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NATURAL VENTILATION

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I

THE CHALLENGE

PROBLEMS OF URBANIZATION

A greater part of the urban areas on our planet are spontaneous and precarious settlements, generated independently, often in the complete lack of essential basic services. From this perspective it becomes clear that are the squatters, burdened by the expanding cities, and not the architects, the ones who actually build most of the world's cities.[1]

In the last decades Ethiopia's urban population has grown at an incredibly fast pace. The rate of urbanization is expected to increase by 5% annually causing the urban population to triple by 2037, shifting from 17.5 million to around 50 million people.[2] The city which is suffering the most under this unregulated growth is Addis Ababa, whose capacity of affordable housing, especially for the low-income population, is put under an enormous pressure. This element increases the proliferation of unplanned informal settlements.[3] Moreover as Elias Yitbarek states, beside the speed of urbanization, Addis Ababa is also facing a geo-political problem related to the limited capacity of its borders. This fact increases the need for vertical growth and greater density, to the detriment of the relation between the shelters and the ground, which is however essential for most of the daily activities of the population.[4]

The initiatives introduced by the Ethiopian Government to tackle these issues, like the IHDP (Integrated Housing Development Program) and the GTP I (Growth and Transformation Plan), have shown to be able to improve the quality of life of thousands of people in terms of security, hygiene and sanitation.[5] However like Yitbarek stresses, these "one size fits all" solutions proposed by the government are not affordable yet for the "poorest of the poor", who need a wider range of options according to the possibilities of their income.[6]

1. Livio Sacchi, L'espansione delle città, Treccani, 2010 http://www.treccani.it/enciclopedia/l-espansione-delle-citta_%28XXI-Secolo%29/

2. UN-Habitat, The state of Addis Ababa 2017 (Nairobi: United Nations Human Settlements Programme, 2017), p.11

3. UN-Habitat, The state of Addis Ababa 2017, p.46

4. Elias Yitbarek, Interview with Elias Yitbarek, Antonio Paoletti & Cristian Rancati, Novermber 11th, 2019

5. UN-Habitat, The state of Addis Ababa 2017, p.48

6. Elias Yitbarek, Interview with Elias Yitbarek, 2019



img.1.1 Street in Mickeyleland

img.1.2 Compound's collective space

img. 1.3 Compound's collective space

Despite their success, these urban renewal programs and the consequent construction of condominium projects all over the city, at the expenses of informal settlements and slums, have generated other problems, related to the expropriation of land and the eviction of people. Firstly, the payment of compensation and the subsequent relocation neglected the segment of society, which is illegally living in the informal settlement. Secondly, renewal programs, which have established and developed within the settlements during the years, disrupt socio-economic networks and mutual associations.[7] This process of disruption is even more evident in the old sefers, in the inner city, where the socio-economic network, the sense of community and the collective practices are so rooted into the history of the settlements, that have become part of their identity. Yitbarek calls them "intangible heritage".[8]

7. UN-Habitat, The state of Addis Ababa 2017, p.94

8. Elias Yitbarek, Interview with Elias Yitbarek, 2019





THE VALUE OF HISTORICAL NEIGHBORHOODS

"They seem to think that their neighborhood is unique and irreplaceable in all the world, and remarkably valuable in spite of its shortcomings. In this they are correct, for the multitude of relationships and public characters that make up an animated city street neighborhood are always unique, intricate and have the value of the unreproducible original." [9]

Jacob's words describe the exactly condition that we can find in the historical neighborhoods of Addis Ababa, such as Talyian sefer. Christian Norberg-Shulz would define it as a "character of the place": the Genius Loci.[10]

In Addis Ababa, nearly 80% of the inner city areas are defined as slums. Nearly 70% of the houses are dilapidated and lacking basic facilities and urban infrastructure services. As a consequence in the last decades, the city has expropriated 392 hectares of inner-city land and demolished a total of 23,151 dilapidated houses in 23 Urban Renewal Project sites.[11] This urban plan, driven by a gentrification process, provides a clear vision about the future of these historical neighborhoods: a complete redevelopment, which includes demolition and reconstruction of tower buildings of around fifteen storeys-high. On the other hand historical sefers are essentials for an expanding city like Addis Ababa because they preserve the tangible and intangible heritage of the city while everything is evolving quickly. Jane Jacobs underlines the need for old buildings within a city because they increase the functional and economical diversity of the neighborhood while simultaneously preserving its character.[12] Speaking about historical buildings, Aldo Rossi states that the traces of the history are to be found through monuments, the physical signs of the past, but also through the urban layout of the plan. In fact cities grow according to the urban layout and its directions.[13] The plan can be modified, it can vary and differentiate in its functions until it becomes almost completely hidden by the spontaneous growth of the unplanned city. Still however the residents can feel its vibrant vitality. As Kevin Lynch best

9. Jane Jacobs, The Death and Life of Great American Cities (Random House, 1961), p.27

10. Christian Norberg-Schulz, Genius Loci: towards a Phenomenology of Architecture, (Rizzoli, 1979), p.14

11. UN-Habitat, The state of Addis Ababa 2017 (Nairobi: United Nations Human Settlements Programme, 2017), p.55

12. Jacobs, The Death and Life of Great American Cities, p.187

13. Aldo Rossi, L'architettura Della Città, (Il Saggiatore, 2018), p.56

img 4.1 Historical villa in Taliyan





img 5.1 historical villa in Taliyan

describes it, the historical city is alive because is capable of creating a “vivid and sharp image”, which becomes part of the collective memory of the inhabitants[14]. Erasing the traces of the past, would mean that the new generations will grow up without that history that humanly belongs to them. Without being able to enjoy the experiences that have contributed to forge the character of the society of which they are part of.[15]

Is the “total reconstruction” approach the right one to use in an expanding city like Addis Ababa, where the urgent need for density is increasing constantly? Or should we preserve somehow these old sefers even if they are lacking of all the essential services for the population? These questions are both legitimate and right, but instead of seeing these two different approaches like independent and opposite solutions, we should try to understand how to integrate them, how to make them complementary.

14. Kevin Lynch, The Image of the City, (Boston: MIT, 1968), p.4

15. Centro storico, museo-ghetto o motore di sviluppo?, (Fondazione Filippo Caracciolo, aprile 2005), p.16

capitolo

Therefore how would be possible to preserve the tangible and intangible heritage of the historical neighborhoods in a redevelopment project, which takes into account the challenges of an expanding city, like the need for greater density and the provision of basic facilities, including all the social classes and avoiding the eviction?

URBAN UPGRADE

"This is vernacular urbanism", as Richard Sennett states in *Building and Dwelling*. A process which takes the logic of conservation forward in time, looking for the ways in which new forms can emerge from the old, but can still relate to them.[16] Jane Jacobs would say that we should start to "regard slum dwellers as people capable of understanding and acting upon their own self-interest"[17]. In this quote she is highlighting the consideration of the upgrading of historical informal settlements as a possible alternative to the complete reconstruction but also as a valid alternative to the relocation, which should be taken into account as a last option.[18]

In practical terms, the preservation of valuable historical buildings and of the consolidate urban layout, defined as tangible heritage, as well as the conservation of practices and activities deeply linked to the history of the place, defined as intangible heritage, should be the solid backbone for a redevelopment project that aims to not crystallize the past memories. On the contrary the strong identity of the place, its genius loci, should be used as a socio-economic engine for the development of the contemporary city. For instance Yitbarek suggests that these interventions could create a sort of vibrant sefer, becoming a cultural catalyst for people, like tourists but also students, interested in history and traditions.[19]

Another aspect to address is the need for densification. As recent studies have demonstrated, in responding to the increasing challenges of the expanding cities, the best solution is the highly dense "compact city".[20] Although old sefers are densely built on the ground, their actual density of inhabitation is pretty low. When growing vertically however, we should be aware of the relation of multi-storey constructions and the historical buildings, in such a way to create a balanced morphological composition, able to enhance the quality and the characteristics of both. Moreover a higher density could also be helpful to avoid the eviction and relocation of people who are living in the sefer during the redevelopment. In fact if we plan the intervention on the sites per sectors, it would be possible to relocate evicted people in the new buildings during the construction work, due to their higher capacity.

16. Richard Sennett, Building and Dwelling: Ethics for the City, (Penguin Books, 2019), chapter 4

17. Jane Jacobs, The Death and Life of Great American Cities (Random House, 1961), p.287

18. UN-Habitat, The state of Addis Ababa 2017 (Nairobi: United Nations Human Settlements Programme, 2017), p.94

19. Elias Yitbarek, Interview with Elias Yitbarek, Antonio Paoletti & Cristian Rancati, Novermber 11th 2019

20. Livio Sacchi, L'espansione delle città, Treccani, 2010

img 6.1 Relation between old building and slums



ARCHITECTURE WITHOUT ARCHITECTS

The last aspect that I want to address is the possibility to create an "open city". An urban configuration which is not determined and leaves the freedom to the inhabitants to shape and create multiple different scenarios. Sennett introduces the concept of "shell" as a form which creates porosity, whose possibilities are not exhausted in any particular configuration, since its structural freedom. [21] Incremental housing reflects exactly this idea of "open form". This approach is based upon the principle of increasing the responsibilities of individual households, by fostering decision making and responsibilities of individual inhabitants or the community.

Moreover, this informal approach has demonstrated to perform much better than public attempts to build dwellings in a number of respects: greater affordability, flexibility and a better response to the changing of needs. It meets the necessities of the rapidly growing urban population.[22] Furthermore incremental housing can be comprised of self-build processes in which the households act as architects, improving their house, building extensions according to the plan supplied by the project developer. The architect's task is to provide a "core-house", a large unfinished dwelling which leaves room for future variations.[23]

This strategy, as Yitbarek emphasized, could also be a solution for the so-called "affordability ladder". Meaning that the governments and the developer should provide only facilitation of land, material construction, infrastructure and housing finance in affordable way. Additionally they should create a legal framework, in which the construction can be left to other actors, in this case the households, in order to create many other options where people can fit and grow according to their income, in a sort of "step by step" configuration of the house.[24]

21. Sennett, Building and Dwelling: Ethics for the City, chapter 8

22. Esin Hasgul, Incremental Housing: A Participation Process Solution for Informal Housing, January 2016, p.20

23. Hasgul, Incremental Housing: A Participation Process Solution for Informal Housing, p.21

24. Elias Yitbarek, Interview with Elias Yitbarek, Antonio Paoletti & Cristian Rancati, Novermber 11th 2019

img 1.7 Aranya; Doshi

img 1.8 Nid d'Abeille, Candillis, Josic, Woods

img 1.9 Belapur, Charles Correa

img 1.10 Quinta Monroy, Alejandro Aravena











img11.1 Historical villa in Taliyan

The genius loci, the spirit of the place, survives within the evolving structures of the city and gives an indelible character to the urban environment, making it a unique and recognizable experience. We can define it as “the immutable framework of the city”. On the contrary, the contemporary dimension of the historical city, the genius saeculi, requires a continuous updating of the themes assigned to its forms by the inhabitants: new typologies, new functions, new activities, new forms of social life.[25]

25. Luisa Bravo, Contemporary historic city: genius loci and genius saeculi, DATP, December 2010

This is the challenge for the future redevelopment of the old sefers of Addis Ababa: reconciling the spirit of the place, the genius loci, with the spirit of the time, the genius saeculi, preserving the values of history and integrating them in the current time, according to a sustainable approach that takes into account the challenges of a continuously expanding city, which leaves room for possible future changes: thus setting up an open city model.



II

RESEARCH METHODOLOGY

TOWARD THE FIELDWORK

In the last decades, many studies have demonstrated the steadily increasing interrelation between architectural design and research. As a result of this process, also many well-known architecture firms, have introduced within their board, expertises and researches in many different fields (sociology, sustainability, economy and many other), in order to provide a broader range of possibilities and solutions for future developments. From this perspective, it becomes clear that architecture is a multifaceted field, which requires balanced cooperation between design and research in way to improve and evolve. As Stephen Kieran highlights, the relationship between design and research is divergent, but at the same time, interdependent: "Research brings science to our art. […] To move the art of architecture forward. However, we need to supplement intuition with science."[1] As a matter of fact, research can help and advise design in many different ways and at many times during the design process. On the other hand, the design process and its final product can provide several questions that lead themselves to many forms of interrogation.[2] Nevertheless, what exactly does "doing research" mean? James Snyder, in one of the earliest essay on architectural research, introduced a commonly accepted interpretation of it: "it is systematic inquiry directed toward the creation of knowledge".[3] The word "systematic" involves the application of the existing model, of a system or a framework. The mere collection of pieces of information is not enough to constitute research. Systematic suggest the need for a methodology.[4] The research methods course was fundamental in understanding the relevance of methodology concerning the built environment, in understanding

1. Stephen Kieran, Research in Design: Planning Doing Monitoring Learning (Journal of Architectural Education: 2007),n°31

2. Linda Groat & David Wang, Architectural Research Methods (Hoboken: John Wiley & Sons, 2013), p.21

3. Linda Groat & David Wang, Architectural Research Methods, p.8

4. Lucas Ray, Research Methods for Architecture (London: Laurence King Publishing, 2016), p.8

the diversity between the possible research methods and their applications, but also their possible combinations in order to obtain a more holistic result.

During the Global Housing Graduation Studio, we analyzed our site from different perspectives: economic, social and environmental. In the first part of the course, we based our research on scientific data and literature, trying to understand the context of Ethiopia and more in general, of the expanding cities in developing countries. While in the second part, we have narrowed down our analysis, focusing on the issues related to the informal settlements in the historical inner city of Addis Ababa. As a matter of fact, around 80% of the inner city areas are considered slums. Nearly 70% of the houses lack basic facilities and urban infrastructure services. As a consequence in the last decades, the city has expropriated 392 hectares of inner-city land and demolished a total of 23,151 dilapidated houses in 23 Urban Renewal Project sites.[5] This urban plan, driven by a gentrification process, provides a clear vision about the future of these historic neighbourhoods: a complete redevelopment, which includes demolition and reconstruction of tower buildings of around fifteen storeys-high.[6] On the other hand, historical sefers are essentials for an expanding city like Addis Ababa because they preserve the tangible and intangible heritage of the city while everything is evolving quickly.[7] Jane Jacobs underlines the need for old buildings within a city because they increase the functional and economic diversity of the neighbourhood while simultaneously preserving its character.[8]

Therefore how would be possible to preserve the tangible and intangible heritage of the historic neighbourhoods in a redevelopment project, which takes into account the challenges of an expanding city, including all the social classes and avoiding the eviction?[9]

5. Cristian Rancati, Vernacular Urbanism, 2019, p.2

6. Cristian Rancati, Vernacular Urbanism, p.2

7. Cristian Rancati, Vernacular Urbanism, p.2

8. Jane Jacobs, The Death and Life of Great American Cities (Random House, 1961), p.187

9. Cristian Rancati, Vernacular Urbanism, p.2

img 2.1 : Compound's collective space



FOUR APPROACHES FOR A UNIQUE RESULT

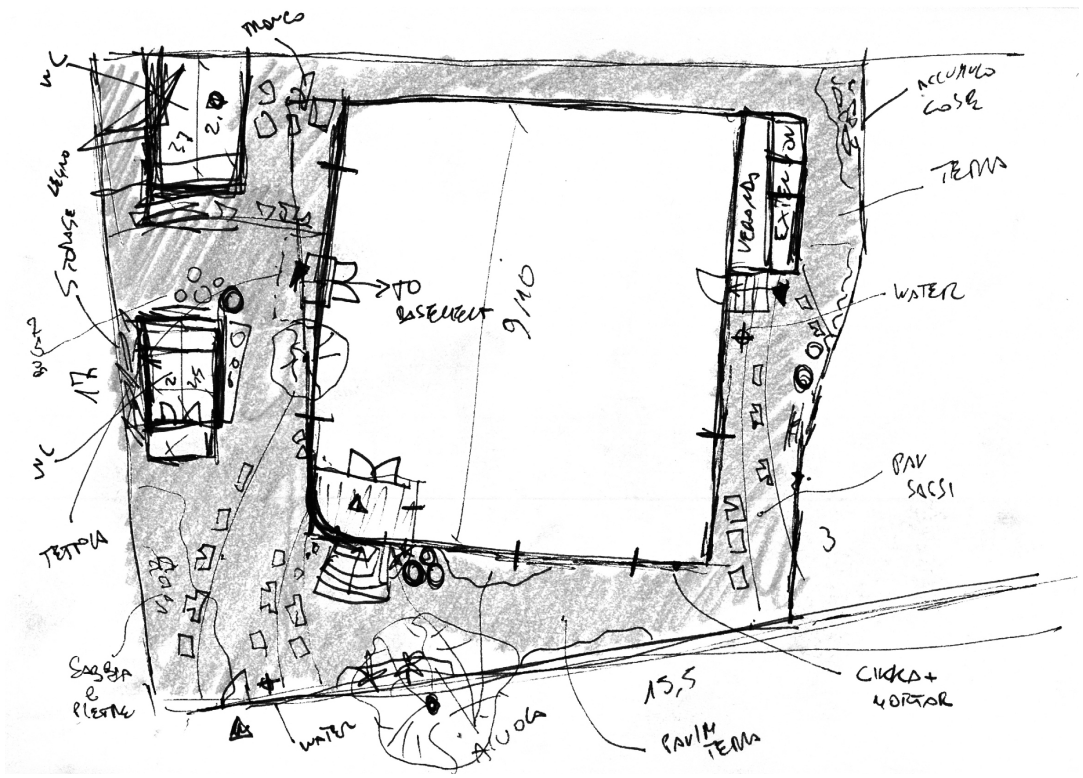
In order to understand the complexity of the social configuration in the informal settlements in Addis Ababa, ethnography has been introduced within the Global Housing studio since the first lectures, through the reading of several books concerning ethnographic analysis, such as Architectural Ethnography, written by Momoio Kaijima and Viewing places: student as a visual ethnographers by Kimberly Powell. Then first ethnographic research was carried out on different case studies in Rotterdam. On that occasion, the material gathered from the interviews and the drawings has been reworked, providing the database necessary to the realization of a graphic novel on the life and social habits of the assigned neighbourhood.

This first experience in Rotterdam was fundamental to understand the structure of the ethnographic method, and it helped us to define our approach to apply afterwards, during the fieldwork in Addis Ababa. The goal of the on-site research then was to understand the people's behaviour during their daily routine. What kind of activity they do? Where and how they move around the neighbourhood? What kind of relationships they have with their neighbours? As well as how they change the space where they live according to their needs? The ethnographic analysis applied on-site can be divided mainly into four different approaches: participant observation, interviews, photos and drawing, local engagement.

The first approach that we used once arrived on our research site was participant observation. This method enables ethnographers to learn about the habits of the people under study in their natural setting, through observing and participating

img 2.2 : Local engagement



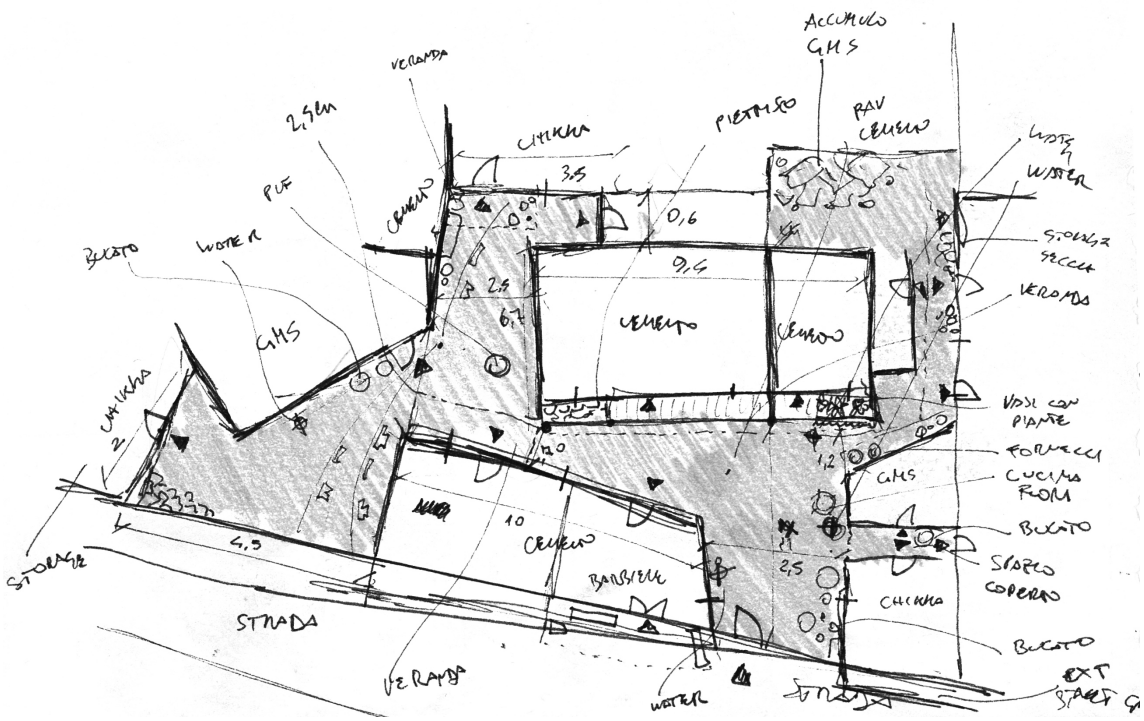


10. Barbara B. Kawulich, Participant Observation as a Data Collection Method, FQS, 2005, Volume 6, No. 2, Art. 43, p.3

11. Lucas Ray, Research Methods for Architecture , (London: Laurence King Publishing, 2016), p.176

in those activities. Moreover, it provides the foundation for the development of interview guidelines.[10] Interviews were performed with people met in public spaces and then eventually in their private home. The questionnaire consisted of a fixed part of questions, related to more general pieces of information: personal data, family conformation, employment, meeting places within the neighbourhood and many others. The second part of the questionnaire instead, focused on the activities and habits of the families. Both in the present and the past and therefore, how they have changed. Eventually, the last part of the questions was more free and different for each interlocutor, based on the information collected previously in such a way to leave freedom to the informant to elaborate on topics that interests him.

The third approach that we used during the survey on-site, documented people's lifestyle by drawing sketches and taking photos. Drawing is one of the methods traditionally related to architecture. Moreover, it is well placed towards research as a system of investigation.[11] Through the drawing, it was possible recording even the smallest details of the houses such as their dimensions, the arrangement of the furniture as well as the different use of the space during the day. Eventually, pictures helped us to complete the information gathered with the sketches, adding details on materiality, colours and visual quality



of the built environment.

Finally, the fourth method used was local engagement. At the end of the interview whose structure is above explained, informants were asked to draw and to take part actively at the design process, starting from a simple question: if you would have the chance, how would you modify your home? what improvements would you make? How would you change your neighbourhood?

Although an initial hesitancy and although the questions were similar for all the people interviewed, they led to the most different results, emphasizing the different needs and ambitions of the residents. The ethnographic tools listed above used during the on-site research helped me to define the habits and daily activities within the informal settlements in the inner-city of Addis Ababa. Moreover, they have been fundamental to understand the quality of the built environment, its state of conservation and the interdependent relationship with the residents. The quantity and quality of details collected during the survey, therefore, allowed us to complete and enrich the concepts learned during the lectures through literature.

ETHNOGRAPHY: EVOLUTION AND SOLUTIONS

Founded in the late nineteenth century, ethnography has long focused his research on non-western peoples, "primitive" cultures and on "folk societies", that were opposed especially in the sociological sphere to urban societies.[12] Born as a positivist science, ethnography adopted the method used by the natural sciences, based on the clear distinction between empirical data collection and theoretical reflection. As a result, the first ethnographers were never directly involved in the field, but they used to take their data from previous writings or from travellers, who acted as field correspondents.[13] It will be necessary to wait until the first half of the 1900s for methodological questions to be addressed. The character that best expresses this turning point was Malinowski. In fact, he definitively detached himself from the old ethnographic practice and promoted a new type of research that will be known as "participant observation". Since then, the ethnographer is asked to live with the social group (object of study) for an extended period: only in this way is it possible to grasp the point of view of the natives.[14]

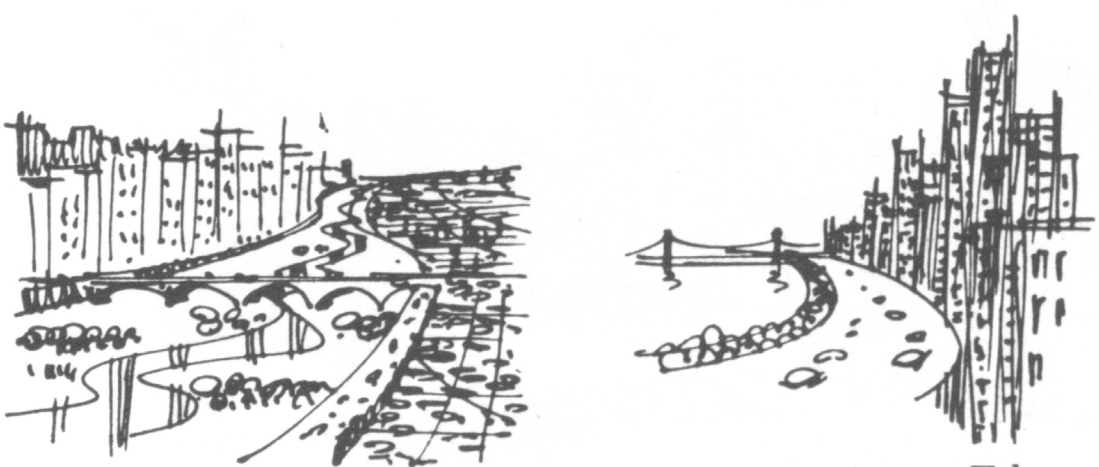
Starting from the 1980s ethnography was harshly criticized. In effect, the relation with the anthropological and behavioural field inspired by post-modern literary criticism, has sometimes led to deny the scientific validity of the ethnographic method.[15] Without any doubt, the aspect criticized the most was the subjectivity of the ethnographic method; thus the influence exercised by the observer on the informants and the choices of data collection, which were based on entirely personal criteria. Furthermore, the debate began in the 1980s turned out to be useful for re-examining the epistemological

12. Francesco Marano, Punti chiave per un uso dell'etnografia visiva nella progettazione architettonica e nella pianificazione urbana, L'architettura delle città n°10, (Roma: Edizioni nuova cultura, 2017), p.88

13. Martina Grassi e Alessandra Salamone, "Il metodo Etnografico", 2016, https://www.historiaproject.com/il-metodo-etnografico/

14. Martina Grassi e Alessandra Salamone, "Il metodo Etnografico", 2016, https://www.historiaproject.com/il-metodo-etnografico/

15. "Etnografia", Treccani, 2015, http://www.treccani.it/enciclopedia/etnografia/



Edges.

img 2.3 : Sketches from "The image of the city" by Kevin Lynch

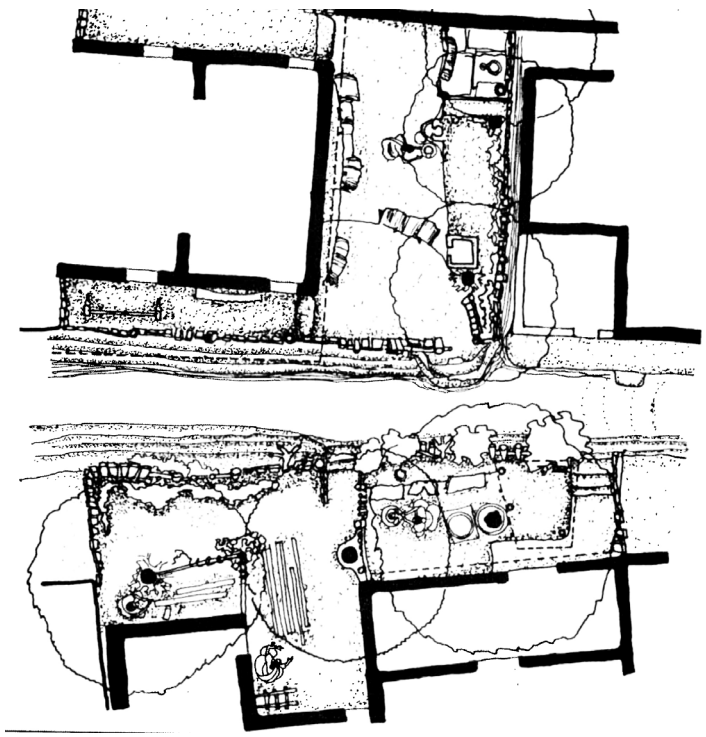
assumptions of ethnographical research. Renewed attention was given to the methodology of ethnography and the issue related to data collection was rethought, in particular about ethnographic reports based on oral experiences. This type of approach emphasizes the dialogic relationship between anthropologist and interlocutor.[16] As a result of this new school of thought, in the 90s, a new anthropological current emerges. The researcher became the fulcrum of the ethnographic method, highlighting how he should not be considered as a neutral character, but as an active actor in the construction of knowledge: impressions and perceptions became relevant and significant to understand social behaviour .[17] Nowadays, ethnography has abandoned the mere description of social structures or cultural models, focusing more on the meaning that people give, even unconsciously, to their socio-cultural practices and activities. These meanings come out talking with the locals during the fieldwork. Then the task for the researcher is to understand and translate the output, making it culturally closer to him and his audience.[18] Despite the theoretical and epistemological rethinking, the ethnographic method continues to be considered a cornerstone of anthropological research, also extending to some areas of sociological research that are more attentive to quantitative analysis and the lived experience of individual social actors.[19] A striking example

16. "Etnografia", Treccani, 2015, http://www.treccani.it/enciclopedia/etnografia/

17. Martina Grassi e Alessandra Salamone, "Il metodo Etnografico", 2016, https://www.historiaproject.com/il-metodo-etnografico/

18. Francesco Marano, Punti chiave per un uso dell'etnografia visiva nella progettazione architettonica e nella pianificazione urbana,

19. "Etnografia", Treccani, 2015, http://www.treccani.it/enciclopedia/etnografia/L'architettura delle città n°10, (Roma: Edizioni nuova cultura, 2017), p.88



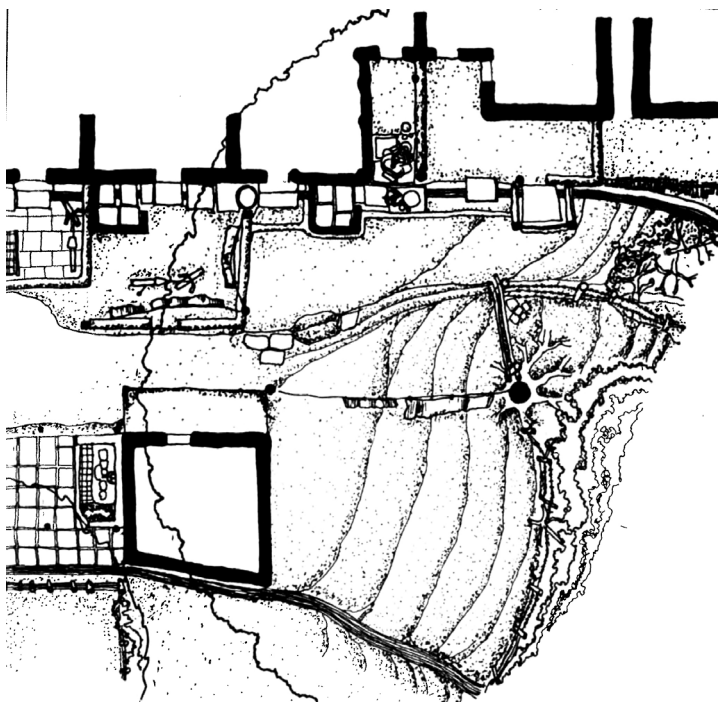
img 2.4 : sketch from “How the other half builds”

of ethnographic research and local engagement is the work of the American urbanist and theorist Kevin Lynch, recorded in his masterpiece *The image of the city*. The book is the result of a five-year study of Boston, Jersey City and Los Angeles on how observers take in information of the city and use it to make mental maps. Lynch's conclusion was that people formed mental maps of their surroundings, consisting of simple essential elements.[20] A different approach is presented by Momoyo Kaijima in her famous book *Made in Tokyo* as well as in *Architectural Ethnography*. Her work focuses on the drawing as a primary ethnographic tool to depict not only environmental qualities but also patterns of human inhabitation and ways of life.[21] Similar method was used by the Center for Minimal Cost Housing in Montreal to analyze the living condition of informal settlements in Indore (India). The survey on-site took place in 1984 in four different villages. The daily visits involved the realization of drawings, the measurement of selected locations, accompanied by observational notes and photographs. This material was then analyzed and redrafted in order to define not only the morphological configuration of such spaces but also the different activities that take place in these, highlighting the great spatial complexity of this informal settlements.[22] Noteworthy is the approach illustrated by Piyarat Nanta in her Doctoral Dissertation in Architecture. Her work

20. Kevin Lynch, The Image of the City, (Boston: MIT, 1968)

21. Momoyo Kaijima, Laurent Stalder and Yu Iseki, Architectural Ethnography (Tokyio: Toto Publishing, 2018), p11

22. How the other half builds, McGill University Montreal, 1984, research paper n°9, p1



img 2.5 : sketch from “How the other half builds”

focuses on the transformation of vernacular houses in a rural region of central Thailand through the socio-cultural changes over the past 50 years. She adopted interview as a primary method and the information that she gathered served as a foundation for further observation and documentation like videotapes, photos, and annotated plan layouts.[23] The last example that I want to introduce is Maire O’Neill’s study of Montana ranch families’ place experience. O’Neill based her approach on an open-ended interview in order to allow the participants to describe their experiences freely in their terms. Then by analyzing and translating the interview transcripts, she was able to understand how the informants perceived and experienced the space.[24] Although the conclusions of O’Neill’s research have not been directly useful to the practice, their principles have proved to be relevant for sensitive and conscious design, underlying the relationship between people and space.[25] The debate on the method is still open, in fact, it is not possible to assume absolute paradigms in this sense and often it is the research field itself that suggests the adoption of an ethnographic approach rather than another.

23. Linda Groat & David Wang, Architectural Research Methods (Hoboken: John Wiley & Sons, 2013), p.226

24. Linda Groat & David Wang, Architectural Research Methods, p.232

25. Linda Groat & David Wang, Architectural Research Methods, p.232

A BALANCED APPROACH

img1: vista di abuna petros hvrkhv

img1: vista di abuna petros hjiehdj

The literature concerning the multiple varieties of research methods was fundamental to understand better how to approach the analysis during the Global Housing Graduation Studio. The literature consulted consists of both books on the theory of research about architectural design and books more focused on ethnography and on the techniques for studying the relationship between people and the built environment. Besides, books such as *How the other half builds* and *Architectural ethnography* have provided exciting insights into the many variations of graphic representation as a research tool. Finally, the deepening of previous ethnographic studies was significant cause it allows us to understand how to use different approaches according to the type of information needed.

Lynch, Kaijima, the Center for Minimal Housing Costs, Nanta and O'Neill have all dealt with anthropological research on the relationship between humans and the built environment, using methods related to ethnography. Lynch focused on the perception of the city by the community on a large scale, through local engagement and targeted interviews. On the contrary, O'Neill used open interviews as a tool in order to understand how people experience space through their senses. Kaijima instead focuses on drawing as a means of gathering information related to the most intimate dimension of the home. The same approach was also used by the Center for Minimal Cost Housing to describe the spatial and functional complexity of public spaces within informal settlements. Finally, Piyarat Nanta supports his research on the evolution of rural areas in Thailand through interviews, integrating the results with annotated photographs and drawings.



img 2.6 : Local enagagement

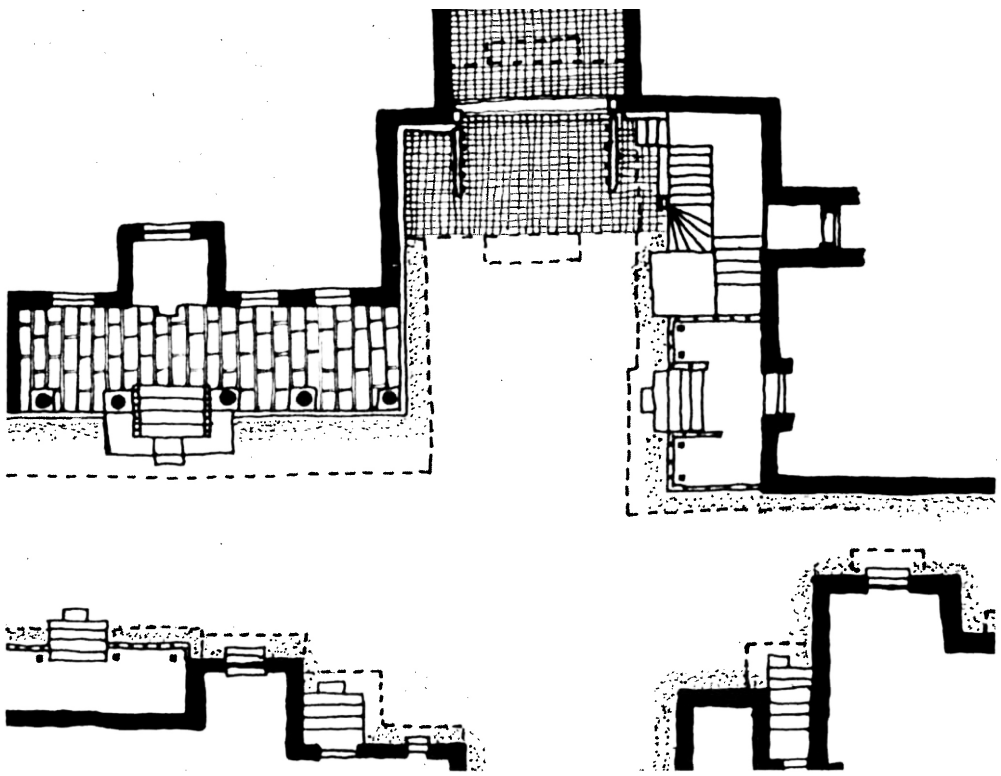
During the analysis of Addis Ababa, in particular, during the field trip, the research method adopted, tried to combine different ethnographical approaches, in order to collect different types of information. As a matter of fact, participant observation, interviews, drawings, photos and local engagement are different ethnographic tools that when combined, provide a holistic view of the site. Therefore the research method adopted positioning itself between the various examples listed above, trying to combine their most functional aspects related to the site. It is my personal opinion that, in order to have a clear and complete vision, it's not possible to address the problem through a single approach, since from it we will derive a single genre of information. On the contrary, the use of multiple tools provides the possibility of comparing the different outputs verifying their quality. For example, the interview as a tool is essential to gather information on people's lifestyle, but at the same time it can be misleading, as people may omit details or change reality in order to "look better". For this reason, it becomes necessary to compare the results of the interviews with observation, photos and drawings.

Through these different approaches, I understand and deepen many of the topics addressed during the theoretical lectures,

img1: vista di abuna petros

img1: vista di abuna petros

img1: vista di abuna petros



img 2.7 : sketch from “How the other half builds”

img 2.8 : Depicting the local environment

related to everyday life in the slums of Addis Ababa. It was, therefore, possible to define more clearly the activities and habits of the community, defined as intangible heritage, the characteristics of the built space and the physical traces of the past, defined as tangible heritage, but also the ambitions, the dreams and the expectations of the people.

In conclusion I think that the dichotomy between theory and practice, or from an architectural perspective, the relation between research and design, is essential for our profession. The results obtained from the research, after an initial phase of elaboration and simplification, will form what Lakatos calls “hard-core of inviolables statement”, a set of rules and principles which represent the foundation for a conscious architectural design.[26] However this shouldn’t work as an impediment, but should allow to the architect to experiment, following random intuitions and avant-garde approaches. The balance between rationalism and experimentalism is the key for a successful project.

26. Royston Landau, Notes on the concept of an architectural position , Architectural Association School of Architecture, AA Files, No. 1 (WINTER 1981-82), pp. 111-114


PTI

III

GRAPHIC NOVEL

CONDOMINIUM: MODELS IN COMPARISON

During the Global Housing Research Seminar course, two residential developments have been analyzed and studied in depth, respectively Schiebroek-zuid in Rotterdam and Mickeyleland in Addis Ababa. The research have been carried out in order to understand their characteristics not only from an architectural point of view, but also from the ethnographic one, in such a way to understand the close correlation between the built environment and its inhabitants. The goal of the on-site research, was to understand the people's behaviour during their daily routine. What kind of activity they do? Where and how they move around the neighbourhood? What kind of relationships they have with their neighbours? As well as how they change the space where they live according to their needs? The ethnographic analysis applied on-site can be divided mainly into four different approaches: participant observation, interviews, photos and drawing, local engagement. Through these different approaches, it was, therefore, possible to define more clearly the activities and habits of the community, but also the ambitions, the dreams and the expectations of the people.

Although diametrically opposed from a social and cultural point of view, the residential developments of Schiebroek-Zuid in Rotterdam and the one of Mickeyleland in Addis Ababa show many similarities. Without any doubt, the characteristic that unites the two case studies is the repetitiveness of the urban scheme, in which a limited number of types of buildings are repeated over a large area, following a purely rational scheme. From an architectural point of view, the most used typological solution in both projects is



img 3.1: View of Schiebroek Zuid

certainly the building with galleries. Both inSchiebroek and in Mickeyleland, the apartments have different typology of different sizes, in orderto better adapt to the needs of the residents and their growth over time.

The courtyards and large green spaces are another of the characteristics shared by the two projects, as well as the spaces for the community. Finally both projects were carried out for the low-income segments of the society, and therefore they both present different solutions in terms of affordability.

Anyway despite the numerous architectural similarities, if we deepen the research, comparing the two case studies from an ethnographical point of view, we realize that there are many differences in the way the inhabitants use the space, regarding both the interior of the private dwelling units and common spaces.

In Schiebroek-Zuid, the analyzed apartments, in most of the cases, present themselves as organized and well-defined spaces. Each room with its own specific function: kitchen, bathroom, laundry, living room, dining room, bedrooms, are outlined areas, distributed along a central corridor. Even the furniture, although in some cases excessive while in others more lacking, is purely functional related to the room in which it's placed. Moreover the apartments are often oversized compared to the number of residents. In fact, in



img 3.2 : Apartment in Schiebroek Zuid

many cases one or two people, often elderly, live in apartments with different bedrooms, which since they are not used for their original purpose, are transformed into office or dining room.

Opposite is the situation in Mickeyleland in Addis Ababa where it is easy to find overpopulated apartments, in which large families, usually composed by 5/6 people, share a space originally designed for at most 3/4 residents. In fact despite a similar spatial configuration of the dwelling units, the most striking feature is the spatial organization and therefore how the dwellers use and organize the space within their apartment. As a matter of fact unlike in Rotterdam, the relation between the room and the correlated function is often lost and shaded.

Therefore in Mickeyleland we can find more flexible spaces, which adapt to the needs of the family during the day. Thus a living room can be transformed into a bedroom during the night, but also into a laundry or a workplace if needed. In the same way, the kitchen can also be used in different ways, as a laundry, but also as a traditional kitchen and therefore as a workplace in which to produce injera to be sold later on at the market or to some commercial activities. The bathroom can also change its function and be used as a laundry not only for family use, but also as a workplace to wash the clothes of the



img 3.3 : View of Schiebroek Zuid

neighbors and therefore as a source of income. The only rooms that have a rather defined function are the bedrooms, which as mentioned above can accommodate many more people than their capacity, and therefore not only the family, but also relatives or occasional guests.

However, the biggest difference between the Rotterdam and Addis Ababa case studies is certainly the use of common and shared spaces. While in Schiebroek-Zuid the galleries are, by condominium regulation, left completely free for passage and therefore, not used for domestic functions, in Mickeyleland they become an extension of the apartments. In fact the inhabitants use them for different purposes: washing and drying clothes, drying food and cooking but also as a storage for objects and tools. Furthermore, not only the galleries but also the staircases and any other type of common space is somehow privatized and used for domestic functions.

Finally, the internal courtyards and the numerous open spaces reflect the same methods of use seen previously for the galleries. In fact, if in Schiebroek they are seldom used if not by children for recreational purposes, in Mickeyleland they become again an extension of the dwelling units. Therefore the courtyards are used to wash and dry clothes, to dry huge quantity of food on plastic sheets, to cook



img 3.4 : View of Mickeyleland

and prepare injera in the traditional way, but also to play, to relax or in some cases to practice outdoor activities such as for instance gardening. Furthermore, a feature that struck me about these spaces is that their use depends very much on their size. In fact, the inhabitants of Mickeyleland feel more comfortable in appropriating small open spaces, while large courtyards are often left empty and unused in their entirety.

In conclusion I want to talk about the relationship between people and built environment but also about the relationship between neighbors. In Rotterdam I not ced a certain lack of interest of people towards the common spaces. While in most of the cases analyzed, the private spaces are rather good looking and neat, the courtyards are quite dirty and garbage is also accumulated along the roads. Instead, concerning the relations between neighbors, a certain division within the community is noticed mainly due to age. In fact, if on one hand the young people, mostly of foreign origin, tended to join and help each other.

On the other hand the older residents, often of Dutch origin, tended to isolate themselves and limit their relationships with closer neighbors, criticizing the youngest part of the community. On the contrary the community in Mickeyleland is quite strong and united. In fact nume-



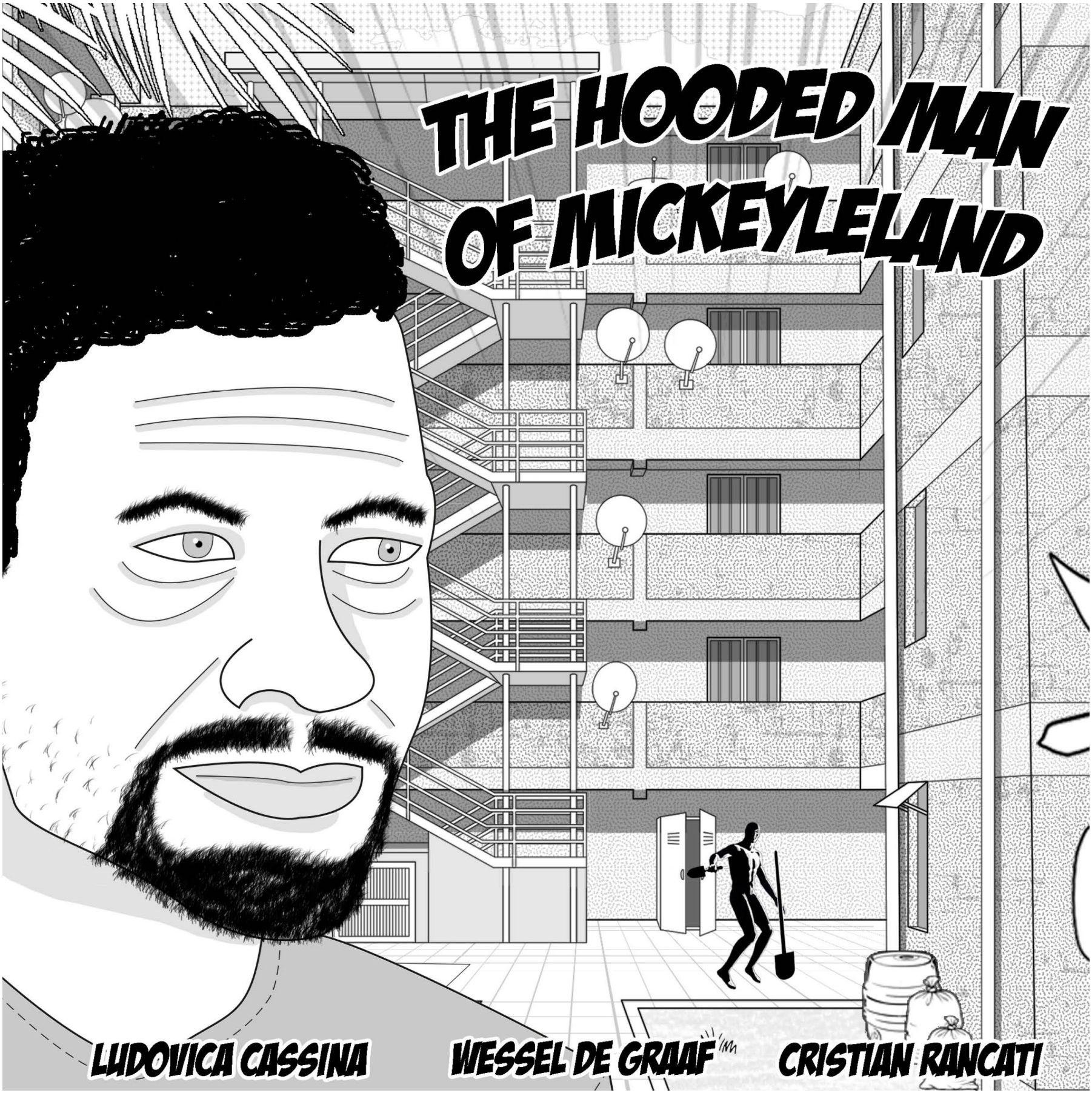
img 3.5 : Local engagement

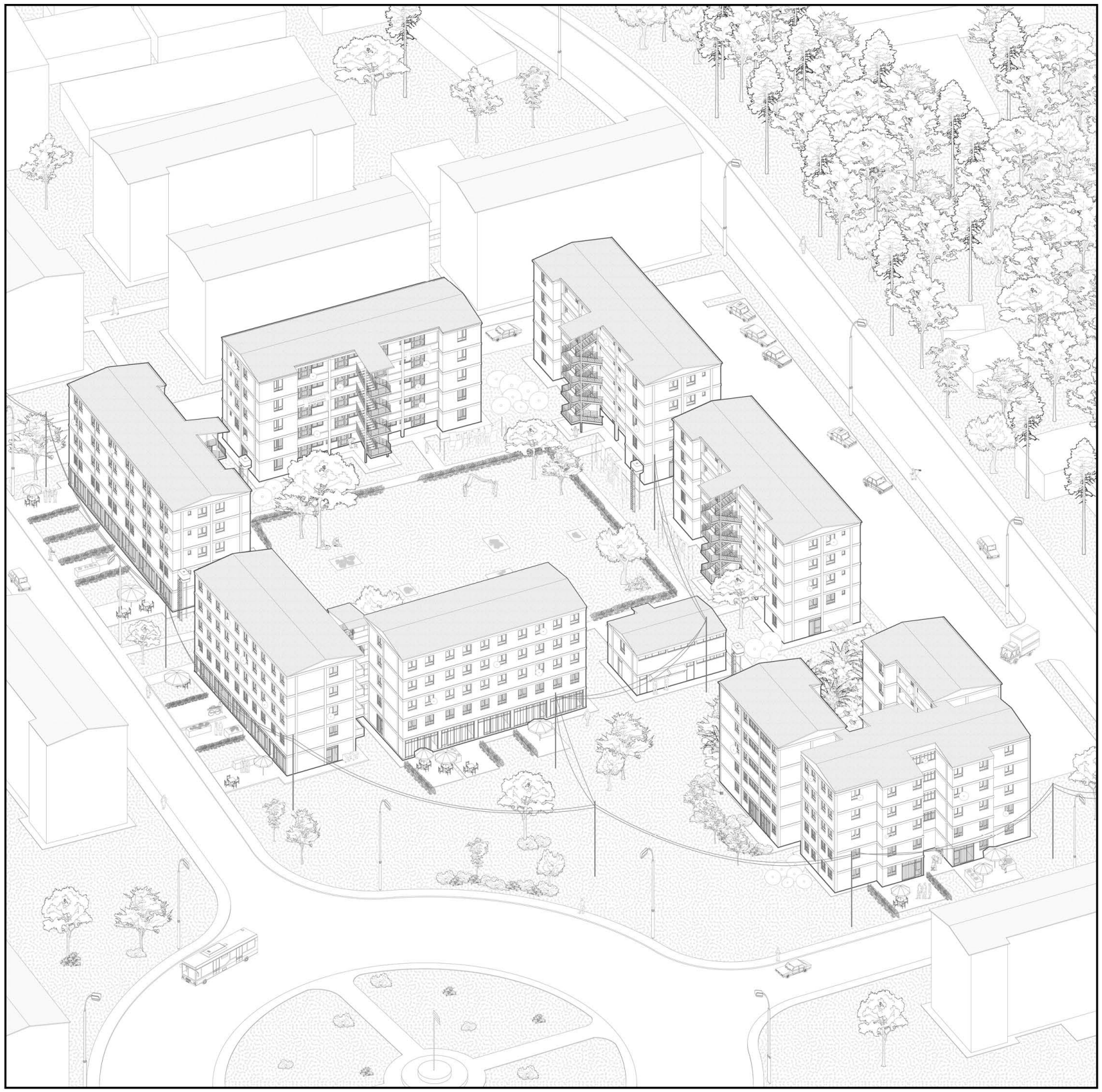
img 3.6 : View of Mickeyleland

rous are the parties and the celebration that usually take place in the communal house. Even women are used to washing clothes or to cook together, sharing different moments of the day, while men are outside to work.

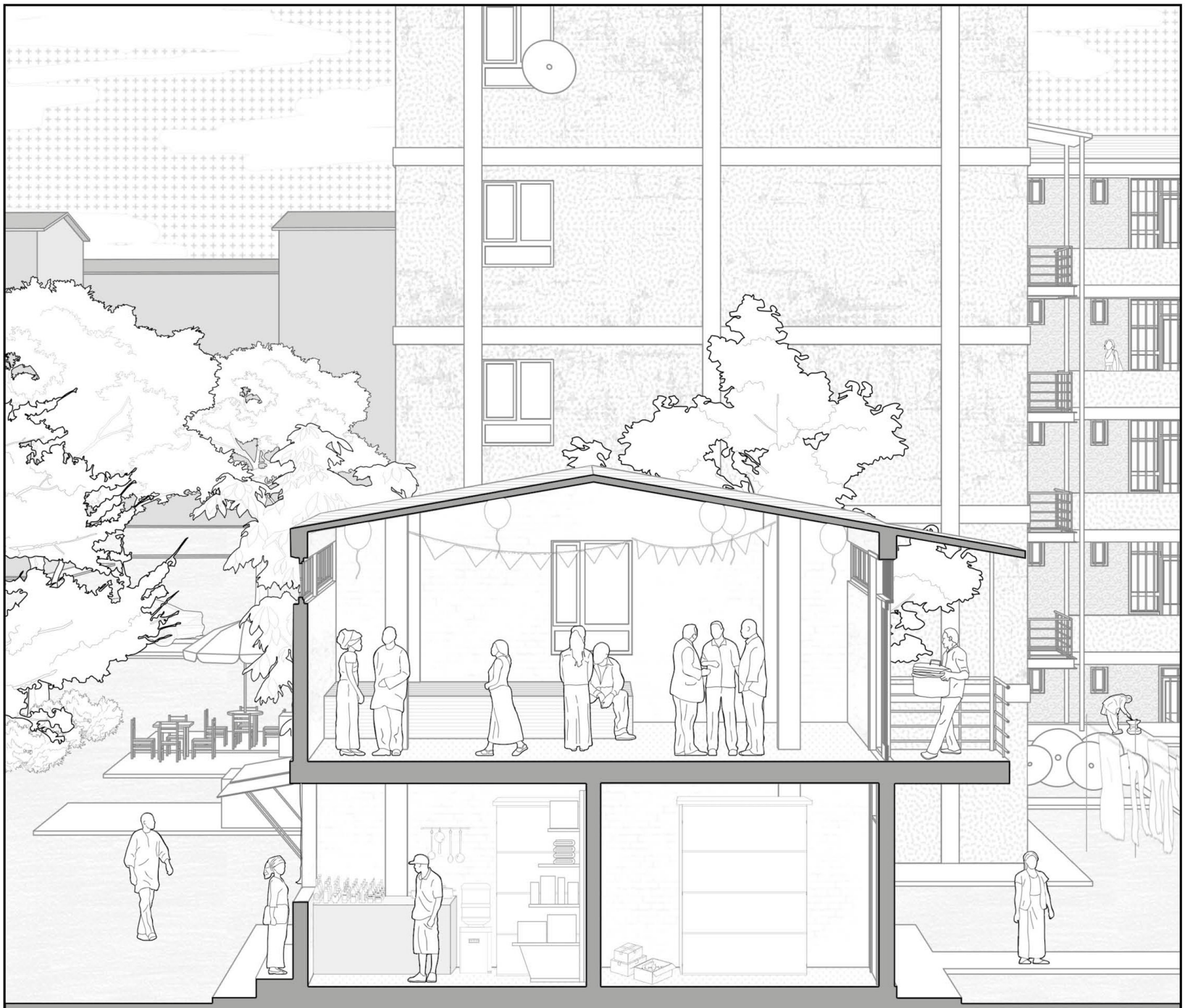
Many are the similarities between the two case studies in Rotterdam and Addis Ababa, mostly from an urban and architectural perspective. What instead makes this two residential developments different is how people use the space both public and private. This huge difference of course is the result fo a different cultural mindset but also of different needs and necessities. Therefore the comparison between these two models shows how, even starting from similar conditions, the output can be completely different. Moreover the result of this research can be used as an interesting references also for the design of potential residential developments in Addis Ababa cause it shows how a model like the condominium, if applied in a context different from Europe, changes and modifies depending on the habits of the inhabitants, proving that culture and traditionare stronger than an architectural framework.




THE HOODED MAN
OF MICKEYLELAND
LUDOVICA CASSINA
WESSEL DE GRAAF
CRISTIAN RANCATI



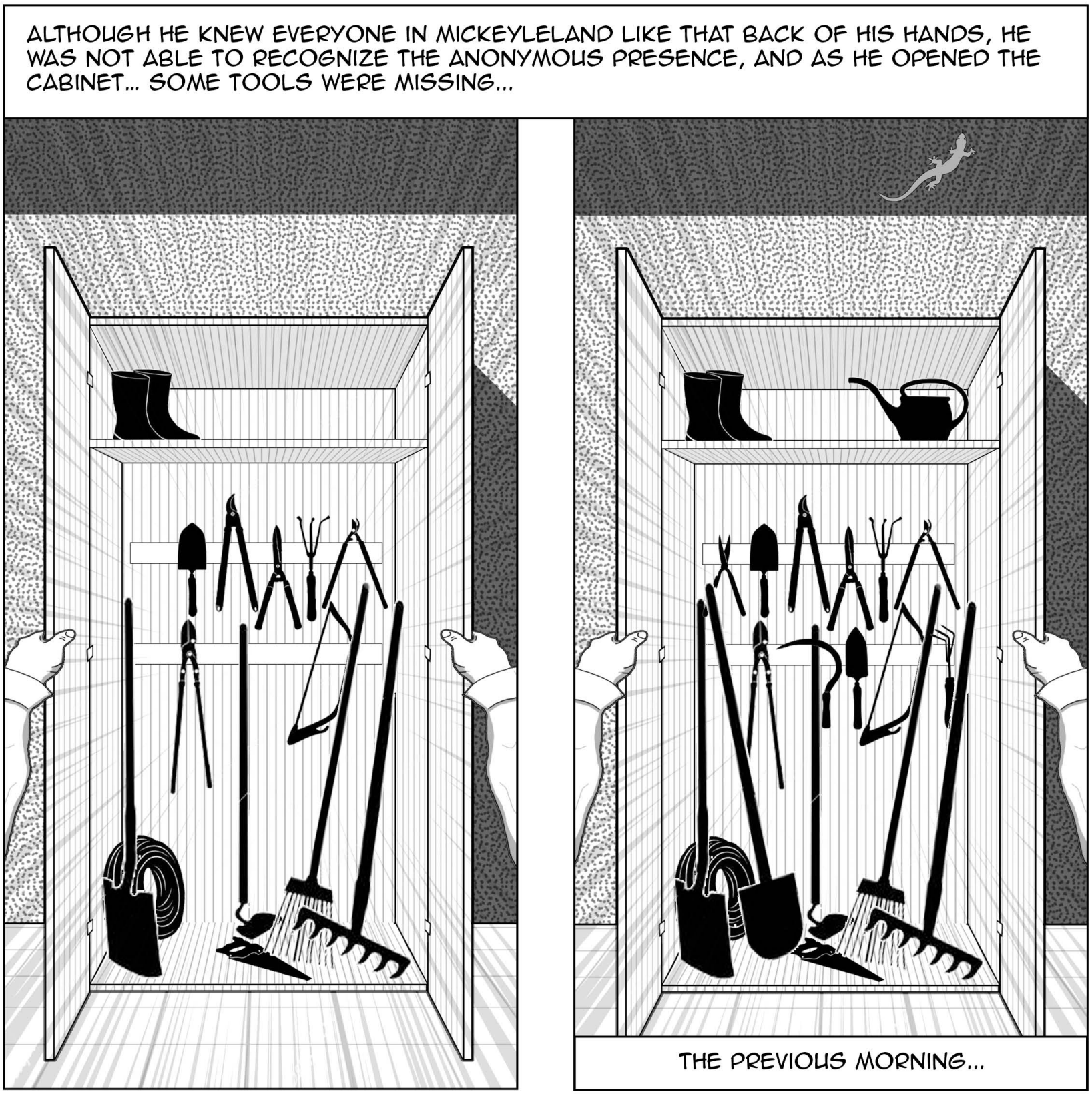

WELCOME TO MICKEYLELAND, THE MOST SUCCESSFUL EXAMPLE OF A CONDOMINIUM NEIGHBORHOOD IN ADDIS ABABA. THIS IS TSEHAI, A DWELLER THAT IS ALWAYS AVAILABLE TO HELP ANYONE IN NEED AROUND HIM. WHEN A NEIGHBOR CANNOT AFFORD TO BUY FOOD THAT WEEK, TSEHAI AND HIS WIFE INVITE HIM OR HER OVER TO SHARE A GOOD PORTION OF INJERA. HIS KINDNESS IS HONEST AND DISINTERESTED, WHICH IS WHY HE IS FRIENDS WITH ALMOST EVERYONE IN MICKEYLELAND. HE BOUGHT HIS STUDIO APARTMENT FOR 20,000 BIRR AND MOVED THERE WITH HIS WIFE AND FOUR CHILDREN. EVERY MORNING HE WAKES UP QUITE EARLY, DROPS OFF HIS KIDS AT SCHOOL WALKING, AND GOES TO WORK AS A TAILOR IN HIS HUT ON THE BACK OF THE CONDO! WHENEVER HE RETURNS HOME, HIS PASSION IS GARDENING, WHILE HIS WIFE CLEANS THE NEIGHBORING APARTMENTS FOR A COUPLE MORE BIRRS A MONTH.

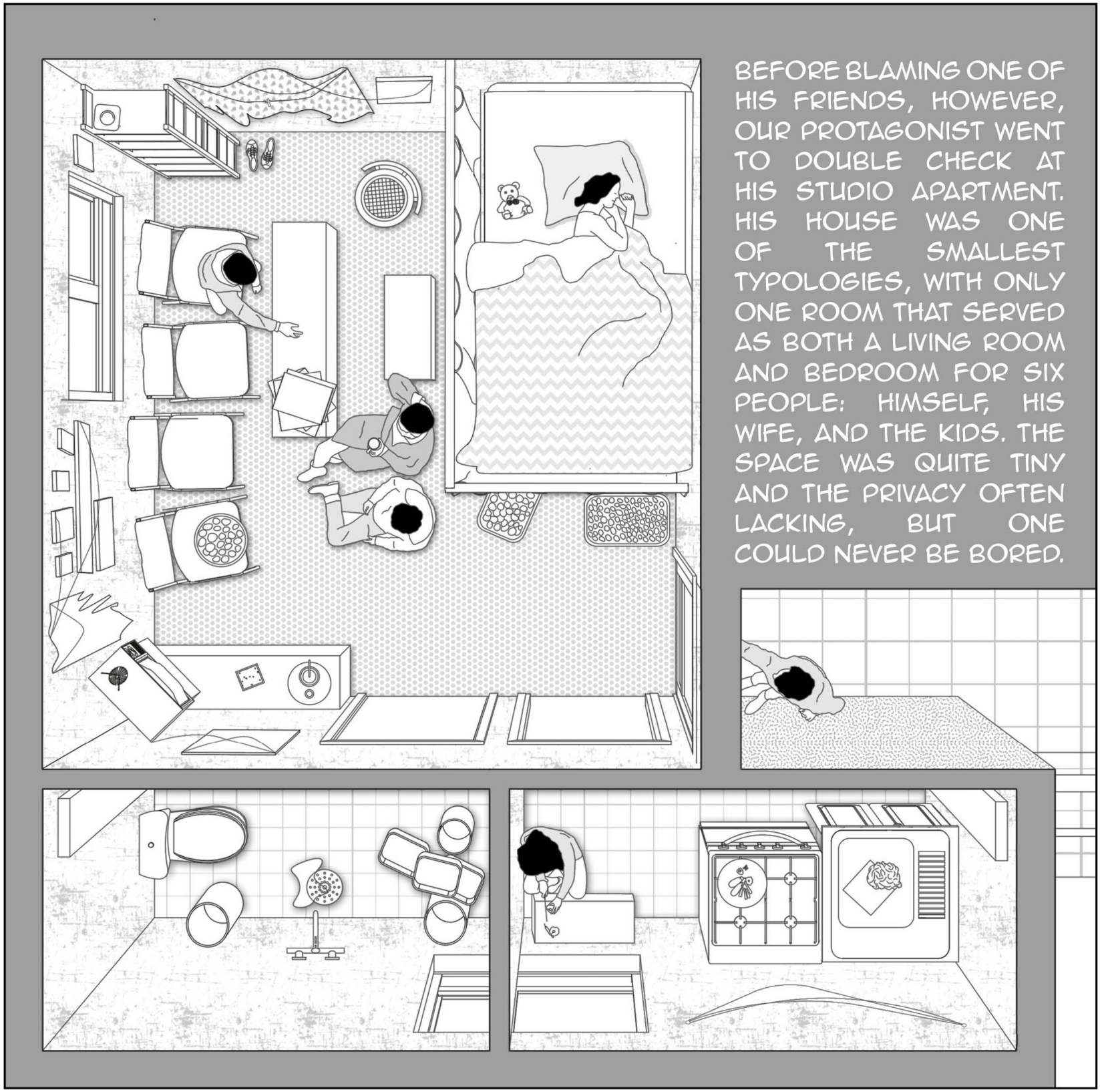


IT WAS A REGULAR SPRING AFTERNOON IN MICKEYLELAND, AND THE COMMUNITY WAS CHEERFULLY CELEBRATING IN THE COMMUNAL HOUSE. WHETHER IT WAS FOR AN ENGAGEMENT, A GRADUATION, OR A RELIGIOUS FESTIVITY, THE NEIGHBORS WERE ALWAYS LOOKING FOR AN EXCUSE TO SPEND SOME TIME TOGETHER. TSEHAI HAD JUST FINISHED ENJOYING A FLAVORED CUP OF COFFEE WITH TENA' ADAM AND WAS READY TO GO BACK TO HIS FAVOURITE HOBBY: A SMALL BOTANICAL GARDEN ON THE BACK OF THE CONDO...


IT WAS A BEAUTIFUL DAY, BUT SINCE EVERYONE WAS BUSY HAVING FUN, MICKELELAND LOOKED LIKE A GHOST TOWN.

