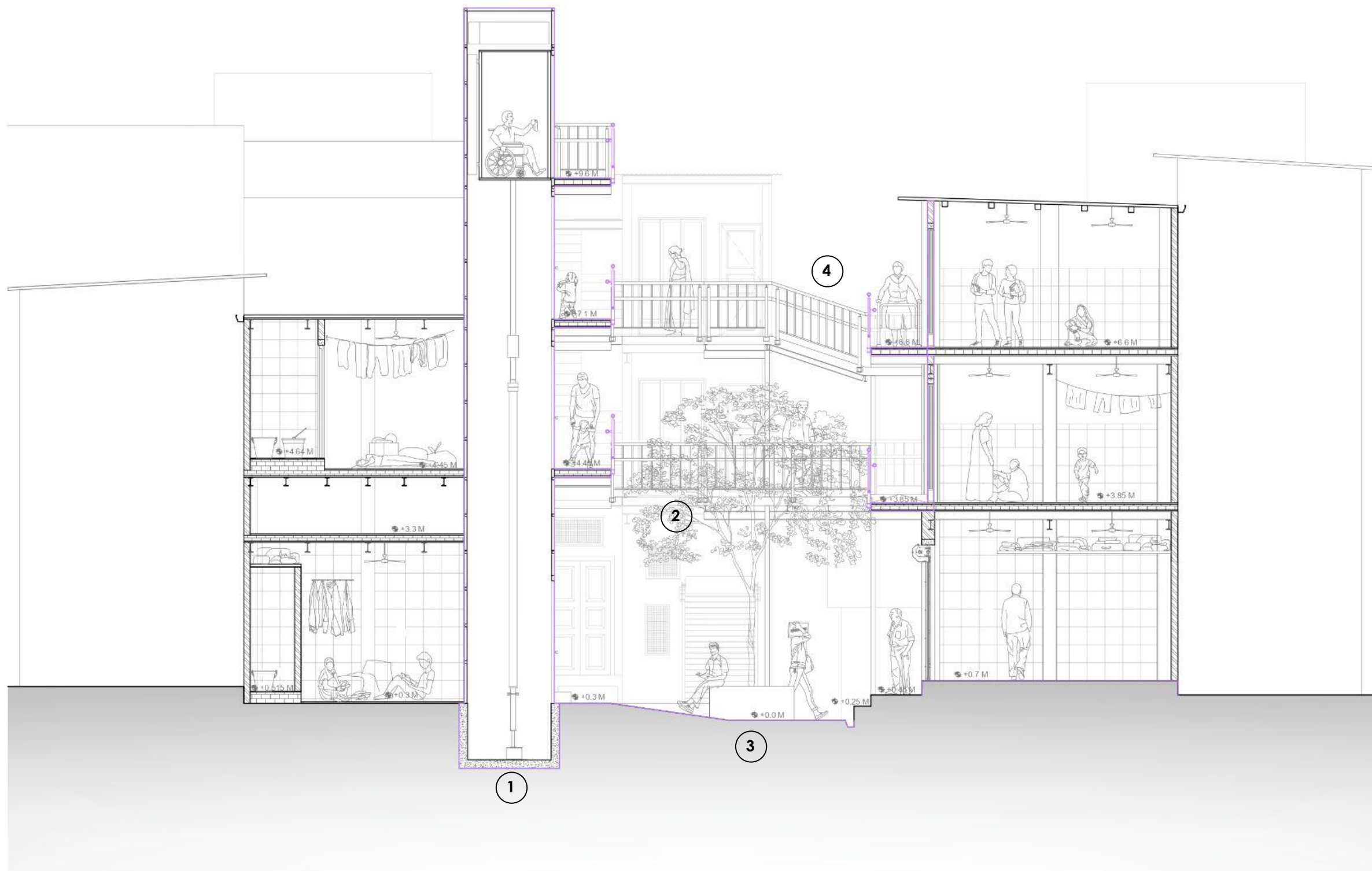
Courtyard space forming in the center with the common corridors around it.



Widening the narrow lane for better light and ventilation.



Common staircase introduced to connect the corridors.

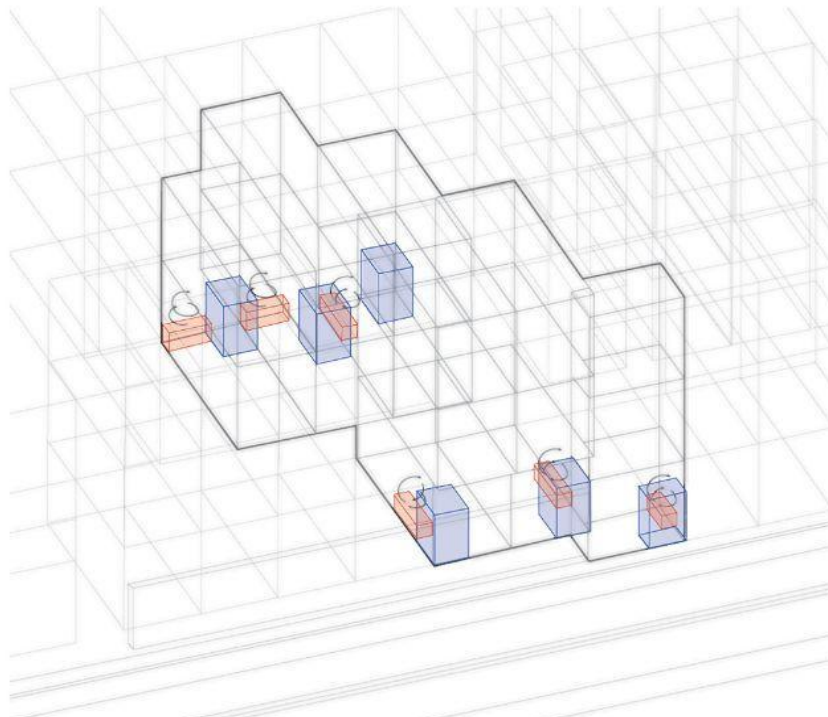


- ① Hydraulic lift
- ② Common corridor
- ③ Courtyard
- ④ Ramp

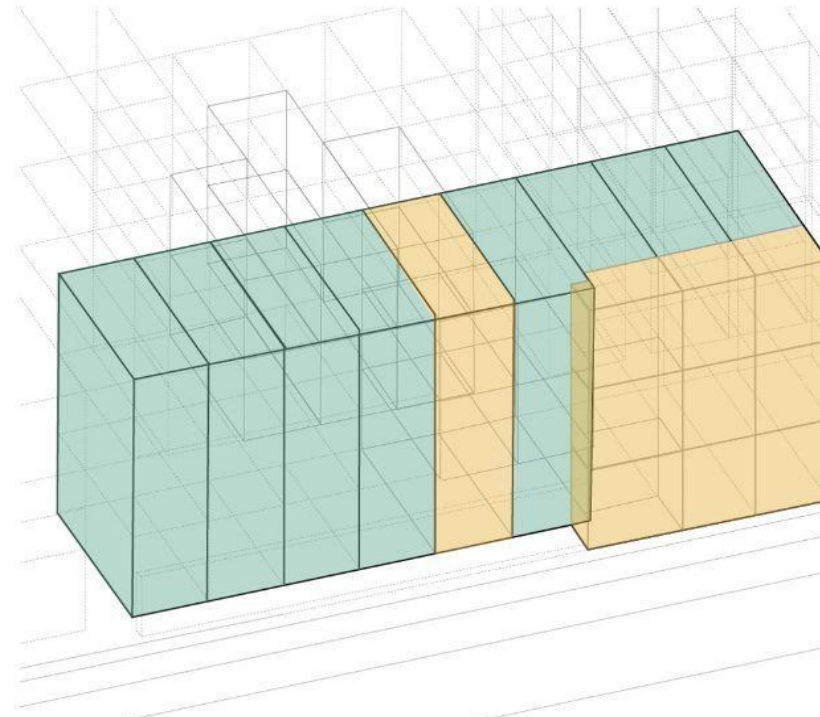
Corridor includes small slopes, ramps to connect different levels.

Concerns addressed:

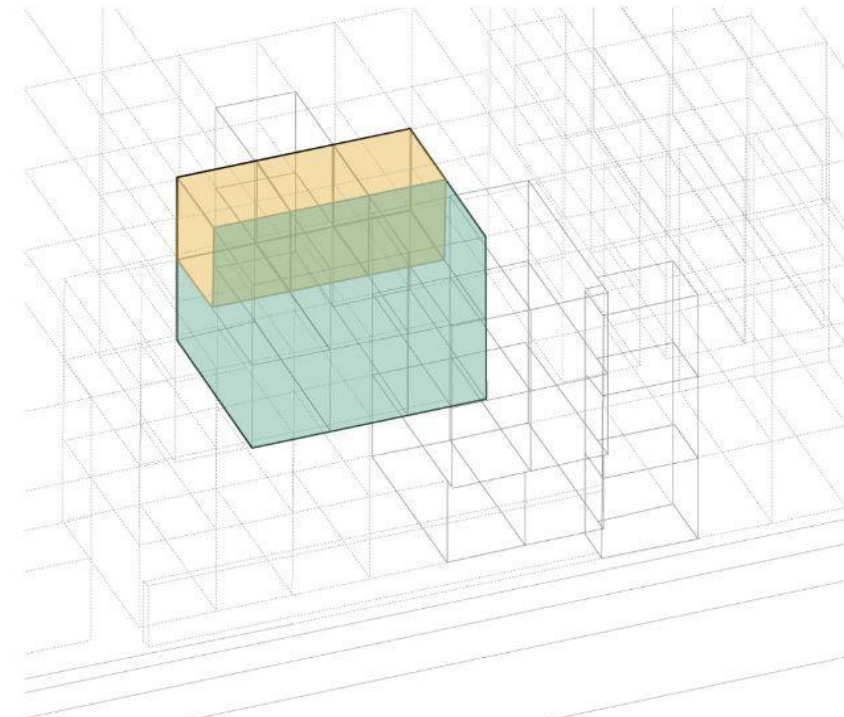
- Poor services
- Lack of social space
- Lack of light and ventilation
- Poor accessibility



