The new arrival city of Addis Ababa

Creating resilient urban clusters for city's dwellers and newcomers

Simona Subačiūtė

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“The great migration of humans is manifesting itself in the creation of a special kind of urban place.
*These transitional spaces - **arrival cities** - are the places where the next great economic and cultural boom will be born, or where the next great explosion of violence will occur. The difference depends on our ability to notice, and our willingness to engage.”*

-Doug Saunders

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01preface

The world we are living in is changing drastically. As an architect I believe we are living in the times of great and final migration of humanity, the shift of human population out of rural - agricultural life into cities. This movement, impressive by its size and scope, affects everyone in tangible ways and will put the end of the continous population growth. We arrived to the turning point of our history.

After years of numerous developments in the fields of technology and science, the obtained possibilities for better future nowadays is evident. However, architect and urban planners, together with politicians and social institutions should achieve new solutions for a sustainable development of the emerging territories in the Global South.
In 1950, more than ***70%*** of people worldwide lived in rural settlements. Nowadays, more than ***55%*** of the World's population lives in the urbanized areas. United Nations projects, that by the 2050, more than ***68%*** of people will live in urbanized areas. This change is affecting the conditions people live in.

Cities are hubs for ideas, commerce, culture, science, productivity, social development and much more. At their best, cities have enabled people to advance socially, economically, even spatially. However, with the rising numbers of rural communities moving to the cities for better opportunities, it is important that efficient urban planning and management practices would be in place to deal with the challenges brought by this rapid urbanization.

Many challenges exist to maintaining cities in a way that continues to create jobs and prosperity without staining land and resources. Common urban challenges include congestion, lack of funds to provide basic services, a shortage of adequate housing, declining infrastructure and rising air pollution within cities. Rapid urbanization challenges can be overcome in ways that allow them to continue to thrive and grow, while improving resource use and reducing pollution and poverty. (United Nations)

As the beggining of my research and project, I evaluated the ***17 Sustainable Development Goals*** drafted by the General Assembly of the ***United Nations***. These goals are the blueprints to achieve a better and more sustainable future for all developing countries, so that humanity could thrive within its strengths. These goals, focus on the global challenges different communities face, including the poverty, inequality, climate change, environmental degradation, peace and justice.

01 preface
Global awareness

The 17 Sustainable Development Goals are:

Goal 1: End poverty in all its forms everywhere by 2030

Goal 2: End hunger, achieve food security and improved nutrition, promote sustainable agriculture

Goal 3: Ensure good health and well-being for all at all ages everywhere to built prosperous societies.

Goal 4: Ensure inclusive and quality education for all and promote lifelong learning.

Goal 5: Achieve gender equality and empower all women and girls.

Goal 6: Ensure access to safe water sources and sanitation for all.

Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all.

Goal 8: Promote inclusive and sustainable economic growth, employment and decent work for all.

Goal 9: Build resilient infrastructure, promote sustainable industrialization and foster innovation

Goal 10: Reduce inequalities within and among countries.

Goal 11: Make cities inclusive, safe, resilient and sustainable.

Goal 12: Ensure sustainable consumption and production patterns

Goal 13: Take urgent actions to combat climate chaange and its impacts

Goal 14: Conserve and sustainably use the world's oceans, seas and marine resources.

Goal 15: Sustainably manage forests, combat desertification, halt and reserve land degradation, halt biodiversity loss

Goal 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.

Goal 17: Revitalize the global partnership for sustainable development
Focusing on the development of cities, taking an active interest in th, reduces inequality.

Goal 11: Make cities inclusive, safe, resilient and sustainable.

Focusing on the development of cities, taking an active interest in the governance and management of the city, reduces inequality. Nowadays, ***over 1 billion*** people live in slums and this number keeps on rising. Cities occupy just 3% of the Earth's land, but if planned poorly, consumes a lot of energy and produces 70% of the carbon emissions. Many underdeveloped cities are also vulnerable to the natural disasters and climate change, due to the overcrowdness of people and poor building constructions.

Goal 11 targets:

11.1 By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums

11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons

11.3 By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries

11.4 Strengthen efforts to protect and safeguard the world's cultural and natural heritage

11.5 By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations

11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management

11.7 By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities

11.A Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning

11.B By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels

11.C Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local materials.

Ethiopia is one of the most rapidly growing countries not only in the continent of Africa but also in the whole world. The country is populated by almost ***110 million*** inhabitants and only 20% of the whole population is living in the cities, leaving another ***80% to live in the rural areas.*** It is one of the least urbanized countries in the whole world and is experiencing challenges for an overall development.

Due to its historical background, Ethiopia has never experience movement in such size and scope. As many rural communities move away from the agricultural lands for the better life opportunities, the cities face huge social and environmental challanges. The annual growth rate of urbanization is ***4.63%***. The housing shortage in the cities are increasing drastically, leading people to occupy lands informally.

The combination of high population and high urban growth rate together with the urban poverty, weaken the big cities, that are unable to control such movement and provide all citizen with dignified and needful housing opportunities.

Because of the challenges Ethiopia faces in the growth of population and by providing accommodation for its habitants, it becomes a valuable case-study. The thorough analysis of the inhabitation patterns and architectural possibilities can provide the needful tools for change not only for the Ethiopia itself, but also for all Global South countries.

The Chair of Architecture & Dwelling in Delft University implies the best equilibrium between architectural theory and design to prevent vague architectural decisions. The space of the housing is introduced as the most important aspect of human life: this is where the day of human starts and ends, this is the place where most life-changing decisions happen.

As the ***Global Housing studio*** is approaching obstacles of unknown contexts, often in the Global South countries, the deeper social analysis must be implicated. The vast migration process in Ethiopia implies a lot of problems in the growing city of Addis Ababa and its rural newcomers, as well as urban dwellers.

The method of research that was used is ***ethnographic praxeology***. Ethnographic praxeology is the study of the nature of human actions, which takes into consideration the built environment as an everyday practice. The approach was used to gather information by interviewing inhabitants of the area, introducing the participatory game of the dream house design and analysing the visual recordings later. The series of drawings were conducted during the visit, which helped to understand the spatial qualities and living patterns better.

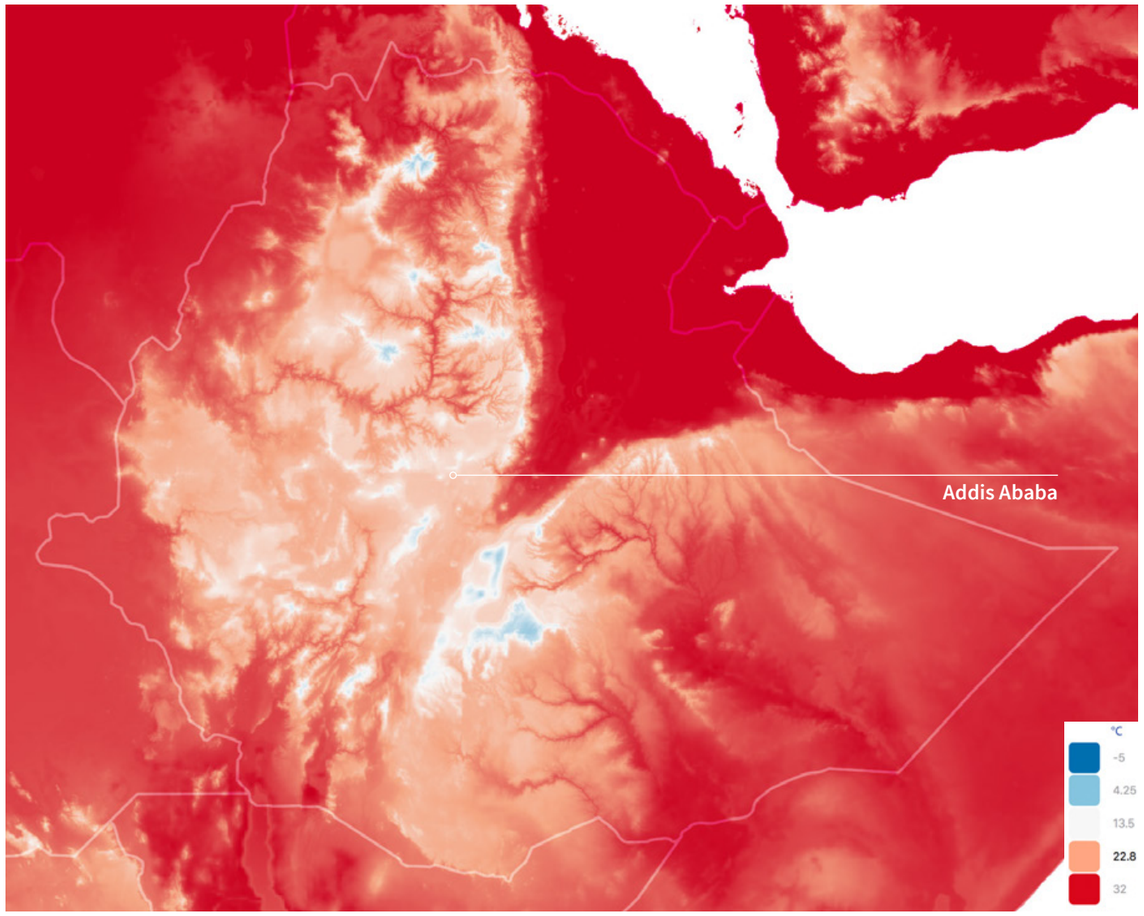
02research

On the Horn of Africa, bounded by Eritrea to the North, Djibouti to the North-east, 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. Lake Tana—Ethiopia's largest inland lake and the main reservoir for the Blue Nile River—is located at an elevation of about 1,800 metres. (Encyclopædia Britannica, 2019)

There are multiple different climatic regions in Ethiopia, types ranging from equatorial desert to a humid subtropical climate. Addis Ababa is situated at an elevation of around 2400 meters and has the climatic type of a subtropical highland climate. Addis Ababa has two seasons: a wet summer and dry winter.

As a developing country, Ethiopia still enjoys a vast amount of natural resources. However, as the population continues to grow, along with growing demand for farm land, commercial agriculture (coffee plantations), fire wood and construction materials, deforestation is an undeniable threat to the environment. Furthermore, the decline in forest area will also increase the chance in drought, as the ground is less capable in holding water to the subsurface.

02 research
Geography



Climate conditions of Ethiopia

In the history of Ethiopia, the capitals were highly mobile. According to “The wandering capitals of Ethiopia” from Ronald J. Horvath the major capitals could be defined as follows:

Axum and neighborhood: Before Christ – 12th cent. A.D.

Lasts capitals (Lalibela): 12th cent. -1268

Teguelat: 1268 – ca. 1412

Roving capitals: 1412 – 1636

Gondar: 1636 – ca. 1755

Regional capitals: 1755 – 1855

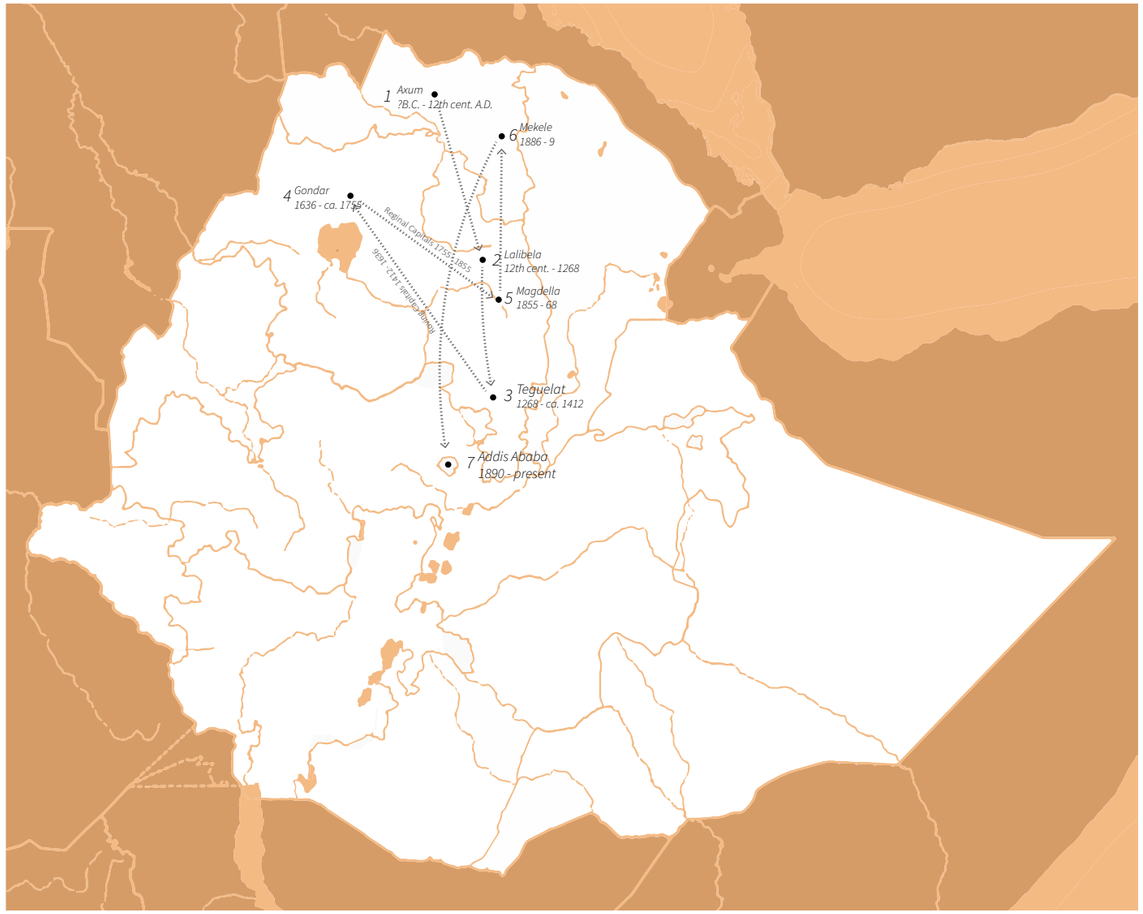
Magdella: 1855 – 1868

Mekele: 1886-1889

Addis Ababa: 1890 – present

The moving of capitals is closely related to two factors: military considerations and exhaustion of resources (represented by food and wood). After the current hinterlands had been impoverished, the capital would move to the next location with supplies.

02 research
Wandering capitals



The capital change in Ethiopia during the centuries

Addis Ababa, or "***New Flower***" in Amharic, is the capital of Ethiopia. It was founded in 1886 by the Ethiopian Emperor Menelik II and his wife Empress Taitu Betul. After dwelling in a series of semi-permament capitals, Menelik II in 1881 moved to the residence on the top of Entoto mountains, located in the central part of the Ethiopia and up north the current location of Addis Ababa.

Strategically, the mountain was situated in a highland, giving the better control of the whole empire. It was rather a campsite for a temporary military forces, than lasting foundation for future capital city. However, in 1886, while the Emperor Menelik II was off to his ruling lands, his wife Empress Taitu Bitul, due to the unpleasantly cool weather, moved the campsite to the new site by the Fel Weha hot springs in the Finfinne region, currently Addis Ababa.

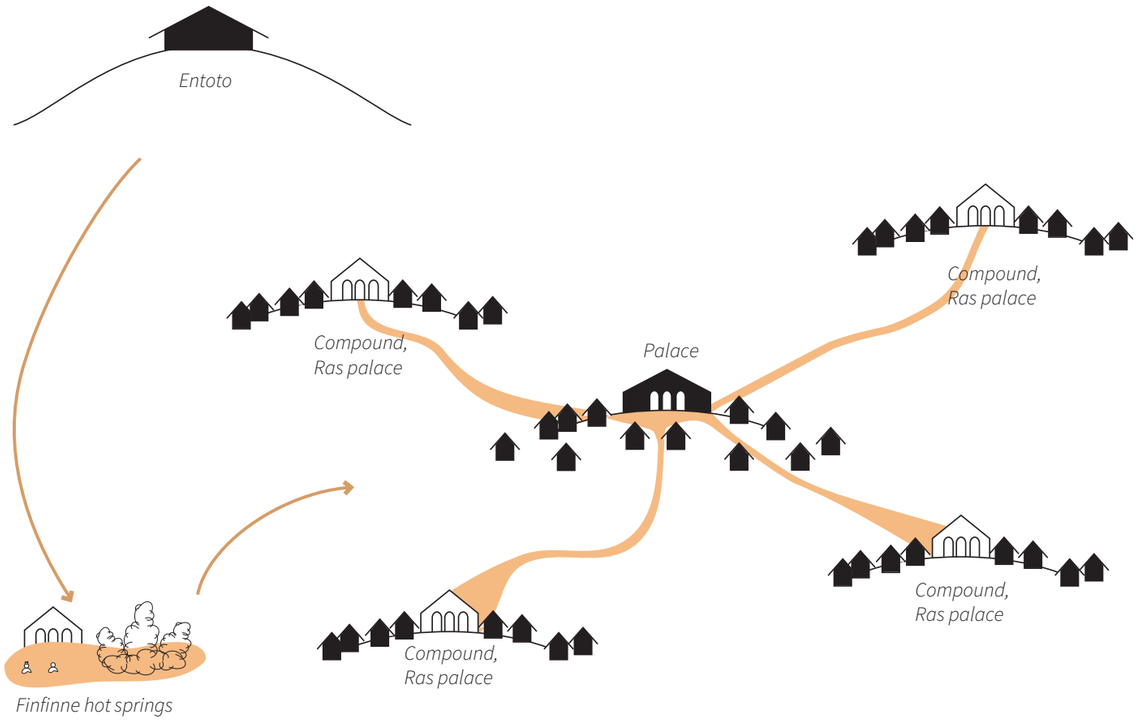
After Menelik II returned, he named the new location Addis Ababa as a permament capital city of the Empire. The pernament residence of the Emperor was created, as well as the seat of his court and the headquarters of his army. To have full control over, Emperor ordered for the noble families to move the borders of Addis Ababa.

Entoto became the capital in the period between the coronation and the slow descent of the centre of the city to the thermal springs of Filwoha. It was a period in which the life of the king was still characterized by semi-nomadic features due to the war. However, his residence in Entoto represented a stable centre were he could "return to rest after his various campaigns." (Pankhurst, 1961, p.105)

The settlement was essentially a military town, laid with the same pattern of the army camp: clusters of tukuls for warlords and men of state surrounding the king's residence. Churches and ancient structures were the immovable scenery of Menelik's peripatetic imperial seat.

"The nineteenth century capitals in form, structure and organization reflected the royal camp tradition of the fifteenth and sixteenth centuries. Differences lie that in the nineteenth century the fabrics of the court tradition were worked out in terms of more enduring structures. Thus, palaces replaced tents, access entrances were transformed into gates, and curtains which according to Alvarez 'surrounded the King's tents' were replaced by walls." (Wolde-Michael, 1966 p.155,156)

02 research
Formation of Addis Ababa



The structural scheme of the first settlements in Addis Ababa

On the one hand, behind the foundation of Addis Ababa, there is a conscious political move aimed at "isolate nobles from their provincial bases of power" (Angélil & Hebel, 2016, p.51) and a system of land tenure based on a sort of feudal allegiance (Pankhurst, 1961, p.105). On the other hand, there is a process of mass migration due to a great famine that devastated many rural areas that brought traditional ways of living to the city.

In other words, the structure of the city was becoming characterized by a central settlement where the king had his permanent residence, ***the Gebbi***, surrounded by his retinue in circle of ever-decreasing importance; clusters of delimited settlements scattered in the landscape, ***the sefers***, housing warlords and their soldiers; servants and lower classes dwellings in dispersed formations on the highlands.

The sefers, located in the different part of the city were usually carried out by noblemen who were nominated by the King. Because of their position, the loyal people would live in Noble residences: luxurious houses which were usually simply built using wooden construction with an open veranda. In general, these buildings would provide spaces of interaction and therefore, locals would gather around of these buildings.

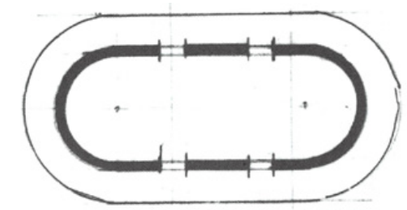
Indeed, between each sefer, characterized by the same clustering structure that occurred in the army camp, "pockets of open space [...] allowed people to continue their traditional rural way of life, raising cattle and farming" (Giorghis, 2007, p.122).

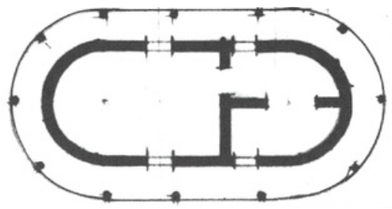
This situation allowed the coexistence of different speeds of becoming within the city itself, triggering "a situation that has not substantially changed to this day, namely that the imperial Gebbi came to be surrounded by veritable slums, as the palace servants could not afford to erect imposing structures and their descendants have continued live in those hovels." (Simone&Abhouani, 2005, p.125).

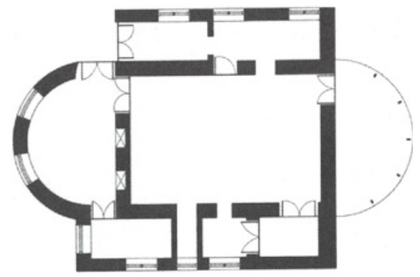
However, it is worth mentioning that while the civilization was still in a nomadic state, long before the heavy influence of the imperialistic power or trade, the organization of the settlements was far from regular. Different spaces had different systematic methods of built environment: in the large one, the King was in a centre and servants would surround him. But on the small scale, the same class space would be organized according to the needs of inhabitants, often close to their families.

02 research
Formation of Addis Ababa

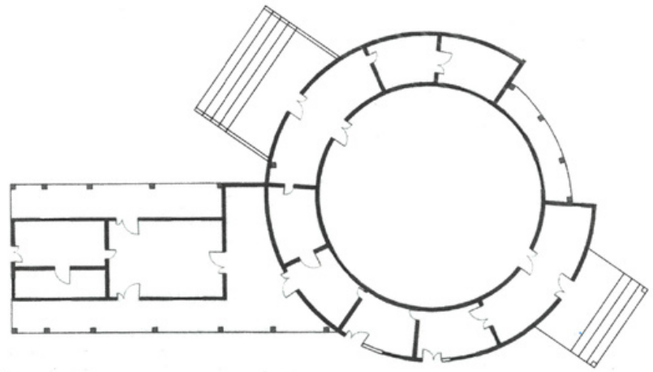
Overview, Ghebbi palace and compound settlements

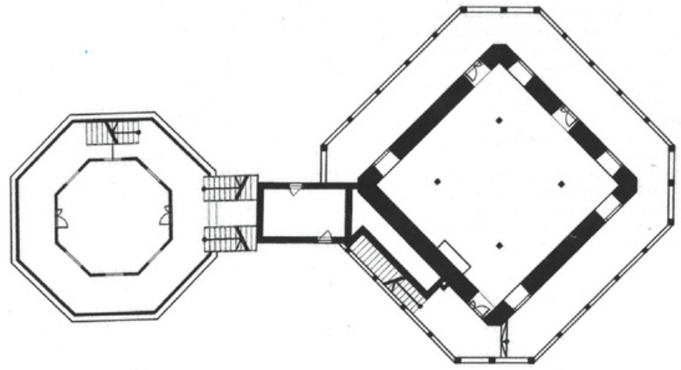


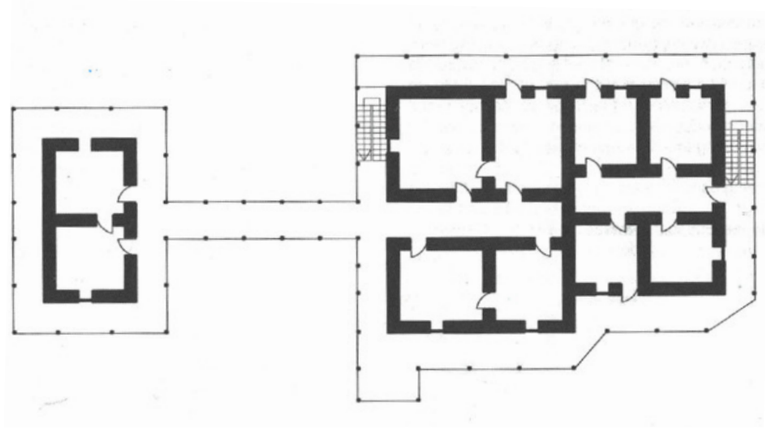




Examples of Noble residences (Entoto settlement)







Examples of Noble residences (Addis Ababa settlement)

Entoto Palace, 2019

02 research
Noble residences

Ghebbi Palace, 2019

Tukuls

The most of the dwellings in the composition of a compound were traditional houses: ***round tukuls.*** These typology of building units are spread all over the country and they mainly differ only by the materials of which the walls are built.

Vernacular housing in Ethiopia can be classified into four categories depending on wall types:

1. Timber structure with earth and fibers filling, mainly adopted in the central area of the country;

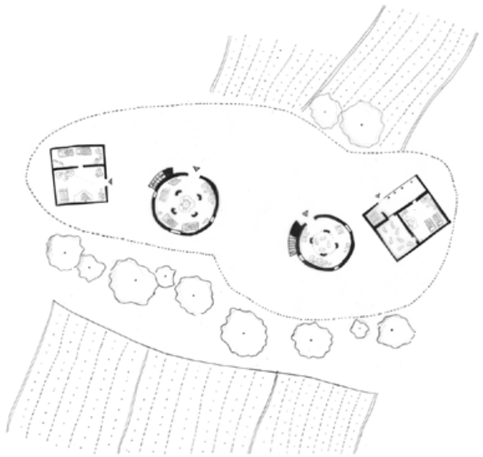
2. Load bearing stone masonry walls with earthen mortar, used in particular in the northern area of Ethiopia;

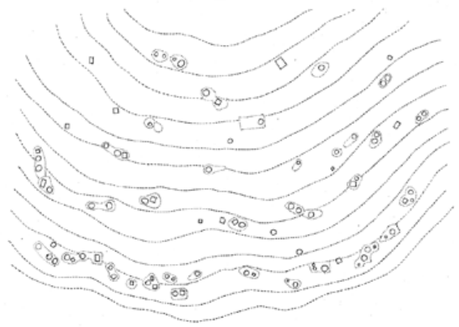
3. Bamboo and thatch walls, in the western and southern areas of the country;

4. Wood and mats huts adopted by nomad settlements in the eastern area of the country.

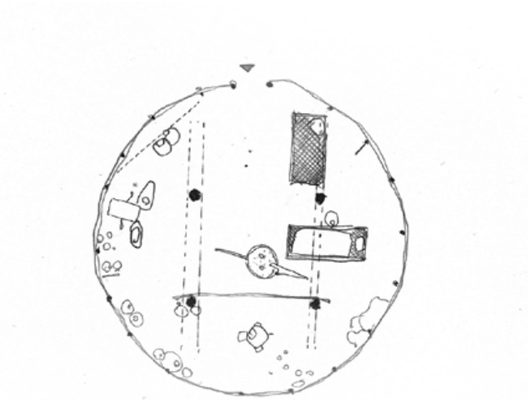
02 research
Overview of the compound

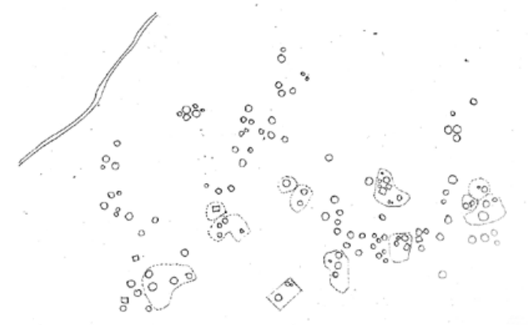
Tukuls - individual houses in the city of Addis Ababa in 1897



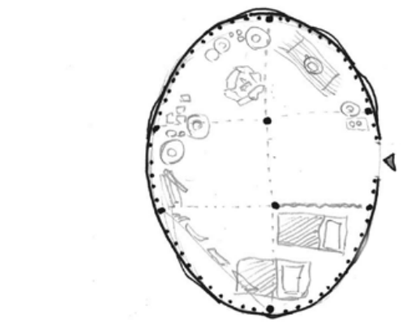


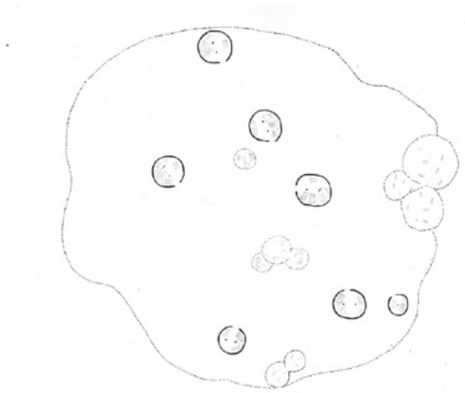
The example of traditional housing units in the northern part of Ethiopia

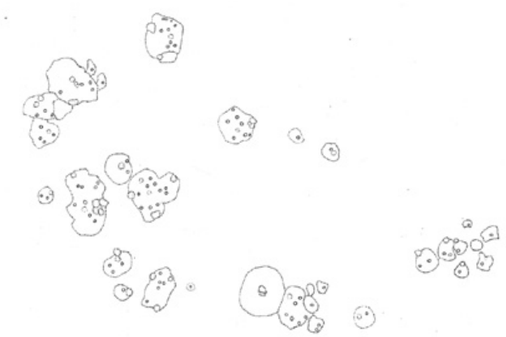




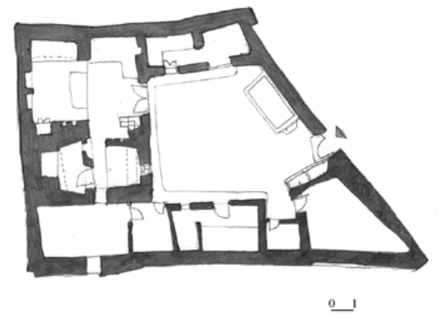
The example of traditional housing units in the western part of Ethiopia







The example of traditional housing units in the eastern part of Ethiopia



The example of traditional housing units in the historic city of Harar in the west part of Ethiopia

Traditional lhousing in the highlands of Lalibela

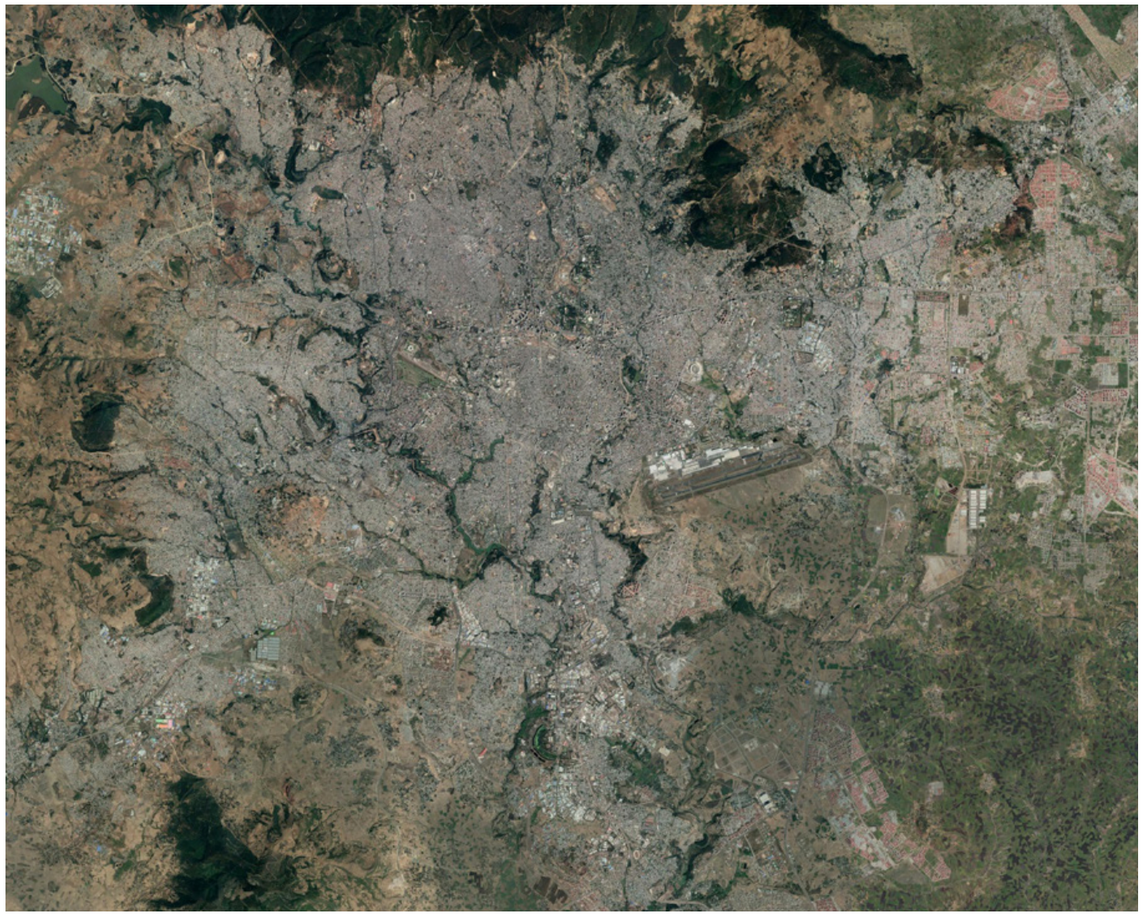
Ethiopia is the only African country that ***was never colonized*** by the Western countries. During the years, political regime changed not only the economic and social structures of the country but also urban development of the capital city of Addis Ababa, leaving traces of transformations of different ruling regimes visible up to this day. Therefore, six most important timelines of changes could be defined:

1. Early diplomacy (1887-1936);
2. The Italian occupation (1936-1941);
3. The Imperial regime (1941-1874);
4. The dergue era (1974-1991);
5. The post-dergue era (1991-1999);
6. Urbanization till present (2000- now);

During different eras, many masterplans of new Addis Ababa were proposed, that intended to change the city. However, because of the lack of stability in ruling parties and often lack of funds, none of them were fully developed, leaving Addis Ababa under-developed for many years.