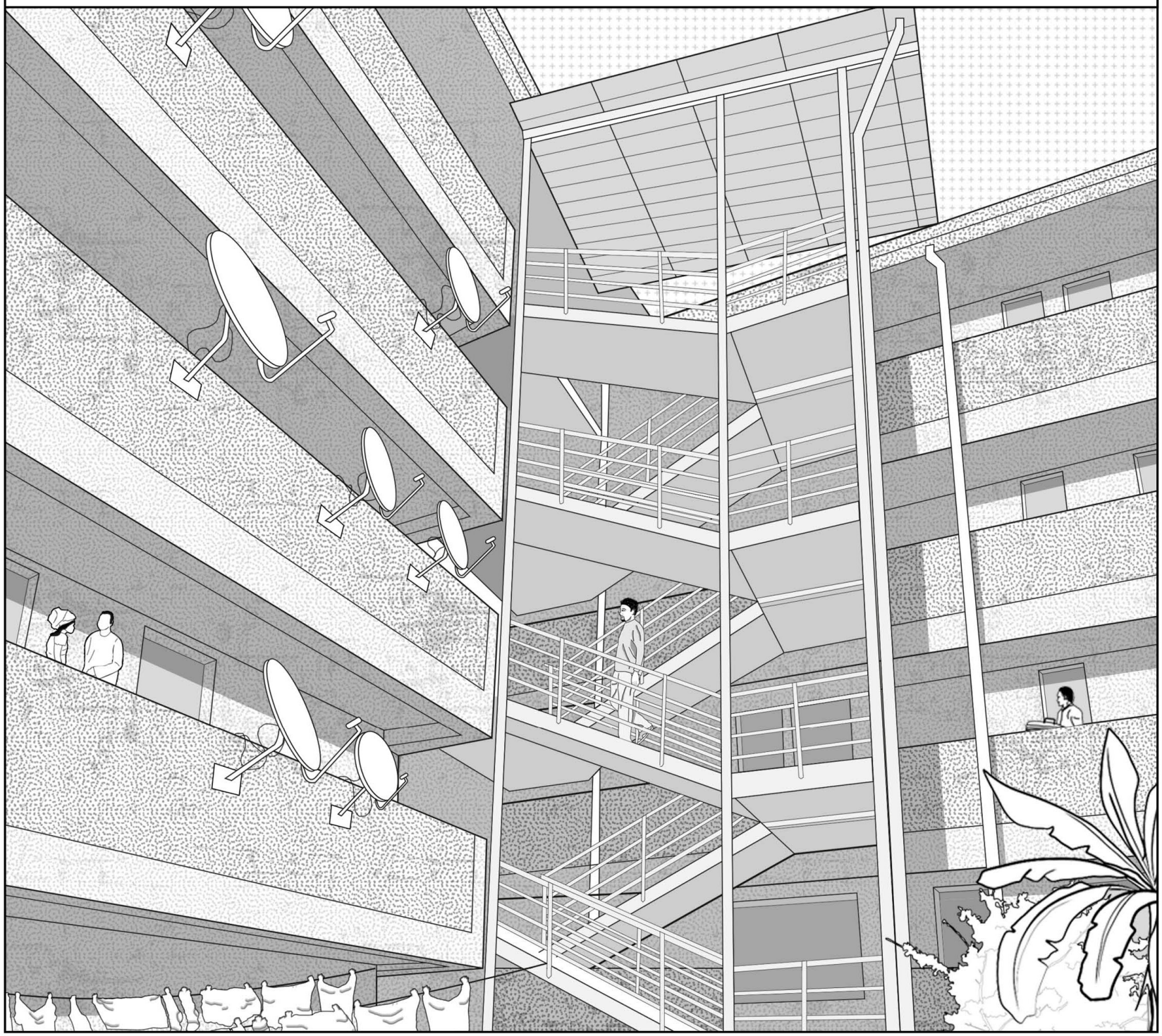

...AS TSEHAI APPROACHED HIS GARDENING TOOLS CABINET ON THE GROUND FLOOR HE NOTICED THAT SOMETHING WAS NOT RIGHT.
WHO'S THERE?

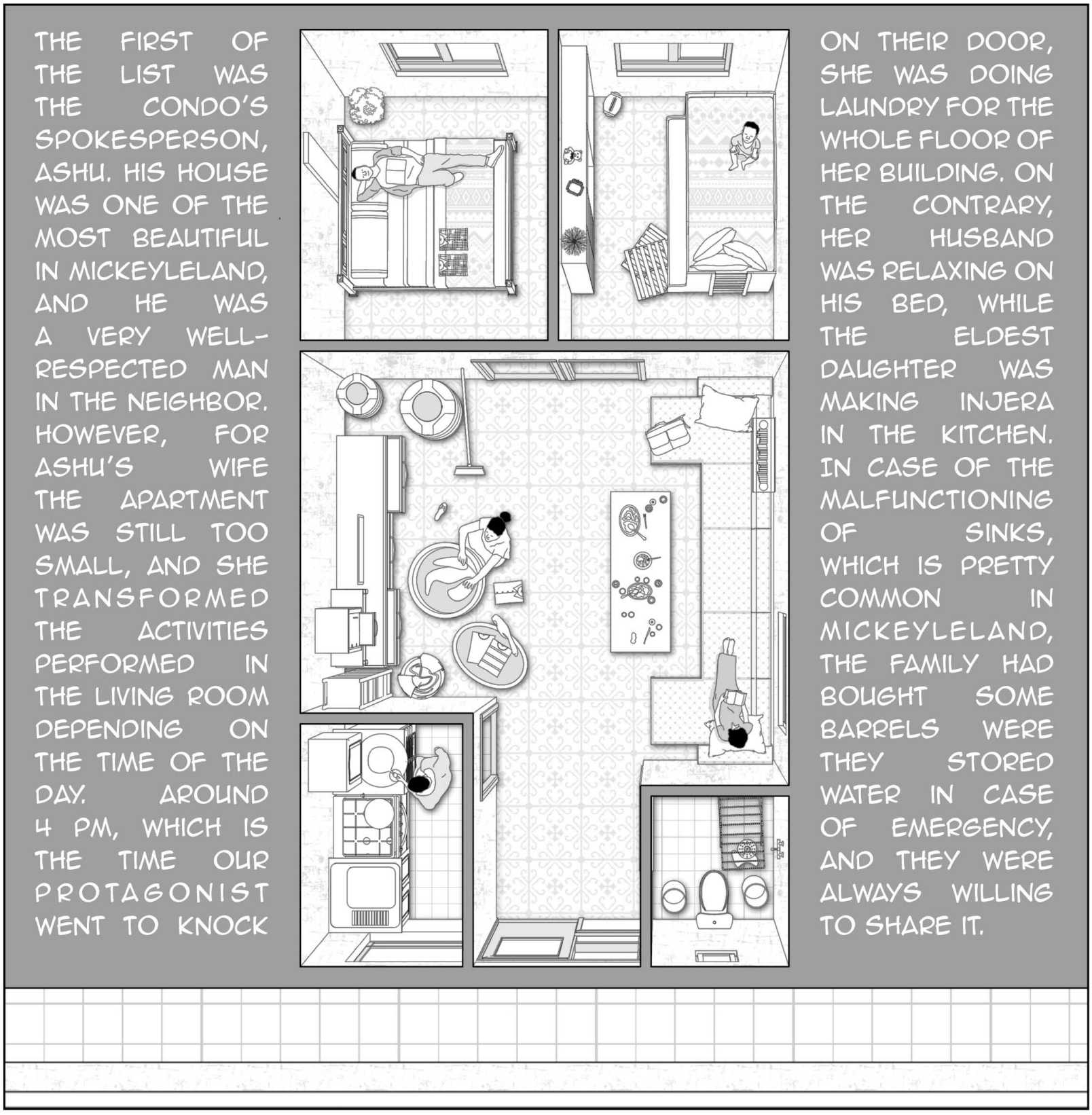

ALTHOUGH HE KNEW EVERYONE IN MICKEYLELAND LIKE THAT BACK OF HIS HANDS, HE WAS NOT ABLE TO RECOGNIZE THE ANONYMOUS PRESENCE, AND AS HE OPENED THE CABINET... SOME TOOLS WERE MISSING...
THE PREVIOUS MORNING...


BEFORE BLAMING ONE OF HIS FRIENDS, HOWEVER, OUR PROTAGONIST WENT TO DOUBLE CHECK AT HIS STUDIO APARTMENT. HIS HOUSE WAS ONE OF THE SMALLEST TYPOLOGIES, WITH ONLY ONE ROOM THAT SERVED AS BOTH A LIVING ROOM AND BEDROOM FOR SIX PEOPLE: HIMSELF, HIS WIFE, AND THE KIDS. THE SPACE WAS QUITE TINY AND THE PRIVACY OFTEN LACKING, BUT ONE COULD NEVER BE BORED.


WELCOME BACK! I AM SO HAPPY YOU ARE HOME! WOULD YOU LIKE SOME SHIRO?
HELLO DARLING! NO THANK YOU, I AM ACTUALLY LOOKING FOR MY GARDENING TOOLS, HAVE YOU SEEN ANY IN THE HOUSE?

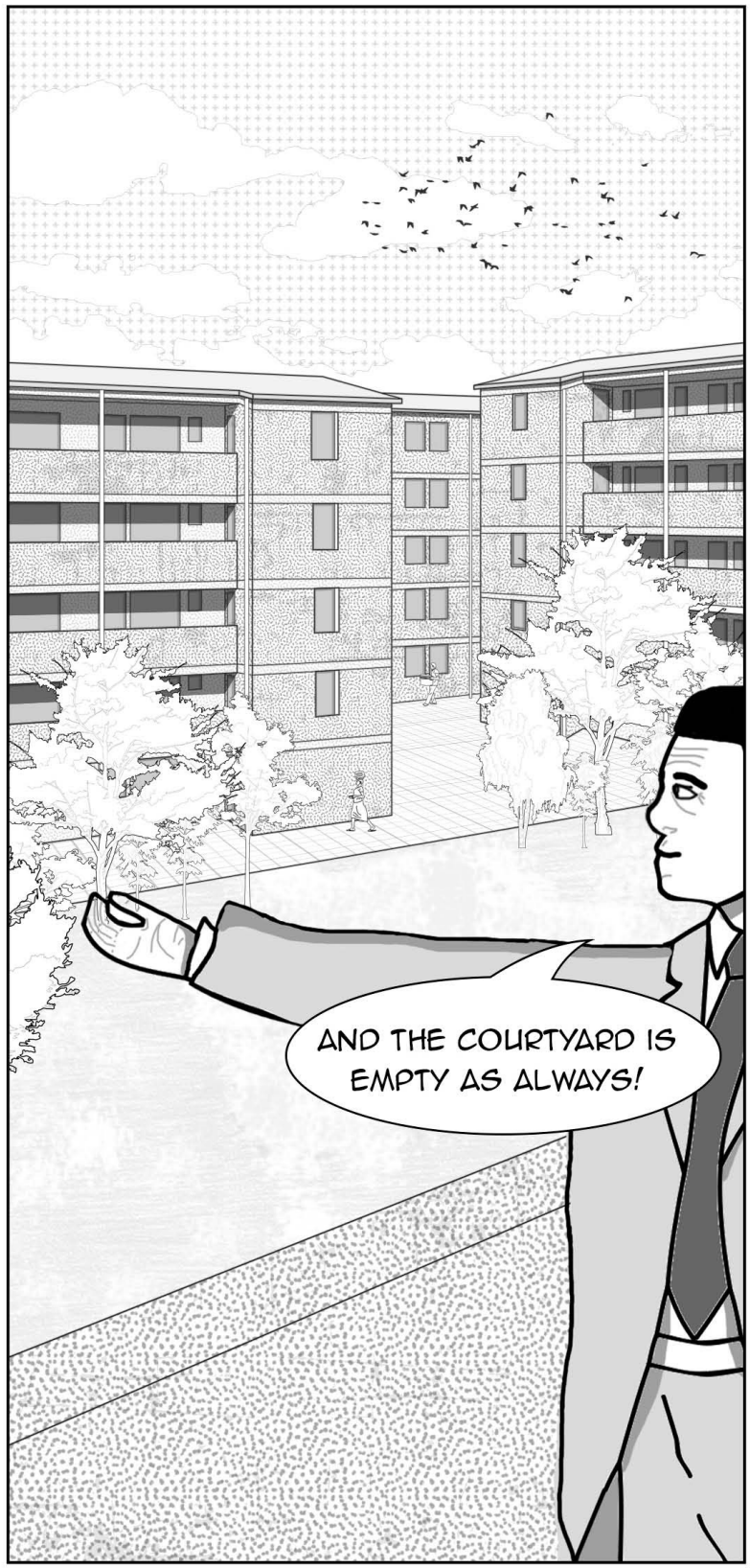
TSEHAI'S WIFE WAS SURE THEY WERE NOT IN THE HOUSE, AS SHE HAD CLEANED ALL OF THE ROOMS IN THE MORNING. HENCE, HE WENT TO KNOCK ON THE DOORS OF THE ONLY FEW NEIGHBORS WHOM HE HAD NOT SEEN AT THE PARTY THAT DAY.




THE FIRST OF THE LIST WAS THE CONDO'S SPOKESPERSON, ASHU. HIS HOUSE WAS ONE OF THE MOST BEAUTIFUL IN MICKEYLELAND, AND HE WAS A VERY WELL-RESPECTED MAN IN THE NEIGHBOR. HOWEVER, FOR ASHU'S WIFE THE APARTMENT WAS STILL TOO SMALL, AND SHE TRANSFORMED THE ACTIVITIES PERFORMED IN THE LIVING ROOM DEPENDING ON THE TIME OF THE DAY. AROUND 4 PM, WHICH IS THE TIME OUR PROTAGONIST WENT TO KNOCK
ON THEIR DOOR, SHE WAS DOING LAUNDRY FOR THE WHOLE FLOOR OF HER BUILDING. ON THE CONTRARY, HER HUSBAND WAS RELAXING ON HIS BED, WHILE THE ELDEST DAUGHTER WAS MAKING INJERA IN THE KITCHEN. IN CASE OF THE MALFUNCTIONING OF SINKS, WHICH IS PRETTY COMMON IN MICKEYLELAND, THE FAMILY HAD BOUGHT SOME BARRELS WERE THEY STORED WATER IN CASE OF EMERGENCY, AND THEY WERE ALWAYS WILLING TO SHARE IT.


HI ASHU, HAVE YOU NOTICED ANYTHING STRANGE GOING ON LATELY? A COUPLE OF MY GARDENING TOOLS HAVE DISAPPEARED...
WHAT? THAT'S TERRIBLE! LET'S GO OUTSIDE, MAYBE WE'LL NOTICE SOMETHING.


FROM OUR GALLERY NOTHING HAS BEEN STOLEN...


AND THE COURTYARD IS EMPTY AS ALWAYS!


IT COULD BE THAT ONE OF THE SHOP-OWNERS HAS BORROWED THEM, YOU SHOULD GO ASK THEM!



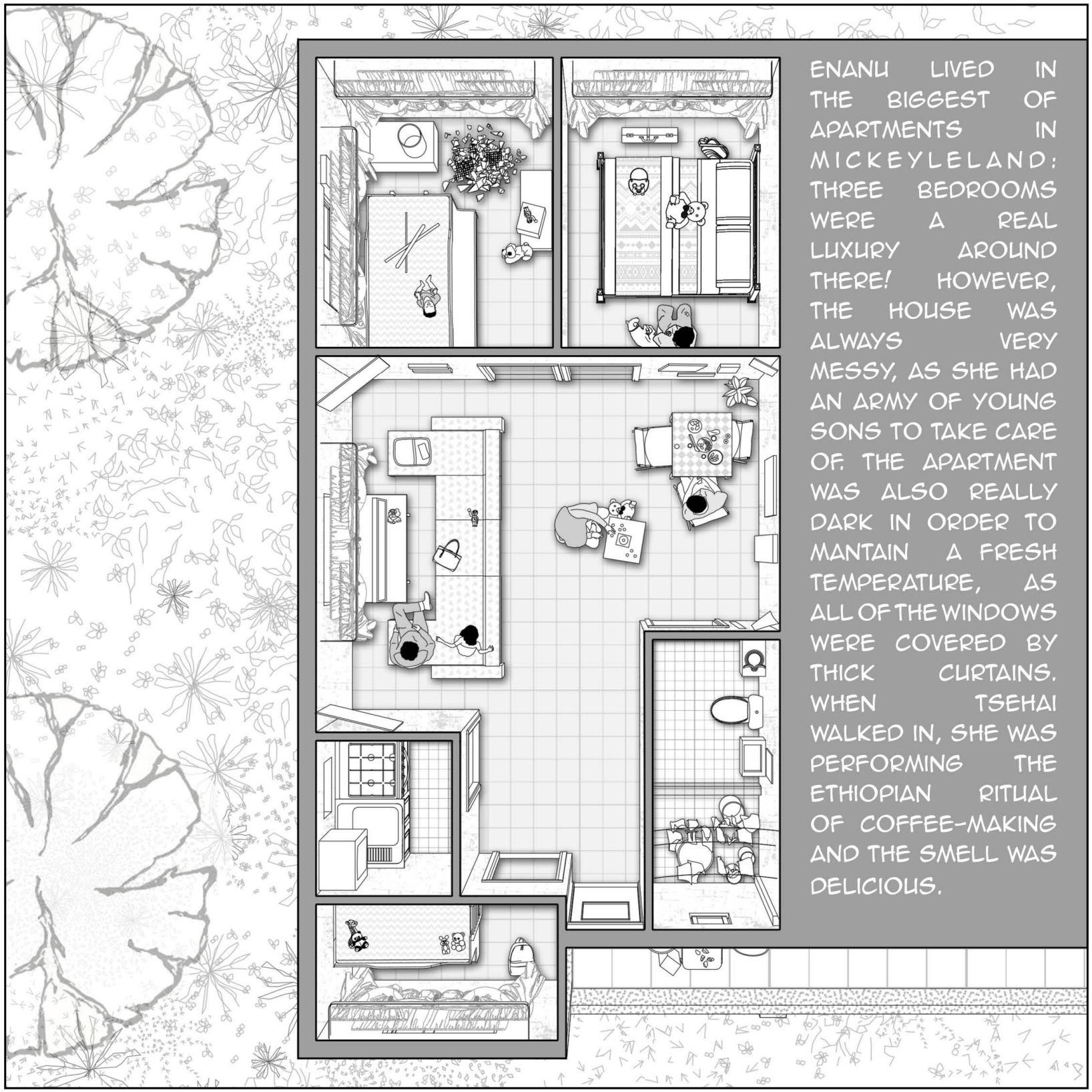


TSEHAI WENT IN ALL OF THE GROUND FLOOR SHOPS: THE CAFETERIA, THE MINIMARKET, AND THE PHARMACY, HOPING TO FIND SOME CLUES OF WHAT WAS GOING ON. UNFORTUNATELY, NO ONE HAD ANY IDEA WHO MIGHT HAVE TAKEN WHAT HE WAS LOOKING FOR...

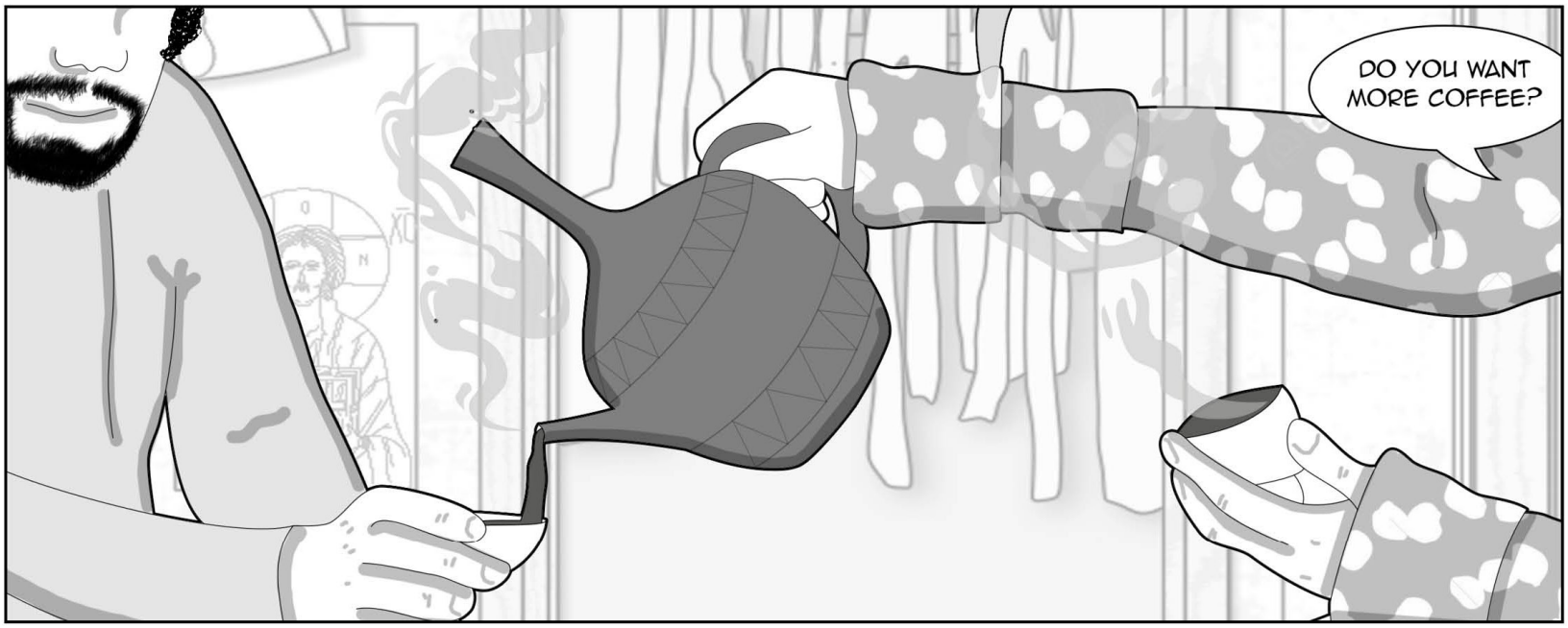

THEREFORE, HE WENT BACK TO THE HEART OF THE CONDOMINIUM BLOCKS: THE COURTYARD, SO VAST THAT NO DWELLER EVER FELT LIKE THEY COULD OCCUPY IT. IT WAS ONLY USED IN THE RARE OCCASIONS OF A BREEZY SUNNY DAY IN WHICH THE COMMUNITY WAS REUNITED



OUTDOORS. TSEHAI SAW TWO OF HIS NEIGHBORS DOING SOME CONSTRUCTION WORK, BUT THEY DID NOT HAVE ANY OF HIS TOOLS. GAZING TOWARDS THE SKY DISHEARTENED, HE SAW A LIGHT COMING FROM ENANU'S UNIT, AND DECIDED TO GO KNOCK.


ENANU LIVED IN THE BIGGEST OF APARTMENTS IN MICKEYLELAND: THREE BEDROOMS WERE A REAL LUXURY AROUND THERE! HOWEVER, THE HOUSE WAS ALWAYS VERY MESSY, AS SHE HAD AN ARMY OF YOUNG SONS TO TAKE CARE OF. THE APARTMENT WAS ALSO REALLY DARK IN ORDER TO MANTAIN A FRESH TEMPERATURE, AS ALL OF THE WINDOWS WERE COVERED BY THICK CURTAINS. WHEN TSEHAI WALKED IN, SHE WAS PERFORMING THE ETHIOPIAN RITUAL OF COFFEE-MAKING AND THE SMELL WAS DELICIOUS.


I ALREADY HAD A CUP OF COFFEE, BUT YOURS IS TRULY SPECIAL. I AM HERE BECAUSE I'AM LOOKING FOR MY TOOLS!
SORRY MATE, I HAVE NO CLUE, BUT I AM SURE THAT WHOEVER TOOK THEM DID NOT DO IT WITH BAD INTENTIONS!


DO YOU WANT MORE COFFEE?

OUR PROTAGONIST IS REALLY TIRED AND DISAPPOINTED AT THIS POINT, AND HE DECIDED TO WALK THROUGHOUT THE EMPTY PARKING LOTS, AS NOT MANY PEOPLE CAN REALLY AFFORD A CAR AROUND MICKEYLELAND, IN ORDER TO ARRIVE TO HIS BELOVED SEWING HUT ON THE BACK OF THE FURTHEST BUILDING. THERE, HE SPENT HOURS MAKING CLOTHES FOR HIS LOVED ONES. MOREOVER, THE HUT WAS LOCATED IN THE MIDDLE OF THE GARDEN TSEHAI WAS TAKING CARE OF WITH LOTS OF DEVOTION.



HE COULD NOT BELIEVE HIS EYES! THE TOOLS WERE RIGHT THERE, BUT HE WAS SURE HE HAD NOT BROUGHT THEM...




IN THAT PRECISE MOMENT, TSEHAI STARTED HEARING NOISES FROM THE GARDEN...


WHAT'S GOING ON HERE?
PSHSPSHS
PSHSPSHS

THE MICKEYLELAND COMMUNITY WAS SO GRATEFUL FOR TSEHAI'S KINDNESS THROUGHOUT THE YEARS, THAT IT DECIDED TO PLANT NEW TREES AND FLOWERS IN HIS GARDEN, WITH THE DESIRE TO CREATE A NEW BEAUTIFUL COMMUNAL SPACE IN NATURE. TSEHAI COULD NOT BE HAPPIER!




THE PARTY STARTED WITH LOADS OF TEJ-WINE AND HAND-MADE INJERA
THANK YOU GUYS! I'M REALLY TOUCHED...
YOU DESERVED IT TSEHAI! LET'S GO TO EAT SOMETHING ALL TOGETHER!


ALL'S WELL THAT ENDS WELL!

capitolo

IV

THE SPIRIT OF THE TIME

GEOGRAPHY

img1: vista di abuna petros hvrkhv

img1: vista di abuna petros hjiehdj

On the Horn of Africa, bounded by Eritrea to the north, Djibouti to the northeast, Somalia to the east, Kenya to the south, and South Sudan and Sudan to the west, Ethiopia is the most populous landlocked country in the world. Five topographic features are identifiable in the Ethiopian topography: the Western Highlands, the Western Lowlands, the Eastern Highlands, the Eastern Lowlands, and the Rift Valley. The Western Highlands are the most extensive and rugged topographic component of Ethiopia. The North Central massive form the roof of Ethiopia, with elevations ranging from 4,533 metres for Mount Ras Dejen, the highest point in Ethiopia, to the Blue Nile and Tekeze river channels 3 km below. Lake Tana—Ethiopia's largest inland lake and the main reservoir for the Blue Nile River—is located in this region, at an elevation of about 6,000 feet (1,800 metres).

img1: vista di abuna petros

img1: vista di abuna petros

img1: vista di abuna petros

CLIMATE CONDITIONS

img1: vista di abuna petros hvrkhv

img1: vista di abuna petros hjiehdj

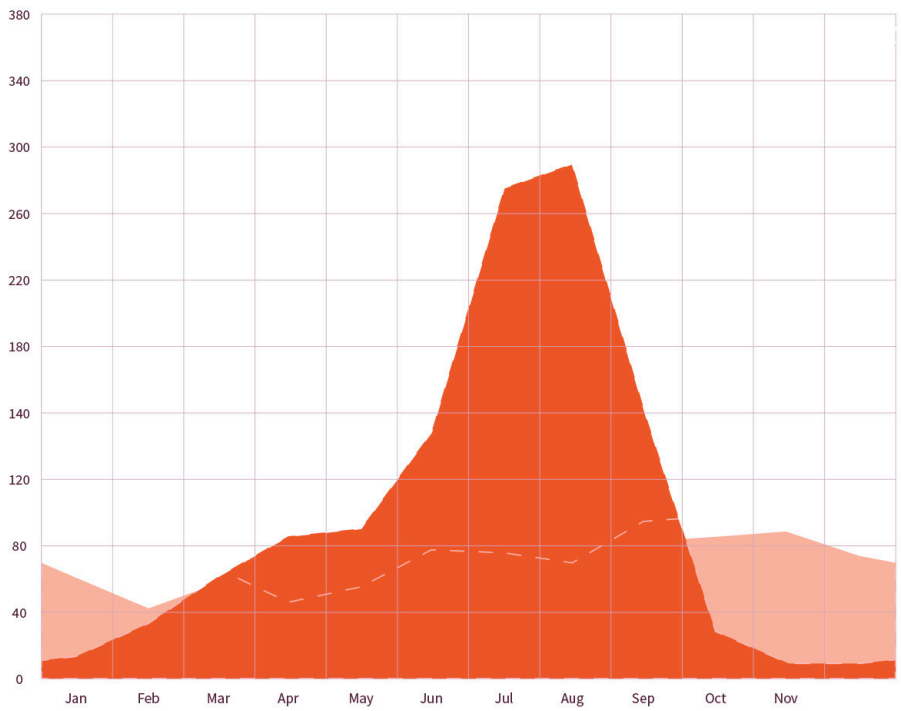
There are multiple different climatic regions in Ethiopia, types ranging from equatorial desert to a humid subtropical climate. The altitude plays a major role in these differences in climate. Addis Ababa is situated at an elevation of around 2400 meters and has the climatic type of a subtropical highland climate. . The average temperature of 16 degrees celsius doesn't change somuch during the year, though during the summerseason there's a little drop. Addis Ababa has two seasons: a wet summer and a dry winter. The dark blue graph below shows the monthly precipitation in Addis Aba. In the months of July an August it can rain up to almost 300 mm per month.

img1: vista di abuna petros

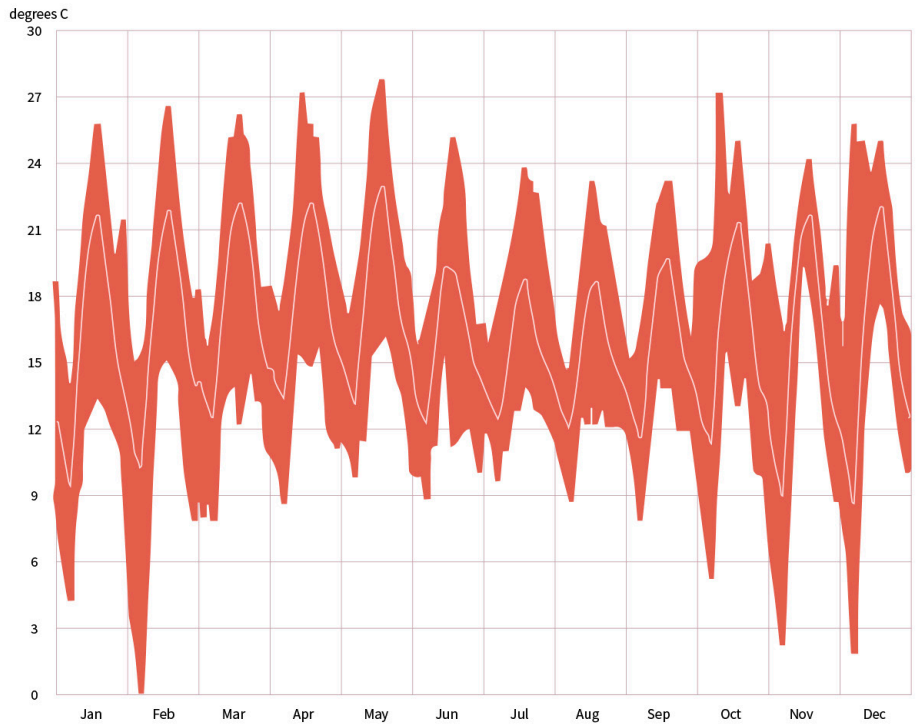
img1: vista di abuna petros

img1: vista di abuna petros

capitolo



precipitations



temperature

DEMOGRAPHY

Ethiopians are ethnically diverse, with the most important differences on the basis of linguistic categorization. Ethiopia is a mosaic of about 100 languages that can be classified into four groups. The vast majority of languages belong to the Semitic, Cushitic, or Omotic groups, all part of the Afro-Asiatic language family. A small number of languages belong to a fourth group, Nilotic, which is part of the Nilo-Saharan language family. Under the constitution, all Ethiopian languages enjoy official state recognition. However, Amharic is the "working language" of the federal government; together with Oromo, it is one of the two most widely spoken languages in the country. In the 1990s ethnolinguistic differences were used as the basis for restructuring Ethiopia's administrative divisions.



RURAL POPULATION

Rural population refers to people living in rural areas as defined by national statistical offices. It is calculated as the difference between total population and urban population. Ethiopia remains one of the least urbanized countries in the world (16 percent), compared to the Sub-Sahara Africa average of 30 percent. Road investments, particular those in transportation corridors in the highlands, have greatly increased connectivity, so that the number of people residing in or within three hours of a city of 50,000 or more, arose from 6.24 million in 1984 (15.5 percent of the population) to 38.7 million in 2007 (48.5 percent of the population).

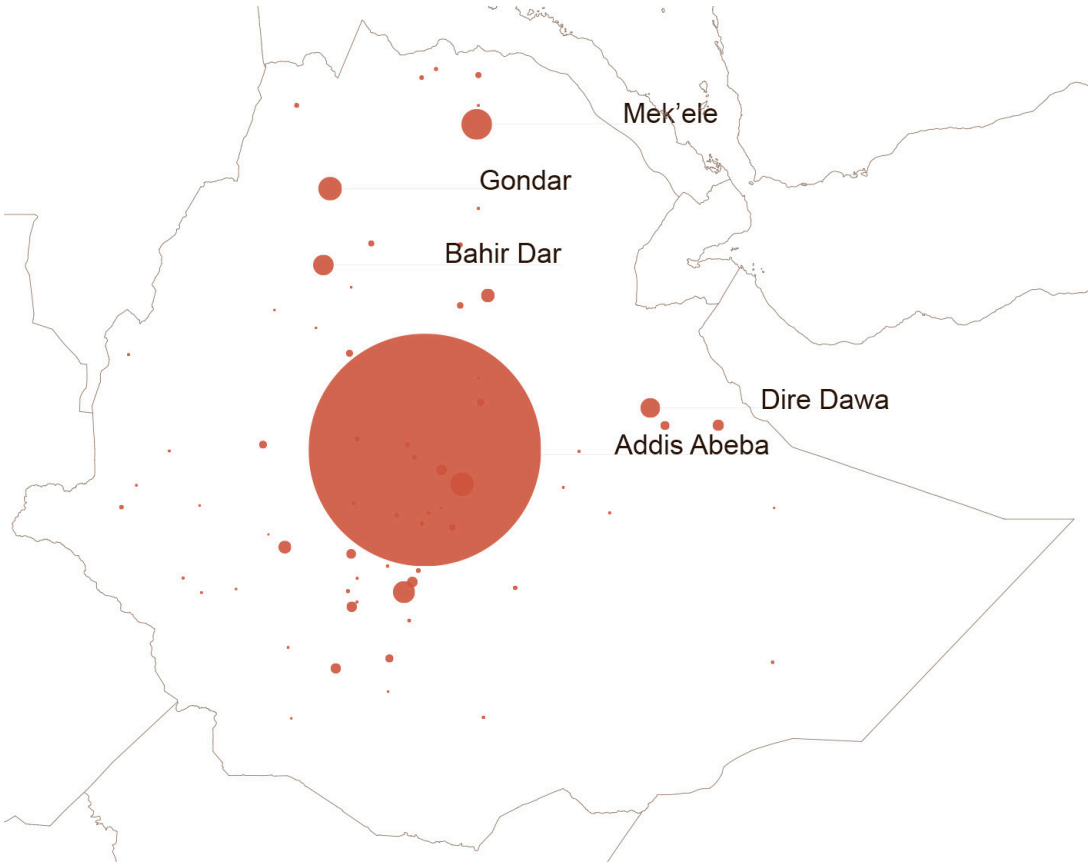
The rural densities show how busy rural areas are. Ethiopia aims to reduce youth mobility caused by poverty, through innovative policies that will create jobs and business opportunities for young people in the agricultural sector and in rural areas more broadly.



POPULATION DENSITY

Ethiopia is one of the least urbanized countriesin the world. With an urbanization rate of 20% at the moment of 2019 it ranks 175th of 188 listed by the World Bank. Nonetheless it hosts in around a 110 million inhabitants. This means that there are 88 million p ople living in rural areas. The map on the right shows the population density in people per square kilometers. The yellow areas indicate regions with over 500 inhabitants per square kilometer. The map makes visible that most of the people inhabit the Ethiopian high plateau.

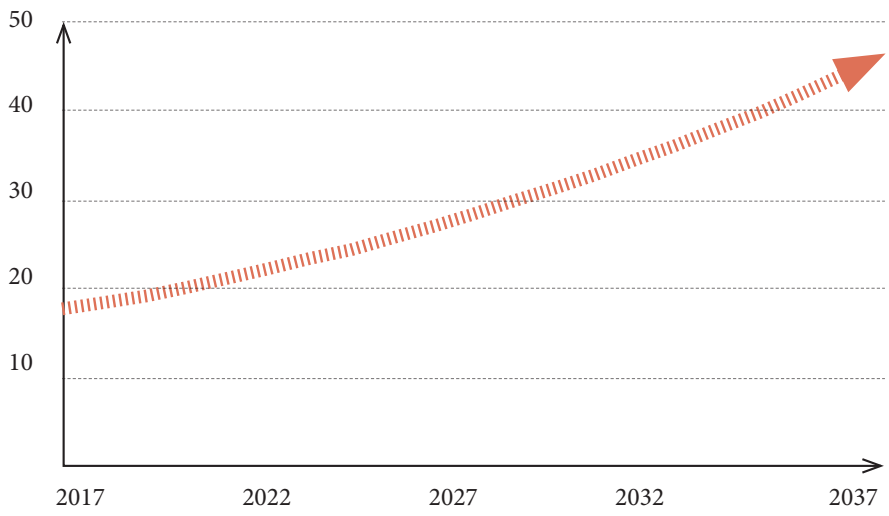
The distribution of the people living inside urban areas in Ethiopia is very unequal. From the 20% of urban population almost 1/5 was living inside Addis Ababa, with at the time of 2016 3352000 inhabitants. The second largest city was Mekelle with 441991 inhabitants. The current population of Ethiopia is 112,976,188, based on Worldometers elaboration of the latest United Nations data. Since 1955 the population quintupled from 20 000 000. Ethiopia's rapid population growth is putting increasing pressure on land resources, expanding environmental degradation, and raising vulnerability to food shortages.



urban population

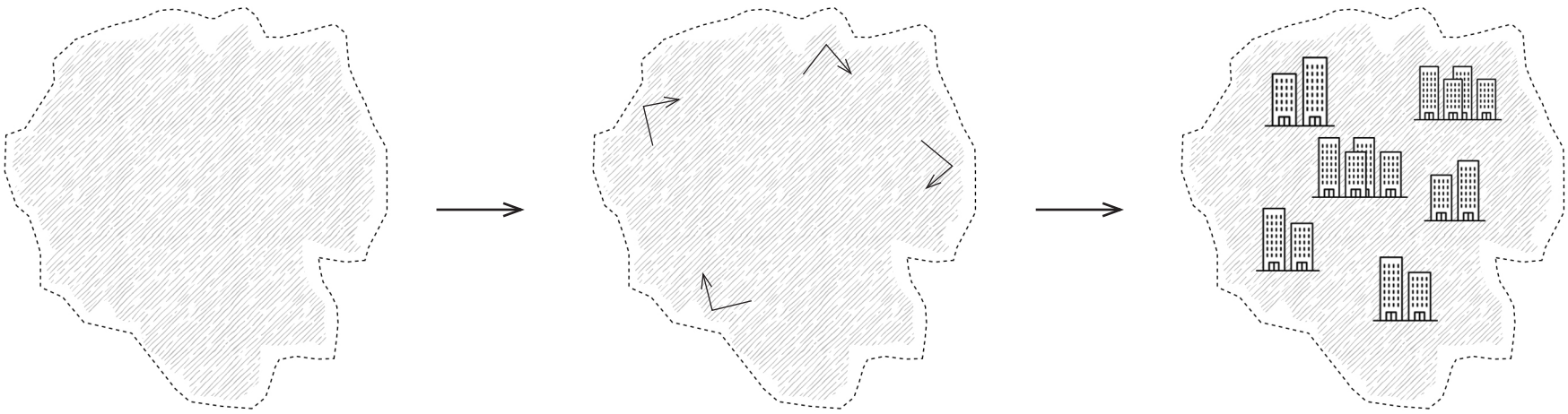
PROBLEM OF URBANIZATION

The rate of urbanization in Ethiopia is expected to increase 5% annually



17 million in 2017 → 50 million in 2037

PROBLEM OF EXPANSION

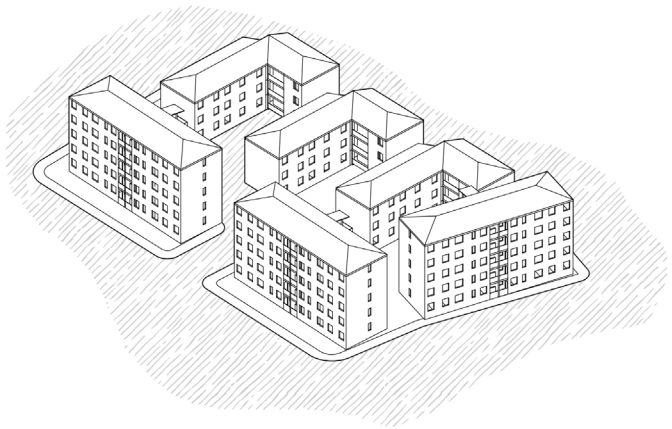


Addis Ababa's territory

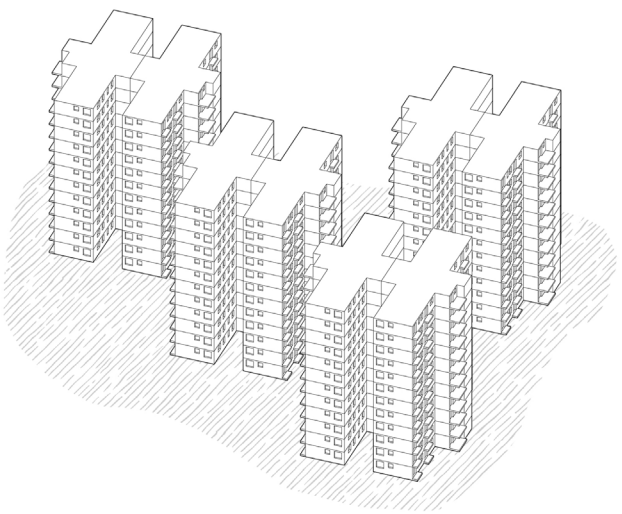
As an independent city-state Addis has borderdes that cannot be overcame. Therefore the city is facing with the impossibility of expand horizontally anymore.

A vertical growth become the only possible solution in order to tackle the unregulated increase of the urban population

INTEGRATED HOUSING DEVELOPMENT PROGRAM



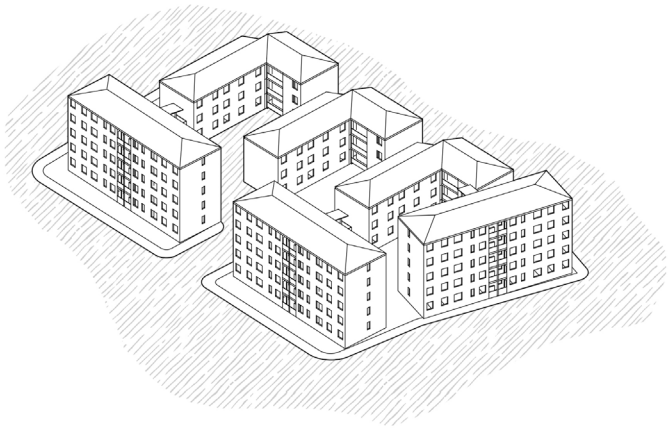
condominium blocks for
mid-low income people



condominium blocks for
mid-high income people

In order to tackle the problem related with the fast rate of urbanization and with the horizontal expansion of the city, the Governament introduced the IHDP. This model consist in the realization of condominium blocks divided in three categories related to different social classes.

The condominium model | **PROS**



The condominium model has shown to be able
to improve the quality of life of
thousands of people.



greater density

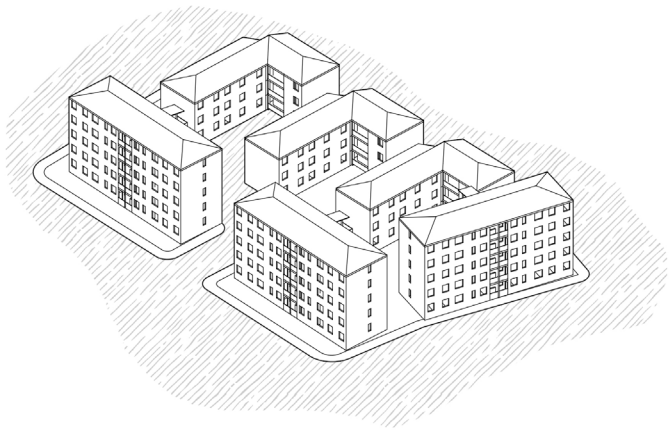


better sanitation



improved security

The condominium model | **CONS**



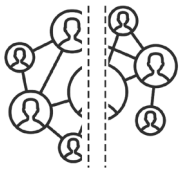
Despite its success the condominium model has shown also some problems, mainly related with the fact that is a model imported from abroad and therefore presents critical issues in the relation with the context and with inhabitants life style.



eviction

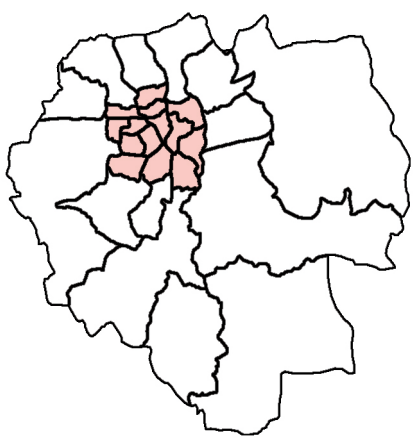


not affordable for everybody



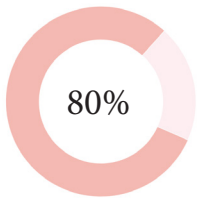
disruption of
socio-economical network

THE SITUATION IN THE OLD SEFERS

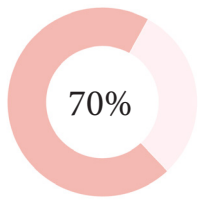


The problems highlighted with the condominium blocks approach are even more evident when this type of project takes place in the central areas of the city. In fact, these areas have a very strong link with the place and their economy is based almost exclusively on informal relationships between people.

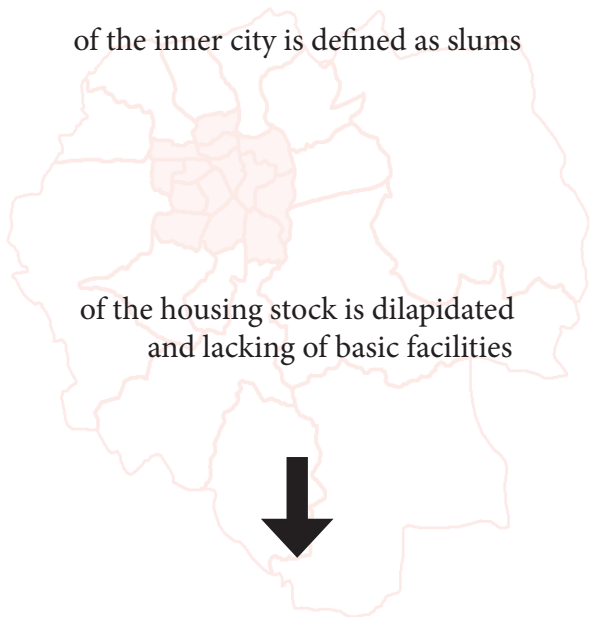
Inner city | Old sefers



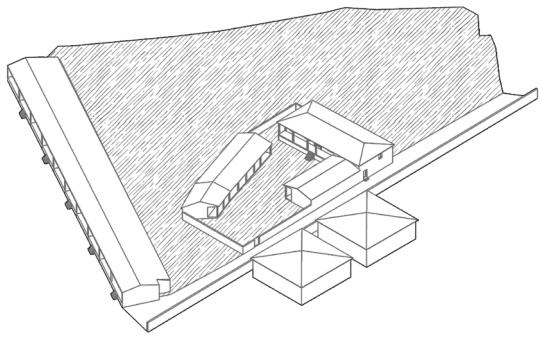
of the inner city is defined as slums



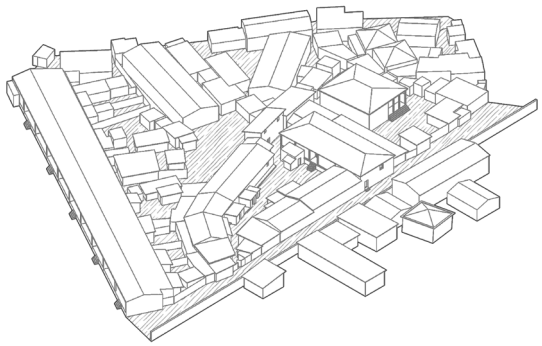
of the housing stock is dilapidated
and lacking of basic facilities



In the last decades the City Administration has exproprated 392he of inner-city land, demolishing a total of 23.151 houses



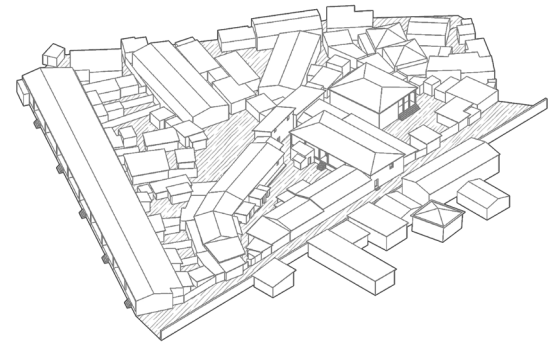
original configuration



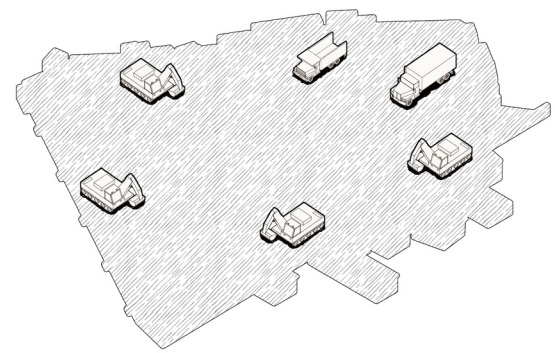
today's configuration

Old sefers are charachterized by an historical stratification through time. As a matter of fact within the urban fabric it's possible to spot buildigns from differest historical periods and in particular date back to the italian occupation period that nowadays have been sorrounded yby the growth of the informal city.

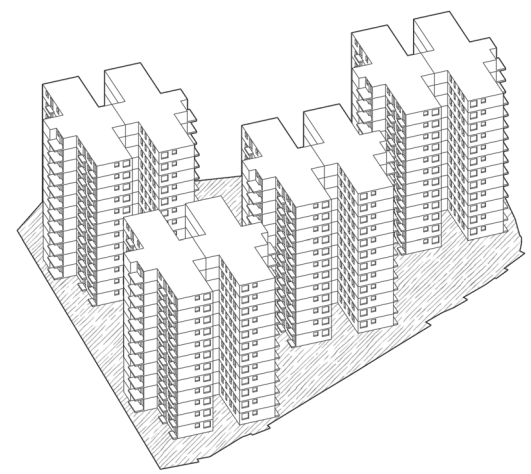
Tabula rasa approach



The current situation in the old sefers is characterized by slums and poor living conditions. The municipality aims to solve this critical situation promoting the devlopment of condominiums.



The construction of condominium blocks involes the demolition of the whole existing fabric, without taking care of historical buildings and the identity of the place.



Condominiums blocks of 5 up to 13 storey high can be built in order not only to improve the living condition but even to increase the density of the area. This approach doesn't take into account the relation with the groundfloor and the lifestyle of the inhabitants.

This approach despite is succesfull in improving security and sanitation, brings to the loss of identity of the place, to the loss of the tangible and intable heritage.

But what is the identity of Taliyan Sefer?

V

TALIYAN SEFER


Talyian / Piassa
Merkato
Ghebbi
Meskel Square
Ring Road
Bole Airport
Light Railway
Lideta Airport


0
20
40
100

DATA

Surface | 27,2 ha

FAR | 0,6

Coverage | 60%

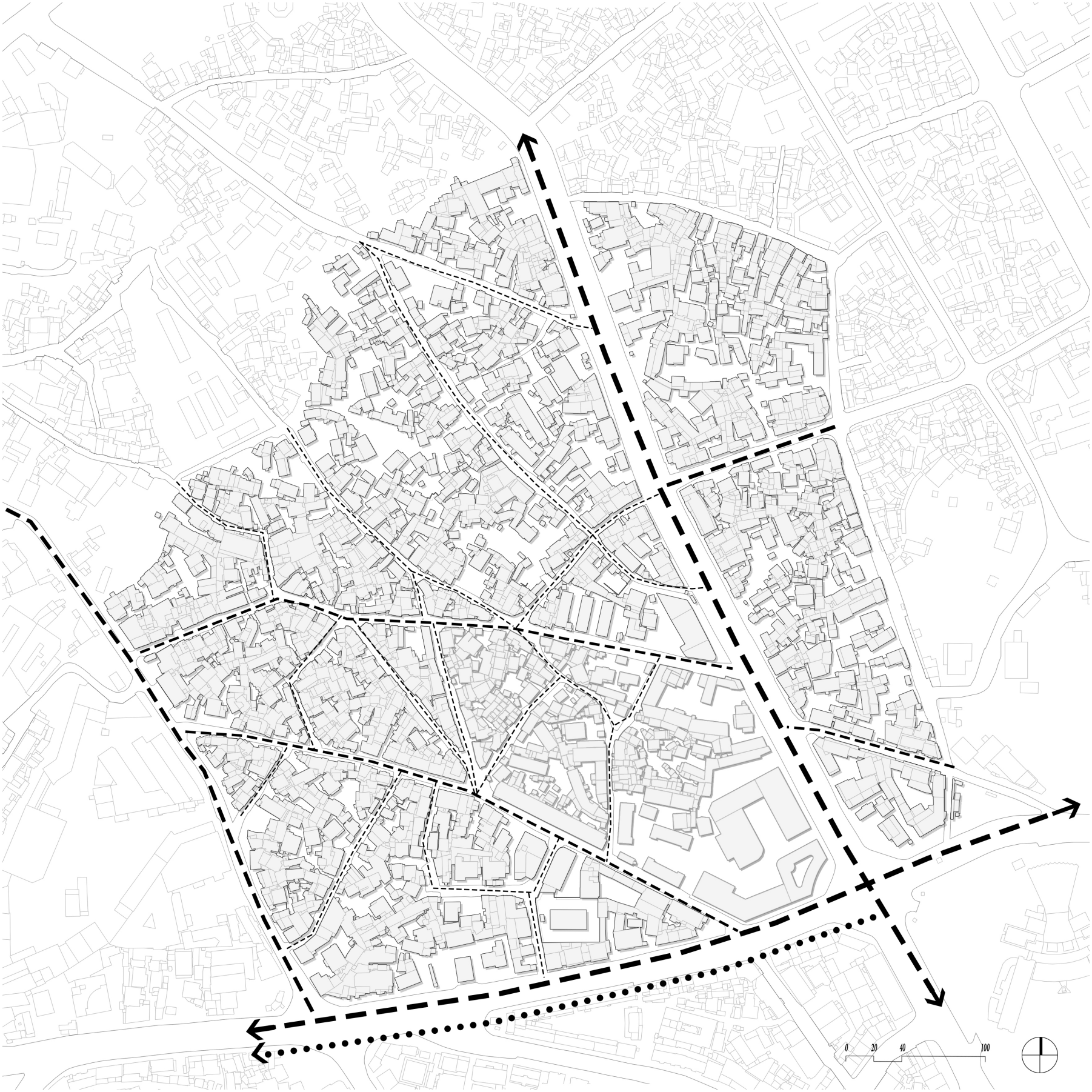
n° inhabitants (Atlas) | 8676

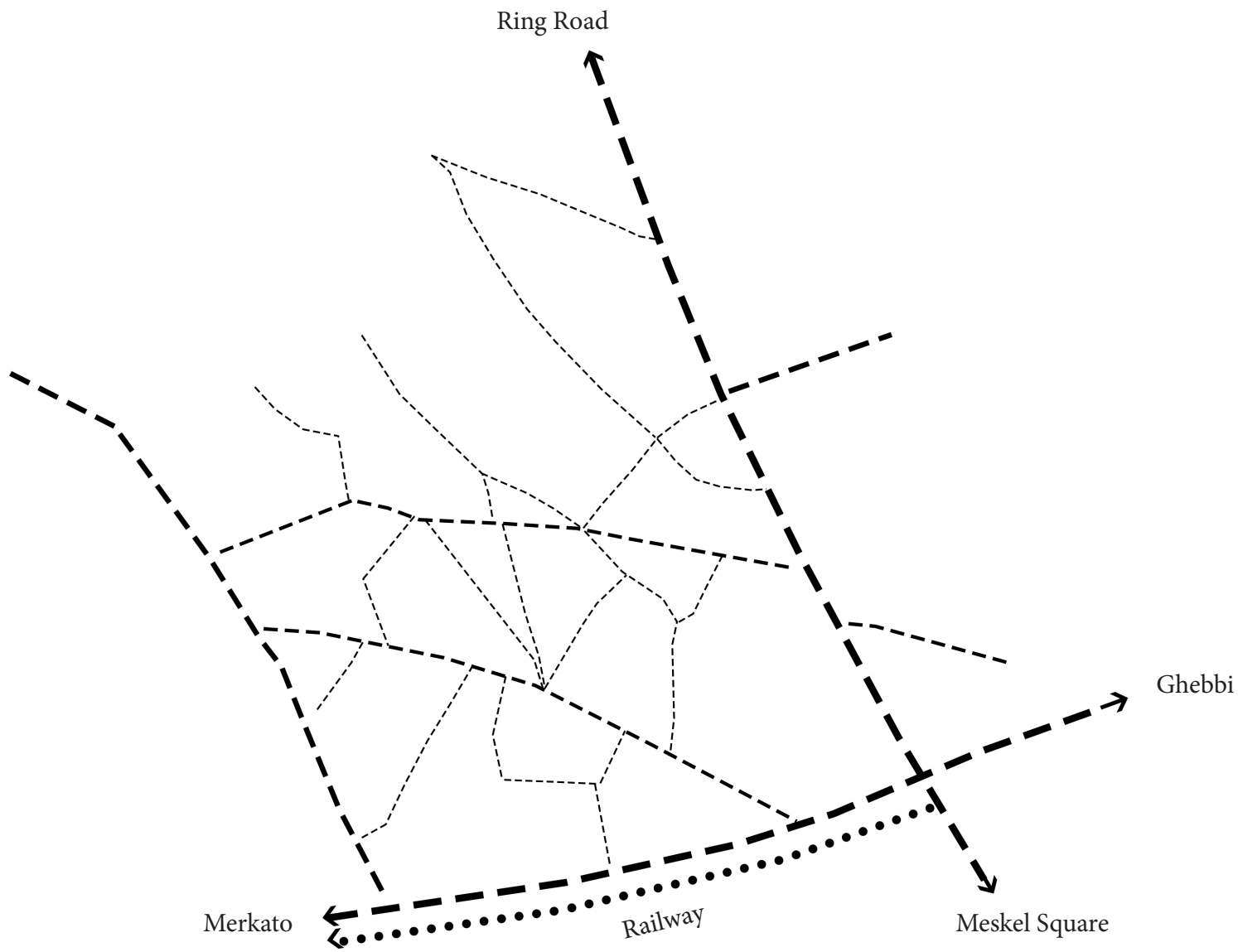
Inhabitants/ha | 319

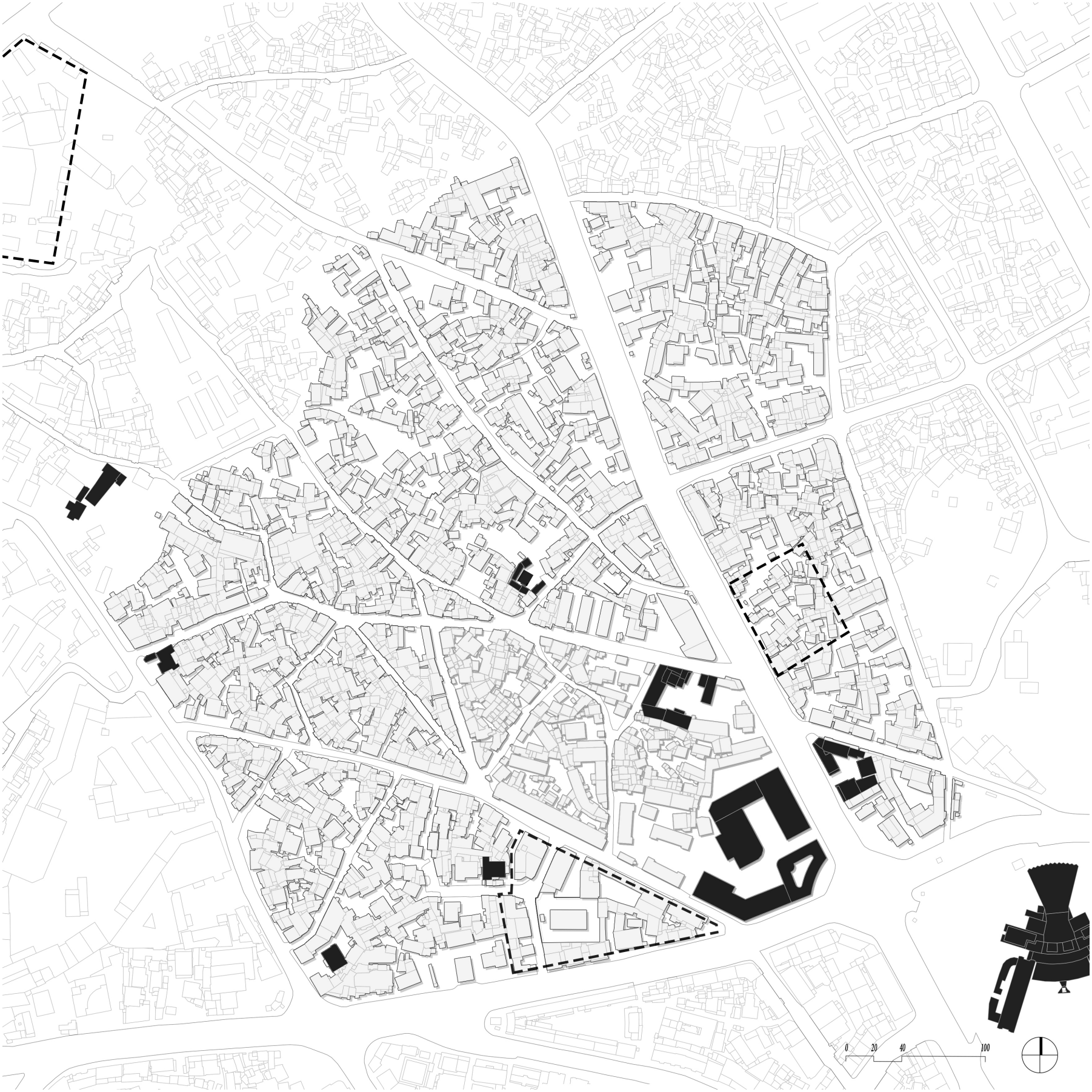
n° dwelling units (Atlas) | 2176

Units/ha | 80

Buildings height | 1-2 storeys

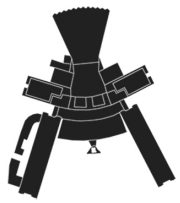

0
20
40
100


Ring Road
Ghebbi
Merkato
Railway
Meskel Square


0
20
40
100



St. George Church



Town Hall



University of Journalism



Infonet College



Community center



Aweliya primary school



Baslease Academy



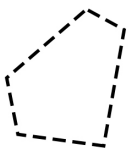
Police Station A



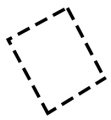
Police Station B



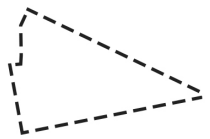
Police Station C



Addis General Hospital



Blacksmith Workshop



ETFRUIT distribution

Historical buildings



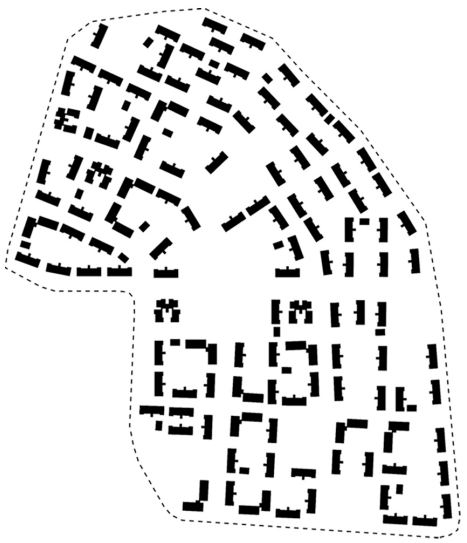
Commercial activities



Comparison

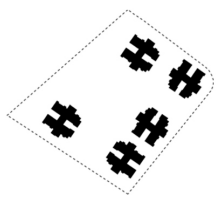


Taliyan Sefer



Mickeyleland

Condominium 20/80



Sengatera

Condominium 40/60

DATA

Surface | 27,2 ha

FAR | 0,6

Coverage | 60%

n° inhabitants (Atlas) | 8676

Inhabitants/ha | 319

n° dwelling units (Atlas) | 2176

Units/ha | 80

Buildings height | 1-2 storeys

DATA

Surface | 21 ha

FAR | 1

Coverage | 20%

n° inhabitants (estimated) | 7744

Inhabitants/ha | 369

n° dwelling units (estimated) | 2970

Units/ha | 142

Buildings height | 5 storeys

DATA

Surface | 2,6 ha

FAR | 1,85

Coverage | 14%

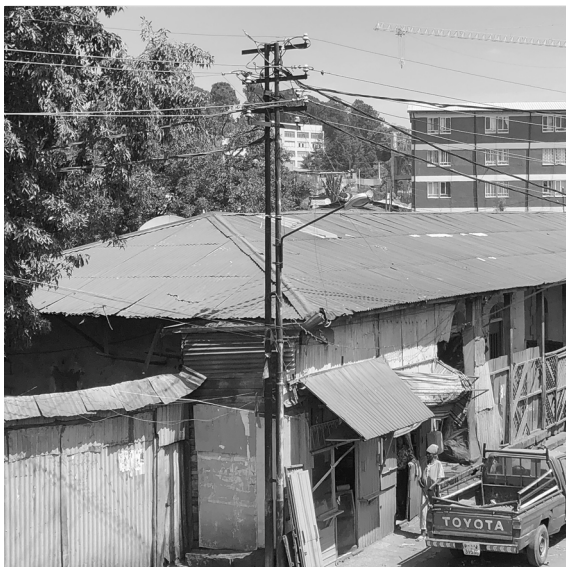
n° inhabitants (estimated) | 1595

Inhabitants/ha | 613

n° dwelling units (estimated) | 330

Units/ha | 127

Buildings height | 13 storeys


TOYOTA

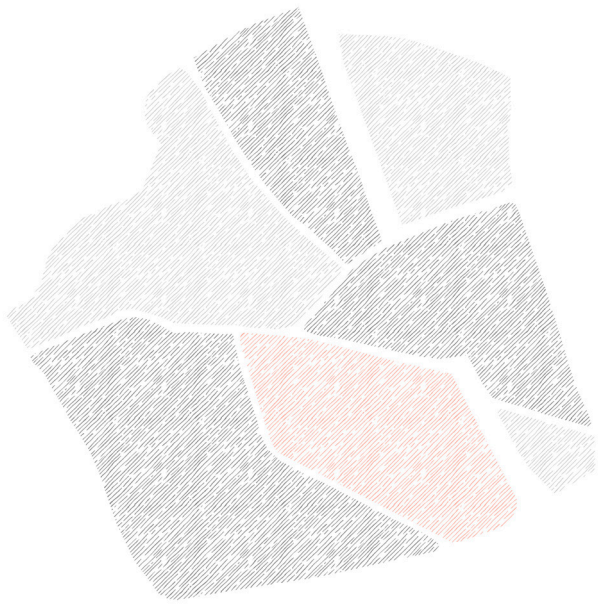




VI

THE SPIRIT OF THE PLACE

THE CHOOSEN SITE



During the analysis of Talyian sefer, four different areas have been recognized. Each of them presents similar features in terms of urban fabric. Howerever different themes can be pointed out: the northern area nearby the hospital has a function related with healthcare and sanity and defines the border of the neighborood, the southern area is related to the fruit hub and so to its commercial function, the area on the right is related to the church of St. George and charactehrised by a huge area for blacksmiths workshops. Lastly the central area ,which is the one that I'm working on, is related with the theme of education since there are already two schools and the university of journalism under construction. Moreover what makes intresting this area in comparison with the others, is the great amount and the variety of historical buildings and the way they cope with the informal fabric.