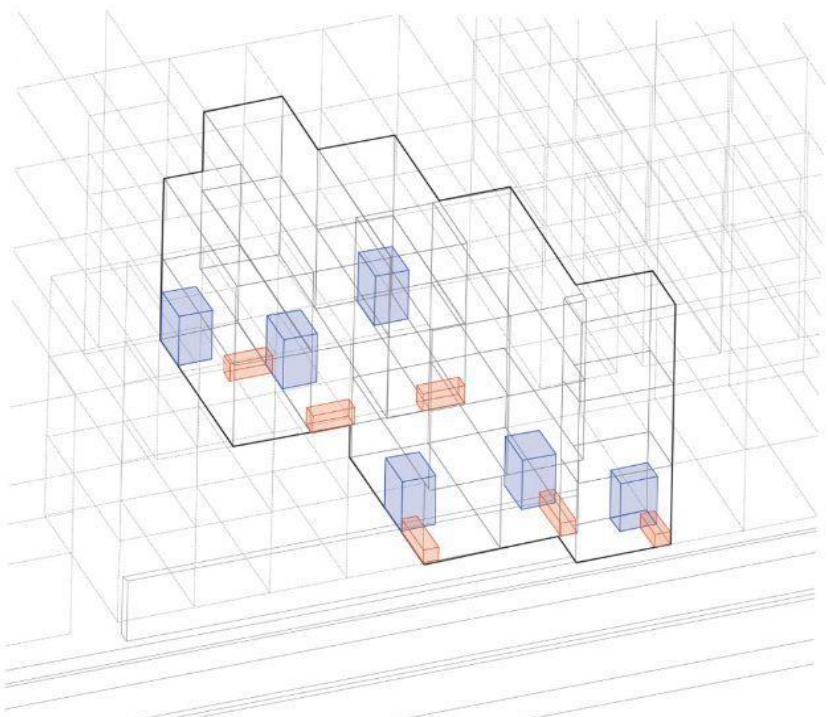
Existing kitchen and mori configuration



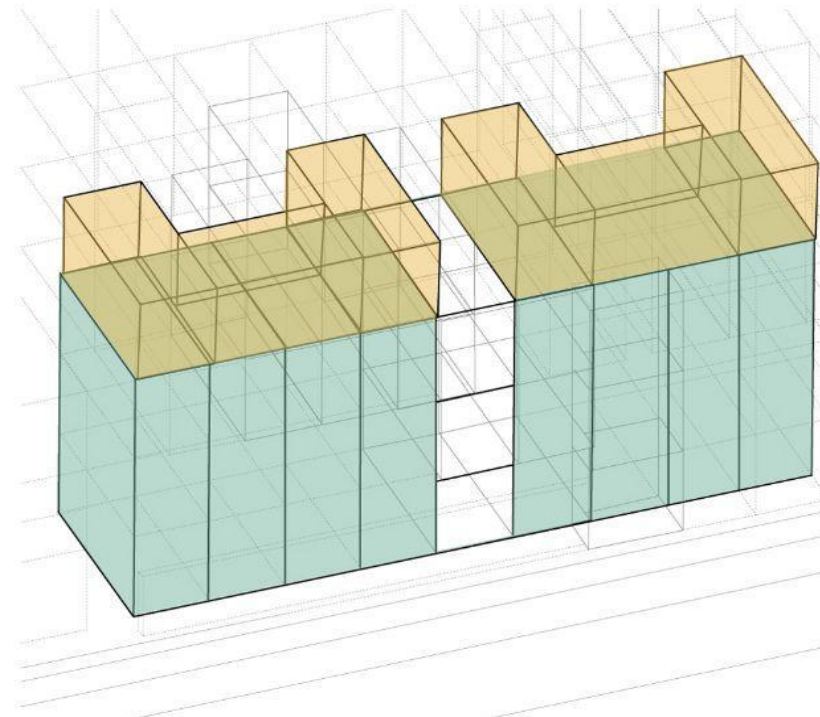
Existing house conditions



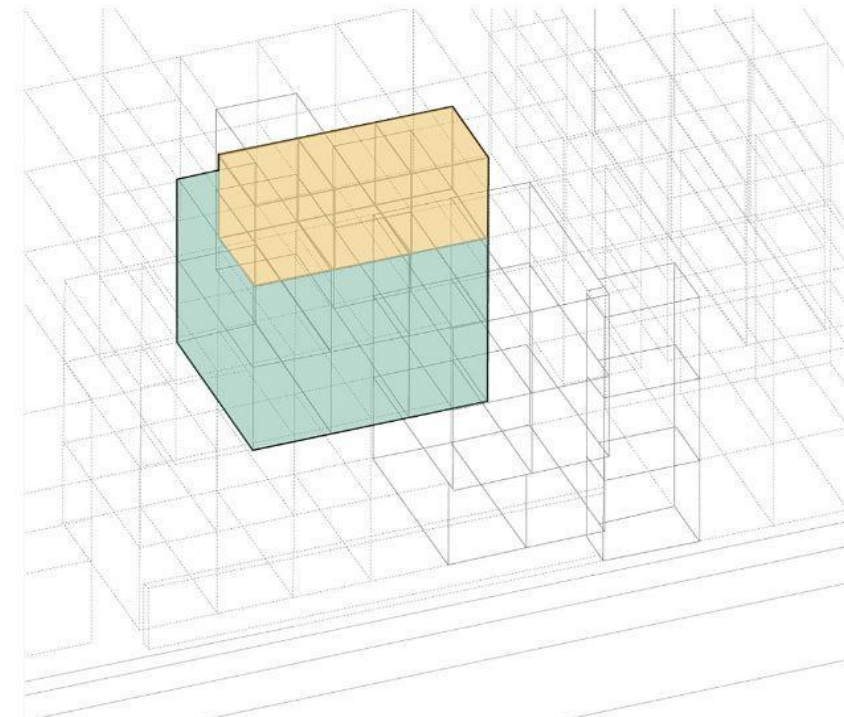
Existing floors



Reconfigured kitchen and mori



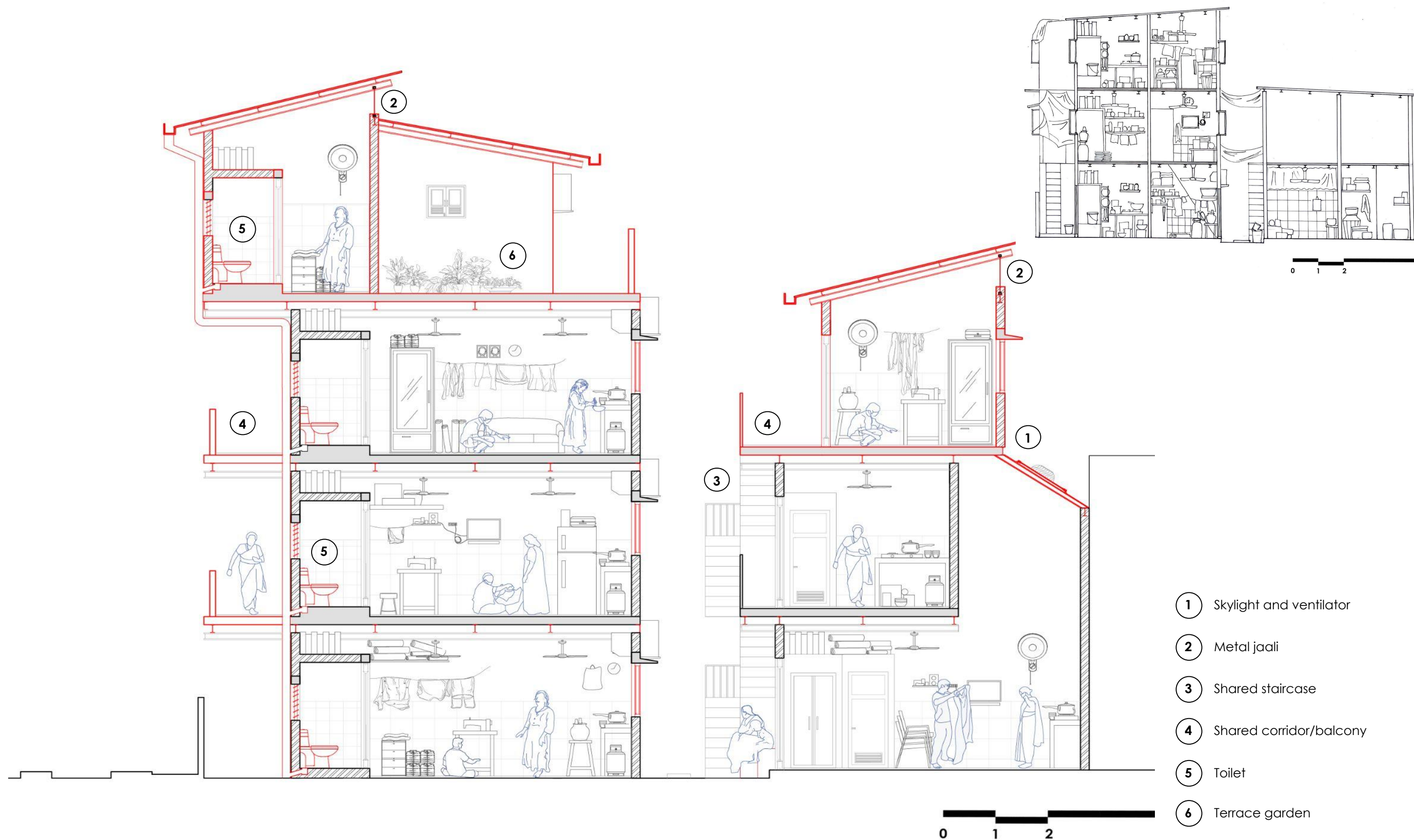
Stacking the extended households to make balcony and a circulation core



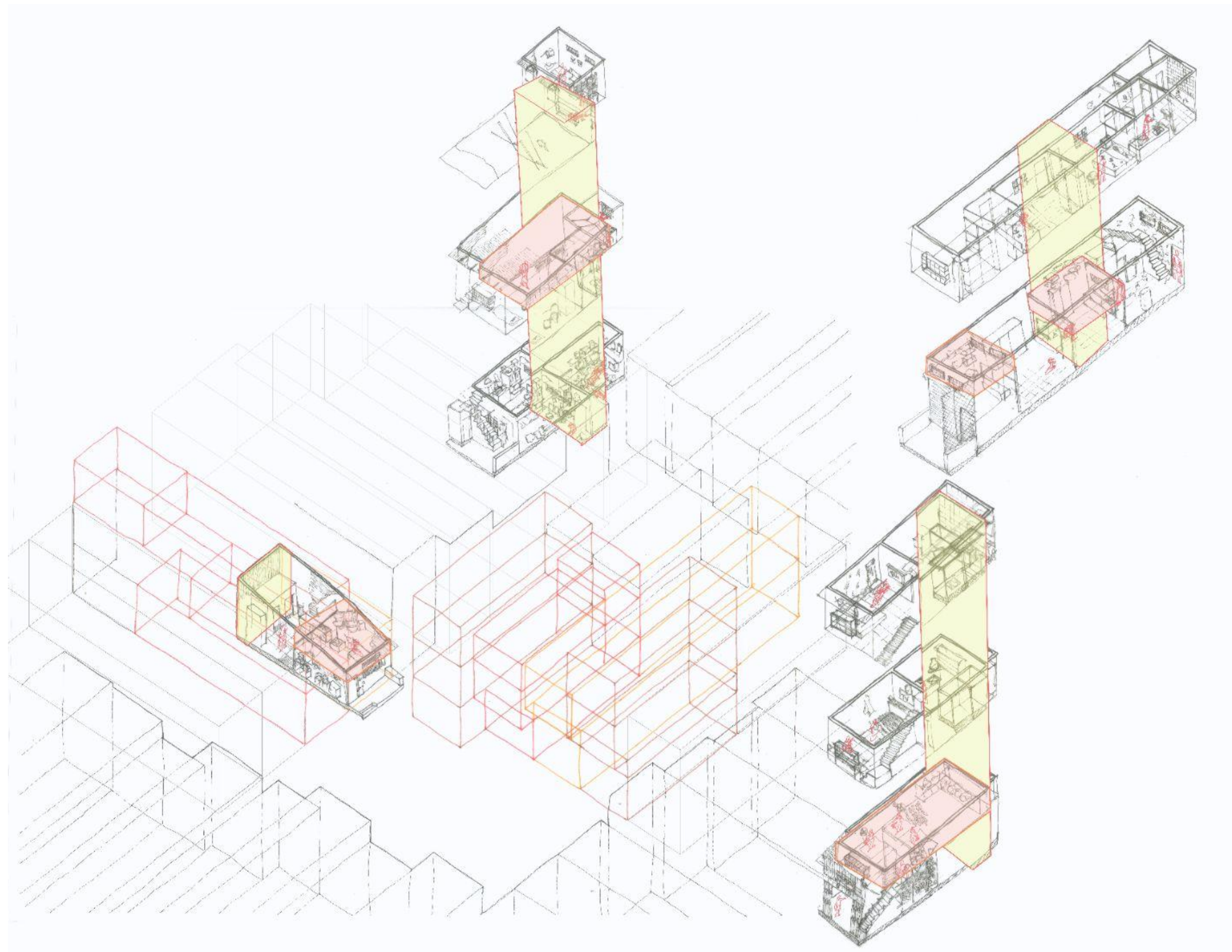
Stacking of floors to provide skylight

Concerns addressed:

- Demographic shifts
- Livelihood Shifts
- Lack of social space
- Lack of light and ventilation
- Poor accessibility



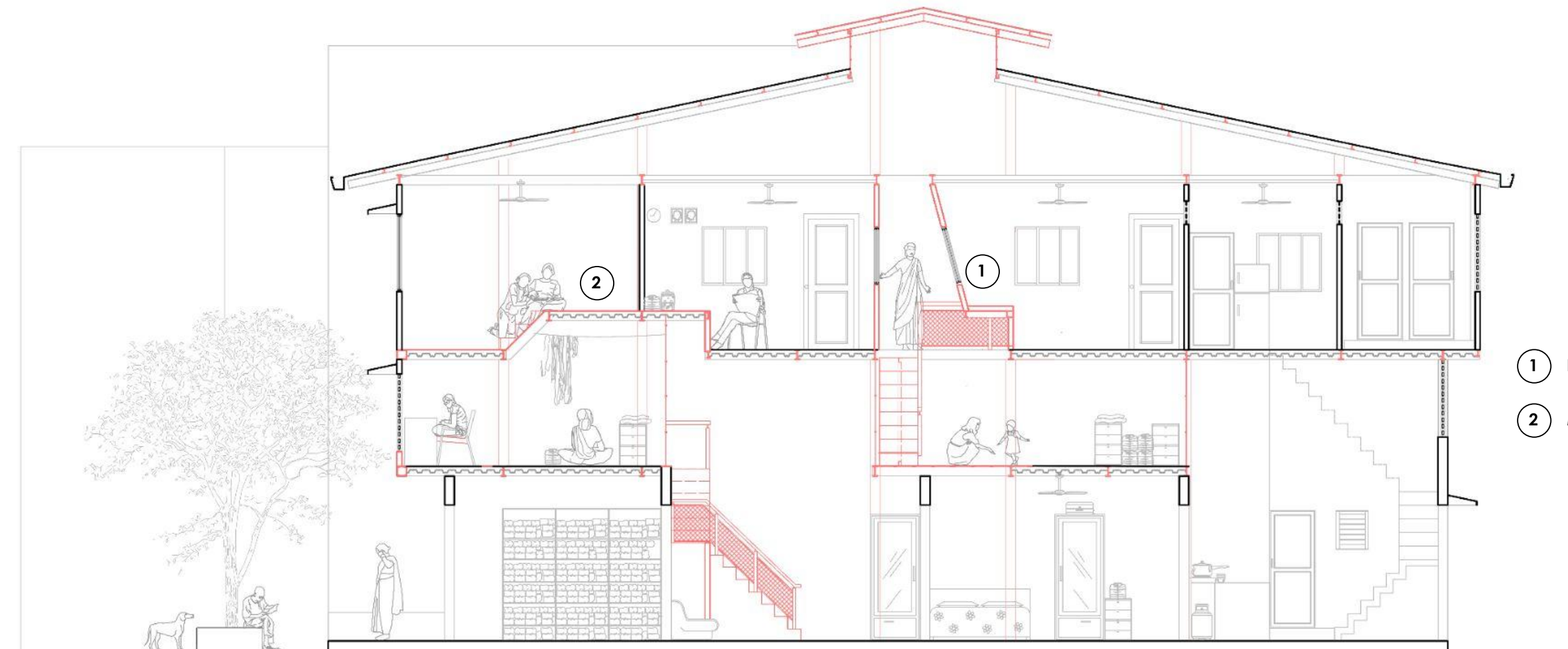
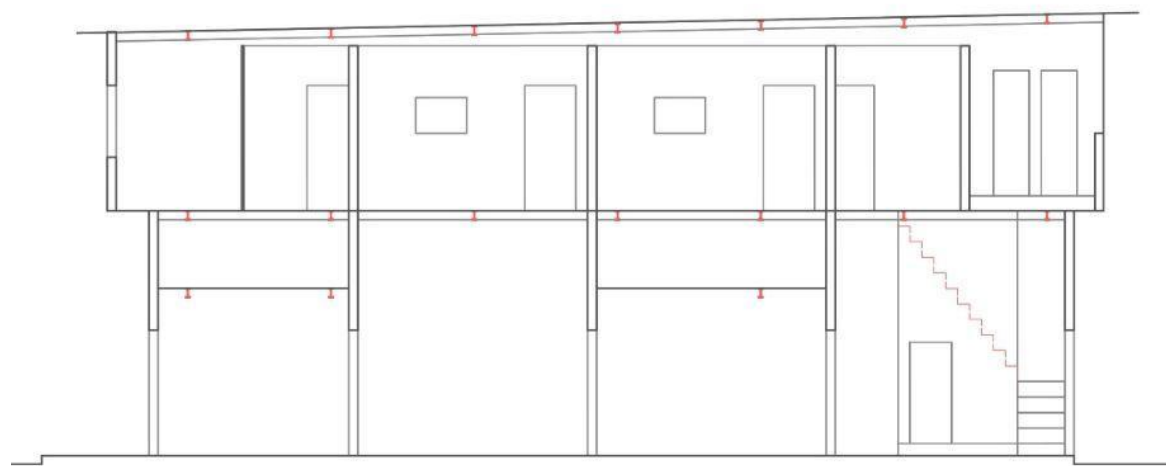
Providing toilets to each houses and shared external staircase. A part of houses on the ground floor can be double heightened provided with skylight and ventilators