Today's Addis Ababa is the city shaped by the complexity of its historical background.

02 research
Urban development of the city

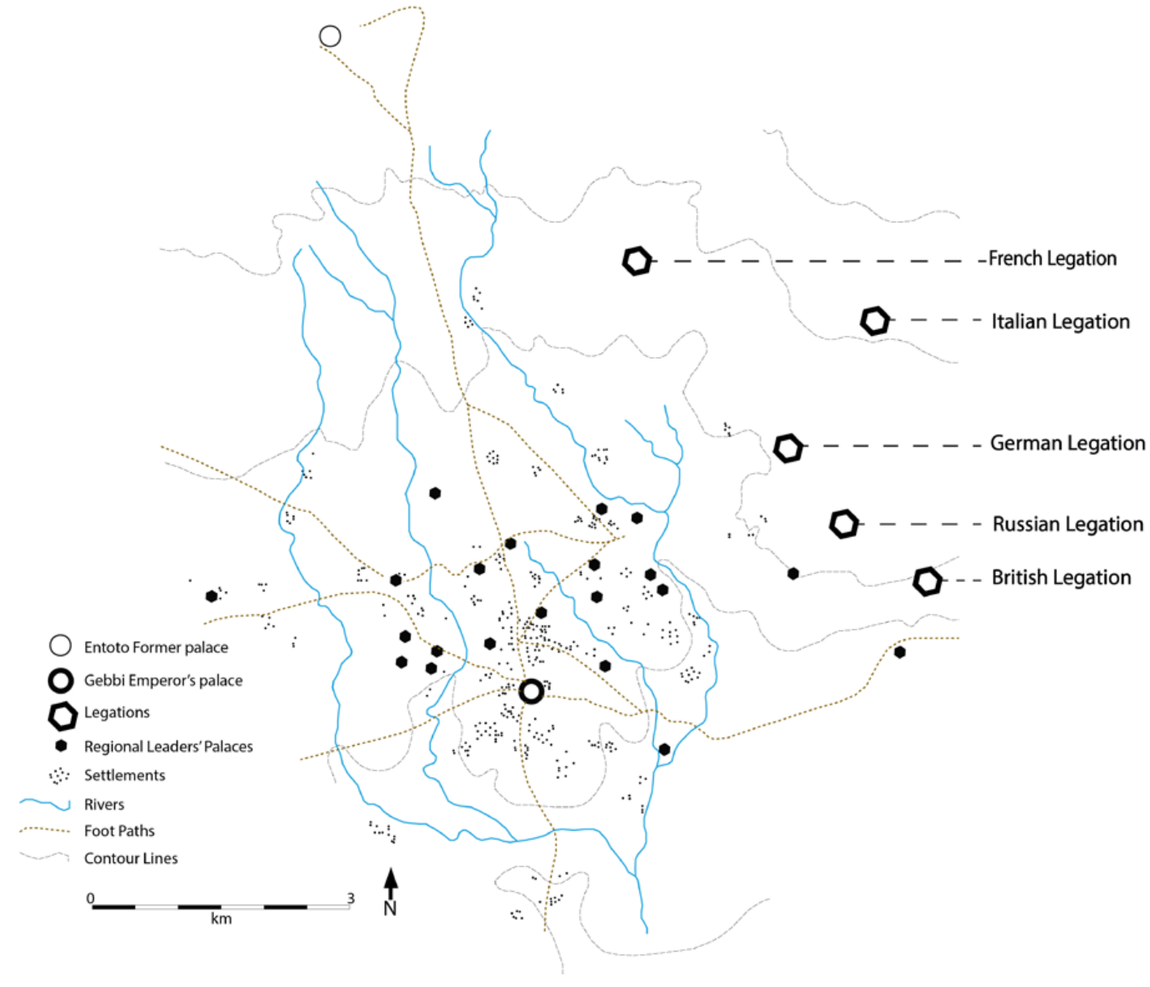


The current situation of Addis Ababa

During the period between 1886 and 1910, Addis Ababa grew from a cluster of rural villages with huts, at the beginning, into a large encampment and a main political, administrative, religious and later commercial hub that attracted many.
In protection of their vested interest in trade and public life, and having suitably settled in Addis Ababa, a civil capital by now, legations and foreign merchants, together with local ones, played a significant role in cementing the permanence of the political seat in Addis Ababa.

At the foundation of Addis Ababa, the city lacked very basic infrastructure. The only roads created, were the ones connecting the different ***sefers*** to the central part of the city and ***Gebbi***. The development of Addis Ababa and its population growth complement each other. There was a large population influx from the famine of 1889-892 and the Battle of Adwa. (Tufa, 2008) This lead the growth of informal settlements around the main attraction points, especially Ghebbi.

02 research
Early diplomacy



Addis Ababa 1890's with assumed location of the early diplomatic institutions

British Legation and Residence building built in 1908-1911

02 research
Early diplomacy

The French Legation built in 1935

St. George Church, 1930s

02 research
Early diplomacy

La Gare station, connecting Ethiopia with Djibouti, 1929

The Italian ruled the city by force between 1936 and 1941. The Italian troops, after winning the war and occupying the capital, immediately began planning a new city, symbol of the strength of the Italian Empire and in particular of ***Italian Eastern Africa (Africa Orientale Italiana)***.

The urban plan (proposed by Guidi and Valle) for the new Addis Ababa was based on a rigid, orthogonal system: a clear reference to the Roman tradition and at the same time, a total negation of the local urban layout, more fluid, organic and related to the environment. Furthermore, the plan envisioned the total separation between the new Italian city (***Casa Popolare and INCIS housing***), to the north-east and the old city of natives, segregated in the north-west: an indispensable condition in the colonial urbanism. (Gresleri and Massaretti, 2009, p. 319-320)

In between the native and Italian quarter two parallel axes have been introduced: the commercial area, connecting Arada with the railway station and the political one, from Ghebbi to the Meskel Square. (Tufa, 2008)

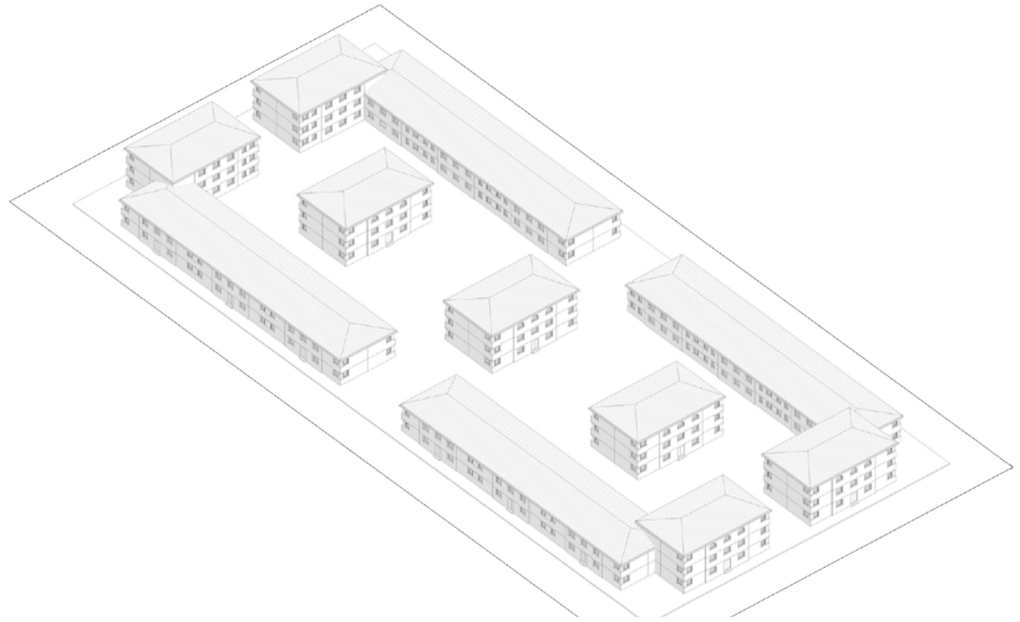
Due to the short period of occupation, the urban plan did not have the impact it supposed to have. However, there are couple important areas and buildings that are shaping city till this day: ***Merkato*** and ***Meskel square***.

02 research
The Italian Occupation

Ethiopian children under the Italian regime

Casa Popolare housing for Italian population

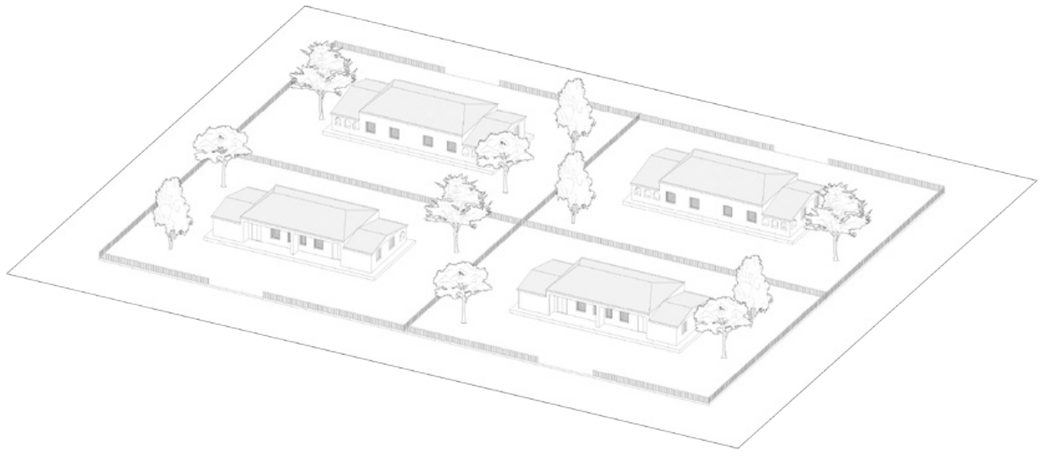
02 research
The Italian Occupation



The urban scheme of Casa Popolare housing

INCIS was the Italian National Institute of Housing for state employees

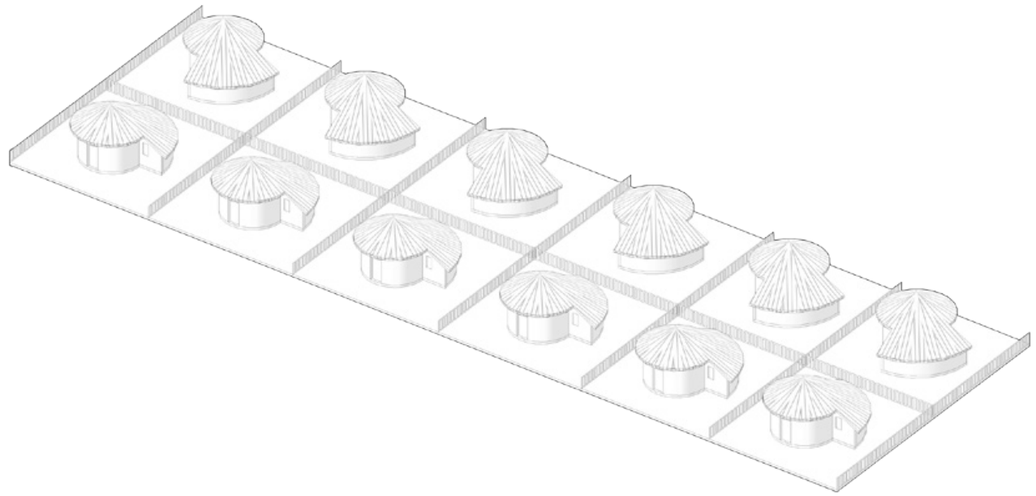
02 research
The Italian Occupation



The urban scheme of INCIS housing

The Housing for natives durting the Italian occupation

02 research
The Italian Occupation



The urban scheme of housing units for natives

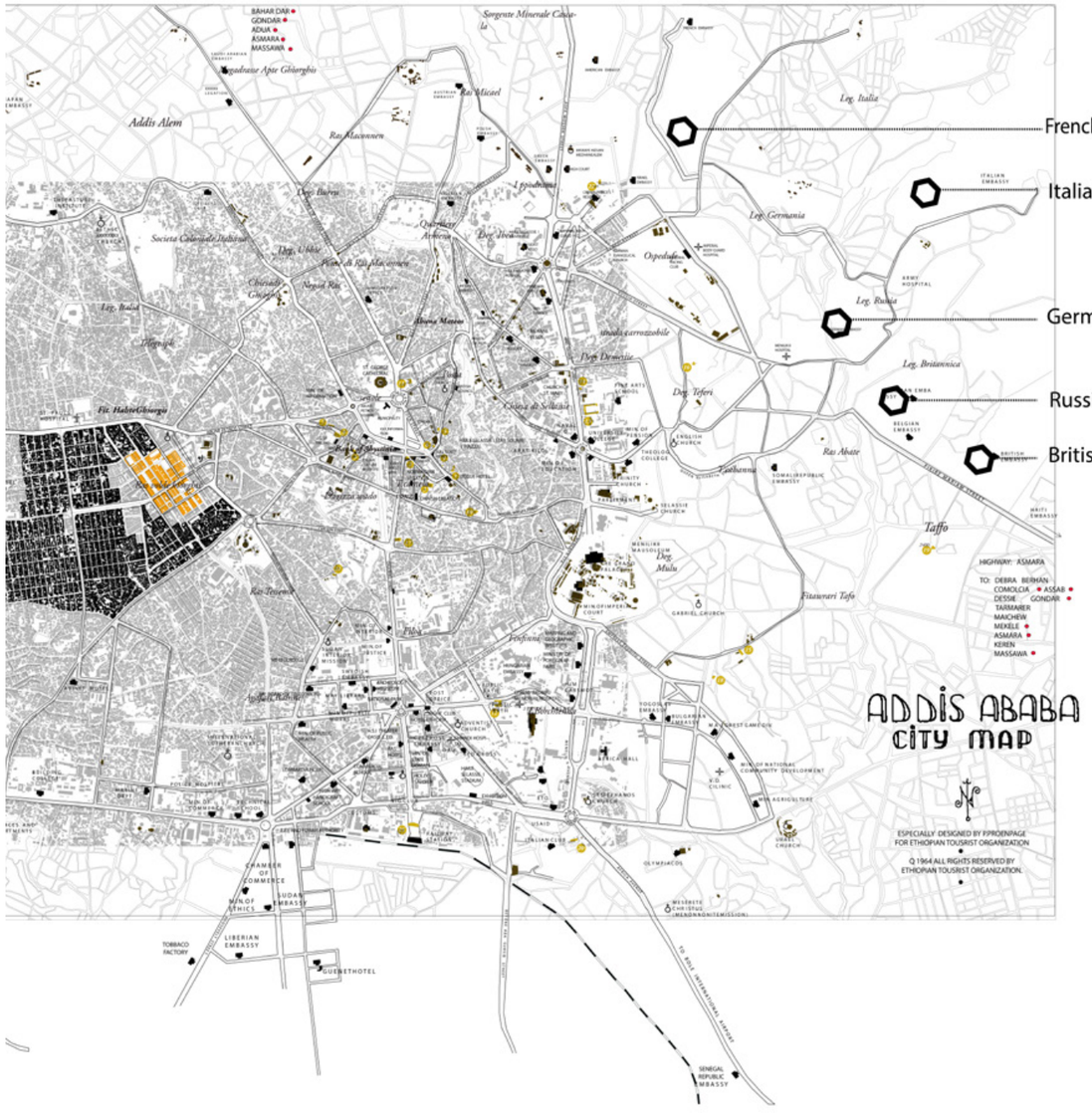
After the brief colonial period, Haile Selassie returned to Addis Ababa with higher acceptance on May 5, 1941. With the help of Americans, the emperor undertook a series of measures to modernize the country primally by the use of diplomacy and politics. ***These initiatives are more reflected in the upgrading of the institutions in the country, rather than the overall structural modernization.***

In the 1950s, many embassies and public buildings have been established by local and foreign architects, however the overall development of the city still stayed vague. ***In this context, Addis Ababa became a prestigious city and experienced the population boom, but faced incredible challenges of the housing sector, because it has been ignored by the regime.***

The housing shortages and the huge inequalities in urban land continued to intensify during the entire Imperial period: “In 1962, 58% of the land in Addis Ababa was owned by only 1768 people, equivalent to more than 10 000 sq.m per person, resulting in 55% of the houses being rented.” (UN-Habitat)

During the population boom of the 1960s, the regime focused on Addis Ababa international prestige, therefore, the landowners were left to try and meet the housing needs of large influx of people by the remains of the infrastructure built during the Italian occupation and fill the urban road with countless crowded small houses.

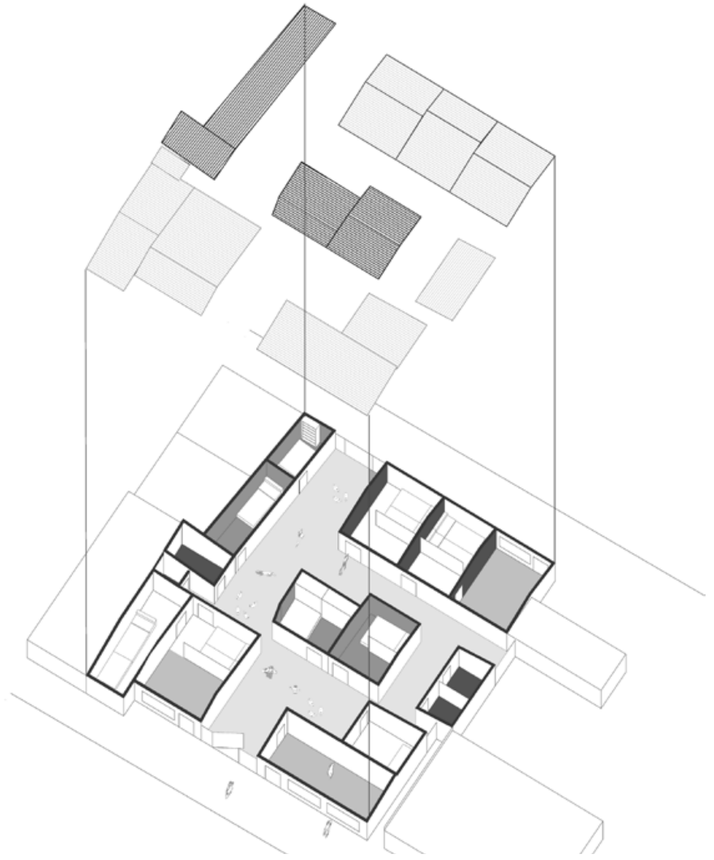
02 research
The imperial regime



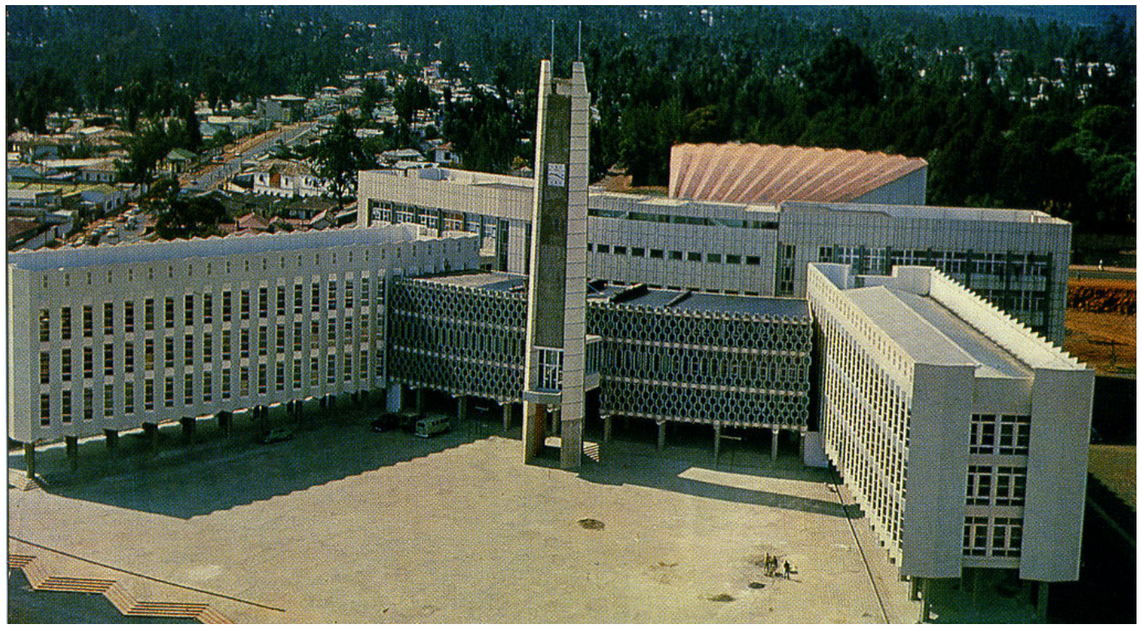
Map of Addis Ababa in 1964:

The inner courtyard of the compound

02 research
The imperial regime



The scheme of the compound



City Hall of Addis Ababa, 1964

02 research
The imperial regime

Haile Selassie I university, 1965

National bank, 1965

02 research
The imperial regime

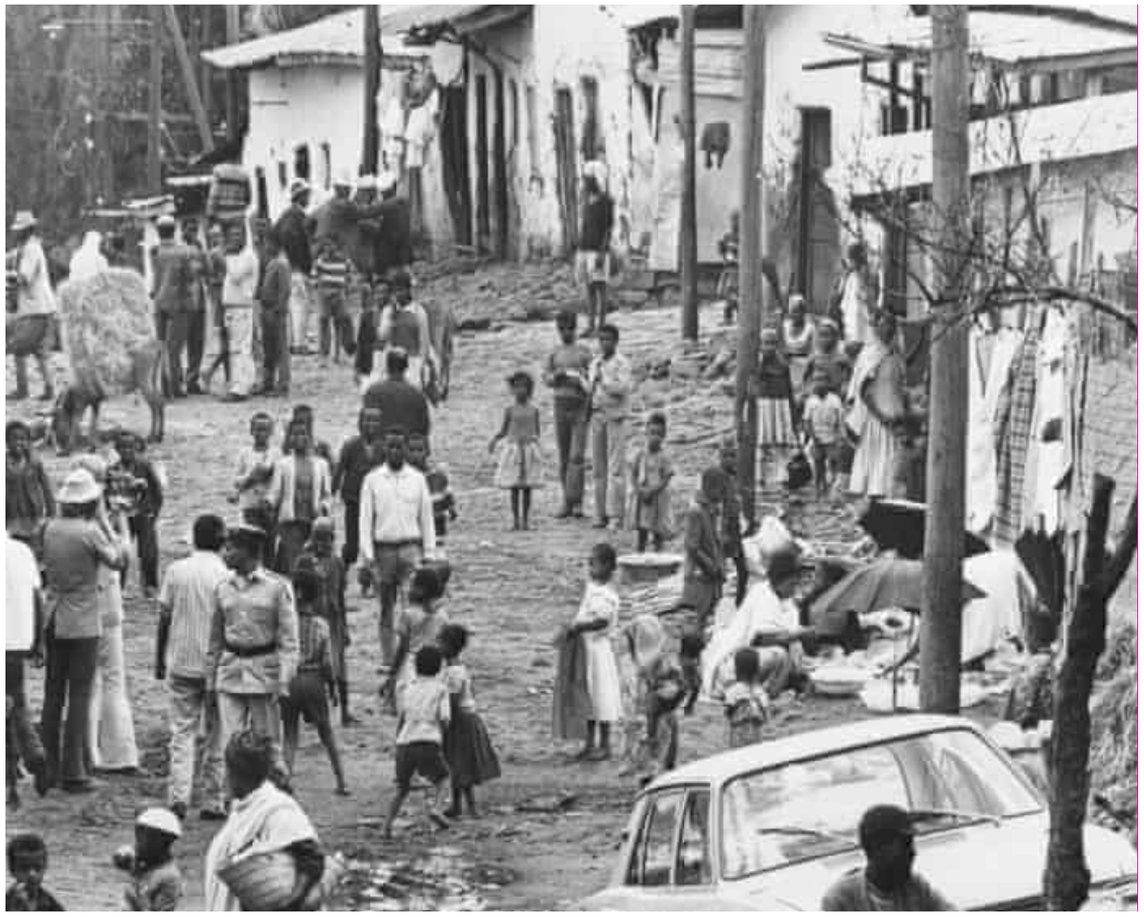
J. F. Kennedy library, 1969

From 1974 on, the socialist regime ruled Ethiopia. ***In July, 1975, the government started to nationalize all urban land and houses.*** The government created an agency for the management of the station-owned rental houses. The most important administration, was known as ***Kabele.*** It is the smallest unit of management for mostly small houses and sheds under 100 birrs rent per month. Additionally, the national Housing and Saving Bank supported ***the cooperative housing*** from 1976.

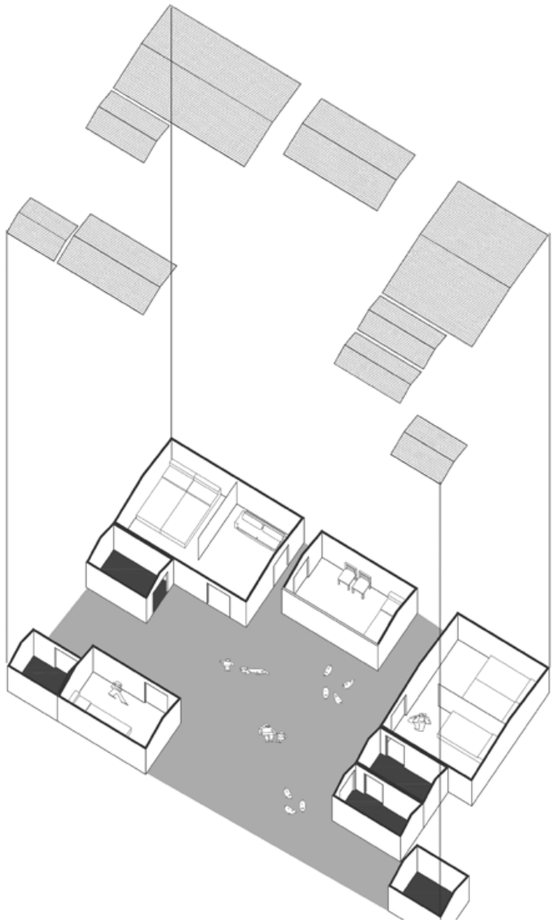
The nationalization of the private land and suspension of the investments from the private sector, lead to the huge stagnation in the built environment during the Dergue regime. As a result, the economic growth of the country dropped.

During the Dergue regime, two masterplans were proposed that envisioned further development of the country: 1978 by C.K. Polonyi and 1986 by Ethio-Italian collaboration. Due to the poor bureaucratic system of the Derg regime, it took eight years to approve it. The delaying of the masterplan caused the urban fragmentation, lack of public zones, unplanned residential developments that influenced the structure and further development of the city of Addis Ababa.

02 research
The Dergue era

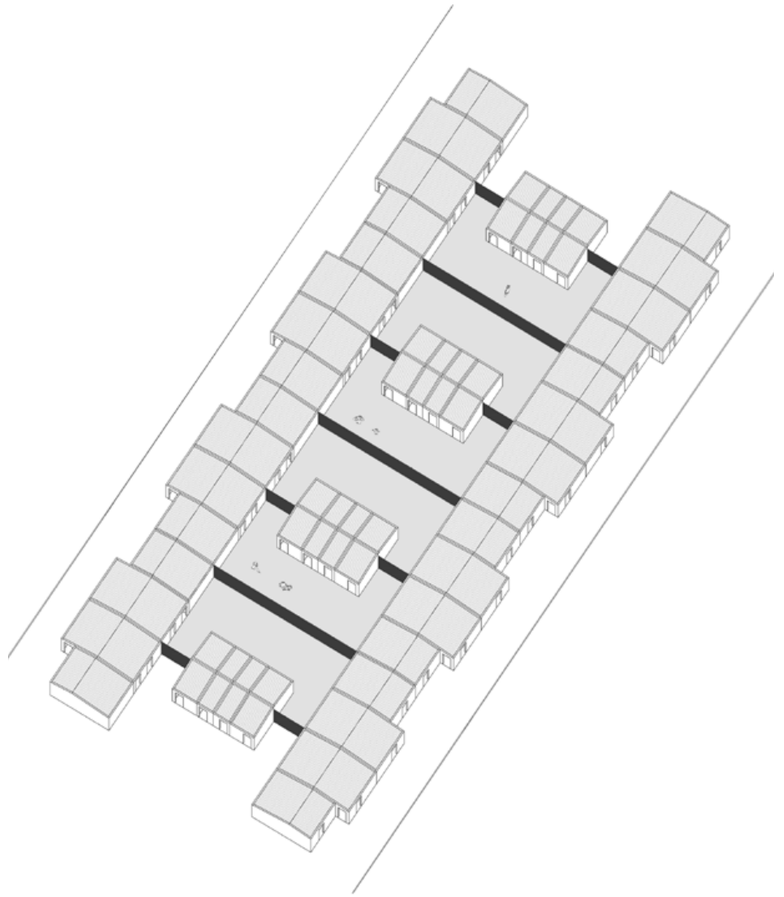


A street in Addis Ababa during the 1970s



Kabele housing compound: the average small house or shed is 24 m² and houses an average 5.7people

02 research
The Dergue era

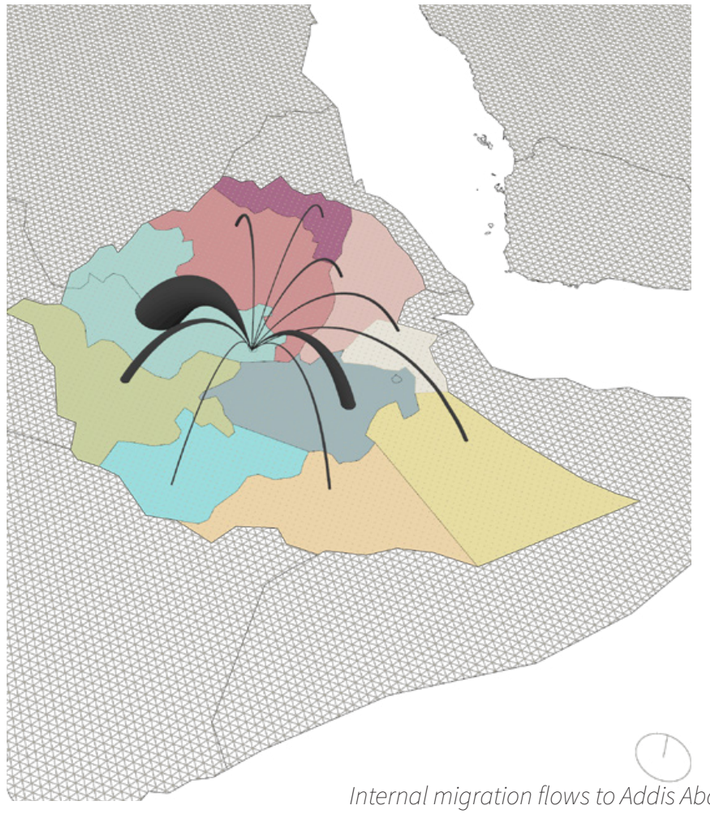


From 1976 untill 1984, a total of 2800 cooperative housing units were constructed to accomodate the urban poor

Street profile of the neighbourhood built during Dergue era, Gerji

02 research
The Dergue era

Street profile of the neighbourhood built during Dergue era, Gerji



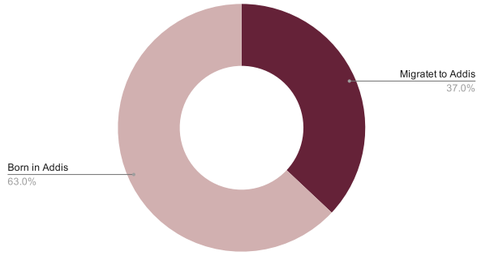
Internal migration flows to Addis Ababa, WorldPop, 2016

The ***37%*** of the population of Addis Ababa were migrants in 2008. The majority came alone or along with one other relative and very few children were brought along. Half of them came from another town in Ethiopia and almost ***90 %*** stated that they had no intention of leaving Addis Ababa again. (Moller, 2010)

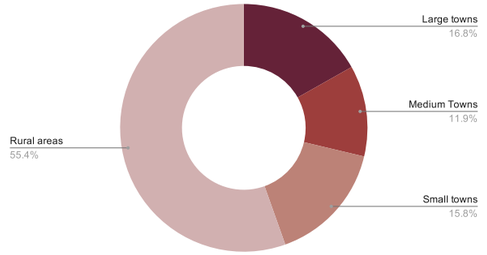
Contrary to what many believe, it is educational opportunities offered by the city that is the most important reason for migrants to come to Addis Ababa – especially for female migrants." (Moller 2010 p6). More than half of the migrants are from rural areas and almost 90 percent stated that they were not expecting to move within the next three years.