0
20
40
100

DATA

Surface | 4 ha (university 0,9 ha)

FAR | 0,5

Coverage | 50%

n° inhabitants (Atlas) | 990

Inhabitants/ha | 319

n° dwelling units (Atlas) | 248

Units/ha | 80

Buildings height | 1-2 storeys


a
b
c
+9
+II
+II
a
b
c
0
20
40
100

capitolo

TOPOGRAPHY



section a-a



section b-b



section c-c

The choosen site in Taliyan Sefer is characterized by a very steep topography with a slope around 10%. This condition creates an intresting series of streets and open spaces that are always on a different level , increasing the complexity of the site itself. Each single spots becomes a unique place in taliyan, with a different view and perspective.

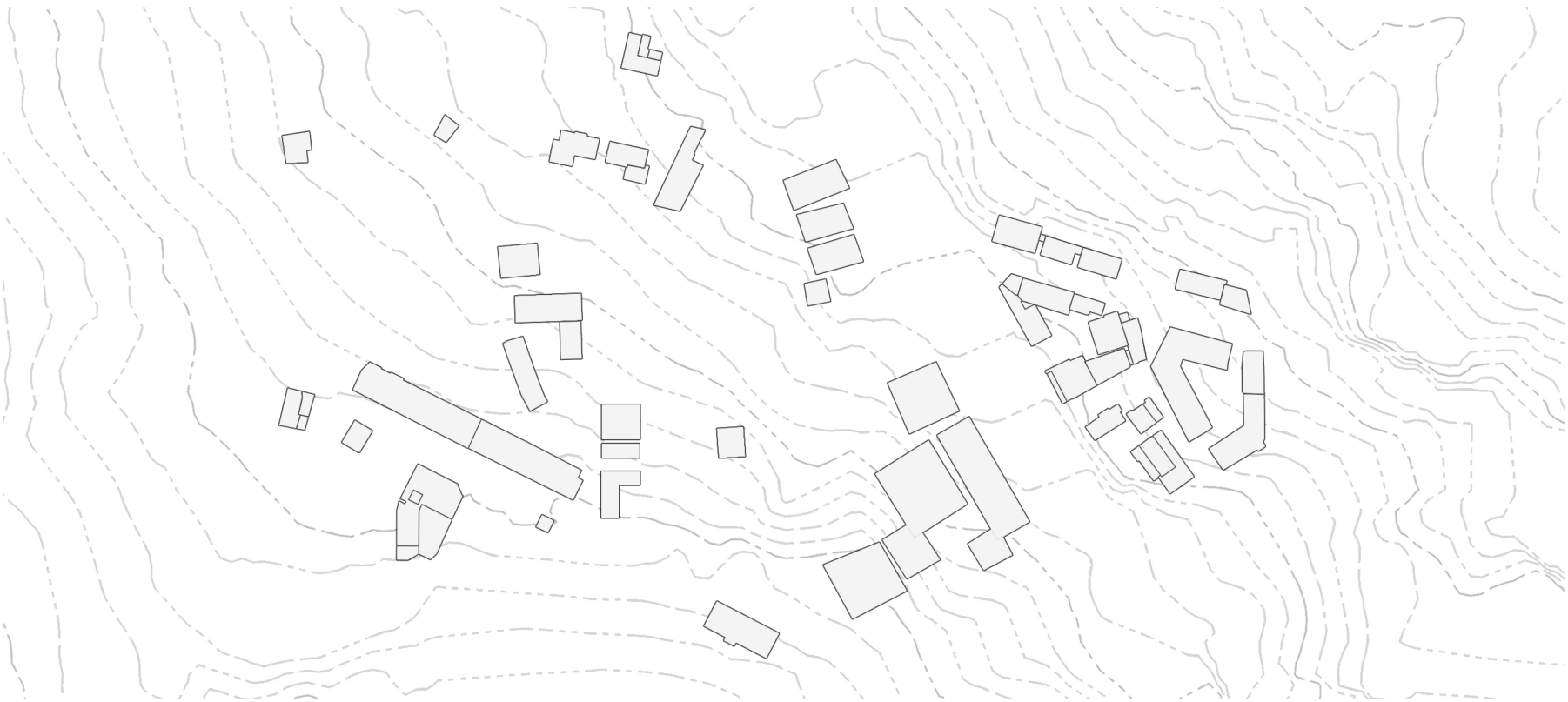
HISTORICAL STRATIFICATION

Formerly known as Dejach Nesibu, this area was renamed Taliyan because Italian soldiers camped here with their horses during their five-year war against Ethiopia in the ‘30. Taliyan is one of the oldest neighborhood in Addis and for this reason its urban fabric is characterized by an incredible historical stratification. Therefore we can find buildings coming from different historical periods and with different influences. The greater part of the historical buildings date back to the italian period and are mainly prisons where the italian troops were used to jail ethiopian prisoners, others were villas for italian officers. Anyway within the organic urban layout it’s possible to spot even buildings with armenian and indian influence , thus with the characteristic timber veranda.

Nowadays these buildings are mainly used with the function of dwelling units for one or more families but in certain case they have been adapted to schools or to public buildings. An intresting fact about historical buildings is that often they were given to war veterans as a kind of reward, and the property has been inherited by the sons and the following relatives. For this reason often these buildings are owned by a single family since decades and therefore differently from the kebele housing they are a private property and not owned by the munucipality.

img1: vista di abuna petros





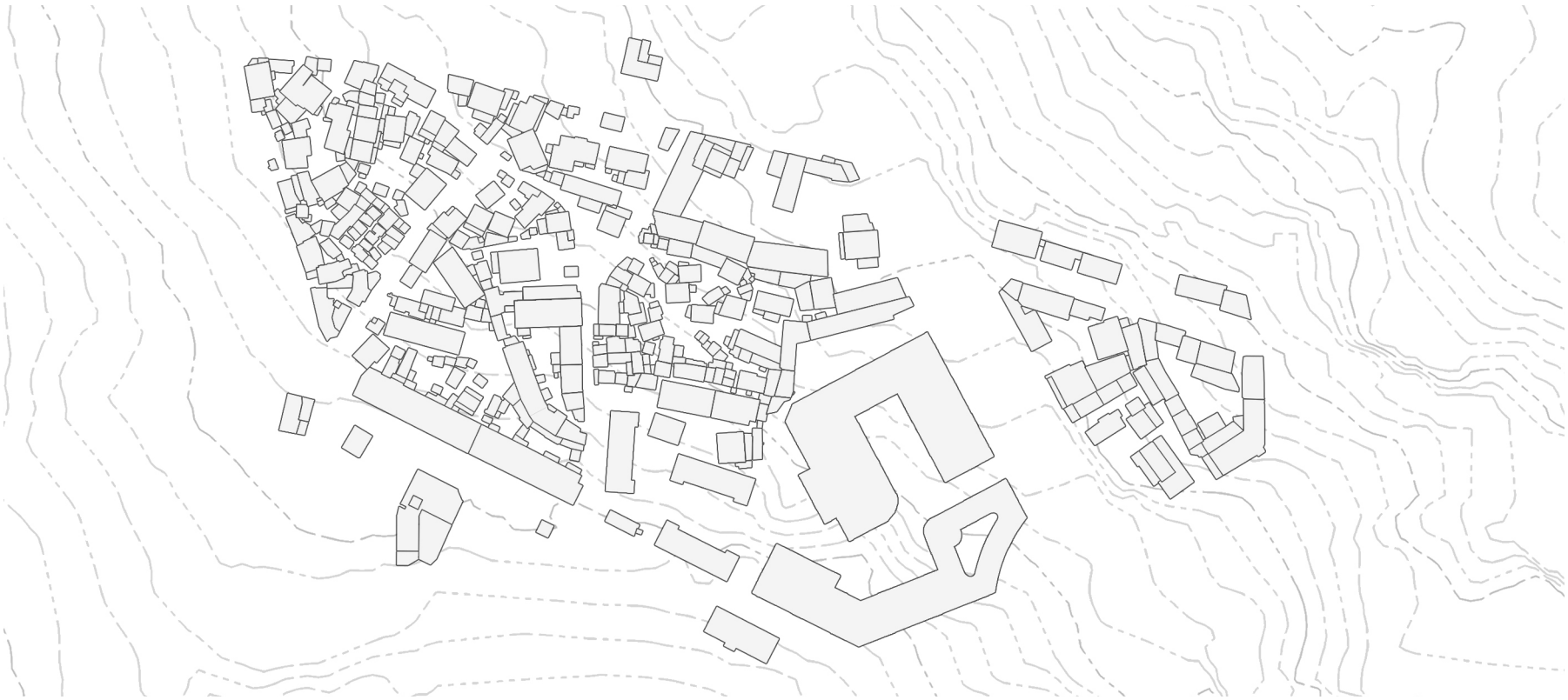
1930 - Italian period



1980 - Derg regime period



2000 - The informal city



2020 - Last developments

HISTORICAL BUILDINGS

Within the site we can still notice several historical buildings, dating mainly from the era of Italian colonization. These buildings, built in the 20s and 30s, were mainly divided into two categories: buildings for residential use for military officers and prisons, although nowadays they are mainly used as dwellings for low income people. These buildings stand out within the urban layout of the neighborhood thanks to their considerable size, and to the use of more durable materials such as stone and plastered earth masonry. Although these buildings do not present striking qualities from the compositional point of view, they are very important for the inhabitants, who are very proud of them. The historical buildings give Taliyan its own unique and recognizable identity, deeply rooted in the past and history of the place.





Historical italian villas



Old italian prisons

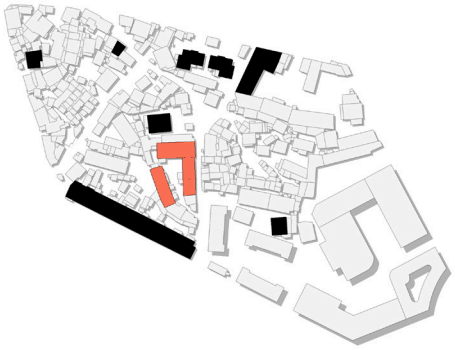


Historical public buildings



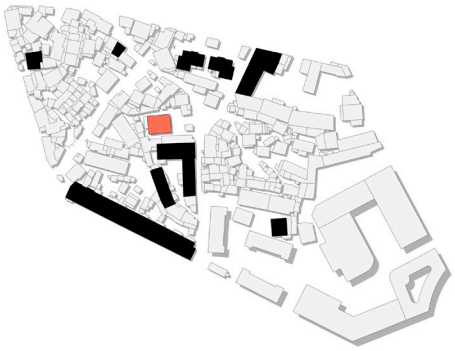


Old italian prison, now used as a private house. Due to its position, but mostly to its configuration, a series of private house with backyards, this building can be managed by the Edir for commercial purposes to improve the sustainable tourism. I imagine a sequence of small atelier for craftmen that explain their work to the tourist and sell to them their products. The building is still good looking and in good structural condition.



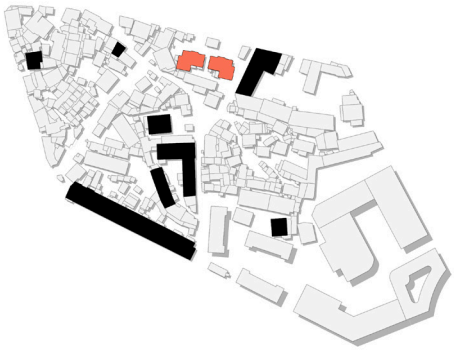


Old italian prison, now used as a private house. Due to its position in the middle of the site, and to its particular configuration (it creates a compound by itself), this building can be managed by the Edir for commercial purposes to improve the sustainable tourism. The fabric present a huge courtyard inside in which many activities can take place. The building is still good looking and in good structural condition. Moreover the stone perimetral wall gives a quality to the street that we can find in other spot within the site.



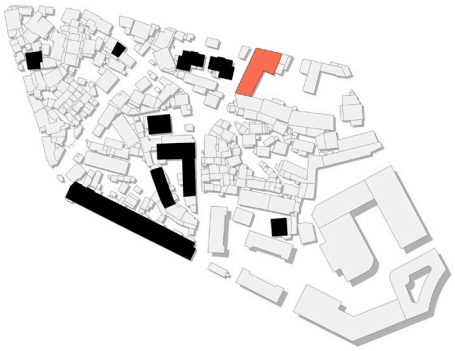


Old italian orphanage, now used as a private house. Due to its position in the middle of the site, this building can be used as a house for the community and so a place where the people can meet and socialize. The building is still good looking and in good structural condition.





Old italian villaS, now used as a private houseS. Due to their position on the street, to the small front garden that can be used as a small square and mostly to its special quality, this building can be readapted to a commercial activities like for example a restaurants managed by a private entrepreneur or by the Edir.

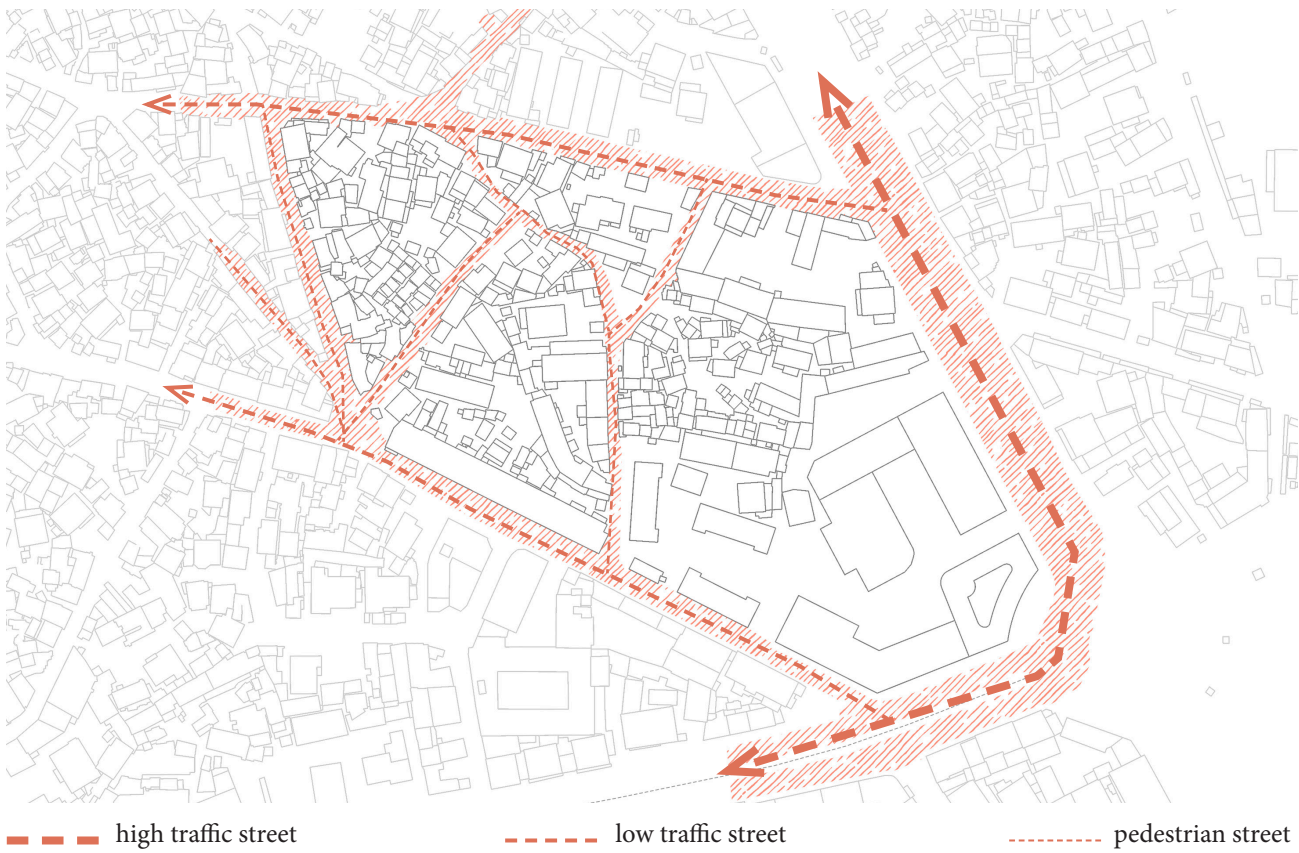


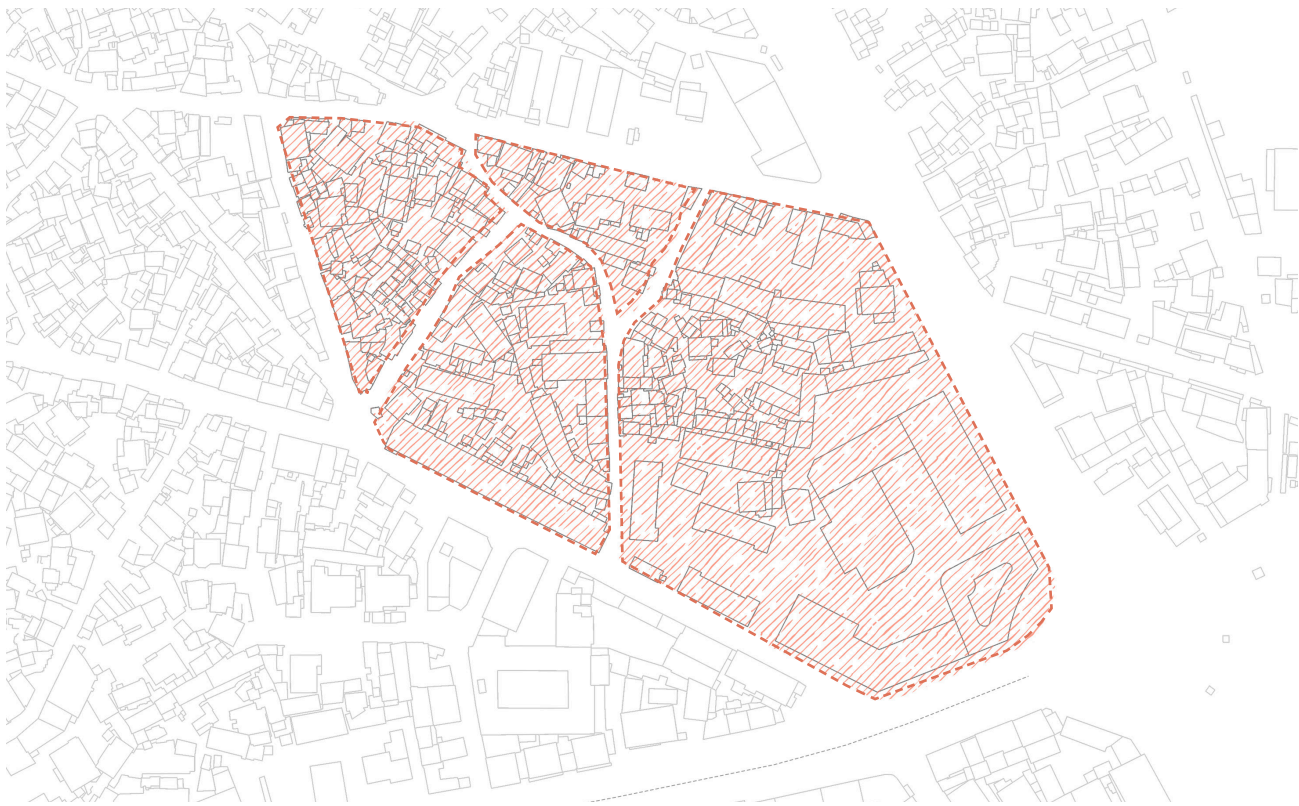


Old italian prison, now used as a private school. This building is still in good condition and attended every day by several students. The plan for this building is to preserve not only the fabric but also its function as is right now. Moreover the stone perimetral wall gives a quality to the street that we can find in other spot within the site.

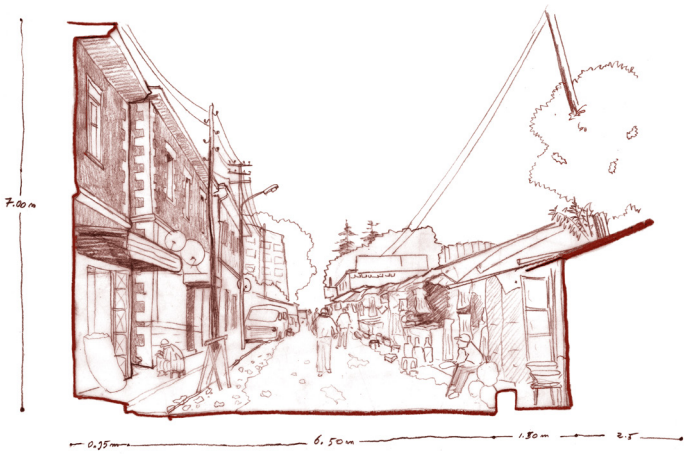
HISTORICAL STREETS

As a consequence of this process of historical stratification, even the street layout and the configuration of the urban blocks became very fluid and organic, presenting a series of several different conditions. We can find bigger roads on the border of the site, while inside they become smaller and pedestrian, creating a complex network. Moreover streets are narrow and with a closed profile that often doesn't present any kind of openings along the streets, decreasing the level of security.


high traffic street
low traffic street
pedestrian street




3.00 m
0.45 m
5.00 m
0.75 m


7.00 m
0.35 m
6.50 m
1.80 m




3.00
3.00

COMPOUNDS' HETEROGENEITY

The organic structure of the urban blocks and the irregular growth of the informa city affected the geometry and the configuration of the compounds. It is in fact noticeable that these collective spaces are all differents from each others and are characterized by a condition of continous mutation. Despite all the variations it's possible to identify similar characteristics. Usually they present a very closed boundary, generally made with metal sheets, and only one entrance on the street in order to improve the security of the collectivity. They are characterized by a U shape arrangement of the dwelling units, in this way the copounds fence each other. Three categories of compounds can be recognized in Taliyan: courtyard compound, organized around a centra space, pocket compound, organized along a series of smaller open spaces and patio compounds, smaller and use only by one or 2 families.



vernacular urbanism



courtyard compounds



pocket compounds



patio compounds

Courtyard compounds

Courtyard compounds are characterized by huge empy space in the middle. All the dwelling units are facing this open space and use it as a place for domestic activities like for instance cooking, dry food and whashing clothes but even for celebrations that involving the whole community living in the compuond. Usually there's only one entrance on the street, and very often the units are facing only the courtyard inside, creating a closed street profile outside. The size of such compounds can vary, but usually between 10 and 15 families are sharing the same collective space.

Pocket compounds

Pocket compounds are characterized by a series of compressions and decompressions that create several small open spaces. Differently from the courtyard in this case the collective space is fragmented. All the dwelling units are facing different open spaces and use them as a place for domestic activities like for instance cooking, dry food and whashing clothes. Usually a bigger area can be identified and is used as a collective space or celebrations that involving the whole community living in the compuond. There's only one entrance on the street, and very often the units are facing only the courtyard inside, creating a closed street profile outside. The size of such compounds can vary, but usually between 10 and 15 families are sharing the same collective space.

Patio compounds

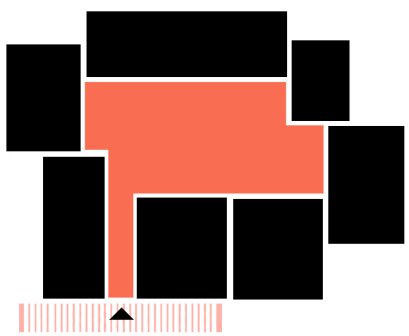
This is a particular condition that we can find only behind the old italian prison in sthe southern part of the site. These compounds are characterized by a small open space on the back of the dwelling units, shared only by a single family. the patio is create through the juxtaposition of the dwelling uni, located in the historical building, and a series of small buildings in metal sheet that cointains the traditional kitchen and the bathroom.

Courtyard compound

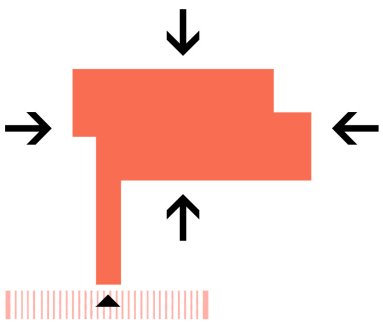


* in collaboration with Antonio Paoletti

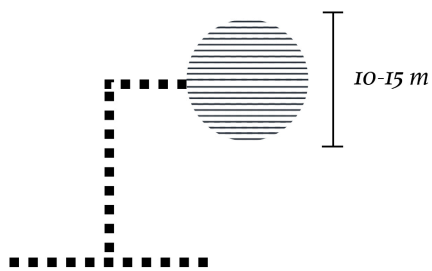
Courtyard compound



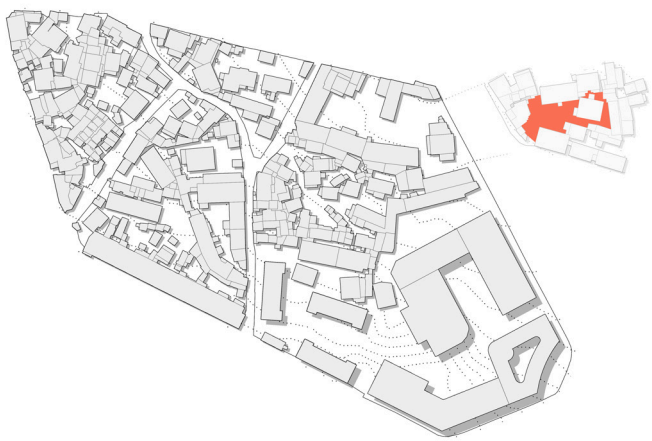
schematic representation



Open space



collective space



DATA

Total surface | 1580 sqm

Built surface | 1058 sqm

Collective area | 522 sqm

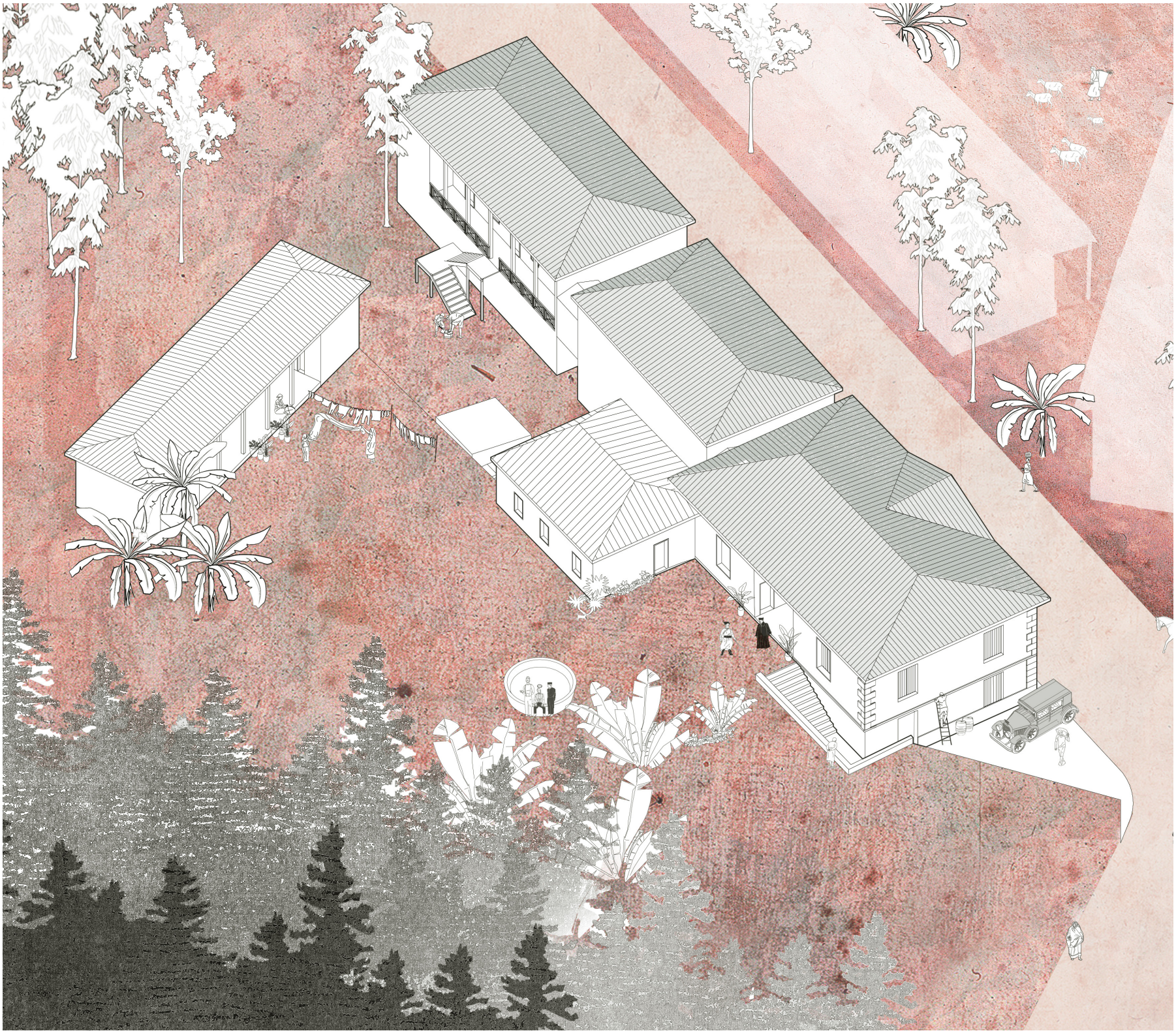
n° inhabitants | ?

n° families | ?

Collective area/person | ?

Floor area/person | ?

Courtyard compound



original configuration

Courtyard compound

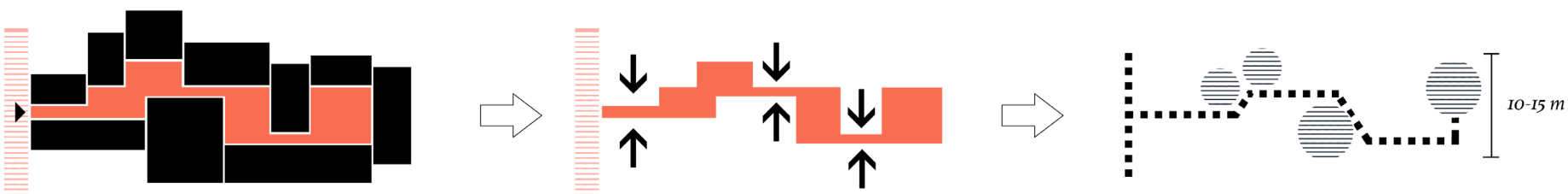


Today's configuration

Pocket compound



Pocket compound



schematic representation

compressione & decompression

fragmented collective space



DATA

Total surface | 1607 sqm

Built surface | 1290 sqm

Collective area | 317 sqm

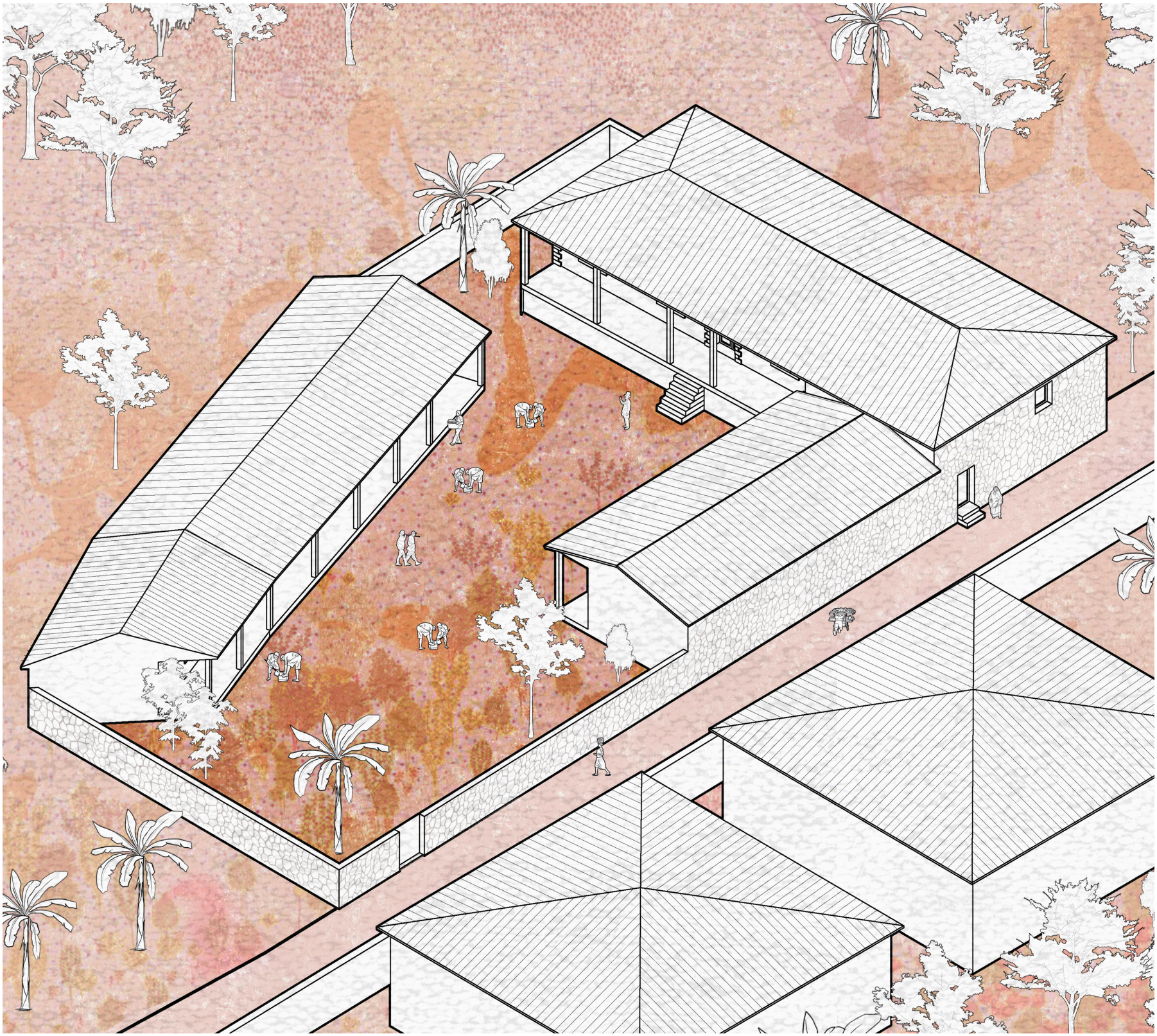
n° inhabitants | 100/125

n° families | 20

Collective area/person | 2,85 sqm

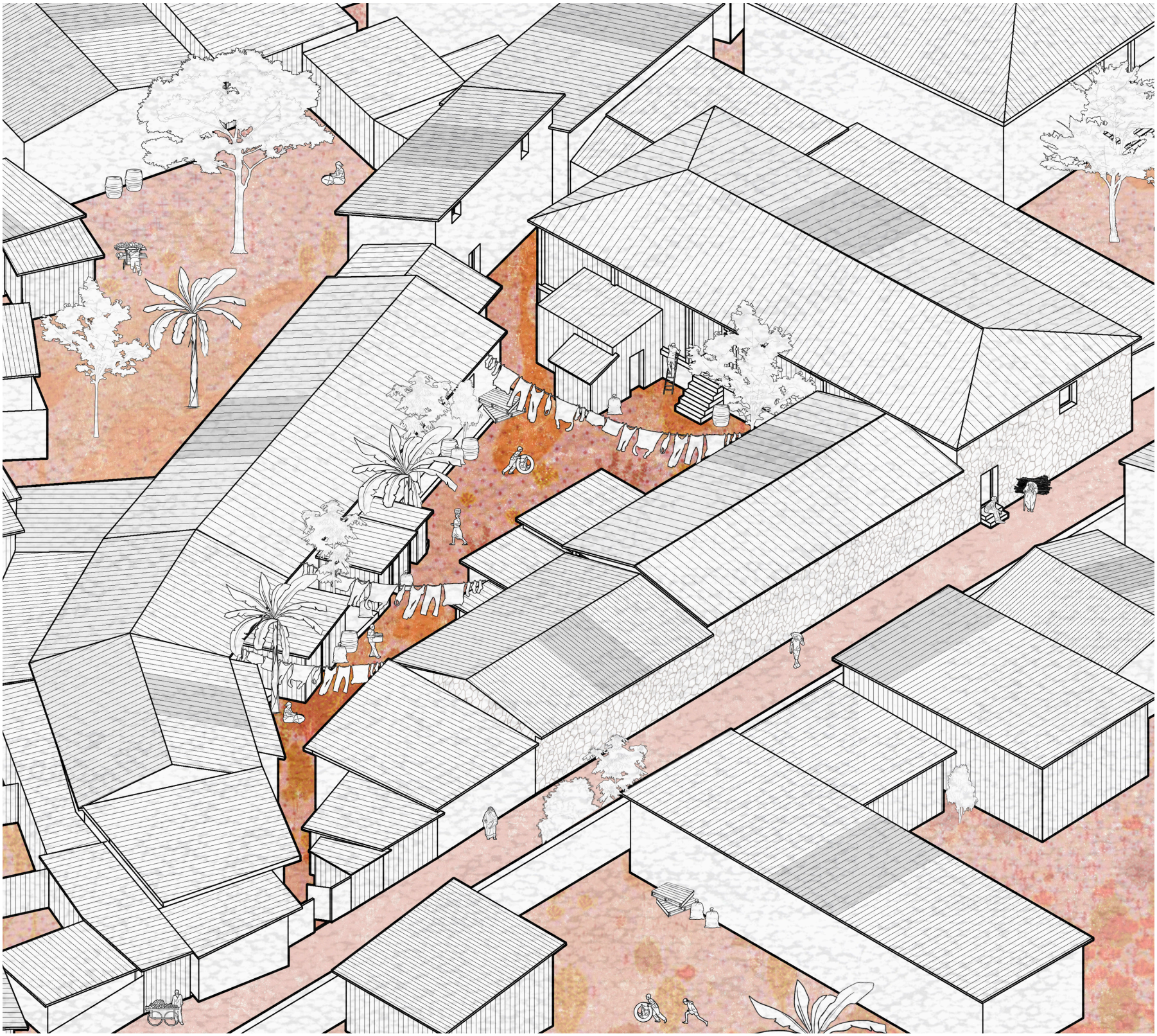
floor area/person | 4-5 sqm

Pocket compound



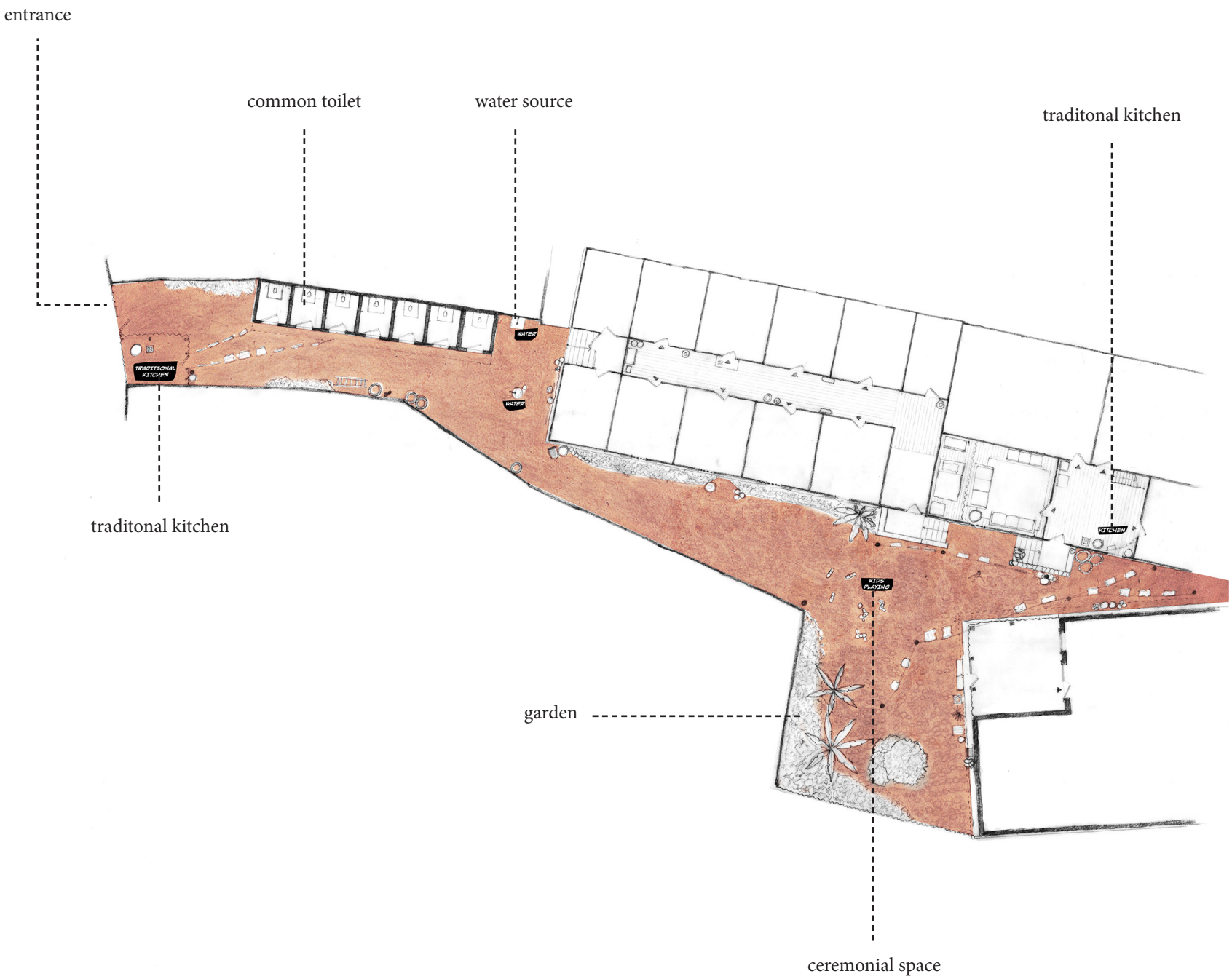
original configuration

Pocket compound



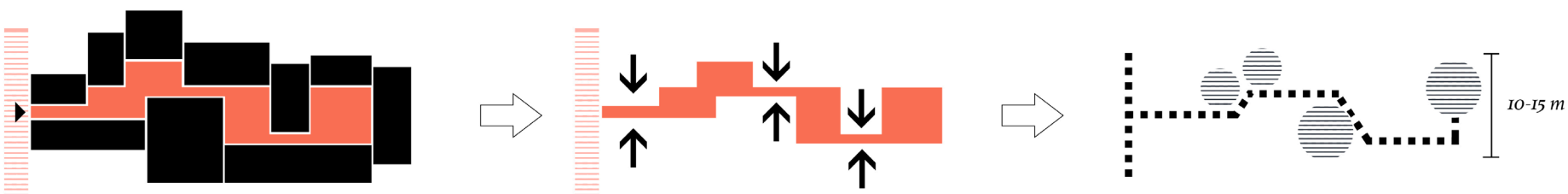
Today's configuration

Pocket compound



* in collaboration with Fabio Buondonno

Pocket compound



schematic representation

compressione & decompression

fragmented collective space



DATA

Total surface | 1120 sqm

Built surface | 599 sqm

Collective area | 521 sqm

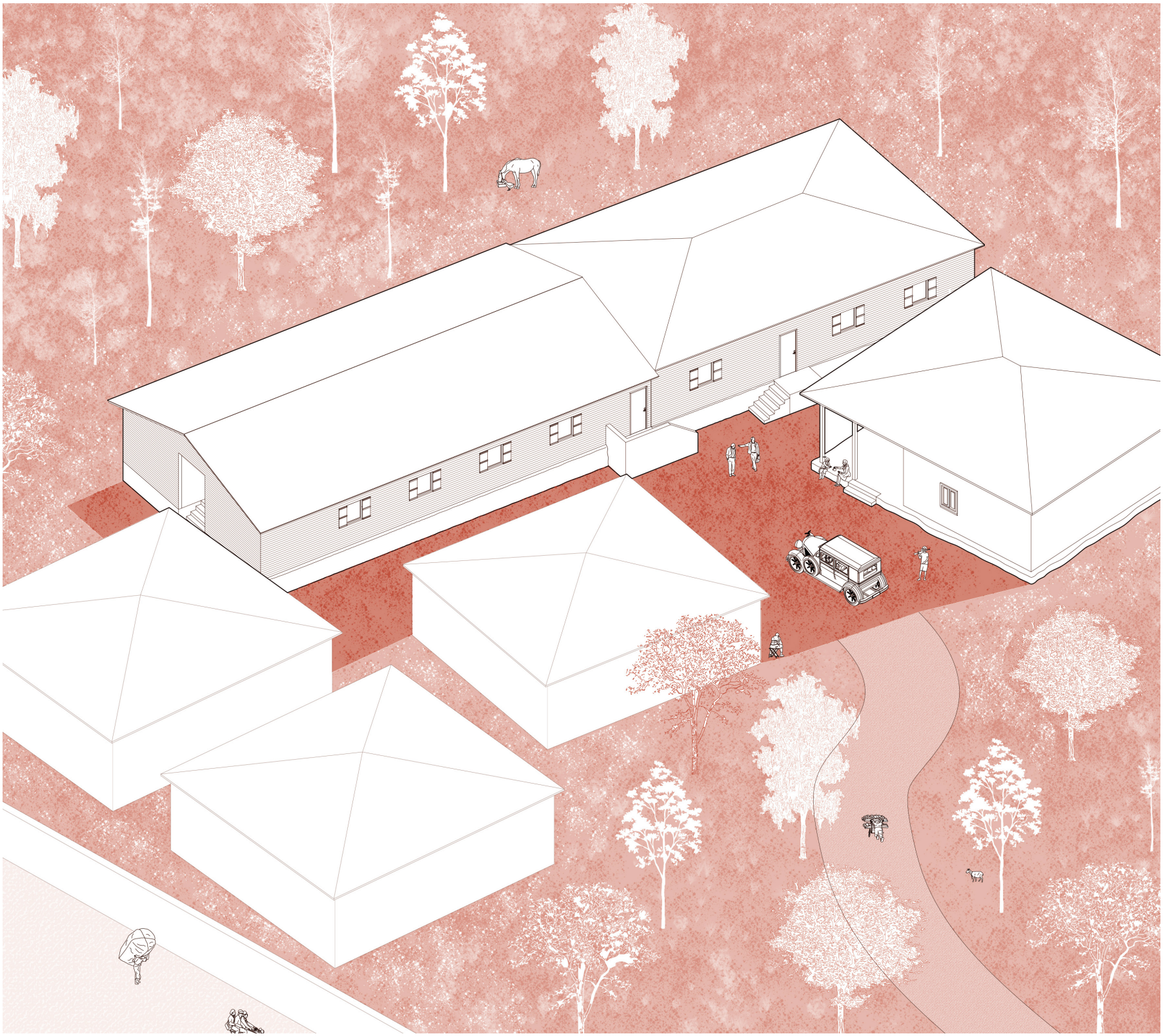
n° inhabitants | 60/80

n° families | 16

Collective area/person | 7,3 sqm

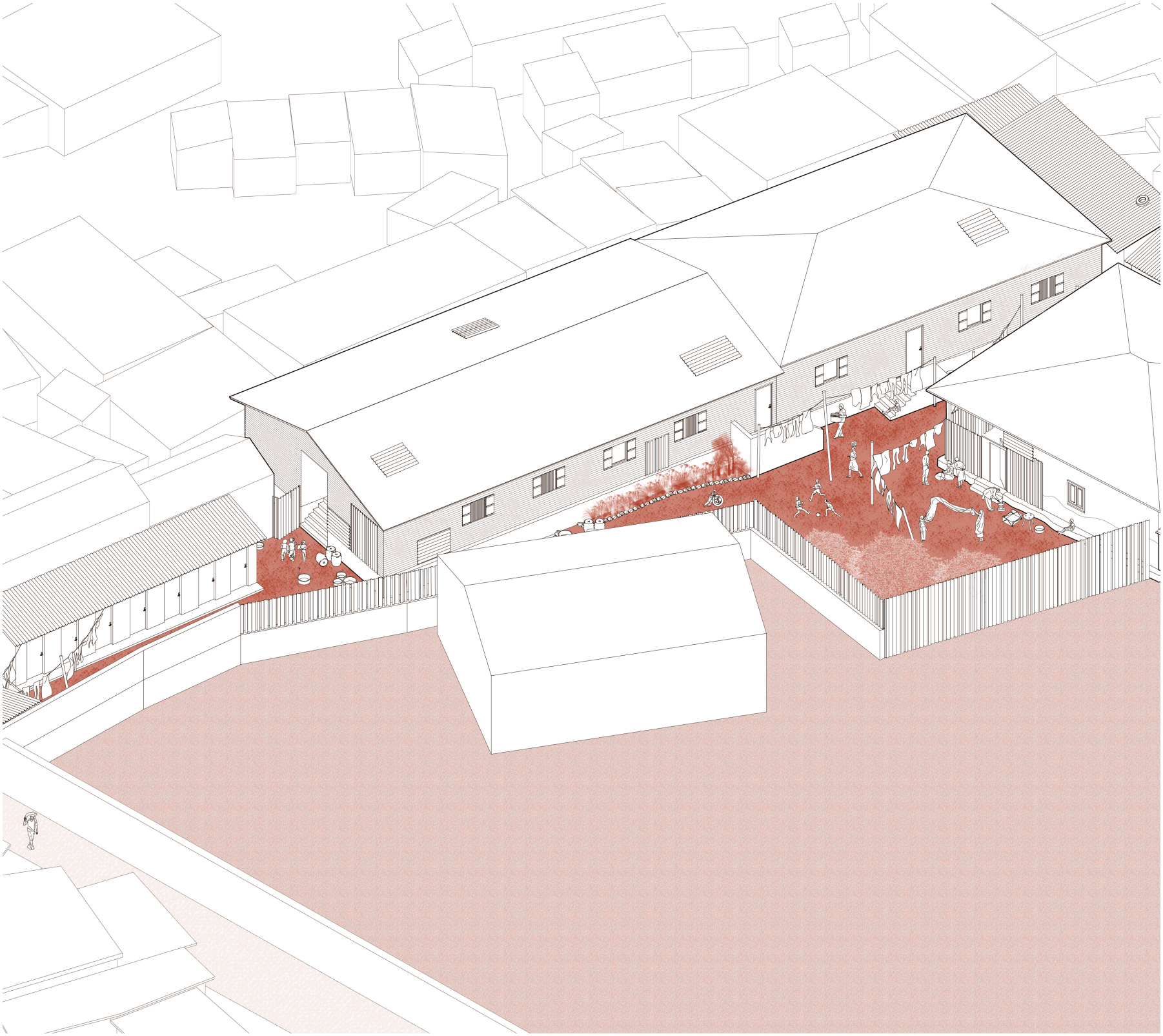
House area/person | 4-5 sqm

Pocket compound



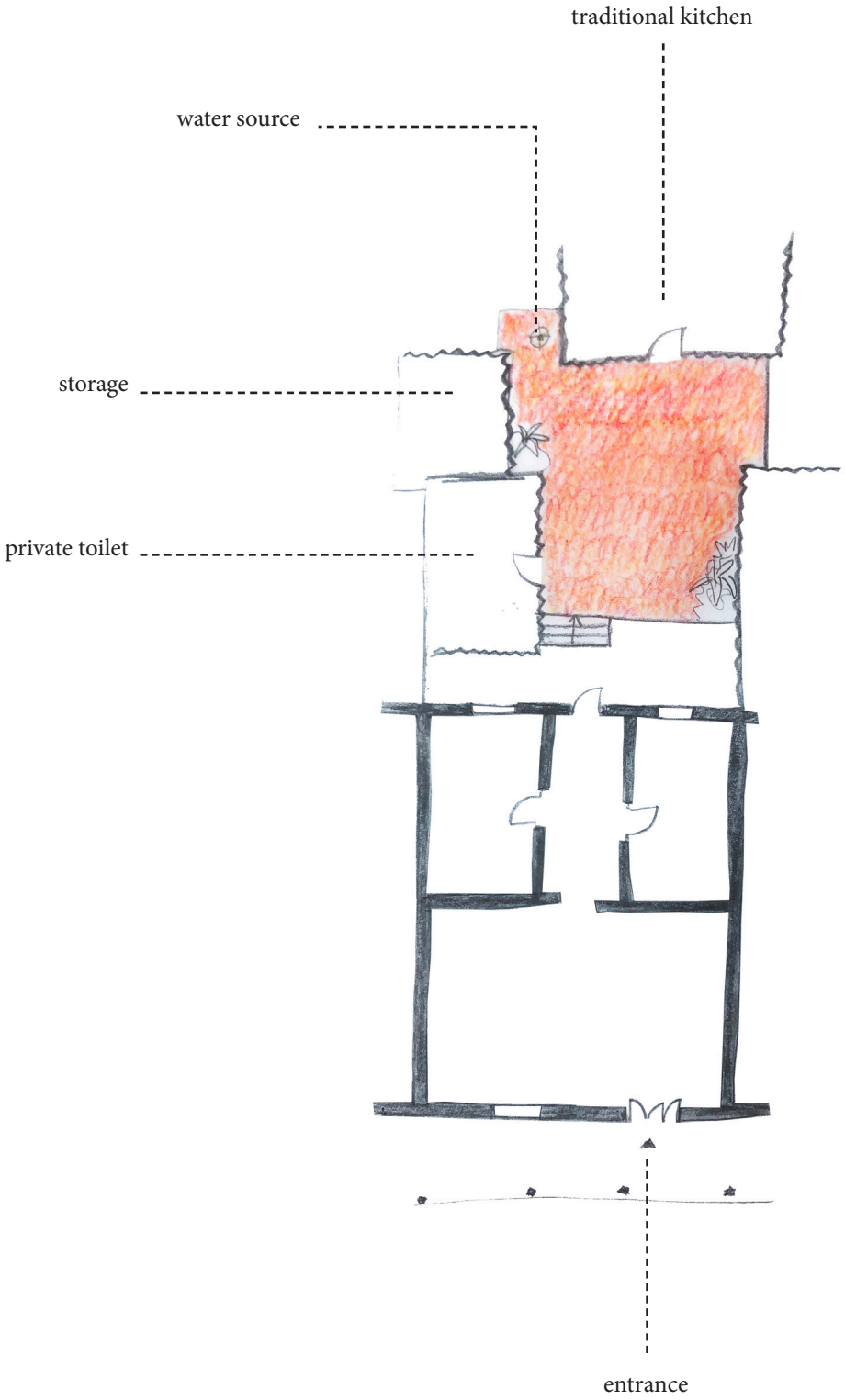
original configuration

Pocket compound

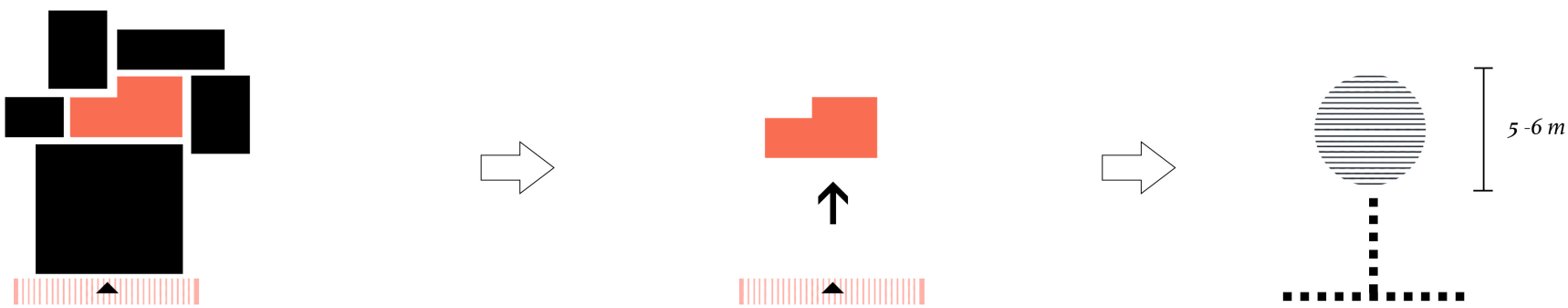


Today's configuration

Patio compound



Patio compound



schematic representation

compressione & decompression

fragmented collective space



DATA

Total surface | 223 sqm

Built surface | 177 sqm

Collective area | 46 sqm

n° inhabitants | 5

n° families | 1

Outdoor area/person | 9,2 sqm

House area/person | 35 sqm



DATA

n° of families | 10-15m

people per family | 4-6

floor surface/person | 5-6 sqm

common area/person | 4-5 sqm

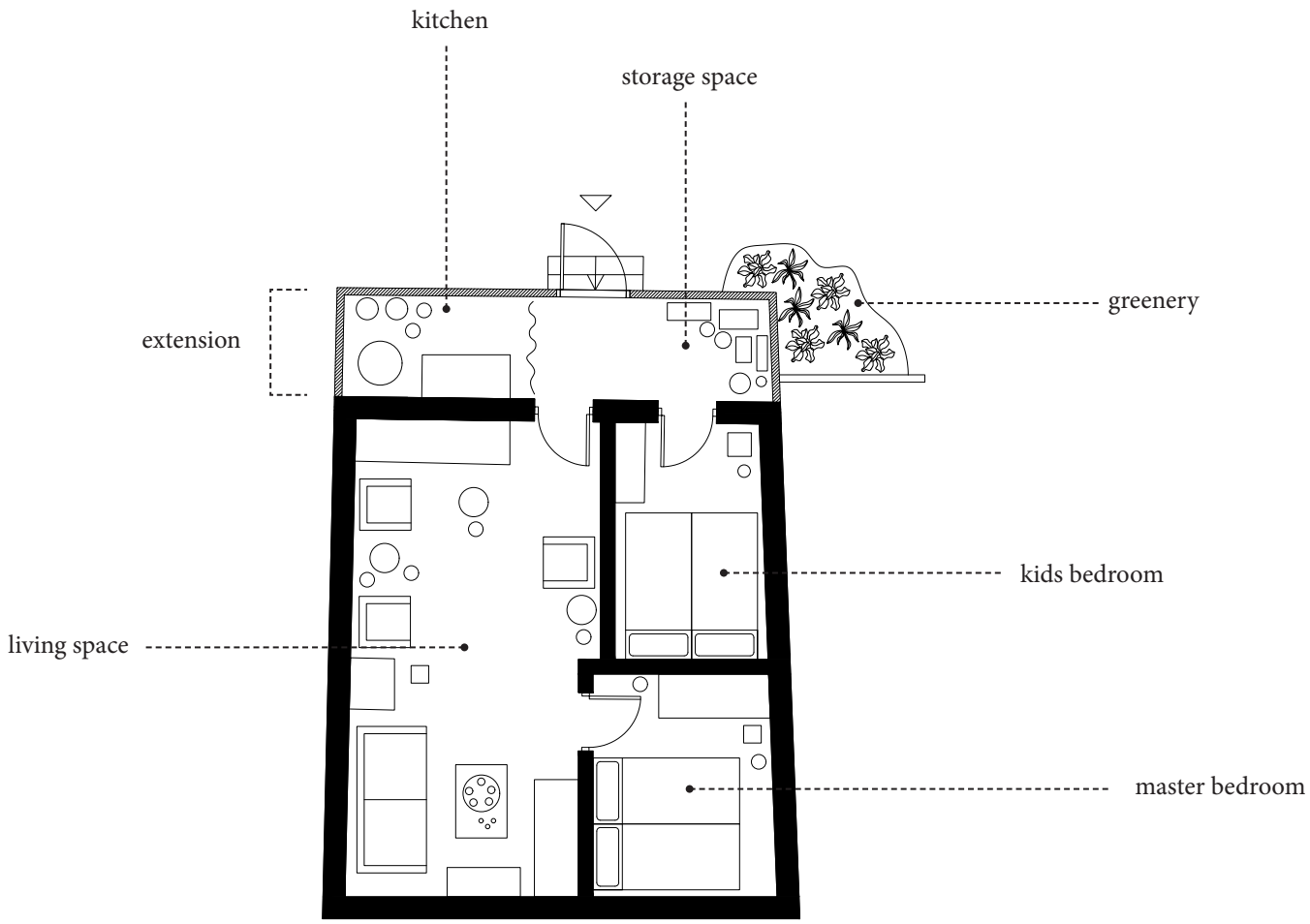
DWELLING UNITS' DIVERSITY

Even looking to the dwelling units it's possible to find several differences and mutations. Due to the informal way of living in fact, each units adapt to the necessities of the dwellers. Most of them are very small lacking of the basic facilities, and for this reason often kitchen and storage space are built as extension of the existing fabric.

Moreover within taliyan it's possible to find a wide range of dwellings even in terms of renting price. As a matter of fact the variety of the urban fabric provide a considerable number of options that go from few birr a month, up to some hundreds. The informal way of living moreover increase this variety. It's very common that richer people with bigger houses, rent out part of their home, in order to generate income. Another very common way to generate income is through the production and the sale of food (usually enjera). For this reason often external extension of the house are built in order to create extra space for a bigger kitchen, useful for such a practice.

This variety of dwelling typologies is necessary to satisfy the necessities of the inhabitants in terms of renting price and life style, providing very flexible shelters that can easily adapts to the dwellers needs and ambitions.