- Proposed Light Wells
- Existing Mezzanine Spaces/living spaces

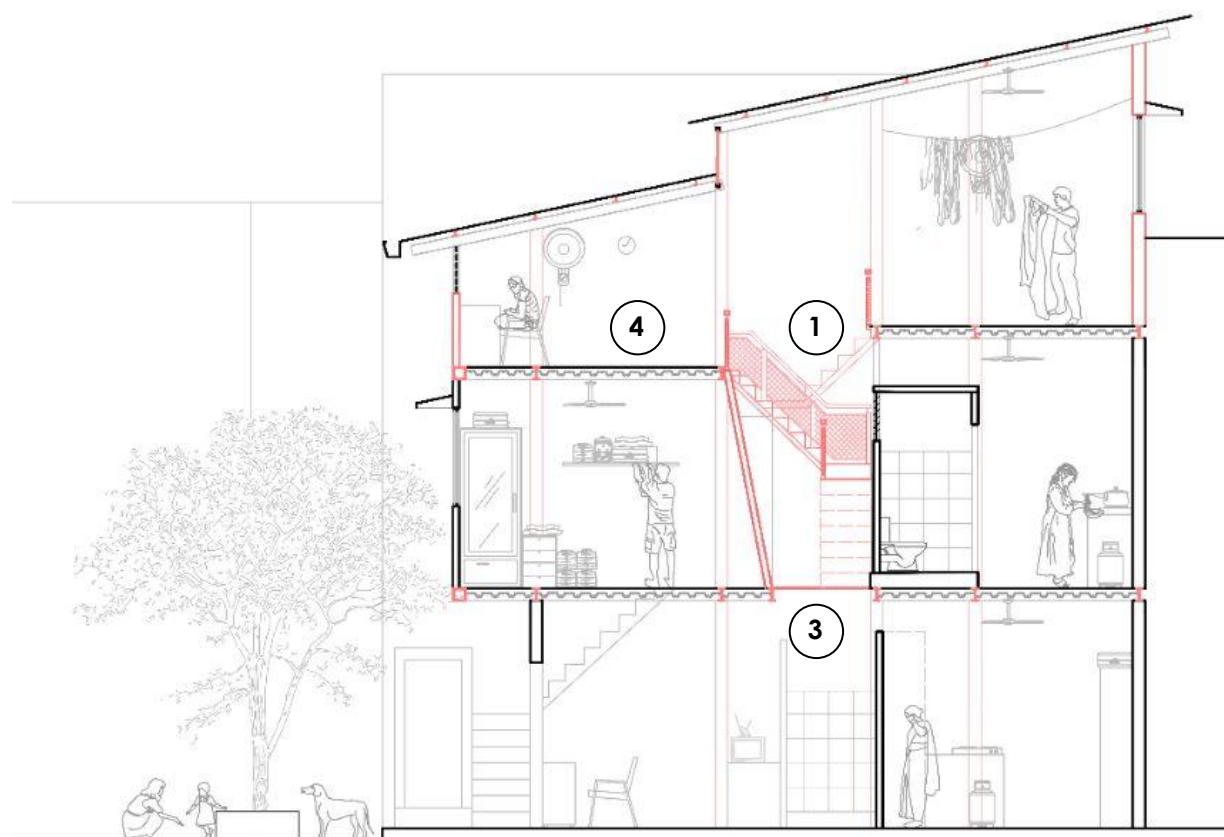
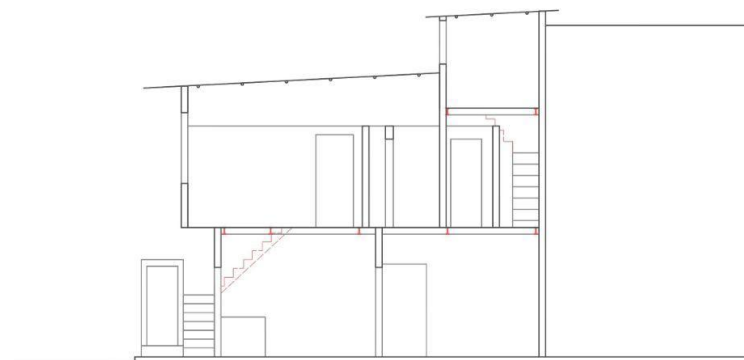
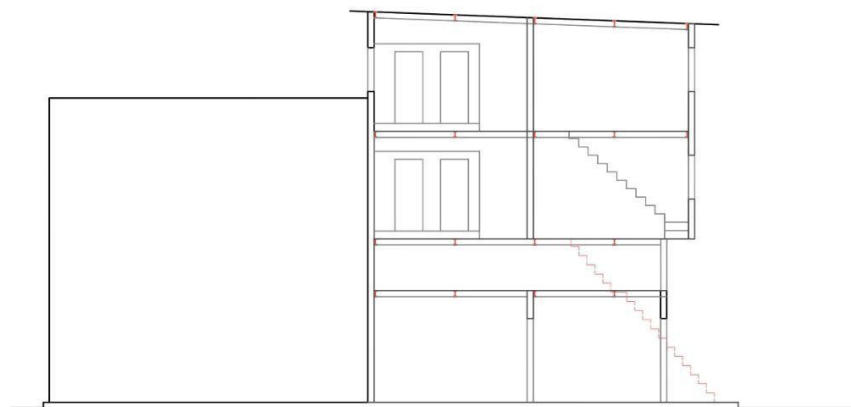
Mezzanine's can be used as a habitable space .It can start to hold different activities.The light wells can be introduced for better light and ventilation.

- Concerns addressed:**
- Demographic shifts
 - Livelihood Shifts
 - Lack of social space
 - Lack of light and ventilation
 - Poor services



- ① Light well
- ② Modulated mezzanines

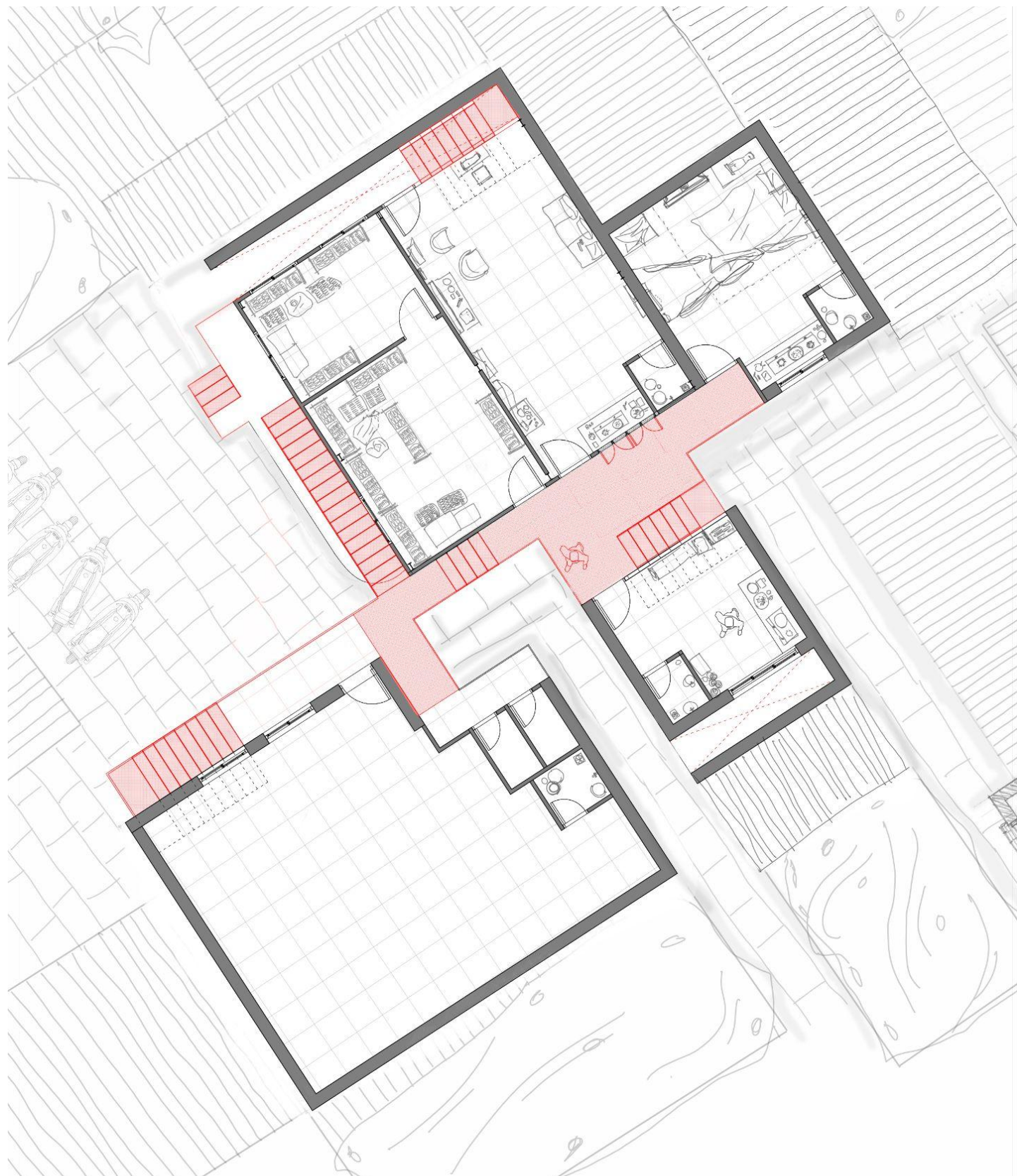
The mezzanine intersects with the living space to afford to be a platform or a bed. It extends above to become habitable.



- ① Light well
- ② Roof extension
- ③ Permeable floor
- ④ Mezzanine

The roof extension in Ritish's house forms a light well which is porous as well as accessible. In another house, the mezzanine extends to be an addition living space overlooking the central well.