02 research
Migration

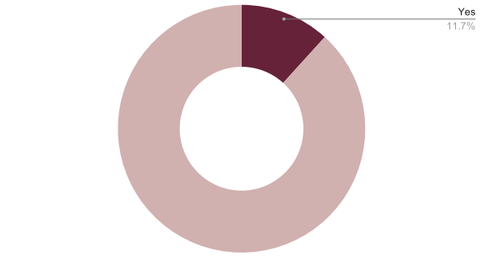
Population Addis Ababa



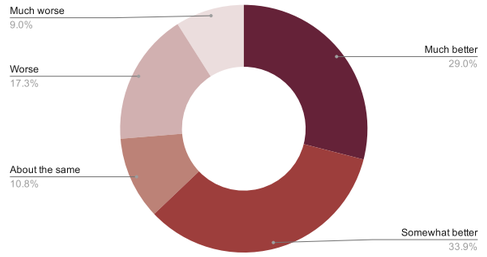
Origin of migrant



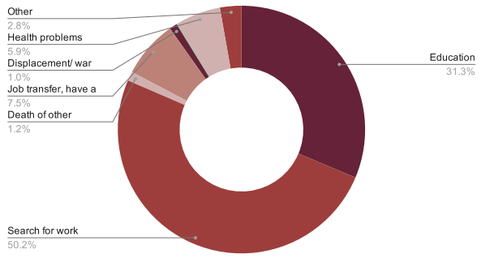
Expext to move within the next three years?



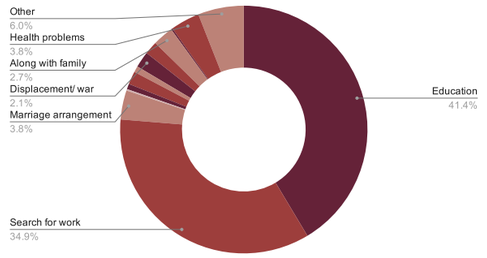
Current life conditions compared to previous condition



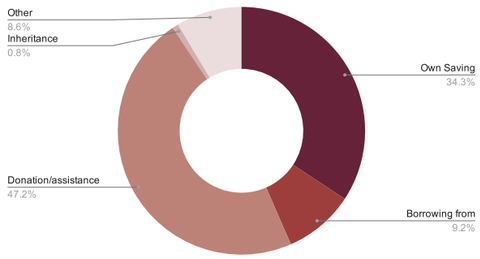
Males vs. Reason to migrate



Females vs. Reason to migrate



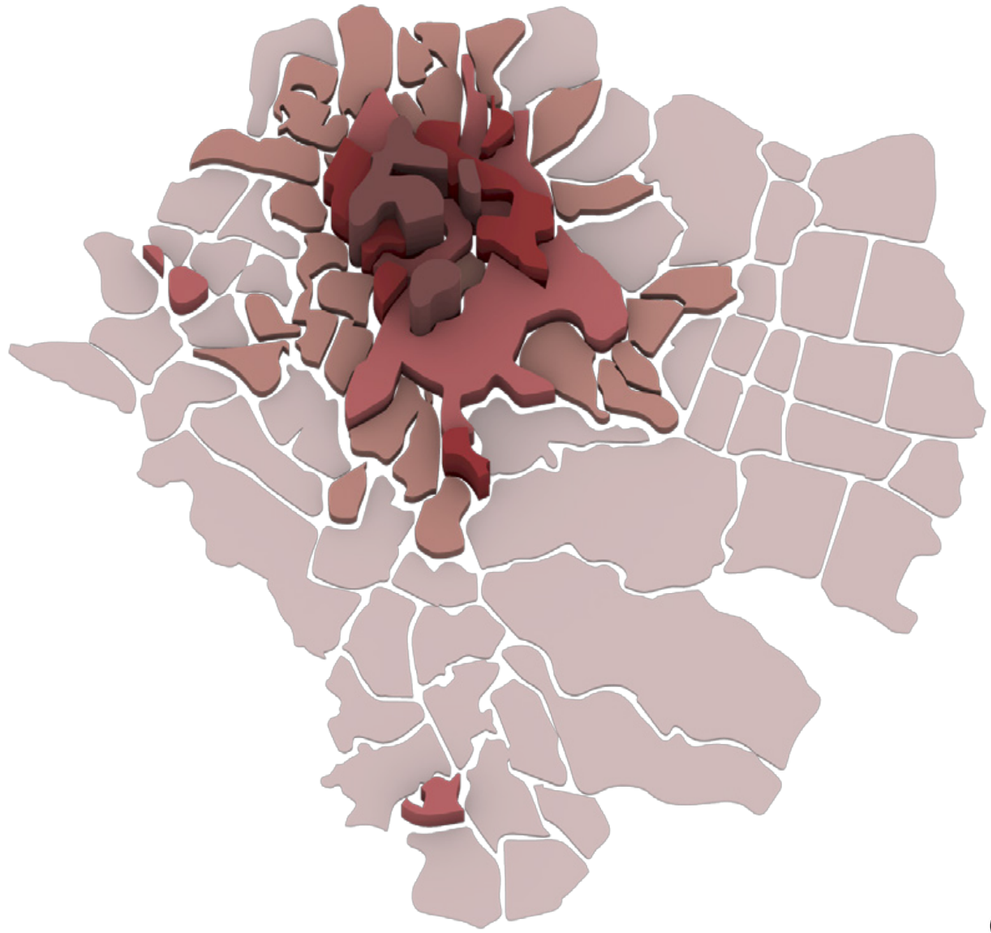
Source of capital for transport cost of migrating



The statistics of migration in Ethiopia

The central area (the old part of Addis Ababa) is the most densified district of the whole capital city. Lower population density can also be observed in the southern part of the city where these areas are mostly agricultural areas. The two sub-cities Bole (east) and Nefas Silk Lafto (south-west) have large development of new real estate and flourishing suburbs with low population density.

02 research
Addis Ababa's population density



Evaluating transport network structure: case study in Addis Ababa, 2012

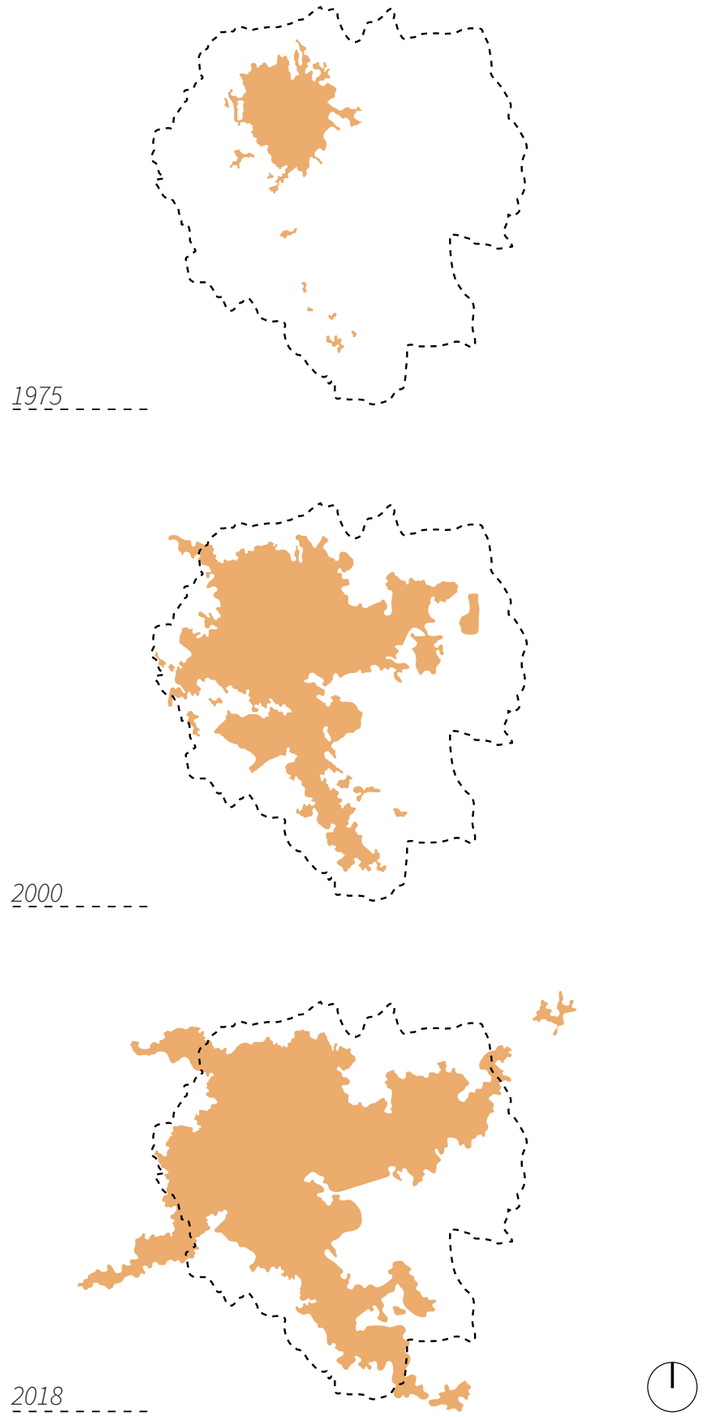
In the period around 2000, the population of Ethiopia grew rapidly. This is coupled with a high prevalence of urban poverty. ***The city suffers from a high amount of homelessness, urban decay, a high degree of unemployment and a shortage of infrastructure and basic services.*** (UN-HABITAT, 2010)

To cope with the housing backlog, Ethiopia signed a bilateral agreement for technical assistance with the German government in 1999. As a result, together with Germany's official development agency GTZ (German Technical Cooperation), they developed a program divided into three stages:

1. LCH technology (1999-2002);
2. Addis Ababa Grand Housing Scheme (2002-2006);
3. Integrated Housing Development Program (2005-2010).

The Integrated Housing Program (IHDP) set several goals, among which: reduce slum dwellings by 50%, build 150'000-200'000 housing units, create 60'000 jobs, and improve training procedures for the domestic construction sector (Delz, 2016b). The resulting strategy was to use a standard mid-rise housing block type (Mota, n.d.), a typology that could be cost-effective and drive densification, thus the condominium, a new structure made of reinforced concrete. As a matter of fact, ***until the mid-2000s, in Addis Ababa 97% of residential units were still single stories, while 75 % of units' walls were made of mud and wood*** (UN-HABITAT, 2007b).

02 research
Urbanization



Urbanization of Addis Ababa during last 50 years

In 2014, although the considerable number of units built during the first decade of the century, ***the IHDP estimated a housing shortfall of 1,200,000 units***, ***including the actual deficit, but also the units which are overcrowded or in need of renovation*** (Tipple & Alemayehu, 2014b). Furthermore, rural migration is increasing at a fast pace (Gardner, 2016).

Along the year the housing program has developed different typologies of condominiums, also bound to different economical strategies. Nowadays, condominiums can be divided into three groups considering the ratio between down payment and loan: ***10/90, 20/80, 40/60 condominiums*** (Tipple & Alemayehu, 2014c).

The housing program, which the Ethiopian government have envisioned to help the country turning from a low-income to a middle-income country (French & Hegab, 2011e), is now putting effort on the construction of the 40/60 condominiums, which typology is higher than the latter ones, about fifteen story, and it is recognizable by the characteristic “H” shape plan.

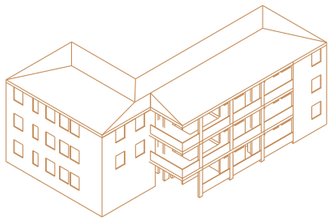
However, condominium development is not accessible to all people and especially urban poor simply because they cannot afford to pay dowpayment. Constructions costs of condominium developments are high due to couple factors: lack of materials and lack of technology.

An additional struggle the newcomers confront is the discouraged traditional living patterns. The modernized city designs created by private investment developments do not acknowledge the social and cultural context of Addis Ababa. The international style of globalized architectural approaches and ***standardized solutions have little to do with the traditional and cultural dwelling patterns of Ethiopians***, where the urban lifestyle ignores almost completely the understanding of different uses of spaces: as if all the cultures would be same and could be applied same design principles.

Developing standardized architecture, projects neglect social networking, where people are sustaining a community lifestyle. Knowing your neighbour and the exchange of knowledge, manpower, skills, and goods are the key aspects of survival for many rural inhabitants. (Heisel et al., 2016)

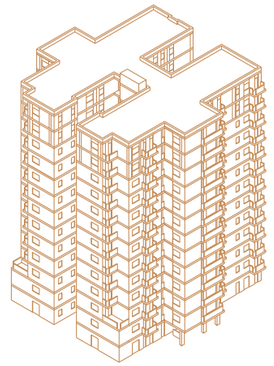
Therefore, the Integrated Housing Development Programme created by the government, that offers standardized solutions to inhabit as much urban poor as possible fails, as new condominium housing schemes do not sustain traditional living patterns.

02 research
The Integrated Housing Development Programme



10/90 Scheme *down-payment*

20/80 Scheme *down-payment*



40/60 Scheme *down-payment*

40/60 condominium development in Addis Ababa, 2019

02 research
The Integrated Housing Development Programme

New 40/60 condominium developments (far) in the periphery of the city, 2019

Pilot 10/90 condominium project example in Gerji, 2019

02 research
The Integrated Housing Development Programme

Pilot 10/90 condominium project example in Gerji, 2019

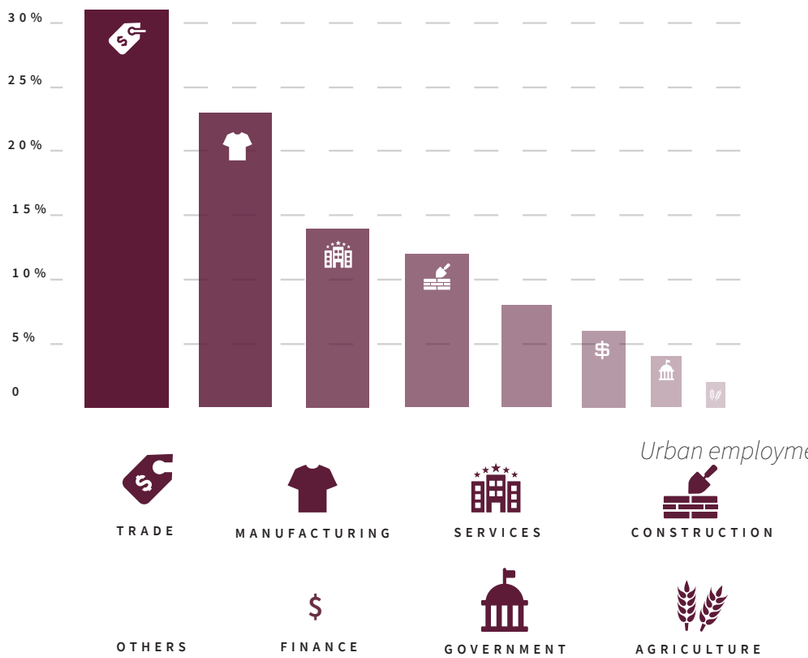
Under Haile Selassie I, the production and export of coffee were advanced, and manufacturing of textiles and footwear were established locally. After World War II, tourism, banking, insurance, and transport began to contribute more to the national economy.

The communist Dergue regime (1974 - 1991), nationalized all means of production, including land, housing, farms, and industry. Faced with uncertainties on their land rights, the small farmers who form the backbone of Ethiopian agriculture became reluctant to risk producing surplus foods for market. Although land has remained nationalized, conditions in rural Ethiopia have improved slightly, as the government has given considerable attention to rural development. (Encyclopædia Britannica, 2019)

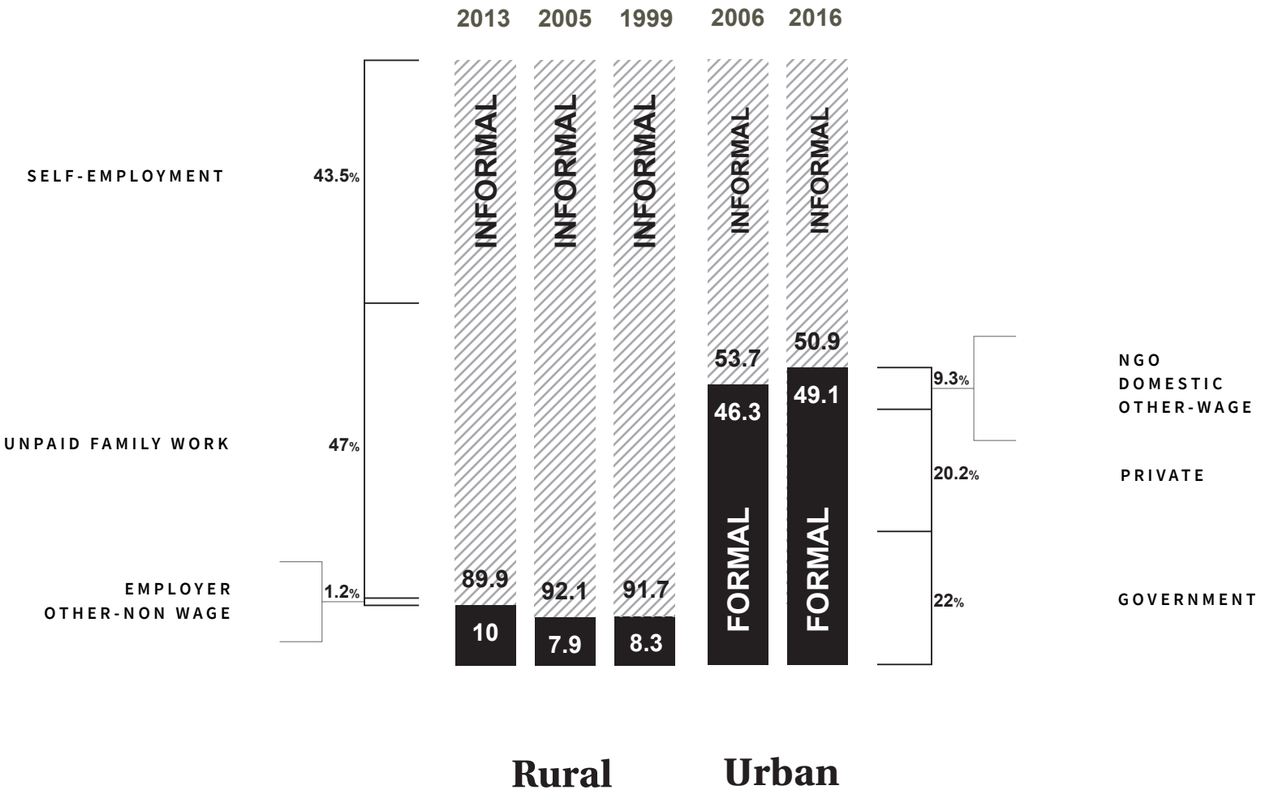
Since the 90s the Ethiopian government has been in the process of privatizing many of the state-owned businesses and moving toward a market economy. During this course the private sector has boosted Ethiopia's GDP to the extent that it is now perceived as the fastest growing economy in the world.

As 80% of the total population in Ethiopia remains rural, agriculture is the main source of income for the majority of population. Still nowadays, more than 70% of the total working population is employed in the agricultural sector, whereas the other two sectors employ the 30%. However, retail prevails, and with it, informality. (World Bank, 2018)

On the other hand, the industry sector which represents just the 10% of the employed population has emerging as a very fruitful business. On it, construction and manufacturing will enhance productivity and will improve the livelihood and living conditions of the population. By contrast, in Addis Ababa, the service sector employs the mayority of the population within the trade sectors.



Urban employment by sectors, 2017



Informal/ formal market.

Currently, 80% of housing in Addis Ababa is considered informal, meaning that the great part of citizens live in inadequate houses with several problems, such as bad hygienic conditions, overcrowded spaces and lack of basic amenities. It is important to focus on the conditions of the informal areas.

Informal settlements in developing countries are commonly associated with unhealthy environments. However, informal settlements might also be the course of innovative ideas for urban planning. ***The reason is that informal settlements are generally piecemeal developments built out of the needs of their residents.***

Especially in Addis Ababa, the informality of living is spread through the whole city, leading different social groups to coexist together side by side. Therefore, the capital city is incredibly heterogenous, ***urban mixity becomes a key factor of inclusiveness. This character of the city allows the development of different social activities and social interactions.*** The spaces around the house are used both social and commercial functions as informal markets, gathering points, etc. As many women stay at home, they generate income through variety of different activities, therefore home serves for living and working functions.

However, the informality is fragile. The new investments and developments symbolize Addis Ababa's aspirations to become a hyper-modern metropolis. (Bhan, 2013) However, the informal settlements are being torn down to create space for these new private investments, leading urban poor to be pushed away from their shelter communities.

Also, the urban pattern of informal settlements are shelters. And therefore, Addis Ababa experiences the ruralization of its urban centre. Migrants bring their rural life into the cities – and in such high numbers that as a result, the cities begin to change, rather than migrants. (Heisel et al., 2016)

02 research
The informal settlements

Drying pepers in Kechene, Addis Ababa

Historical buildings transformed into informal housing, Tallian, Addis Ababa

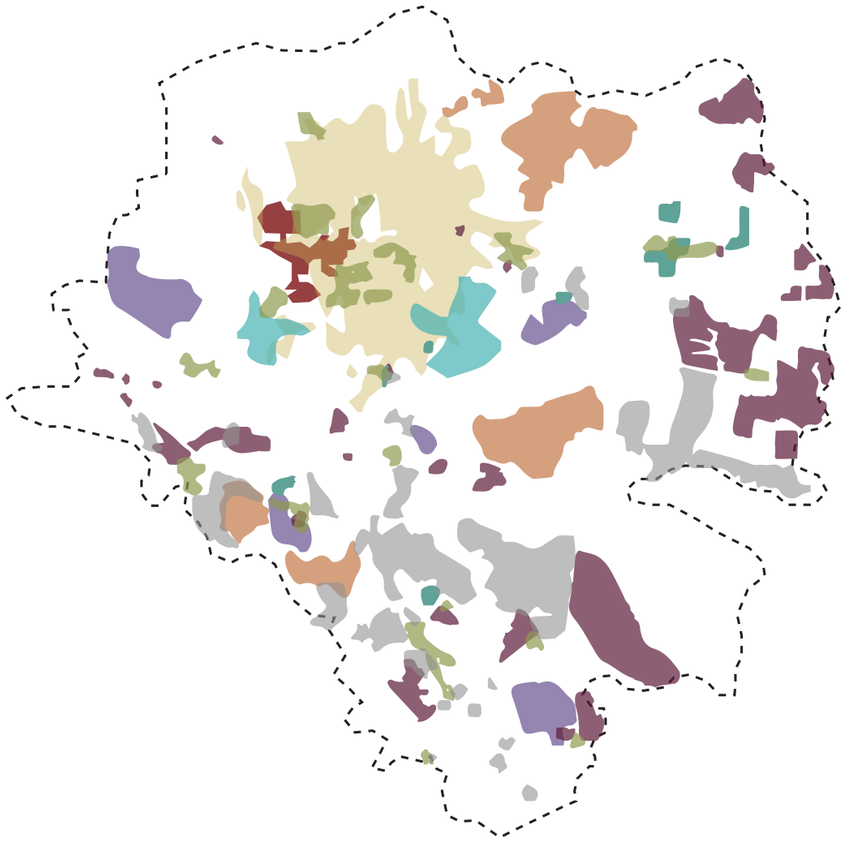
02 research
The informal settlements

Informal shop in Kolfe, Addis Ababa

Unlike many African cities, Addis Ababa emerged without formal planning. Since its humble beginnings as a garrison town, the city has witnessed the preparation of nine master plans, albeit with little implementation. This section describes what urban typologies have arisen as a result of the juxtaposition between the traces of the master plans and the unforeseen happenings on the ground.

E. Alemayehu, in his book, ***The Transformation of Addis Ababa: A Multiform African City***, identified nine major urban typologies: the informal city, the old city, the market city, the posh city, the industrial city, the collective/cooperative city, the condominium city, the renewed city and the divided city.

02 research
A collage of cities



Over the past six decades, the planet has experienced vast urbanization: in 1950, more than 70 percent of people worldwide lived in rural settlements. In 2007, for the first time in history, the global urban population exceeded the global rural population. (Heisel et al., 2016) Ethiopia alone is one of the most rapidly growing countries not only in the continent of Africa but also in the whole world. The country is populated by almost 110 million inhabitants and only 20% of the whole population is living in the cities. A pattern of movement is occurring as a developing country like Ethiopia is switching from agricultural to industrial sectors. Over 65% of the population from rural areas have started to follow the migration patterns from rural countryside to the urban settlements. (Casacchia et al., 2001) Especially, to one of the biggest urban cities of Africa: Addis Ababa.

The creation of Addis Ababa and its former structural division to ***sefers*** for royal families, lead the working class to expand around it and build uncontrollably and unsupervised. This resulted in city expansion horizontally, rather than vertically and barely providing any infrastructure. 1980s famine also pushed rural settlers to move to the urbanities, for the search of new job opportunities.

Since the establishment of Addis Ababa, the city has become a destination for the most rural-to-urban migrations within the country. (Davison, 2014) Therefore, the capital city could be labelled as an ***Arrival City*** for many – a place where everything changes, and new opportunities occur.
Arrival cities share optimism, encourage business start-ups, social networking, provide educational possibilities and give spontaneity that is the key to the new and brighter growth of the upcoming generations. The arrival city of Addis Ababa is where the social development of the rural migrant changes.

Even if, Addis Ababa as arrival city has a positive connotation, to shelter the rapid urbanization, the city is confronted by unimaginable challenges in providing infrastructure, housing, education, public areas and services for the rural migrants. Rural migrants are confronted by demanding task of finding even momentary accommodation.

The problem is the lack of approximately 700,000 housing units resulting in the illegal framework of building, leading to undignified living conditions in the informal settlements. The consequent stress on the housing system manifests itself in the continued informal occupation of dilapidated structures, the construction of meagre shelters, extreme overcrowding, the occupation of dangerous sites and the invasion of public land. (Fransen et al., 2010)

Another challenge the rural migrants must face is the ***social and spatial segregation***. The new investments and developments symbolize Addis Ababa's aspirations to become a hyper-modern metropolis. (Bhan, 2013) However, the informal settlements are being torn down to create space for these new private investments, leading urban poor to be pushed away from their shelter communities. As self-made settlements are usually not registered in the municipality's records, the migrants are often not informed about the relocation processes. This lack of information cause anxiety and fear among people living in slums; inaccurate information, rumours, and gossip further exacerbate these feelings. (Heisel et al., 2016, 67)

Next to the problem of segregation, migrants have ***a lack of understanding of the urban lifestyle***. In the rural villages, for many decades people lived in rural shelter models, so-called ***tukuls***. Nowadays, in cities, the urban poor live in the one-room expansions in someone's backyard, which would present ***an urban shelter model***. The description of the shelter could be understood as a place of usually no differences between functions: animals and humans live together, sleeping and living take place in the same small space.

The shelter serves to meet the basic needs of the human being. On the other hand, the house does not only serve the basic needs, but it also starts to maintain desires and "wants", which leads to personalization and some sort of appreciation.

The urban pattern of informal settlements are shelters. And therefore, Addis Ababa experiences the ruralization of its urban centre. Rural migrants bring the past lives, traditional and cultural living patterns as their luggage. Their values and traditions do not change overnight simply because of a change in location. Migrants bring their rural life into the cities – and in such high numbers that as a result, the cities begin to change, rather than migrants themselves. (Heisel et al., 2016)

An additional struggle the newcomers confront is ***the discouraged traditional living patterns***.

02 research
Problem statement

The modernized city designs created by private investment developments do not acknowledge the social and cultural context of Addis Ababa. The international style of globalized architectural approaches and standardized solutions have little to do with the traditional and cultural dwelling patterns of Ethiopians, where the urban lifestyle ignores almost completely the understanding of different uses of spaces: as if all the cultures would be same and could be applied same design principles.

Developing ***standardized architecture, projects neglect social networking, where people are sustaining a community lifestyle.*** Knowing your neighbour and the exchange of knowledge, manpower, skills, and goods are the key aspects of survival for many rural inhabitants. (Heisel et al., 2016) Therefore, the Integrated Housing Development Programme created by the government, that offers standardized living solutions, to inhabit as much urban poor as possible, fails, as ***new condominium housing schemes do not sustain traditional living patterns.***

The last migration of the late eighteen and the early twentieth century had a direct effect on the reinvention of human thought, governance, technology, and welfare. Mass urbanization changed politics and social governance. Yet, the city-bound migration and the rise of new, transitional urban enclaves was a story largely unknown to the people directly affected by it. (Saunders, 2010) The mismanaged urbanization processes created riots and sometimes wars, where the newcomers became trapped, excluded or resentful in the

informal settlements. Therefore, ***growing cities urgently need a change in creating spaces of transition for rural migrants, that would sustain their common rural lifestyle, but also offer a flexible way to adapt towards the lifestyle of the city by providing flexible housing arrangements.***

Offering the possibilities for temporary housing would become a safe option for these migrants not only to start adapting to the new lifestyle but also would offer dignified living conditions and new social possibilities. As migrants now live in informal settlements they are rarely surrounded by middle- or middle-higher-income group people, however, ***the approach of mixity would help them to develop social networks***.

The existing heterogeneity of the city and its geo-political importance could be starting points for such an endeavour, in which formal city planning, influences by effective (informal) elements of the local city fabric, would depart from the standardized city approach in favour of slower yet more resilient development methods. (Heisel et al., 2016)

Incorporating all aspects of the design requires triggering the complexity of urban planning and even more specifically housing. Finding the best way to mix not only the different income but also social groups, that would preserve and sustain a cultural lifestyle, as well as provide learning and adapting possibilities towards the lifestyle of the city is the main task of my future design. Therefore:

*What kind of **urban neighbourhoods** and **housing typologies**, can accommodate a different variety of **social structures** (city dwellers and rural migrants) and **help** the rural newcomers **transit** towards the lifestyle of the **urban city**, that would **sustain** their traditional living and **dwelling patterns** but also deal with urban conditions of certain **density** in a constant growing megapolis of Addis Ababa?*

03 design research

During the field trip, ***the different habitation patterns*** were investigted in variety of districts of Addis Ababa, including ***informal settlements and the areas of low-income or middle-income groups***. These patterns include:

Social Spaces

Domestic Practise

Income generation

Building Techniques

Borders

Social Spaces

Social spaces in Addis Ababa vary from different areas, however, it almost always occupy ***the main or secondary streets, informal markets, green spaces and the internal courtyards of the compounds***. Between the low-income groups, social spaces are crusial, because they create communual spaces for interactions, where women cook, wash clothes or/and watch over children together. The streets act as social spaces.