Indoor space



DATA

n° of people | 7

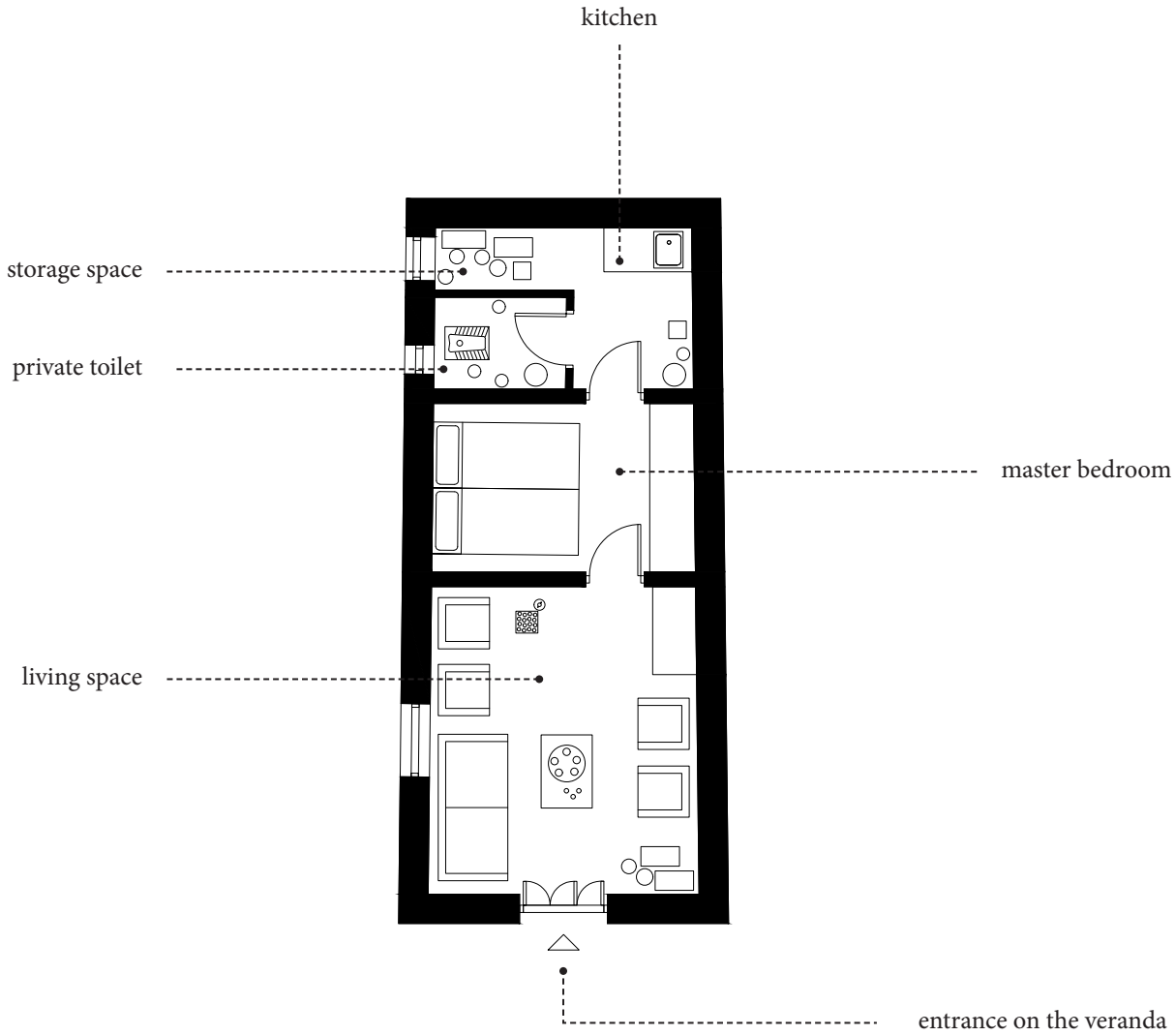
floor surface | 44 sqm

floor surface/person | 6,3 sqm

rent | 63 birr/month

scala 1:100

Indoor space



DATA

n° of people | 5

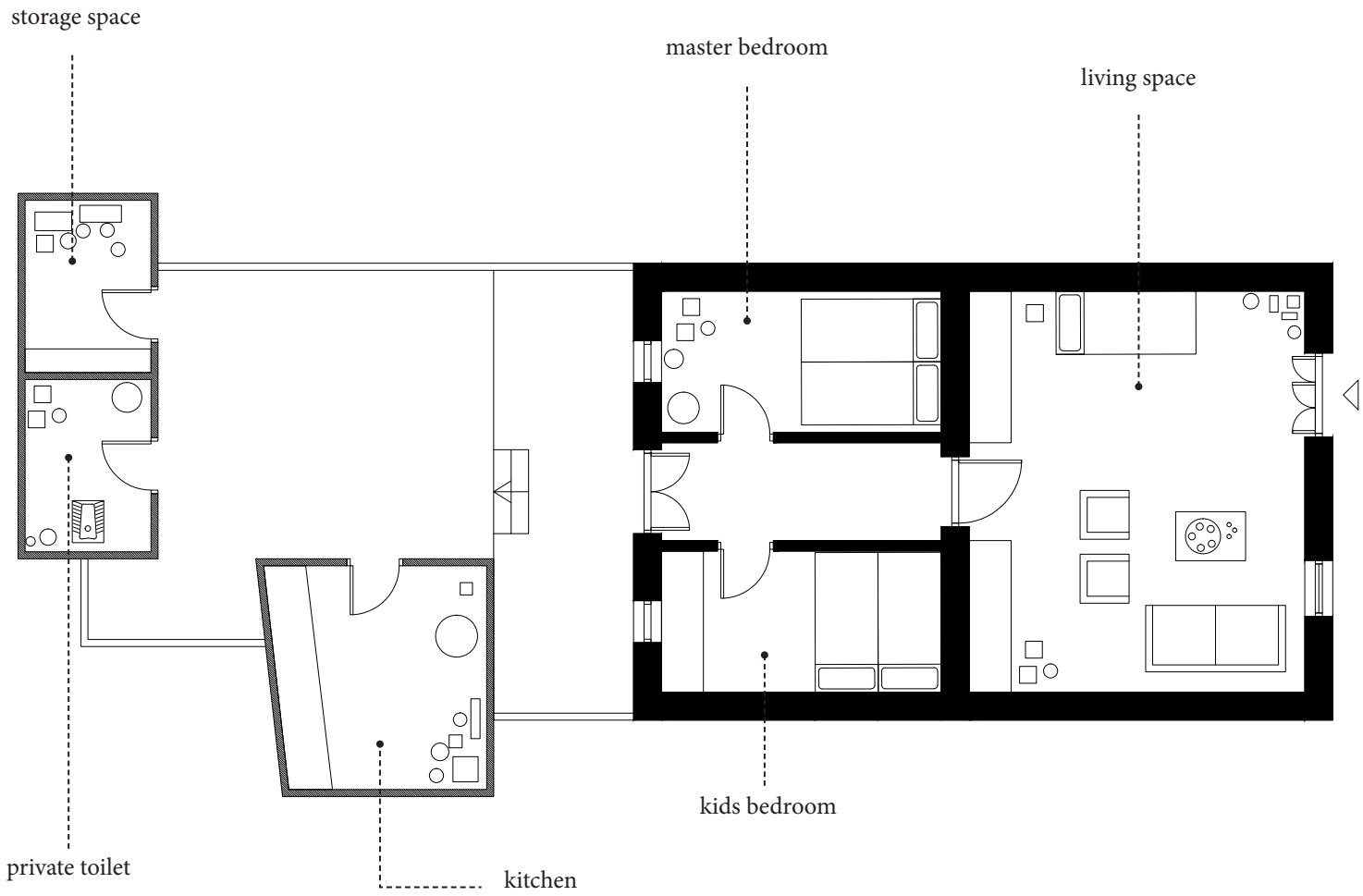
floor surface | 33 sqm

floor surface/person | 6,6 sqm

rent | 123 birr/month

scala 1:100

Indoor space



DATA

n° of people | 7

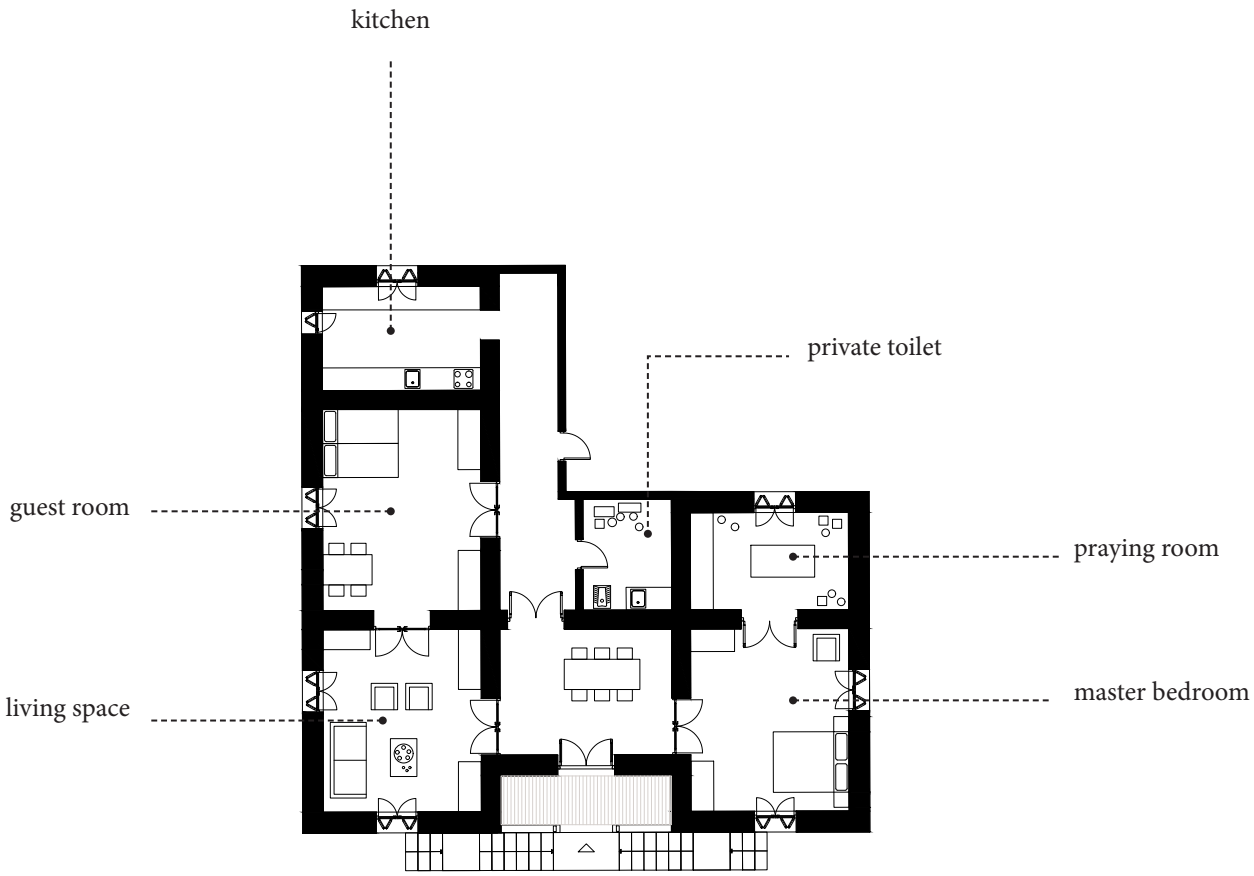
floor surface | 69 sqm

floor surface/person | 9,8 sqm

rent | 230 birr/month

scala 1:100

Indoor space



DATA

n° of people | 2

floor surface | 140 sqm

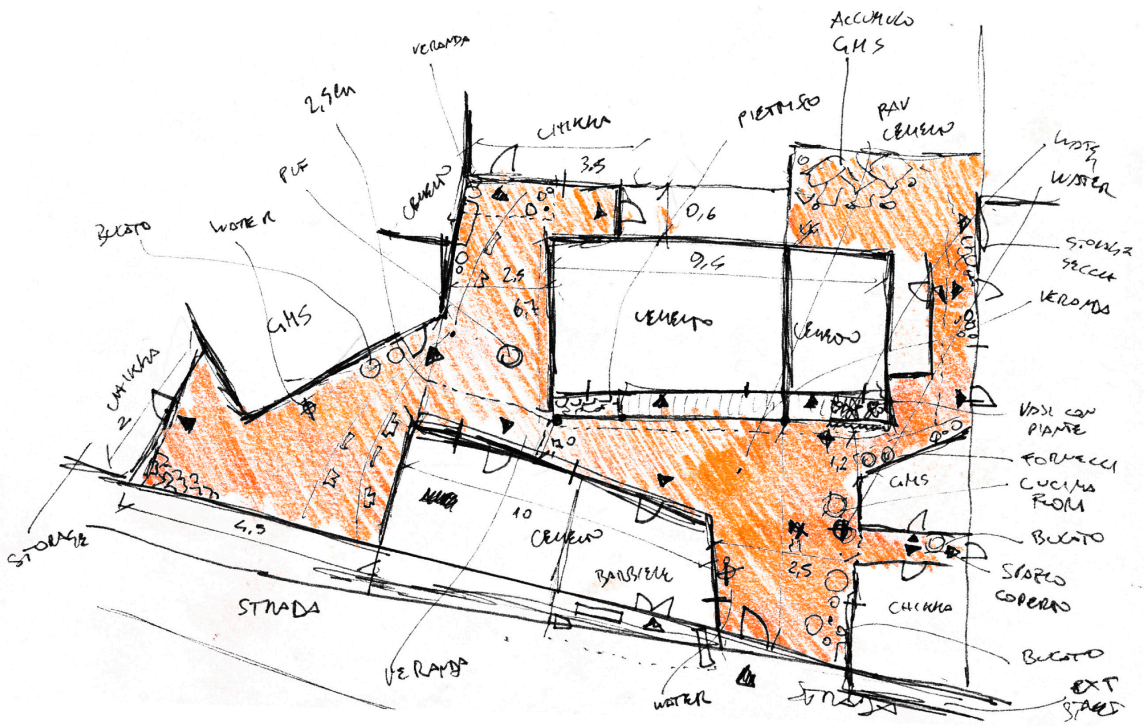
floor surface/person | 70 sqm

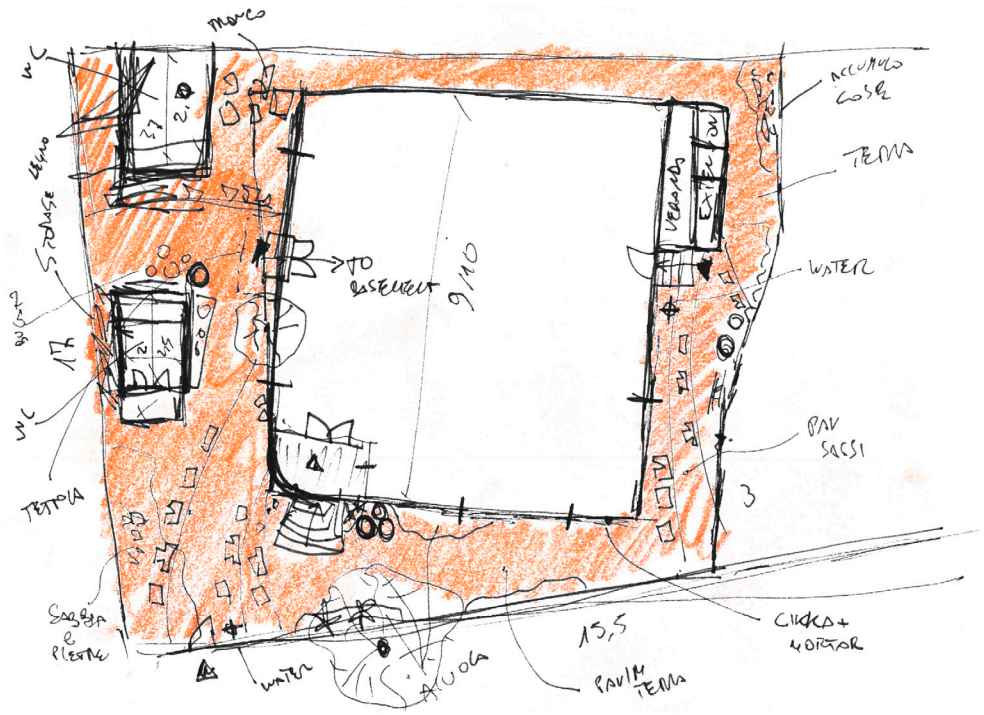
private owner

* in collaboration with Antonio Paoletti

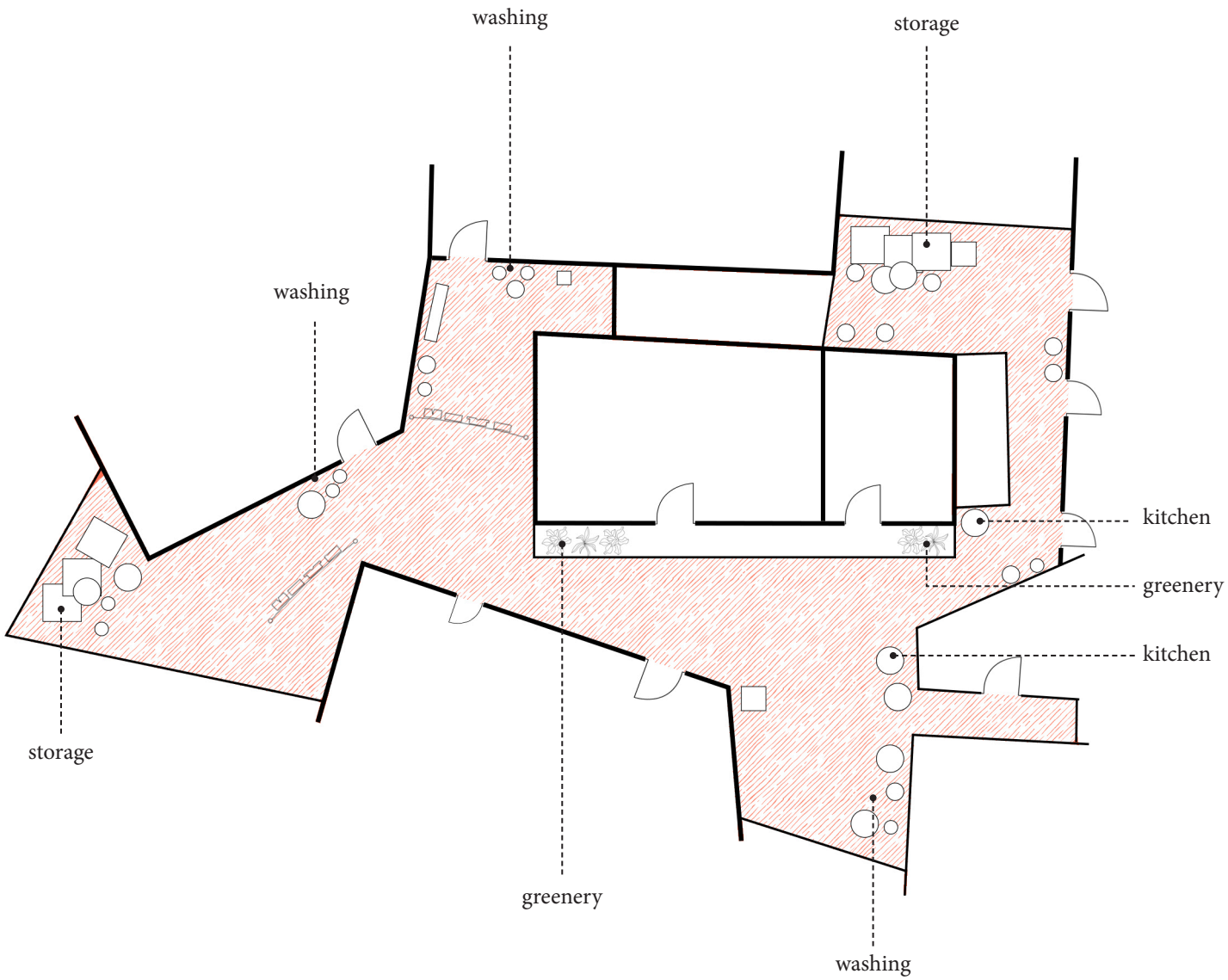
scala 1:200

Outdoor space





Outdoor space



SOCIAL DIVERSITY

Diversity it's not only about what is phisically tangible, but concerns even people needs and necessities. Differently from the condominium blocks, where only four options of dwelling units are provided with a rent defined a priori and divided in four different categories depending on the size of the apartment, in Taliyan the range of opportunity it's much richer and wider.

This diversity, increased partially by the informal way of living, it's very important in order to tackle the "affordability ladder", and so the necessity to provide a wide range of options able to cater for the needs but even for the dreams and the ambition of the people. In this way in Taliyan we can find within the same compound middle income private owners who rent part of their property in informal way to low income dwellers. And again people that use part of their house as a commercial activities in order to earn more and improve their life condition, or people who build extension of the house in order to increase the surface and gain extra living space.

All these conditions create a melting pot of people with different needs an ambition. increasing the social diversit and therefore the inclusiveness of the neighborhood.

Condominium blocks 20/80

minimum rent

3500 birr/month

median rent

5000 birr/month

maximum rent

8000 birr/month



+230%



Taliyan Sefer

minimum rent

16 birr/month

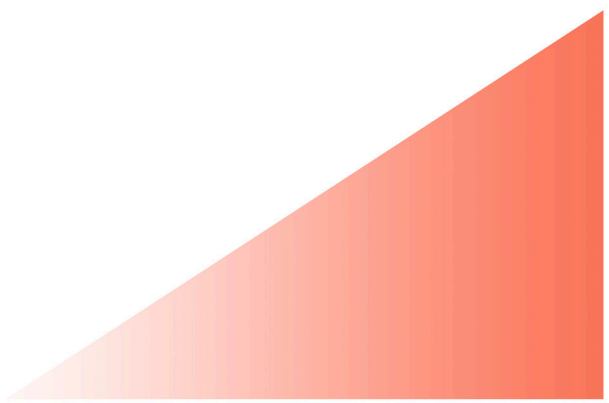
median rent

70 birr/month

maximum rent

520 birr/month





+3200%



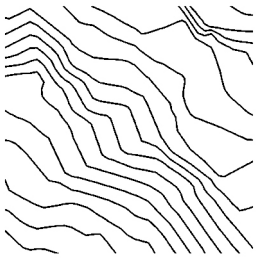
A PLACE CHARACTERIZED BY DIVERSITY

The identity of Taliyan, its Genius Loci, it's given by the incredible diversity of situation that we can find within the site.

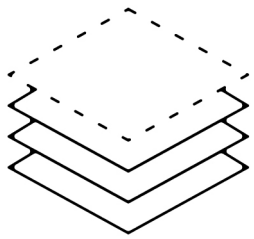
Firstly the steep topography generates every time different views and perspectives. The historical stratification through more than hundred years created a melting pot of different fabrics, formally and informally developed, that affected even the configuration of the urban blocks, creating a fluid and organic environment. Compunds have adapted tho the urban blocks and the streets in an informal way, evolving through time and creating every time a different collective space with different shape and characteristics.

In the same way even dwelling typologies adapted to the cluster configuration but also to the specific needs of each family, with the creation of informal extension for commercial or domestic purpose.

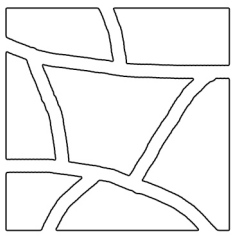
All this elements brought to the creation of a heterogeneus environment. In fact Taliyan can be considered a unique and distinguishable place in Addis Ababa, differently from the condominium blocks or the kebele housing, where a rubber stamp approach have been adopted. Moreover even within Taliyan each corner, each street, each building is different and this makes each spot of the neighborhood a unique experience.



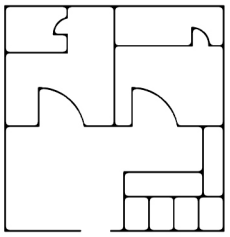
TOPOGRAPHY



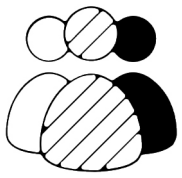
HISTORICAL STRATIFICATION



HETEROGENEUS URBAN BLOCKS & COMPOUNDS



DIVERSITY IN DWELLING UNITS



SOCIAL DIVERSITY

VII

OPERATIONAL MODEL

in order to support the invests necessary for the realization of a housing project on such a large scale, a management plan is fundamental during the design phase. The following managerial model was developed to address the particular situation of Taliyan Sefer.

Today this area is 80% made up of slums, despite this, thanks to its central position and proximity to other important landmarks, its development could guarantee the influx of investors. The plan therefore develops around the idea of renewing the historical center by creating commercial spaces and dwelling units for wealthy people, who can cover part of the initial investment. Despite this, in order to avoid the eviction of the current residents, the design will not be limited to the construction of buildings for high income people, but will try to create a much more complex and balanced environment. For this reason a system of cross subsidization is necessary in order to decrease the rent for the low income inhabitants.

The conservation of historic buildings and their conversion to commercial function is one of the fundamental aspects of the renovation plan, as it will allow to maintain a link with the past, also promoting an idea of sustainable tourism.

Phase 1 | Defining the stakeholders

Client | City administration

Plan for the redeveolpment of Talian and construction of low income housing project

Request for project proposal

Investor 1 | World bank

World Bank will provide around the 70% of the investments for the redevelopments of the area with a low interests rate.

+

Investor 2 | Bank “X” + Sovereign Guarantee

30% of the investment from Bank “X”. The private bank has the guarantee to receive the money back from the Ethiopian Governmnet in any case. Moreover the Bank “X” has the right to decide the contractor and therefore the Construction company that will take care of the redevelopment.

+

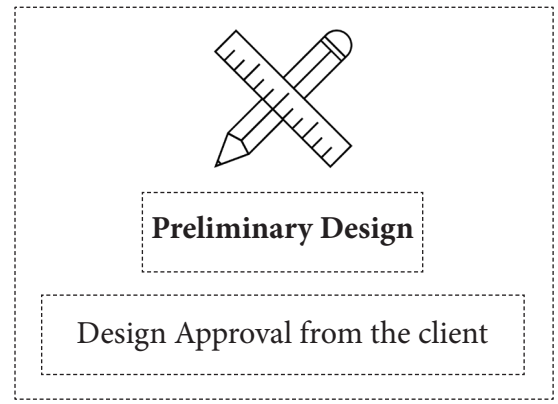
Investor 3 | Heritage Fund

The peculiar situation in Taliyan, characterised by several historical buildings, can allow the partecipation of the Heritage fund for the refurbishment and the renewal of such buildings.

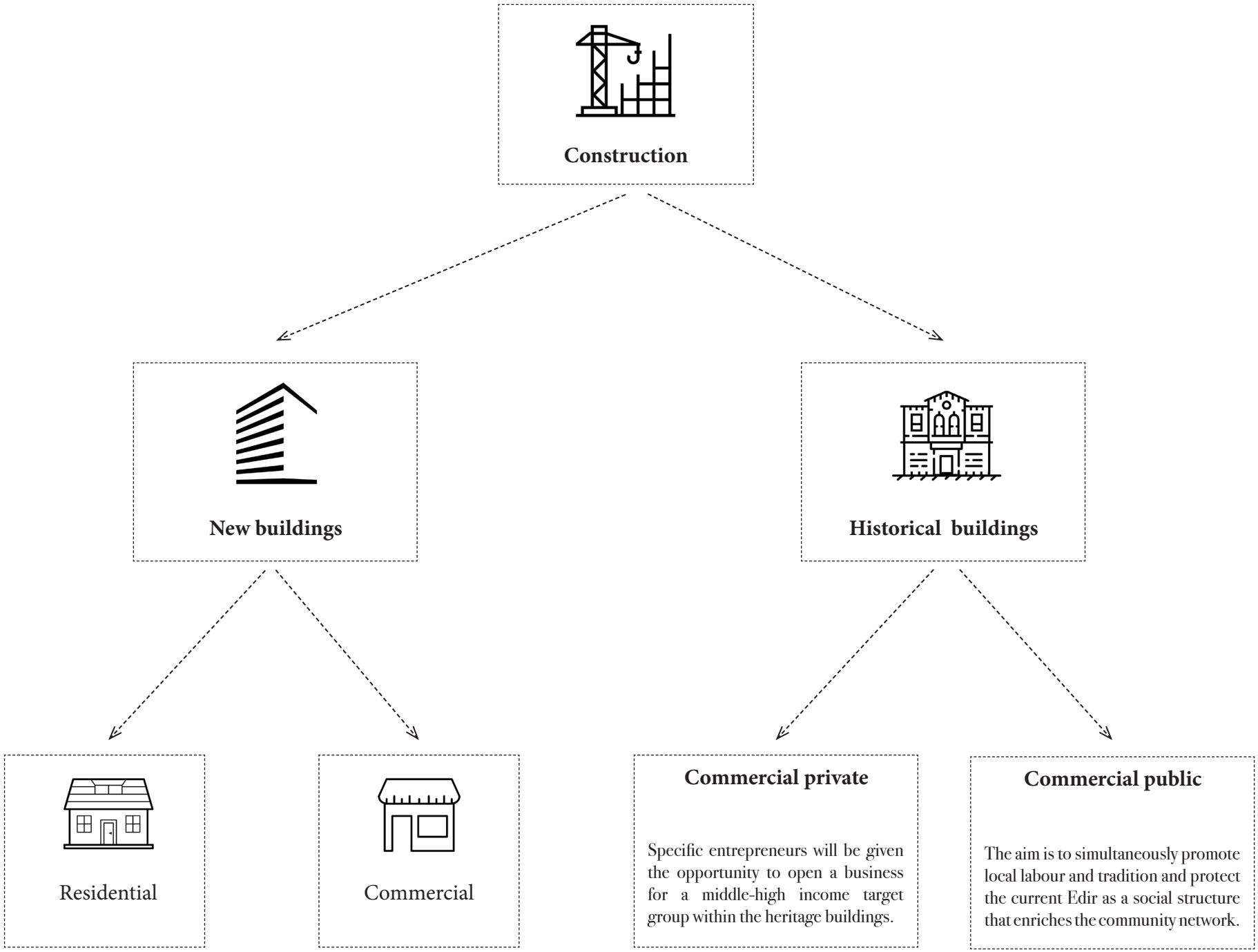
Contractor | Construction Company

Architect + Engineer + Constructor + Consultants + Manager + ...

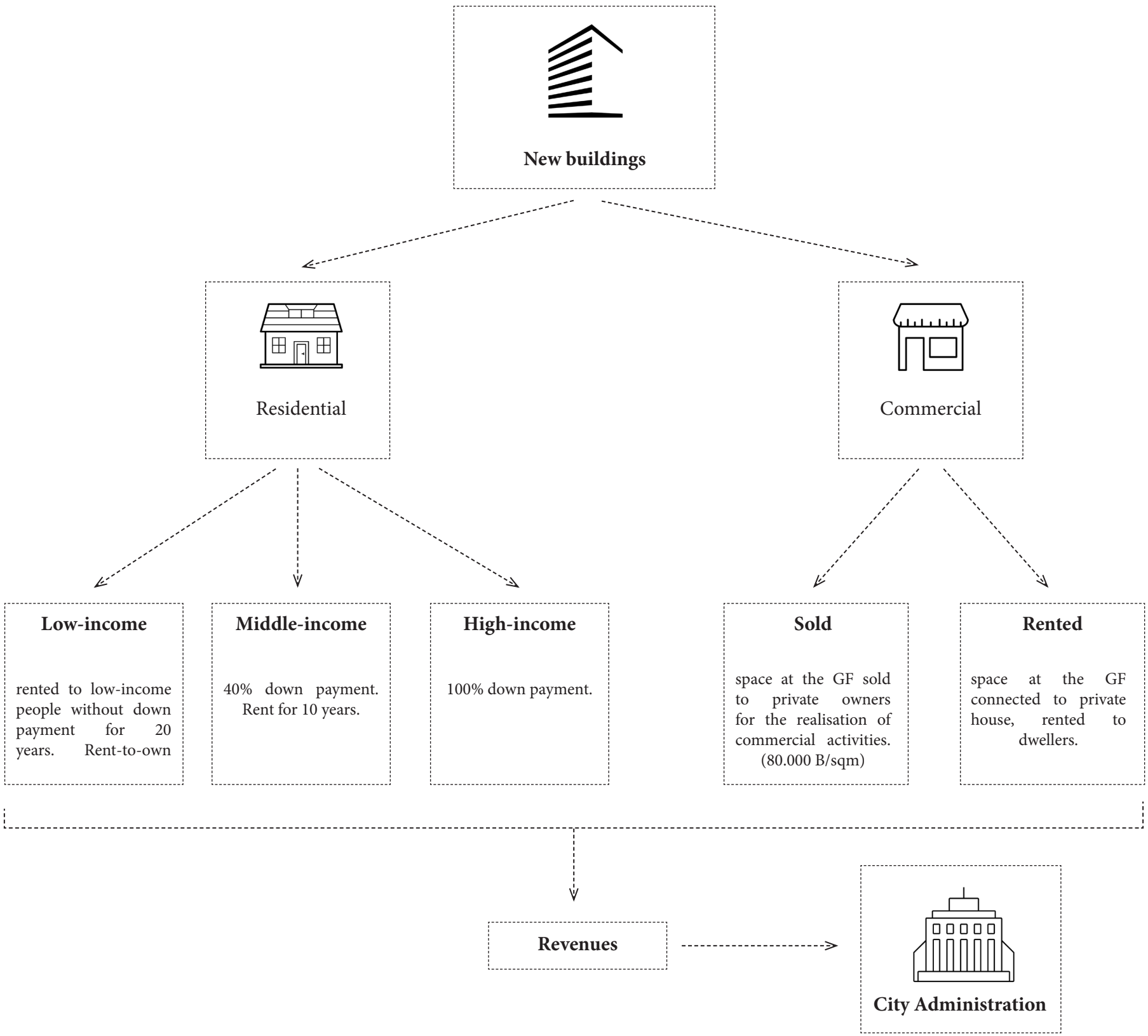
Phase 2 | Design



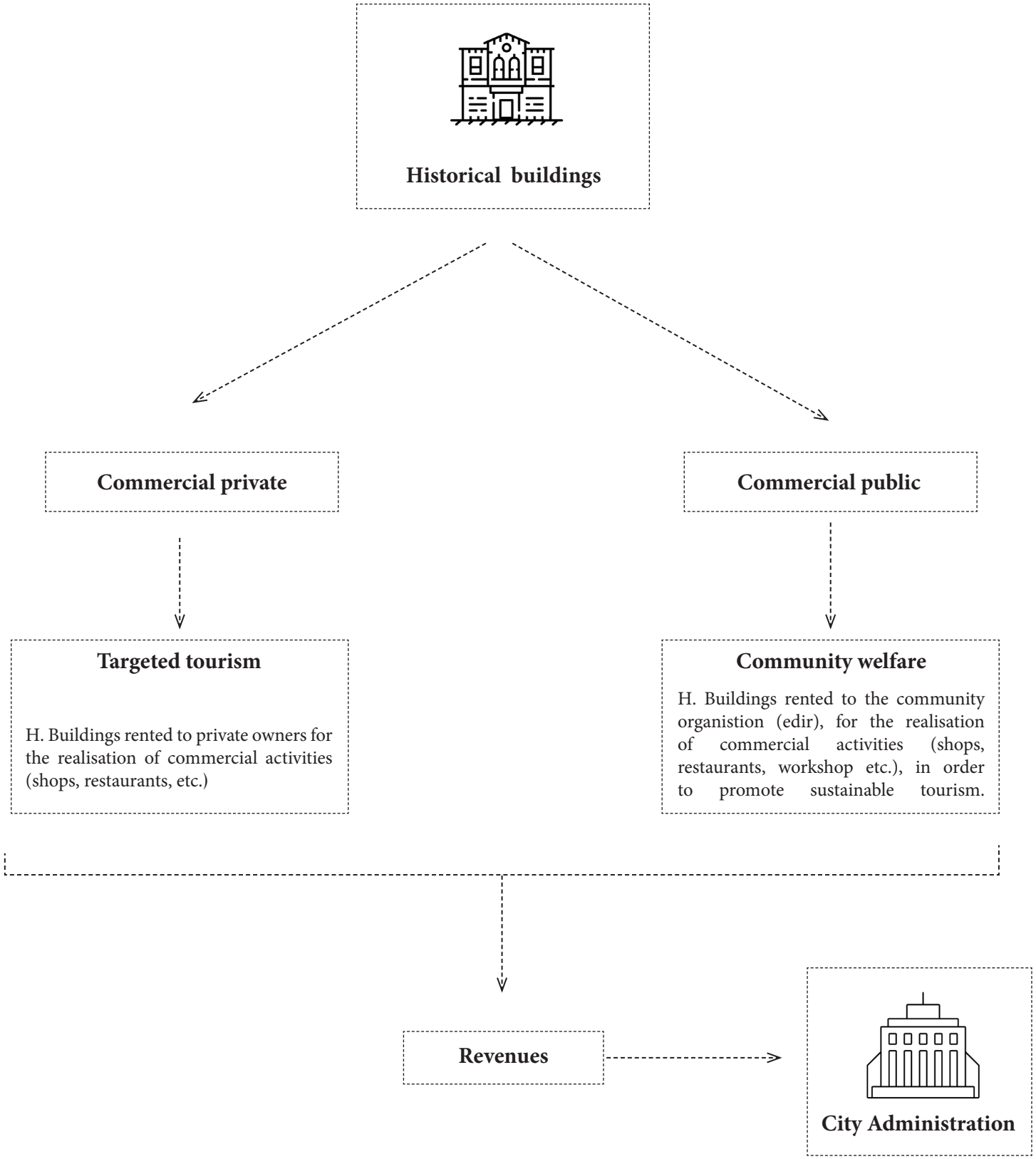
Phase 3 | Construction



Phase 4 | Revenues



Phase 4 | Revenues



VIII

URBAN PROPOSAL

Repeatability does not mean applying an equal solution for all contexts but, on the contrary, creating an extremely flexible model, able to adapt better to any type of context.

URBAN CONCEPT

The urban proposal have been developed starting from a simple question: **How to recreate the hetereogeneity that characterizes Taliyan Sefer only by using few basic components, able to adapt to the existing context but at the same time providing a flexible system, replicable in other similar situations?**

The urban concept therefore arises from the idea of creating basic units, which can be combined in different ways in order to configure different types of clusters. Furthermore these simple elements, thanks to their shape and size, are able to combine also with existing historical buildings, integrating them in the urban fabric in a very gentle way.

The simplicity of the components guarantees extreme urban flexibility and therefore the possibility of applying the system to different contexts. In fact repeatibility is one of the fundamental points of architectural design, and in particular of mass residential design. Repeatability does not mean applying an equal solution for all contexts but, on the contrary, creating an extremely flexible model, able to adapt better to any type of context.

Basic components



"**T shaped**" components

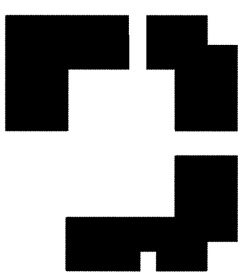


"**L shaped**" components 1

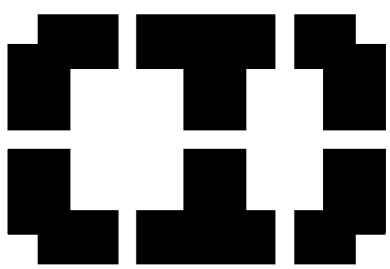


"**L shaped**" components 2

Clustering possibilities



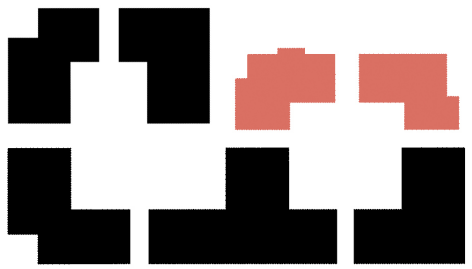
Open courtyard



Enclosed courtyard



Relation with existing building



Relation with two existing buildings

CONSTRUCTION PHASING

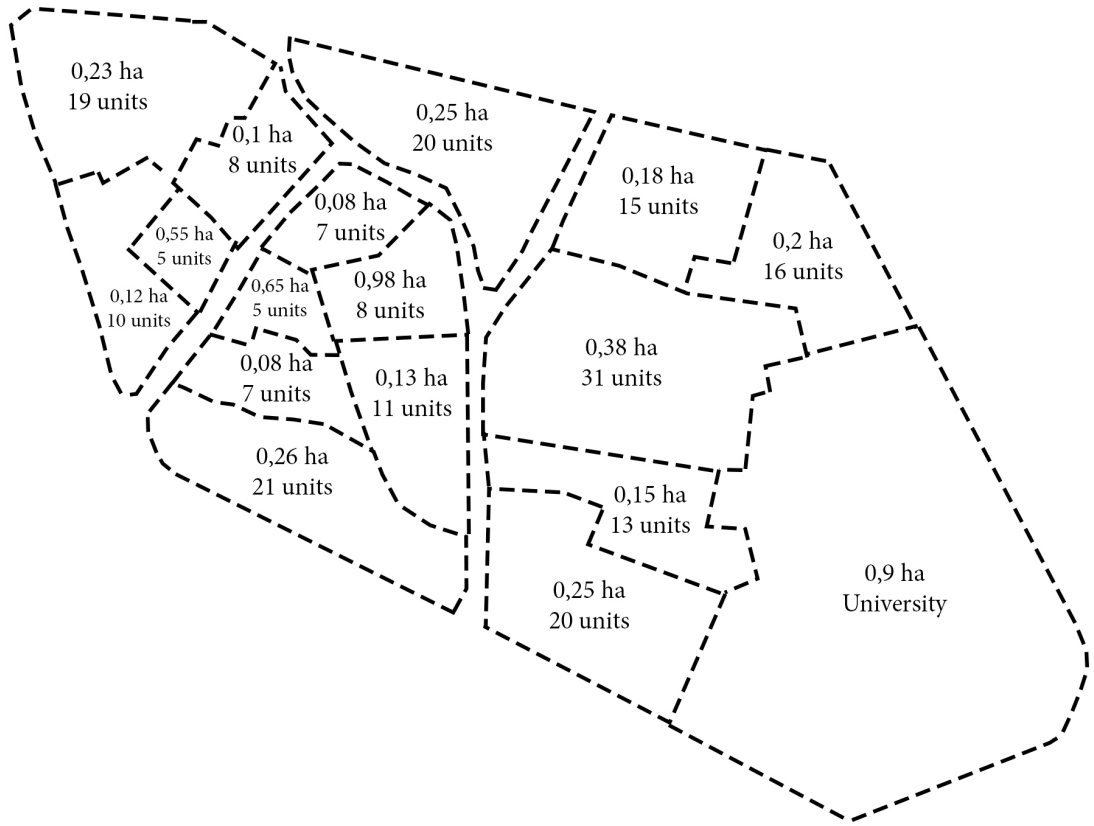
In order to avoid a tabula rasa approach and the consequent eviction of thousands of people from the area, like for instance happens with the construction of condominium blocks, the project needs to be developed through time in well defined phases.

The striking feature of this approach is that each part of project needs to be independent from the others. In this way, in the worst case scenario in which only one or two parts of the project will be developed, they will be functioning without any kind of problem or lacks.

The phasing for the demolition and the construction will start from the lower part of the site, along the commercial street, in order to give a first image of renewed historical center to the people that cross the area, but also because commercial activities placed at the ground floor are the first source of revenues for the development of the project.

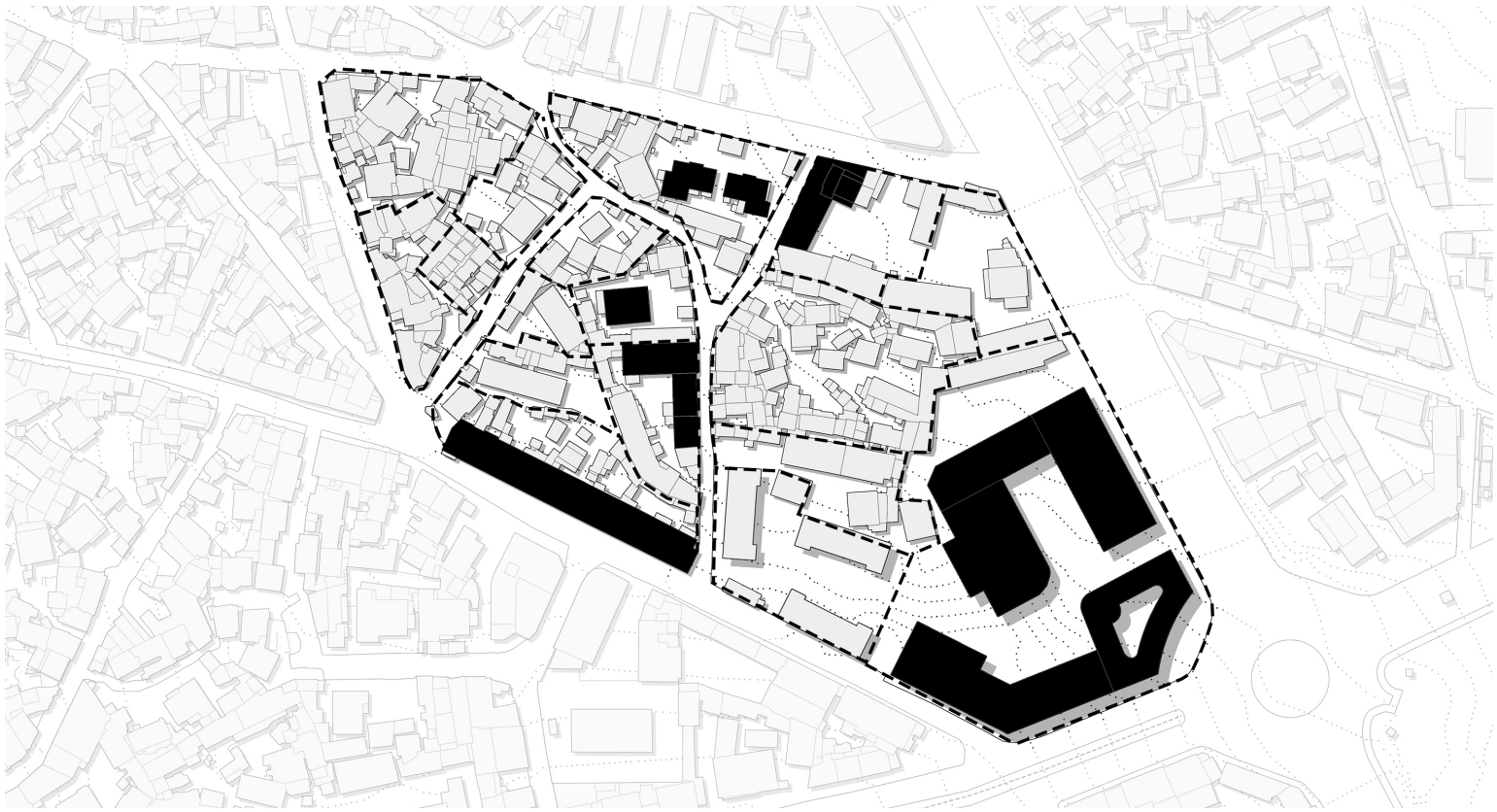
The second reason to start with the construction from that specific place is because even the parking, which will be place underneath the buildings, will be realized though time, following the same phases, and in that point we have the only access possible to enter in such space.



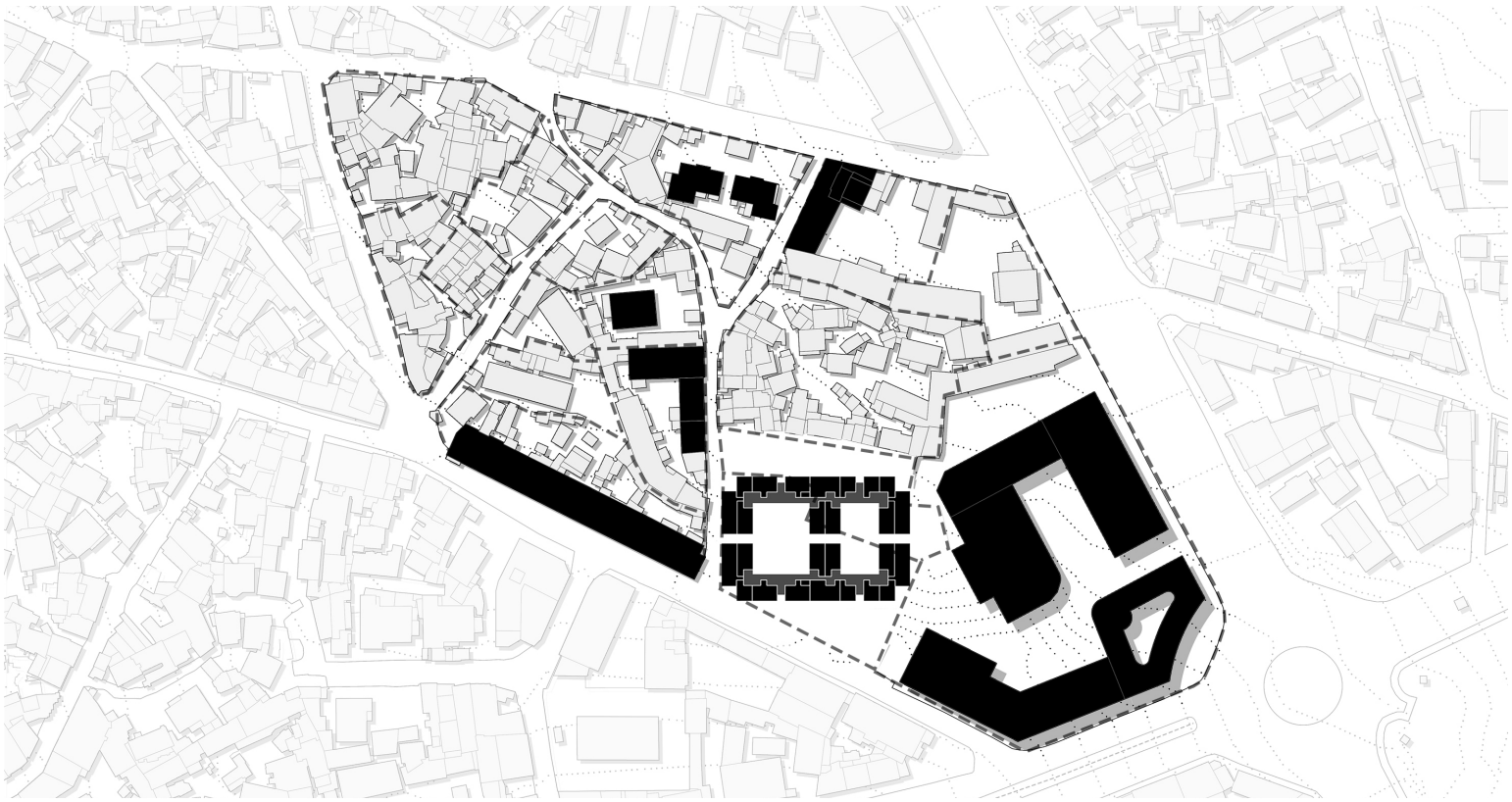

0,23 ha
19 units
0,1 ha
8 units
0,25 ha
20 units
0,18 ha
15 units
0,2 ha
16 units
0,08 ha
7 units
0,55 ha
5 units
0,12 ha
10 units
0,65 ha
5 units
0,98 ha
8 units
0,38 ha
31 units
0,08 ha
7 units
0,13 ha
11 units
0,26 ha
21 units
0,15 ha
13 units
0,25 ha
20 units
0,9 ha
University



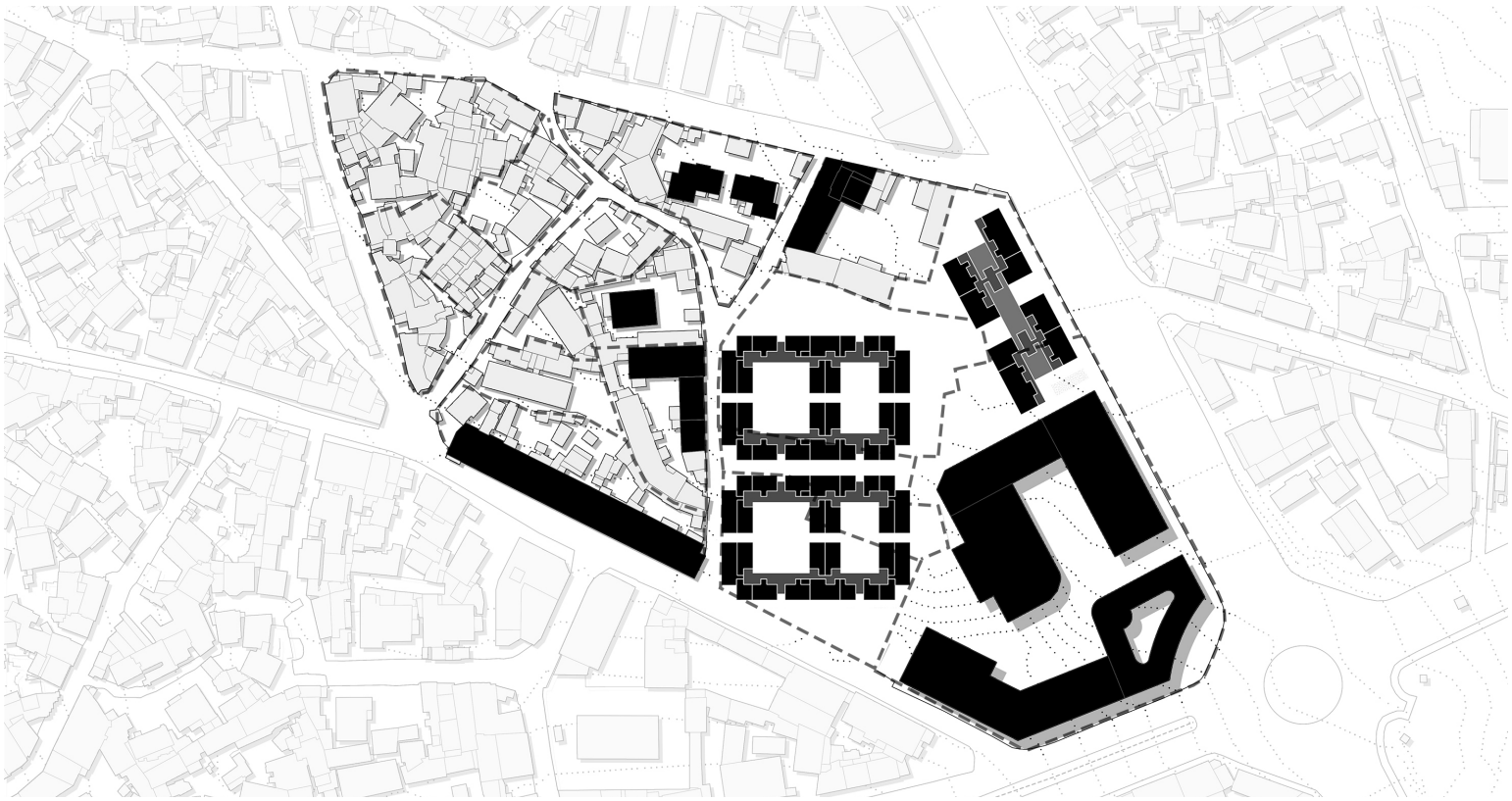
Defining the parcels



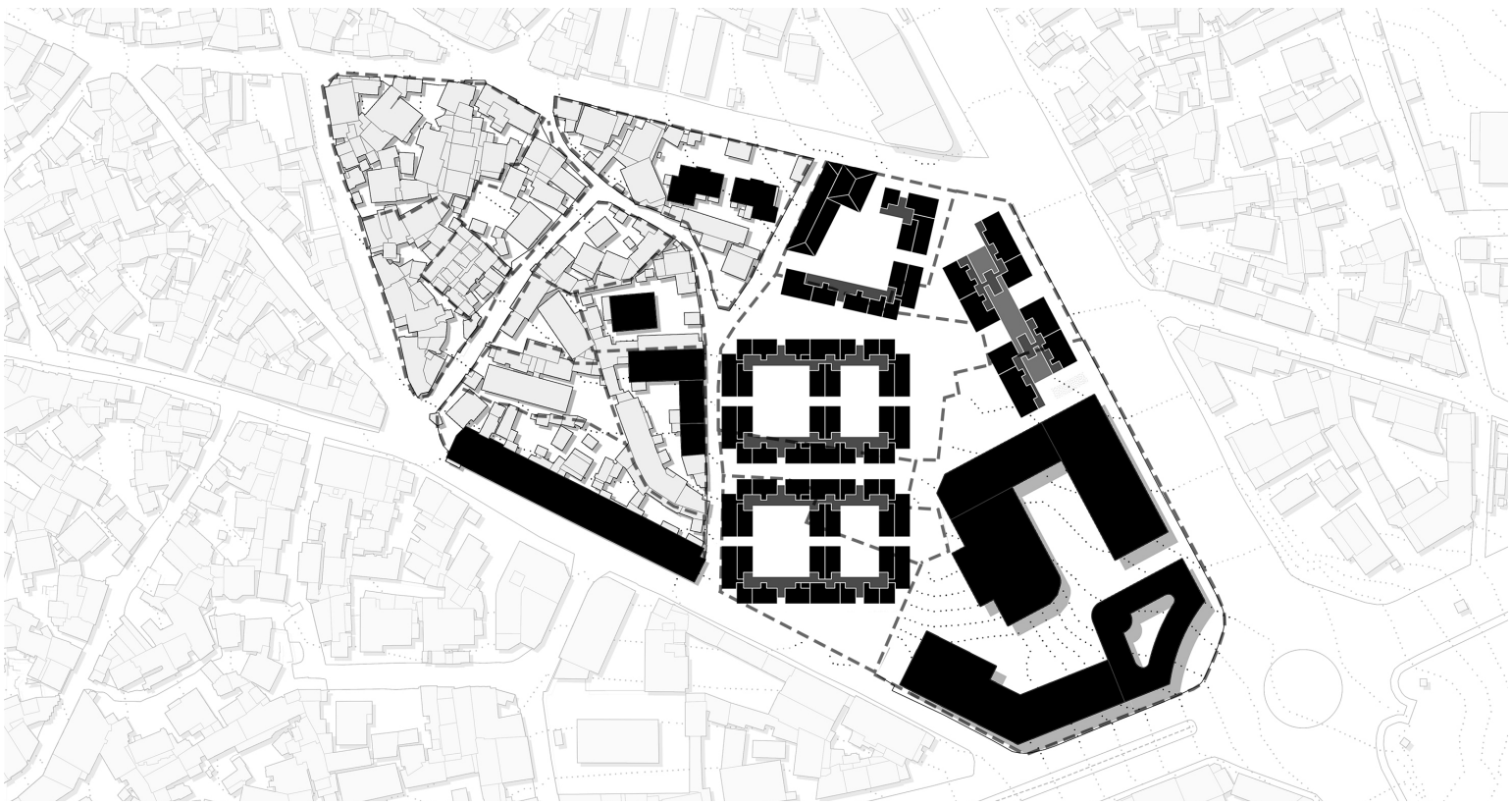
Existing building to preserve



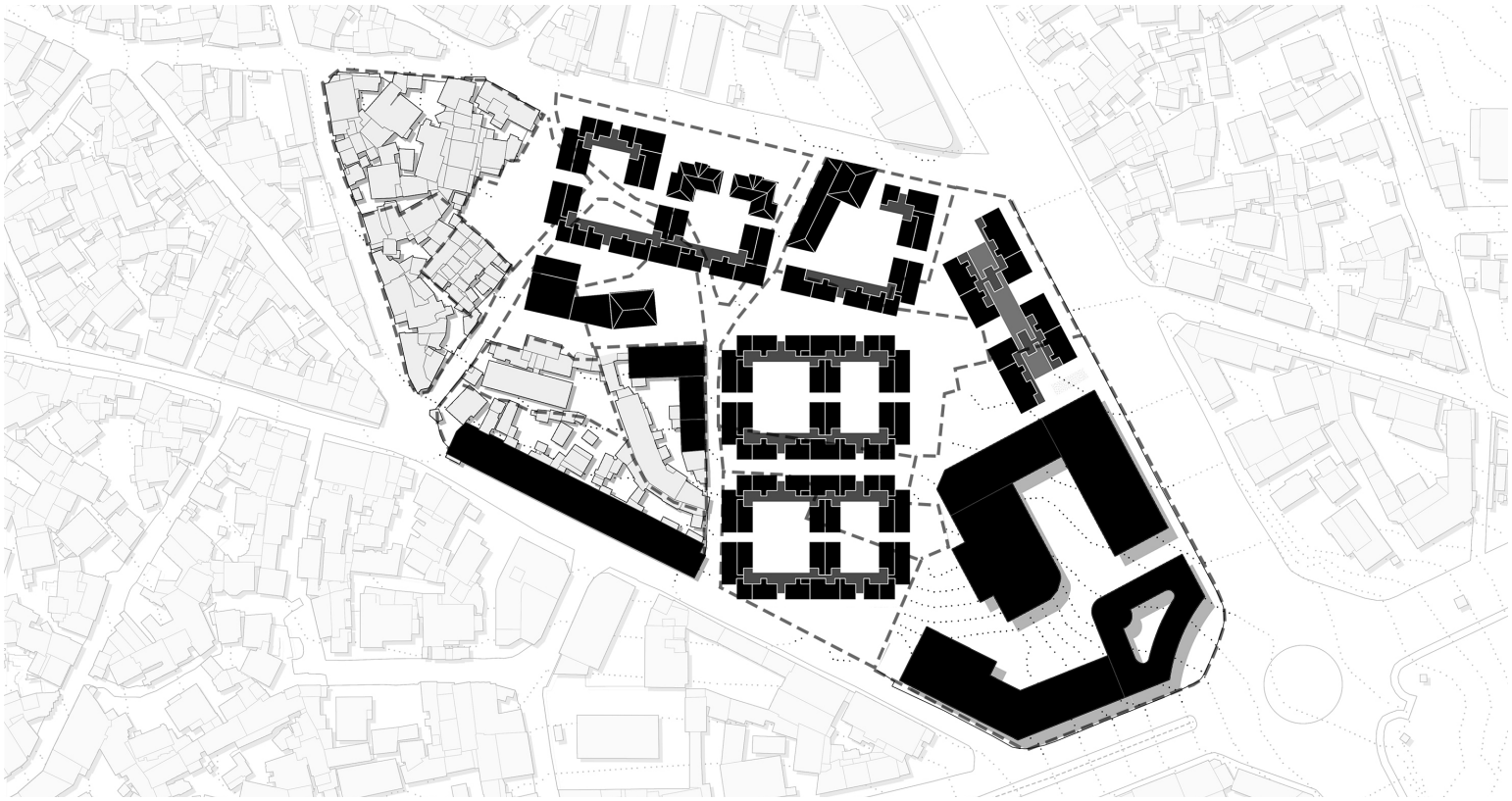
PHASE 1 | Demolition 13 units - construction 96 units



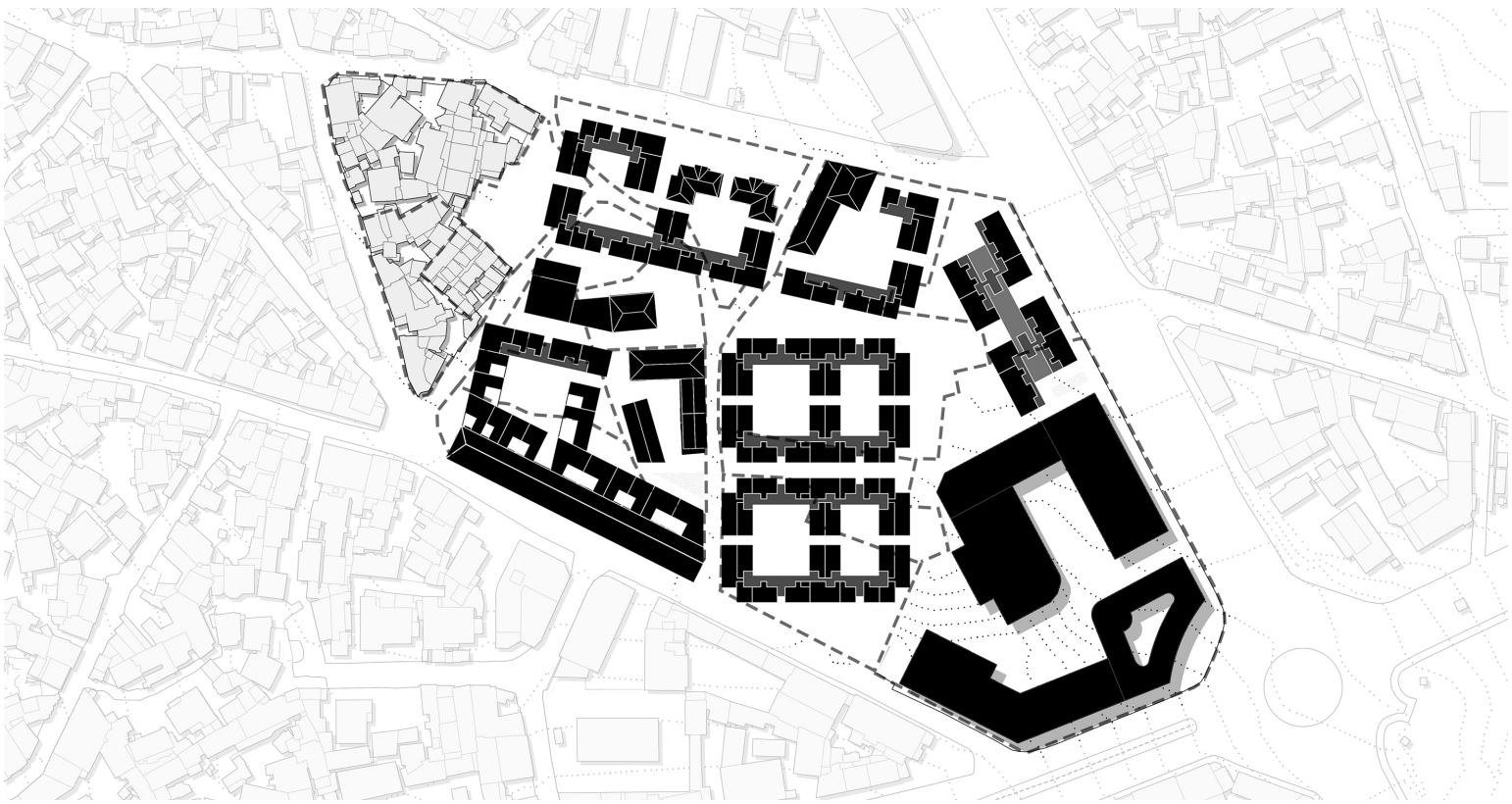
PHASE 2 | Demolition 47 units - construction 140 units



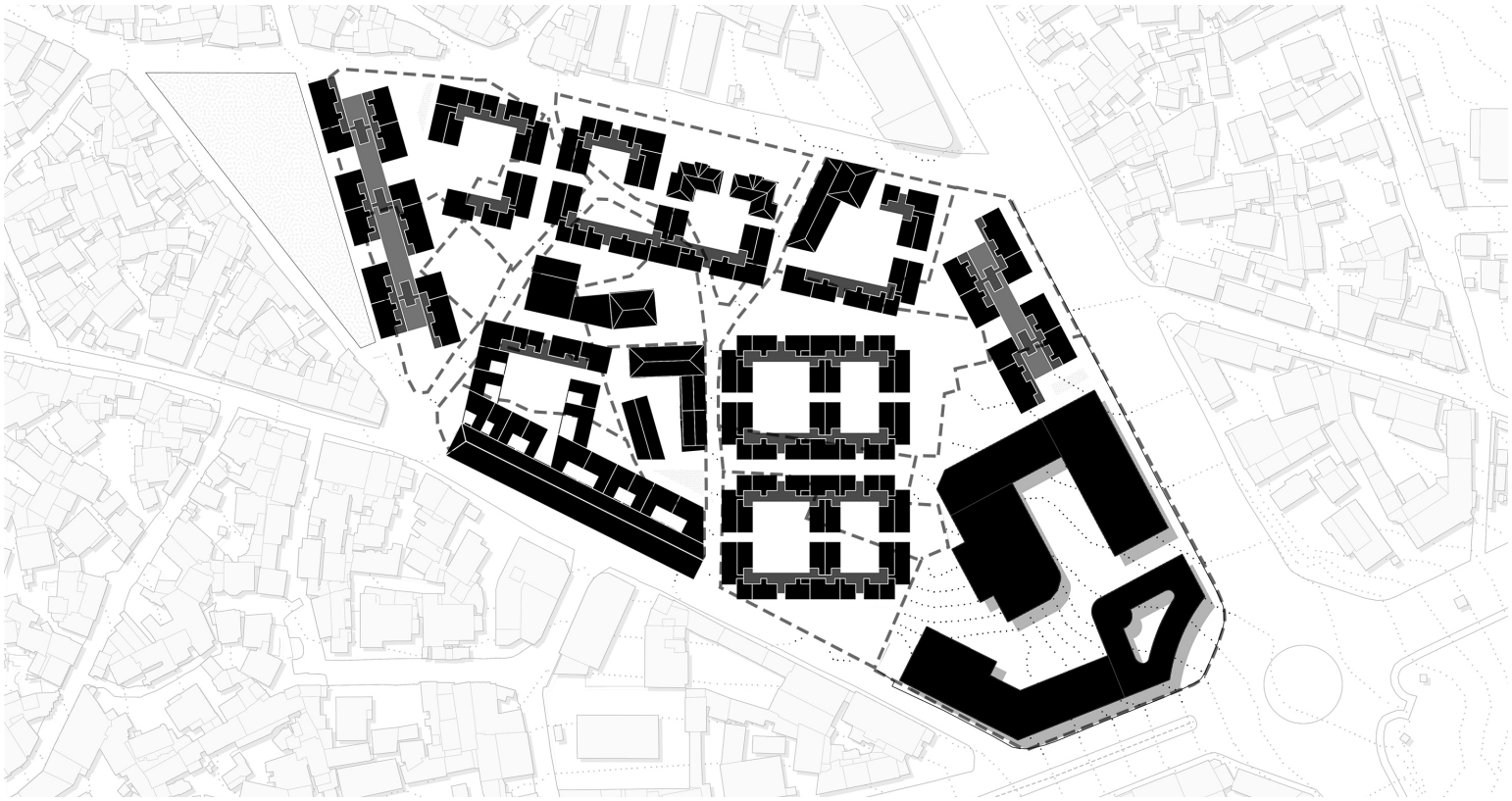
PHASE 3 | Demolition 15 units - construction 42 units



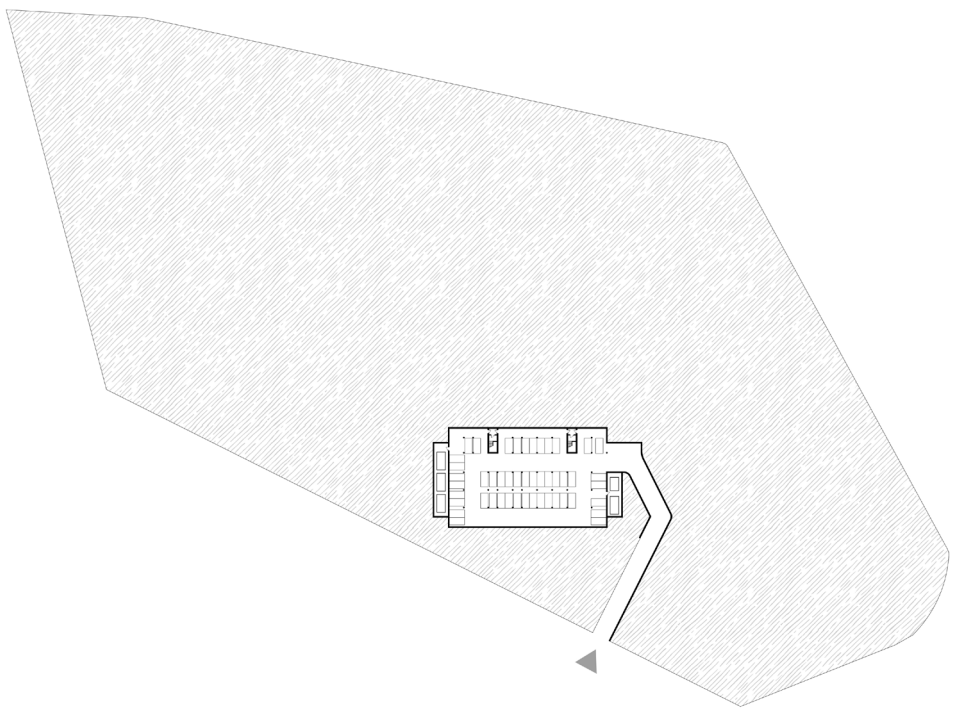
PHASE 4 | Demolition 48 units - construction 86 units