- Concerns addressed:**
- Demographic shifts
 - Livelihood Shifts
 - Lack of social space
 - Lack of light and ventilation
 - Poor services



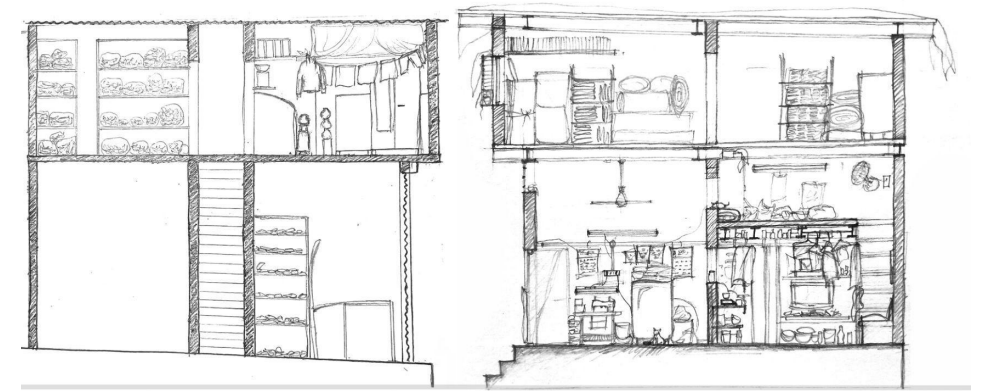
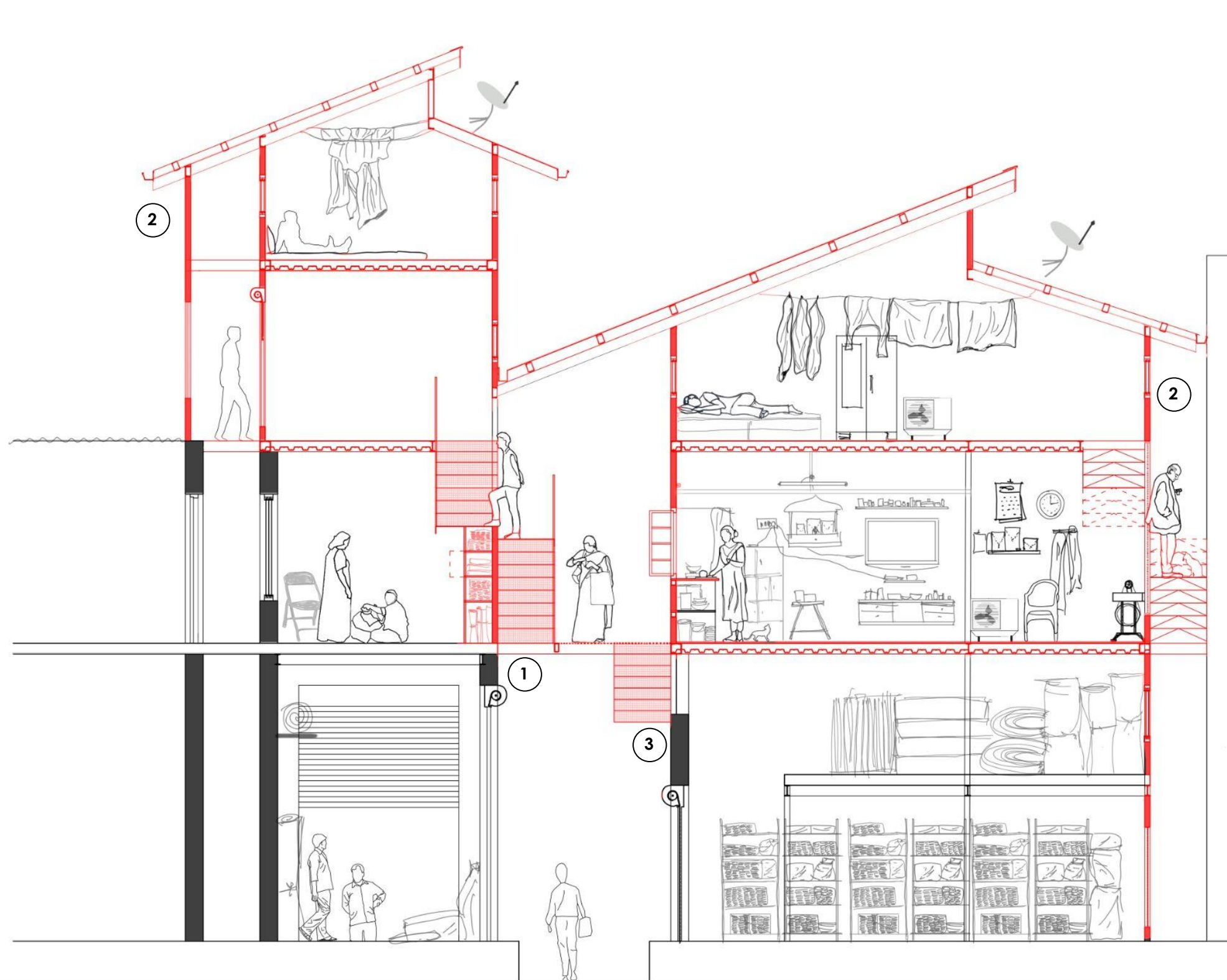
Making the upper floors more accessible by combining the staircases



- ① Common corridor
- ② Light well
- ③ Extended staircase

Concerns addressed:

- Lack of social space
- Lack of light and ventilation
- Poor services
- Congestion
- Poor accessibility

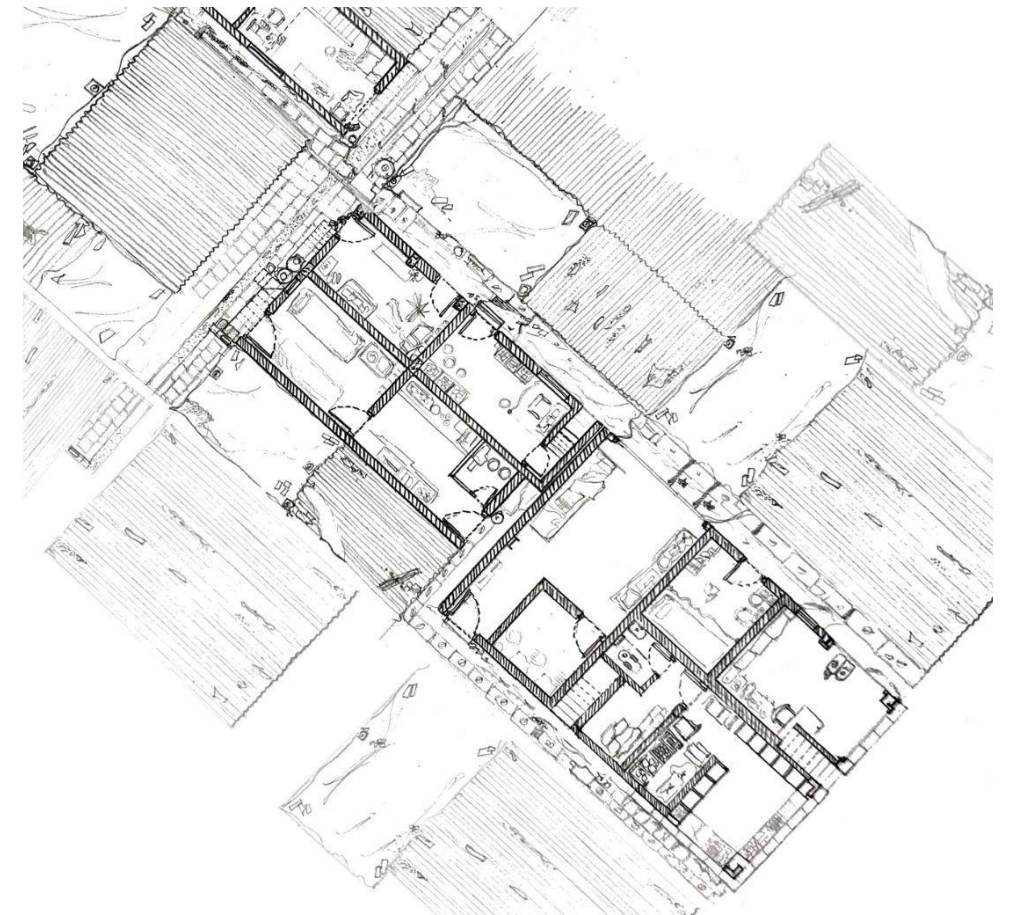


- ① Common corridor
- ② Light well
- ③ Extended staircase

Cutting the space at the back of the house creating light wells



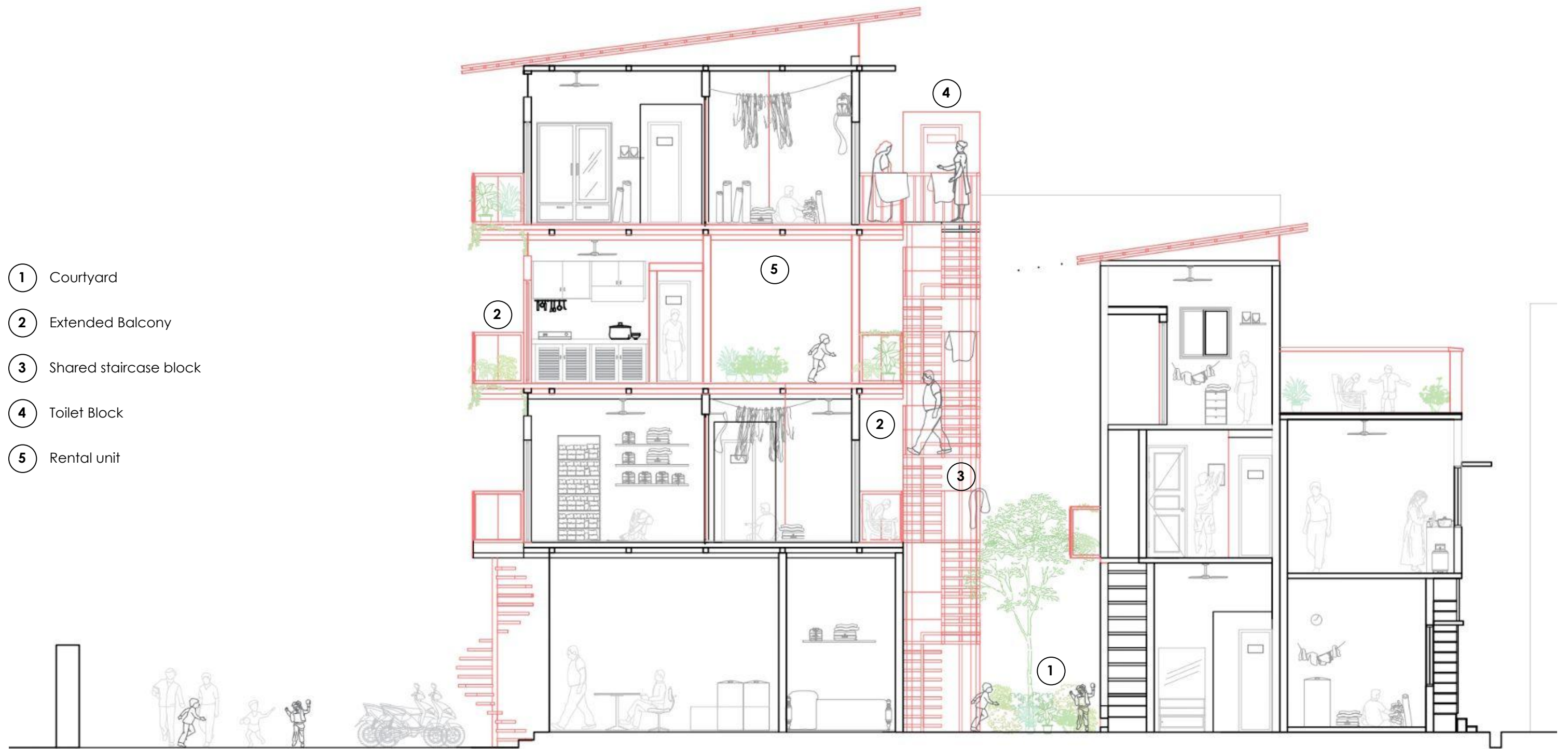
Shifting volumes of rental units to open up a courtyard space between the cluster.



- ① Courtyard
- ② Extended balcony
- ③ Shared staircase block
- ④ Toilet Block

Concerns addressed:

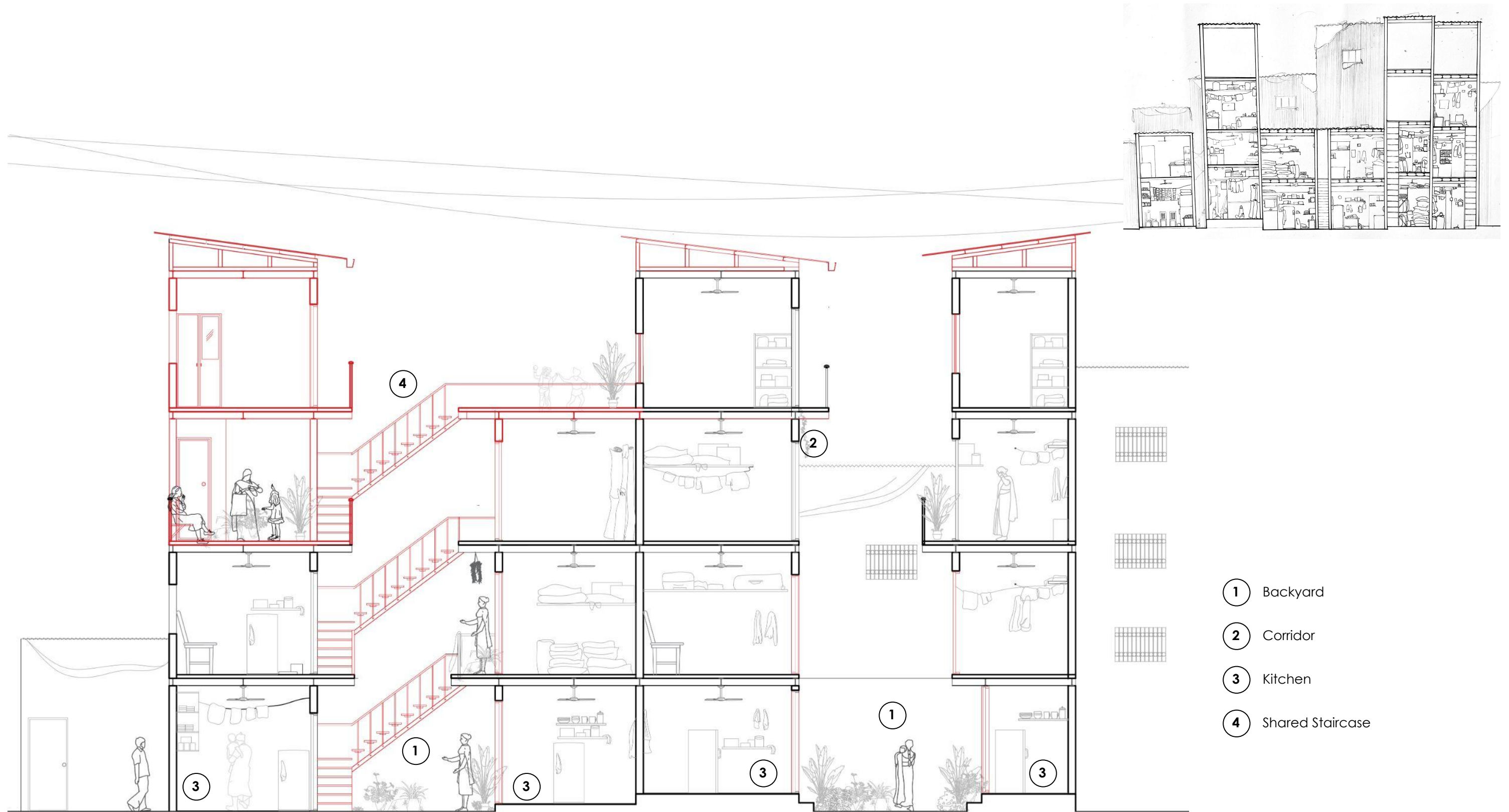
- Demographic shifts
- Poor accessibility
- Lack of social space
- Lack of light and ventilation
- Poor services



The sifting of volumes creates an opportunity for extending balconies and common corridors overlooking the street and courtyard.