Coffee sellers in the informal settlement in Tallian

03 design research
Patterns of Inhabitation

Internal courtyard of the compound: women washing clothes and taking care of their children together in Kolfe

Men resting in the only green space in the area, Addis Ababa

Informal market in Kolfe

Lunch in the shade in Kechene

03 design research
Patterns of Inhabitation

Football table in the street for communual activities in Tallian

Football field for children in Kolfe

Domestic Activities

Domestic spaces are represented by the close ***relation between the internal dwelling and external courtyard spaces of the compound.*** As the houses are relatively small, many activities as washing clothes, drying clothes, drying grains, children playing take place outside.

Children playing in the backyard, Gerji

03 design research
Patterns of Inhabitation

Drying grains in the compound, Tallian

Drying clothes in the courtyard, Gerji

Small kitchen in Gerji

Drying clothes and spices in Kechene

Injera preparation room in Gerji

The pile of tires to help wash the clothes in the condominium complex in Gerji

Income generation

The division between tasks in low-income social groups are between men and women. ***Men leave to work and come back in the evening, while women takes care of children and the household***. Therefore, the additional income generation are taking place inside the house units or the courtyard by women and outside by men.

Woman generatin income by washing clothes for middle-income group residents in Kolfe

03 design research
Patterns of Inhabitation

Woman generating income by creating mats and selling them once a month in Mercato in Kolfe

Income generation next to the main street in Kolfe

Building Techniques

The sizes of the projects developed in Addis Ababa are very different. Therefore, the materials used also defers. I***n the newly built buildings, concrete is the main material, however, in the informal settlements, local materials that are cheap are widely used.***

Walls in informal settlement made from "chicka" and stones in Tallian

03 design research
Patterns of Inhabitation

Concrete usage in the new condominium complex, Addis Ababa

Broken tiles used in concrete for pavement in Kechene

Stoned pavement and corregated metal sheet fence in Tallian

Governmental housing in Kolfe built from concrete blocks

03 design research
Patterns of Inhabitation

Construction of a new shop in Gerji

Informal housing walls made from chicka, stones and wooden frames in Kechene

Borders

There are many borders that could be found in Addis Ababa: ***the ones that identify the streets, compounds and households.***

Walls and different facades materials identify the individual units in Gerji

03 design research
Patterns of Inhabitation

Corregated metal sheet fences in Addis Ababa

Informal shop operated from the courtyard of the house in Gerji

Corregated metal sheet fence border in Tallian. Different colours identify individual units inside courtyard

Plinth, objects, and facade materials to identify individual units in Kolfe

Gated windows create border between the inner household and courtyard in Kechene

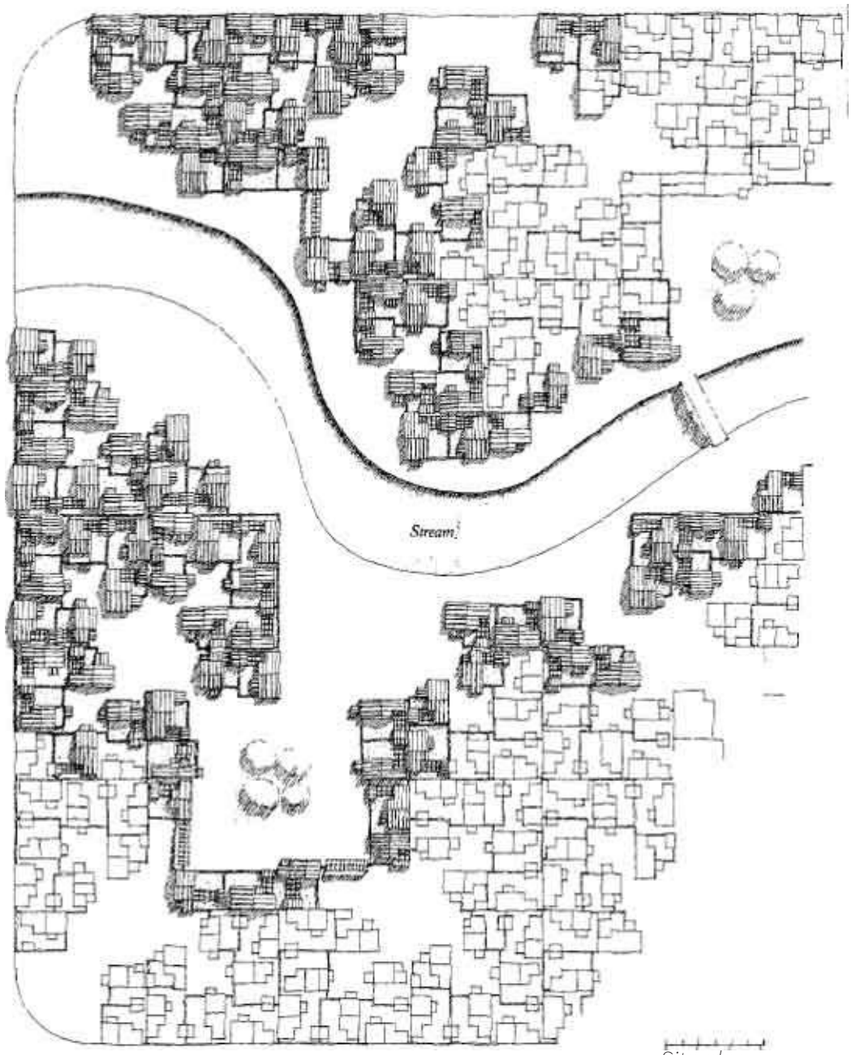
Plinth, objects, and facade materials to identify individual units in Gerji

Belapur Housing
Navi Mumbai, India
Charles Correa

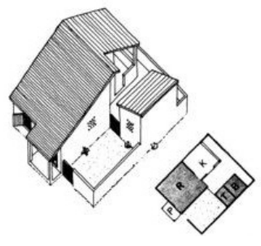
Based on observation of traditional Indian settlements, architect Charles Correa has suggested that cities should be developed ***using a spatial hierarchy*** which ***ranges from the private world of the individual dwelling***, through the 'doorstep', to the communal court (which traditionally contains the well or common tap), to the greater public space - ***the maidan*** – the public promenade of the community.

The geometry of Belapur is a direct interpretation of this syntax. ***The basic element is the house***. For architect 'the territorial privacy of families is of primary importance, and he believes that, in the Indian climate, 'open-to-the-sky space' is essential for family life. So, each house has a private yard in which is a lavatory block. Lavatories are paired to reduce service runs and three or ***four pairs of houses are grouped round courts*** which, in turn, ***open on to larger public spaces*** where, given the boundless energy of Indian entrepreneurialism, shops and other enterprises will doubtless quickly spring up.

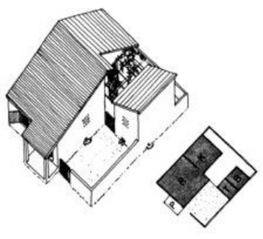
Traditionally, Third World housing has been incremental and the incremental model is endorsed by Correa because it allows families to build according to their perceived needs when capital becomes available.



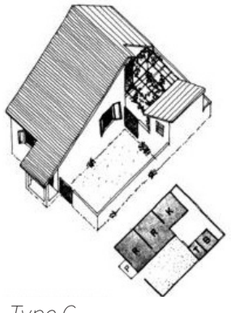
Site plan



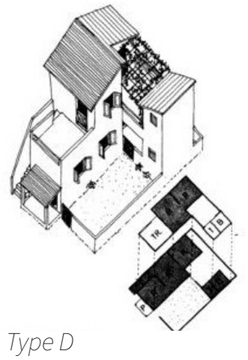
Type A



Type B



Type C



Type D

03 design research
Precedents

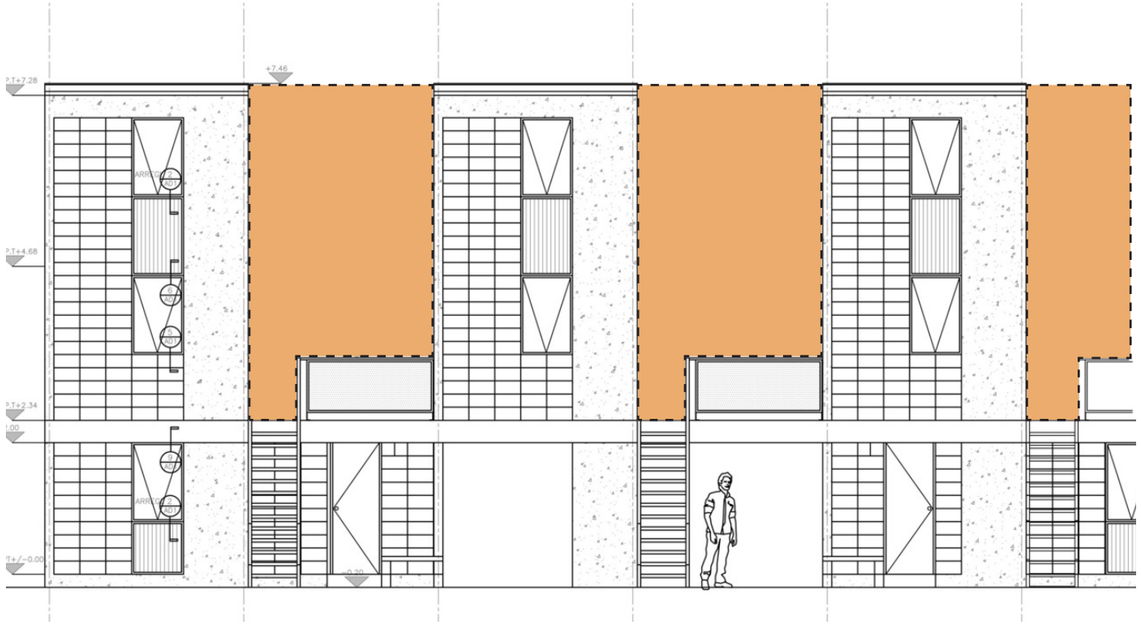
Quinta Monroy
Iquigue, Chile
Alejandro Aravena

The project is designed to accommodate 100 families in the central site, they previously squatted illegally. A project offers a modern neutral half unit, ***forseeing possibilities of incrementality*** where each family could build remaining half of each unit themselves.

The architect reflects, that social housing should not be seen as an investment and not as an expense: it should add value over time. The framework architects followed:

1. Achieve density, without overcrowding, in order to be able to pay for the site. Keeping the site meaning maintaining the network of opportunities, strengthening family's economies.
2. Provide collective space, between public and private, that would offer social networking.
3. Provide porous enough building to allow self-made expansions within its structure.
4. Provide middle-income house (72m^2) possibilities instead of low-income housing (30m^2). Design facilities in the house for the scenario of 72m^2.
5. Work together with community: build the half of the house that a family individually would never be able to achieve on its own.

Site plan



Elevation with possible extentions

03 design research
Precedents

Sangharsh Nagar
Chandivali, India
PK Das & Associates

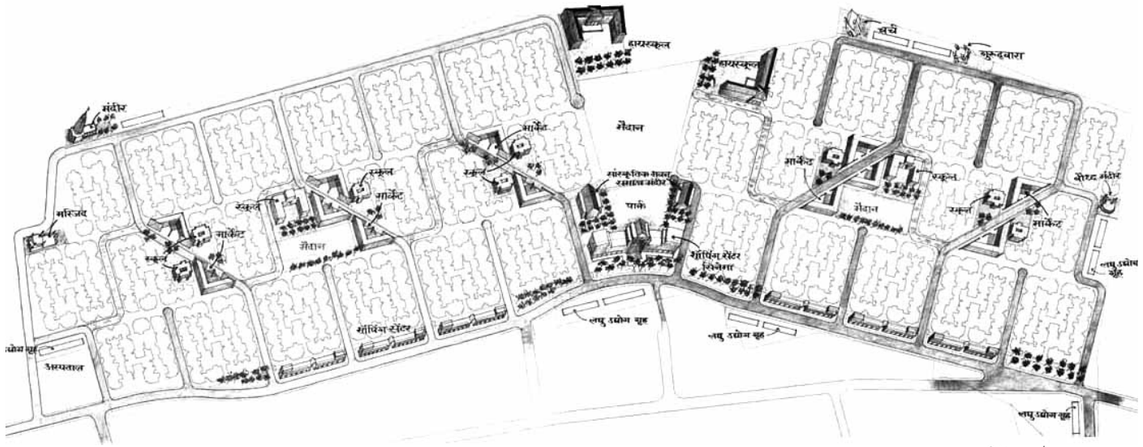
The project involves the rehabilitation of slum-dwellers evicted from the Sanjay Gandhi National Park. The new neighbourhood not only offers the new high-rise housing, but involves new facilities to meet resident's needs: playgrounds, schools, medical facilities etc. It offers multiple social spaces and community halls, for existing community to sustain their relationships.

Each ***22.5m²***, well-lit and adequately ventilated house comprises a room, kitchen with a balcony and toilet.

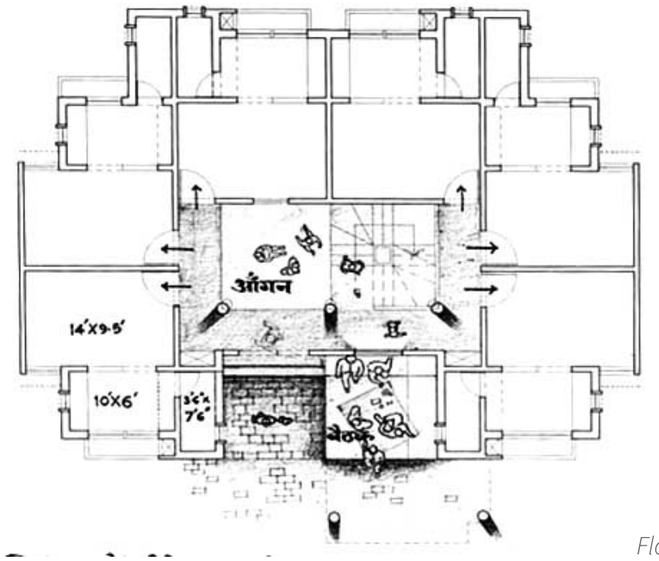
Each ***cluster comprises two societies with 550 houses*** and 16 common units for society offices, a women's centre and other common facilities. ***A central court provides openness, light and ventilation.***

A network of internal pedestrian streets connects the groups of houses to their markets, facilities and common recreation spaces and the gateways to the houses are on these streets. Walk across pathways, ***shaded by pergolas***, intersperse the clusters. ***These promote a sense of unity between the different parts of the development.***

03 design research
Precedents



Site plan



Floor plan of 6 units

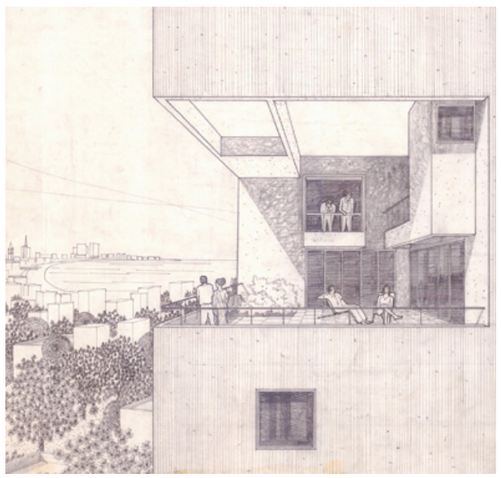
03 design research
Precedents

Kanchanjunga Apartments
Navi Mumbai, India
Charles Correa

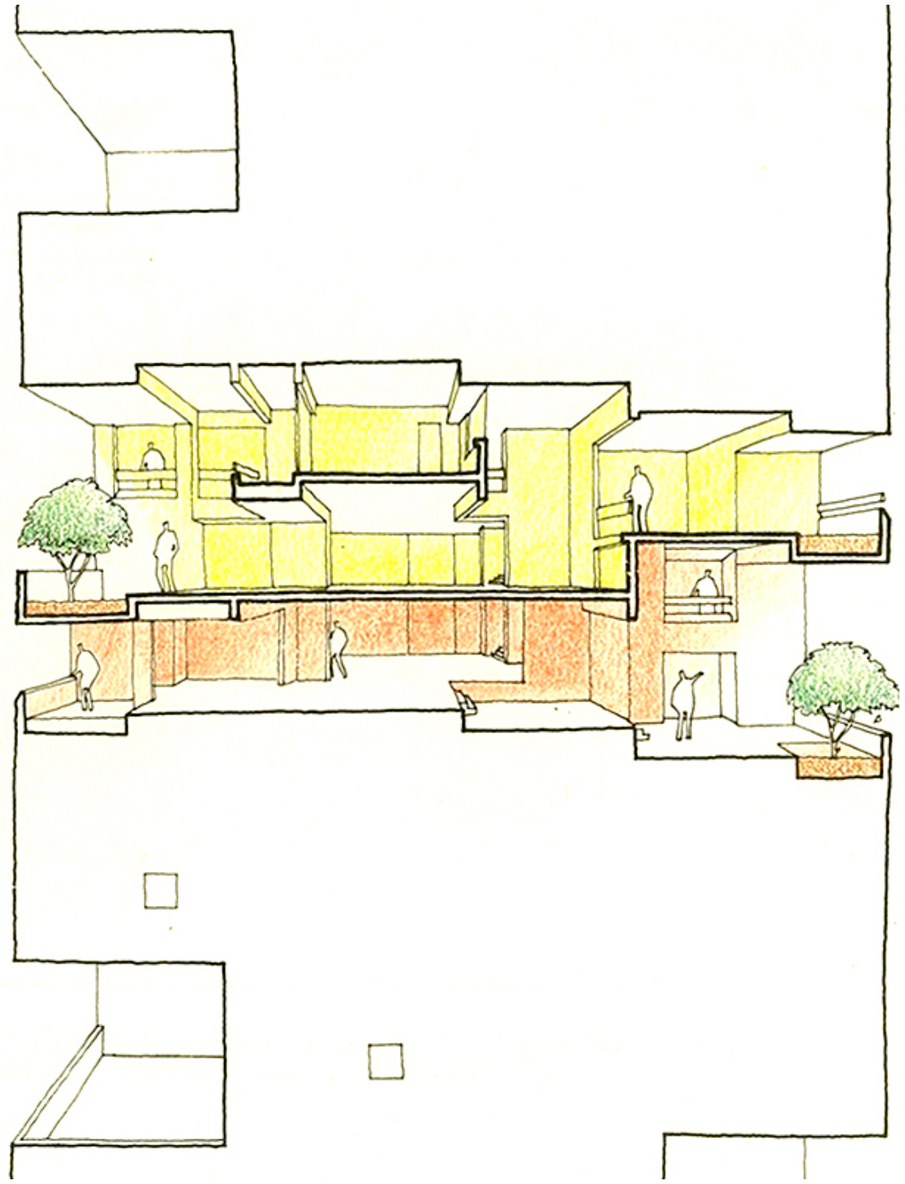
Located in Mumbai, the U.S. equivalent of New York City in terms of population and diversity, the 32 luxury apartments are located south-west of downtown in an upscale suburban setting ***embodying the characteristics of the upper echelon of society within the community.***

Correa pushed his capacity for ingenious cellular planning to the limit, as is evident from the interlock of four different apartment typologies varying from 3 to 6 bedrooms each. ***Smaller displacements of level were critical in this work in that they differentiated between the external earth filled terraces and the internal elevated living volumes.*** These subtle shifts enable Correa to effectively shield these high-rise units from the effects of both the sun and monsoon rains. This was largely achieved by providing the tower with relatively deep, garden verandas, suspended in the air.

The concrete construction and large areas of white panels bears a strong resemblance to modern apartment buildings in the West. However, ***the garden terraces of the Kanchanjunga Apartments are actually a modern interpretation of a feature of the traditional Indian bungalow: the veranda.***

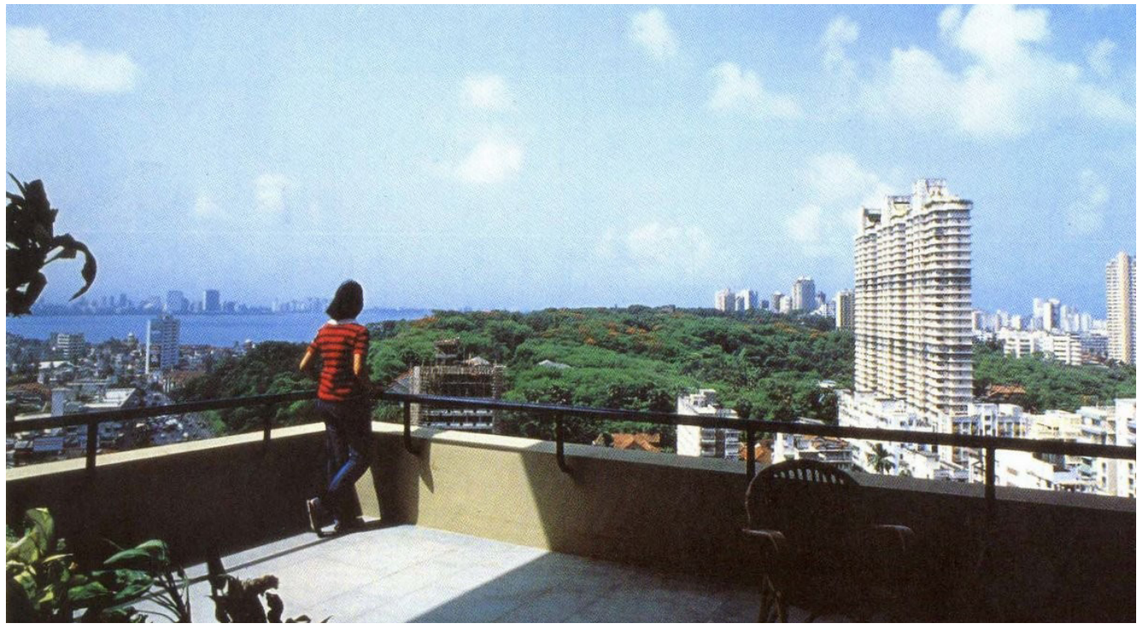


03 design research
Precedents



Section of two apartments

03 design research
Precedents



Mieres Social Housing
Mieres, Spain
Zigzag Arquitectura

The important part of the project, was to create an urban building mass, that would recreate the double quality of the space that surrounds the urban block: making the project urban and rural at the same time.

It was essential to model the rigid traditional urban block of seven different heights to end up building a new volume of variable heights (three to seven stories), containing the complete residential program required.

The rest of the program (storage rooms, garage and facilities) was designed in a common underground basement. Architects wanted the building to match the environment, voids and cuttings which allowed the view of the mountains in the empty spaces between the buildings, fragments of the Asturian landscape in the distance, enabling the sun and the air to enter the inner space at the same time.

Offering inclusive materials for the exterior facade from the inside of the block and exclusive from the outside, the building meets its former residential function.

03 design research
Precedents

Site plan

03 design research
Precedents

- network of courtyards foster community
- different size building clusters
- unit size varries
- possible extentions
- semi-private, private and public spaces
- configuration of units create space hierarchy
- uses locally acceptable materials

- sharing courtyard for communal activities
- apartments on the ground floor have access to private gardens
- 1-3 bedroom apartments
- secure and safe environment without fences
- uses locally acceptable materials

- achieves required density in a low-rise building configuration
- possibilities for incrementality
- good architectural qualities
- buildings form courtyard for communal activities
- uses materials that offers durability

- masterplan includes facilities as schools, hospitals, etc.
- configuration of buildings create hierarchy of spaces
- the combination of courtyards foster community
- well-organized units for climate
- offers spaces in the building for social activities
- uses materials that offers durability

- created for high-income groups
- 3-6 bedroom apartments
- access to large garden verandas
- panoramic view
- privacy and security

As cities densify around the world, and housing costs force more people into smaller spaces, balancing privacy and sociability becomes more difficult. At their own pace, ***spaces help people to interact with their surroundings, combining work and living opportunities, as well as lively activities outdoors.***

Charles Correa in his book “The New Landscape” defined that the ***hierarchy of open space is something which is essential while designing an area for mixed-income housing.*** Defining the hierarchy of spaces, creates possibilities for different activities to take place: more private or more public. The outdoor spaces of a town or city are important because they provide vital, etra, useful living space in the otherwise more compact and confined urban environment. ***The greater the diversity of spaces, the greater the potential of activities to take place as well as the greater diversity of such activities.***

Using outdoor space defines people lives, the pleasure of gardening or walking in the park, but also everyday tasks that have to be done as waiting for the bus or taking the trash out. All these activities should provide pleasurable encounters and full-fill the needs of the residents of the neighbourhood; the city and even eventually, the country.

The range of different types of spaces are important: they should be robust, flexible, multipurpose spaces with flexibility to allow different activities to happen at different times. However, there should also be spaces dedicated to the specific activities, such as sports, games or performances. ***Creating***

Lack of open and communual space in Kolfe

03 design research
Open space

hierarchy of spaces ensures the sustainable development of the community and also the residents themselves.

Designing open spaces is vital when designing for mixed-income housing developments. In the Global North, it is usual for different income-groups to mix and live nearby each other, using same facilities and amenities. However, in the Global South, within mixed-income developments, it is difficult to create a space for low-income groups directly next to the high-income groups. ***People do not mix so easily and they would rather create a community with the people that are on the same level, people they know.***

Therefore, empowering the public spaces, where different income groups could mix, and offering a range of spacial experiences in more private spaces (ex. courtyards) is crusial. The diversity of use and users can contribute to a sense of community and make the neighbourhood safer. It is knows, that the enclosures work better than just open spaces, because it provides a sense of quality and functionality.

It is important to mention, that streets act as an open space too, where many activities happen. It is crusial to combine these elements and create flexible and inclusive future developments.

Access to public health

Improve safety and security

Increase environmental sustainability

Provides economic growth and urban prosperity

Increases participation in the fabric of the city

Access to opportunities, socio-economic empowerment

Building houses is building homes for people, leaving no-one behind, creating sustainable cities and inclusive communities. Housing different social groups in one neighbourhood provides holistic approach to achieve transformations, that would not only reduce poverty, but also place people and human rights at the forefront of urban sustainable development.

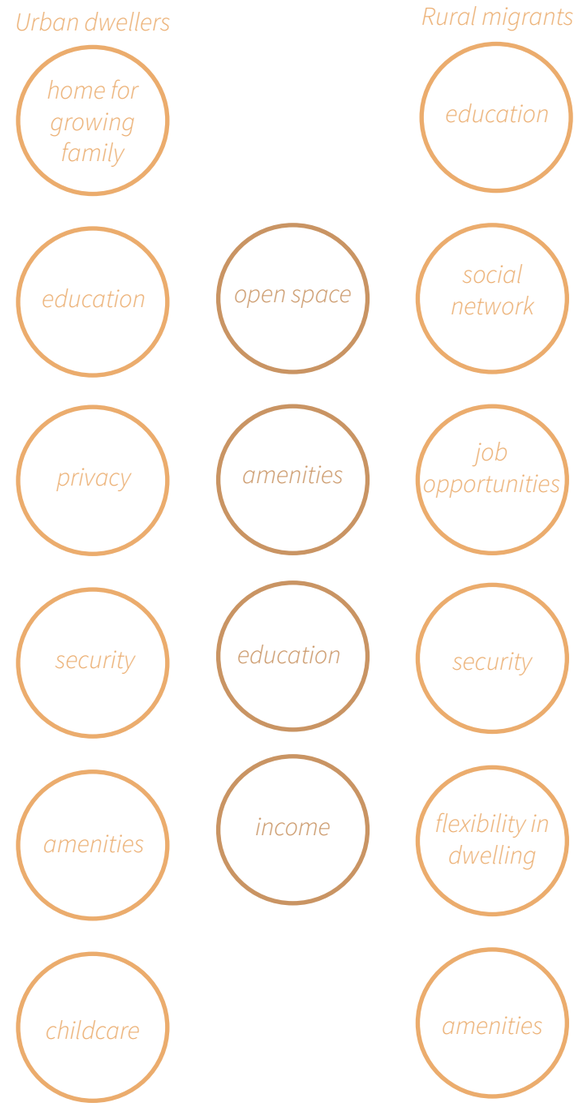
Housing clusters should not only be a place to eat, sleep and stay but it should also provide open space for nature but also has become a place for sustainable communities.

By creating inclusive neighbourhoods, we create many positive outcomes. Access to public health and improved safety and security is guaranteed for all income groups. It provides economic growth and urban prosperity and increases the participation of all in the creation of the city everyone wants to live in, as well as empowers low-income groups to achieve more in their future.

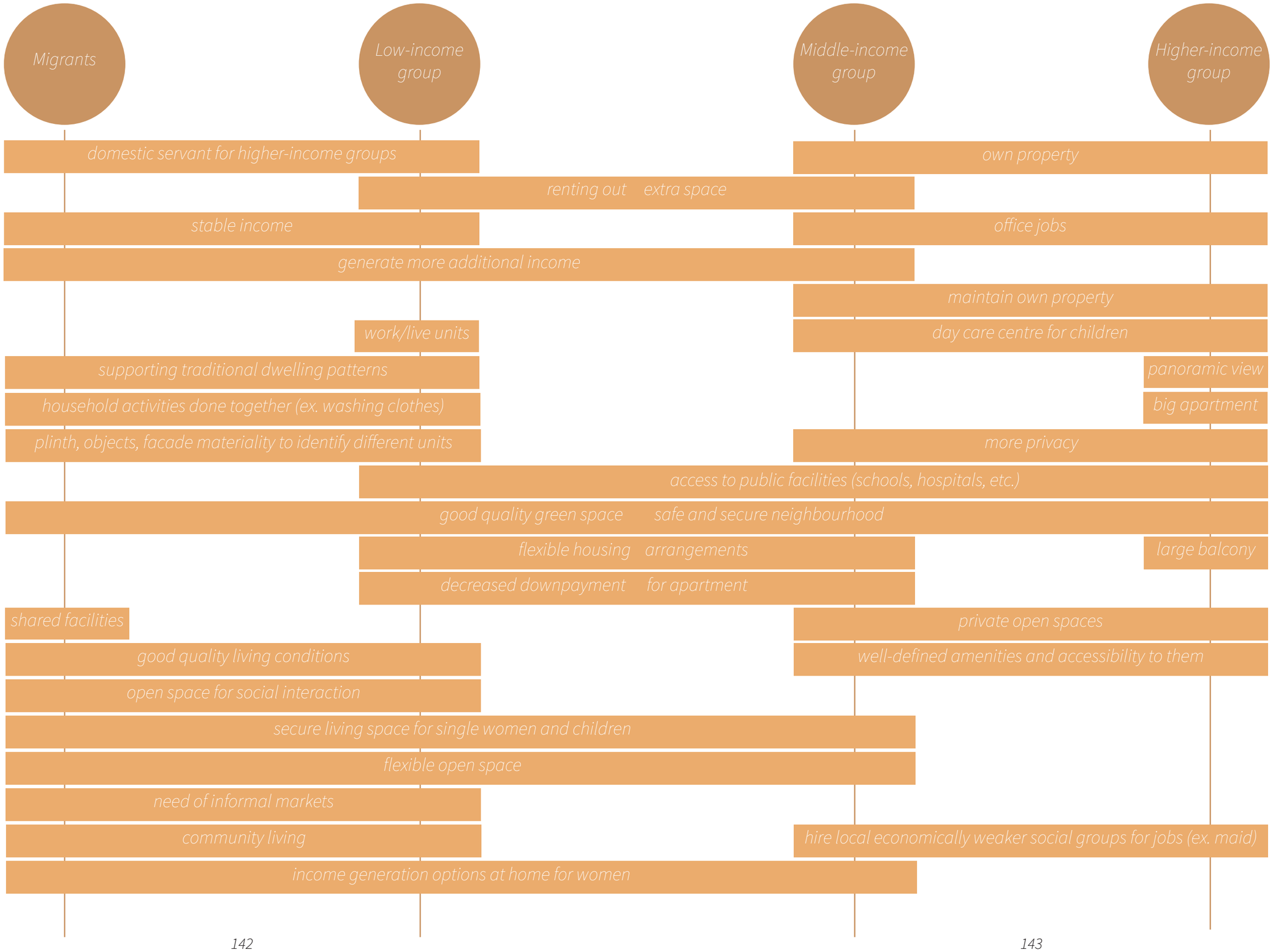
Inclusive housing offers to invest in being a part of the more connected community. ***It does not make different economic groups equal, but it brings the same social levels of acceptance and respect to different socio-economic groups.***

Different social groups have different ambitions and needs. Identifying the needs of urban dwellers and rural migrants, helps to figure out the similarities between two groups. Urban dwellers and rural migrants seek to live in a community, that would provide amenities close by their house, create possibilities for income-generation, offer a useful and good quality open space, provide education.