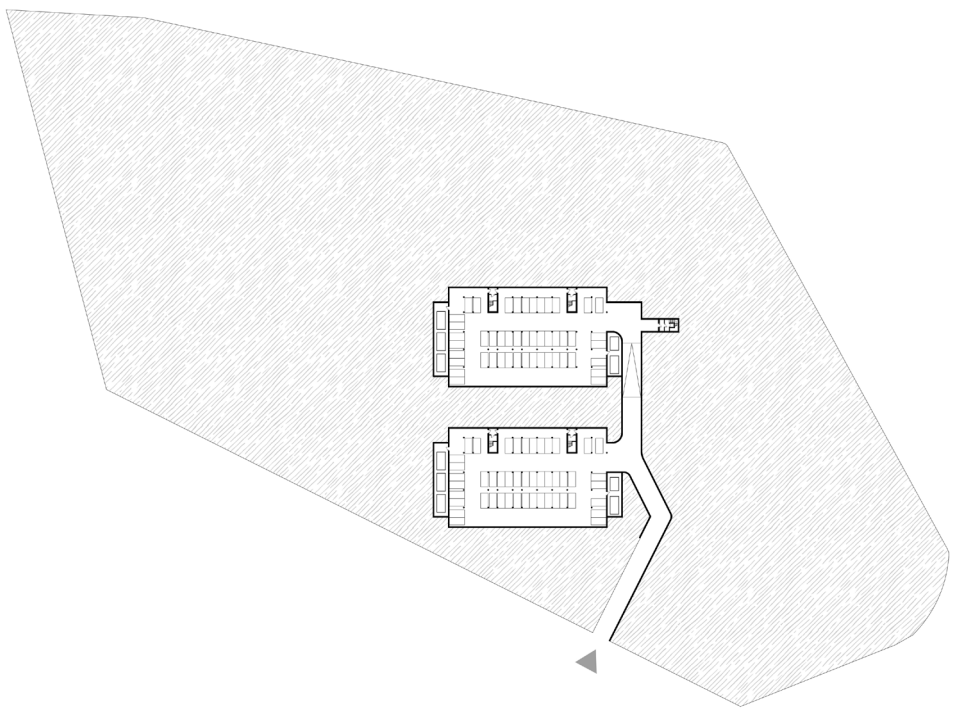
PHASE 5 | Demolition 39 units - construction 24 units



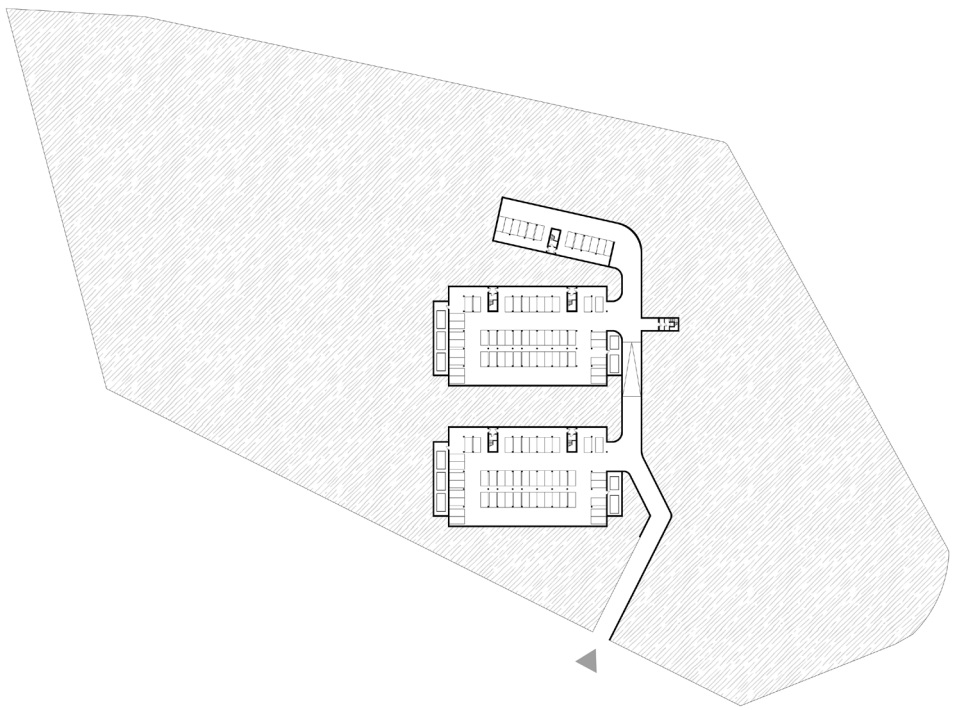
PHASE 6 | Demolition 42 units - construction 131 units



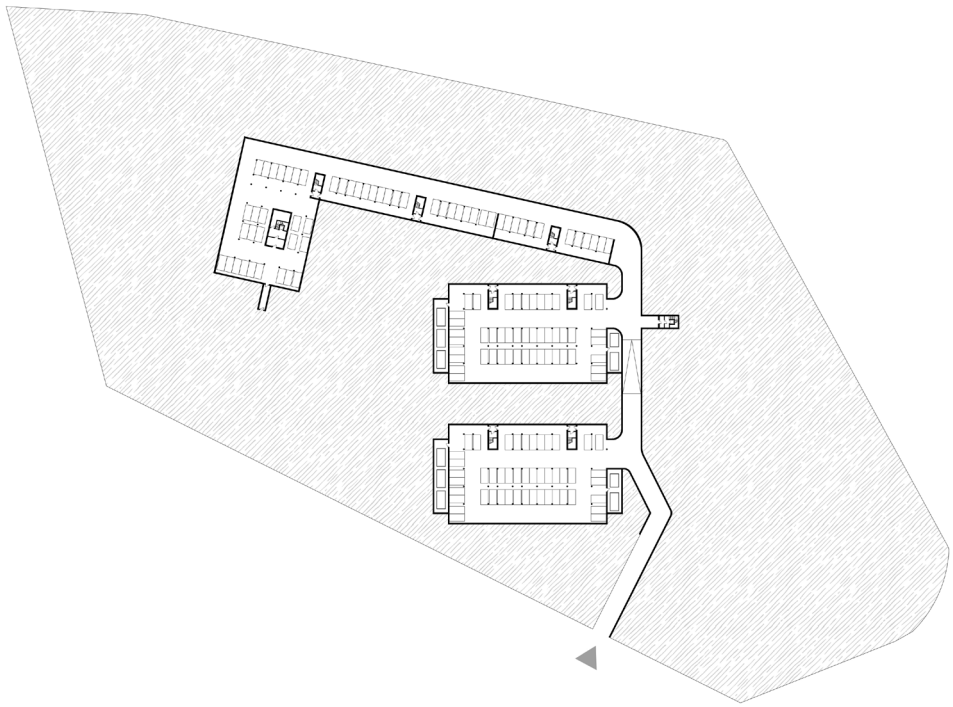
PHASE 1 | + 48 parking lots



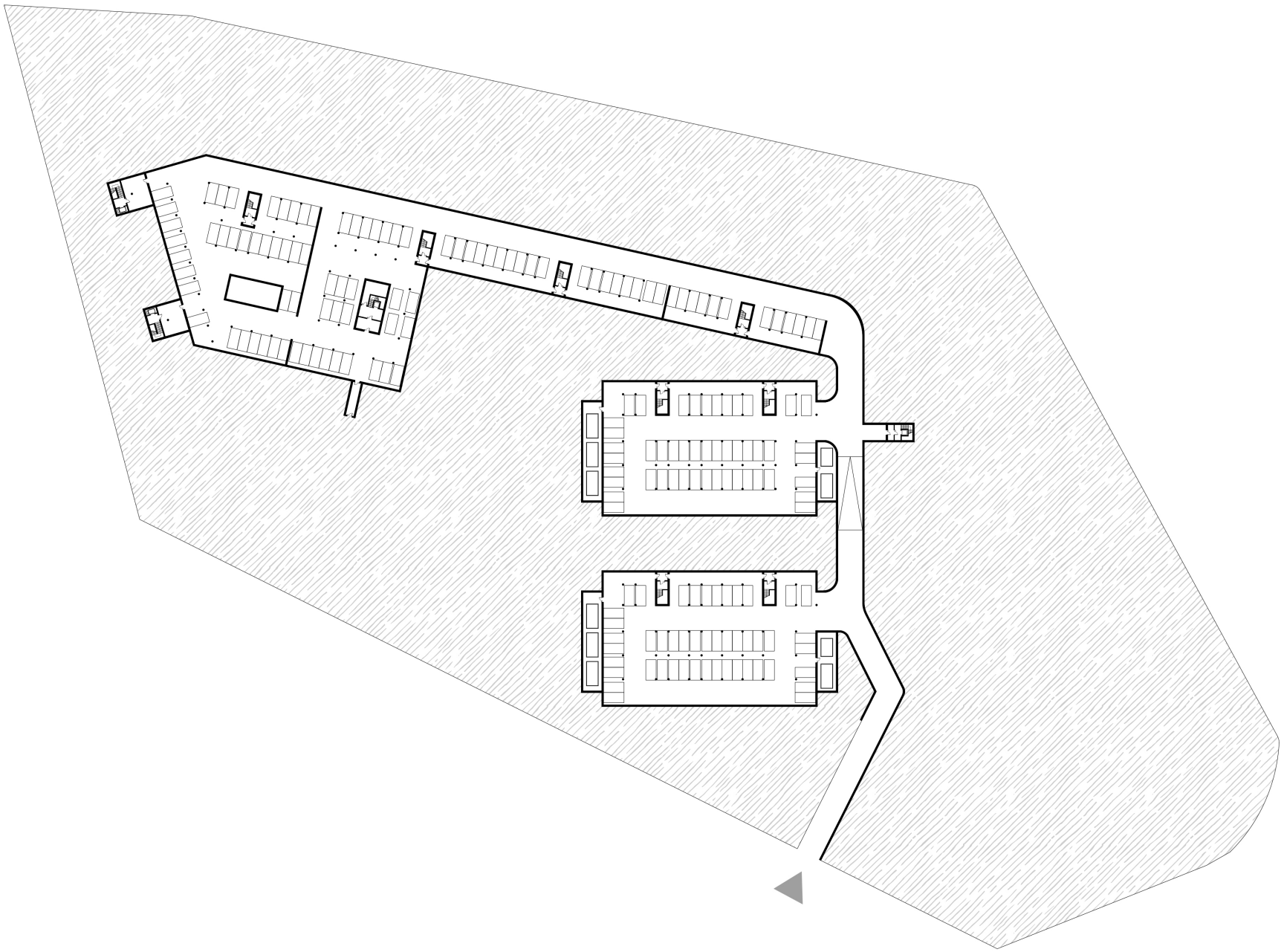
PHASE 2 | + 48 parking lots



PHASE 3 | + 12 parking lots



PHASE 4 | + 26 parking lots



PHASE 5 | + 34 parking lots

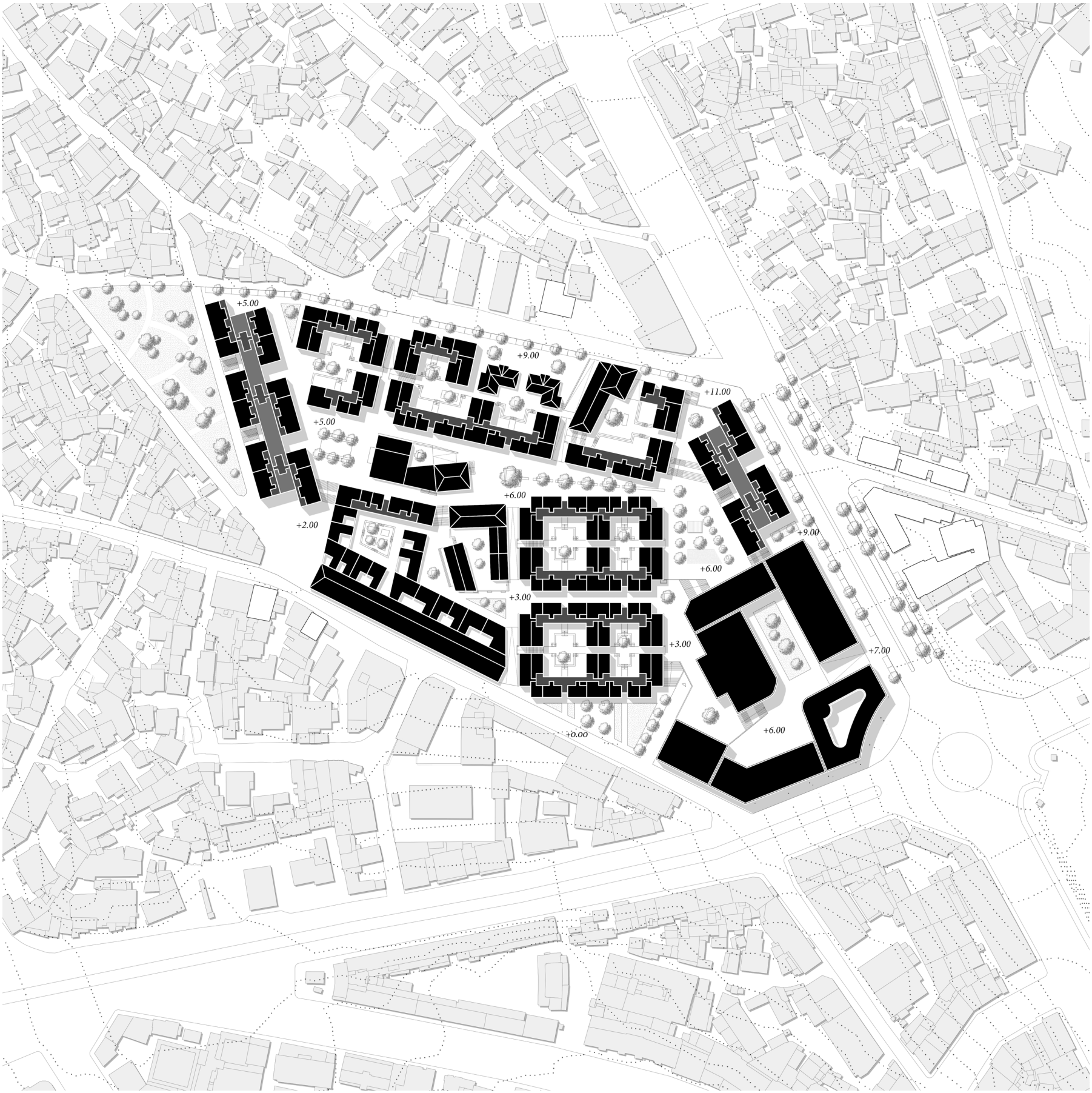
TOTAL | 186 PARKING LOTS

URBAN STRATEGY

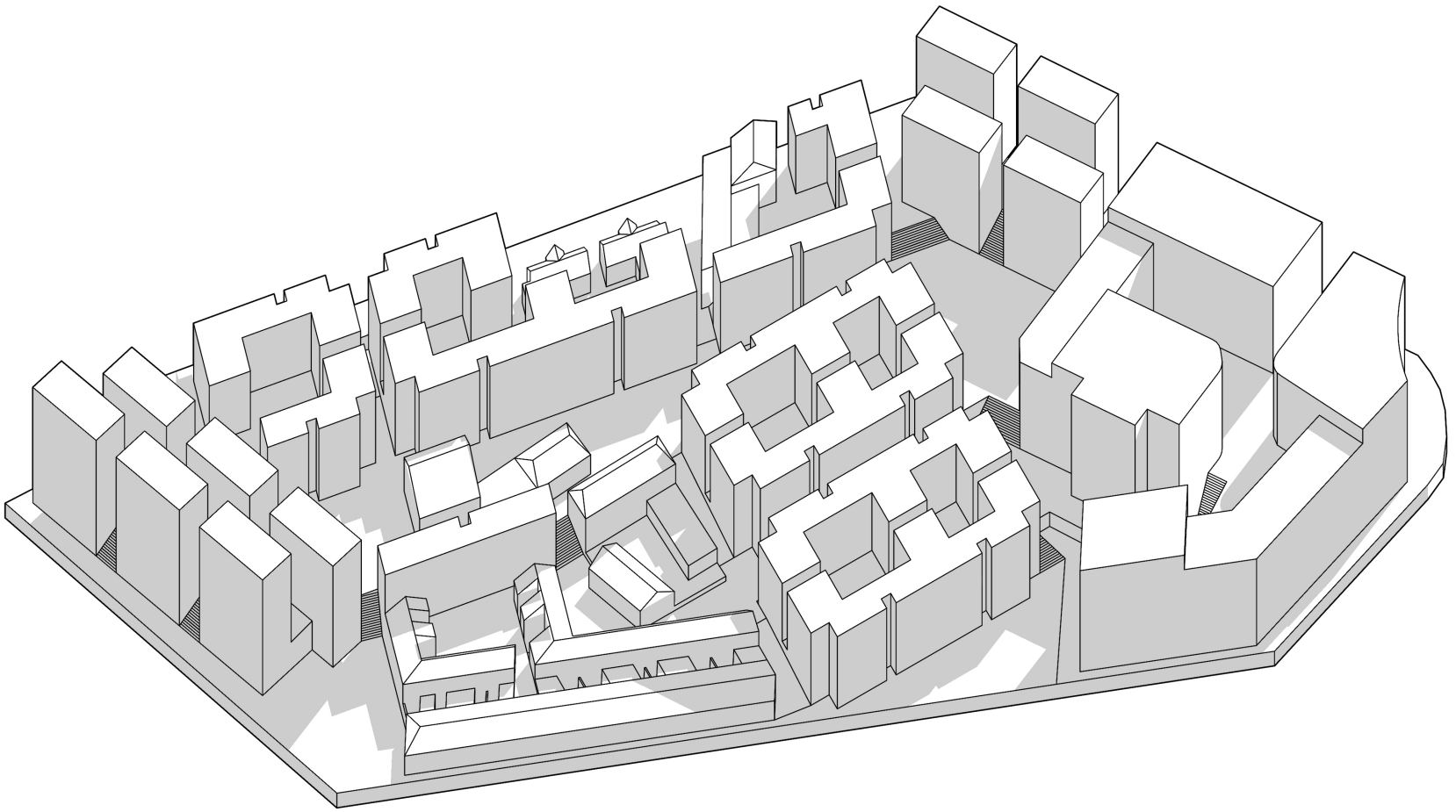
The urban proposal have been developed starting from a simple question: **How to recreate the hetereogeneity that characterizes Taliyan Sefer only by using few basic components, able to adapt to the existing context but at the same time providing a flexible system, replicable in other similar situations?**

The urban concept therefore arises from the idea of creating basic units, which can be combined in different ways in order to configure different types of clusters. Furthermore these simple elements, thanks to their shape and size, are able to combine also with existing historical buildings, integrating them in the urban fabric in a very gentle way.

The simplicity of the components guarantees extreme urban flexibility and therefore the possibility of applying the system to different contexts. In fact repeatibility is one of the fundamental points of architectural design, and in particular of mass residential design. Repeatability does not mean applying an equal solution for all contexts but, on the contrary, creating an extremely flexible model, able to adapt better to any type of context.



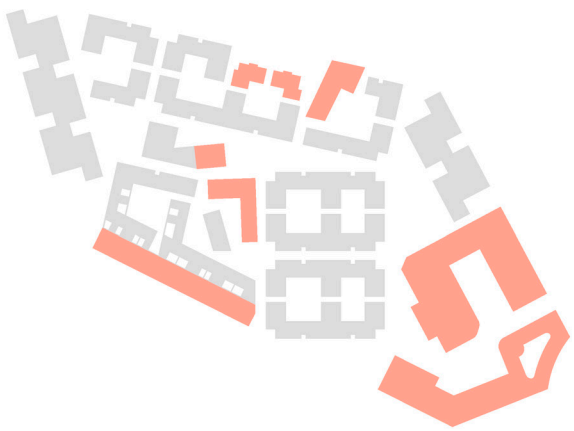
scala 1:2000



Conservation

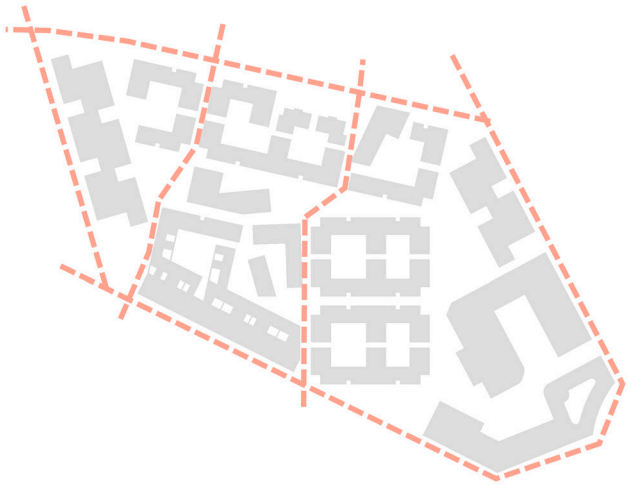
Conservation of the existing fabric

Historical buildings and the University of journalism (under construction) have been preserved and use as a backbone for the development of the whole masterplan. Historical buildings are important because they preserve the memory of the place but also because they are a sort of landmark for the inhabitants of taliyan.

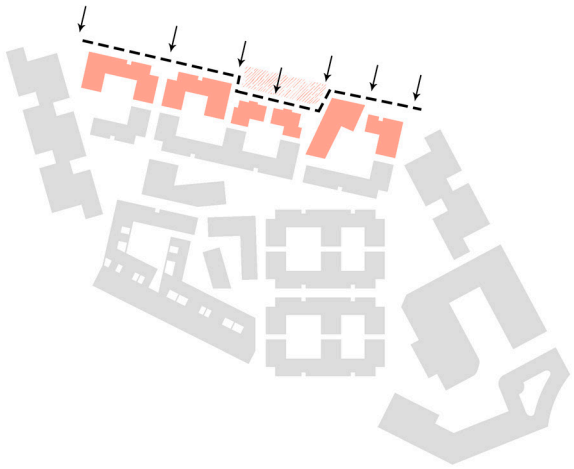


Conservation of the existing street

Like historical buildings, even historical streets are part of the identity of the place but also part of the daily life of the inhabitants. Therefore the greater part of them have been preserved following the original track.

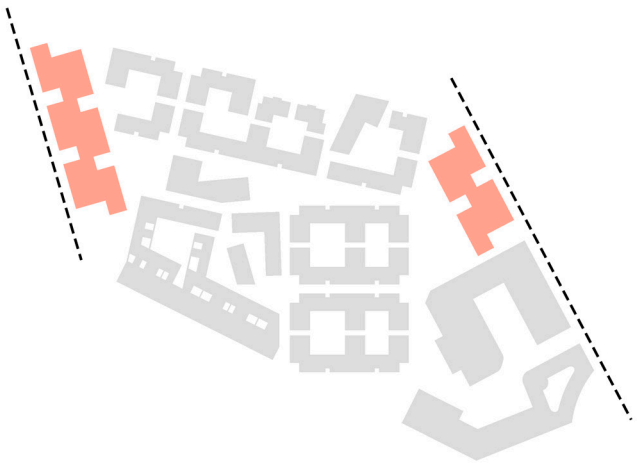


Borders



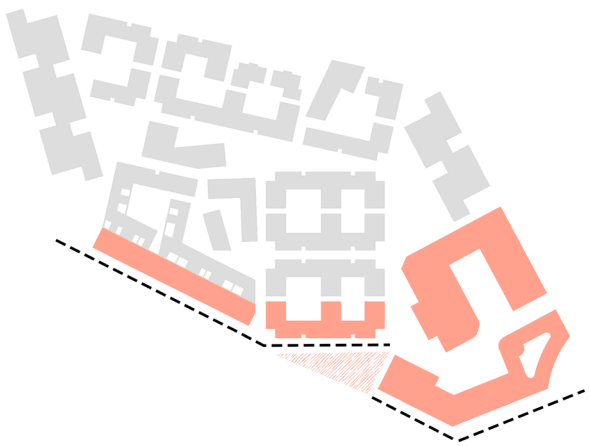
Northern border

In the northern side of the project the limit is defined by a series of courtyard blocks which creates a clear but porous border. A set back create a small public space along the commercial street, in correspondance with the two historical buildings.



Eastern and western border

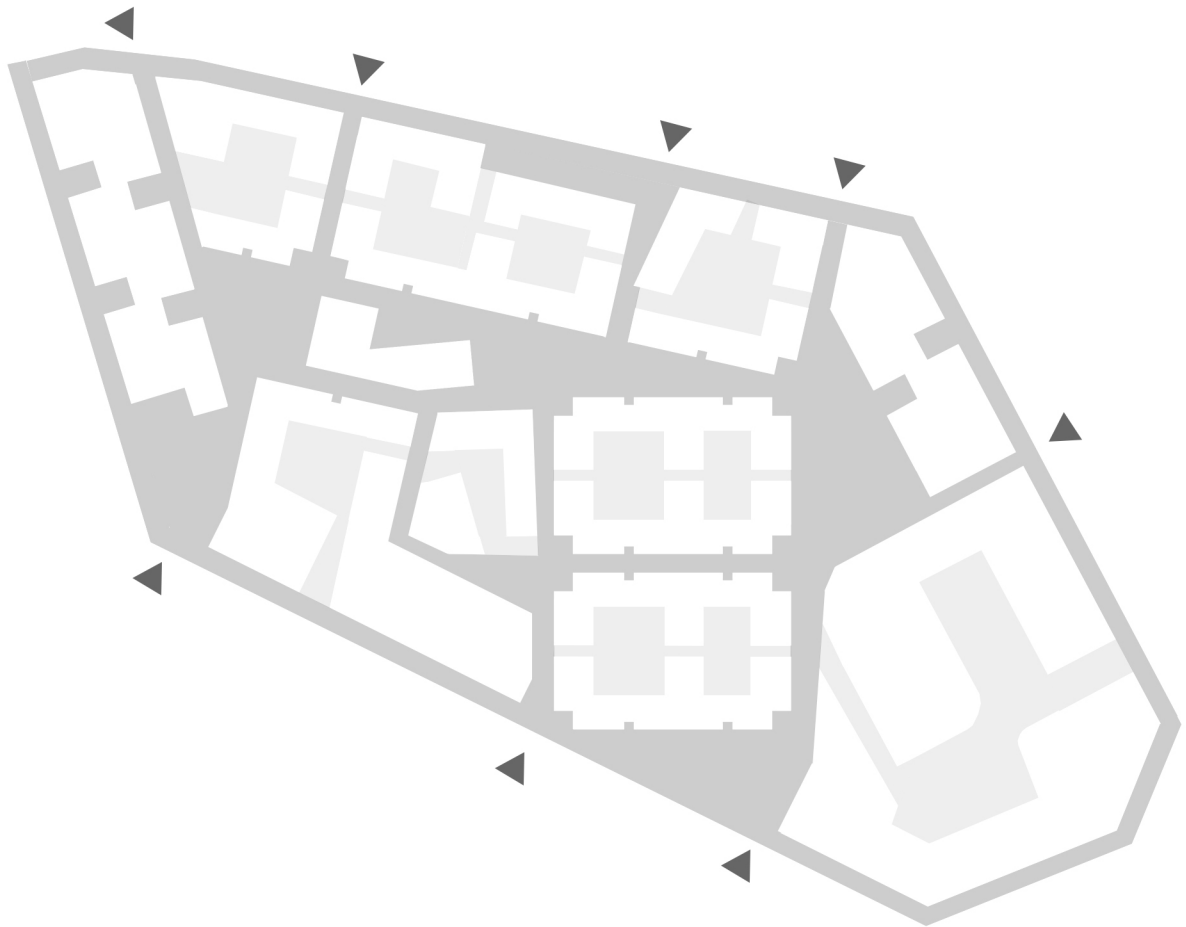
The limit on the right and left side is defined by the middle income typology building. High-rise around 7 storey heigh that creates a clear border along the street, in particular along the high traffic road on the right (ring road). This typology has been chosen in order to create a continuity in terms of height with the University of journalism (corner bottom right) of around 7 floors.



Southern border

The limit on the bottom part of the area is defined by 3 buildings, the old italian prisons, a courtyard block and the university. This combination creates a very closed border with only two entrances. The courtyard block is rotated generating a triangular public space that creates a perspective toward the univesity, thus increasing the relation between the public building and the street.

Opens spaces & acessibility



Collective space

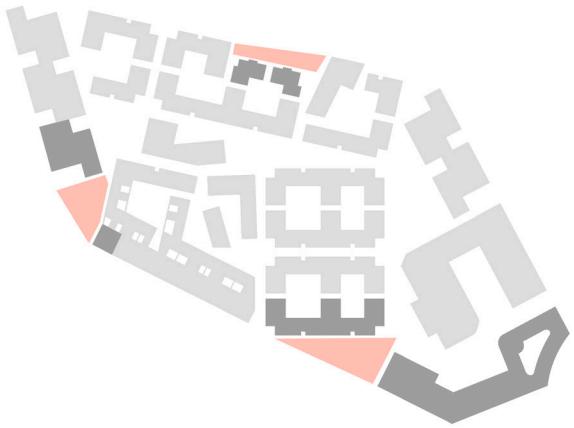
Public space

Access

Public space

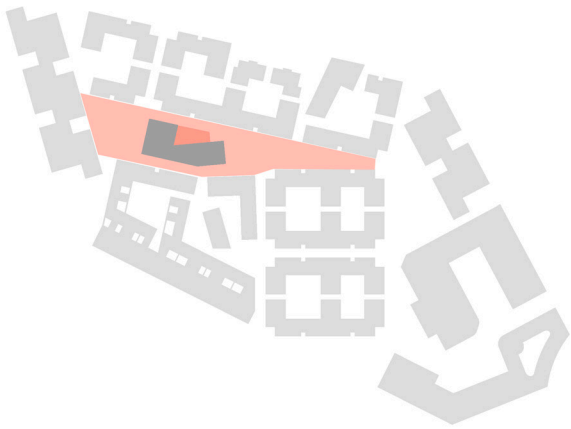
Public space on the street

Small public spaces are designed along the streets on the border mainly with a commercial function. Shops, bars and restaurants can be located in such spaces.



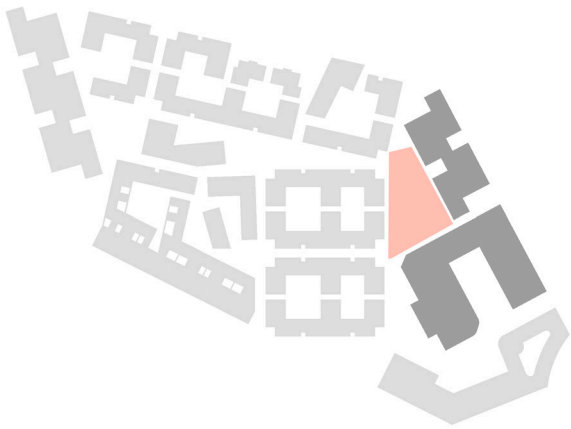
Central public space

The central public space aims to be the core of the entire project. Public amenities are placed in the middle of such place, dividing it in 2 different parts. The gorundfloor provides space for commercial activities during normal days, but in special occasion all this area can be considered as a huge collective space for celebrations well the whole community can gather.

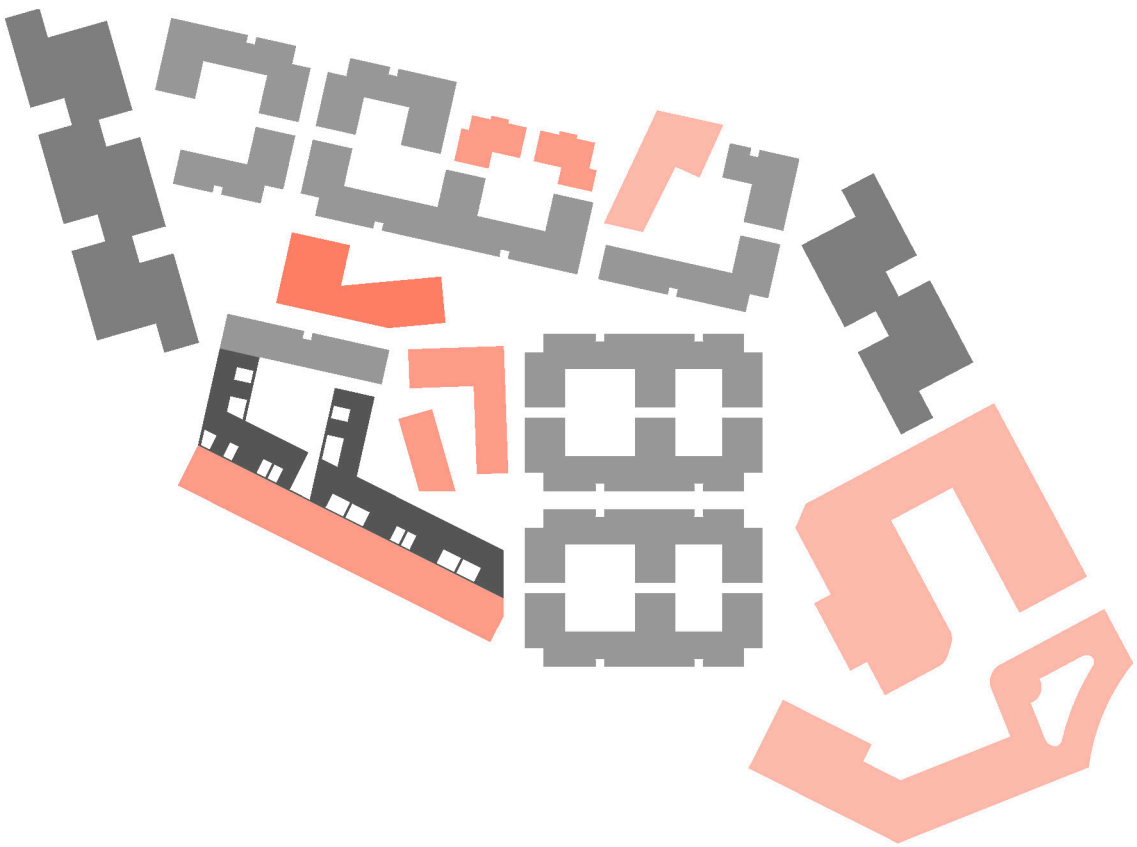


Eastern square

This public space due to its proximity with the university and with working spaces located in the high-rise buildings, can be use as a relaxing place for students ad workers.



Typologies & functions



Low income

Middle income

High income

Educational

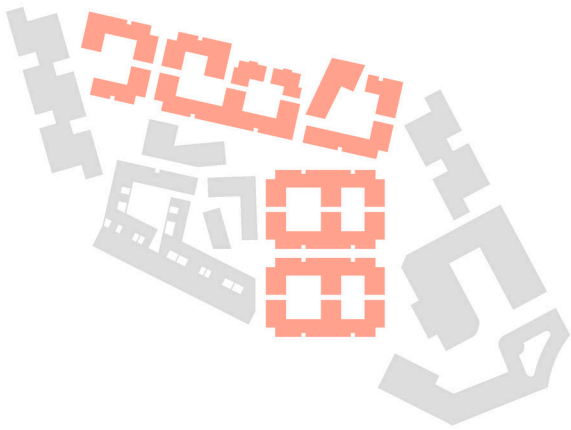
Commercial

Public amenities

Typologies

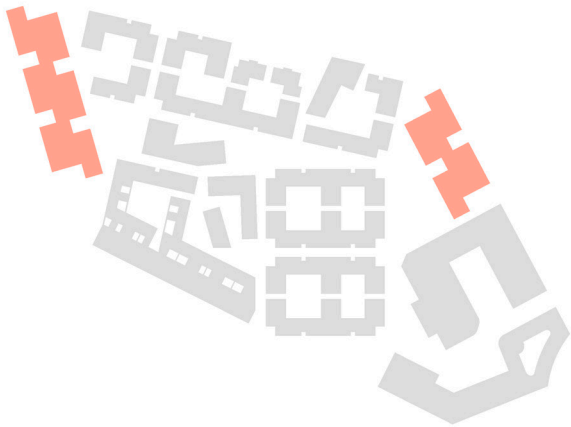
Mid-rise | Courtyard

This typology, which provides dwellings for the low income inhabitants, creates a series of enclosed compounds, similar but different from each others, with characteristics similar to the existing compounds in Taliyan.



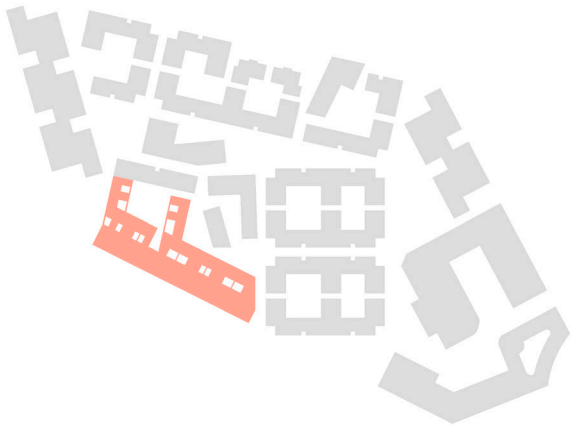
High-rise | Tower

On the border left and right of the site we can find high-rise buildings of around 7 storey. This typology provides dwellings for middle income inhabitants whic have less necessities of having a strict relation with the groundfloor than the low income. Therefore tower building is a good solution to provide a considerable number of units on a smaller surface.

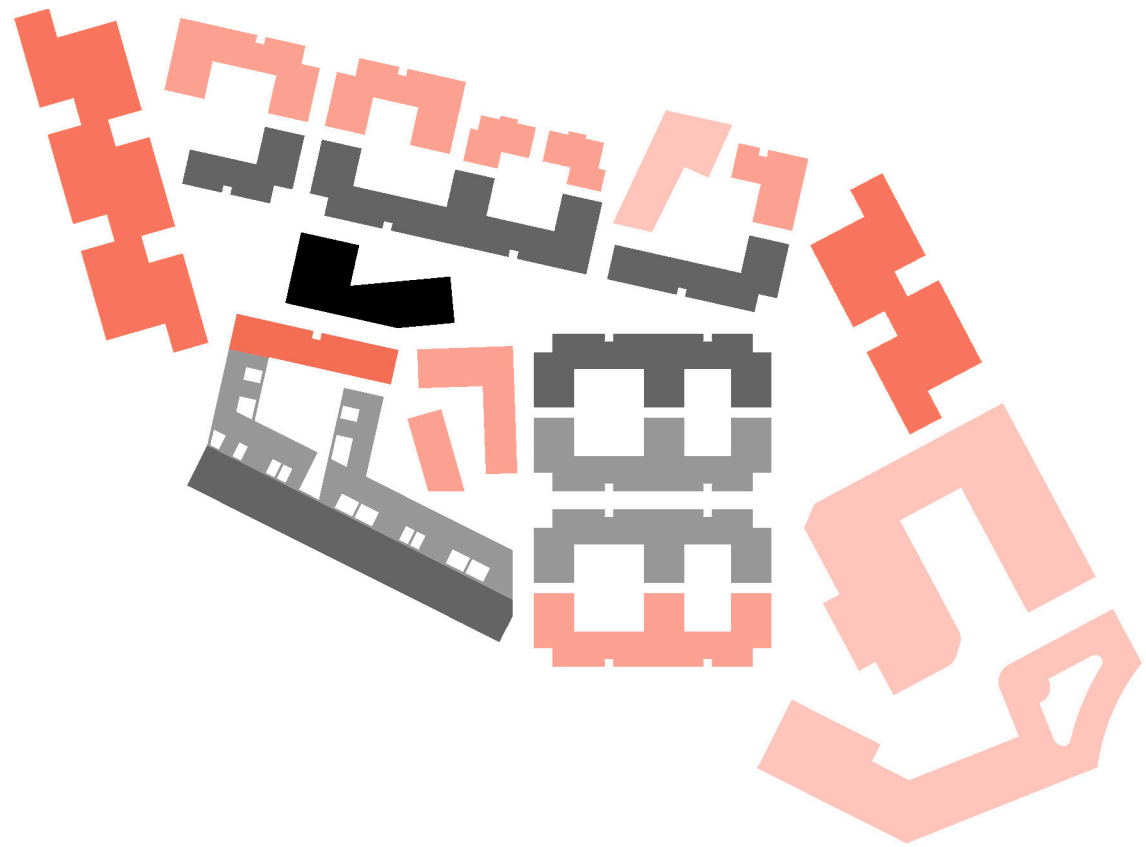


Low-rise | Patio

Patio house in the southern part of the site aims to recreate a particular condition already existing behind the old italian prisons. This typology provides dwelling units for high income people. Combined with the commecial historical building behind it creates a lower urban block, different fromthe others but well integrated in the whole fabric.



Relation with the ground floor



Residential

Commercial + residential

Public amenities

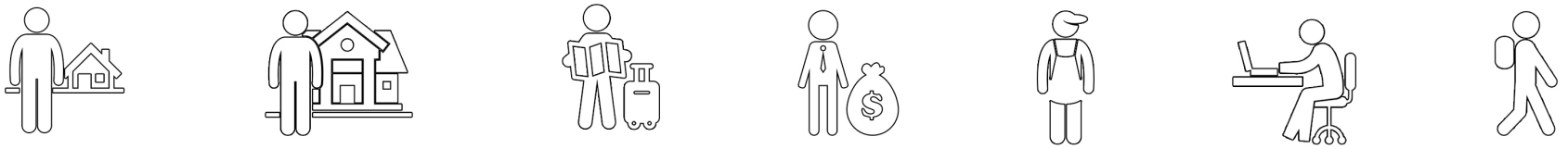
Educational

Commercial

Office + commercial

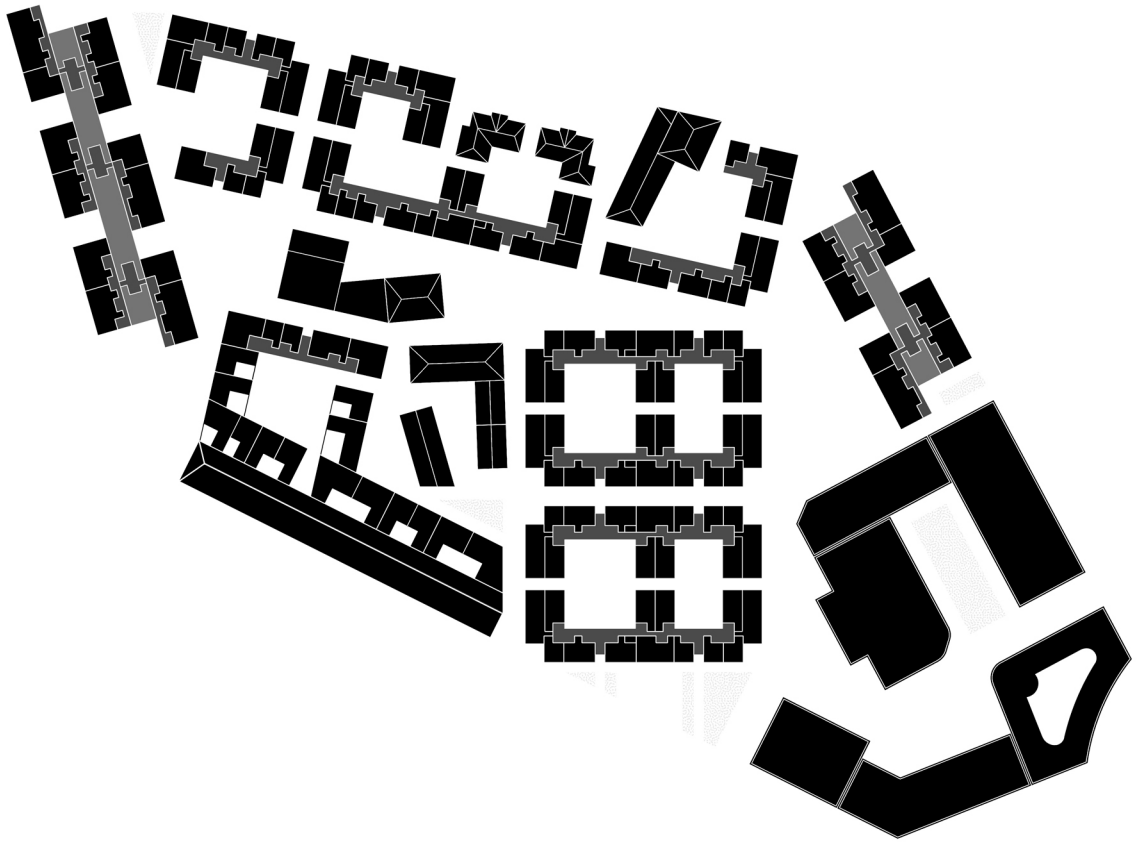
Relation with the ground floor





low income dwellers | mid high income dwellers | tourists | entrepreneurs | merchants | workers | students

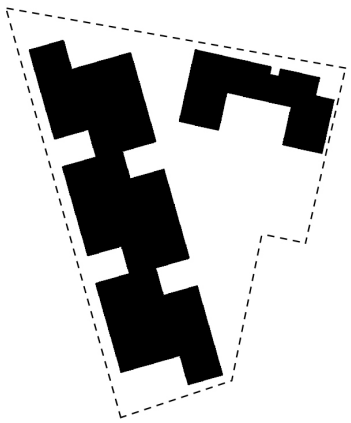
Density



DATA

Average inhabitants/ha | 1150

Average units/ha | 230



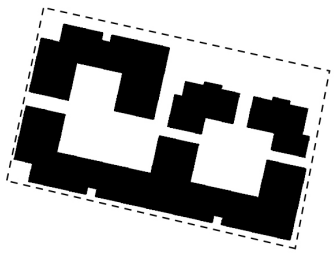
DATA

Surface | 0,5 ha

FAR | 3,3

Inhabitants/ha | 1017

Units/ha | 226



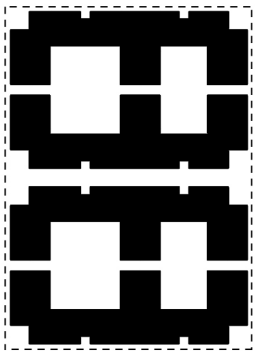
DATA

Surface | 0,4 ha

FAR | 1,6

Inhabitants/ha | 945

Units/ha | 210



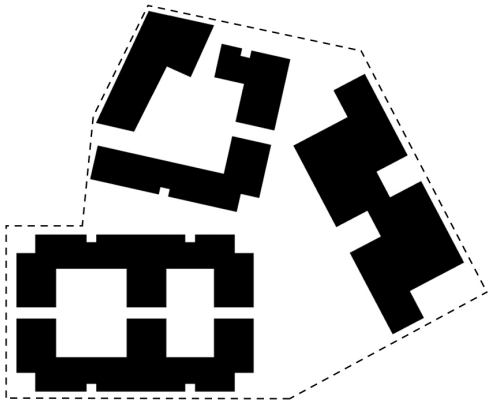
DATA

Surface | 0,67 ha

FAR | 2,2

Inhabitants/ha | 1305

Units/ha | 290



DATA

Surface | 0,9 ha

FAR | 2,1

Inhabitants/ha | 886

Units/ha | 197

Comparison



Taliyan Sefer

DATA

Surface | 27,2 ha

FAR | 0,6

Coverage | 60%

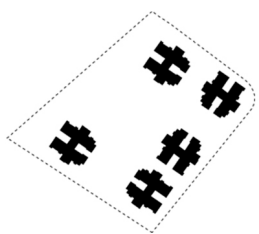
n° inhabitants (Atlas) | 8676

Inhabitants/ha | 319

n° dwelling units (Atlas) | 2176

Units/ha | 80

Buildings height | 1-2 storeys



condominium 40/60 Sengatera

DATA

Surface | 2,6 ha

FAR | 1,85

Coverage | 14%

n° inhabitants (estimated) | 1595

Inhabitants/ha | 613

n° dwelling units (estimated) | 330

Units/ha | 127

Buildings height | 13 storeys

Comparison



Condominium 20/80 Mickeyleland

DATA

Surface | 21 ha

FAR | 1

Coverage | 20%

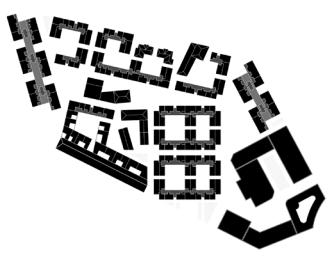
n° inhabitants (estimated) | 7744

Inhabitants/ha | 369

n° dwelling units (estimated) | 2970

Units/ha | 142

Buildings height | 5 storeys



Design proposal

DATA

Surface | 3,1 ha (University area 0,9 ha)

FAR | 1,8

Coverage | 45%

n° inhabitants | 2335

Inhabitants/ha | 753

n° dwelling units | 519

Units/ha | 167

Buildings height | 4-7 storeys

Part of a wider plan

The project, although self-sufficient and not dependent on the surrounding context, can also be seen as part of a broader vision for the development of the whole Taliyan area. The development of this plan for the renewal of the image of the historic center of Addis Ababa was addressed with my colleagues Antonio Paoletti, Fabio Buondonno and Ludovica Cassina.



* in collaboration with Antonio Paoletti, Ludovica Cassina, Fabio Buondonno

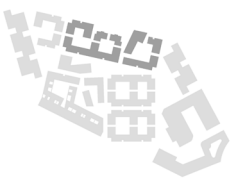
IX

CLUSTER PROPOSAL

CLUSTER STRATEGY

The combination of different new typologies with the historical buildings, but even with brand new building, like the University of Journalism, creates a series of spaces, public and collective, with a similar configuration but different functions.

Architectural and urban diversity provide the condition for an inclusive city, where people from different social classes, but even students and workers can meet sharing the same space, avoiding problems related with segregation.



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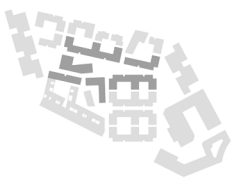

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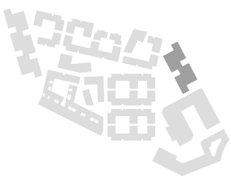

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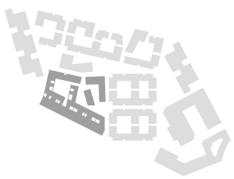
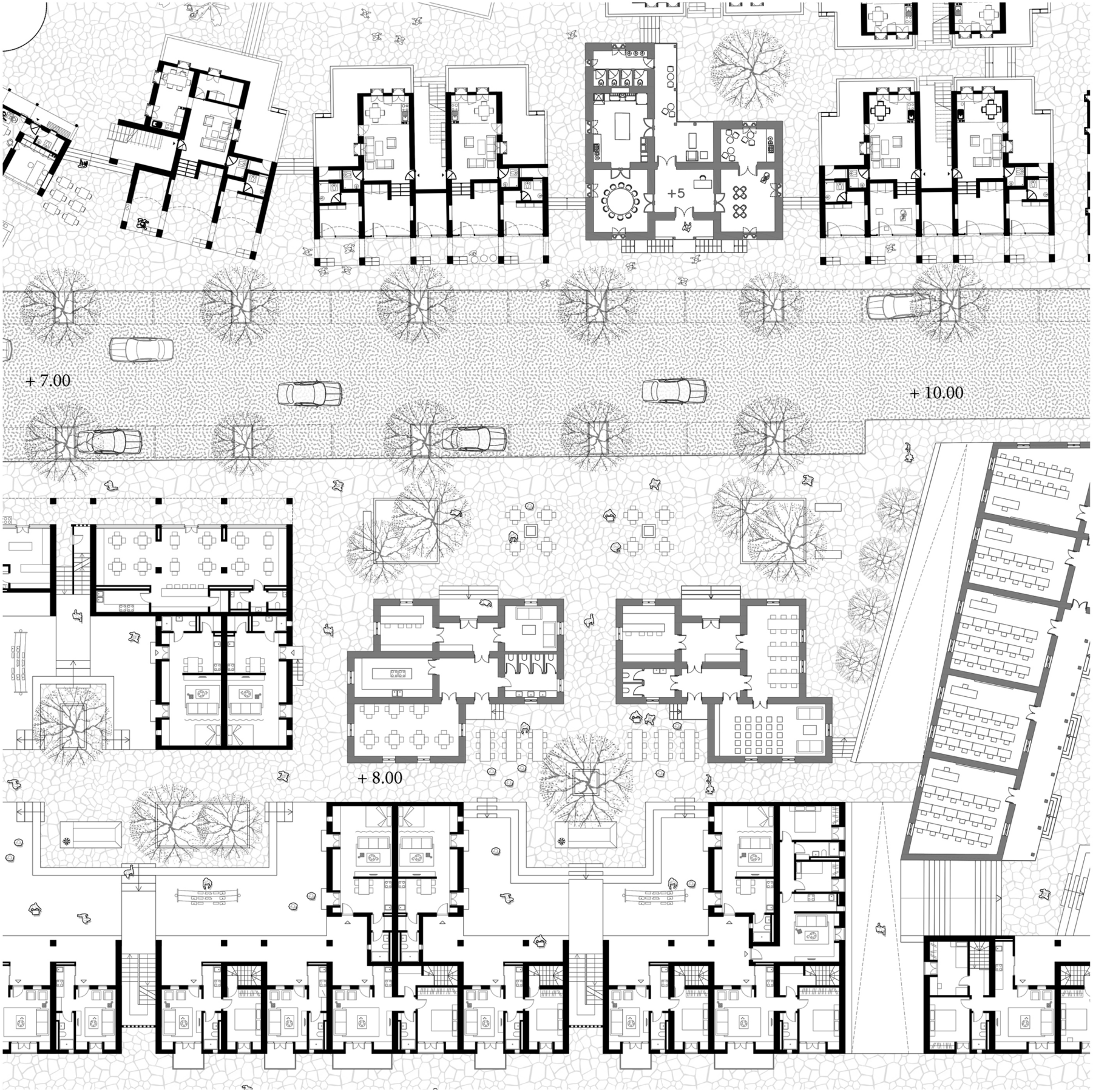


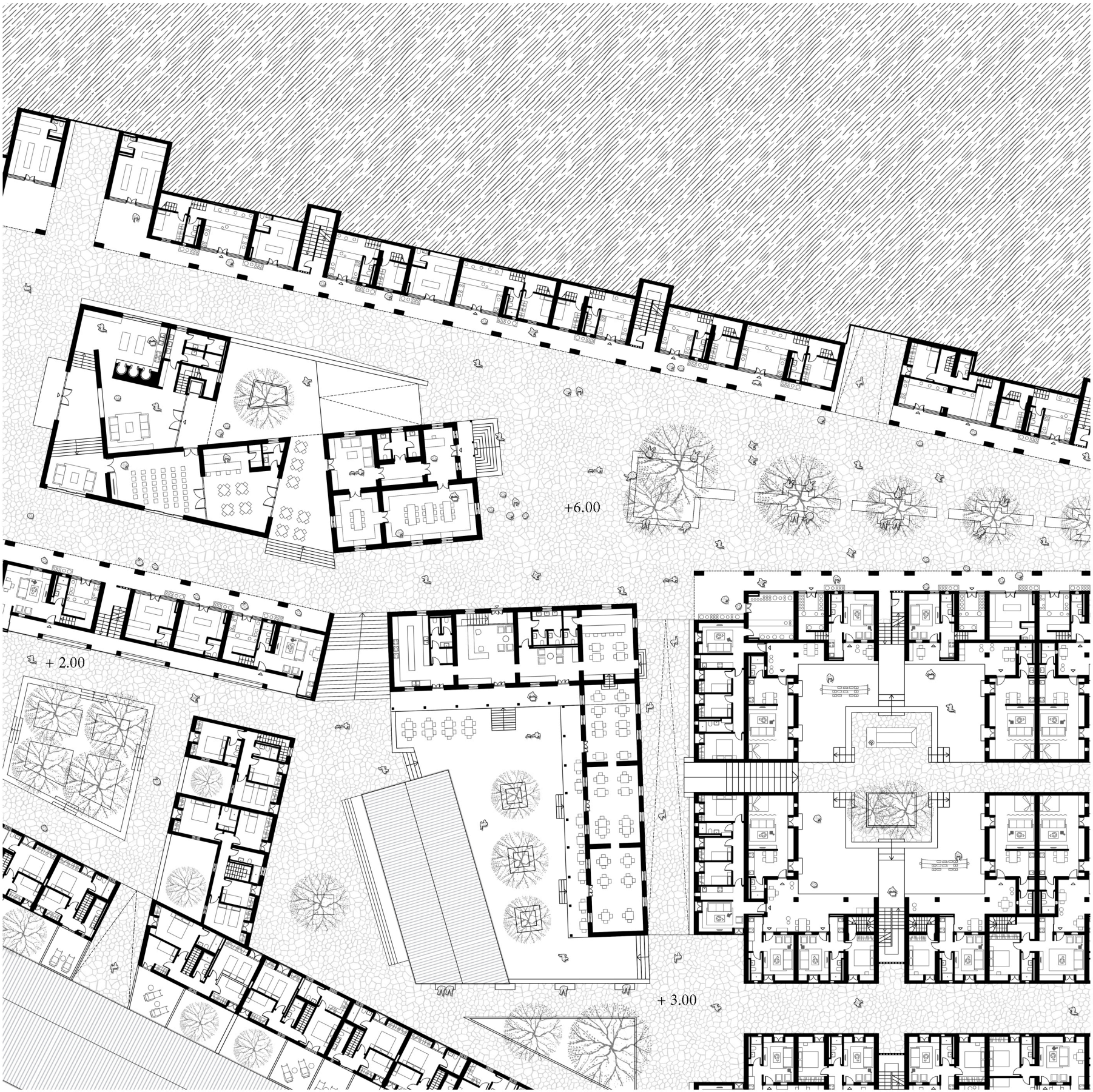
4



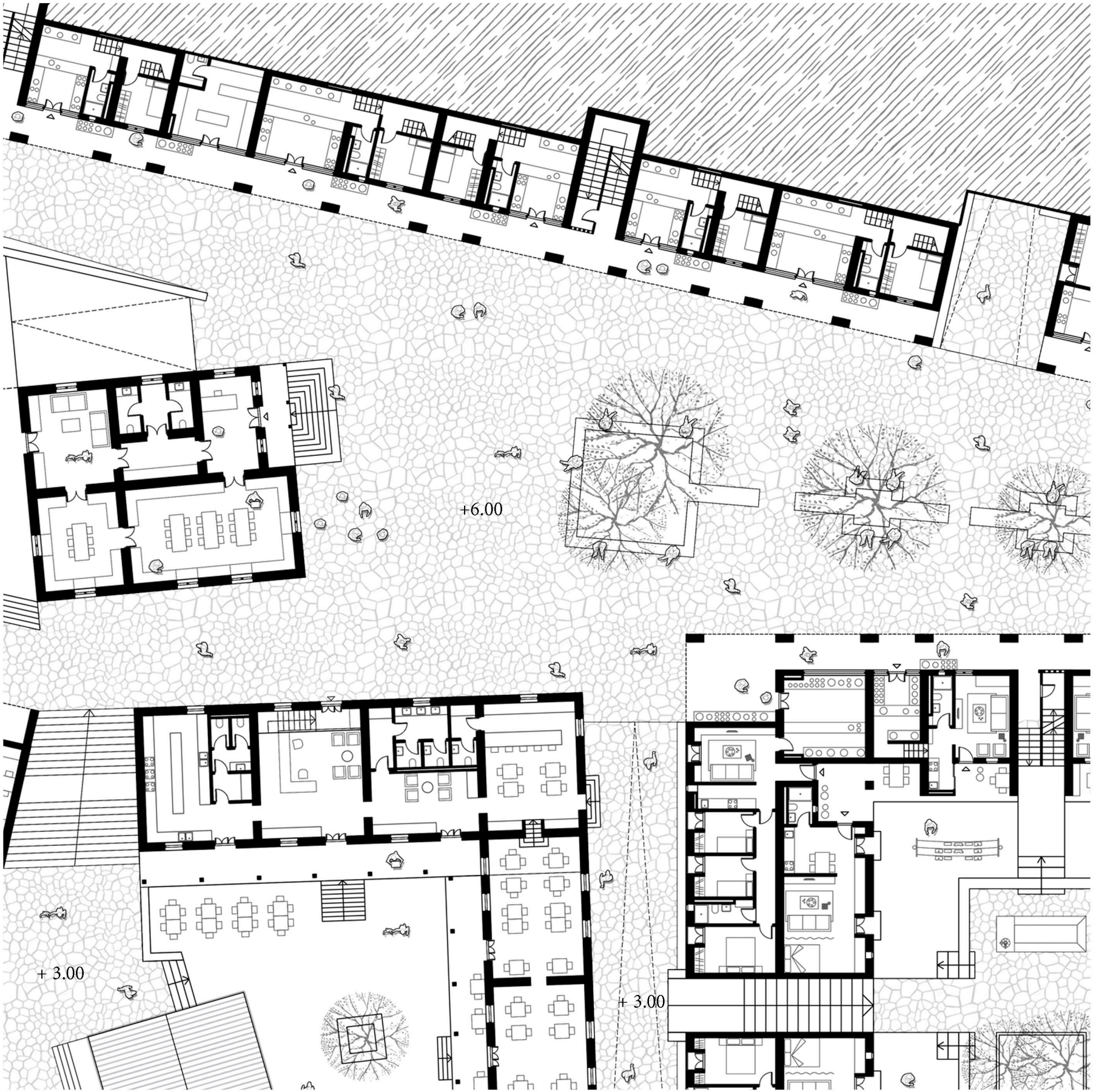
1. Courtyard blocks | horizontal section +8.00



1. Courtyard blocks | horizontal section +8.00



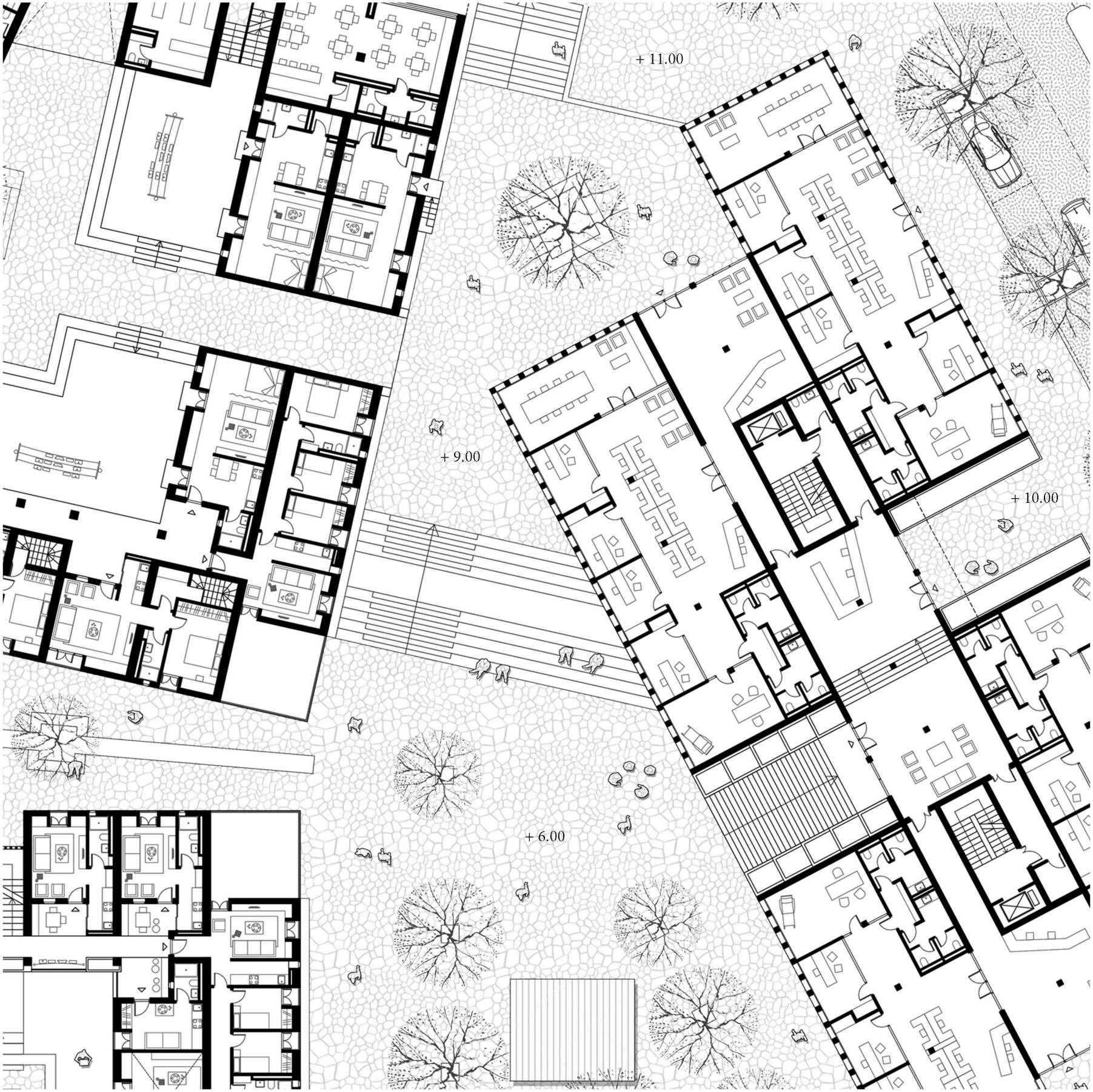
2. Public space | horizontal section +6.00



2. Public space | horizontal section +6.00



3. Towers | horizontal section +9.00



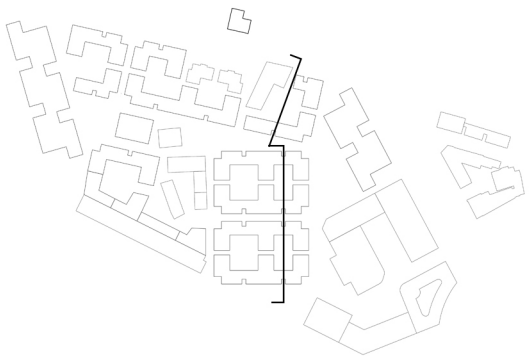
3. Towers | horizontal section +9.00



4. Patio house | horizontal section +3.00



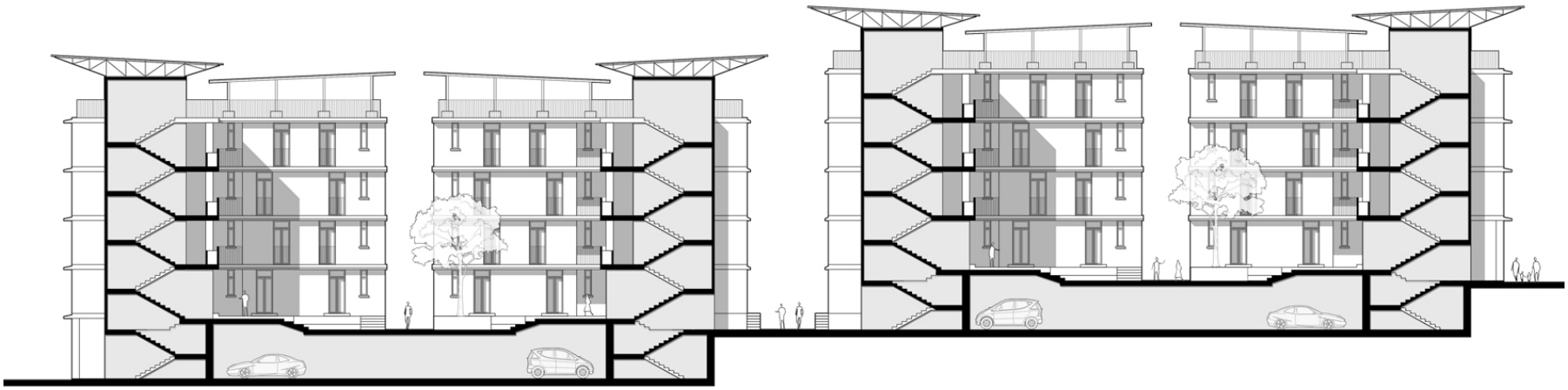
4. Patio house | horizontal section +3.00