Concerns addressed:

- Demographic shifts
- Poor accessibility
- Lack of social space
- Lack of light and ventilation
- Poor services



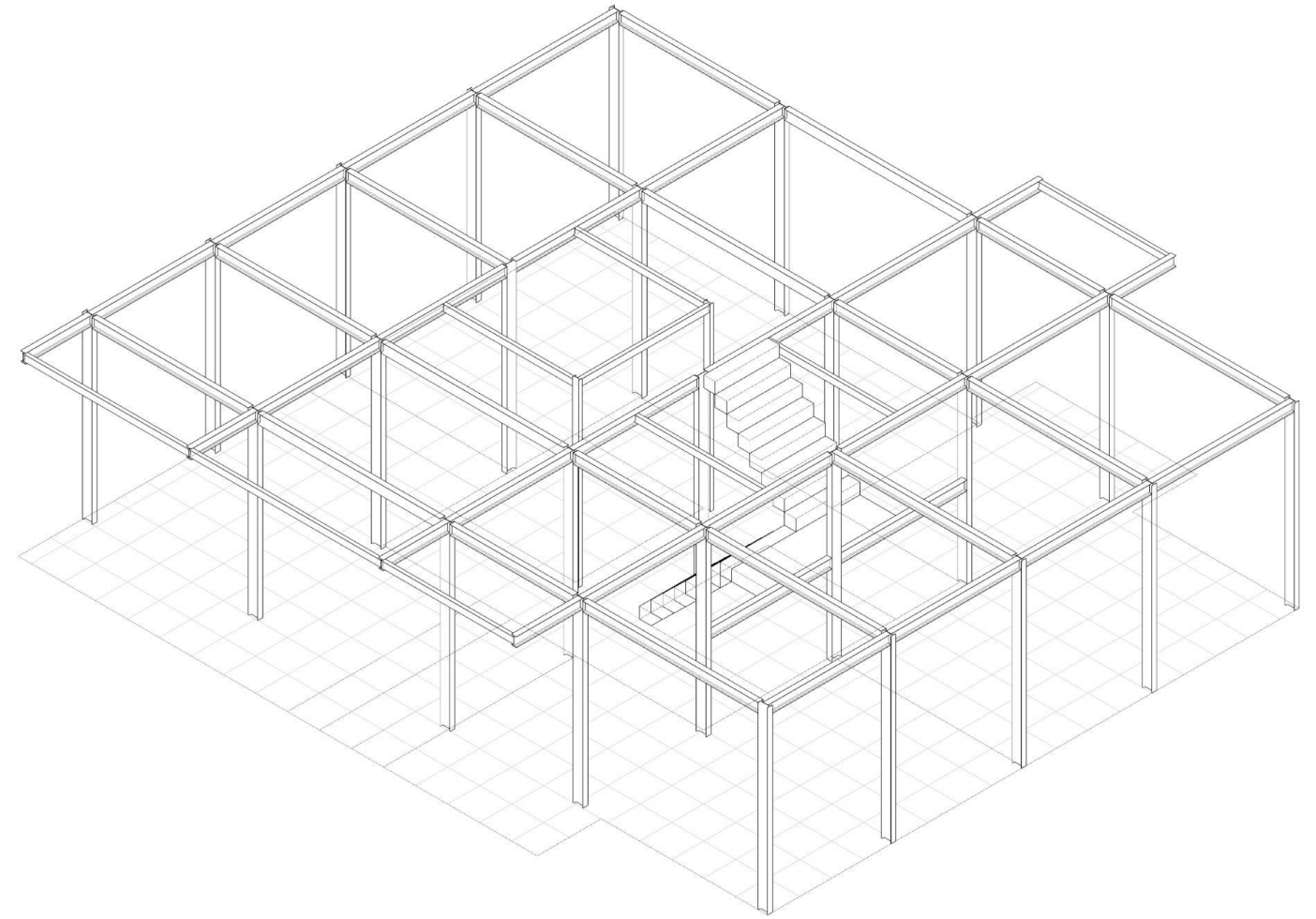
Shifting volumes to make shared backyard spaces, connected kitchens of the adjacent houses.

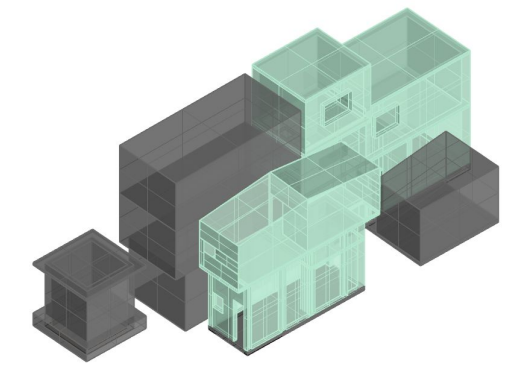
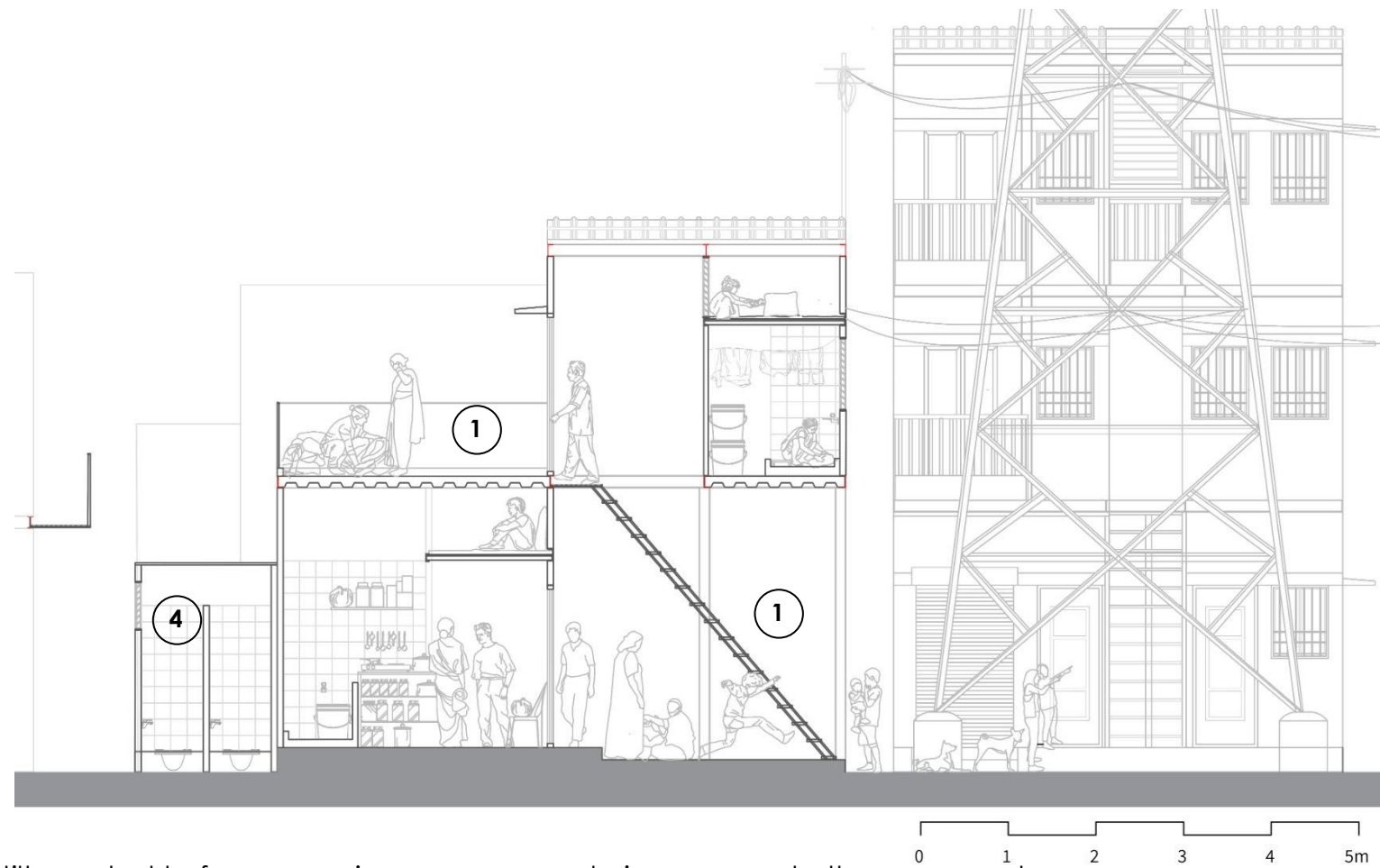
Concerns addressed:

- Demographic shifts
- Poor accessibility
- Lack of social space
- Lack of light and ventilation
- Poor services

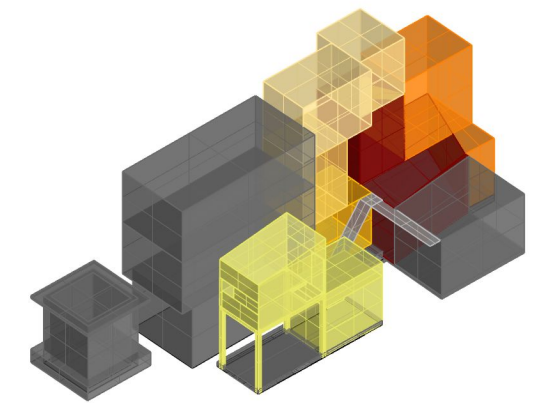
Redevelopment

This strategy involves redesigning the site from scratch, creating a new spatial configuration, structural system and service systems. This process is carried out by multiple building owners come together to negotiate on certain terms and divide the costing in between them. This strategy gives the stakeholders multiple common spaces for social interaction as well as circulation. It can afford the space to completely transform itself and hold multiple new programs.