Moreover, analysing the existing socio-economic groups in the neighbourhood further scheme has been drawn to identify the needs of users even better:



03 design research
User needs & ambitions



social networking: street as a public space

variety of amenities on the ground floor

mixity of different dwelling unit types

possibilities for income generation

There are many arguments for increasing density. With rapid urbanization and decaying resources, we have to use existing infrastructure more efficiently. Greater density does not provide the real benefit just because it is more spatially efficient.

True urban quality comes from accommodating density and diversity of building types and uses in the same place. I believe that different, even conflicting, uses and users can co-exist and enjoy the convenience of junction if they are accommodated in an urban framework that lets them be good neighbours to each other.

The design assignment aims to create a model of a ***co-existing housing scheme*** between two lifestyle groups of ***urban dwellers and rural newcomers***, as well as different income groups of ***economically weaker-income, low-income, middle-income and high-income people,*** in a required middle-rise housing unit.

The location of the Kolfe site in the city of Addis Ababa would serve as a ***prototype***, this would not only help to create identity of the site itself, but would also improve the lifestyle of the current residents.

After a thorough analysis of habitation patterns of citizens of Addis Ababa, precedent projects, the needs and ambitions of the users of the current site, ***three main goals were set that the future project would develop upon.***

The goals refer to the three different scales: the city of Addis Ababa, the neighbourhood of Kolfe and the block. Within ***the city*** of Addis Ababa, ***the identity*** of the current site is missing.

The neighbourhood will provide good quality ***open space***, empowering the ***hierarchy of spaces,*** that would help to define the streets better and provide access for pedestrians. ***Ownership*** of dwellings should be offered.

Considering the smallest scale of ***the block***, it will sustain ***community*** to cherish the ***social mixity***, offer the ***variety of dwelling units*** and ***flexibility*** for different families, create ***no visibility of different social groups*** of the dwelling exteriors.

The set three goals directed the further development of the design.

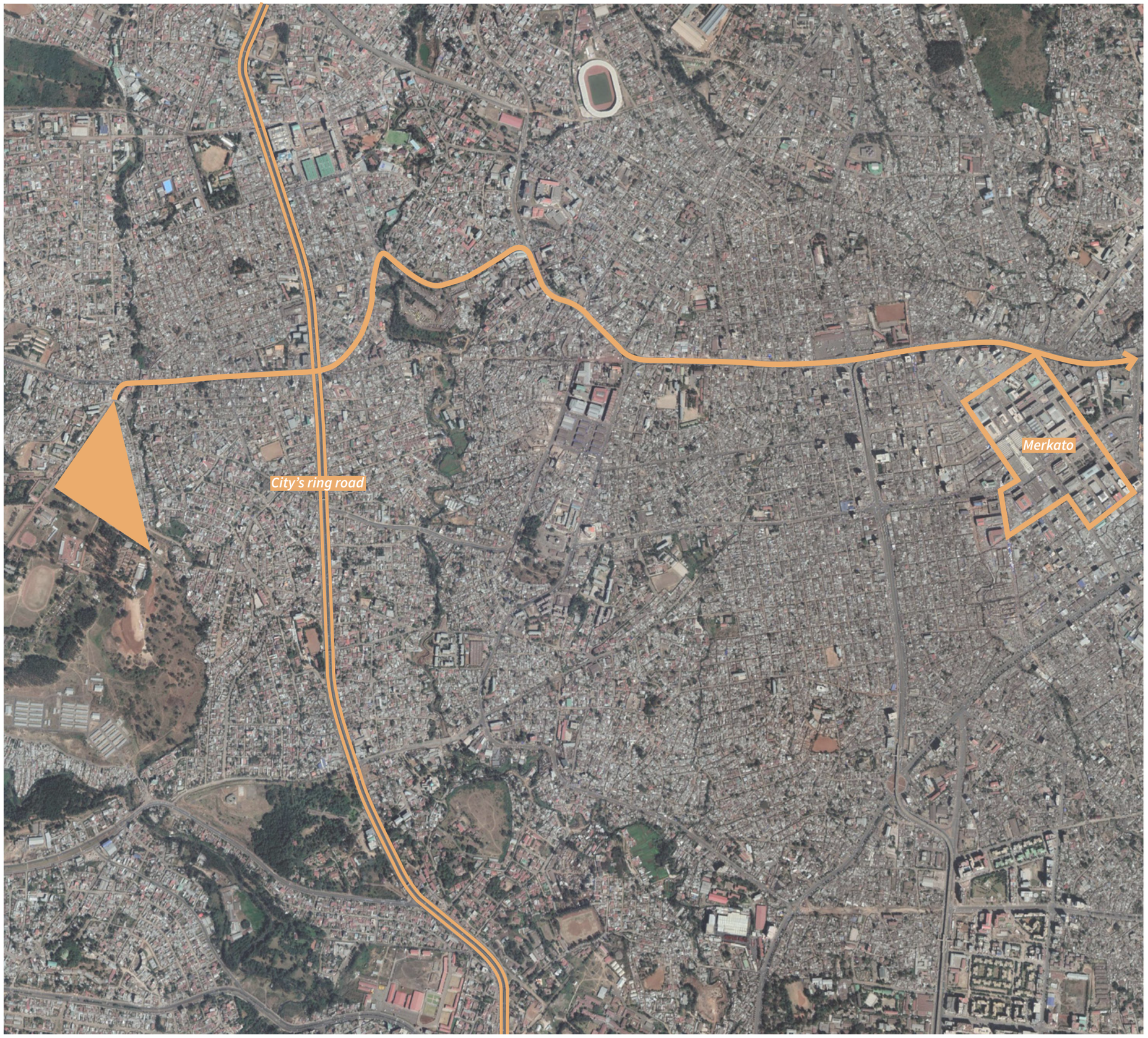
City
identity

Neighbourhood
more open space;
empowering streets;
hierarchy of spaces;
ownership

Block
community;
variety of dwelling units;
no visibility of different social groups in the building;
exteriors;
flexible units;
social mix

04location


Merkato
Ghebbi
Diplomatic quarter
Lideta airport
Bole international airport



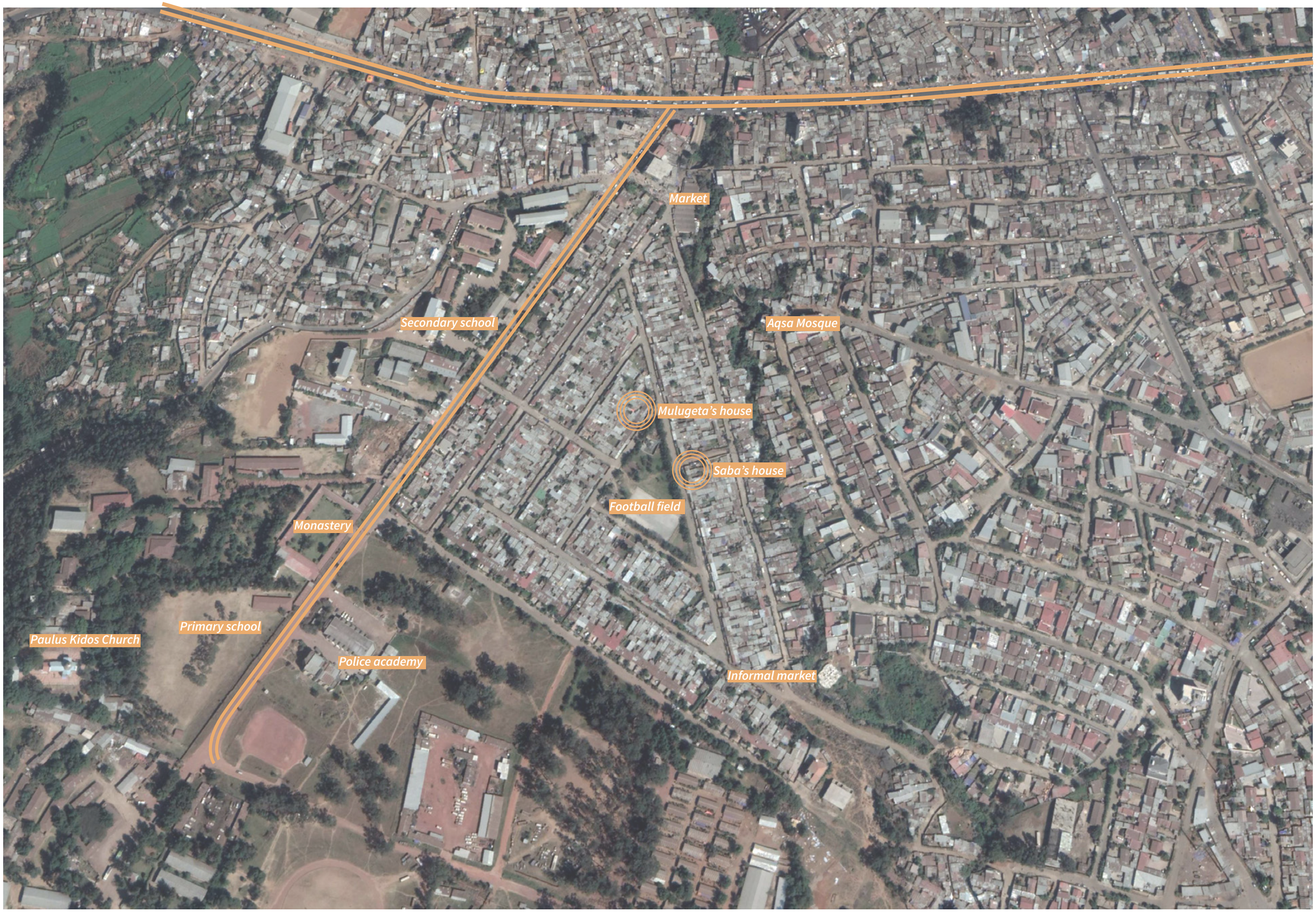
The chosen site for the project is located in the West side of Addis Ababa, approximately 20 minutes away with transportation from the city centre, in the district called ***Kolfe Sub City, Woreda 24, Kebele 09.*** The main connection with the city centre is through the intense vehicle road, by bus, taxi or car.

Kolfe site was developed in the late 1980s and is owned by the governmental institution - ***Federal Housing Corporation***, which is responsible for relocation and/or accommodation processes of citizens of Addis Ababa. Owning many different properties in the city, Kolfe neighbourhood is one of many in a need of a change.

Originally, the site was constructed to relocate people from the former informal settlements in the current property of the Sheraton Hotel and Sunshine construction site. Sites and services housing model were chosen, to build cheap, somewhat durable houses for low-income groups. Therefore, the community in the neighbourhood is tight, as many people know each other for more than 30 years and lived together previously.

The site is chosen because of its surroundings, history of the residents and natural conditions it offers. As many current residents were relocated from previous sites and more people are coming to the area almost every day, the site requires changing, reflecting on the patterns of movement by different socio-economic groups. The new development of the area would provide the identity for the existing site, as well as, the city of Addis Ababa.

Therefore, the site would serve as a prototype in my research of creating a new co-existing housing scheme in the neighbourhood of Kolfe.


Market
Secondary school
Aqsa Mosque
Mulugeta's house
Saba's house
Football field
Monastery
Primary school
Paulus Kidos Church
Police academy
Informal market

04 location

Existing street structure

The neighbourhood is a ***triangular shape, divided by a rigid street structure***, forming triangular public space in the middle of the site. In the current surroundings, the ***Kolfe site stands out by its rigidity and organization***. It ***provides*** residents with ***infrastructure, water and sewage management.***

04 location

Existing borders

The natural borders of park and river stream are reached easily. The ***neighbourhood is*** acting as a leftover space, ***not connected with surrounding areas through river*** and only accessible through the main road. The streets of the area are defined by closed borders, expressed by gates and fences made from corrugated metal sheets or concrete blocks.

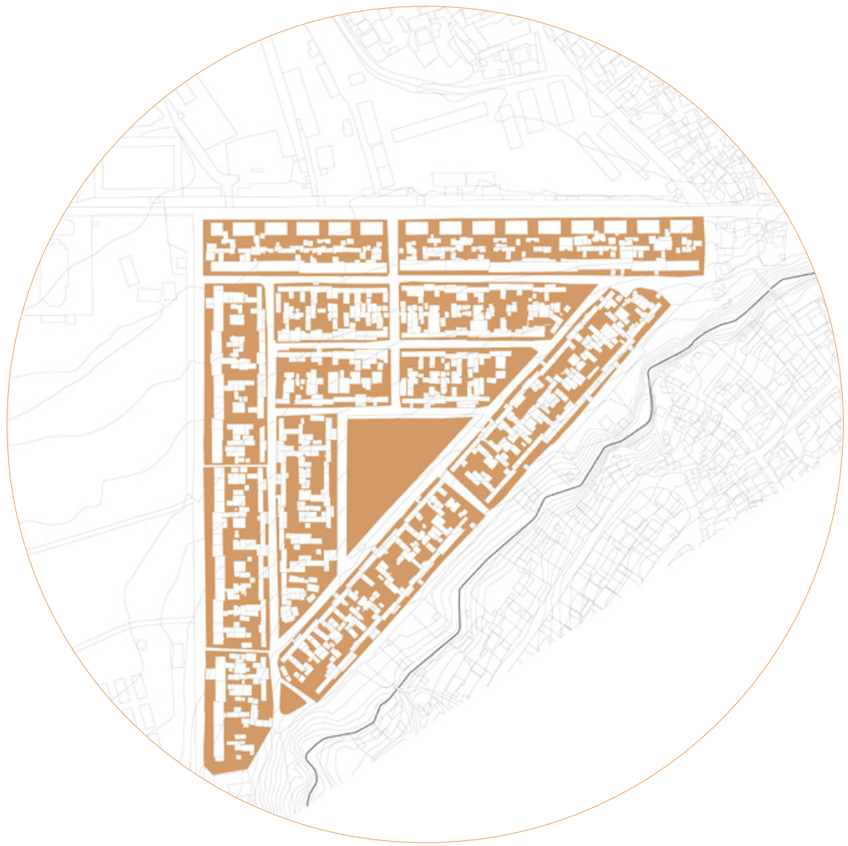
04 location

Existing built-up space

The built-up space is intertwined between the original masterplan, provided by the government, with ***3 clear typologies***, newly ***built-up extensions*** to it ***and informal settlements*** alongside the river. Decaying households, illegal framework of building and opportunities for the neighbourhood, requires a set of changes, that would bring the security and safety, as well as the identity for the site.

04 location

Existing open space



In the middle of the site, ***a green public area becomes a leftover space.*** Neglected greenery and football field with illegally built coffee and food shelter, defines the space, that many residents do not find attractive. Many children come to play here after school. Nevertheless, many more are not allowed, as it is defined as an unsafe environment.

The appropriation of space is incontrollable as one can only guess what happens behind the closed gates. However, it is noticeable that ***courtyards act as a communal space*** for many residents.

Secondary streets are defined by the corrugated metal sheet fences and gates

Secondary streets are defined by the corrugated metal sheet fences and gates

04 location
Chosen site

The primary vehicle road from Police Academy towards the street connecting neighbourhood with the city

Appropriation of the space

Formal market in the neighbourhood

Informal market in the South part of Kolfe neighbourhood

Informal settlements near by the river stream

The condition of river stream

Mulugeta's garden in the public space

Saba's and Kidan's courtyard in the front

04 location
Chosen site

Public area: football field and abandoned green spaces

Informal restaurant and coffee shop in the central public space

Saba and Kidan

In a small one-bedroom house provided by the government, costing 330 birr per month for its rent, Saba lives with her mother Kidan and two sons.

It is a two-room house with an extension. Bedroom is shared between Saba and her mother, whilst extension by her two sons. The important utilities of the house are located outside: small shared kitchen and bathroom.

The house is obviously too small for 4 people, but the extensions cost money which this family cannot spare. Saba is the only working inhabitant. She earns 500birr a month by washing clothes for middle-income group families.

Saba wishes to make an extension for her living room, however materials cost restricts her: 1 eucalyptus pole costs 80birr, while 1 corrugated metal sheet for roofing - 250birr - it is too expensive. Saba believes moving to an apartment in condominium block would be to everyone's benefit: it would be sanitary and clean, moreover, she would OWN the place, whilst she would not need to pay rent for the government.

Her oldest son fell down the wall, injured his head and due to high medical costs, were left untreated. He is now mentally ill and incapable of normal living; his learning capabilities became limited.

However, because Saba and Kidan lived in the neighbourhood for 35 years already, Saba feels safe letting her oldest son to wander in the neighbourhood: she feels that neighbours live community life and take care of each other. Within the community, they gather money for weddings, funerals and other big occasions.

Saba and Kidan lives in the Kolfe area for 35 years already. They lived near Fuluha hot springs.

Mulugeta

Mulugeta is 79 years old man, who has 6 children. The oldest child goes to the university and is married.

In an extended one-bedroom house, Mulugeta lives with his wife and youngest child. In the backyard of his house, he built 5 rooms for renting, where 3 renters and 2 other kids with their families live.

He extended the house from one bedroom to two-bedroom house with bigger living room. The kitchen and bathroom are shared with other 10 inhabitants of the compound.

The rent of the household is 380birr, which was increased because Mulugeta extended his house illegally. 36 years ago, when he was relocated from Sheraton site, the price of the household was 30birr.

Mulugeta is a gardener. He believes in the greenery as a tool to help the Kolfe site to become more permanent and increase the quality of living conditions. Mulugeta started planting trees under the conditions of the previous government, that wished to avoid deforestation. Later, he received a scholarship due to it. At the beginning, community was against it, but time passed by and they started respecting his initiative. Nowadays, he wishes for his own bigger inner garden.

Community celebrates important holidays together, invites each other for coffee, lunch or dinner. They gather money for weddings, funerals and other big occasions.

The uncertainty about the future bothers Mulugeta: he receives only 1000birr pension and has little savings, as well as proper living conditions. He would love to live closer to road, to be able to open his own shop.

Tesfaye Beyene

Tesfaye Beyene lived in the area for 38 years, after relocation from the Sunshine construction site, near Stefano's Church. Tesfaye Beyene lives with 3 sons and other 6 renters, in the 8x10m plot.

He enjoys the neighbourhood, it is a "good, relaxing area", that cherish community-based living. However, Tesfaye Beyene thinks youth-elderly community centre is missing in the area, where all the residents could meet up. The amenities as shopping centre or proper playground for children are missing as well.

Tesfaye goes to Kidus Paulos Church near-by, built by Haile Selassie, every day. His wife prepares injera every day, because better food recourses are limited.

The area has a quite good water and sanitation system; however, many houses are overcrowded.

Tesfaye Beyene feels like a voice of the community, their leader, therefore he has defined the biggest problem in the area: informal settlements near the river. It is not only illegal, but also bring a huge danger for the people living there. Because of the rainy season, the river is expanding, flooding the neighbourhood and the informal settlements. It weakens the slope and creates danger of slope sliding anytime, destroying the houses.

Informal settlements block the river and people throw their trash, sewage and used water away straight to the stream, polluting the area. Informality brings illegal actions and therefore sangers the neighbourhood.

Teshome Fresenhet

Teshome Fresenhet lives in one-bedroom house with his mother. They rent 5 additional rooms in the extensions in their courtyard for families. There is around 15 people living in one compound.

Teshome lives in the area for 37 years, since he was a child. He thinks that all people living in the area are poor and government does not support their citizens well enough. However, the way inhabitants live together is a strong community-based. The families living in the compound produce door mats and sell them in Merkato once a month.

Teshome Fresenhet wishes to have a porch, where he could garden and have his private space. He notes, that parking lots given by the government are right in the street and due to lack of public space and proper streets, children cannot play outside.

Teshome sees the city of Addis Ababa as a land of opportunity for many, therefore, so many people are coming to live and work in the city. Education is important and many amenities, like health care facilities and developing.

Meseret Nigusie

Meseret Nigusie is living in the neighbourhood for 35 years. Previously, she with her parents and siblings lived in the Sheraton area.

Today, she lives in the two-bedroom apartment closer to the main road, with her brother and cousin being her neighbours and living close by. Her father lives together with her brother. They are close and she enjoys living with her family so close by.

She thinks the area offers everything, except for the entertainment zone for children: a place to play and enjoy outside. She is overall very happy to live in the area.

Wasihun

Wasihun came from a small town, called Gima, in Oromia region. His wife was the reason he moved to Addis Ababa.

Wasihun lives in the two-bedroom house typology in the Kolfe site. Differently from many other residents in the area, he and his wife does not rent any extensions for others, as his salary is enough to live properly.

Personally, Wasihun feels, that there is no community-based living in the neighbourhood. He compares it with his town Gima and thinks that privacy here is more important than community. Moreover, the inhabitant thinks there is no need for open space and that it does not lack in the whole city.

Sometimes, he takes his son to play football in the central green area of the neighbourhood, as well as the informal restaurant near-by.

He would wish to have an extension of the house, where guest room, study room and children rooms could be places. If he could rearrange his current house, he would have bathroom, kitchen, living room and parking on the ground floor.

He would love to have garden if there would be a possibility.

04 location
Interviews with residents

Interviewing current residents helped to define some specific aspirations and needs, that could be implemented in a further design. To be able to interview different income-groups residents and define what they lack or not, defined particular decisions.
Since the establishment of Addis Ababa, different income-groups lived close by to each other, sharing facilities, opportunities and open spaces.
Therefore, further guidelines of the development could be identified as these:

Shops should be located in the neighbourhood.

Parking has to be included in the design.

Community-based living should be encouraged and developed further.

A place for community to gather should be provided.

Bigger apartments should be provided.

Possibility of the ownership empowered.

Possibility for gardening enhanced.

Income generation opportunities given.

More open spaces should be provided.

3-bedroom house *2-bedroom house* *1-bedroom house* *Informal settlements* *Extensions*

04 location
Existing typologies

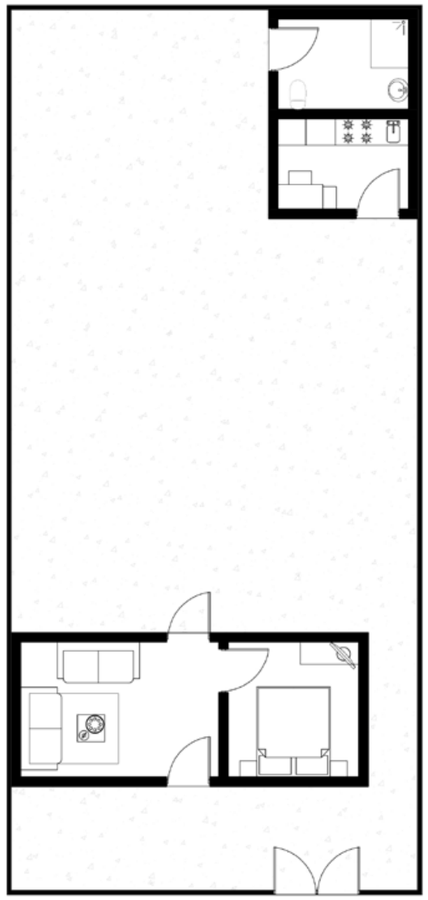
The site is ***8.5 Ha*** in size and is inhabited by approximately ***332 household units*** or ***1660 inhabitants***. Two different income groups, low-income and middle-income, live close by each other, as in many areas in the city of Addis Ababa. Moreover, many new residents are coming to the neighbourhood in search for rental housing units.

Three main typologies can be identified in the site of Kolfe: ***3-bedroom, 2-bedroom and 1-bedroom houses***. Previously, the development adapted by the government was plot base and had sites and services scheme: where rooms for facilities, as kitchen and bathroom, were separated from the houses.

The plot sizes officially vary from ***80 - 200 m² and built-up area sizes from 41.5 to 90 m²***, however, today, many houses have additional extensions in the backyards, where illegally built rooms are rented for the newcomers. The dimensions of the plots can vary from ***8x10m; 8x15m; 8x20m; 10x15m; 10x20m.***

During many years, the official governmental development was changed and adapted towards the needs of the current residents: many extensions were built to occupy increasing families, as well as spaces for possibilites of extra-income generation. On the East side of the neighbourhood, near the river stream, illegal actions were taken and many more houses were built to offer accommodation for the urban poor.

Mulugeta's 1-bedroom house



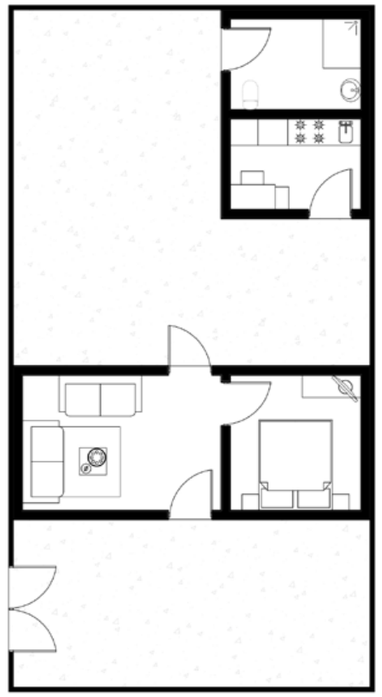
1-bedroom house

1-bedroom house after extentions

The site's dimensions are 10x20m and during 36 years period Mulugeta lived in the house, he changed original plan drastically. He added 5 rooms, extended living room, changed the location of the kitchen and added common washing place for the renters.

04 location
Existing typologies

Saba's and Kidan's 1-bedroom house



1-bedroom house

1-bedroom house after extentions

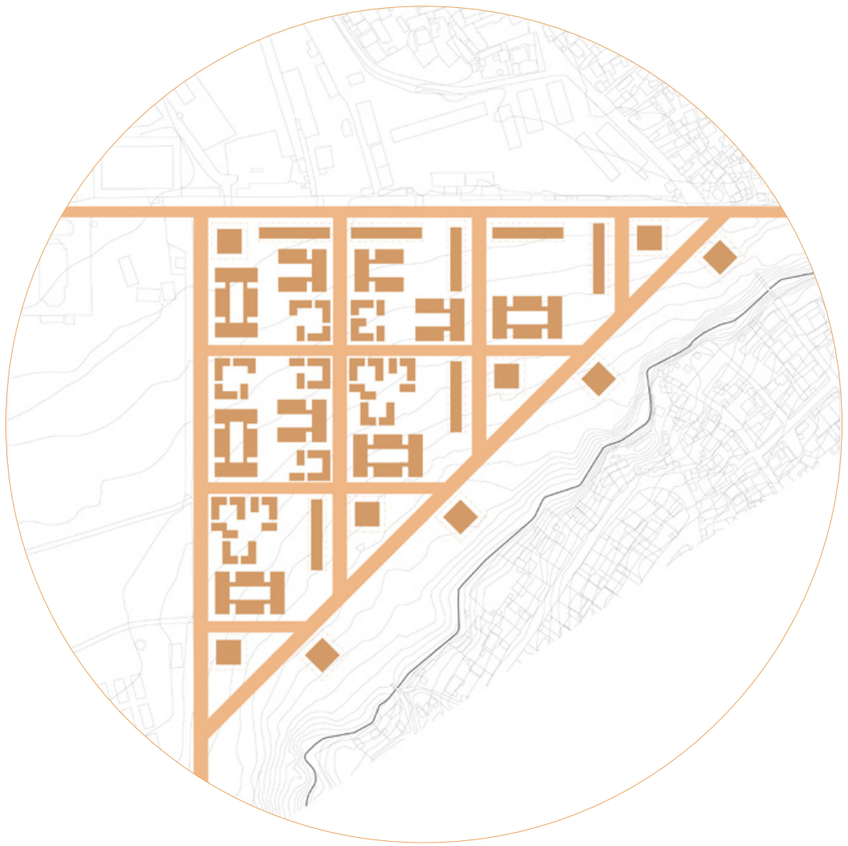
The site's dimensions are 8x15m, however during the 35 years Saba and Kidan lived in the house, it did not change much. One room extension has been made for Saba's sons and some needful changes to stop the water from overflowing the house were adapted.

Inspired by the existing street structure and rigidity, ***the new road structure is created***. A new proposal preserves the shape of the neighbourhood and existing streets, lowering the amount of them, but helping to define the block structure better. Defined by streets, three block typologies are created: square, cut-off square and triangle.

04 location
Urban strategy

Rigid block are intertwined with fluid, green pedestrian paths, creating the hierarchy of streets and spaces. The rigidity is left for the cars, whereas the fluidity for people. ***Bridges*** above the river stream ***are being placed to open and connect the neighbourhood*** with the surrounding areas.

The proposed greenery and water system offers sustainable solutions for air cooling and rain-water management during summer and winter seasons.



Newly proposed 4 typologies for different socio-economic groups are placed in the neighbourhood, defining special conditions, borders and different spatial qualities. ***Assembled together it creates an inclusive neighbourhood***, proving theory that inclusive housing offers to invest in being a part of the more connected community. ***It does not make different economic groups equal, but it brings the same social levels of acceptance and respect to different socio-economic groups.***

04 location
Urban strategy

The new public spaces are offered alongside the river stream, that can be used by the residents of the city, surrounding areas and the neighbourhood. ***The block structure represents the framework for the community giving shape in semi-open courtyards, inner pedestrian streets, combination of low-rise and high-rise building, small communal spaces and sustainable solutions for living and even environment.***

Combination of different ideas ***transforms the neighbourhood to become a resilient cluster for the city dwellers and rural newcomers.***

04 location
Masterplan

The new masterplan preserves the existing qualities of the site, enhancing the potential of the greenery and surrounding areas. The neighbourhood is connected with the surrounding sites through pedestrian walkways, that are leading to public facilities: Paulus Kidos Church and Primary, as well as, Secondary schools.

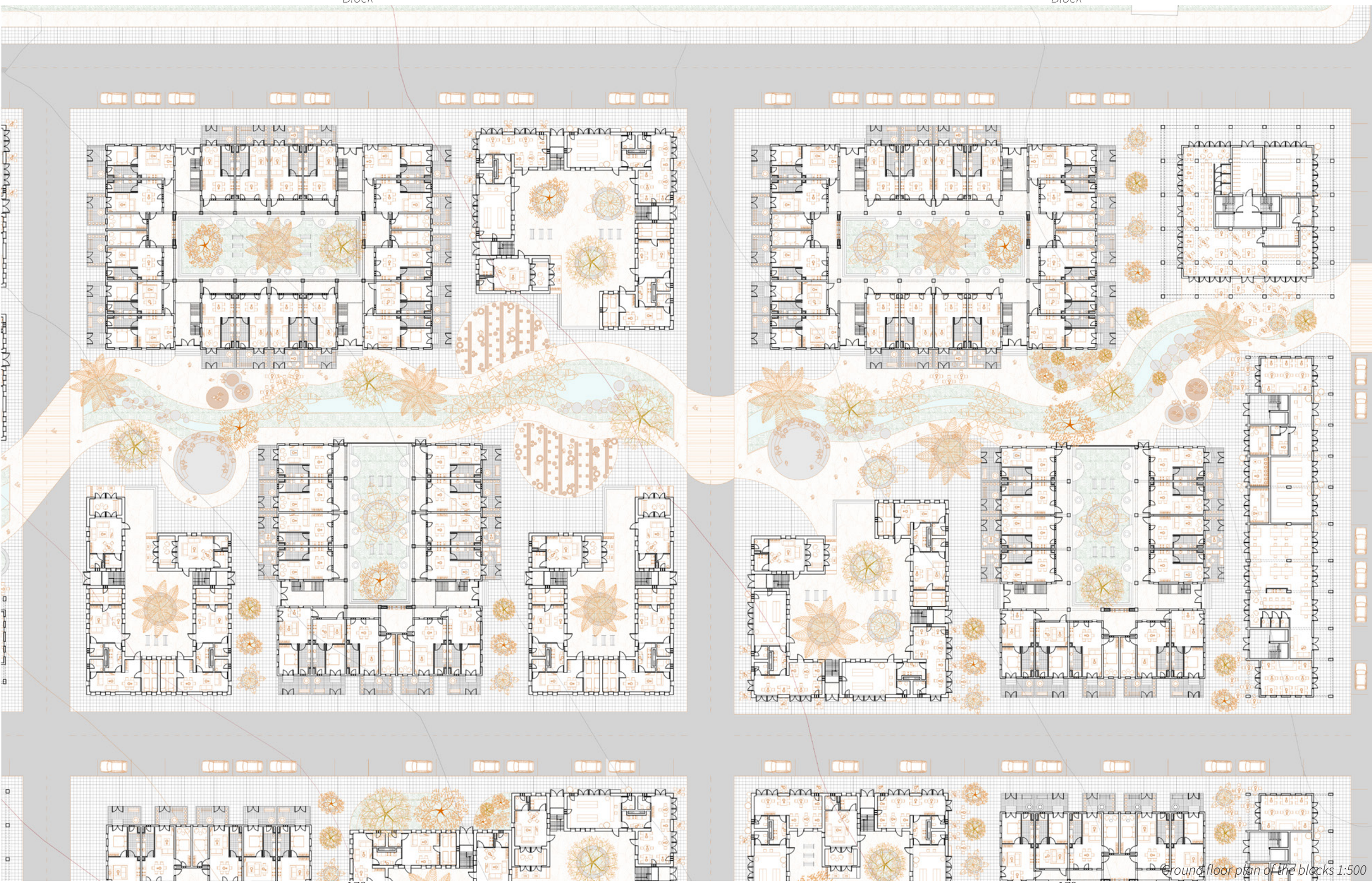
To enhance the newly created green spaces, different functional possibilities are being offered for activities (amphitheathre, playgrounds, markets, spaces for community festivals, etc.) A possibility for urban farming and urban forest are is being proposed, to sustain the traditional rural migrant dwelling patterns, but also increase the biodiversity.