Cross section

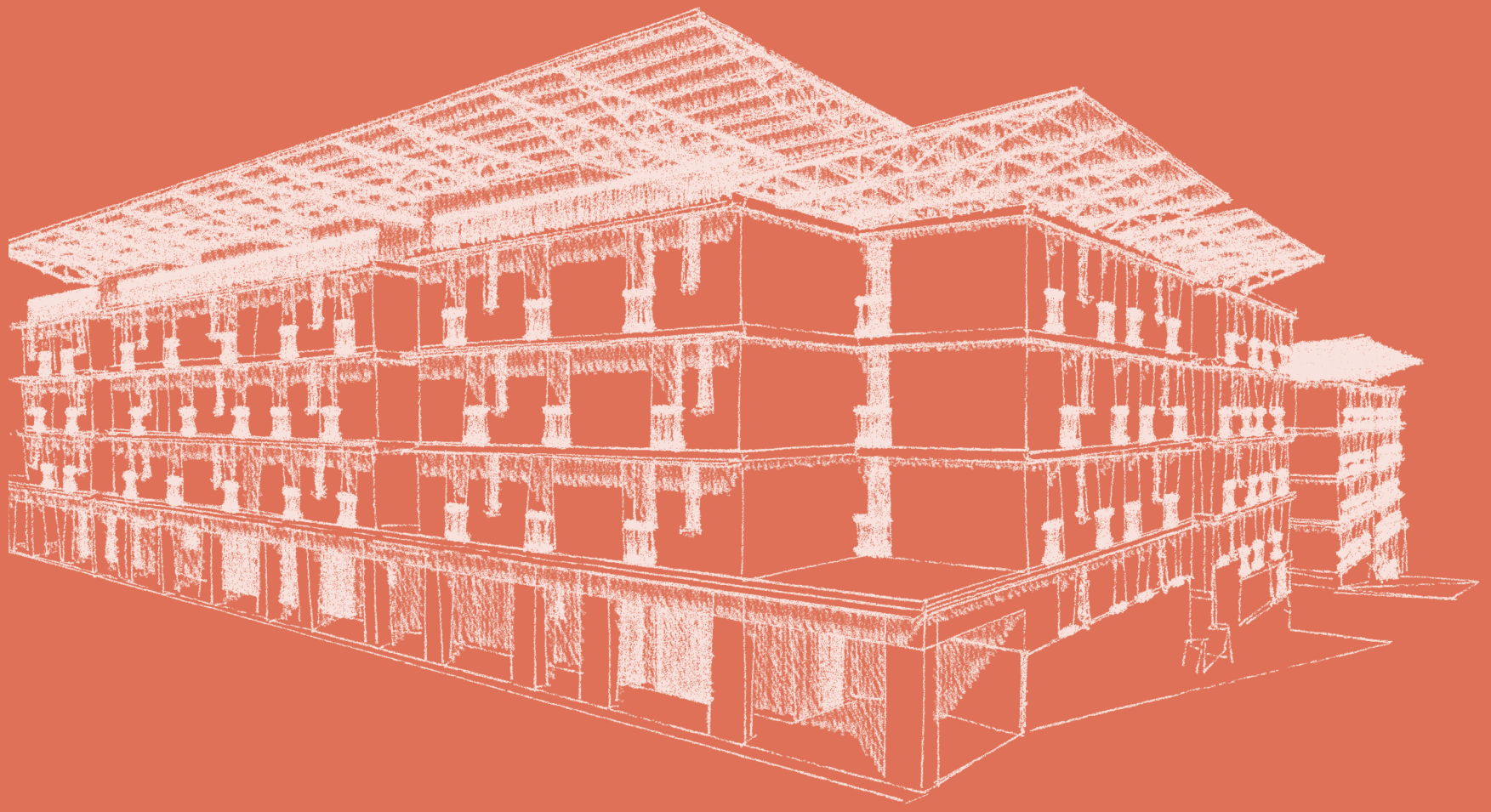
0 5 10 25



Cross section

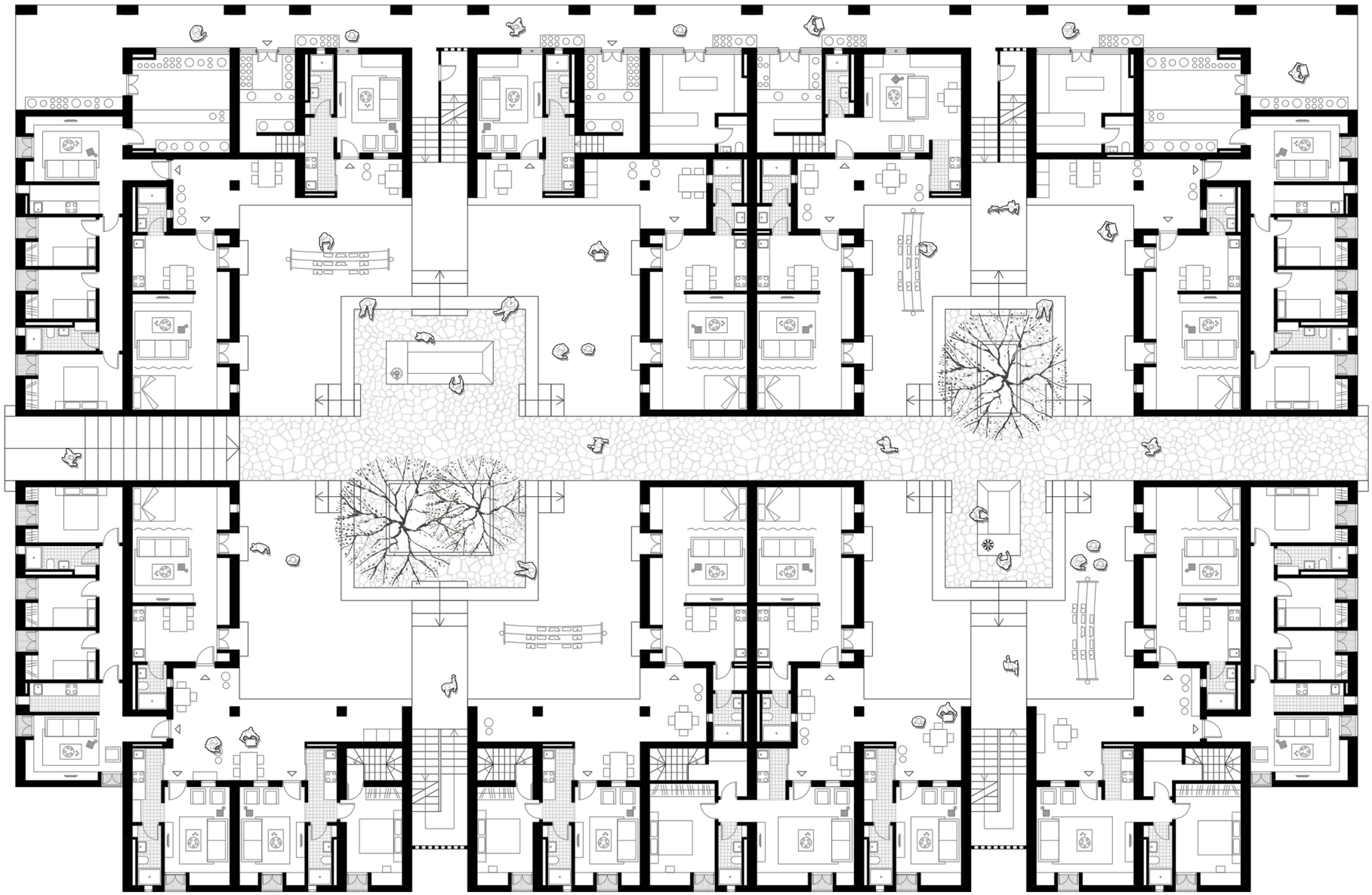
X

DWELLING PROPOSAL



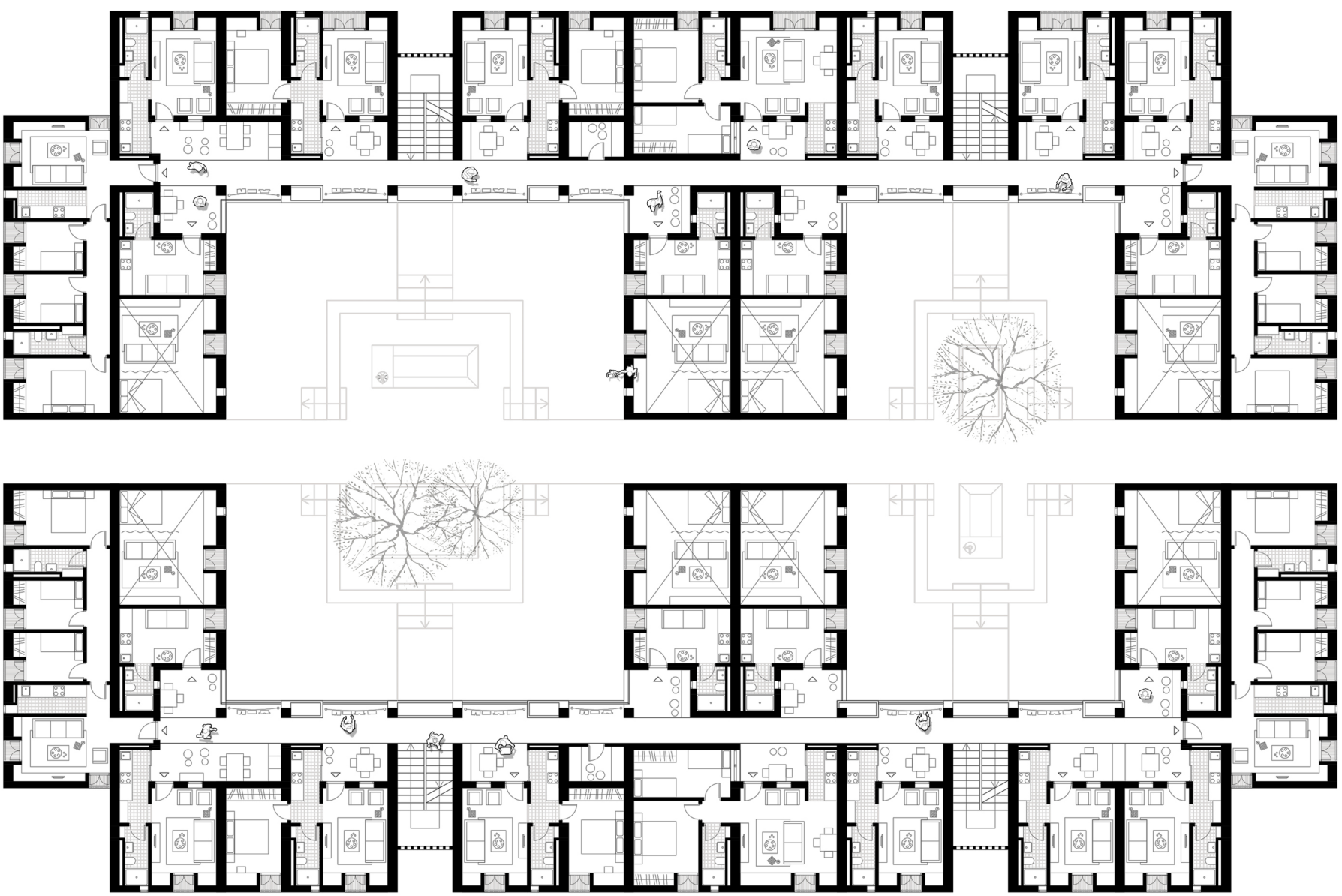
LOW INCOME HOUSING : THE COURTYARD

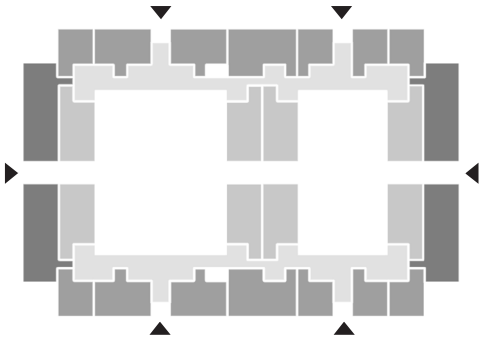
Typical granoud floor



0 2 4 10

Typical upper floor





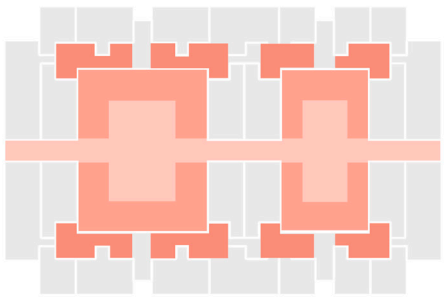
Typologies

The plan is composed mainly by 3 different typologies: basic units, corner units and incremental units. Each of these then can present several variations.

corner unit

basic unit

incremental unitit



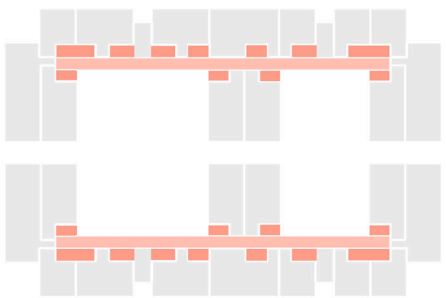
Collective & private space

The courtyard at the groundfloor present different degrees of privacy, creating a smooth transition between the more collective area and the privat e dwelling unit.

collective space

shared space

private space



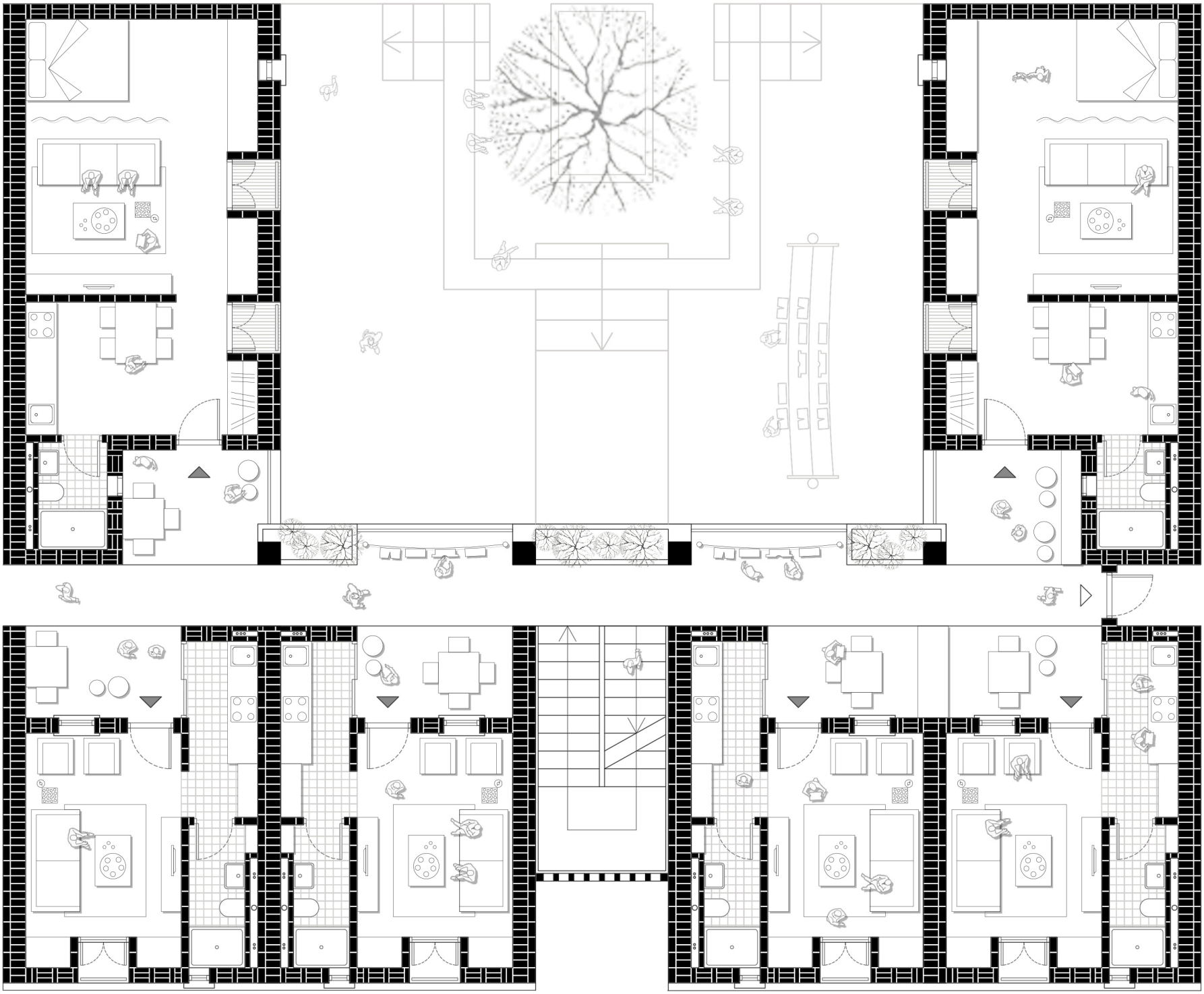
Collective & private space

The same transition from collective to private can be found at the upper floors, where a series of pocket facing the gallery create extra space that the dwellers can use for domestic purposes.

collective space

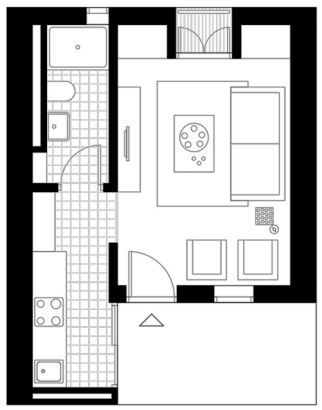
private space

Plan fragment

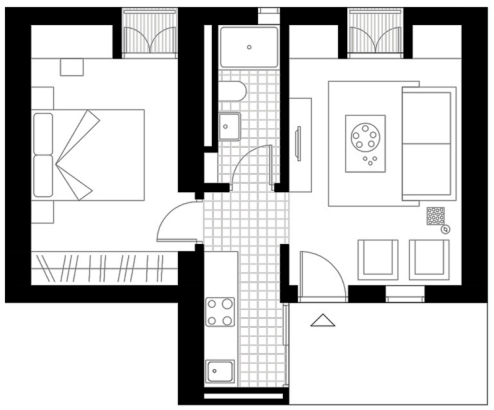


scale 1:100

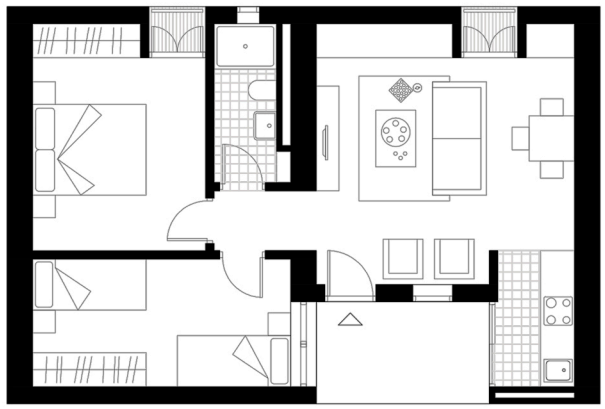
Basic units



studio apt.
21.4 sqm



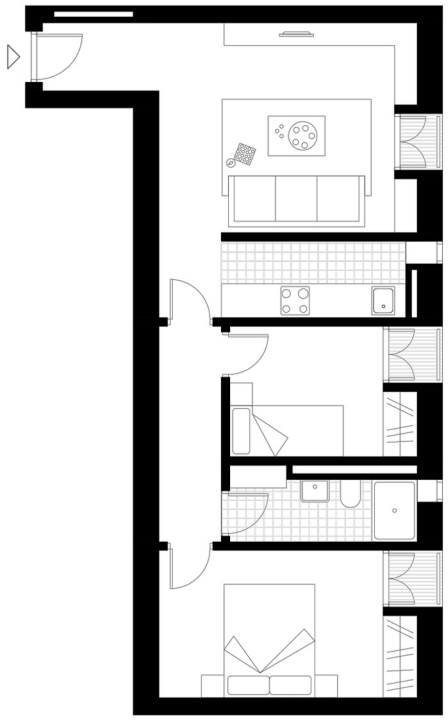
one bedroom apt.
33.1 sqm



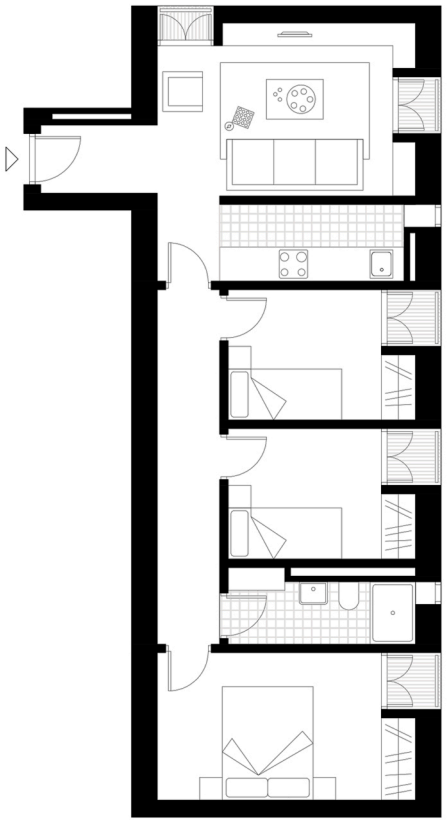
two bedrooms apt.
49.6 sqm

0 1 2 5

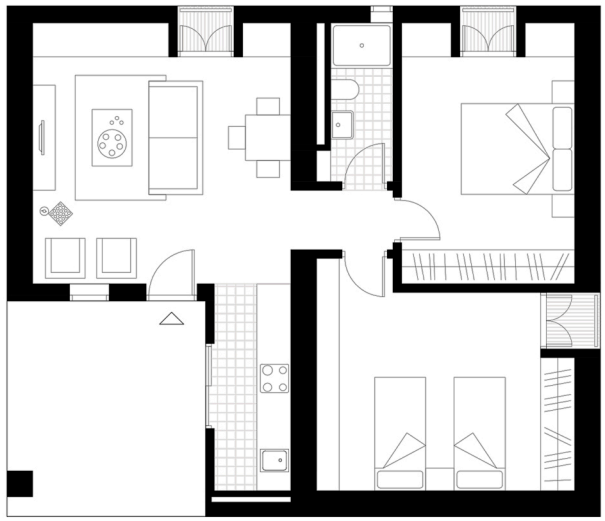
Corner units



two bedrooms apt.
50.6 sqm



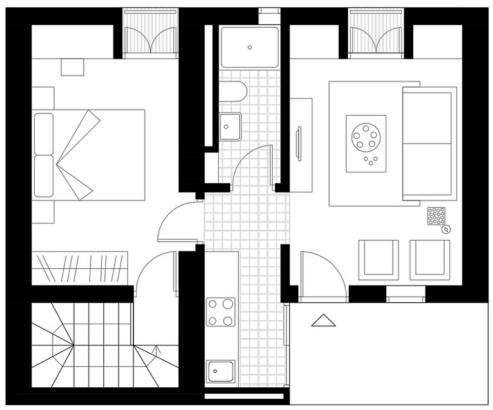
three bedrooms apt.
55.6 sqm



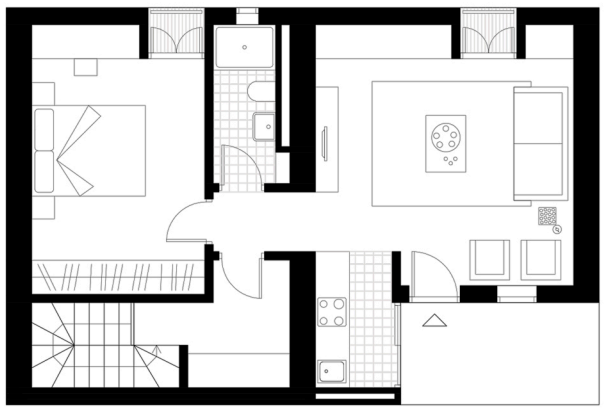
two bedrooms apt.
60.1 sqm

0 1 2 5

Duplex (renting)



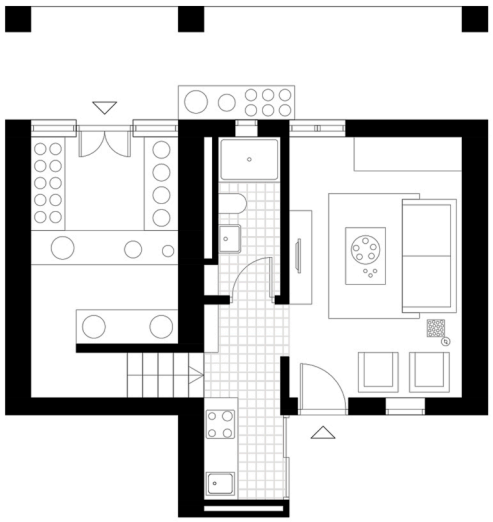
2 bedrooms apt. + rent
65.2 sqm



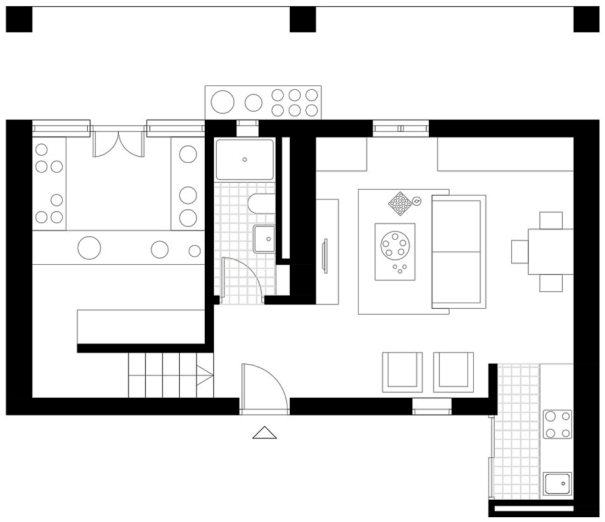
2 bedrooms apt. + rent
83.5 sqm

0 1 2 5

Simplex + shop



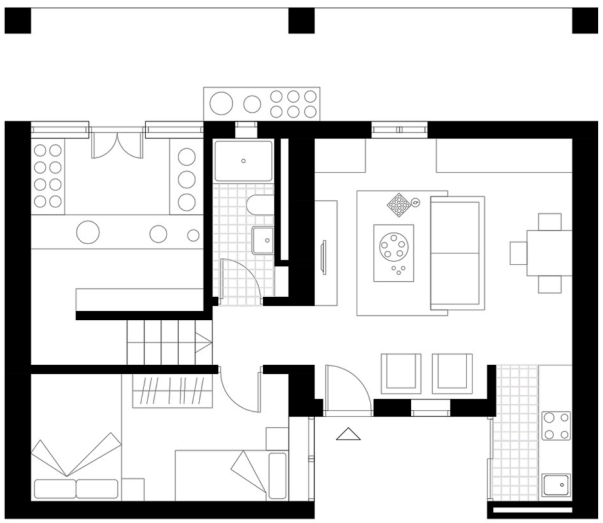
studio apt. + shop
33.1 sqm



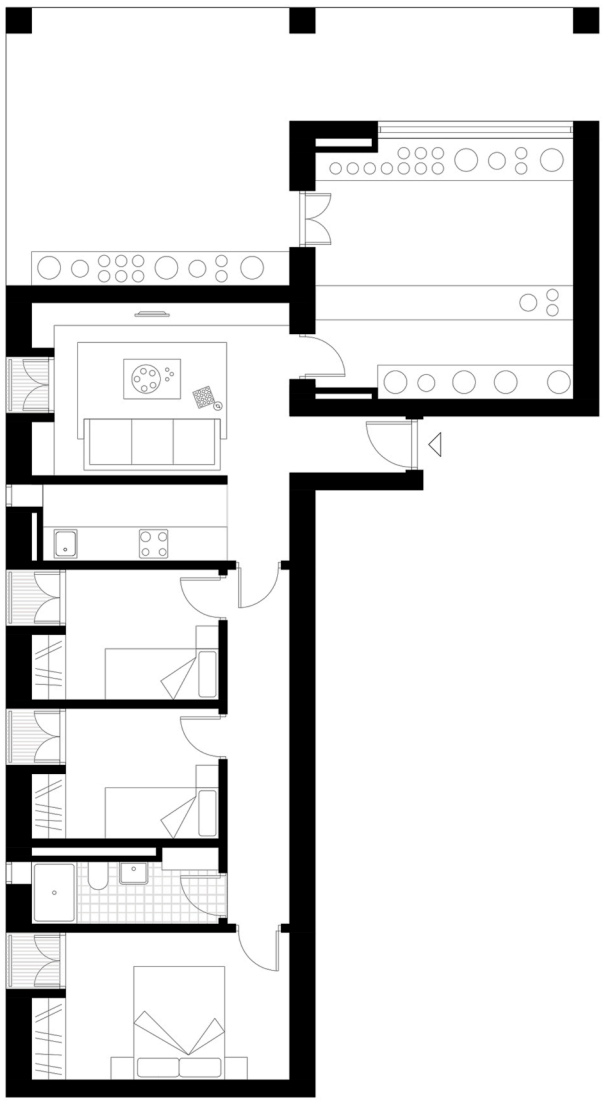
studio apt. + shop
42.6 sqm

0 1 2 5

Simplex + shop



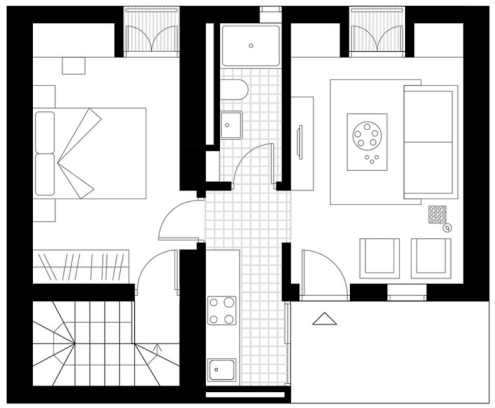
one bedroom apt. + shop
49.6 sqm

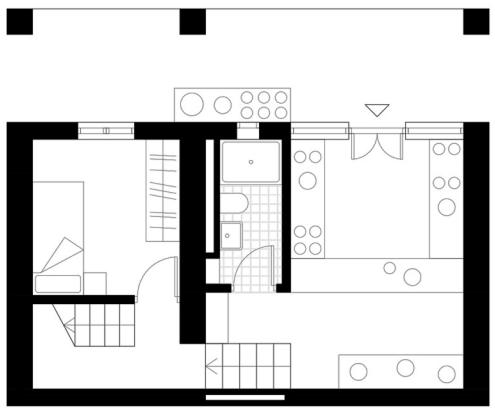


three bedroom apt. + shop
72.2 sqm

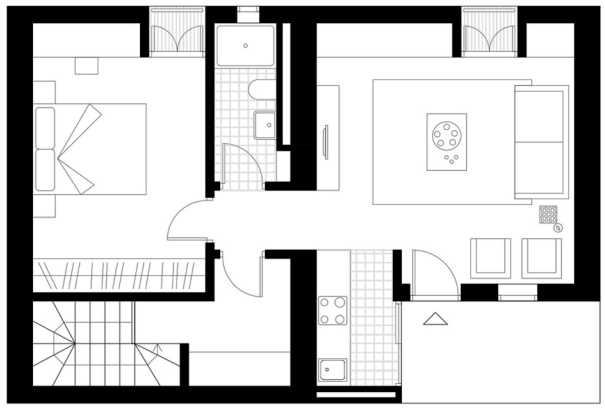
0 1 2 5

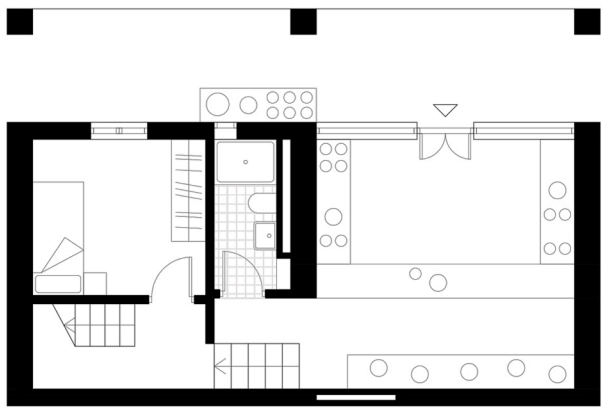
Duplex + shop





two bedrooms + shop
59.2 sqm

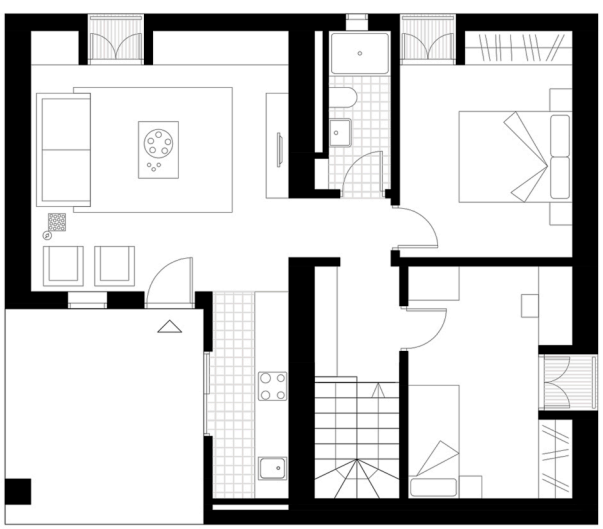


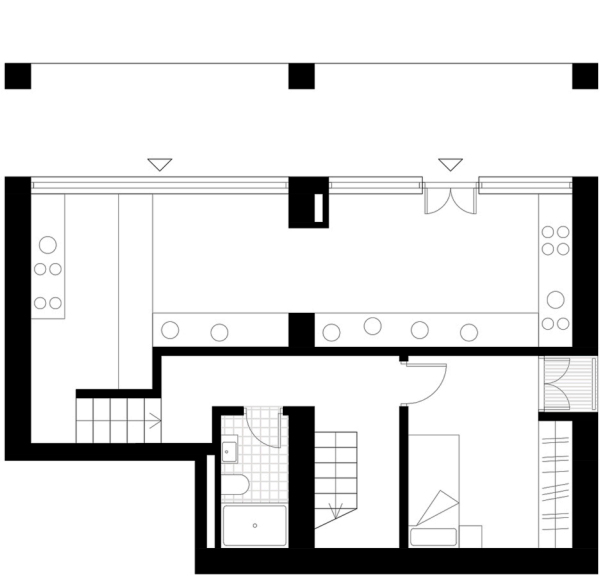


two bedrooms + shop
78.2 sqm

0 1 2 5

Duplex + shop

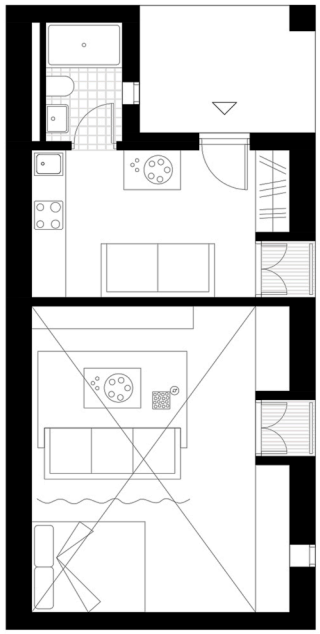


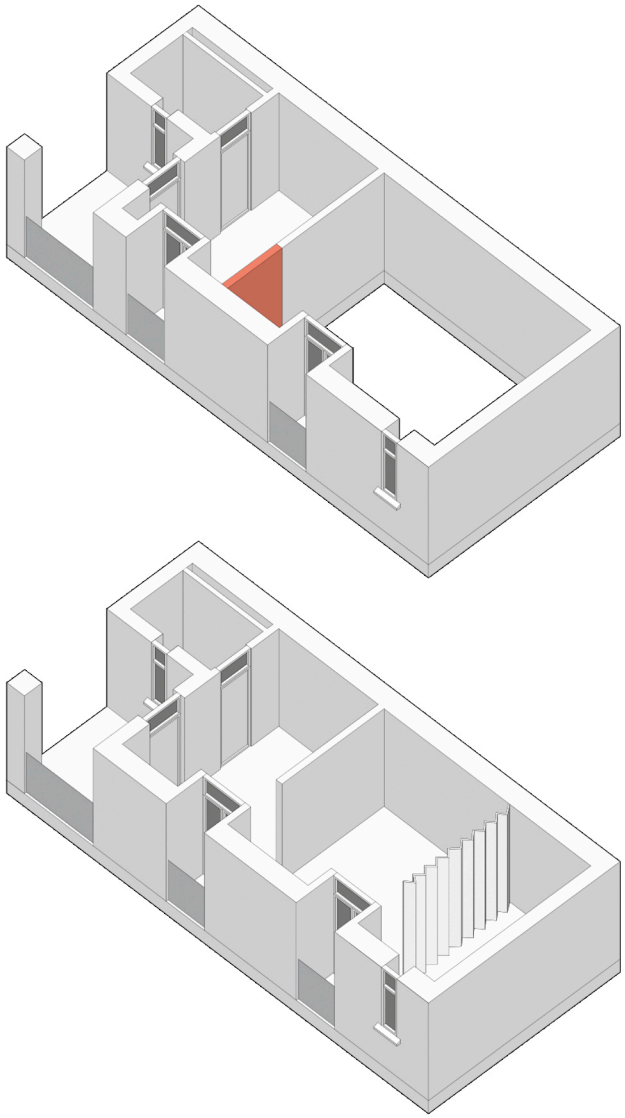


three bedrooms + shop
99.4 sqm

0 1 2 5

Incremental units

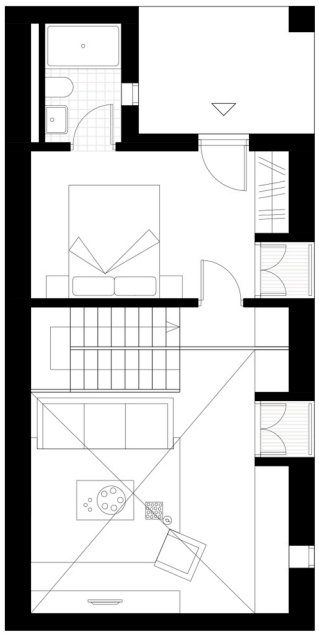


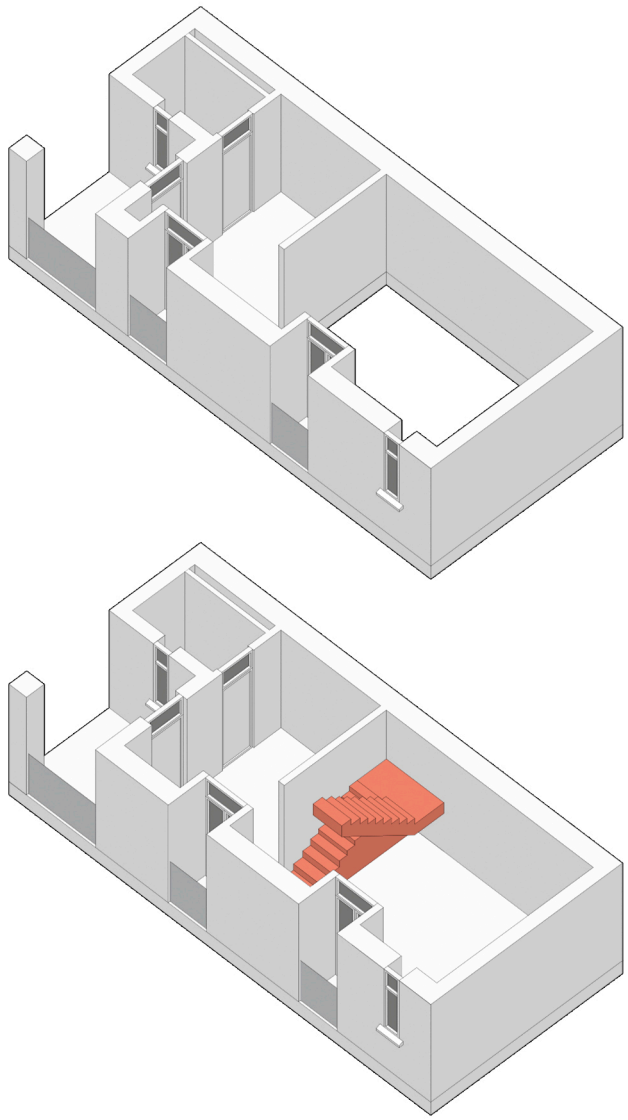


option A
one bedroom apt. + rent studio
39 + 14 sqm

0 1 2 5

Incremental units

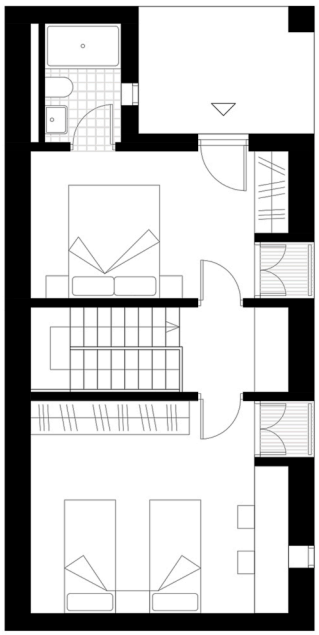


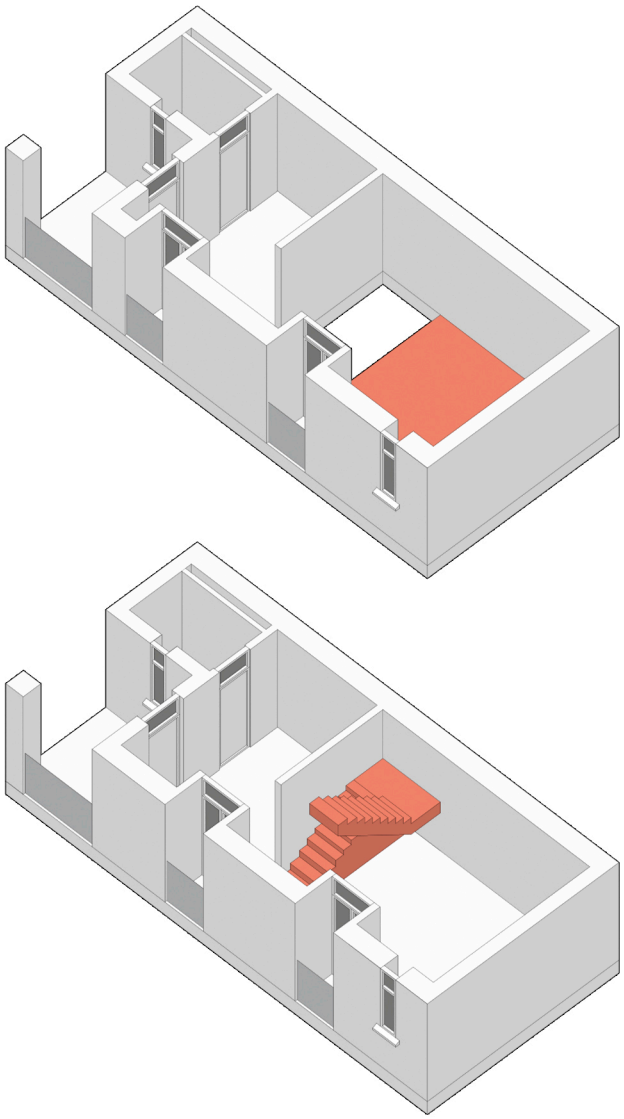


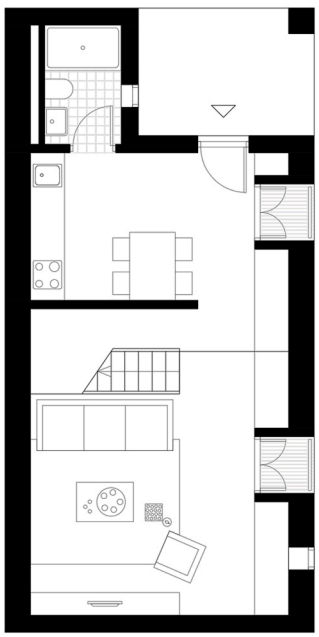
option B
one bedroom apt (mezzanine)
49 sqm

0 1 2 5

Incremental units



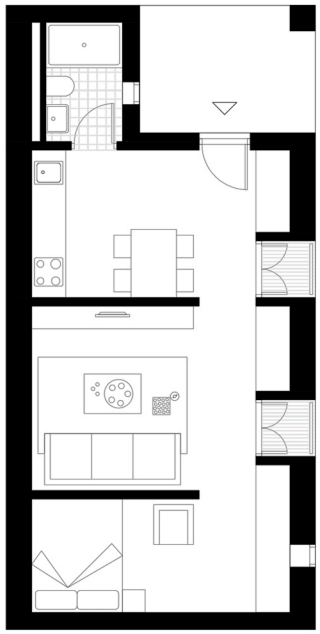


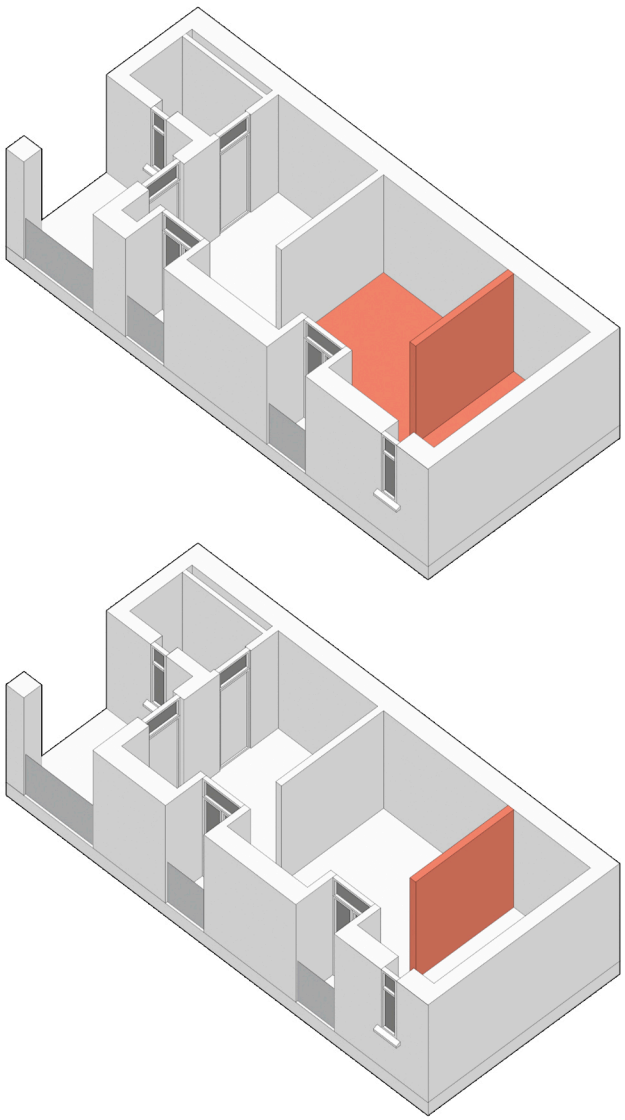


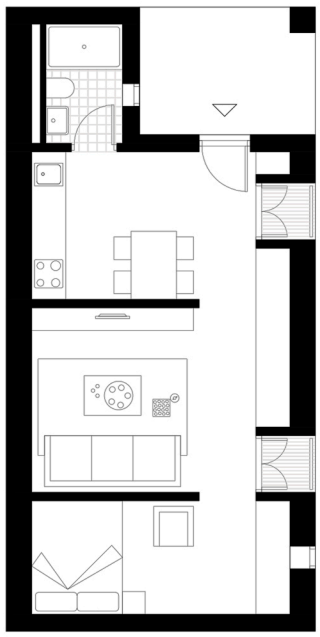
option C
two bedroom apt.
78 sqm

0 1 2 5

Incremental units







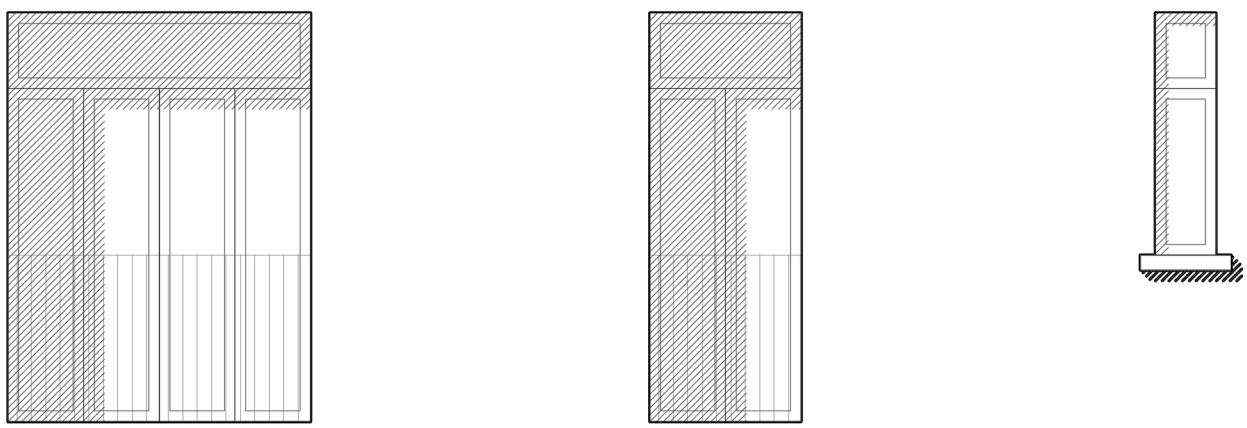
option D
one bedroom apt + rent one bedroom apt.
39 + 39 sqm

0 1 2 5

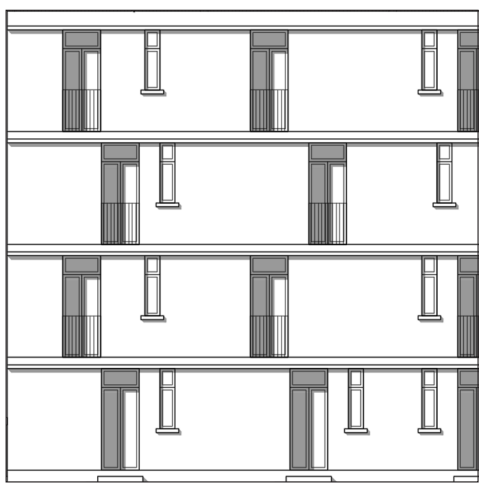
Facade composition

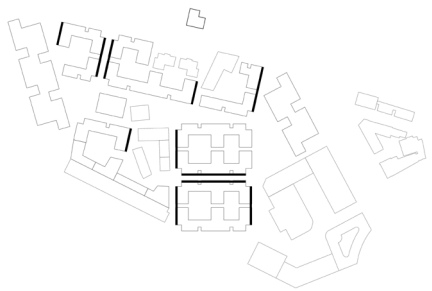
Concerning facade composition, a minimalistic approach have been developed in order to create simple variations with few elements, able to adapt to the context. Openings can vary in dimension depending on the position, on the sun exposition but also on the view. The second elements taht create variation is the stringcourse cornice. This concrete element that runs along the facade, can have three different configurations, depending on the position and on the sorrounding context. In this way will be possible to have an higher or a lower level of shading. moreover this elements it's also necessary in order to protect the facade from the rain water.

Facade components



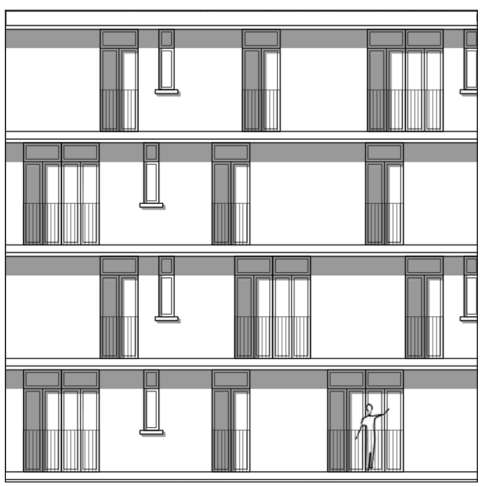
Facade typologies

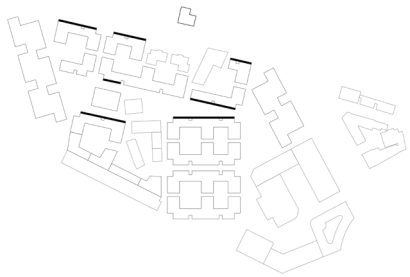




Type A

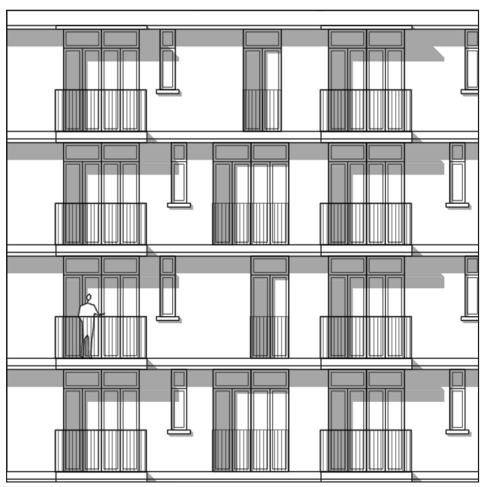
small openings
small stringcourse cornice