Existing Massing



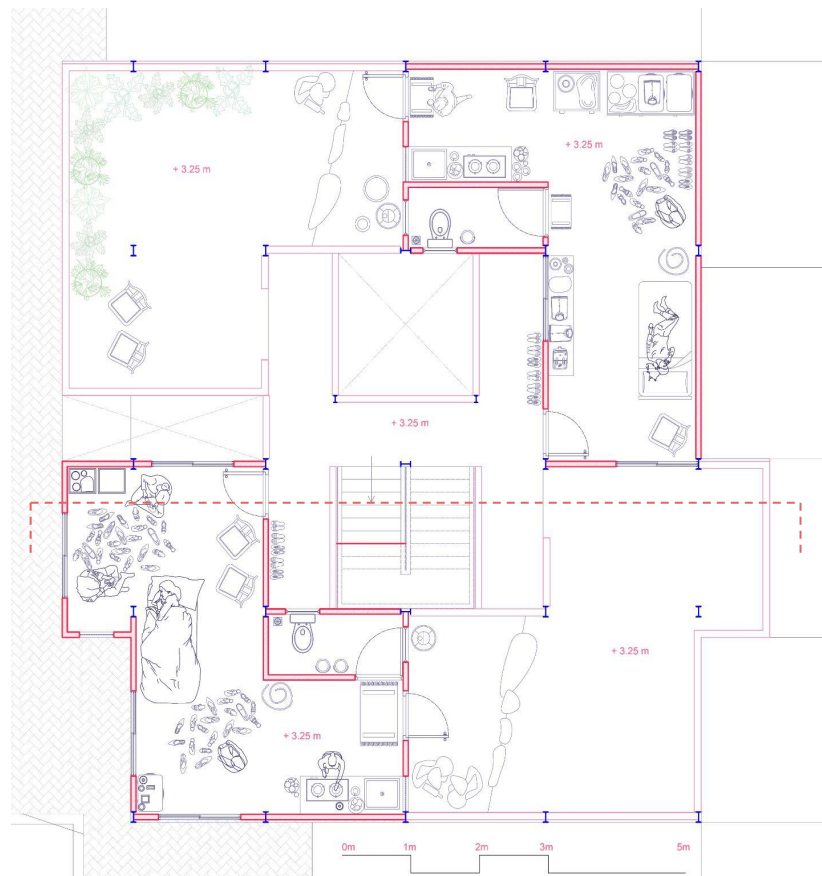
Proposed Massing

- 1 Courtyards and terraces
- 2 Service block to act like a light shaft for a porous space
- 3 Shared staircase
- 4 Common toilet

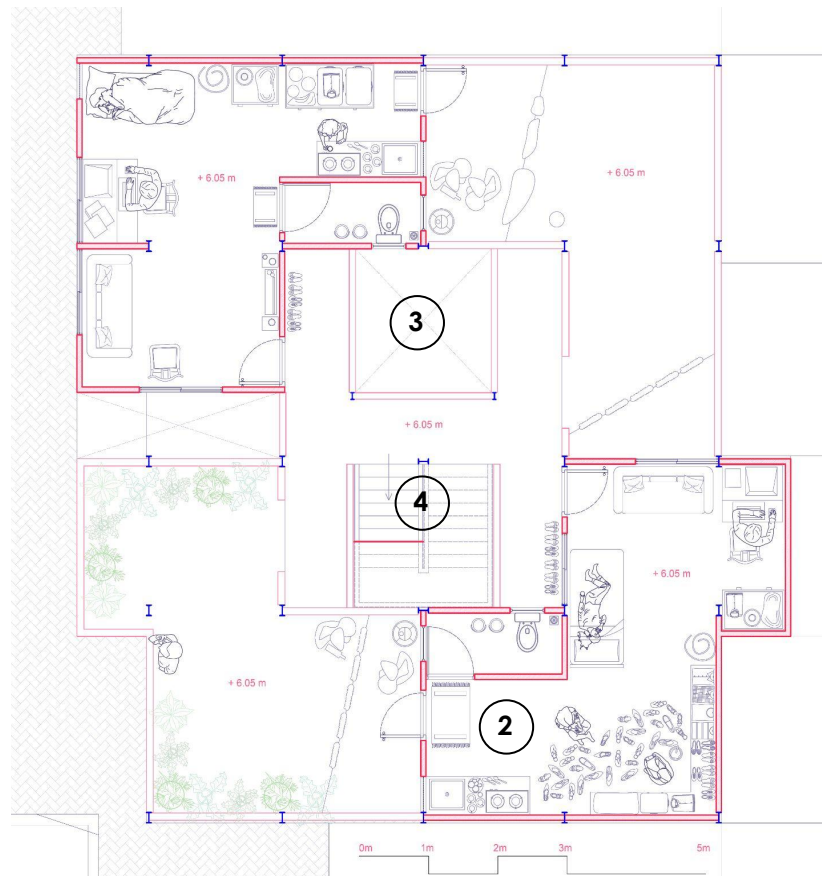
Concerns addressed:

- Demographic shifts
- Livelihood shifts
- Poor light and ventilation
- Poor accessibility
- Lack of social interaction

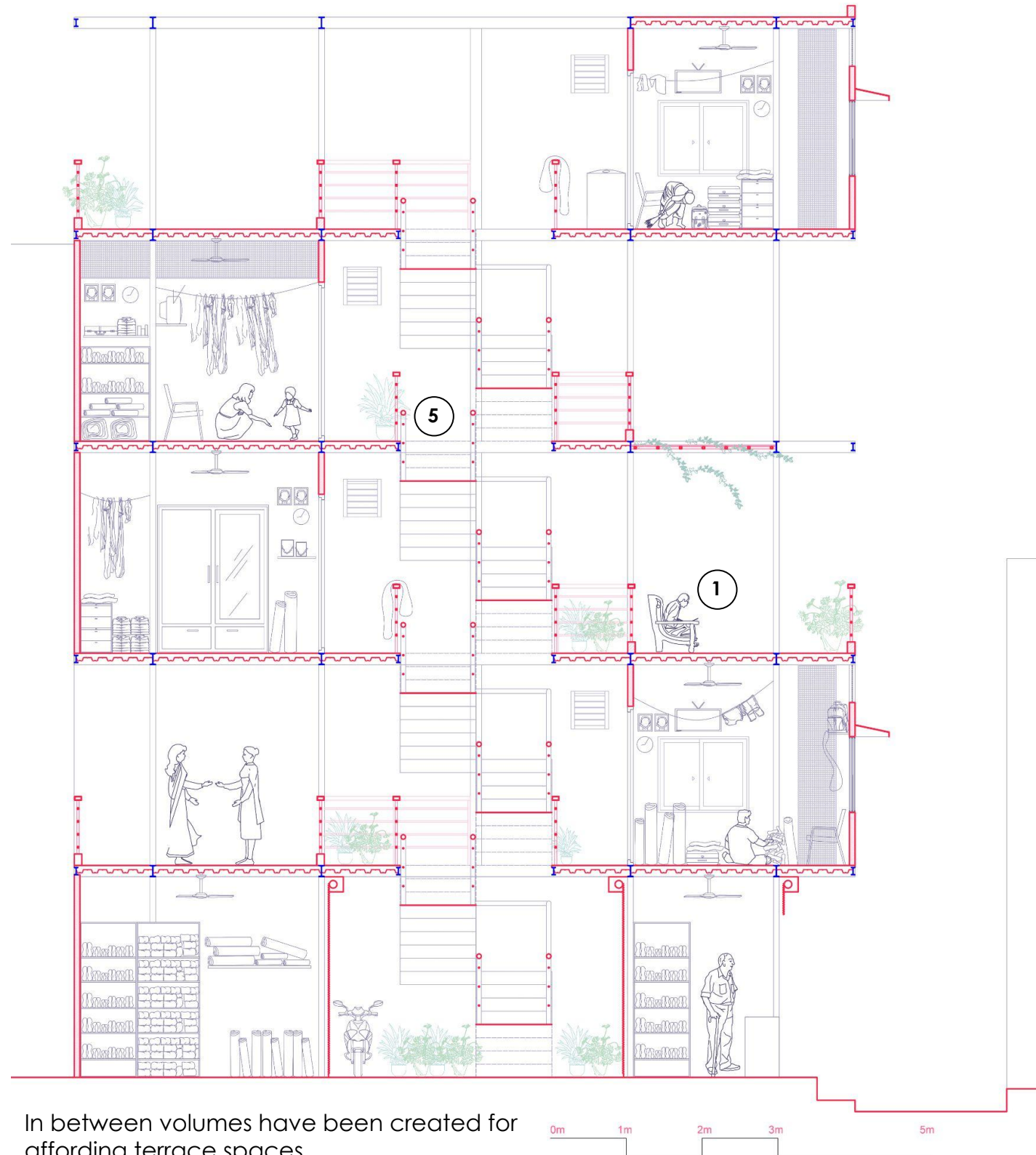




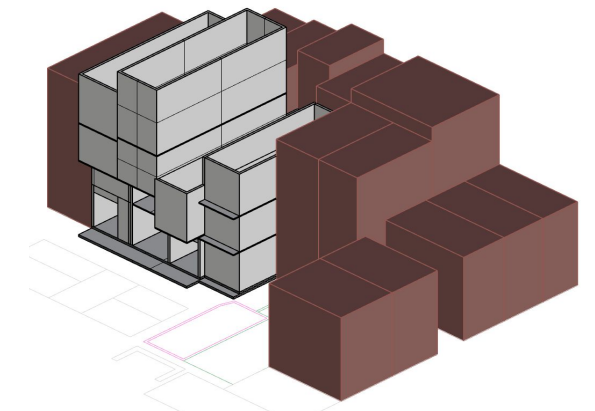
Central core is created which affords for circulation and services



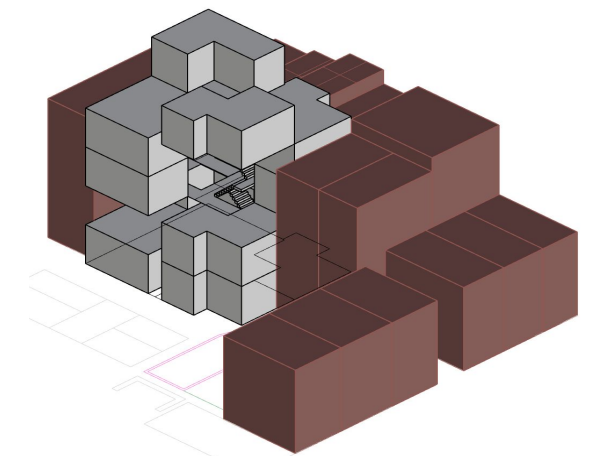
Kitchen and toilet are configured near the terraces for better ventilation



In between volumes have been created for affording terrace spaces



Existing Massing



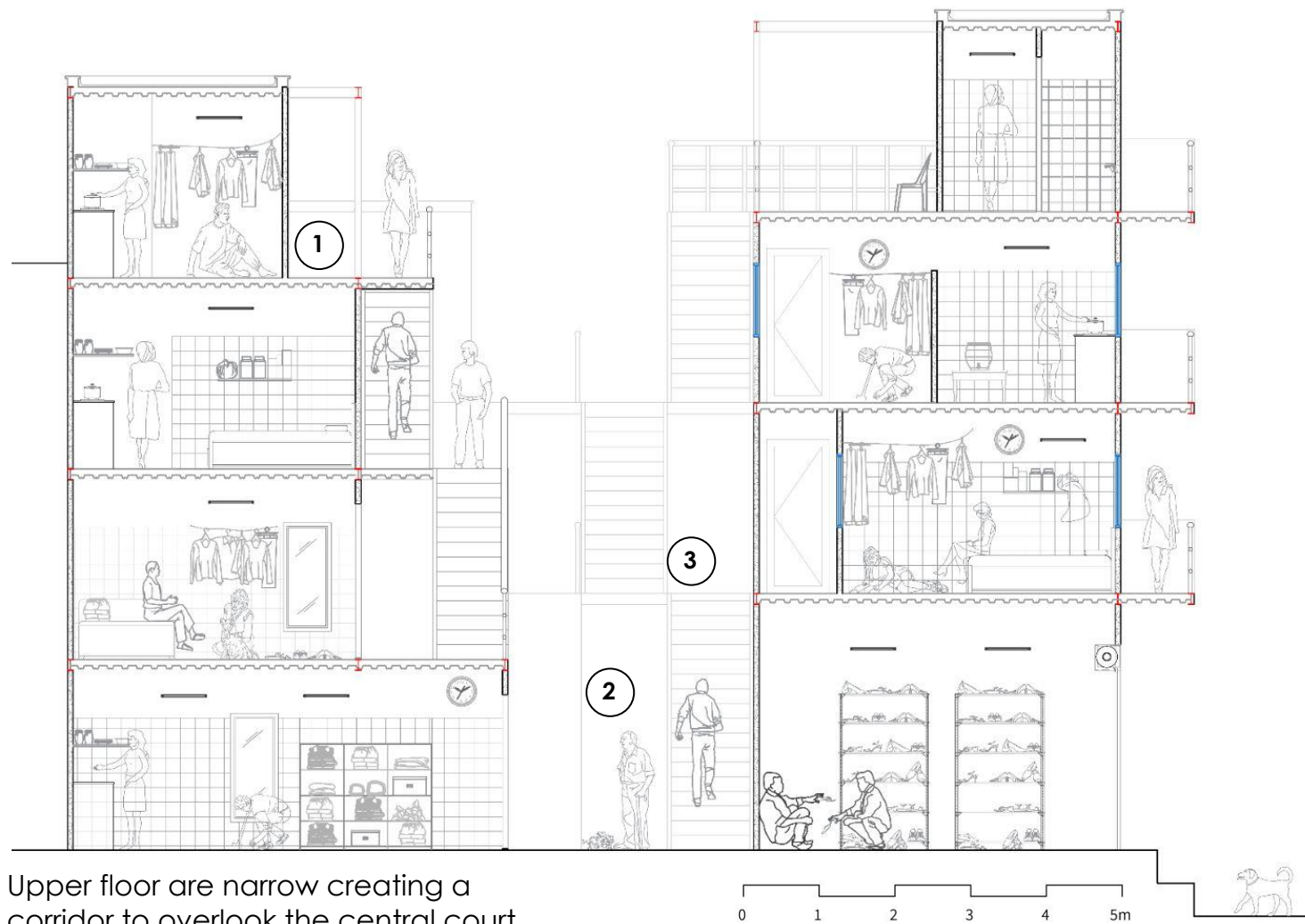
Proposed Massing

- ① Terrace
- ② Toilet and kitchen platform space
- ③ Light shaft
- ④ Staircase well
- ⑤ Common corridor

Concerns addressed:

- Demographic shifts
- Livelihood shifts
- Poor light and ventilation
- Poor accessibility
- Poor services
- Congestion
- Lack of social interaction

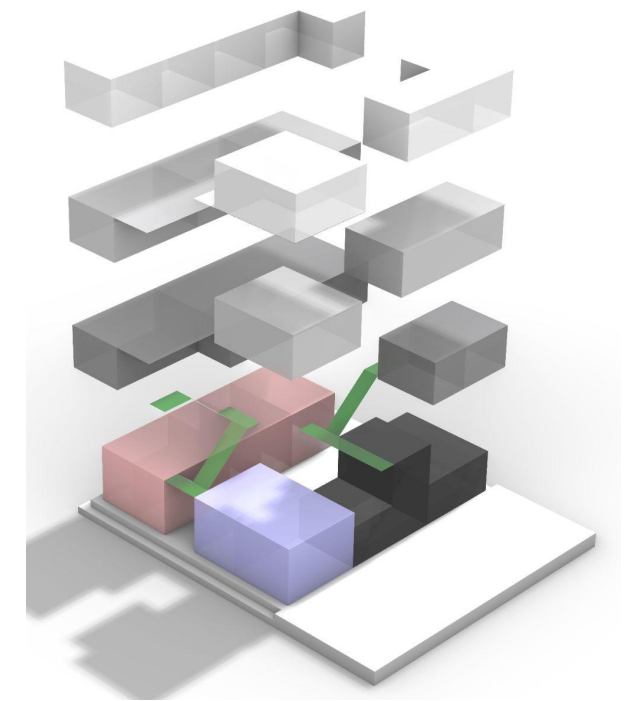




Upper floor are narrow creating a corridor to overlook the central court



A central court has been cratted for social interaction.