As tower and slab typology offers the commercial plinth, thse typologies are placed near the vehicle roads. The courtyard typology acts as a intermediate typology between the city dwellers and economically weaker group, therefore, acts as the barrier (or border in some cases), creating hierarchy of spaces and possibilities for interactions.

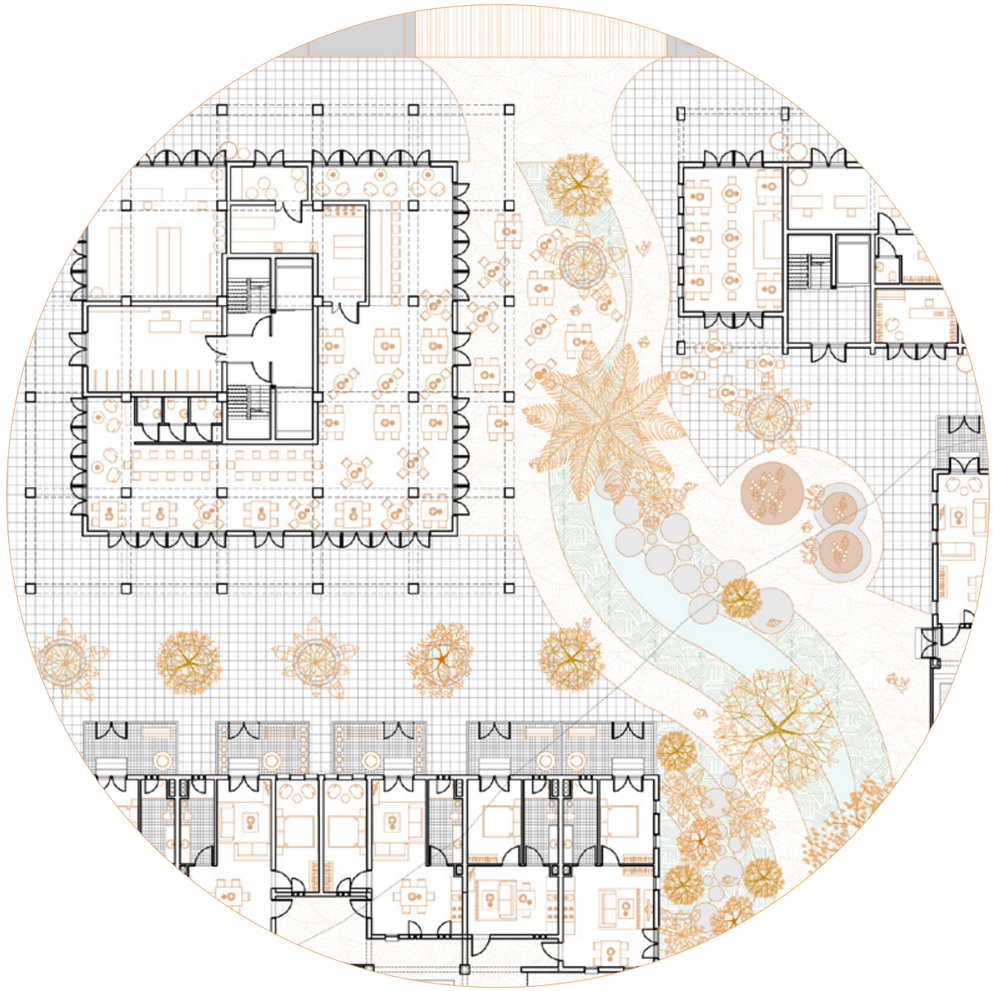
The new masterplan, offers public, semi-public, semi-private and private spaces, where different qualities are accommodating the needs of the variety of social groups. The newly proposed design offers the identity for the area and the city of Addis Ababa.

Masterplan 1:1500

04 location
Block

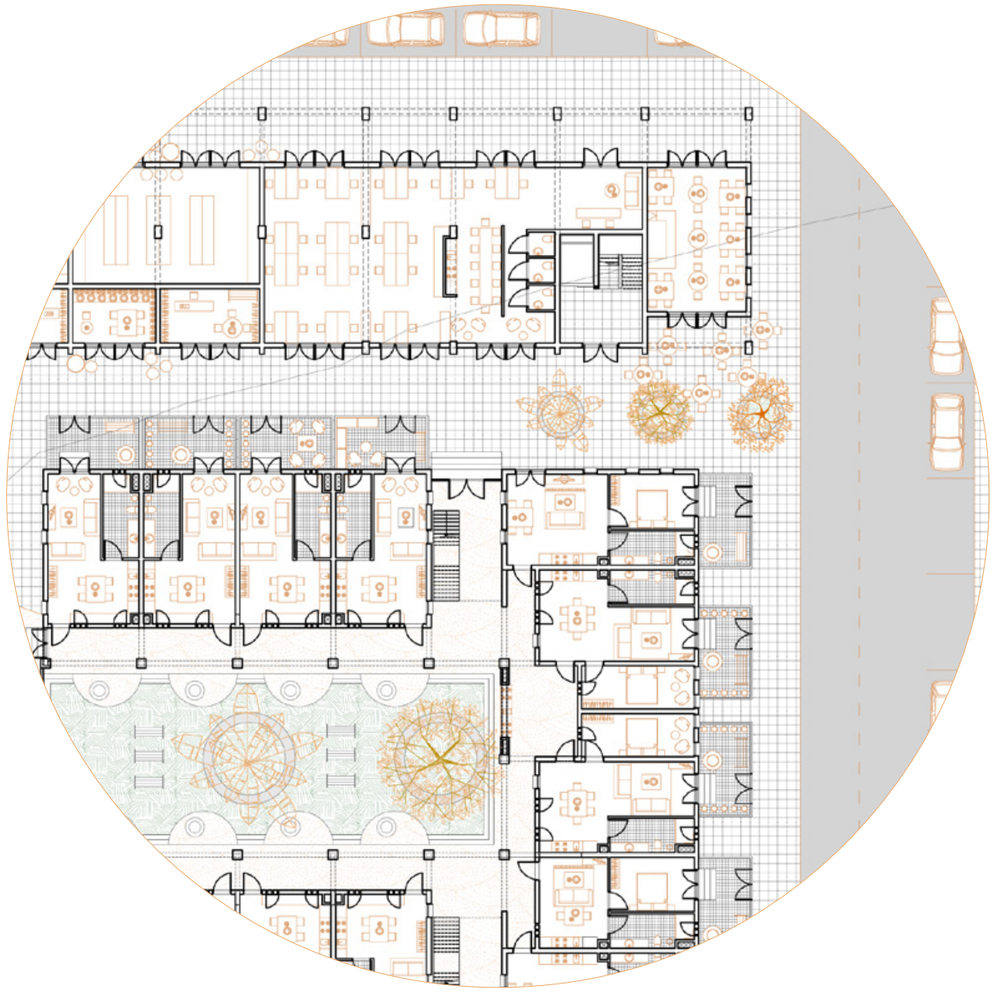


Ground floor plan of the blocks 1:500

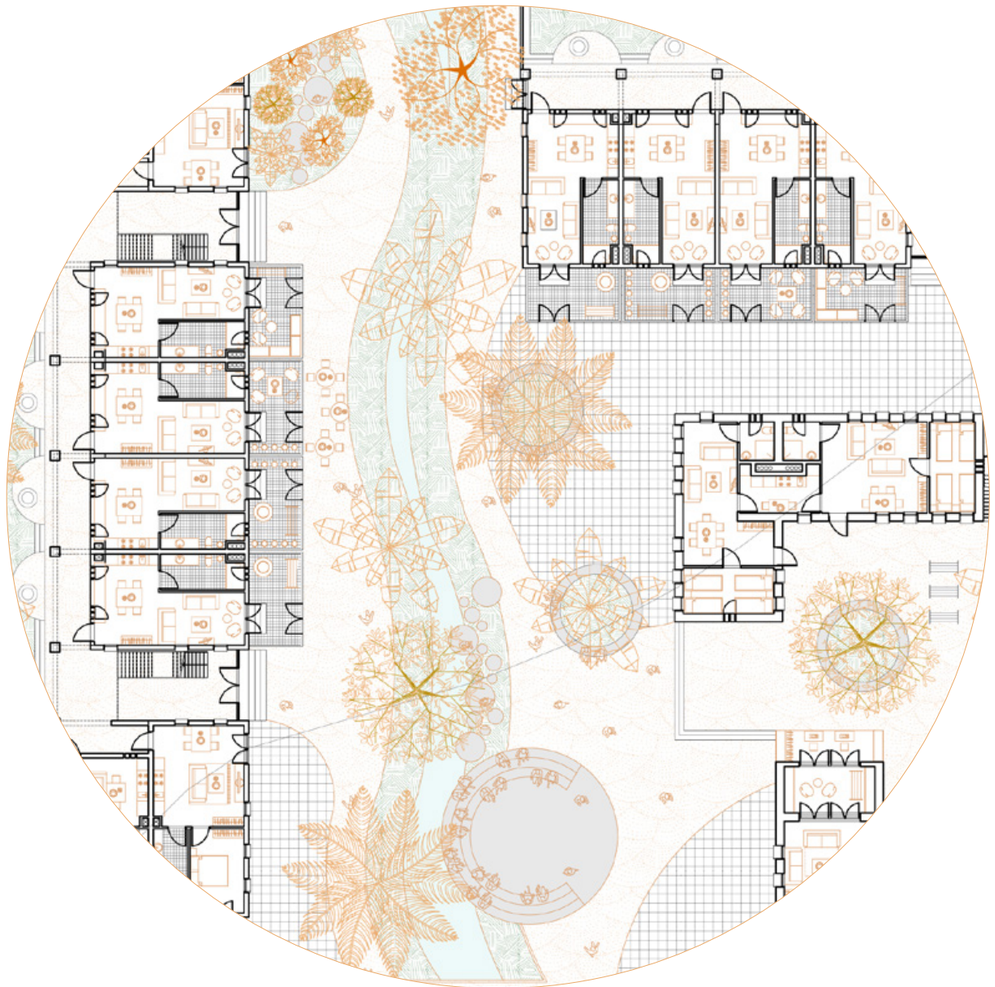


Playground and the restaurant on the ground floor of the tower typology

04 location
Block

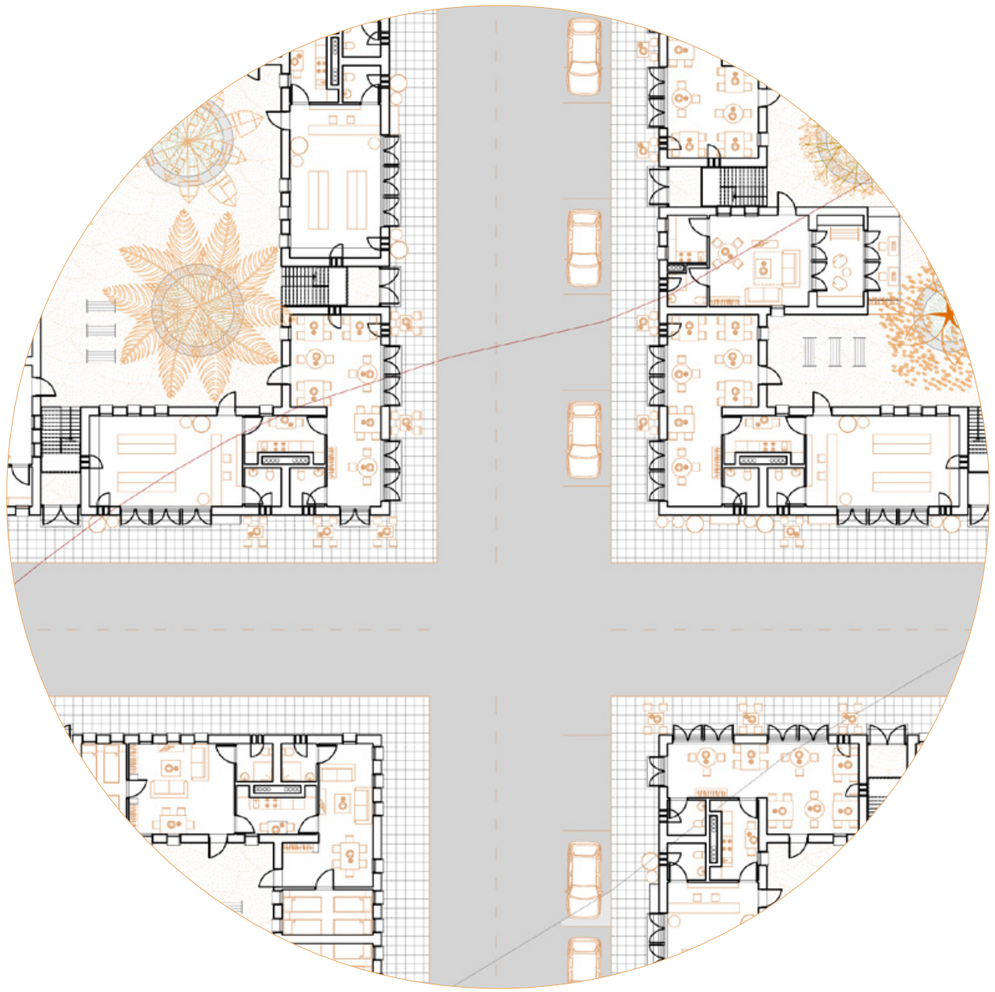


Connection between slab and courtyard typologies

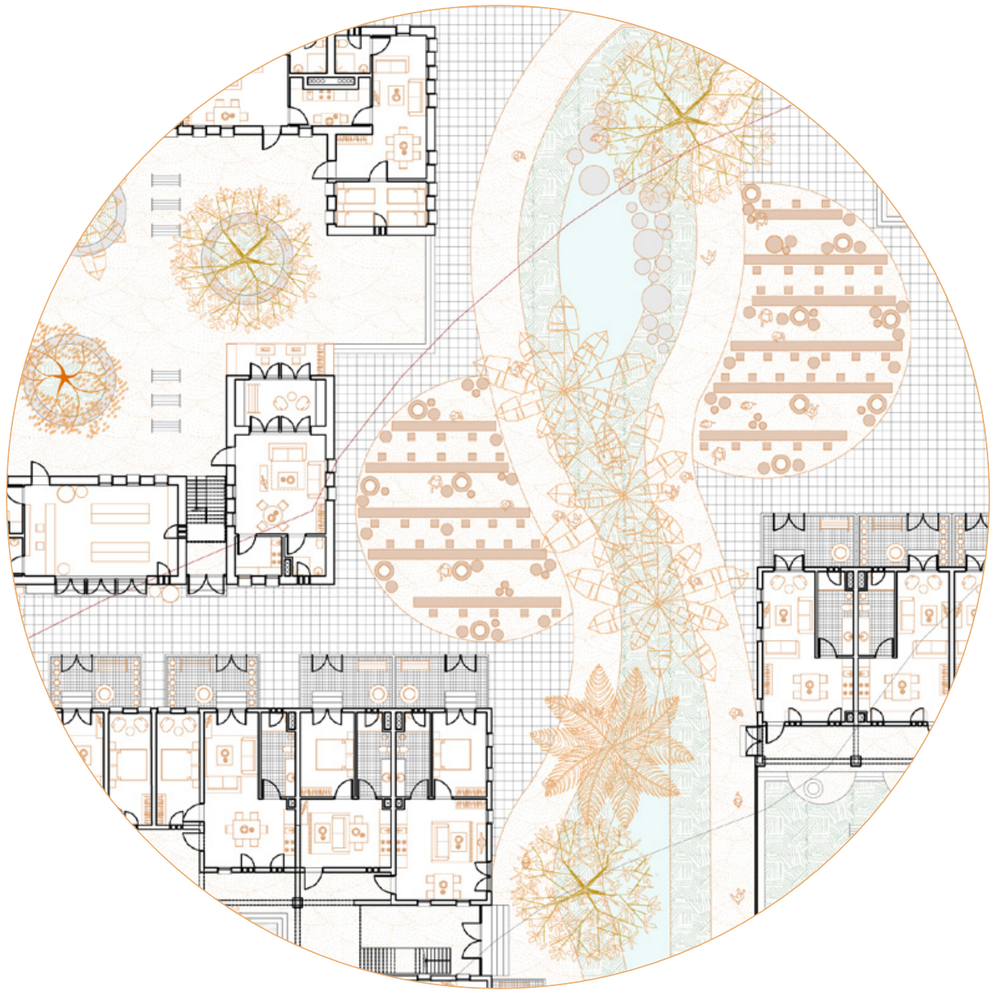


The amphitheater alongside the fluid pedestrian path, that can be transformer into the outdoors cinema

04 location
Block

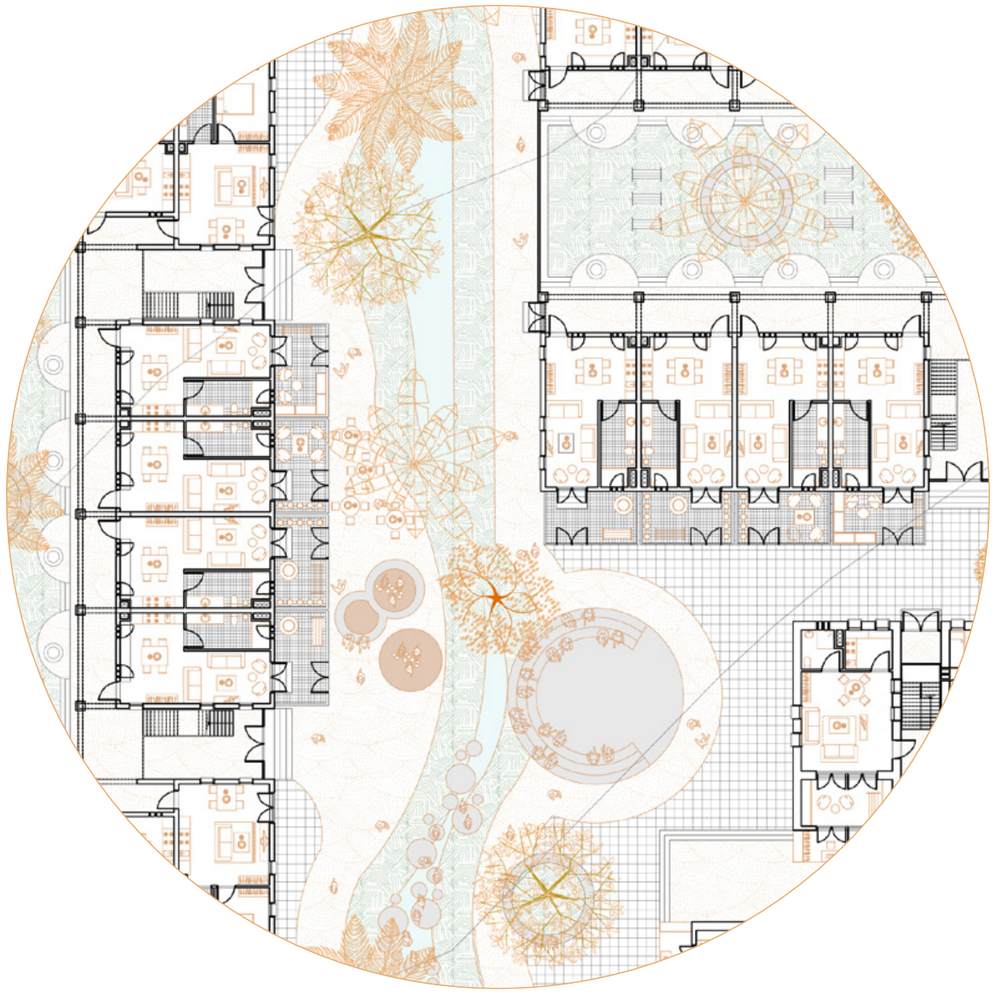


Intersection of the street and the interaction of the compound typology with the surroundings on the ground floor



The informal market alongside the fluid pedestrian path

04 location
Block



Children playground near the waterside and amphitheater for plays

05design

1st phase

The development of the new neighbourhood begins near the main vehicle street, where the middle-income group of the current neighbourhood lives. Two courtyard buildings are offered to relocate residents, while the new buildings are being built. The tower and slab typologies are offered for the middle-income current residents and high-income new residents that will move to the area.

05 design
Gradual renewal

2nd phase

The development of the new neighbourhood continues, demolishing two existing blocks, where the low-income group live. Two courtyard buildings are offered to relocate residents, while the new buildings are being built. The new typologies of courtyard and compound are offered for the low-income current residents and rural migrants that would come to the neighbourhood. The construction of tower and slab typologies subsidizes the construction of courtyard and compound typologies.

3rd phase

The development of the new neighbourhood continues, demolishing more existing blocks, where the low-income families live. Two courtyard buildings are offered to relocate residents, while the new buildings are being built. The new typologies of courtyard and compound are offered for the low-income current residents and rural migrants that would come to the neighbourhood. The construction of tower and slab typologies subsidizes the construction of courtyard and compound typologies.

4th phase

The development of the new neighbourhood continues, demolishing two existing blocks, where the low-income families live. Two courtyard buildings are offered to relocate residents, while the new buildings are being built. The new typologies of courtyard and compound are offered for the low-income current residents and rural migrants that would come to the neighbourhood. The construction of tower and slab typologies subsidizes the construction of courtyard and compound typologies.

5th phase

The new neighbourhood introduces the streets and pedestrian paths which construction costs are subsidizes by selling the apartments in the tower and slab typologies. The 4 towers are being constructed near the river stream, offering apartments for high-income families, which selling cost would subsidize the further development of the green area near the river stream.

6th phase

Final development of the neighbourhood brings the amenities and different functions (urban forest, park, community centre, kindergarten, football fields, etc.). The blocks are clearly defined by the hierarchy of spaces, streets are paved and whole composition of buildings shapes the neighbourhood. Different socio-economic groups are living close by each other and new inclusive community is created.

Masterplan design guidelines

a. Similar socio-economic groups like to live close by each other;
b. Middle- and high-income groups prefer special spatial conditions and privacy;
c. Low-income groups prefer communual living;
d. Neighbourhood should provide identity in the context of the city;
e. Quality green spaces should sustain the good living conditions and offer sustainable solution for the environment;
f. Variety of amenities should be offered in the neighbourhood, that would be reachable by all income groups.
g. Existing habitation patterns of Addis Ababa should be repeated in the newly proposed design.

1

The tower defines the block, offering special block qualities. The combination of tower and slab typology defines the outline of the block near the primary car road. Green pedestrian path connects different functions offered for all income groups, whereas the courtyard typology creates an invisible barrier between the high-income groups and lowest-income groups, suggesting different spatial qualities, but also nurturing the social differences.

2

The slab typologies define the outline of the block near the primary car road. Green pedestrian path divides the block and offers different functional possibilities for variety of socio-economic groups. Courtyard typology creates an invisible barrier between the high-income groups and lowest-income groups, suggesting different spatial qualities, but also nurturing the social differences.

3

The block is surrounded by the secondary vehicle roads. Low-income groups are living close by each other, opening the strict compound and courtyard borders towards the green pedestrian path, therefore, creating the semi-open and private spaces, that are connected to the lively pedestrian path. The hierarchy of spaces are emphasized.

4

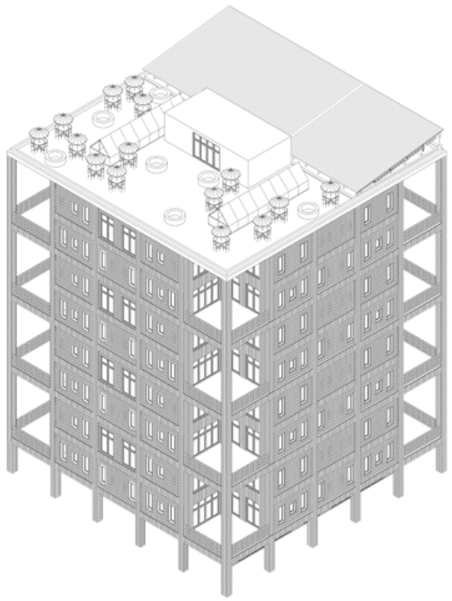
The block is shaped by the cut-off corner and a primary road. Slab typologies define the border of the block. The amenities are offered in the ground floor of the buildings and on-site building with a flexible structure (ex. kindergarten). Courtyard typology creates an invisible barrier between the high-income groups and lowest-income groups, suggesting different spatial qualities, but also nurturing the social differences.

5

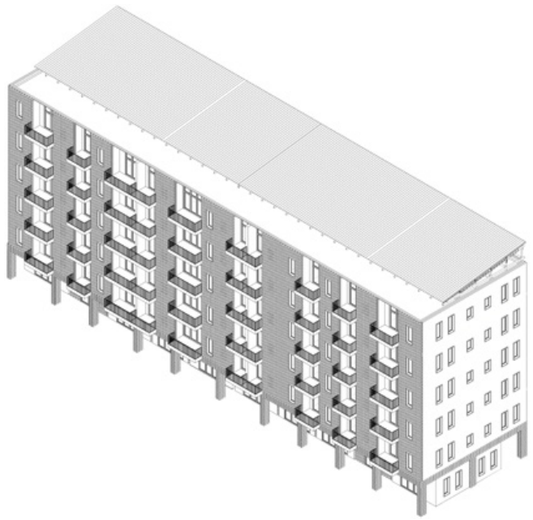
The block is shaped by the cut-off corner and a secondary road. The green pedestrian path visually separates the different socio-economic groups, but also offers unity through greenery. The compound typology shapes semi-open courtyard towards the functional pedestrian street. Courtyard typology creates an invisible barrier between the high-income groups and lowest-income groups, suggesting different spatial qualities, but also nurturing the social differences.

6

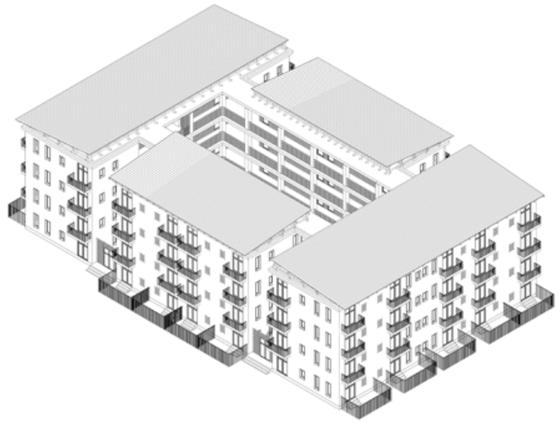
The block is a triangular shape and defines the corners of the newly proposed streets structure. It offers the quality of private greenery for the residents and the amenities on the ground floor. It has a direct visual connection to the river stream and renewed greenery in the public space.



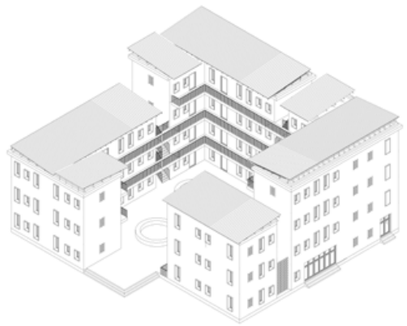
Tower



Slab

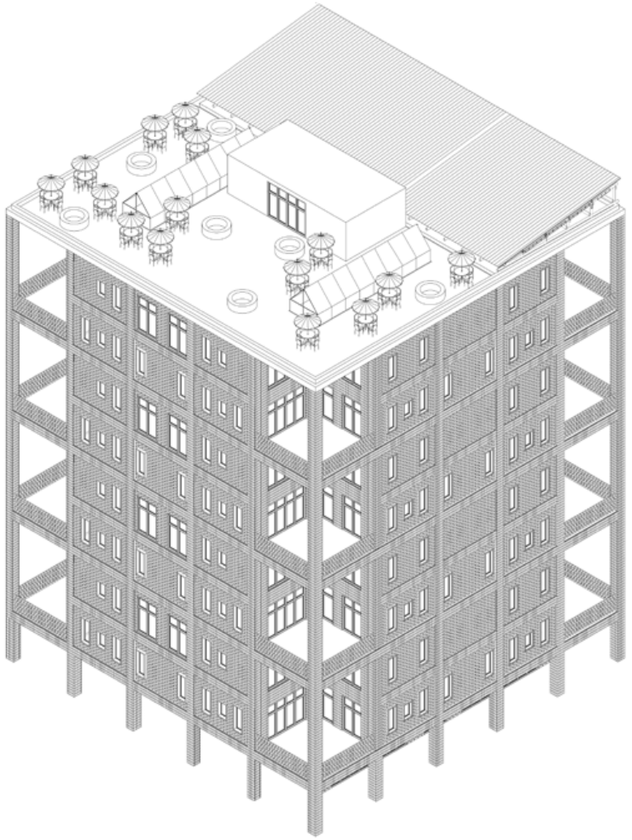


Courtyard



Compound

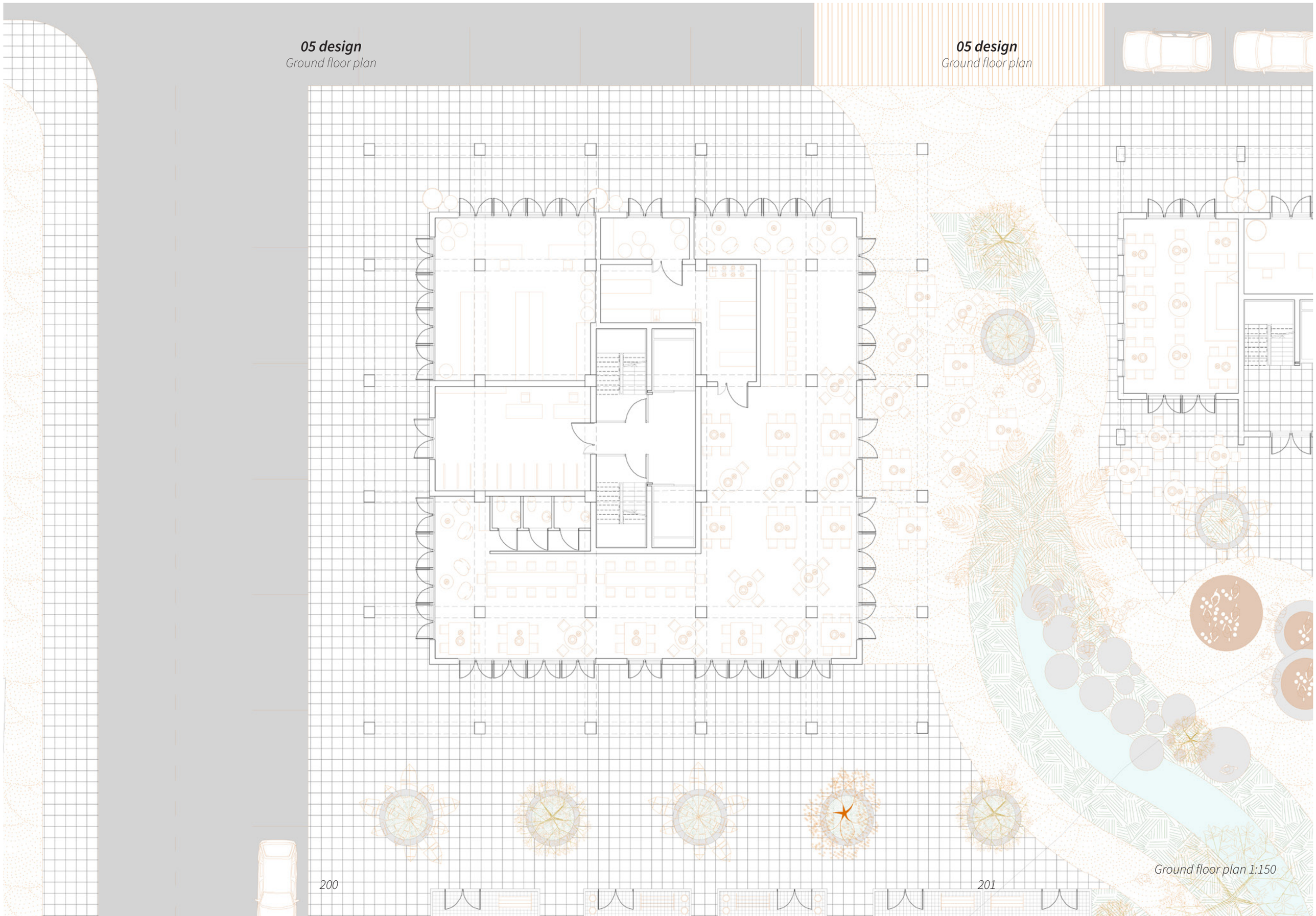
05 design
Typologies



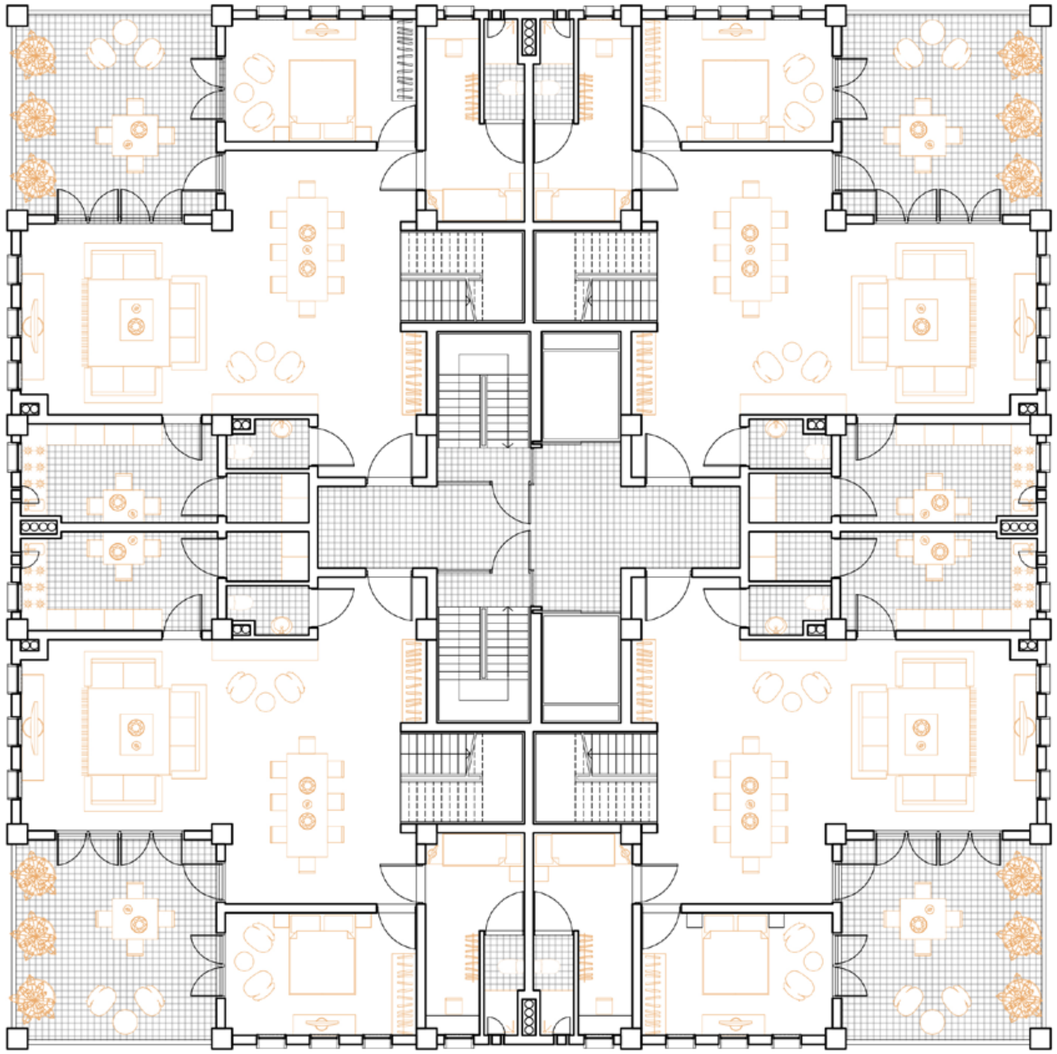
Tower

The typology of the tower would serve as a luxurious apartment building for the high-upper class residents of Addis Ababa. Offering large balconies with overview to the city, big apartment units and private entrances, tower typology would attract high-income families. Therefore, the construction of tower typology should cross-subsidize the construction costs of the lower income group typologies as compound and coutyard.