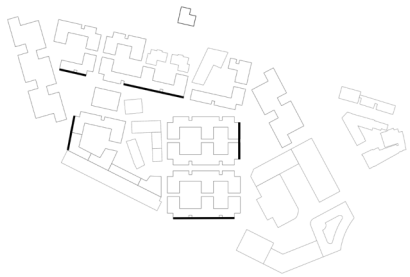




Type B

huge openings
protruding stringcourse cornice

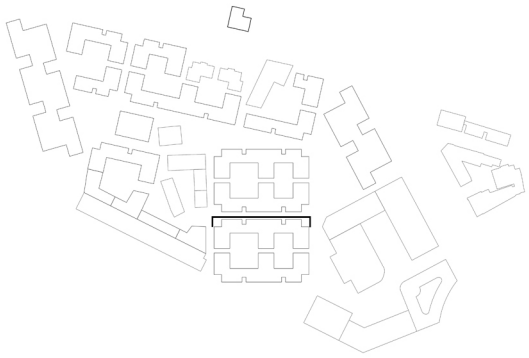




Type C

huge openings
balconies

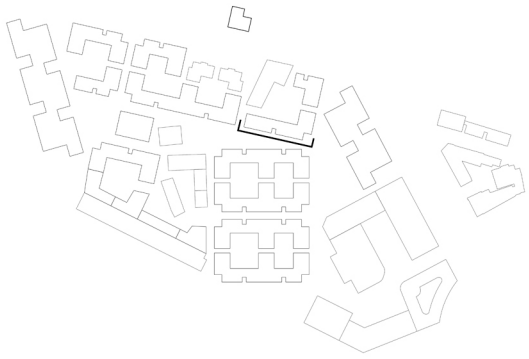
Facade proposal - option A

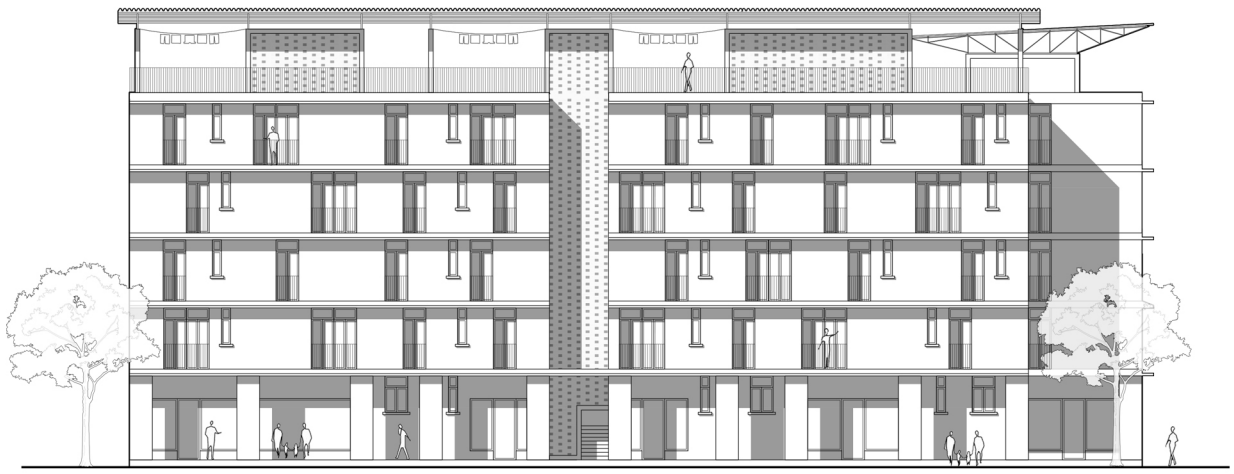




0 5 10 25

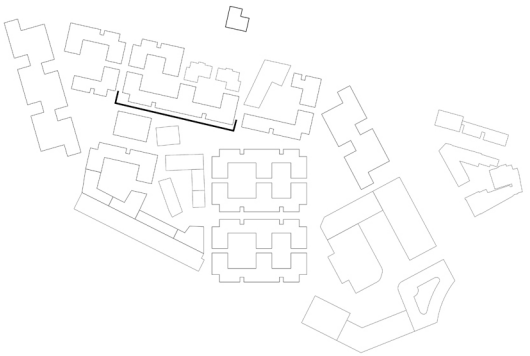
Facade proposal - option B

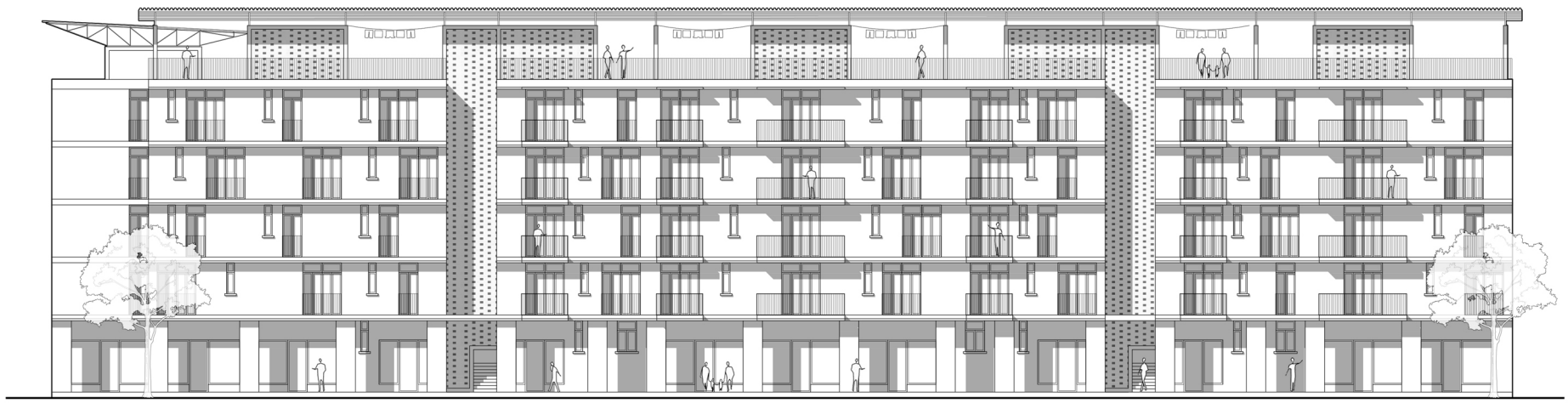




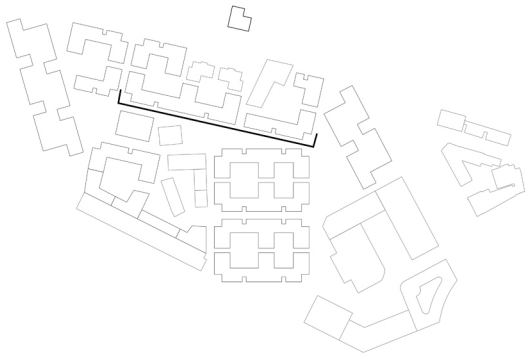
0 5 10 25

Facade proposal - option c





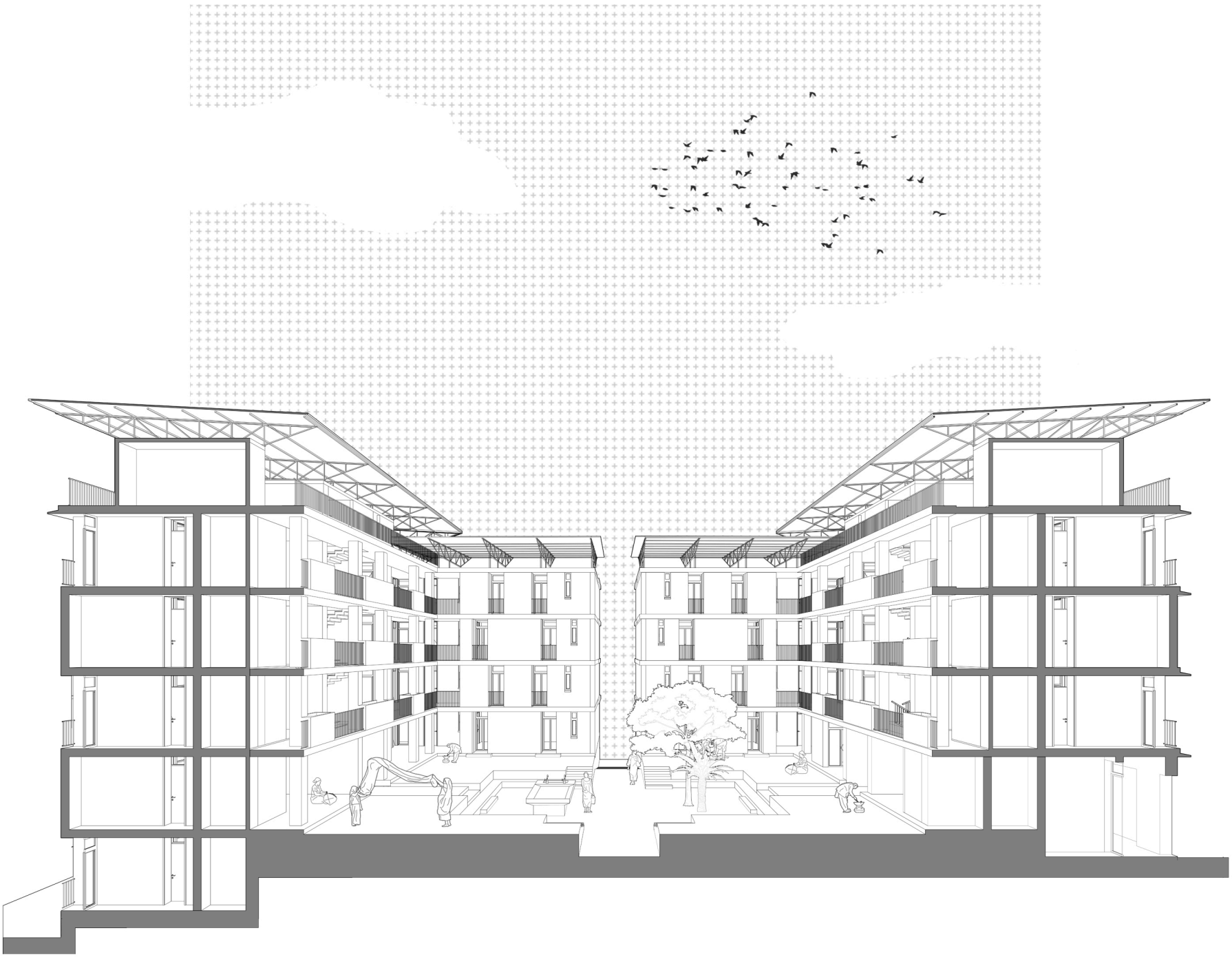
0 5 10 25





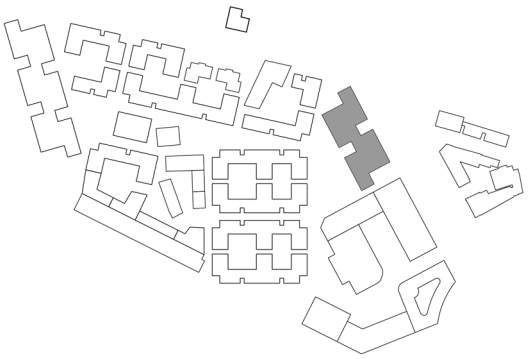
0 5 10 25

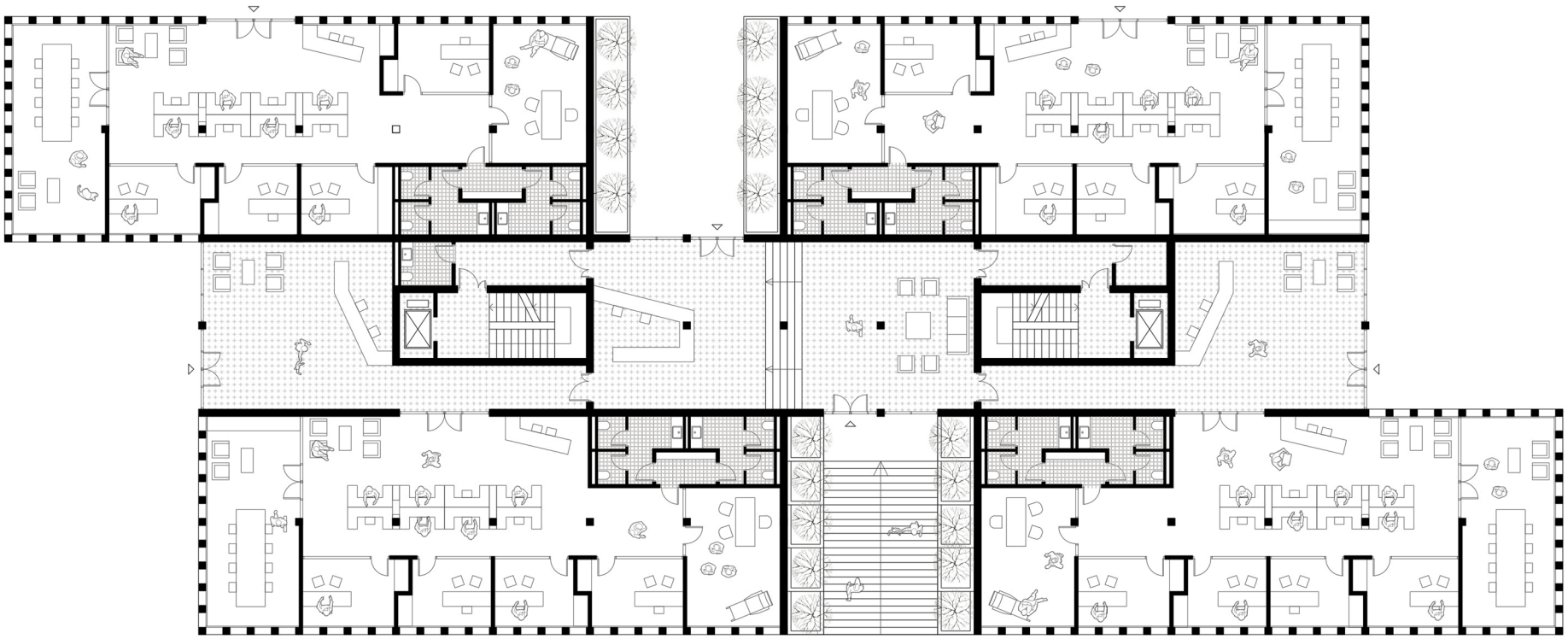
Perspective section | courtyard



MIDDLE INCOME HOUSING : THE TOWER

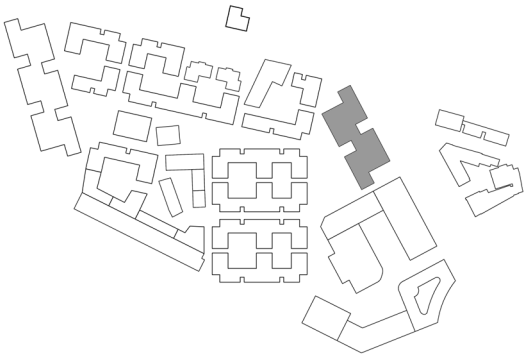
Typical floor G+1





0 2 4 10

Typical floor G+2





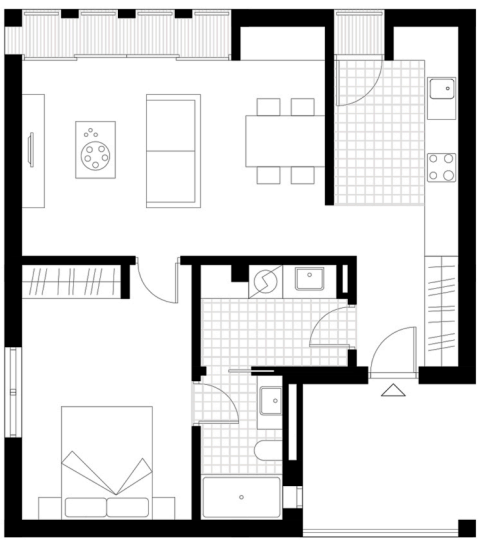
0 2 4 10

Typical floor G+3



0 2 4 10

Dwelling units



one bedroom apt.
53 sqm



two bedroom apt.
63 sqm

0 1 2 5

Dwelling units



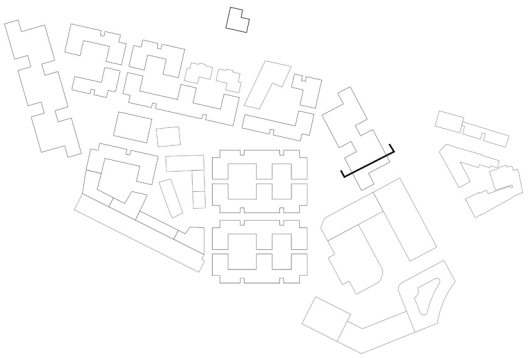
three bedroom apt.
72 sqm



four bedroom apt.
92 sqm

0 1 2 5

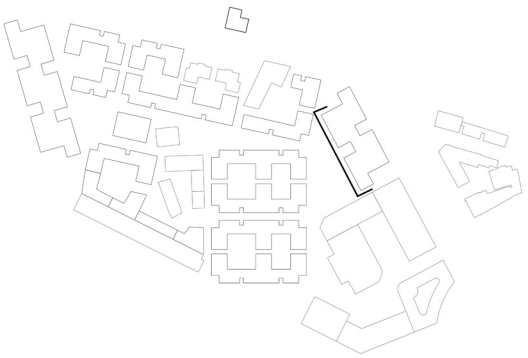
Cross section





0 2 4 10

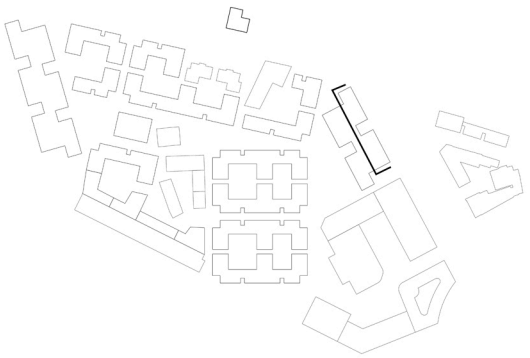
External elevation





0 5 10

Internal elevation

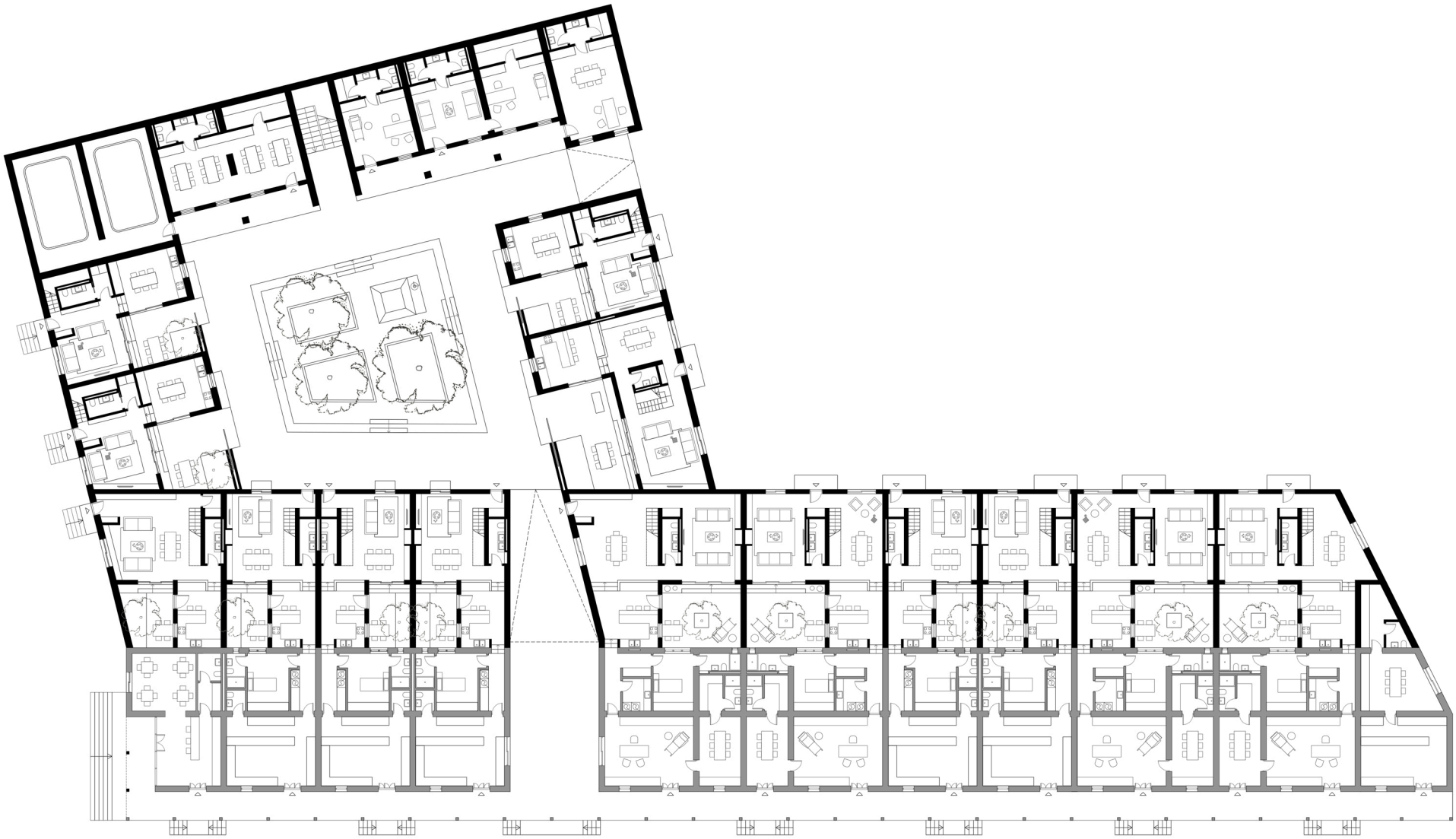




0 5 10

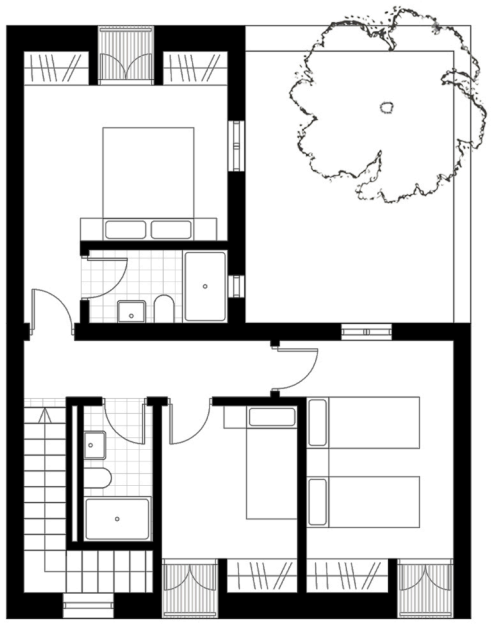
HIGH INCOME HOUSING : THE PATIO

Ground floor



Dwelling units





three bedroom apt.
94 sqm

0 1 2 5

Dwelling units



two bedroom apt.
75 sqm house + 54 sqm extra
129 sqm

0 1 2 5

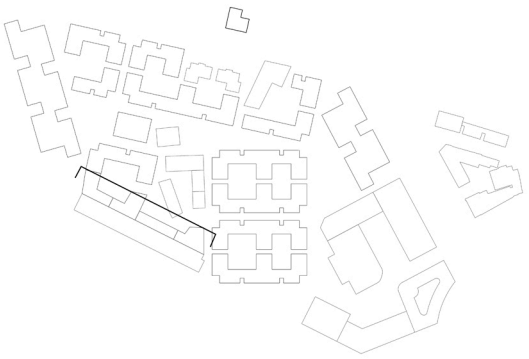
Dwelling units

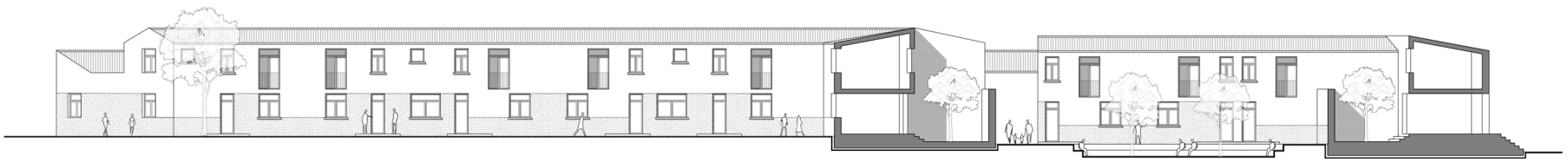


three bedroom apt.
121 sqm house + 80 sqm extra
201 sqm

0 1 2 5

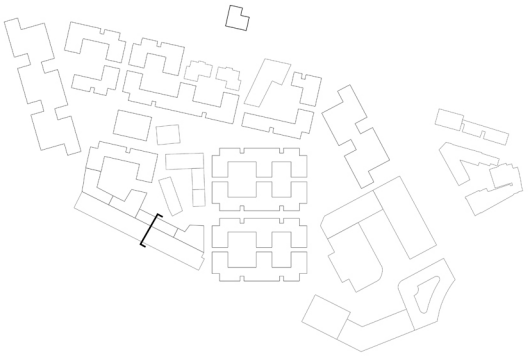
Northern elevation

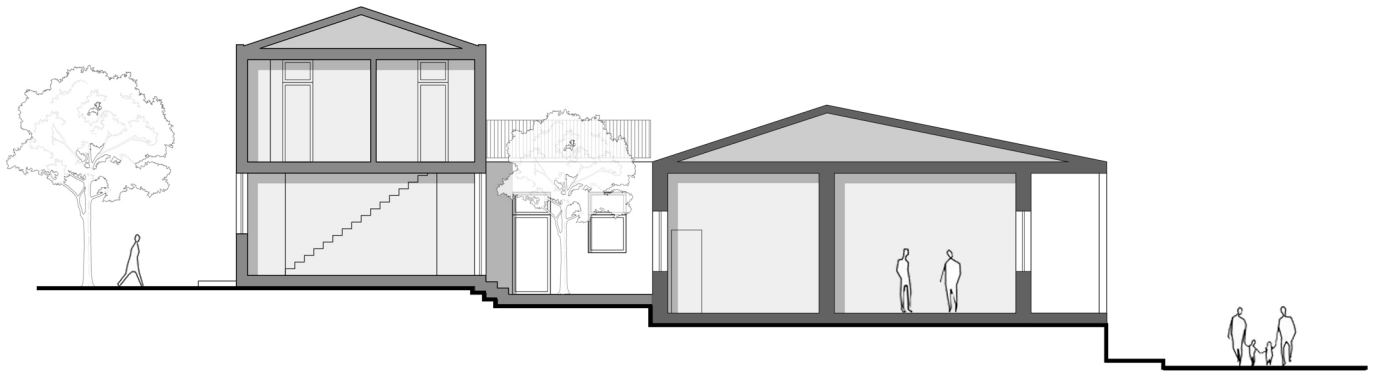




0 5 10 25

Cross section

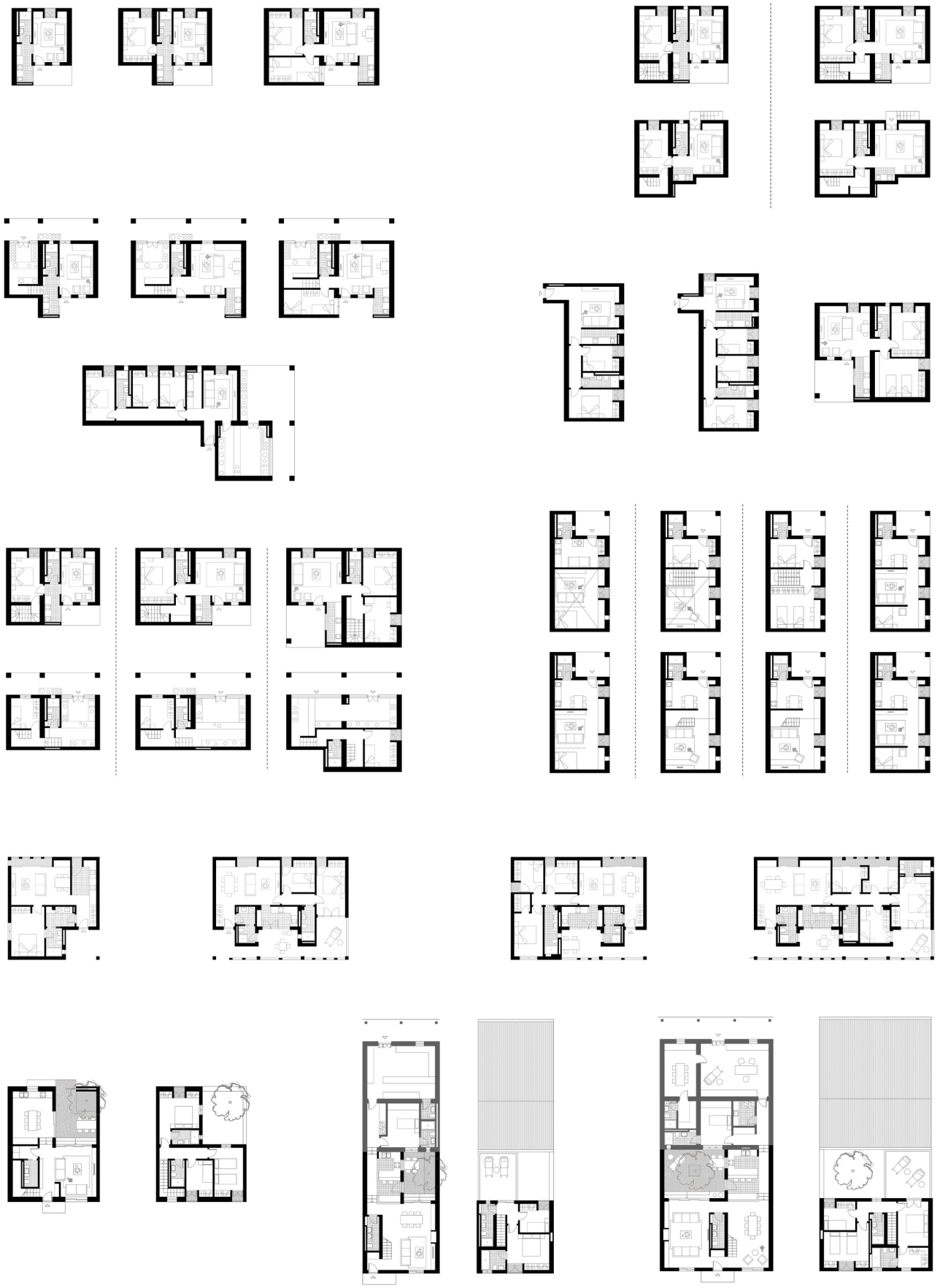




0 2 4 10

The abacus

In order to cater for the necessities and the ambition of the greater numeber of people as possible, a in-depth study on dwelling tipologies have been carried out. As a result of this process, 26 units have been developed, from 14 up to 201 square meters. A huge number of diverse units it's necessary in order to answer to the complexity of the place but also to tacle the affordability ladder, providing several options to the dwellers.



14
21
33
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50
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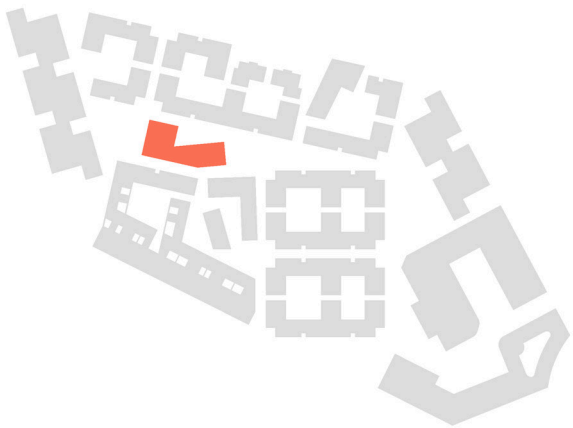
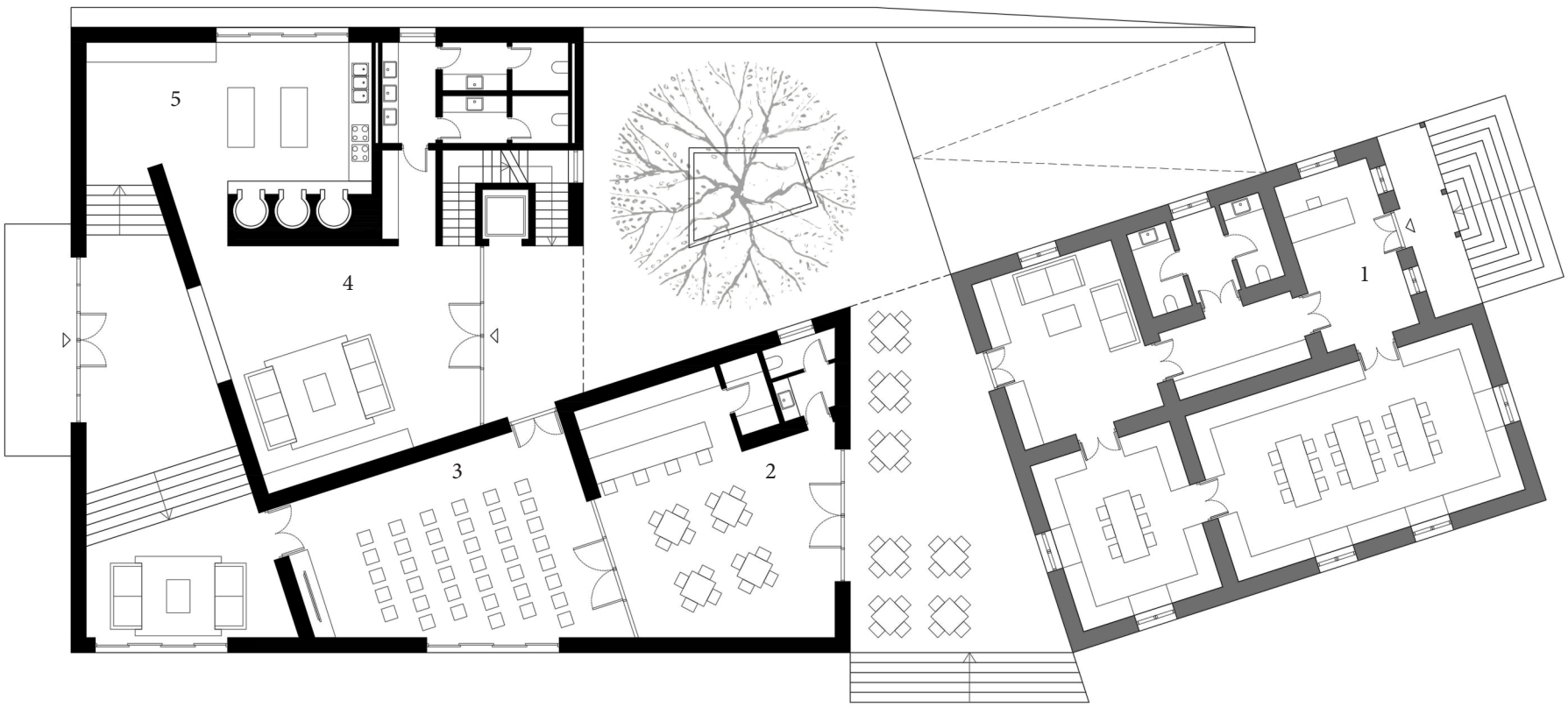
55
59
60
63
65
75
78
83
92
94
99
129
201

COMMUNITY HOUSE

In order to provide extra space to the inhabitants for leisure but even huge celebrations , like weddings, where the whole community gather, a community house has been designed in the middle of the site. This building consists in an extension of an exisitng historical building. The historical part contains a library and a space for students that want to study, while the extension , kitchen, living and other flexible spaces that can be use in different ways depending on the occasion.



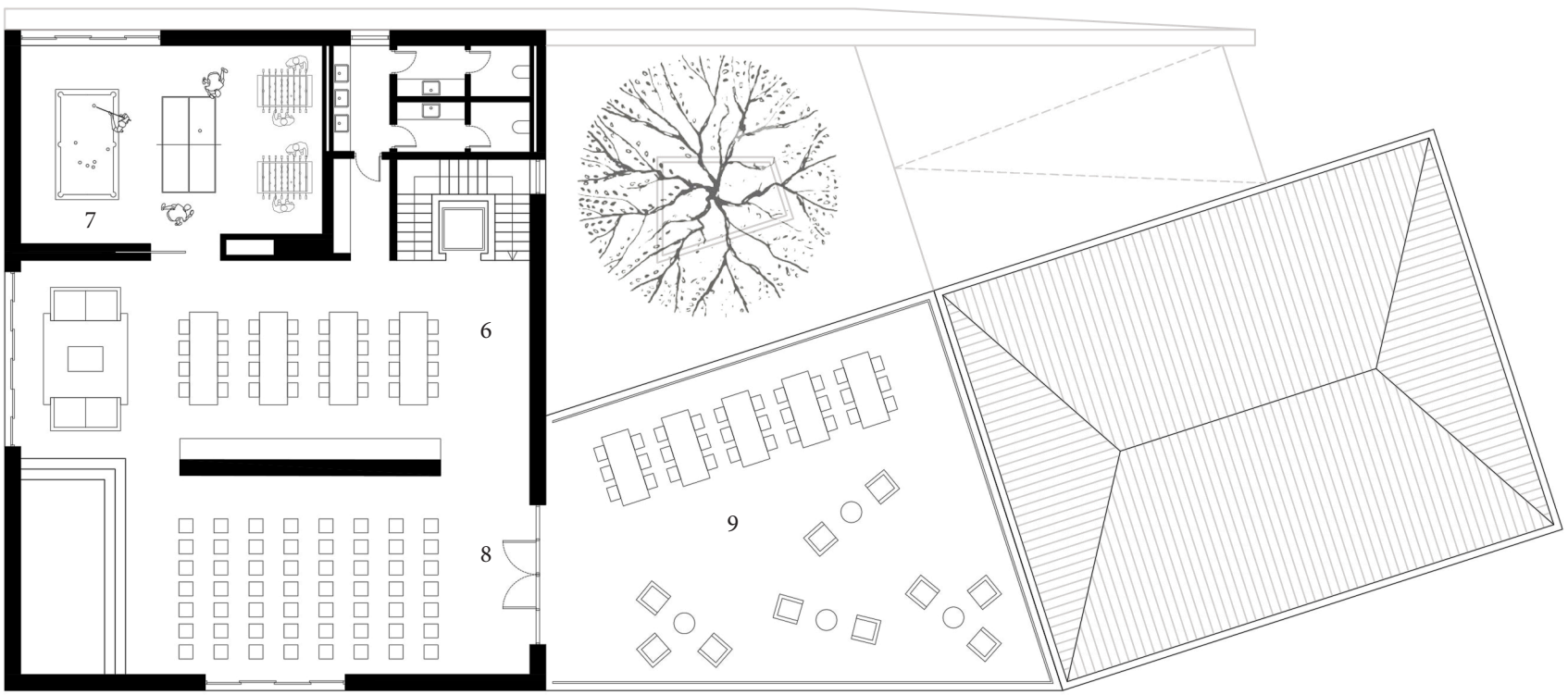
Community house



1. Library
2. Cafeteria
3. TV room
4. Atrium
5. Kitchen

scale 1:200

Community house



6. ceremonial space
7. Game room
8. Theatre
9. Terrace

scale 1:200

XI

BUILDING TECHNOLOGY

EARTH CONSTRUCTION IN THE WORLD

Earth is certainly one of the oldest building materials in human history. Persian, Assyrian, Egyptian and Babylonian civilizations have used it in abundance, as evidenced by the remains of pre-Columbian buildings in South America. Several examples show how these ancient populations did not hesitate to use it also for monumental constructions.

But earth architecture is not only archaeological curiosity. In fact nowadays about half of the Earth's population lives in earthen houses. A third of the inhabitants of the planet live in houses made of raw earth. This material remains predominant in almost all of Africa, the Middle East and Latin America; it is a form of vernacular habitat in China and India. In Europe, although today almost completely forgotten, earthworks can still be found in Sweden, Denmark, Germany and the eastern countries, as well as in Great Britain in Spain and France.

Until the end of the last century, in many areas of Italy it was normal to live in an "earthen house", but within a few decades the situation quickly changed. Parallel to the first replacements of the more aged earthen houses and with the emergence of a minimum economic well-being, a sort of "shame" arises, which can also be found in developing countries in contact with industrialized civilization. The earth house began to take on a negative connotation, that of a poor and structurally weak building, of a reality to be denied.

CHARACTERISTICS & COMPOSITION

Raw earth is essentially a mixture of gravel, sand, sedimentation silt and clay; depending on the percentage of clay it is divided into three categories: lean earth, medium-fat earth, oily earth.

Compared to traditional materials and techniques, a house built in raw earth lighted with straw absorbs only 5% (1/20) of grey energy; this is possible mainly thanks to the absence of expensive and artificial cooking and drying processes. By using the raw earth obtained on site, transport costs are also completely avoided.

Digging easily and at low cost; in the traditional method, it is mixed with shredded straw, then mixed with water and trampled or beaten until it reaches the right plasticity; currently lime, cement and bitumen are also used to stabilize the mixture; once dry, the walls can be plastered or whitewashed to protect them from the rain with earth or lime plaster.

Qualities

-Good heat storage capacity and insulation, i.e. it avoids the dispersion of the accumulated heat.

-Good sound absorption capacity.

-Good hygroscopicity, i.e. ability to regulate the humidity level in rooms. However, attention must be paid to rising damp from the ground because at one go they can cause structural problems.

-Good transpiration of the walls in the absence of antiperspirant protective layers. Ability to pass air between the pores of the walls, retaining impurities and pollution and therefore acting as a filter.

-Excellent thermoregulatory capacity. Cool summer and warm winter environments. Ideal indoor climate with optimal temperature and dry and clean air.

AN OPPORTUNITY FOR LOCAL INVOLVEMENT

Raw earth is available in almost all regions of the earth; most of the constructions of different countries have been built in raw earth and roughly a third of humanity lives there. Furthermore, the manufacturing process is very simple, this means that women and men of different physical constitution can work on it. The materials used are absolutely not harmful to health. Raw earth is an interesting alternative to other building materials. The material is favorable and the investment costs are extremely low, but require a greater percentage of manpower. This may give rise to local working communities with interesting repercussions on human relationships.

ADVANTAGES: simplicity and abundance of the material; ease of processing and application; excellent qualities of thermal conservation and local climate mitigation; the walls muffle the sounds and help absorb and expel the polluted air; the use of the energy necessary for construction is only 3% of that needed to build a reinforced concrete building; hygroscopicity (capillarity that prevents local accumulation of moisture which is rapidly distributed and evacuated); after applying the plaster, the buildings are windproof and vapor barriers are not necessary; the cycle, from extraction to reuse, is transparent and low environmental impact; economically advantageous; complete recoverability; non-toxicity.

DISADVANTAGES: no impermeability in the natural state and low impact resistance; not particularly suitable for rainy regions unless the building is built on dry, moisture-proof foundations and with a very protruding roof; risks of destruction from floods or hurricanes if buildings are not located in suitable locations; lack, in ltaly, of any regulation regarding construction in raw earth.

INNOVATION

Especially in the southern U.S. states a relaunch of adobe construction has been under way for at least two decades and as a consequence also local production has evolved from the artisanal to the semi-industrial phase. The industrialized production of adobe is today an economic reality that is changing the housing framework especially as regards single-family houses, for which the use of adobe is now a dominant choice. For example, in the experience of building the settlement of the Dar-Al-Islam community in Abiquiu in New Mexico, Hassan Fathy, designer and builder with his Nubian master builders of the various buildings, uses adobe produced industrially by the "adoberos" of the area . As for developing countries, the updating of adobe, as well as by Fathy himself, was promoted by many designers trained at his school, as well as by various other operators sensitive to the issue of the enhancement of materials and techniques locals. For the preparation of the compressed earth block it is necessary to use an earthen dough with a plastic consistency. If you want to produce blocks or bricks from a dry land, you need to reproduce a compression mechanism similar to that of the pisè or the masonry with large blocks compacted in formwork (technique described later). This process of compaction-compression of the earth can be carried out by hand, with the use of tools similar to those used for the foot or by using manual, mechanical, hydraulic or pneumatic presses. Among the best known and most popular manual presses we mention the CINVA Ram and the Terstaram used today in various low-cost construction programs in developing countries. According to the type of organization of the production site, it is possible to produce with these presses locally from 300 to 1200 blocks per day, considering an 8-hour working day and the use of 2-3 workers per press, and an average compaction pressure of 10 kg / cm2.

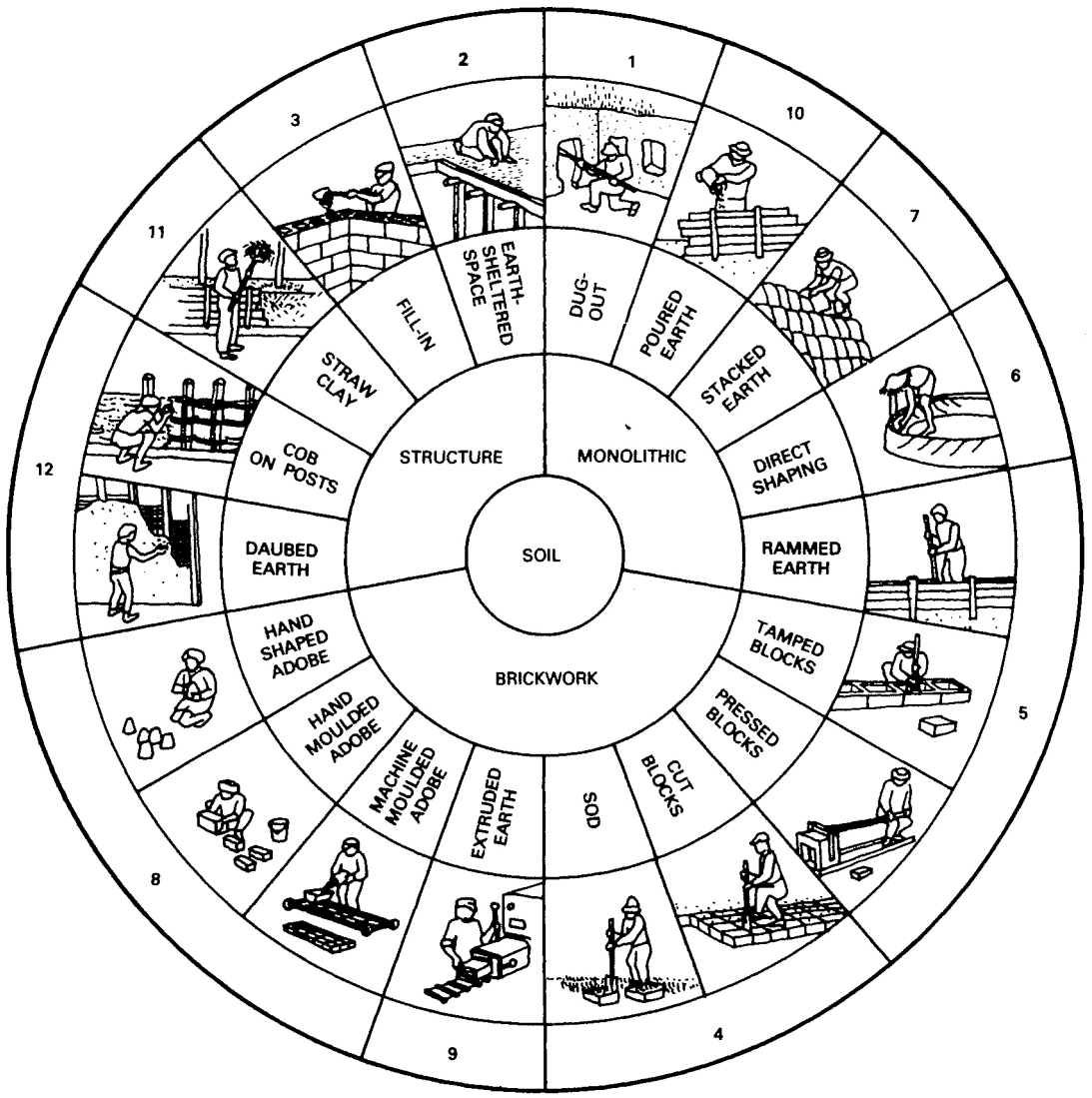
STABILIZATION

Stabilization is a process that aims to improve the quality of the earth products, increasing its streght and level of compression. A first form of stabilization is the improvement by densification which produces the effect of decreasing the porosity of the earth. Another form of improvement is the correction of the available granulometry of the soil by mixing it with another containing missing elements, in order to obtain an optimal granulometry mixture. A third possible form of stabilization is the physico-chemical one. Cement, lime and bitumen are the most used stabilizers in the improvement processes of the earth used to produce compressed blocks.

To reach a good quality material, a percentage of around 5% of cement is necessary, but this number can even be increased up to 10%, creating a mixture with characteristics similar to concrete-

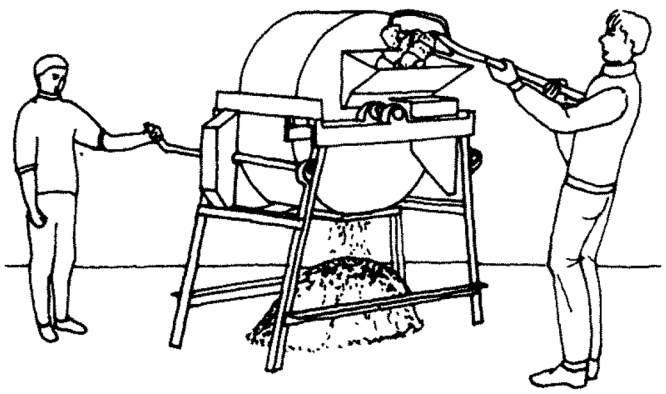
The energy cost for the production of compressed earth blocks stabilized at 5% of cement stands at around 400 MJ / t; a very low value if compared with the cost of concrete blocks, 1200 MJ / t or with that required for bricks, 3700-4000 MJ / t. It should be remembered that the energy cost necessary for the production of unregulated clay blocks fluctuates around 100 MJ / t. The values expressed here refer to a production at an artisanal level, which is affected by the energy cost of transport, which can be estimated at 2.8 MJ / t per km.

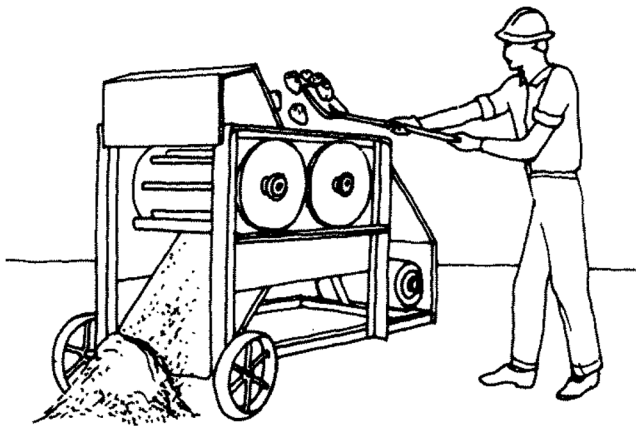
Earth construction tecniques



Construction process

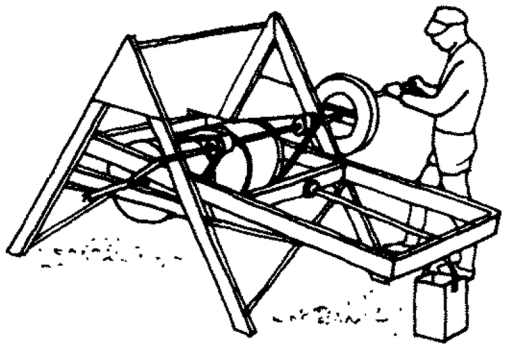
The construction process is based on the use of a mixed technology: cement and raw earth. This combination can be a good compromise between the technology currently present in Ethiopia concrete construction, and a vernacular but at the same time innovative material, earth, and in particular the compressed blocks. The former promotes the durability and resistance of the building, while the latter adapts better to the climate, ensuring good thermoregulatory behavior, but also improving sustainability. both technologies can be prefabricated or prepared in situ. In this way the construction of the building will be easy and fast. A fundamental point of the construction process is the involvement of the community in the construction operations. In fact many processes can be carried out by local people, such as the preparation of bricks and their transport for example, but also the assembly of walls and floors.

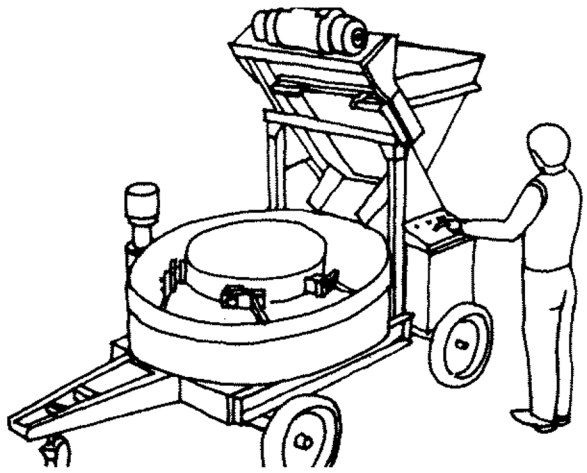




PULVERIZATION

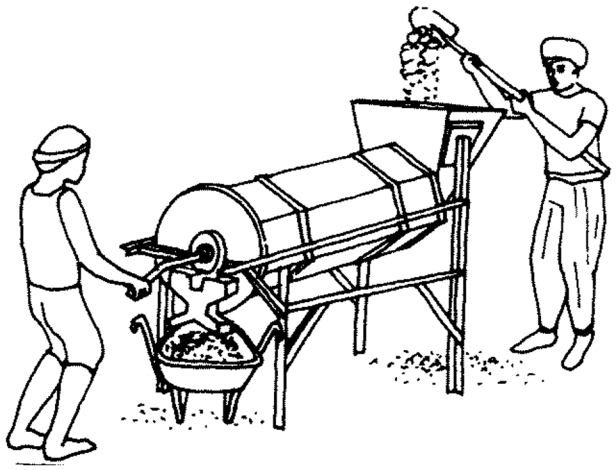
This operations is necessary in order to obtain an uniform mixing of the soil. Lumps have to be broken up to a smaller elements in way to obtain an omogeneus mixture for the next phases. The process can be manual or mechanical.

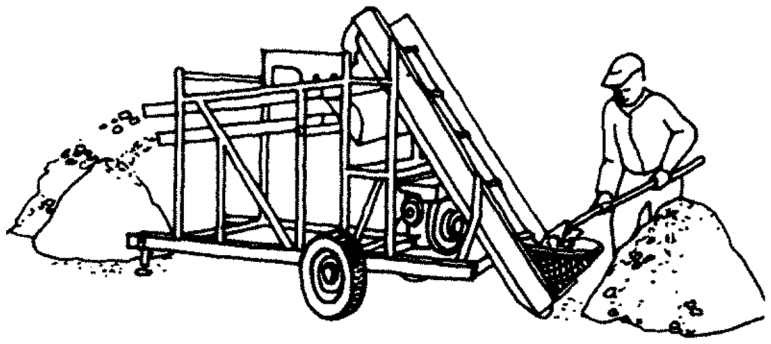




MIXING

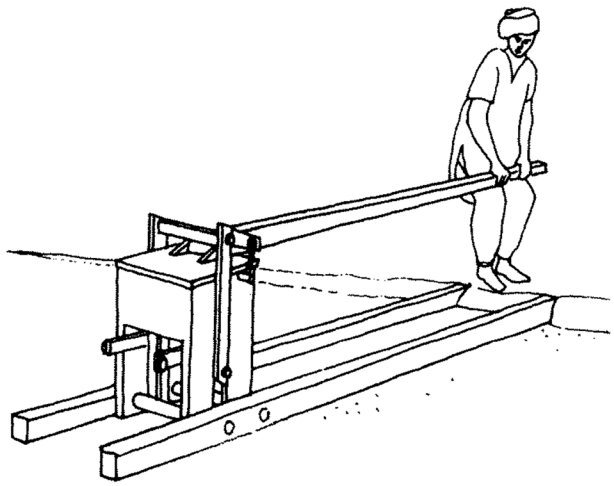
This operations is essential for a good final products. Soil is mixed with water and cement and other lightweight material in order to obtain a uniform mixture. This process can be manual or mechanical.

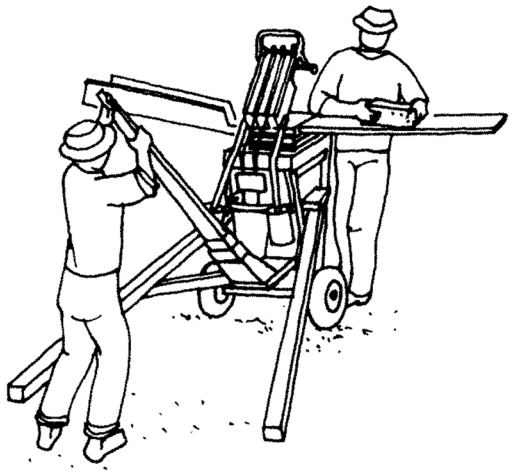




SCREENING

This operations is essential to remove excessively large elements in the soil after the pulverization, in order to obtain a thinner and omogeneus mixture.

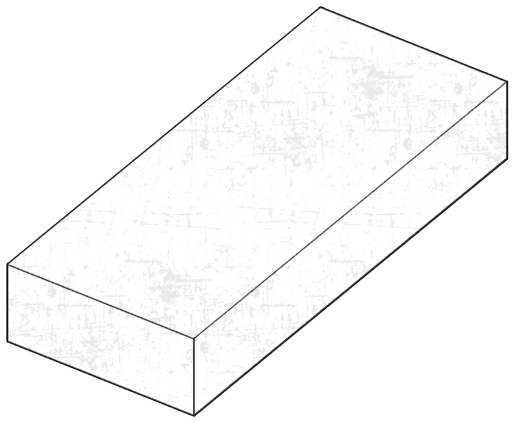




PRESSING

This operations is essential in order to create standard elements with the same dimensions and moreover to increase the streght of the material. In fact differently from adobe bricks, compressed blocks present a minor amount of water and this make s the process of drying faster and the final products more resistant.

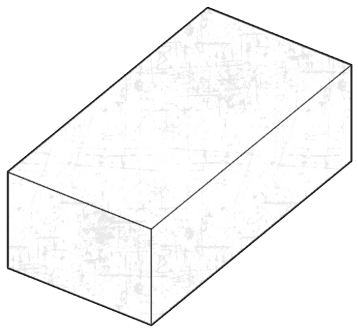
Construction blocks



Clay-straw block

15x36x8

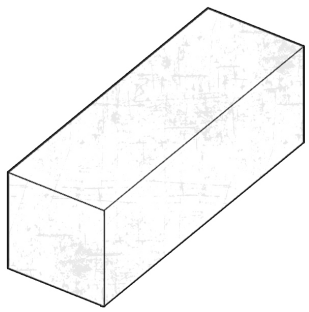
weight 5 kg



SCEB

15x30x10

weight 7 kg

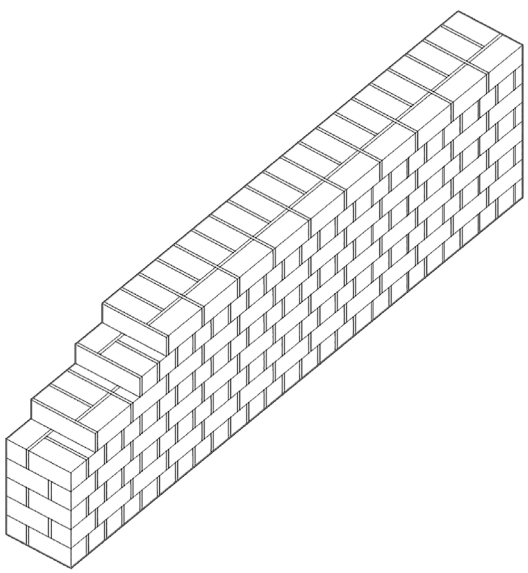


SCEB

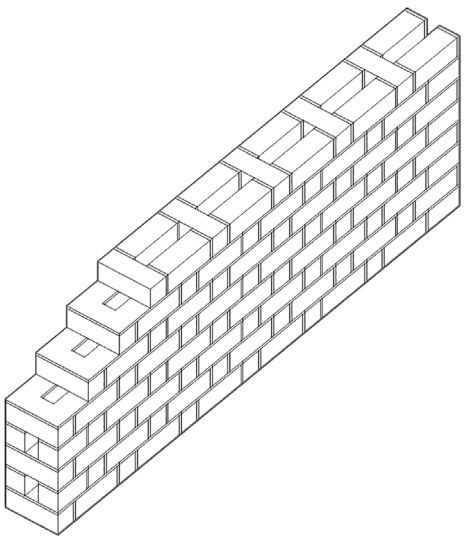
10x30x10

weight 6 kg

Construction components

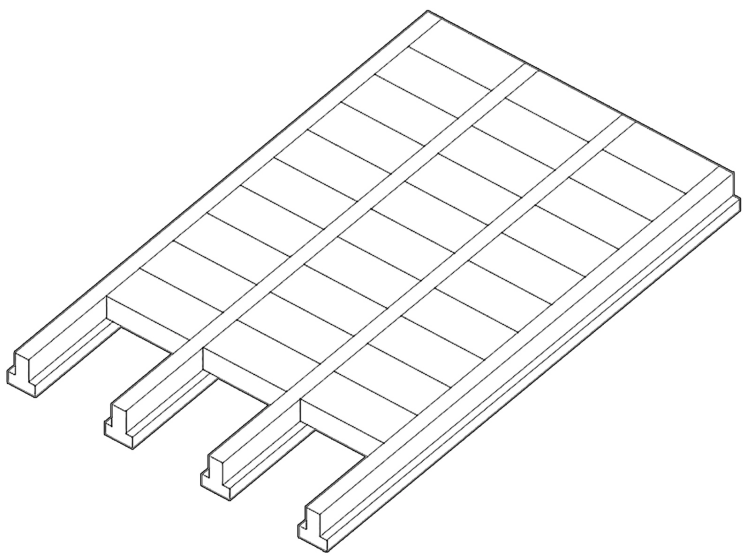


Bearing walls | English bond

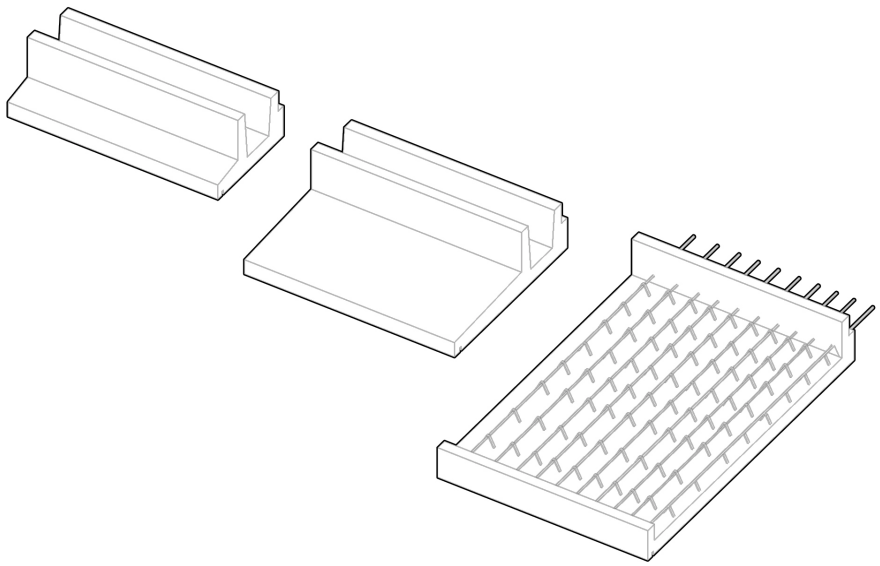


Infill walls | Rat trap bond

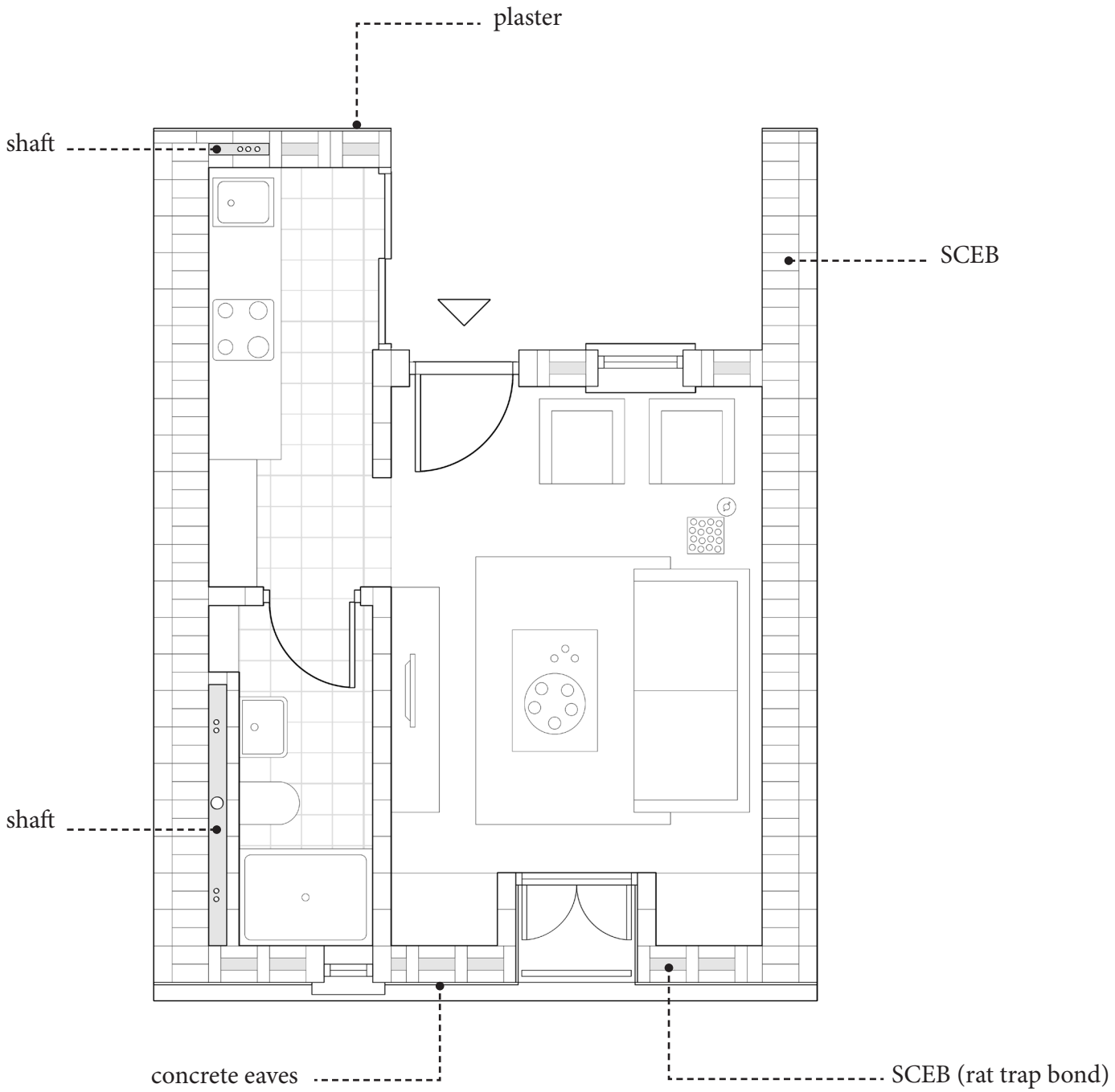
Construction components



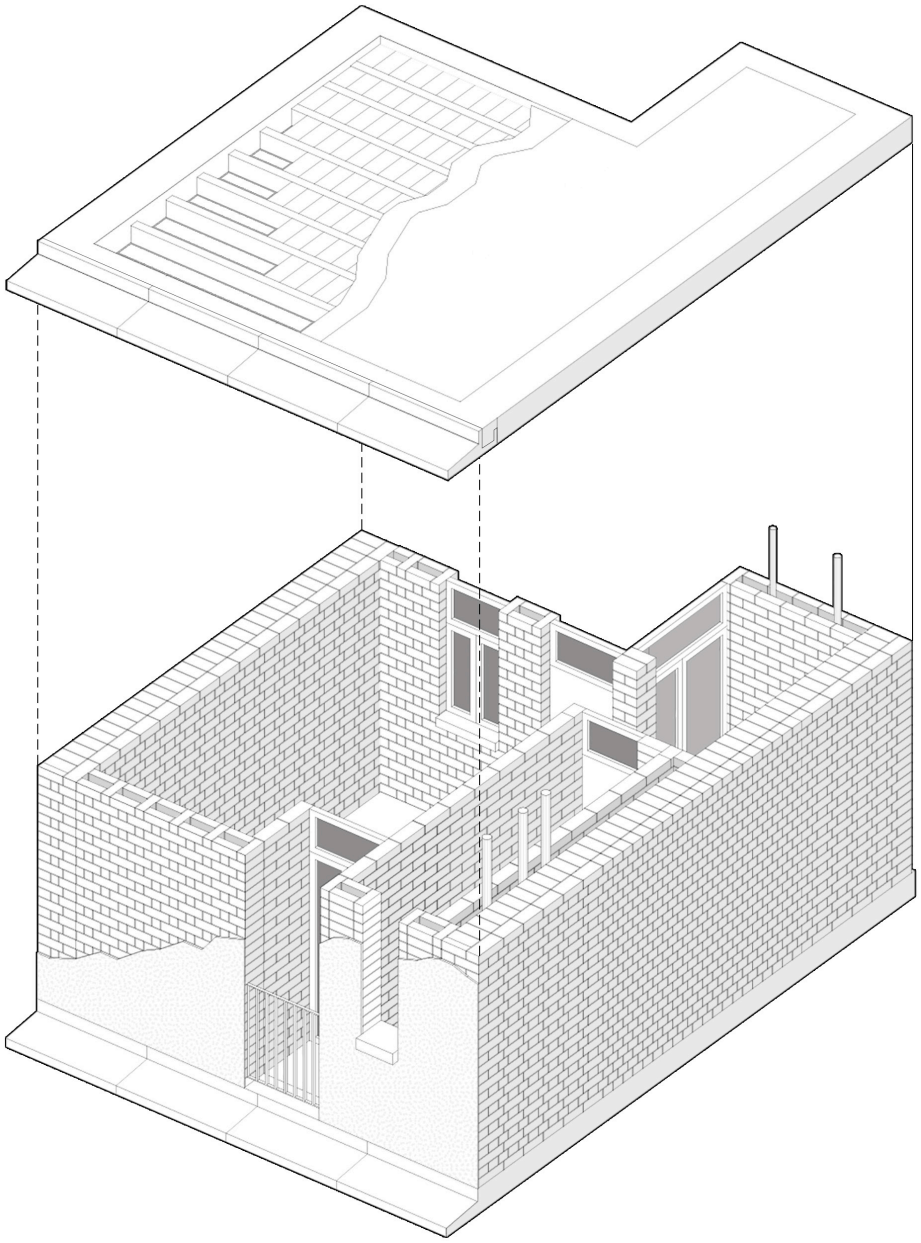
Floor structure | Concrete beam + clay-straw tiles



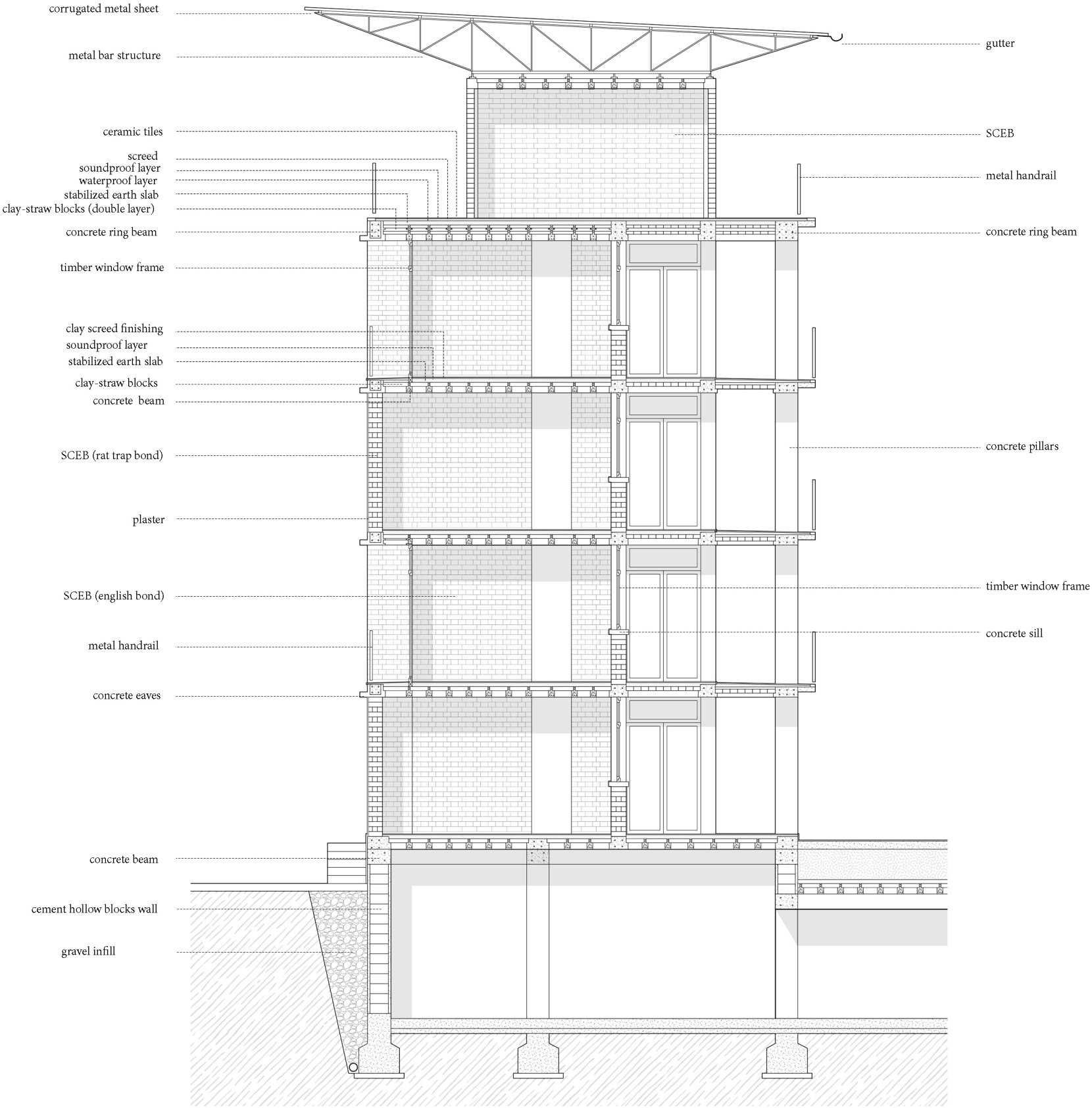
Eaves | Prefab concrete formwork



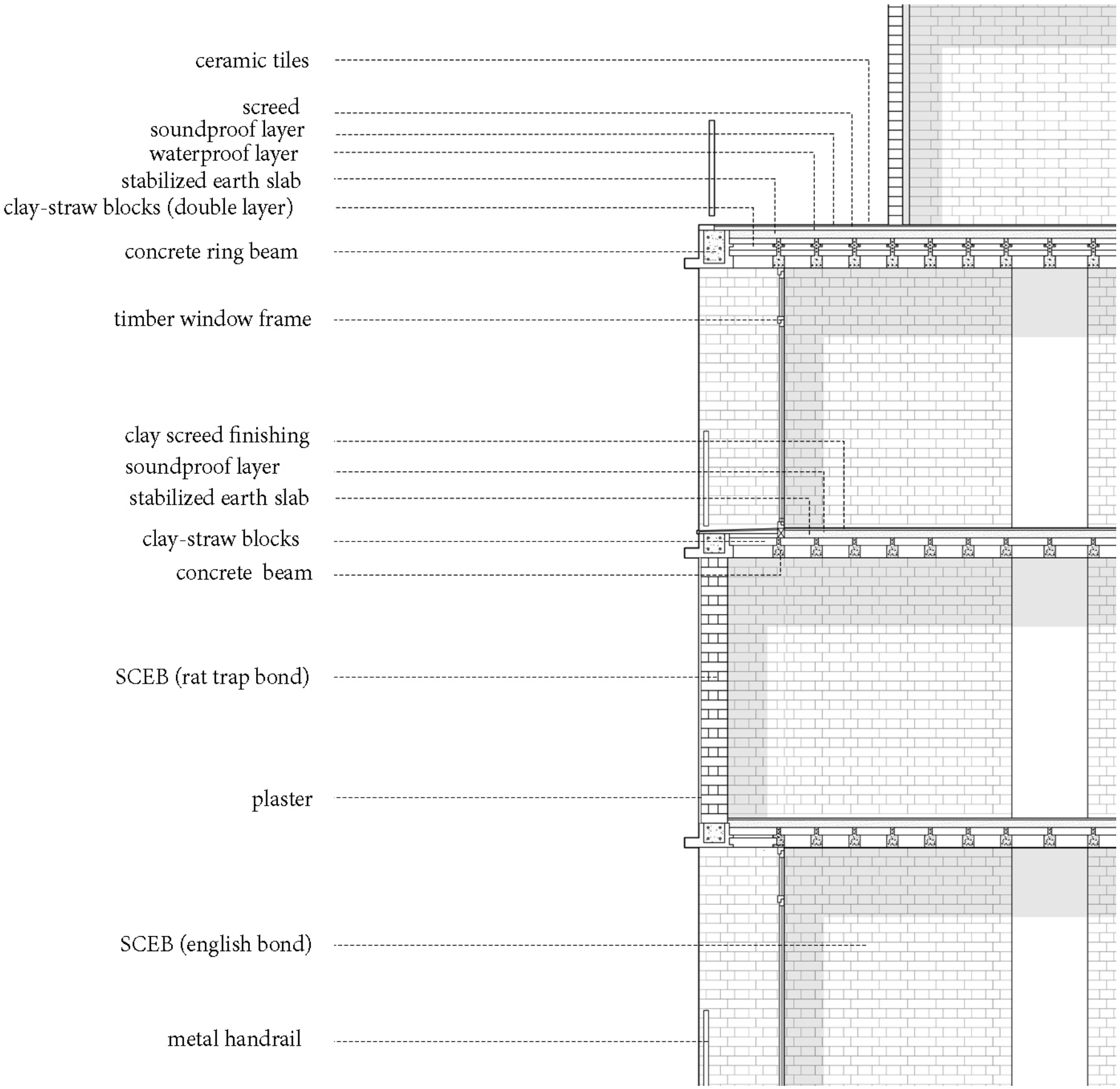
Detail plan | scale 1:50



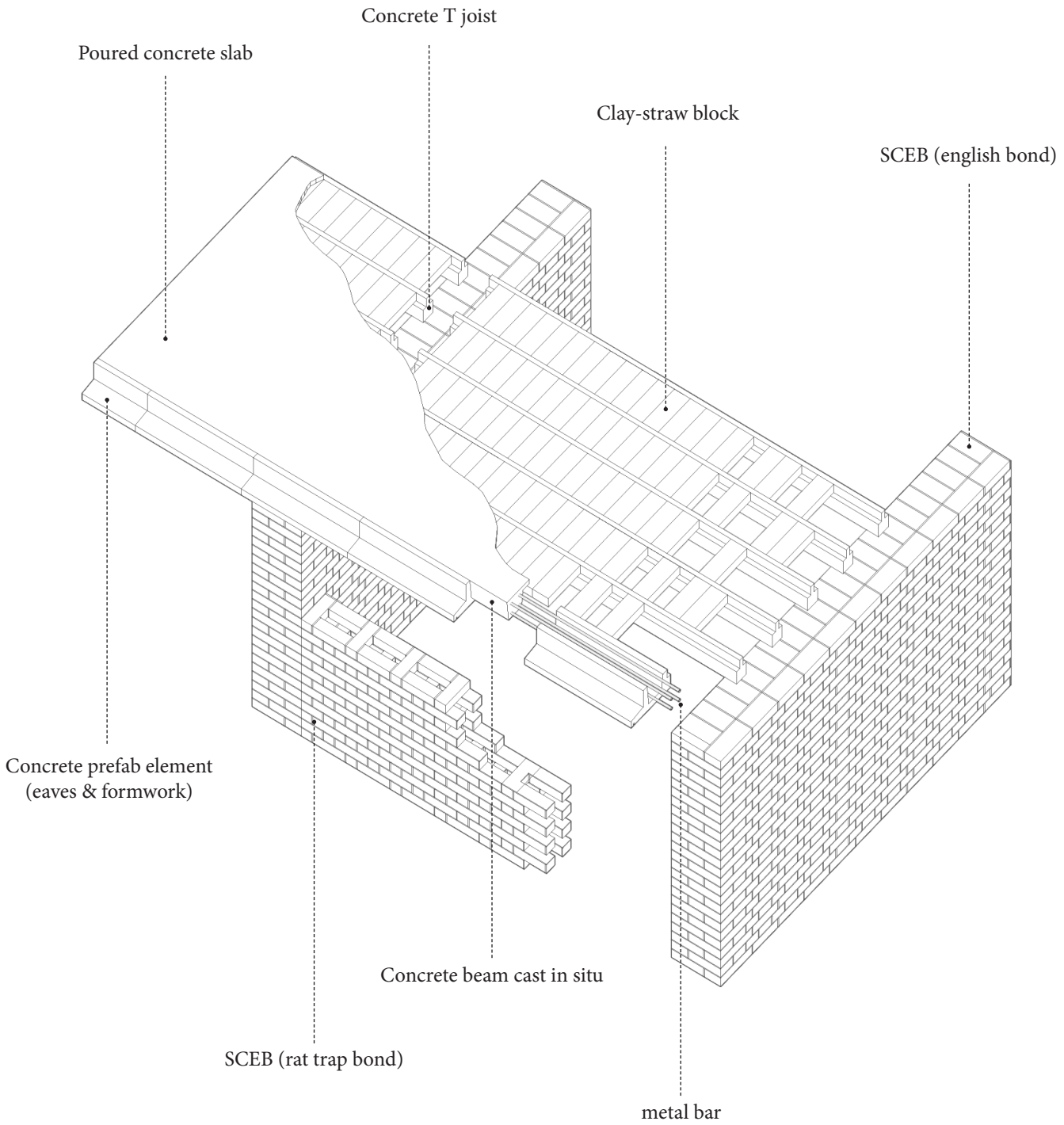
Detail axo | scale 1:50

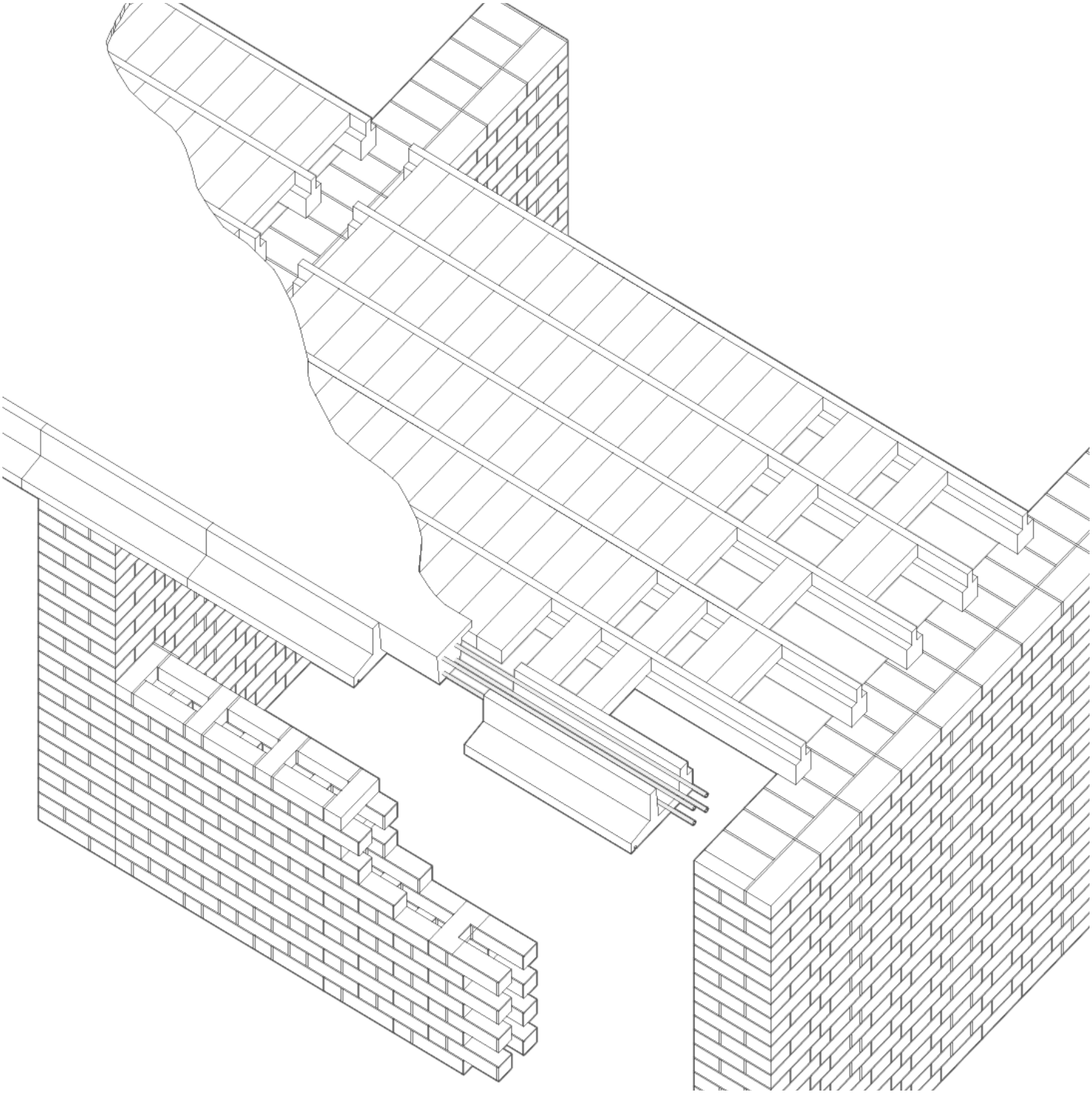


Detail section | scale 1:100



Detail section | scale 1:50


Concrete T joist
Poured concrete slab
Clay-straw block
SCEB (english bond)
Concrete prefab element
(eaves & formwork)
Concrete beam cast in situ
SCEB (rat trap bond)
metal bar