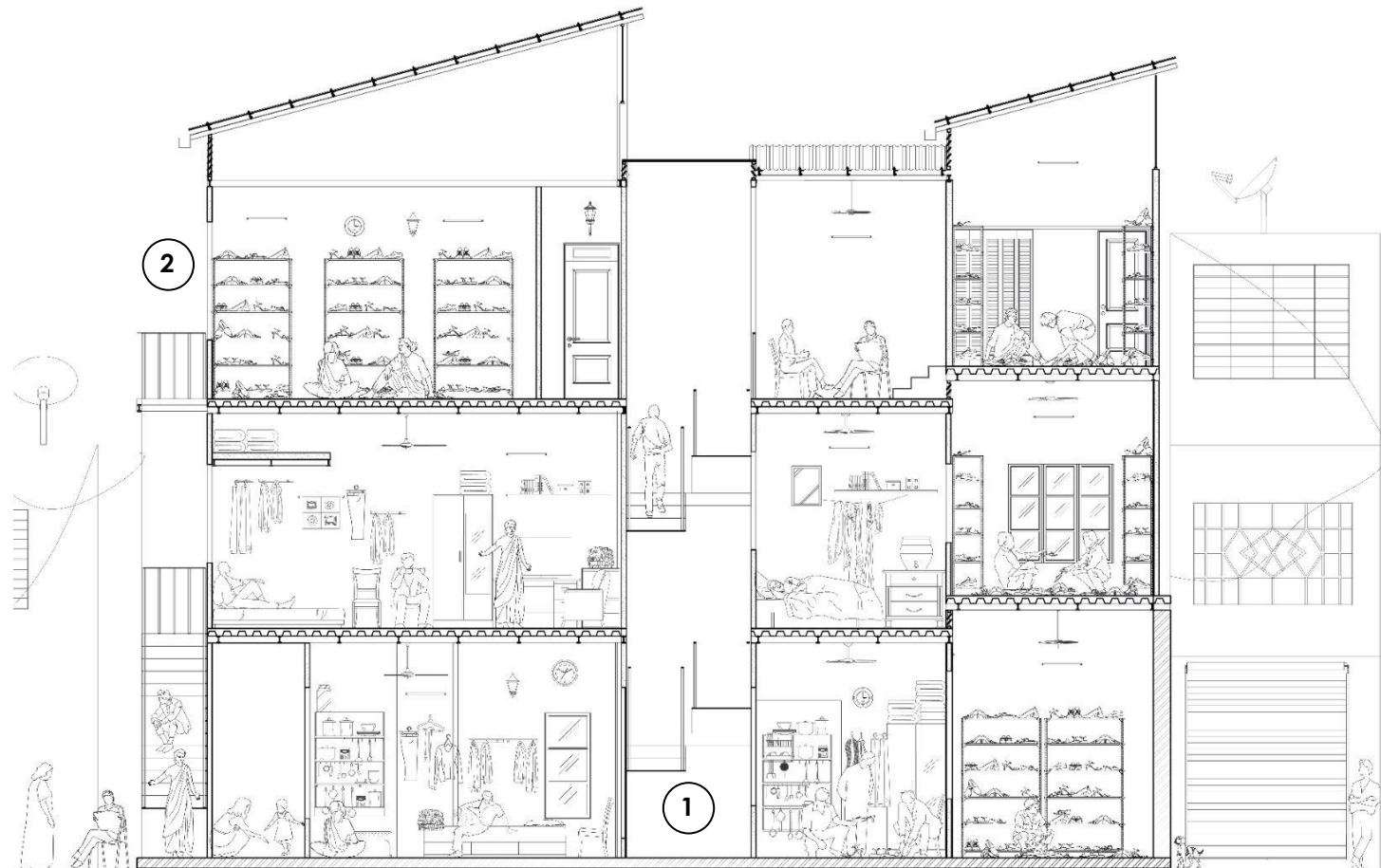
Proposed Massing

- ① Central courtyard
- ② Common corridor
- ③ Staircase well

Concerns addressed:

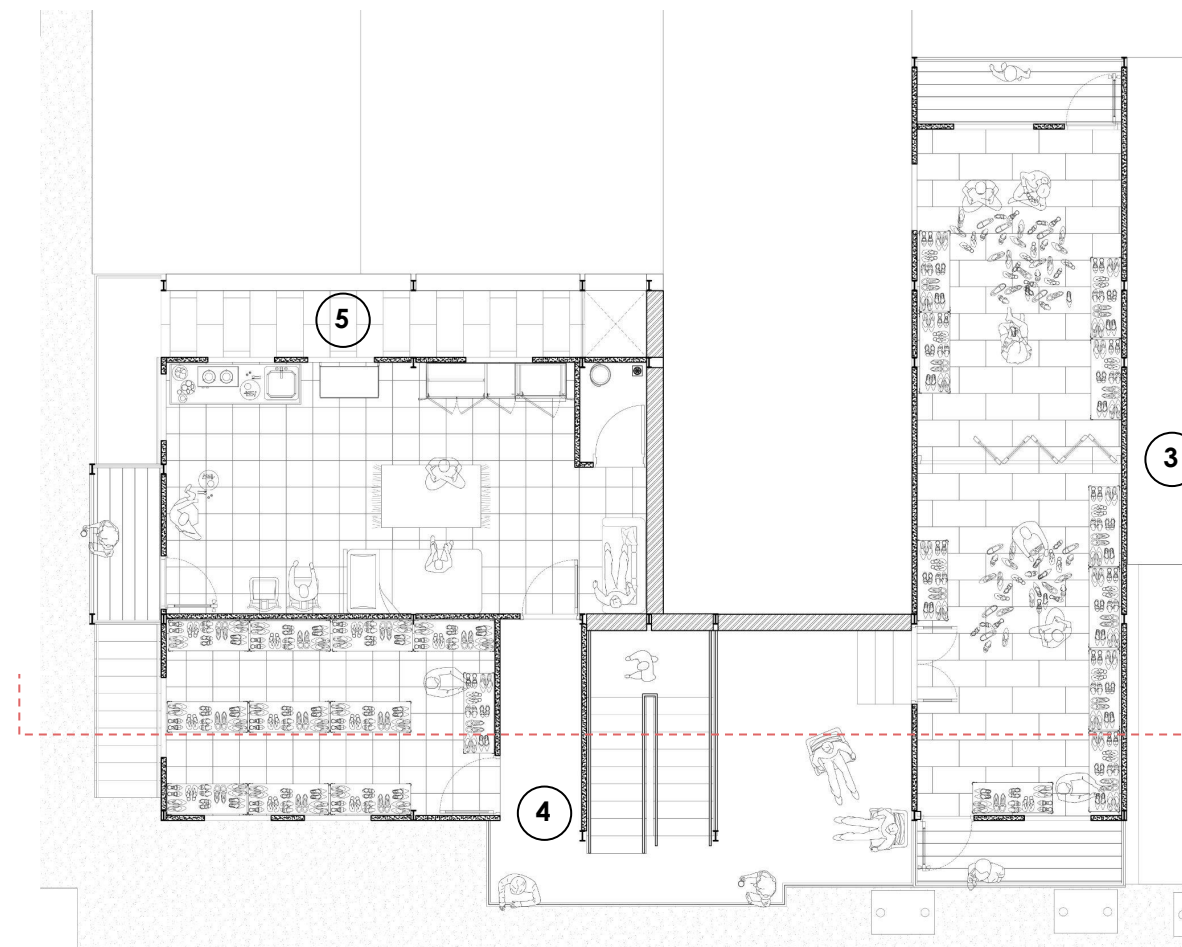
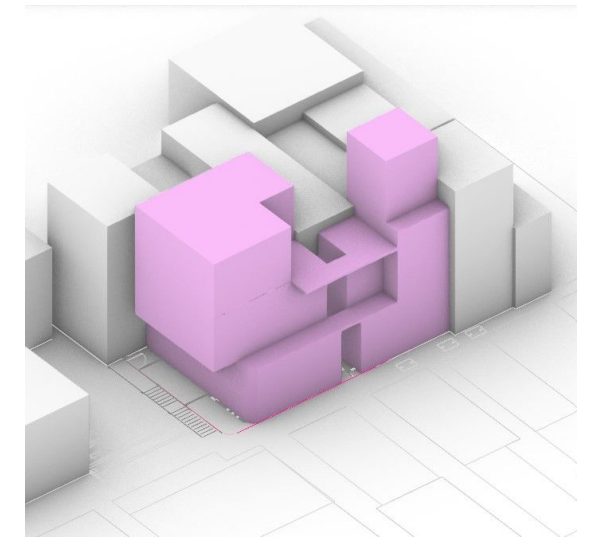
- Demographic shifts
- Livelihood shifts
- Poor light and ventilation
- Poor accessibility
- Poor services
- Congestion
- Lack of social interaction





Extended mono pitched roof affords better light and ventilation

0 1 2 3 4 5m



Balconies provide for social interaction

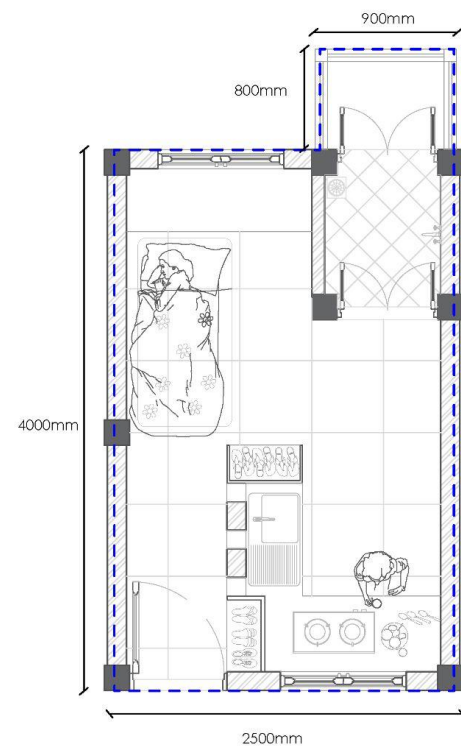
0 1 2 3 4 5m

- 1 Staircase well
- 2 Balcony extension
- 3 Collapsible walls
- 4 Shared staircase
- 5 Vertical slits in the wall for better light

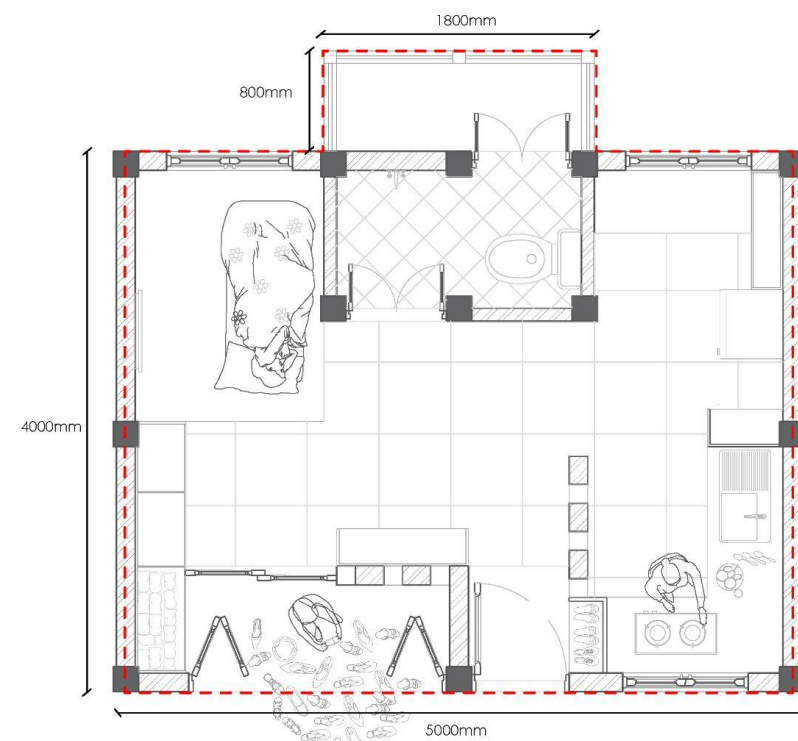
Concerns addressed:

- Demographic shifts
- Poor light and ventilation
- Poor accessibility
- Poor services
- Congestion
- Lack of social interaction

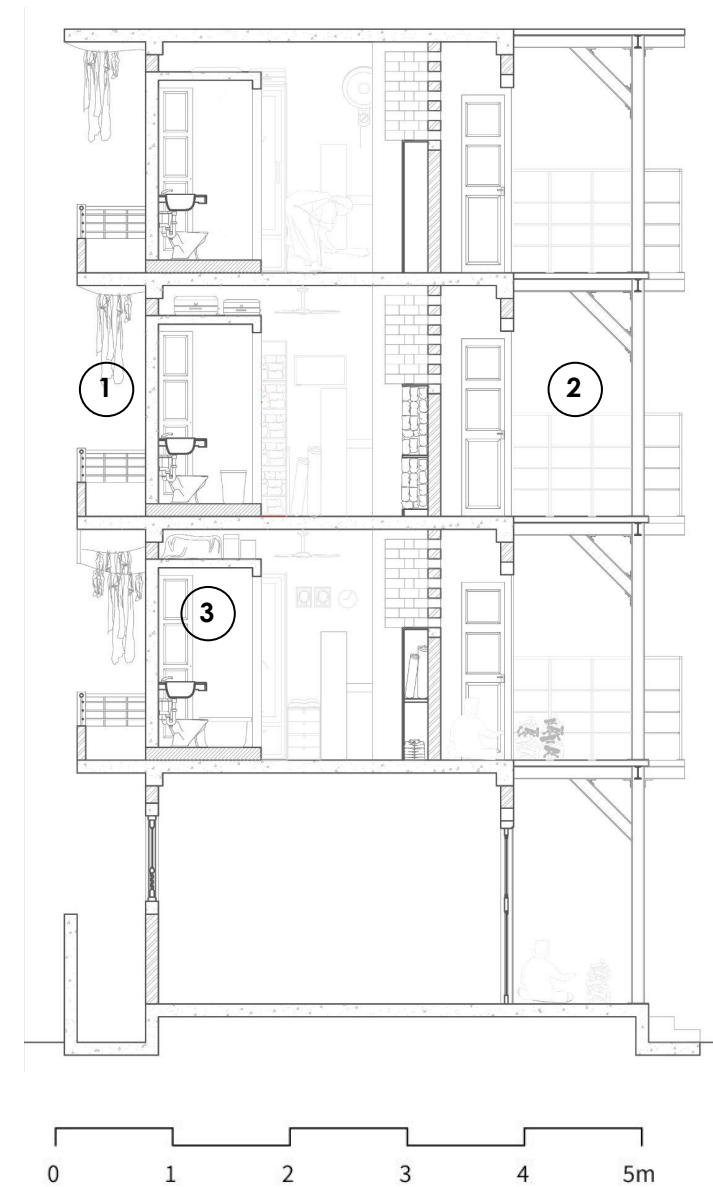




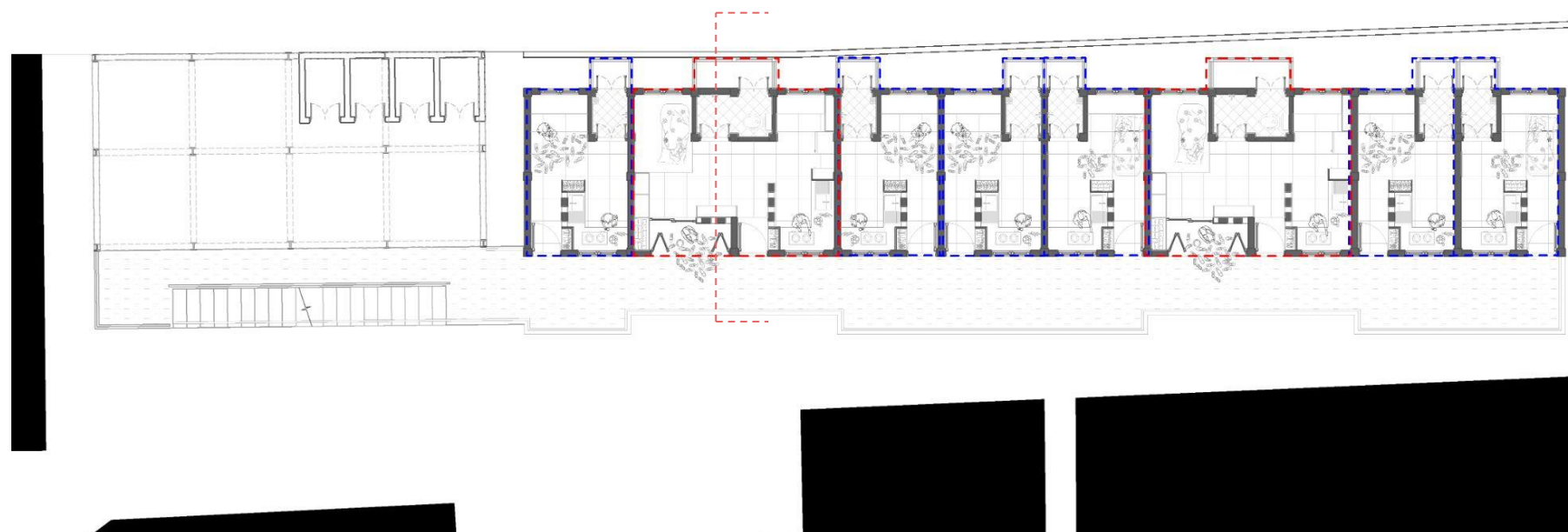
Unit plan with mori



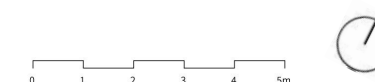
Unit plan with toilet



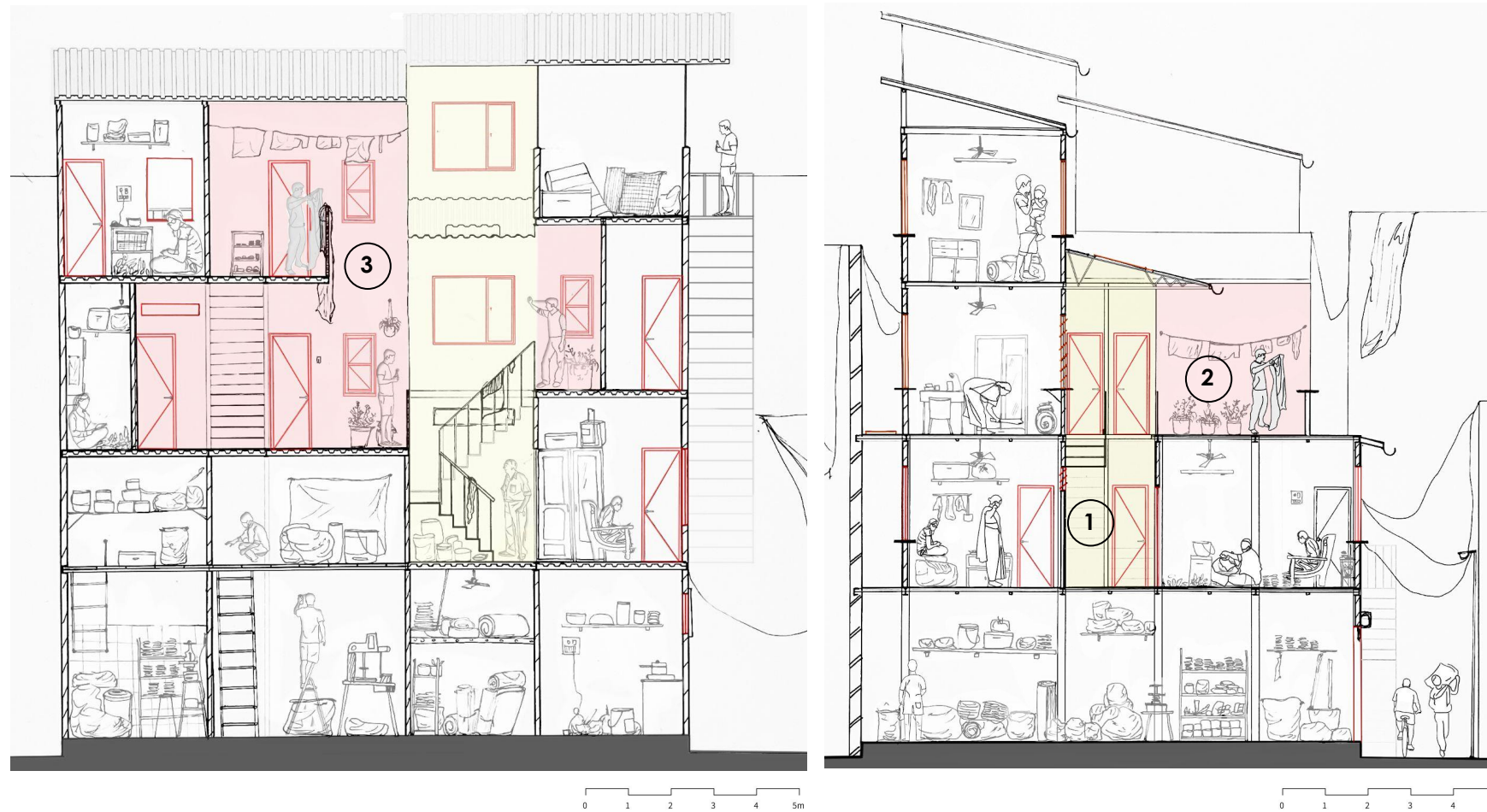
- ① Dry area
- ② Balcony
- ③ Toilet



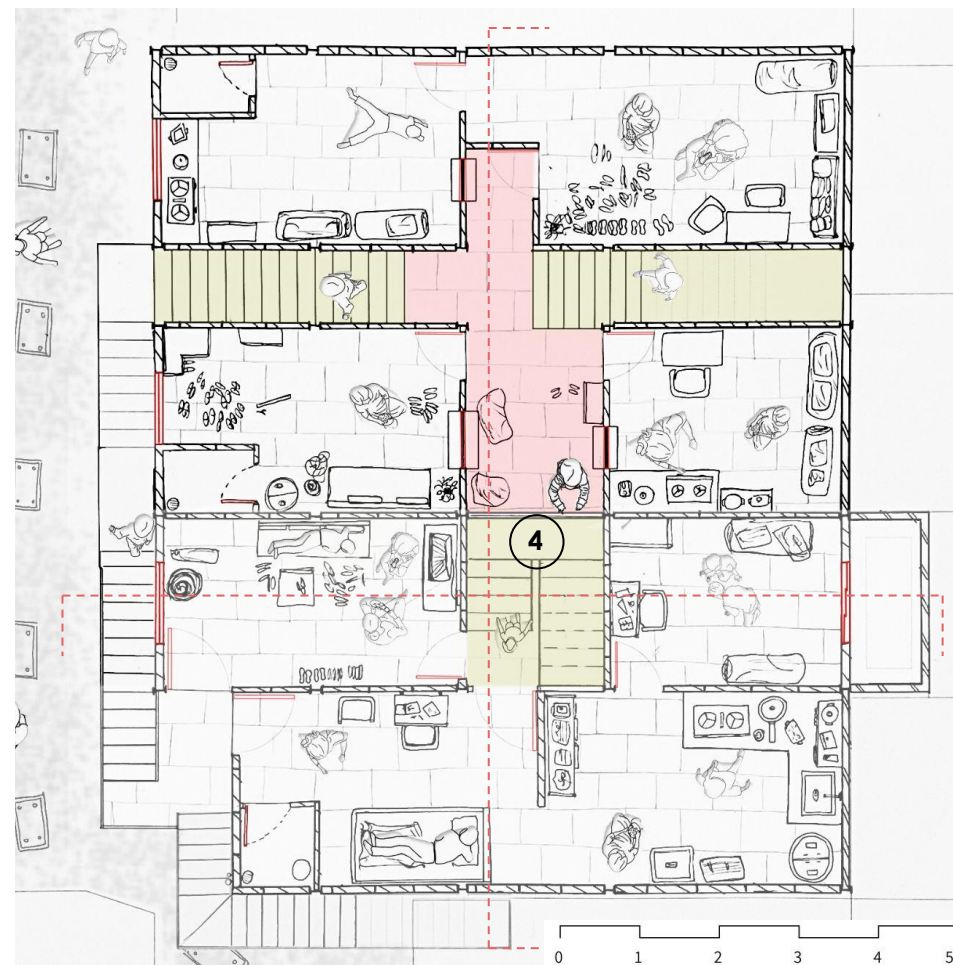
The adjacent public toilet becomes a service core . This service block connects all the floors by staircases which them connects to corridors on individual floors.It acts as an interactive public space for woman and children.



Concerns addressed:
 -Demographic shifts
 - Poor light and ventilation
 - Poor services
 -Lack of social interaction



Double height volumes to facilitate social interaction



Shared staircase shaft for better light and ventilation

- ① Staircase shaft
- ② Balconies and terrace
- ③ Double heightened volumes
- ④ Shared staircase

Concerns addressed:

- Demographic shifts
- Livelihood shifts
- Poor light and ventilation
- Poor accessibility
- Poor services
- Congestion
- Lack of social interaction