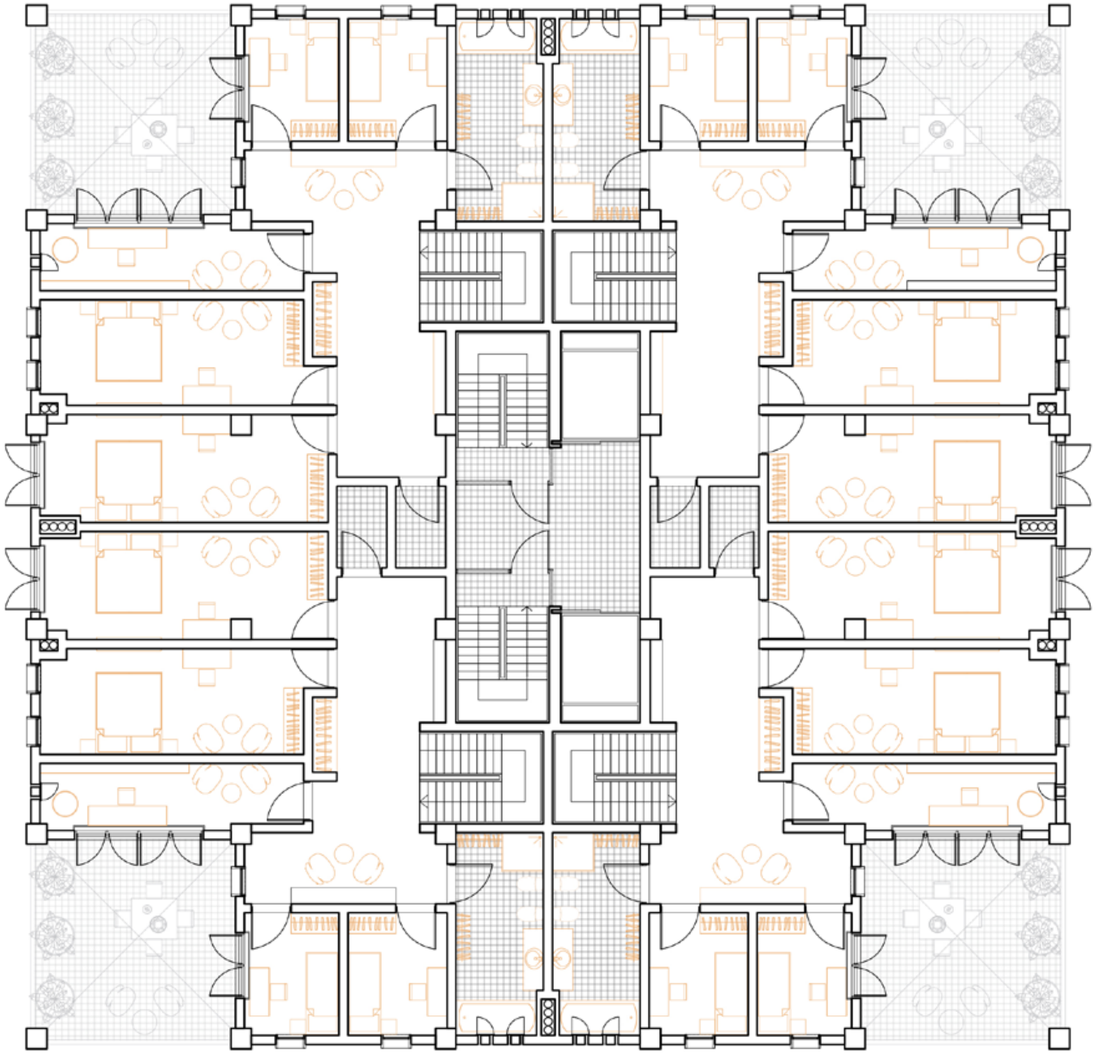
05 design
Ground floor plan



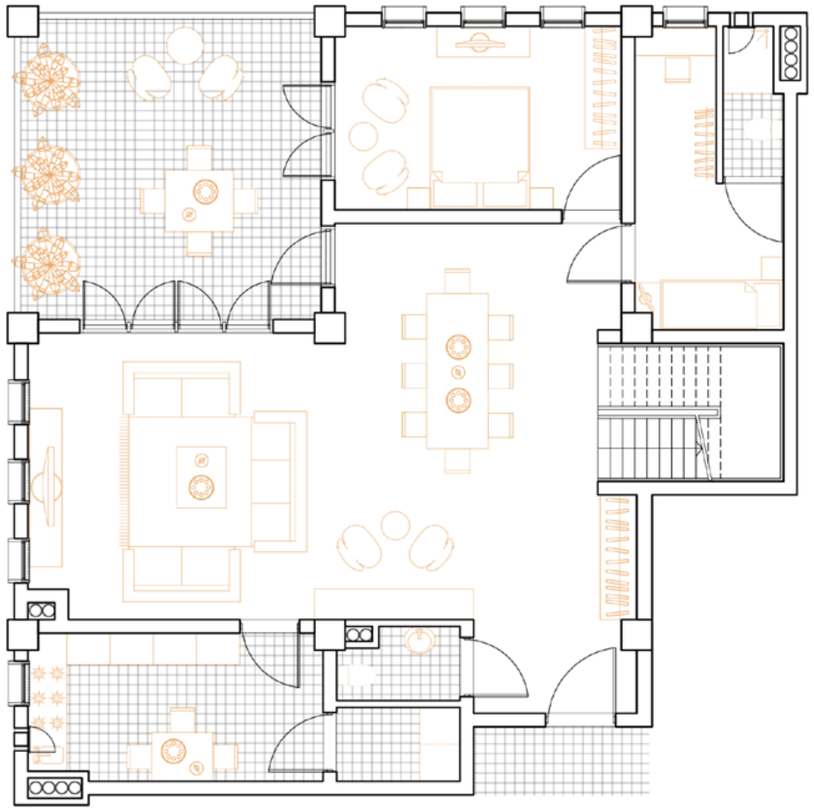
Ground floor plan 1:150



First floor plan 1:150



Second floor plan 1:150



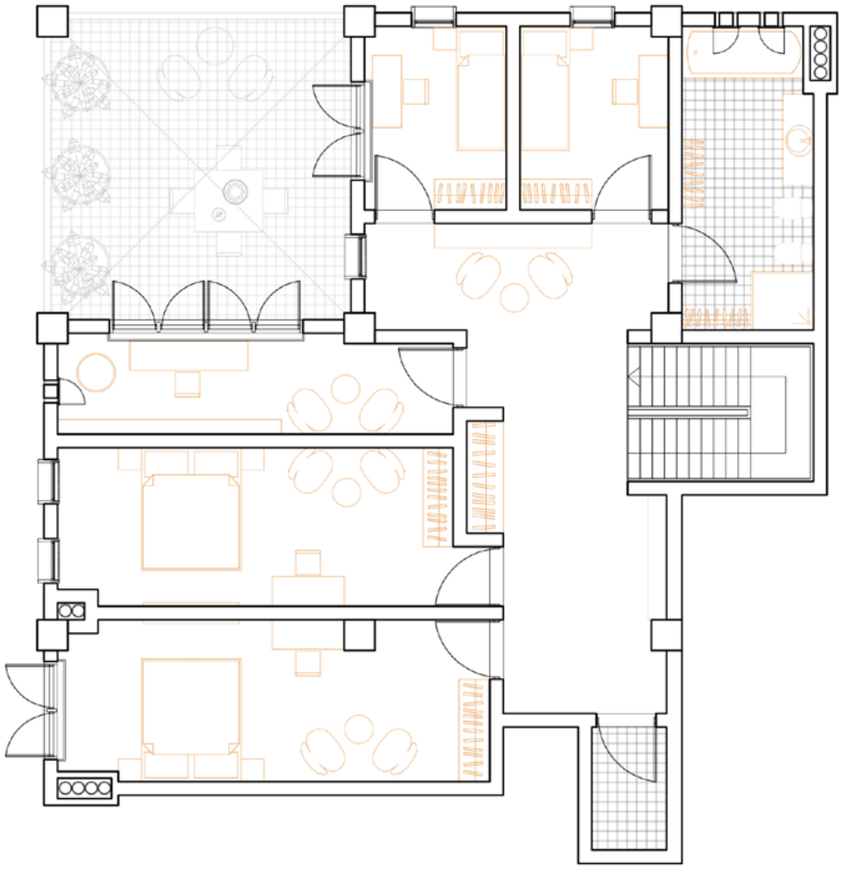
5 bedrooms apartment
210m²

Maid unit 12m²

Balcony 24.75m²

5 bedrooms apartment first floor 1:100

05 design
Unit

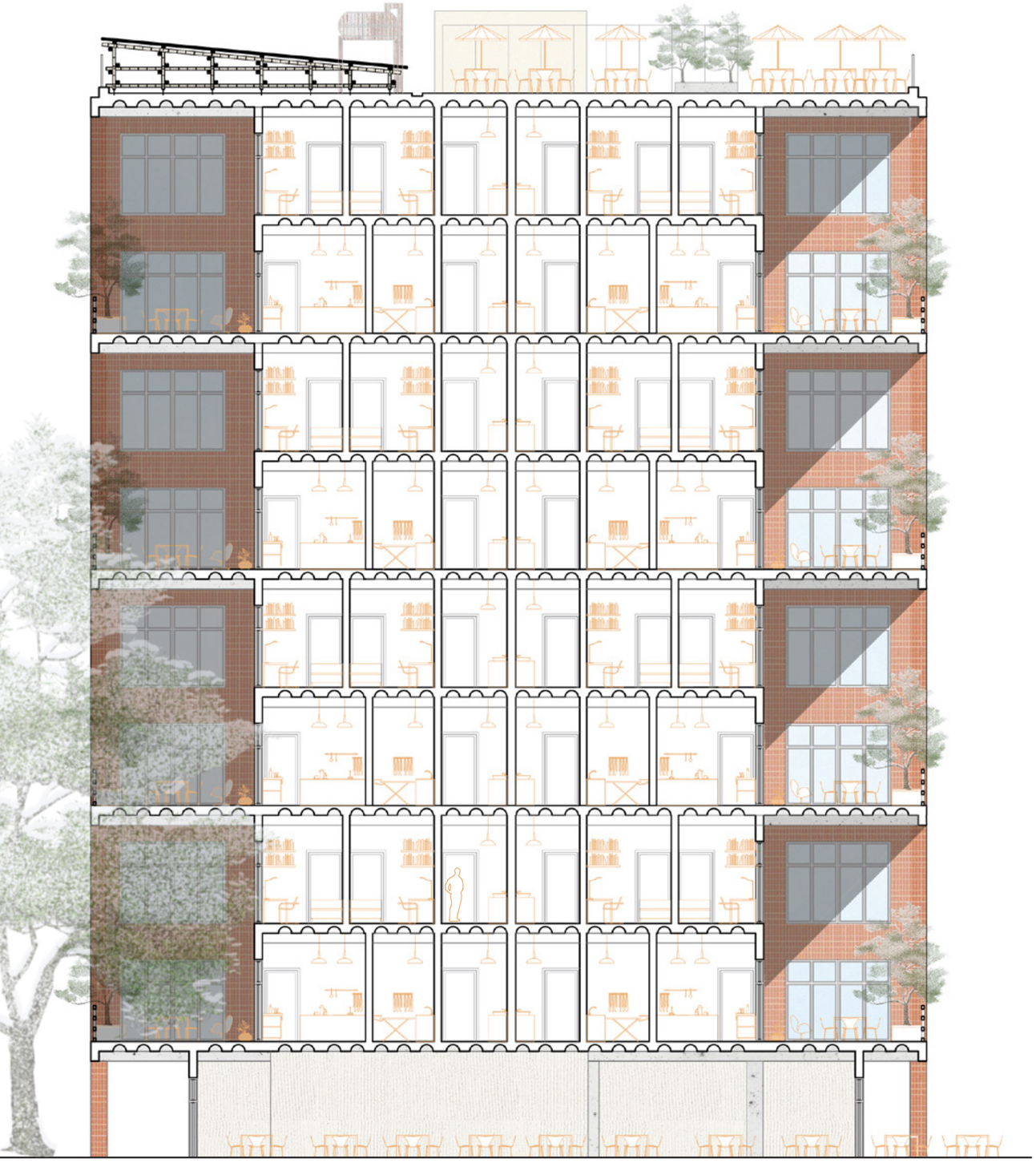


5 bedrooms apartment second floor 1:100

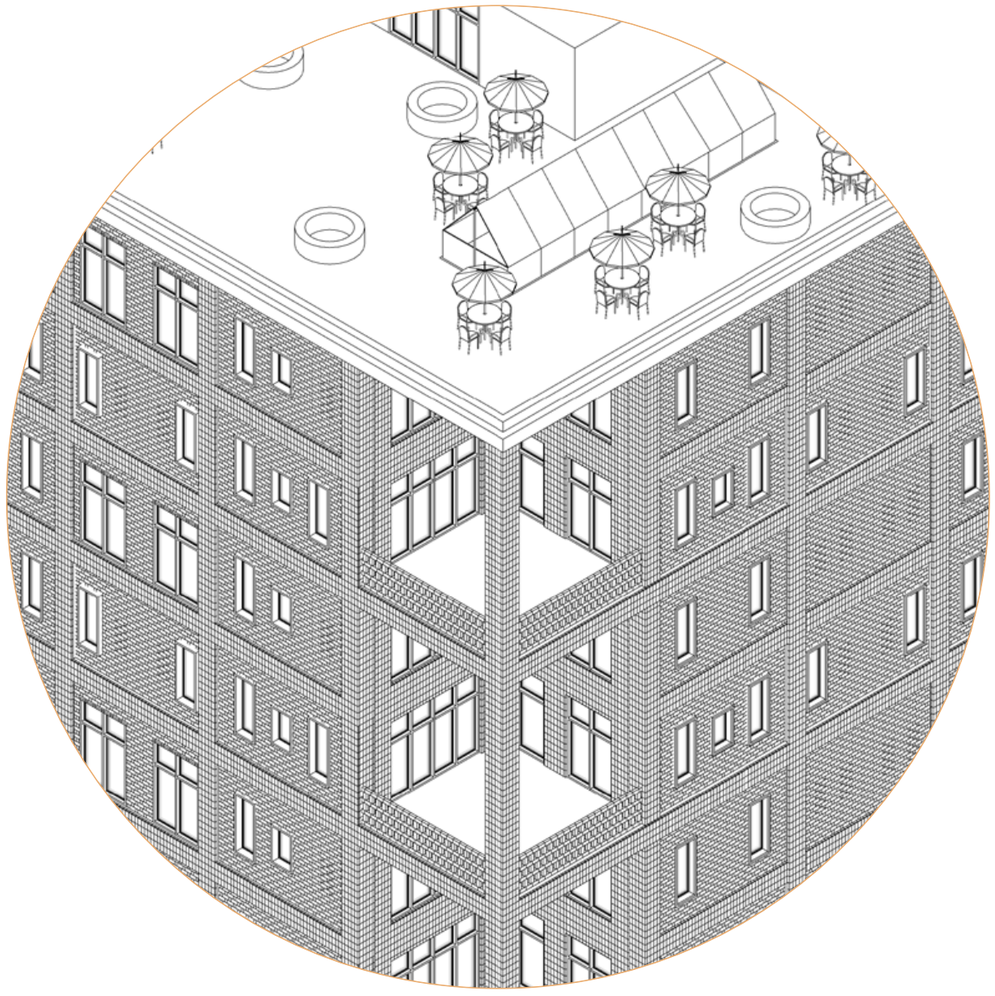
Fasade 1:150

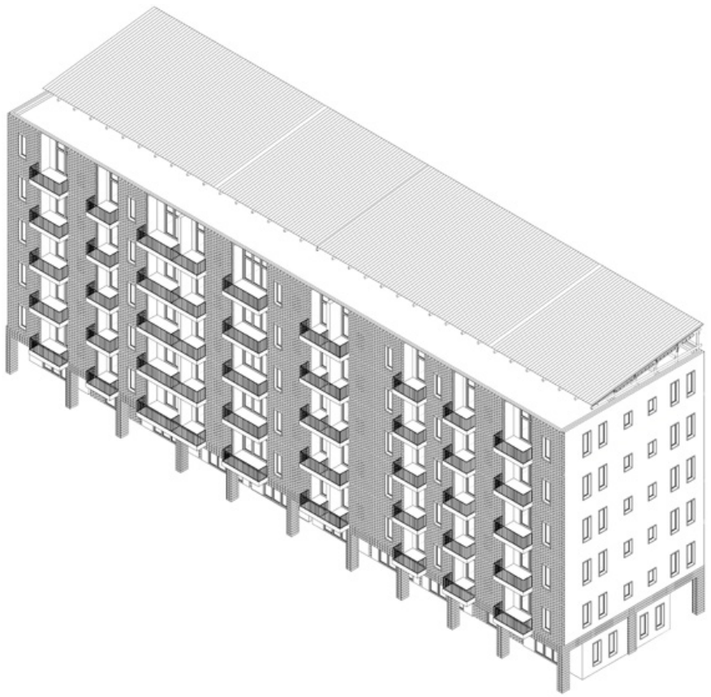
05 design
Facade

Fasade 1:150



Section 1:150

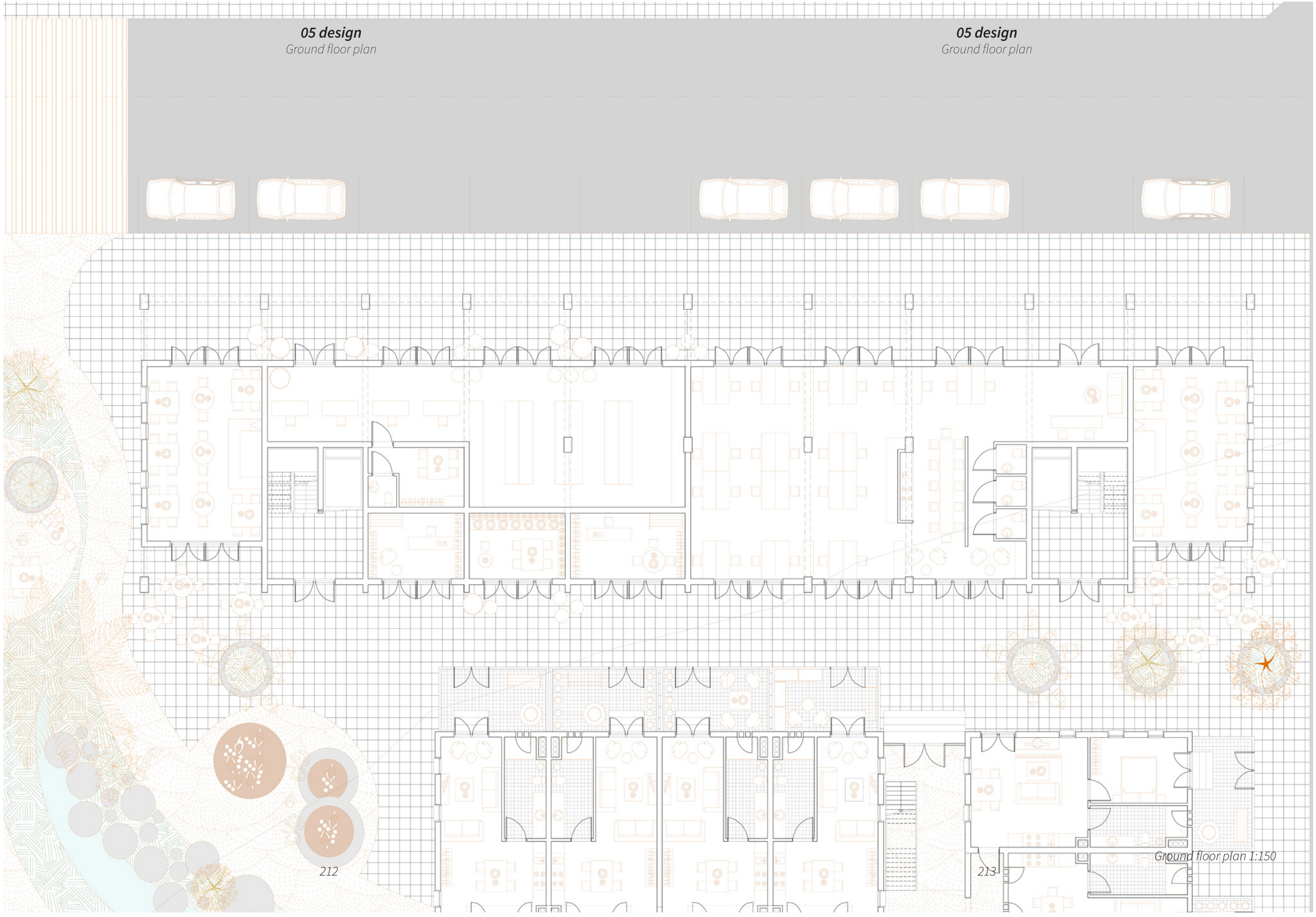




Slab

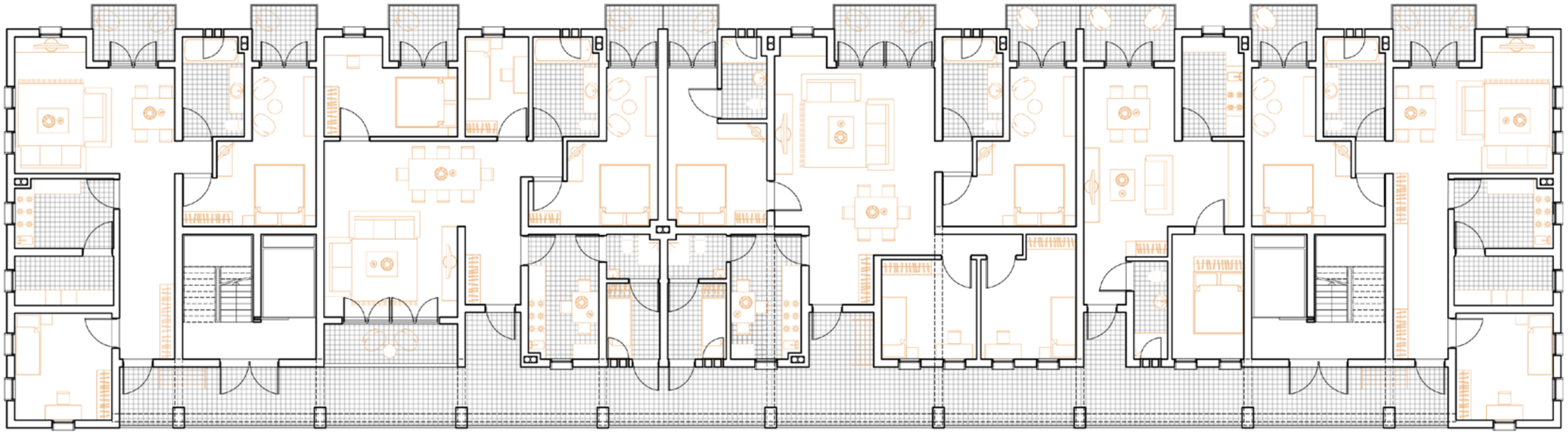
The typology of the slab would serve as a apartment building for the middle-class residents of Addis Ababa. Offering balconies with overview to Addis Ababa and neighbouring areas, private entrance through galeries and variety sizes of the apartments, the construction of slab typology would serve well for current middle-income group residents of the site and the newcomers. The construction of the slab typology should cross-subsidize the construction costs of the lower income group typology - courtyard and compound. Different sizes apartment units are offered for different families: from single bedroom to four bedroom apartment.