Eaves/Ring beam | detail 1:5

1 - Plaster 2cm

2- Metal parapet

3 - Waterproof layer

4 - Concrete screed

5 - Light weight concrete

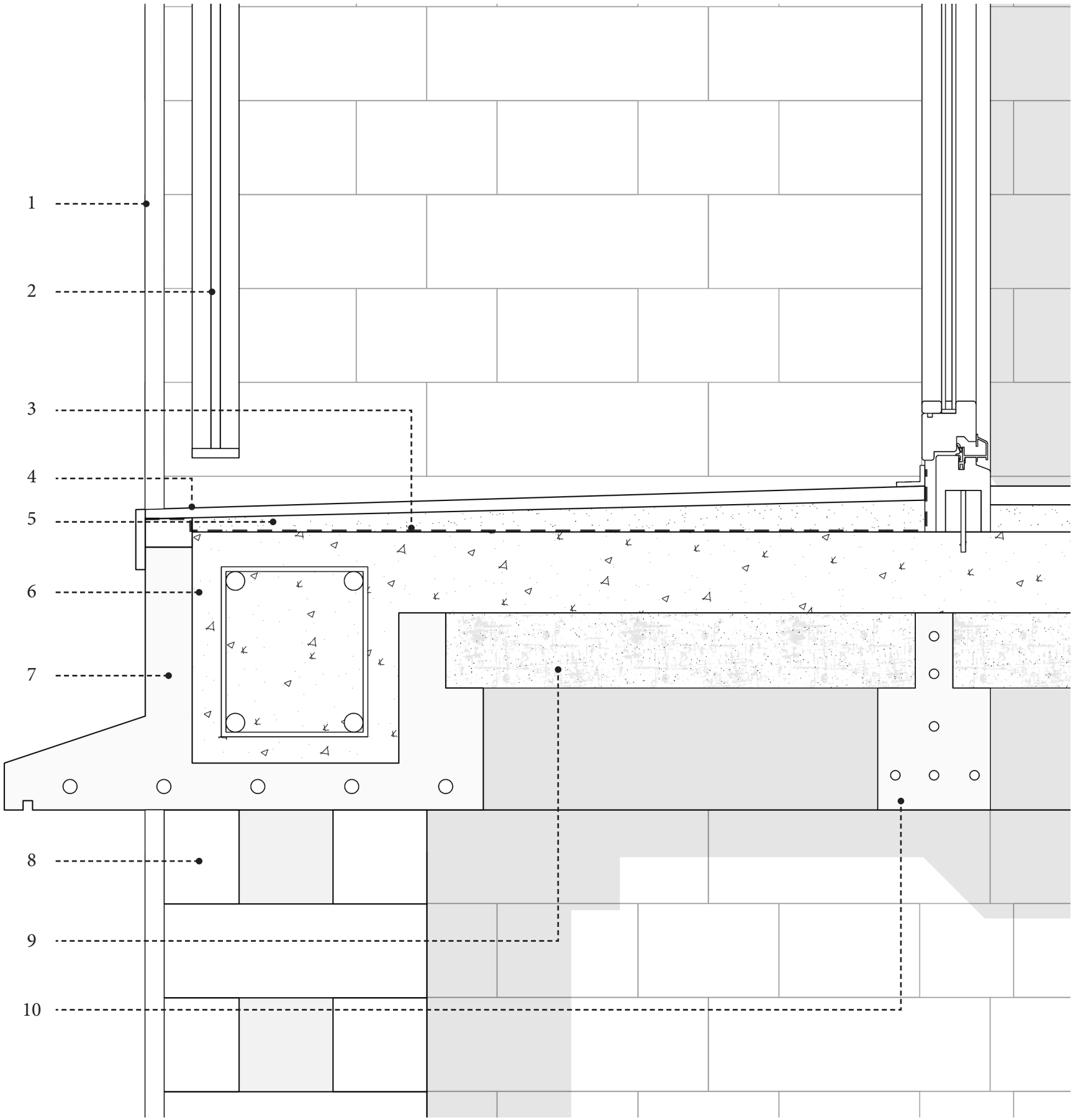
6 - Concrete beam cast in situ

7 - Prefabricated concrete element

8 - SCEB (rat trap bond)

9 - Clay-straw block

10 - concrete T joist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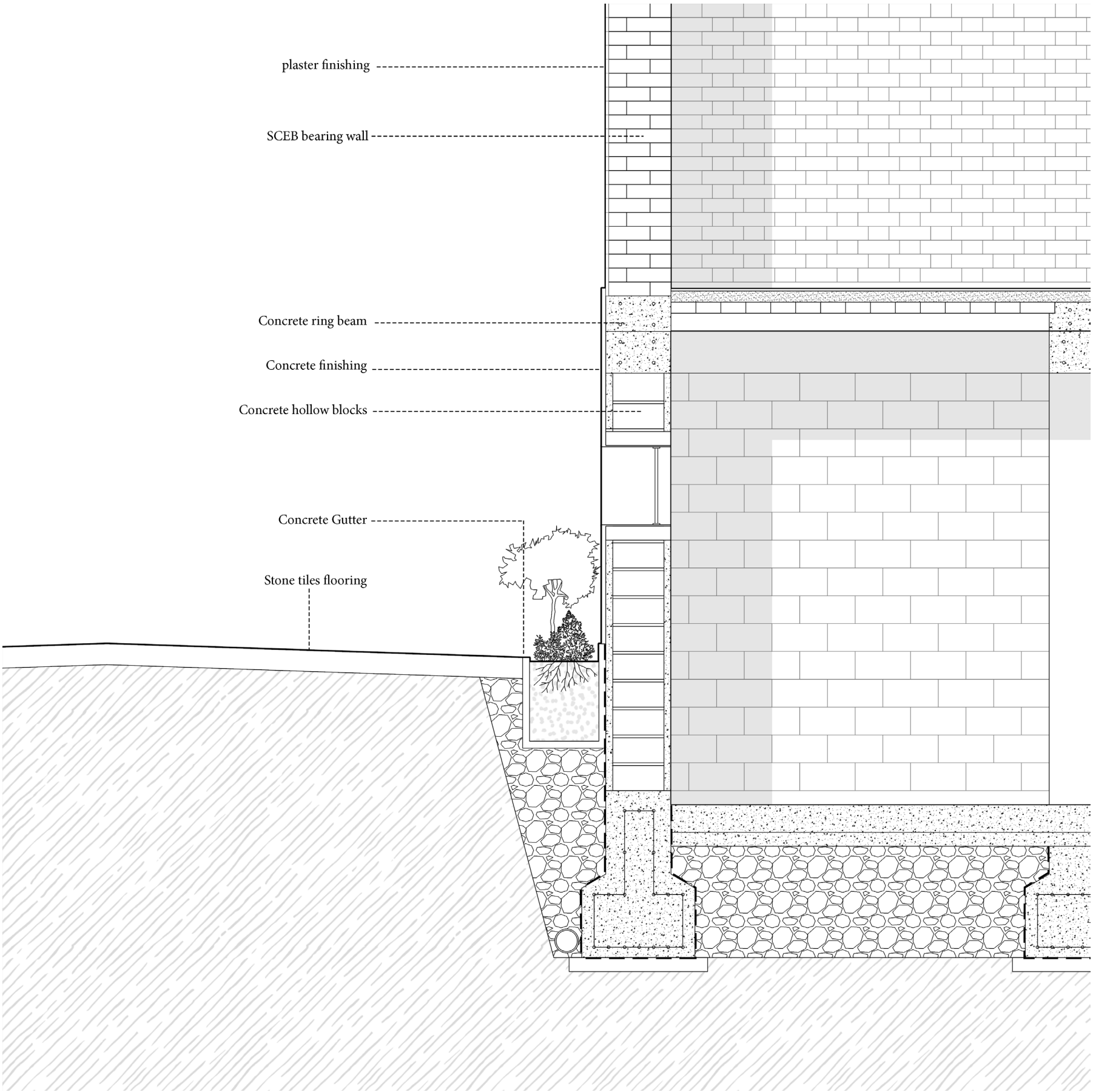
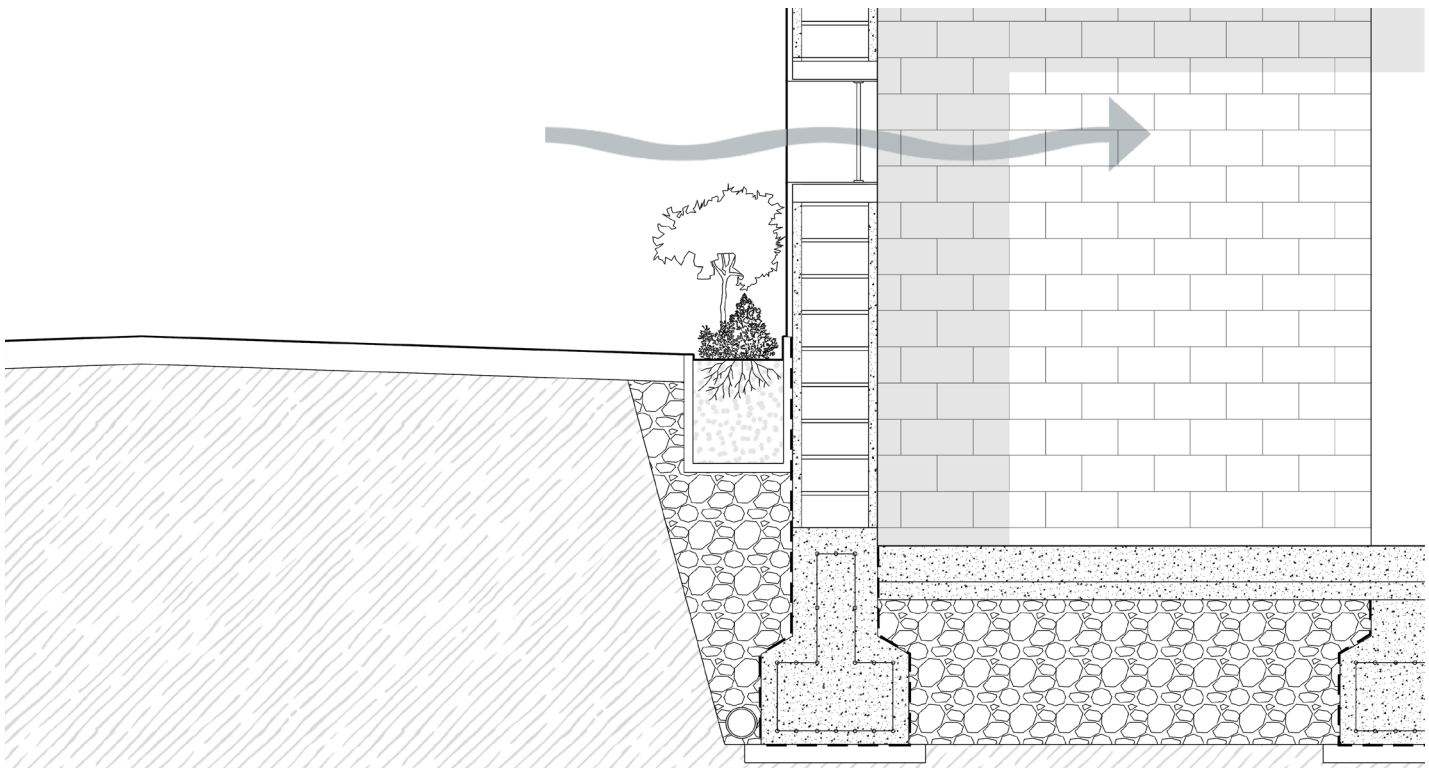
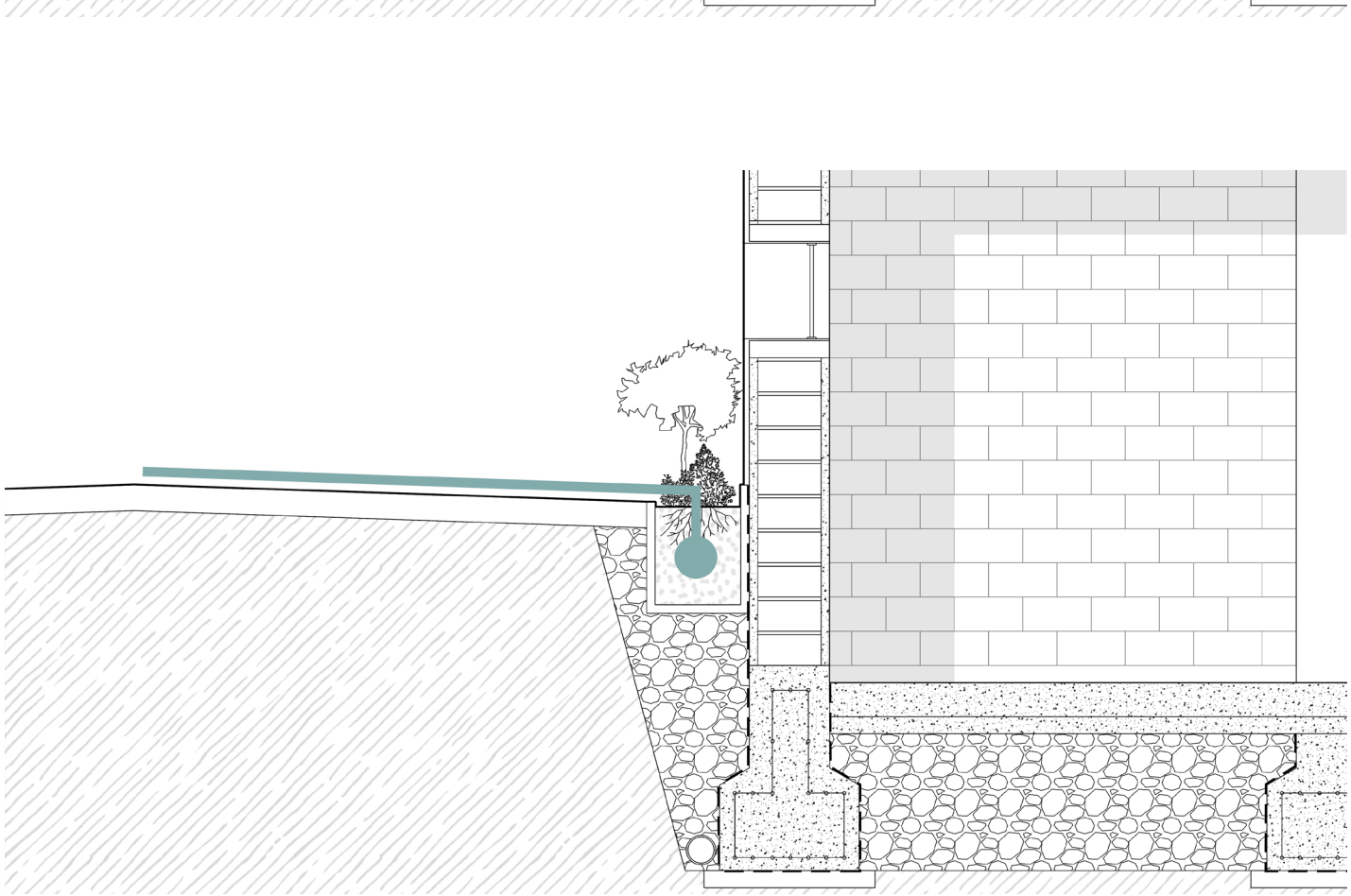

plaster finishing
SCEB bearing wall
Concrete ring beam
Concrete finishing
Concrete hollow blocks
Concrete Gutter
Stone tiles flooring





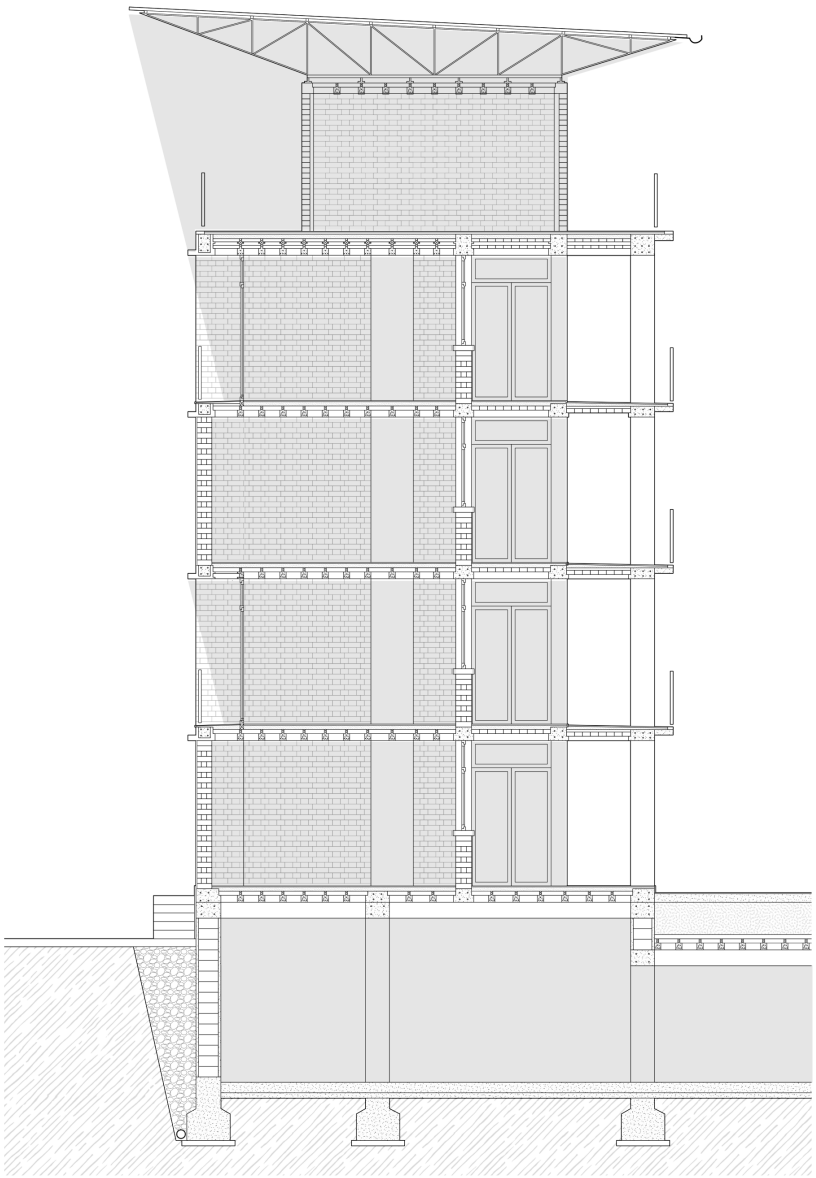


Greenery & shading

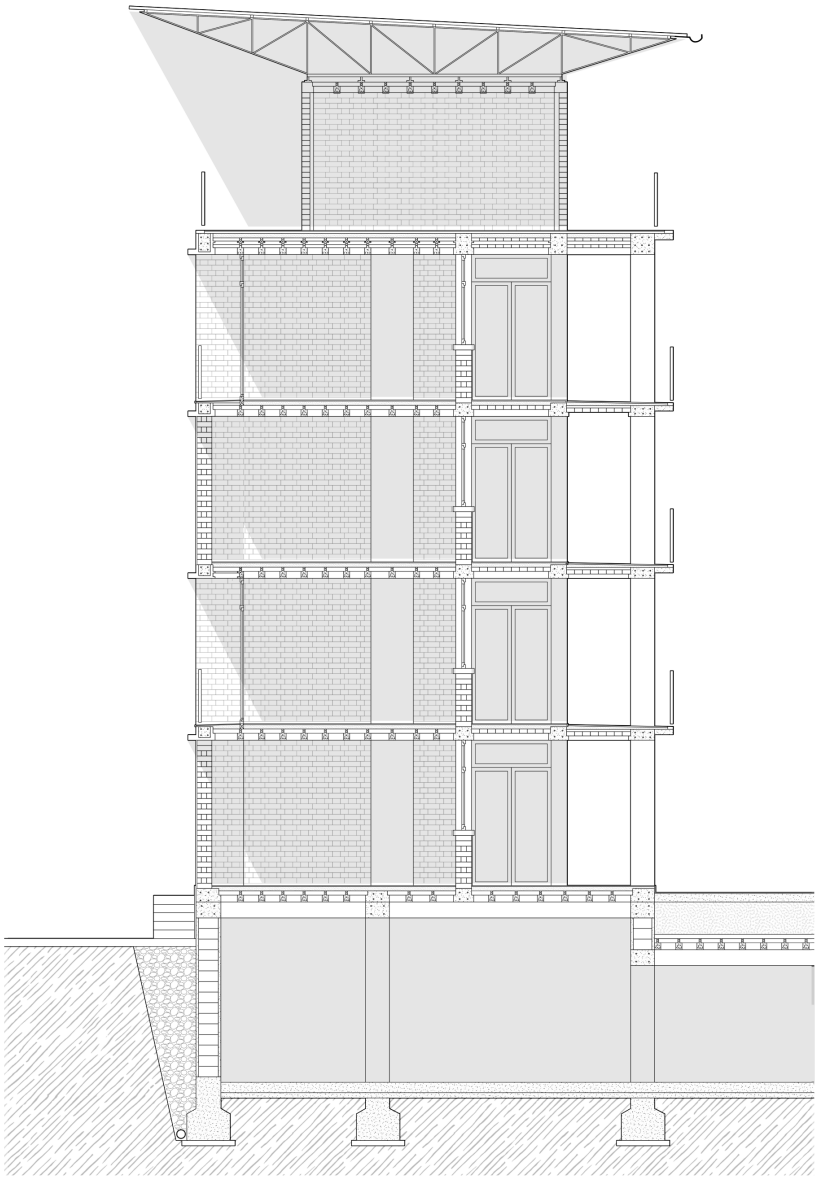


Water management

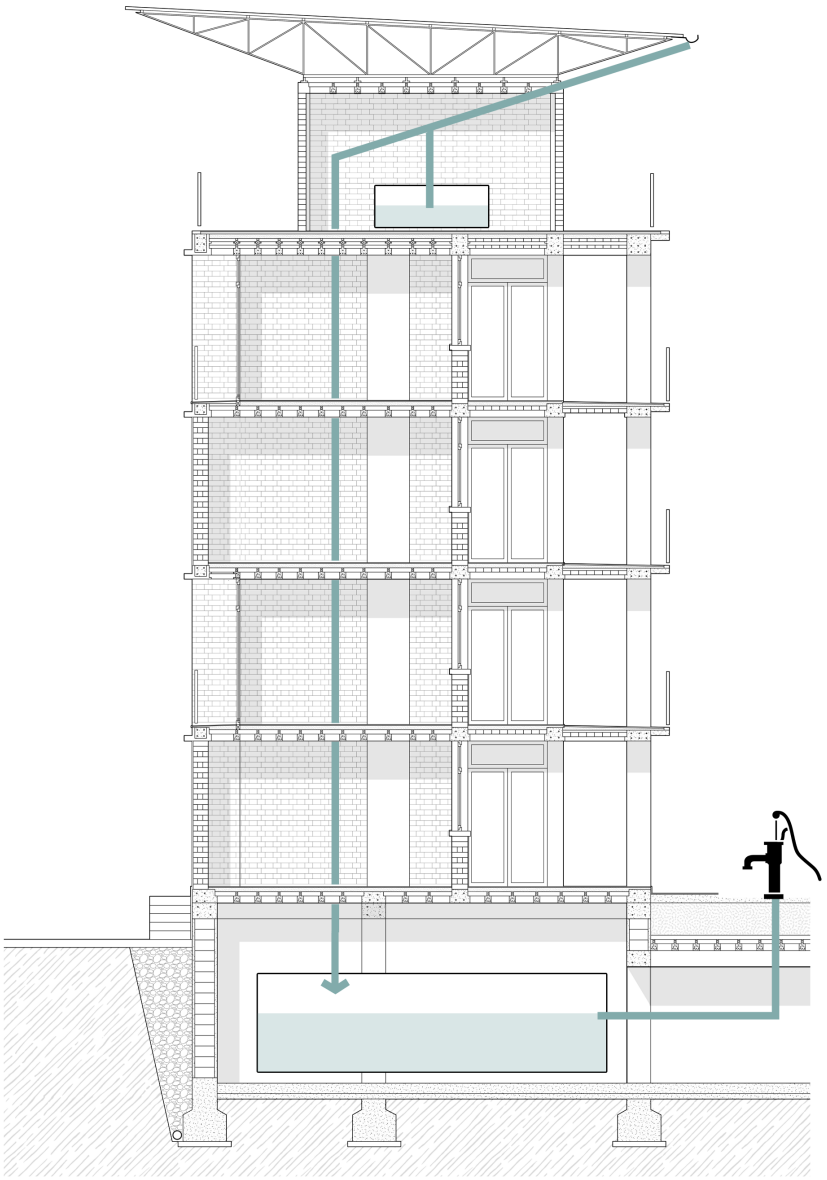




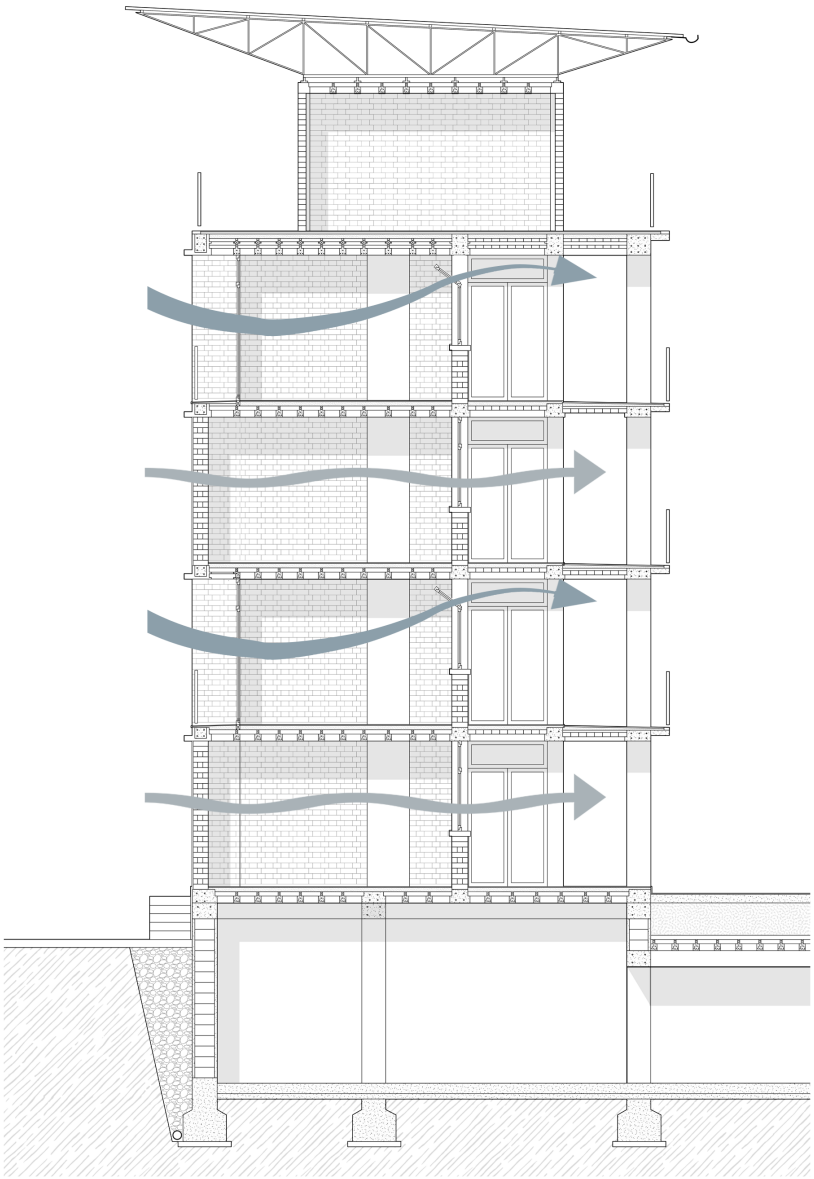
Shading summer



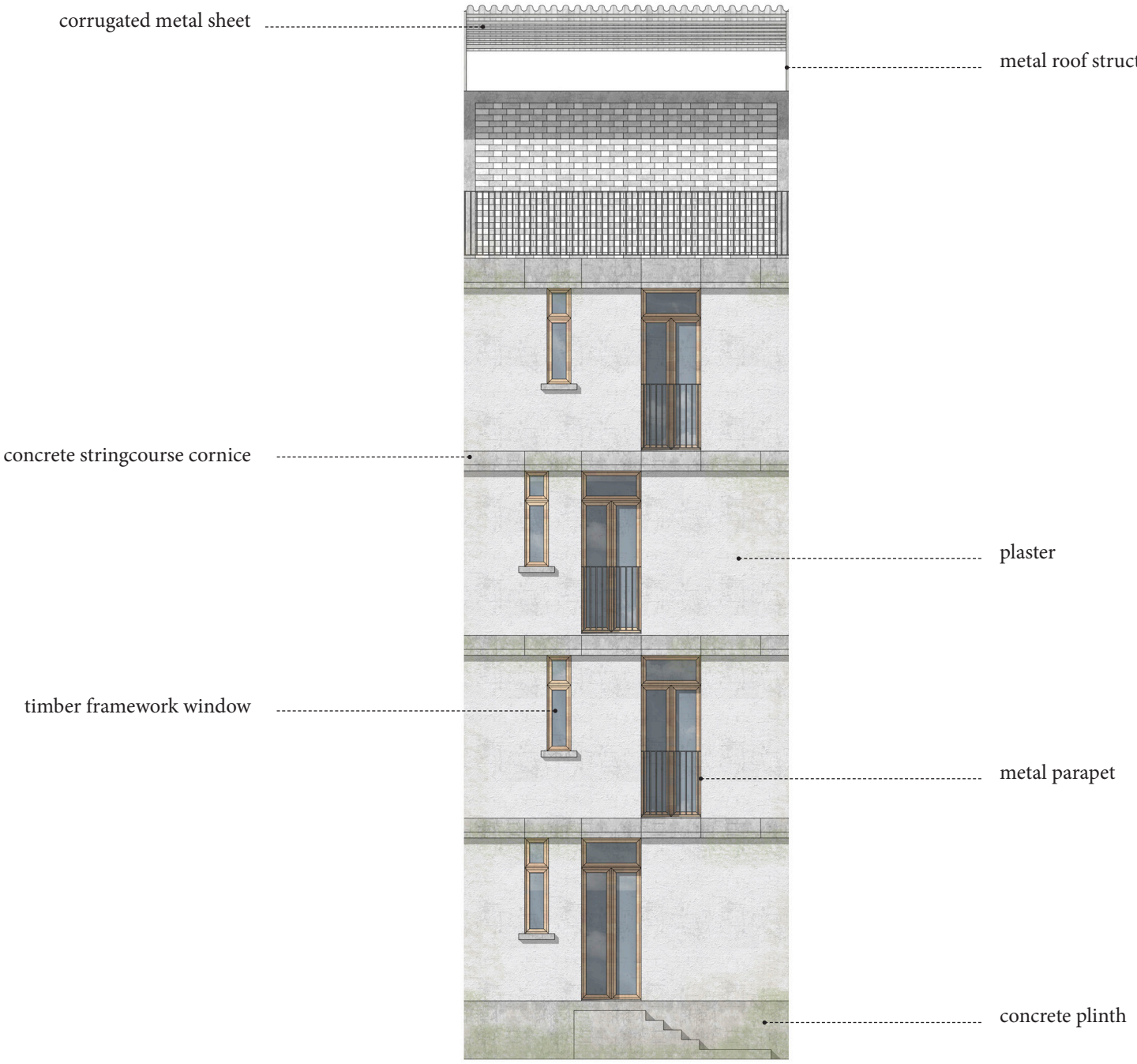
Shading winter



Water management



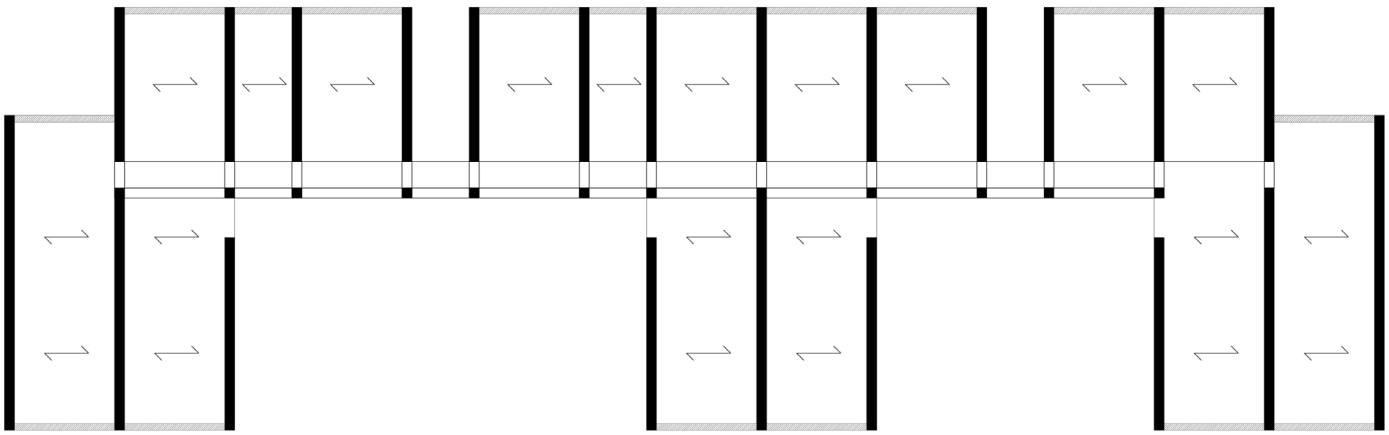
Cross ventilation



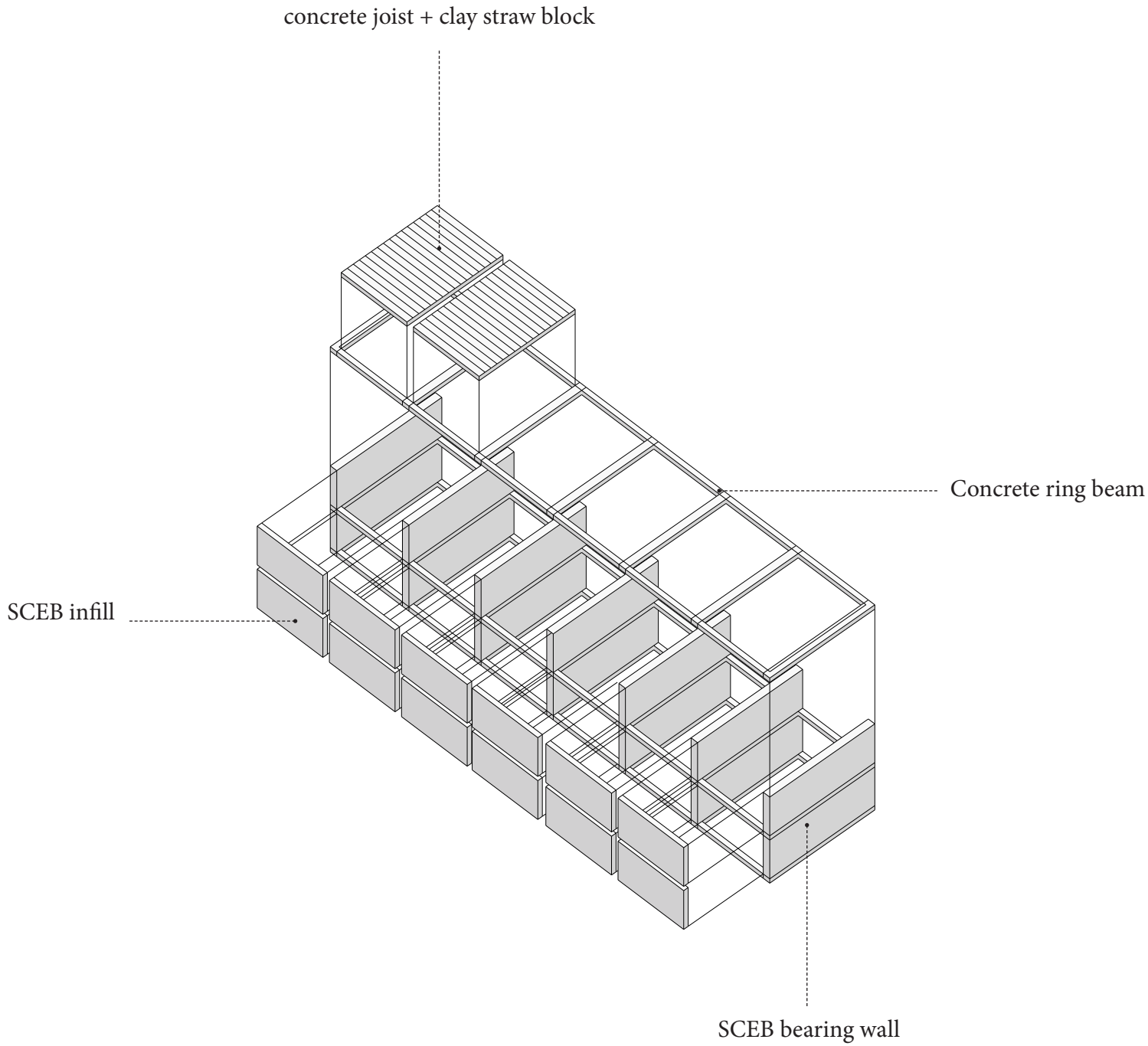
Detail elevation | scale 1:100



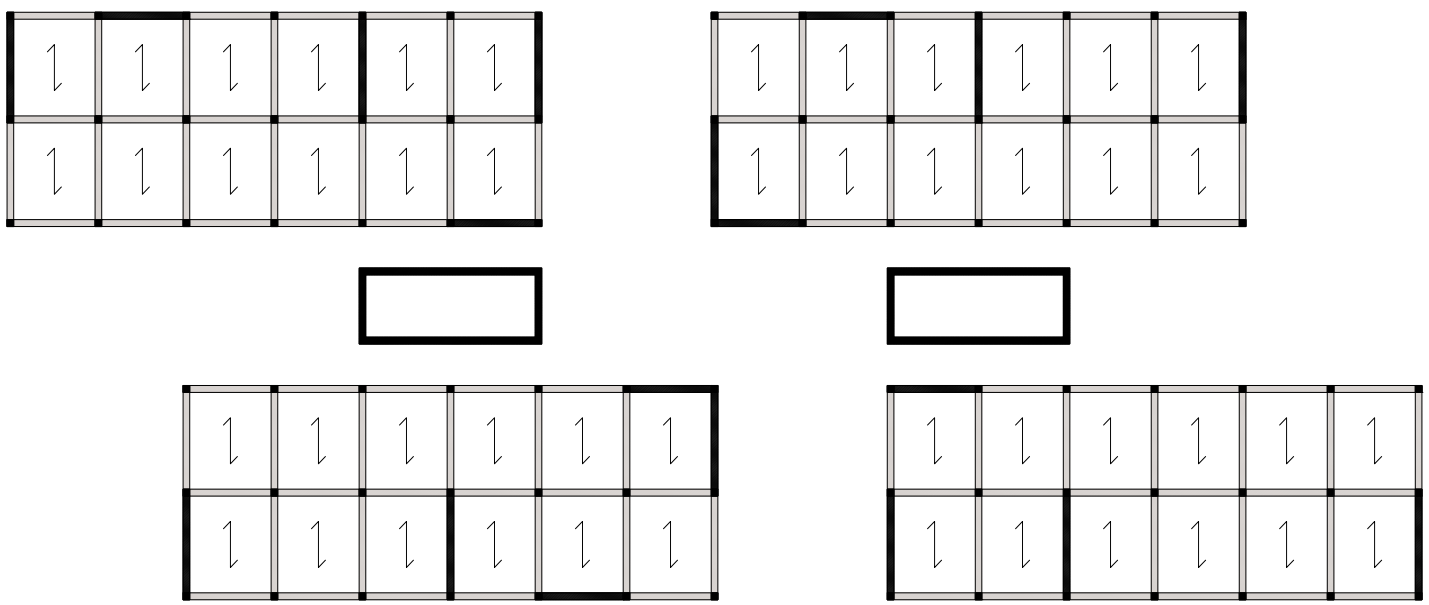
Structural system | courtyard



Structural system | courtyard



Structural system | tower

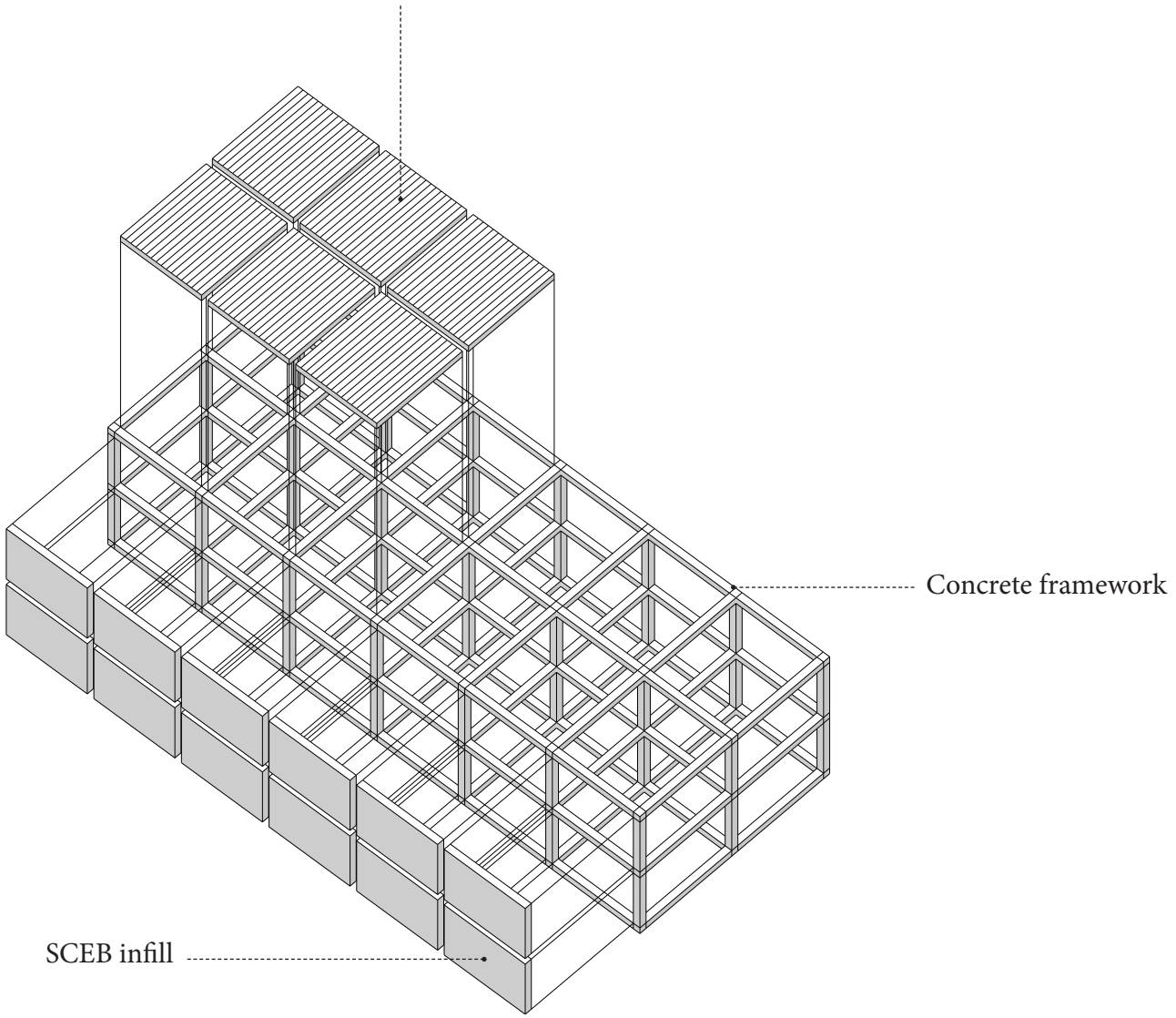


For the towers a different structural system have been used. The materials are always the same, raw earth and concrete, but in this case the vertical load-bearing function will be supported by concrete pillars and not by earth walls as in the case of the courtyard blocks. As a consequence, the clay walls will only have an infill function.

This choice was made to give greater stability to the building, which is taller than the courtyard type, but also to provide greater freedom on the ground floor and first floor, where shops and offices are located.

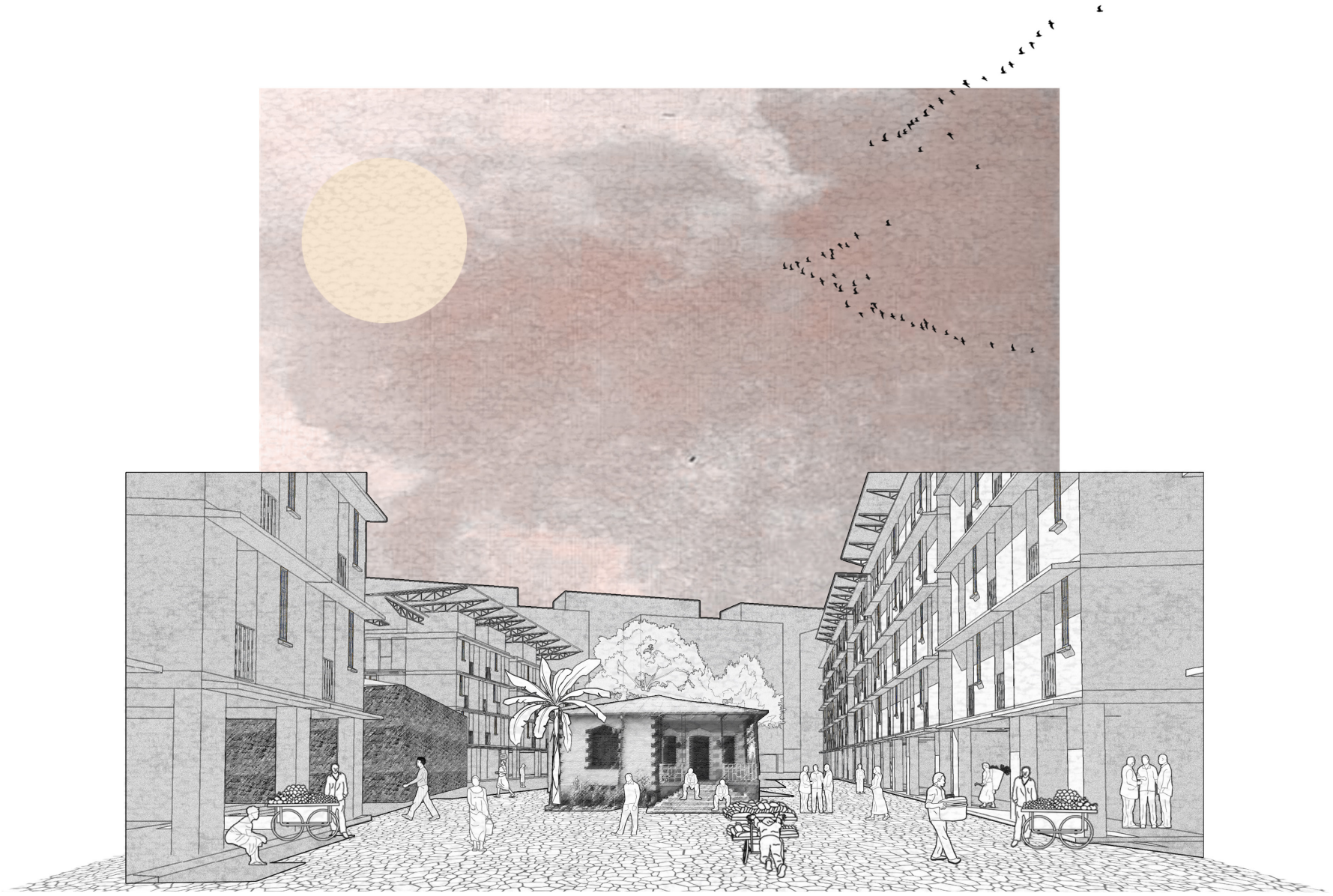
Structural system | tower

concrete joist + clay straw block



XII

VISUALIZATION











XII

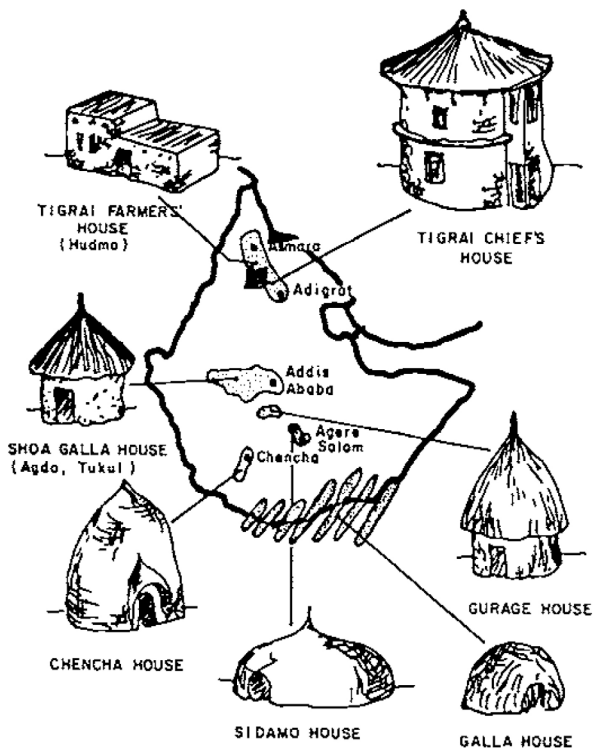
REFLECTION

RESEARCH AND DESIGN

The Global Housing thesis course investigates the issue of affordable housing in growing countries, particularly in Ethiopia and its capital, Addis Ababa. As a developing country, it faced a substantial increase in the urban population, concentrated mainly in few cities. This phenomenon in Addis Ababa is also amplified by the geo-political condition of the city, which, being a city-state, has limited borders that cannot be overcome. The most critical problem is undoubtedly the scarcity of housing for the poorer segment of the population, which, nowadays, live mainly in slums, in dilapidated housing with ill sanitary conditions.

In recent years, several studies showed the strong relationship existing between research and design. In fact, it is clear that the figure of the architect is increasingly supported by other professional figures, coming from different fields, such as engineering, sociology, politics, economics and many more. Consequently, it is possible to say that architecture is a multi-sectoral discipline, which needs research in various fields to evolve and give better responses to the design challenges.

During the Global Housing course, the research phase was divided into three specific moments: analytical research; on-site survey and, research-by-design. The first phase was addressed through lessons and targeted readings on political, social and, economic conditions in the global south, with particular attention to the situation in Ethiopia and Addis Ababa. This first analysis was essential to understand the history, the uses, the culture and the various complexities of the Ethiopian context. In particular, I addressed the issue of dwelling in Ethiopia, analysing the numerous solutions adopted both in rural areas (with particular attention to the different types of settlements and construction techniques of the huts) and, in the capital during its short but intense history . Although this first analysis was not completely exhaustive and in-depth, it was crucial to deal well aware of the local si-



tuation during the on-site research.

The second phase of analysis took place during the study-trip in Ethiopia. This phase can be defined as ethnographic research. On-site analysis was fundamental to fully understand the situation of my project site, Taliyan Sefer. In the same way, visiting other sites, including the condominium blocks in Mickeyleland, as well as various rural settlements outside the capital, was very helpful to gain a wider and more complete view of the context. Subsequently, the documentation collected was rearranged and reorganised which was fundamental to create the work base on which to develop the affordable housing project in Talyian sefer.

The third and final phase of analysis can be considered as a "research by design". This analysis process took place in parallel with the design phase and was based on the investigation of specific themes, seeking for typological, morphological and technical solutions. This process included the analysis of previous experiences and, therefore, of projects that present similar solutions to design, either from functional, compositional and technical point of view. In particular, the theme of buildings with galleries was addressed through the analysis of different solutions adopted in different periods and, in different locations.



img 12.1 : Villaggio Matteotti, Giancarlo de Carlo

The study of raw earth buildings was another fundamental aspect for the numerous construction solutions possible and applicable in a country such as Ethiopia. These three different approaches used at different times, have contributed on choosing certain design solutions. As James Snyder states, in one of his earliest essay:“research is systematic inquiry directed toward the creation of knowledge”[1]. In fact, as Stephen Kieran highlights, the relationship between design and research is divergent, but, at the same time, interdependent: “Research brings science to our art. [...] To move the art of architecture forward however, we need to supplement intuition with science”[2].

On one hand the research can be very helpful and resourceful many times during the design process in a lot of different ways. On the other hand, the design process and its final product help in creating new questions worthy to investigate more in-depth, creating new opportunities for improving the researches already existing.

ELABORATION ON RESEARCH METHODS

The literature concerning the different methodologies available to carry out a research, was fundamental to better understand the best approach for the analysis during the study. The literature consulted consists in books about the theory in research methodology in architectural design and books more focused on ethnography which is he techniques for studying the relationship between people and the built environment.

Then, the research method fostered for the analysis on site, combined four different ethnographical approaches to collect a wider range of information about the environment, but also, about people habits and behaviour.

Participant's observation, interviews, drawings, photos and local engagement are different ethnographic tools that combined, provide a holistic view of the site. Therefore, the research method chosen for this research exploits the most functional aspects related to the site of the tools mentioned above in a combination that makes them work all together. The choice of combining all the tools together is due to the fact that addressing the problem through a single approach would mean to obtain a single type of information.

On the contrary, the use of multiple tools provides the possibility of comparing the different outputs verifying their quality.
The different approaches mentioned above made more clear and deepen many topics addressed during the theoretical lectures, related to everyday life in the slums of Addis Ababa. It was, therefore, possible to define more clearly the activities and habits of the community, defined as



img 12.2 : Daily life in the slums

intangible heritage, the characteristics of the built space and the physical traces of the past, defined as tangible heritage, but also the people's ambitions, dreams and, expectations. Therefore I think that the dichotomy between theory and practice, or, from an architectural perspective, the relation between research and design, is essential for this profession.

The results obtained from the research, after an initial phase of elaboration and simplification, will form what Lakatos calls "hard-core of inviolables statement"[3], a set of rules and principles which represent the foundation for a conscious architectural design. However this should not work as an impediment, but it should allow the architect to experiment, following random intuitions and avant-garde approaches. The balance between rationalism and experimentalism is the key for a successful project.

CONSERVATION AND INNOVATION

Starting from the following question I would like to underline the close connection between my thesis topic, the study topic and more in general the master of science in architecture program.

"How can we reconcile the spirit of the place, the genius loci, with the spirit of the time, the genius saeculi, preserving the values of history and integrating them in the current time, according to a sustainable approach that takes into account the challenges of a continuously expanding city?"[4].

Through the thesis topic, I try to reflect on different themes such as the provision of affordable housing for the poorest sections of the population in Addis Ababa; a topic certainly inherent to the global housing course, as it is applicable not only specifically to the Ethiopian context, but also to all those developing countries in the global south with similar problems.

Another key point of the thesis is the desire to preserve the culture of people living in these areas, and, therefore, the development of a sustainable model from a sociological point of view, and not the imposition of new systems coming from a completely different context. This is, for instance, the case of the condominium blocks developed by the government, which, although they are in part solving the problem of low-cost housing; on the other hand they are disrupting the ecosystem of interpersonal relationships and, the socio-economic networks, which is the basis of daily life in the Addis Ababa's slums.

In addition to the topics mentioned above, my graduation project aims to answer to other questions referring to a wider context. In fact, the particular position of the project site, in a central area of the city, and the peculiar condition of its fabric , which presents a multitude of hi-

storical buildings dating back to the birth of Addis Ababa, gave a particular interest to the theme of historical centre and the role that it has within the city and within a project that aims to renew its image. How can we revitalise a historic centre making it an attractive and a safe place? How can we preserve the identity and historical memory of a city? These are recurring questions of the contemporary city, and many examples can also be found in Europe. It is enough to think about the reconstructions of German cities after the bombings of the Second World War, for example Hamburg and Dresden, or the renewal of the historical centers of some Italian cities, once degraded and dilapidated areas and now landmarks of worldly life and tourism .

In my opinion in a city like Addis Ababa, it becomes essential to find the right balance between "conservation and innovation". Nowadays Taliyan's historical fabric is completely surrounded and submerged by the informal city. Moreover such buildings, do not present a particular quality in terms of composition or materiality. But despite this fact, the inhabitants, even if unconsciously, recognize the relevance of such buildings within the neighborhood cause they preserve the memory and the identity of the place.

For this reason I believe that a residential development that aims to give a new image to the city center of Addis Ababa should take into considerations such buildings, integrating them into the new fabric and making them the solid backbone on which based the revitalization of the area from a socio-economical point of view. For example Elias Yitbarek suggests that such a development could create a sort of vibrant neighborhood that aims to become a cultural catalyst for people, like tourists but also students, interested in history and traditions.[5]

A REPEATABLE MODEL

As previously mentioned, my thesis project has as main goal the construction of affordable housing for the less well-off segments of the population of Addis Ababa, as well as the development and renewal of the historic centre of the city. To achieve this result it is necessary to create a new model that takes into close consideration the existing relationship between the built environment and the inhabitants.

A model that can be applied not only in the project site but also in different areas of the city with similar conditions and, looking at a wider scenario, also in similar contexts in other countries. Repeatability is in fact, one of the fundamental points of architectural design, and in particular of mass residential design. Repeatability does not mean applying an equal solution for all contexts but, on the contrary, creating an extremely flexible model, able to adapt better to any type of context.

I believe that flexibility needs to be addressed at all the different scales of the project, to the urban layout, adapting and integrating for instance the new fabric with the existing one, to the cluster creating different solutions depending on the specific condition of the surrounding and last but not least to the dwelling units which need to be able to respond to the needs of the greater number of people, both in terms of size and spatial configuration.

In particular, referring to flexibility in dwelling units, this strategy, as Yitbarek emphasized, could also be a solution for the so-called "affordability ladder", and therefore provides several opportunities even within the same social class, unlike what happens in condomnium blocks where solutions are few and standard.[6]

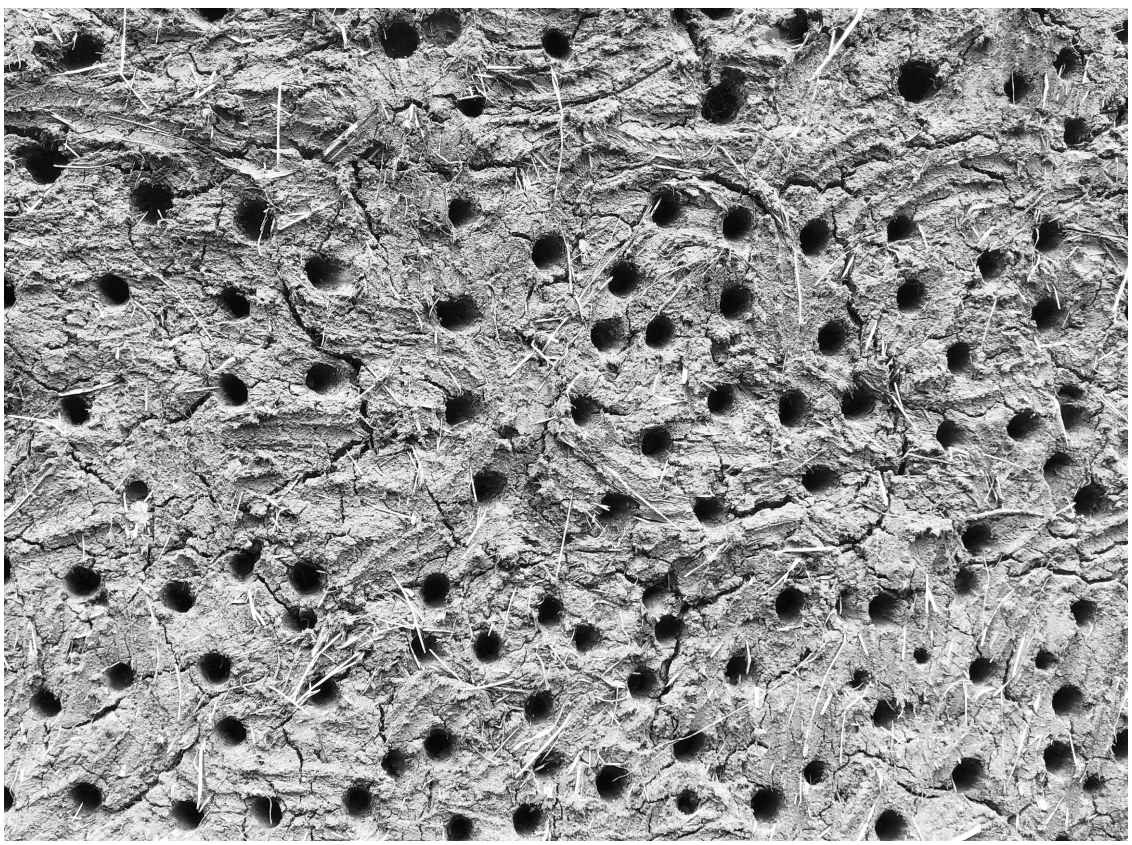
ETHICAL ISSUES AND DILEMMAS

During research process I wondered several times about the social role and the positive and, negative influence an architect may have on people, particularly in this case, on the future residents of Taliyan Sefer.

Often the success of an architectural project is not measured by the quality of the space or by the sensations and emotions it arouses, but rather, in more practical terms, by the appreciation of people and the use that residents make of it.

There are various projects, also made by well-known architects, which despite the brilliant compositional solutions adopted, are completely rejected by the population and, this also causes their inactivity and consequently failure of the entire project, both from social and economical point of view. A clear example of this is the neighborhood “le Albere” by Renzo Piano in Trento, which despite a futuristic design and a strong propensity for sustainability, today is still almost completely abandoned due to a bad connection with the city and the lack of essential services necessary for the everyday life.

In the case of my graduation project, there are several questions that I asked myself: first of all, the value of informality and therefore the set of social behaviours that characterise life within the slums. This phenomenon is foreseeable, but not controllable or quantifiable. It is, therefore, the architect’s task to understand within what limits informality can be developed and to what degree of freedom can be given to residents in order to make the project fit to their lifestyle but at the same time functional and orderly.



img 12.3 : Earth facade in Konso

Another recurring theme is related to building materials. Ethiopia, in this historical phase, is experiencing a moment of great economic and industrial development and this also affects the construction sector. Going around the streets of Addis it is possible to see how tall concrete buildings are springing up everywhere, a material not particularly used until few years ago in Ethiopia, where earth buildings were still the majority.

This phenomenon is also certainly due to the ambitions of a country, which through the help of foreign funds, in particular Chinese, aspires to reach an international image. Besides it is interesting to observe how, whereas in Europe, more and more often it is boosted the use of sustainable and eco-friendly material rather than concrete such as wood or others, in Ethiopia, concrete is considered as a status symbol, hence the proof of the achievement of a higher social status level.

The use of raw earth as the main construction material for the thesis project, despite a high environmental sustainability and a much lower production cost than that concrete, could lead to various problems. As it is closely connected with the Ethiopian rural tradition it could be perceived as a poor material and, as a consequence considerate not appropriate to the ambitions of the population, inevitably leading to a refusal of the project.



img 12.4 : Earth construction in Konso

For this reason I adopted an in between construction system with elements both in raw earth and concrete, which could be an interesting way to introduce this “vernacular and Innovative” material to the population.

I want to conclude saying that I strongly believe in the educational role of the architect, who must take responsibility for the choices taken by making concepts, such as in this case sustainability, accessible and appreciable by the population, even when the refund is not perceptible in the short term. The borderline between education and imposition of course is one of the main ethical issues in architects profession, and referring to the concept of flexibility explain above, a certain degree of freedom is always necessary to do not influence or force people behavior in a negative way. An optimal and balanced solution depends on the architect’s sensitivity to understand the context in every nuance, enhancing its qualities and intervening on its shortcomings, without imposing personal solutions in contrast with the nature of the place.

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