05 design
Ground floor plan

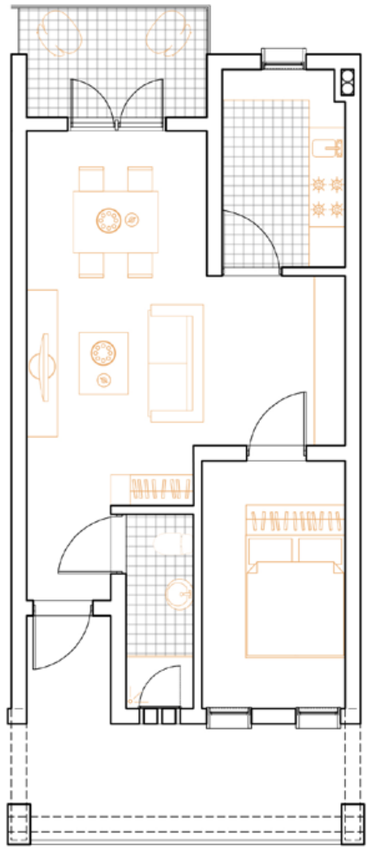


Ground floor plan 1:150

05 design
First floor plan

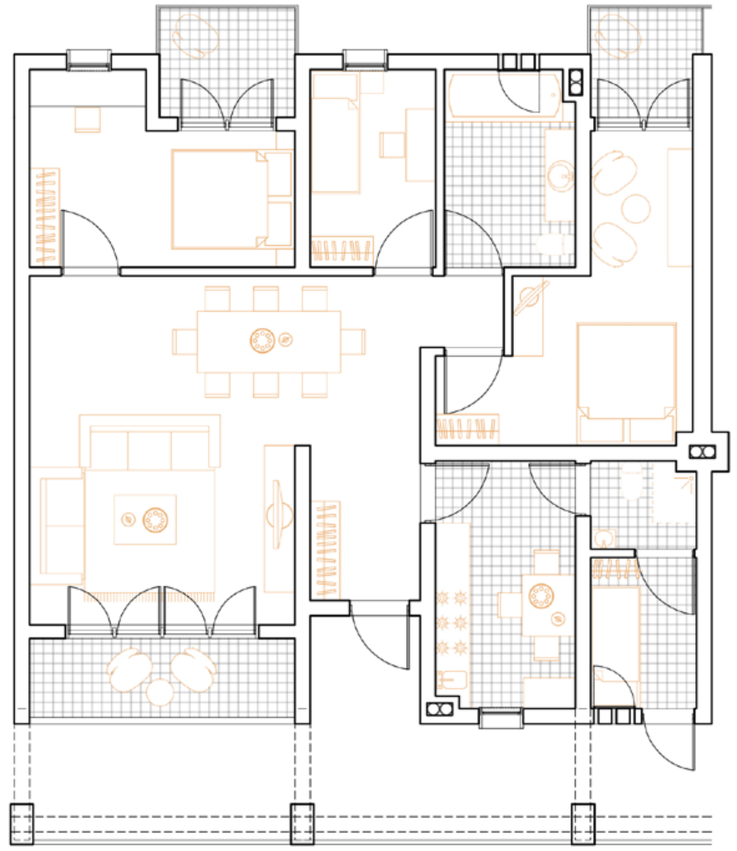


First floor plan 1:150



1 bedroom apartment
45.9m²

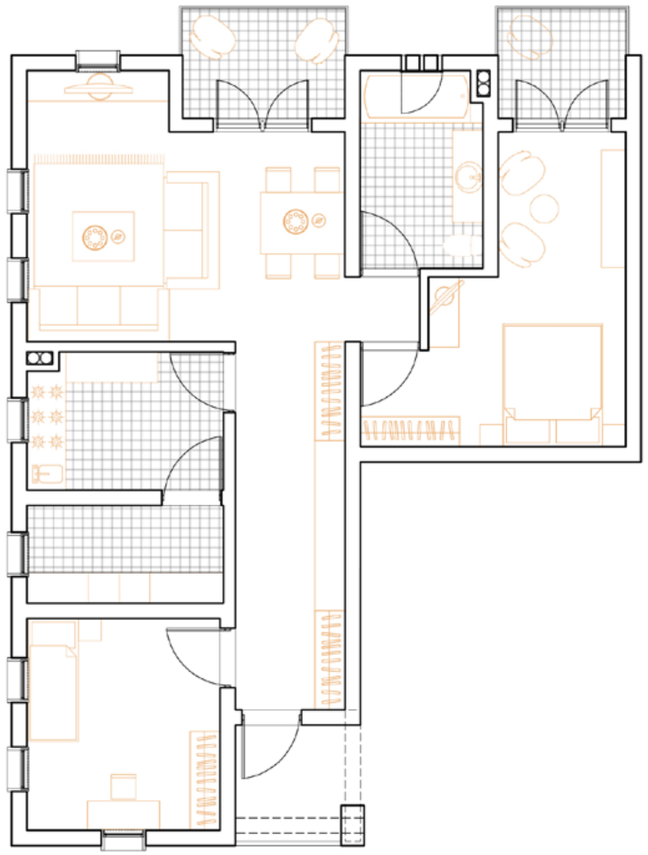
1 bedroom apartment 1:100



3 bedrooms apartment 93m²

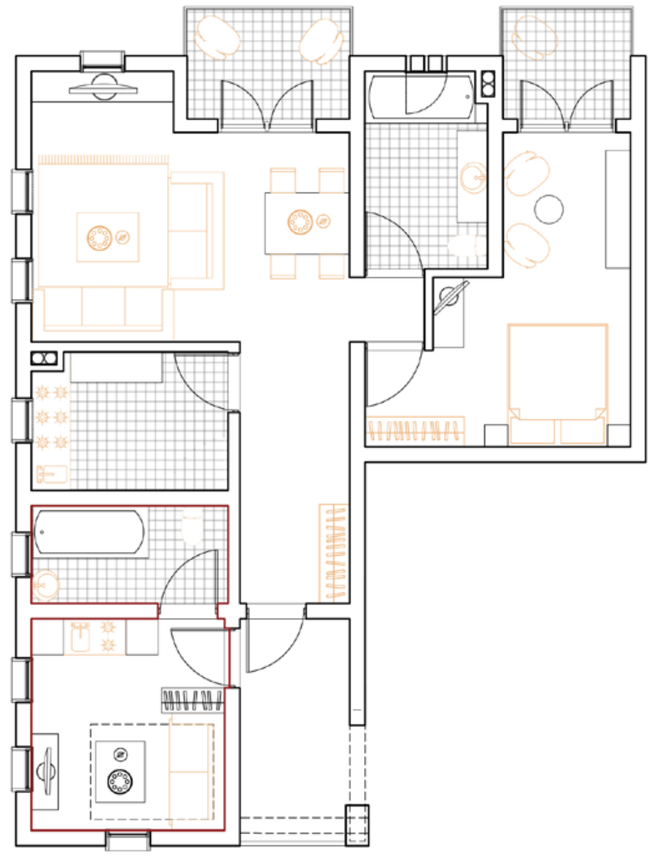
Maid unit 7m²

3 bedrooms apartment 1:100



2 bedrooms apartment
76.6m²

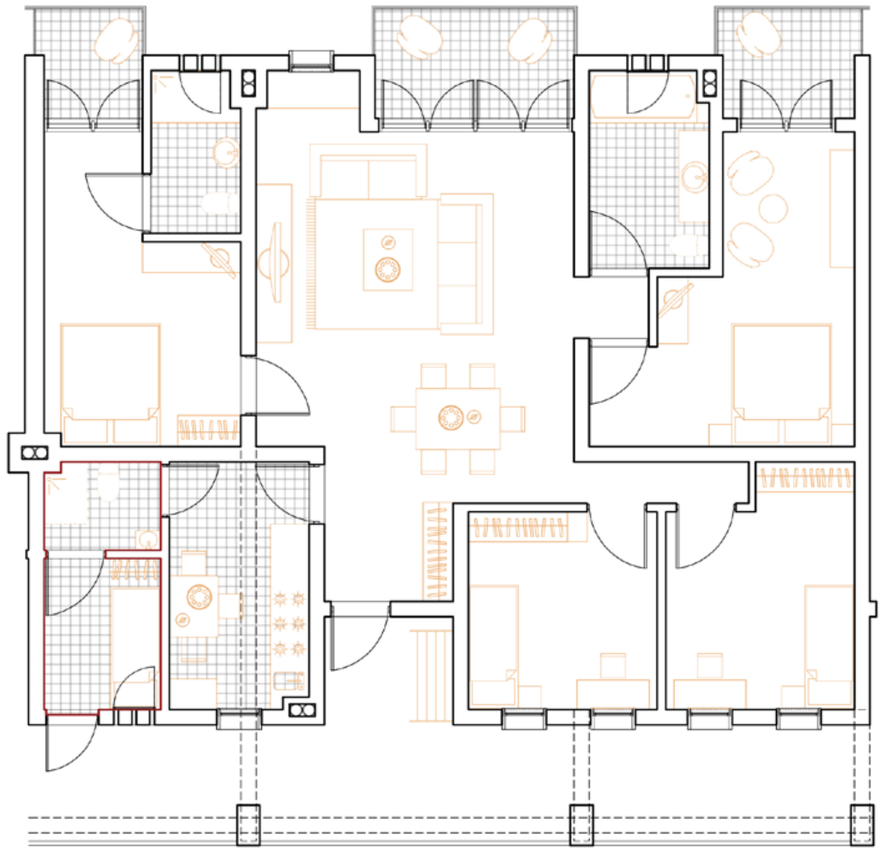
2 bedrooms apartment 1:100



1 bedroom apartment
60.4m²

Rental unit 16.2m²

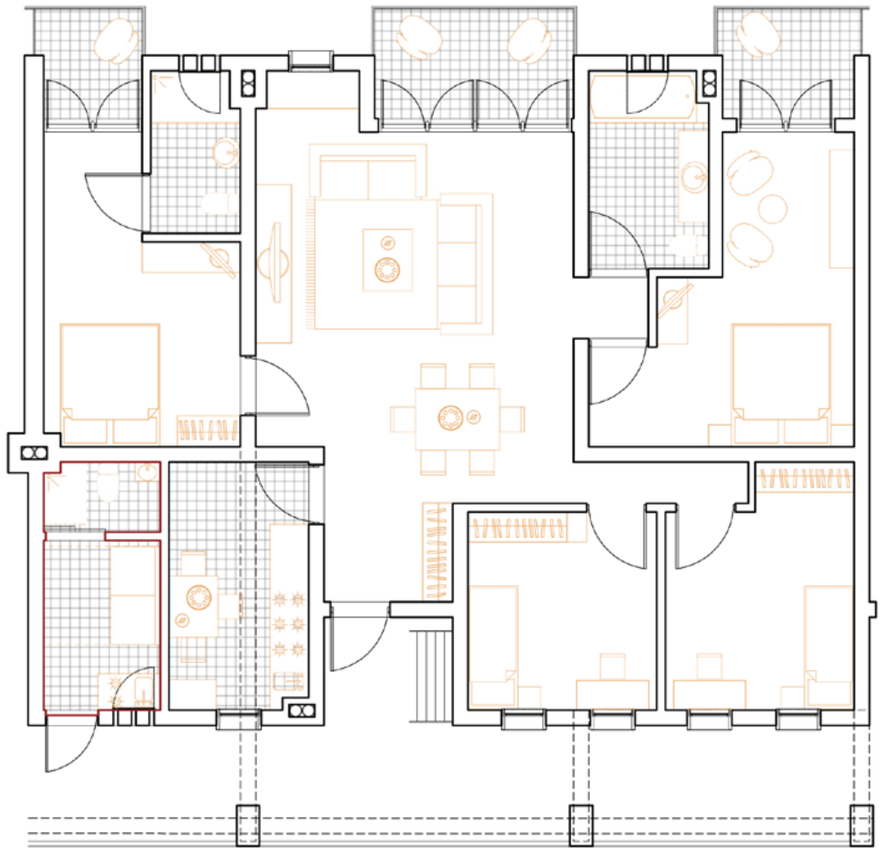
1 bedroom apartment with rental unit 1:100



4 bedrooms apartment
114.8m²

Maid unit 8m²

4 bedrooms apartment 1:100



4 bedrooms apartment
114.8m²

Rental unit 8m²

4 bedrooms apartment with rental unit 1:100

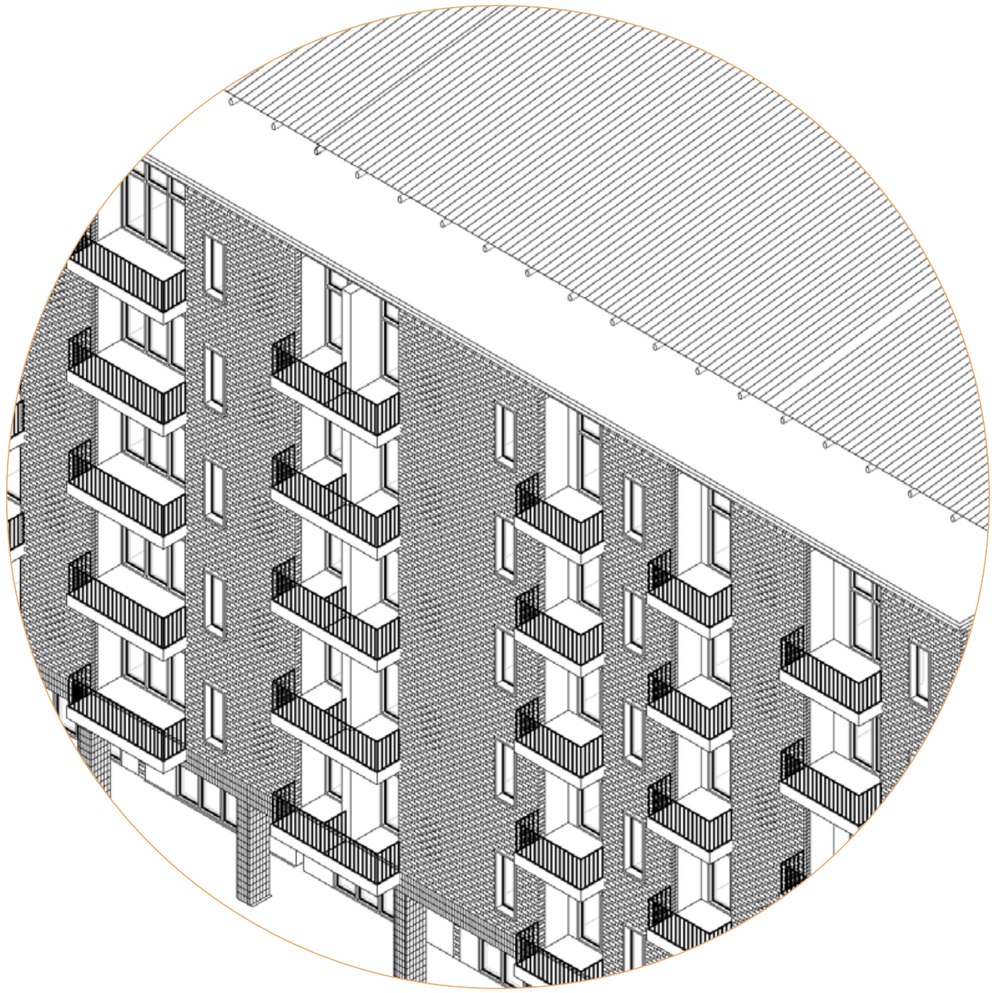
05 design
Facade

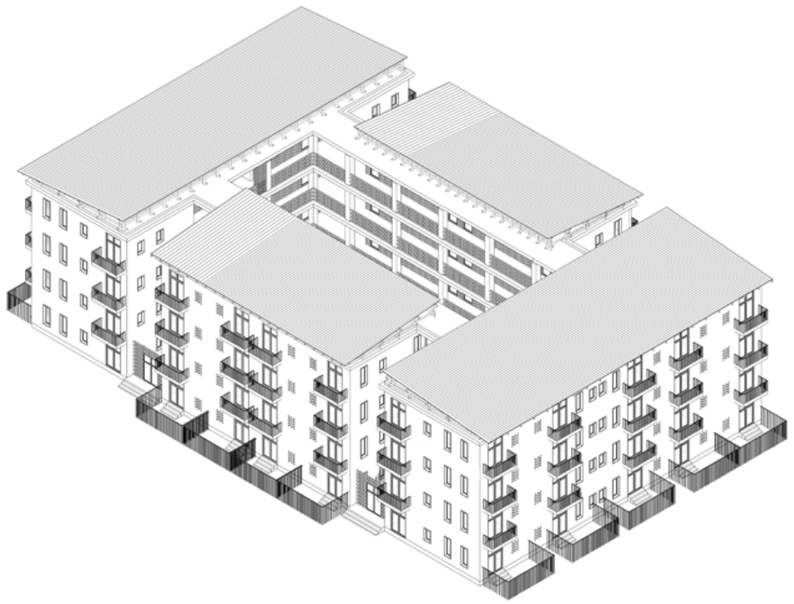
Fasade 1:150

05 design
Facade

Fasade 1:150

Section 1:150

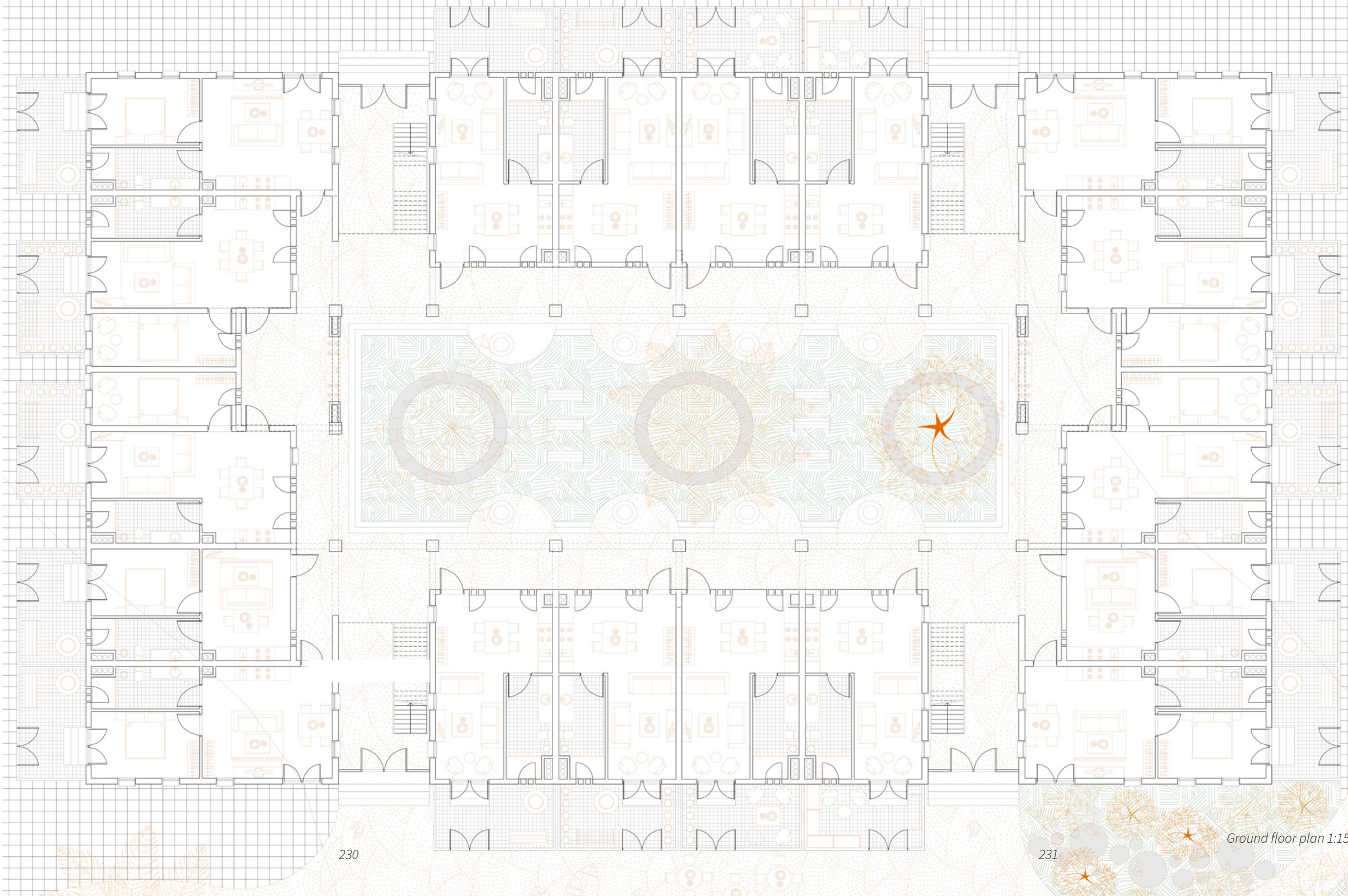




Courtyard

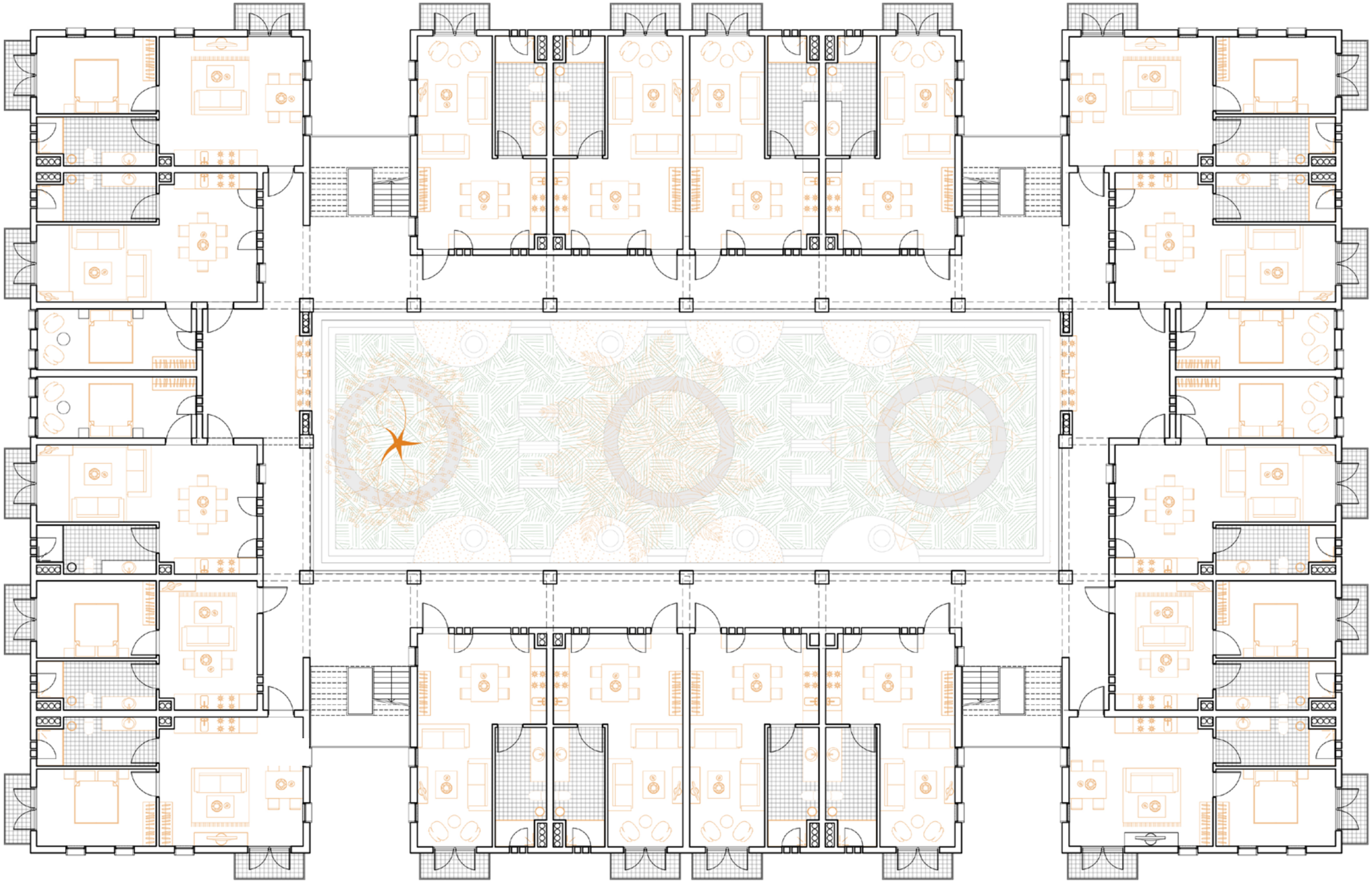
The typology of the courtyard would serve as the apartment complex for low-middle income residents. The access to the private garden is offered on the ground floor, as well as, balconies on the upper floors. The courtyard is open for the community to engage in the everyday activities, as washing clothes or cooking: there are two open-fire kitchen's on every floor. The possibility to extend units and/or re-arrange the apartmentsis offered. The courtyard typology offers communual living but also good quality living space that shows dignity and possibility to be inspired to climb socio-economic ladder.

05 design
Ground floor plan

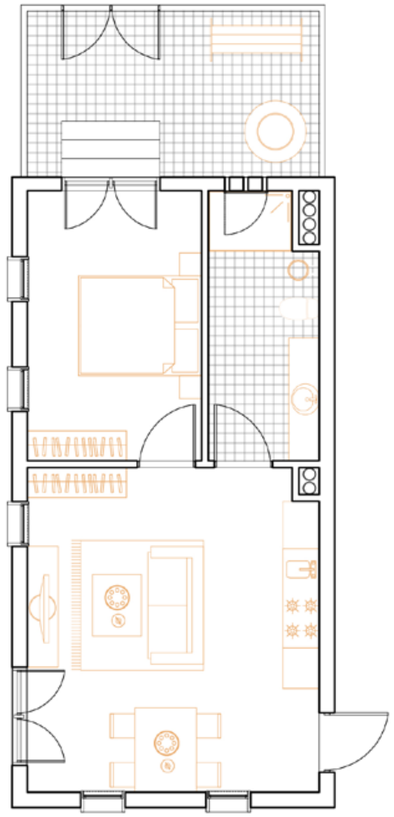


Ground floor plan 1:150

05 design
First floor plan

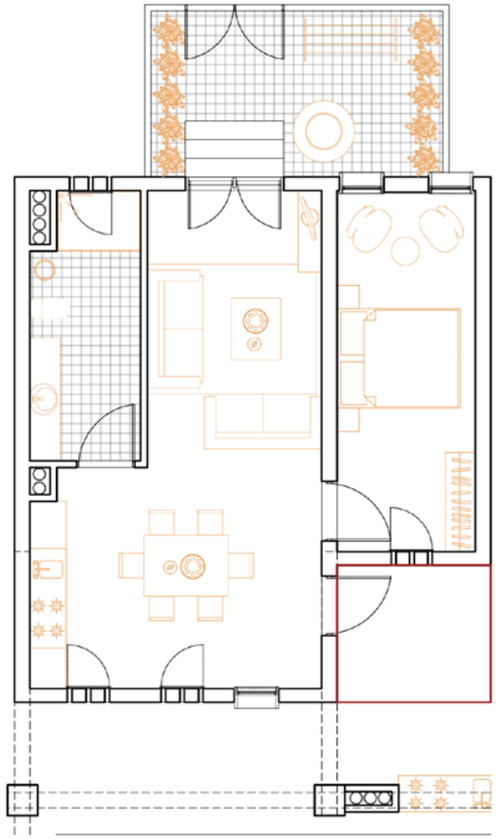


First floor plan 1:150



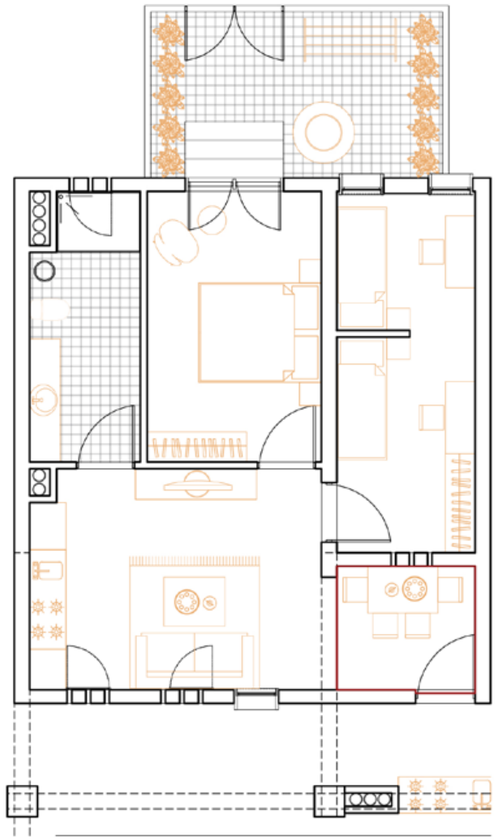
1 bedroom apartment
45.2m²

1 bedroom apartment on the ground floor 1:100



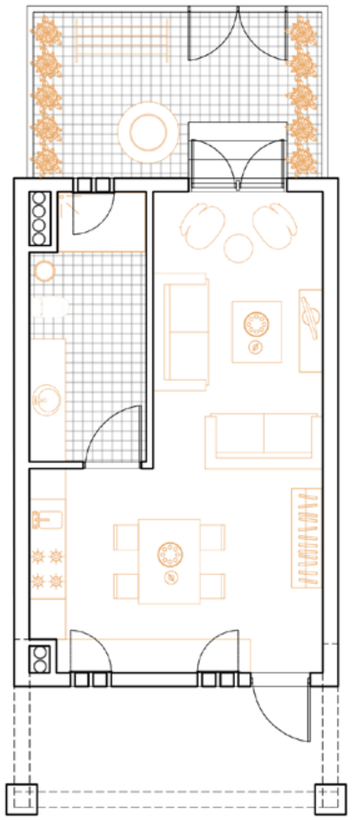
1 bedroom apartment
45.2m²

Extension 5m²



2 bedrooms apartment
55.2m²

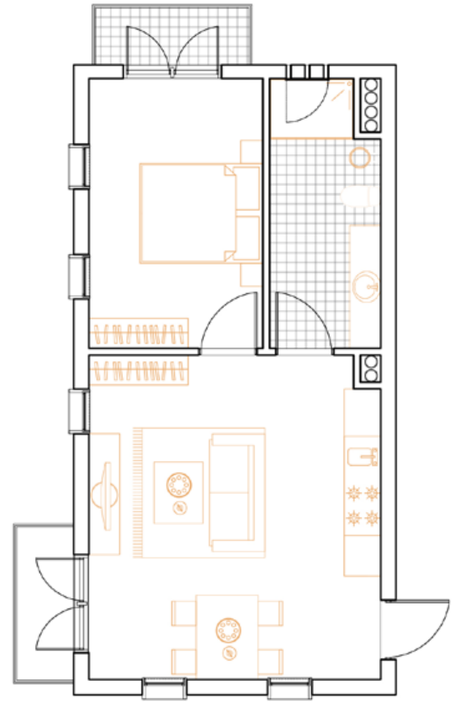
1 bedroom apartment transformed to 2 bedrooms apartment on the ground floor 1:100



Studio apartment 35.9m²

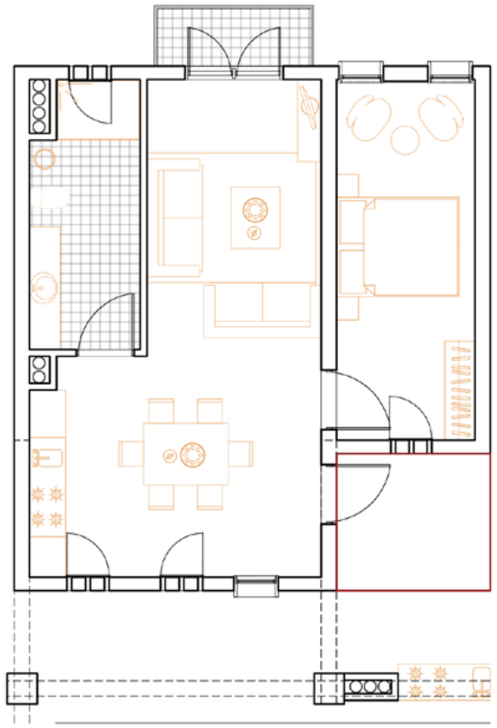
Studio apartment on the ground floor 1:100

05 design
Units



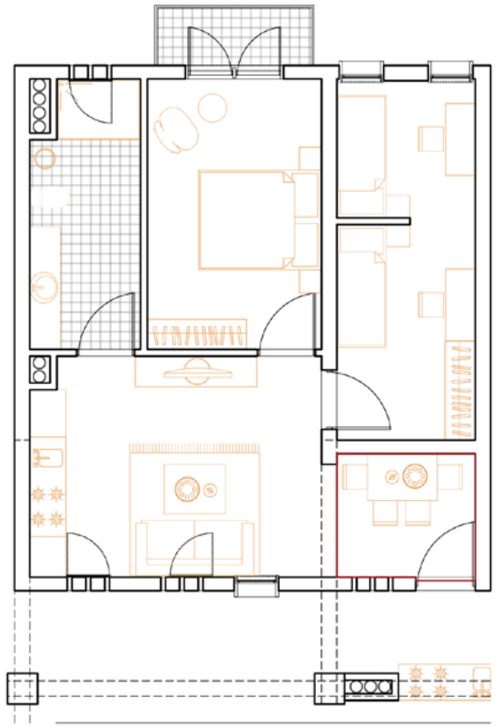
1 bedroom apartment
45.2m²

1 bedroom apartment on the first floor 1:100



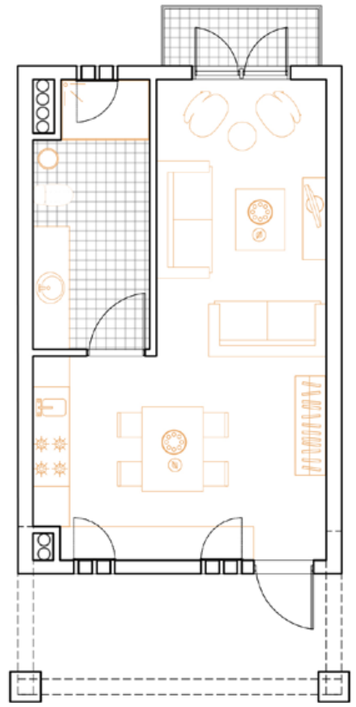
1 bedroom apartment
45.2m²

Extension 5m²



2 bedrooms apartment
55.2m²

1 bedroom apartment transformed to 2 bedrooms apartment on the first floor 1:100



Studio apartment 35.9m²

Studio apartment on the first floor 1:100

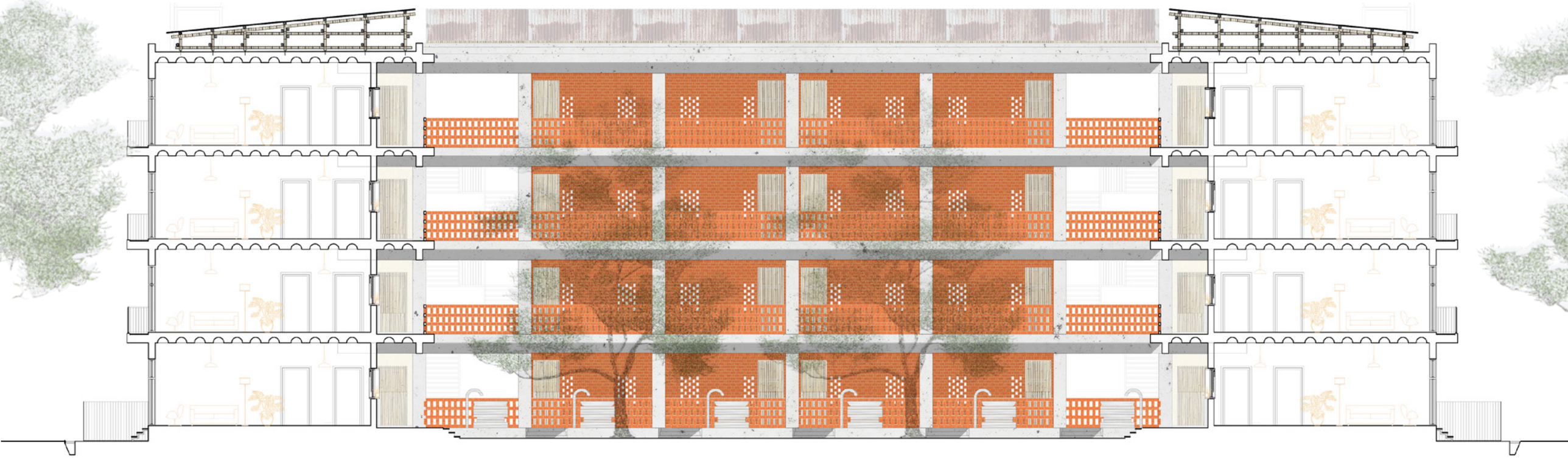
05 design
Facade

Fasade 1:150

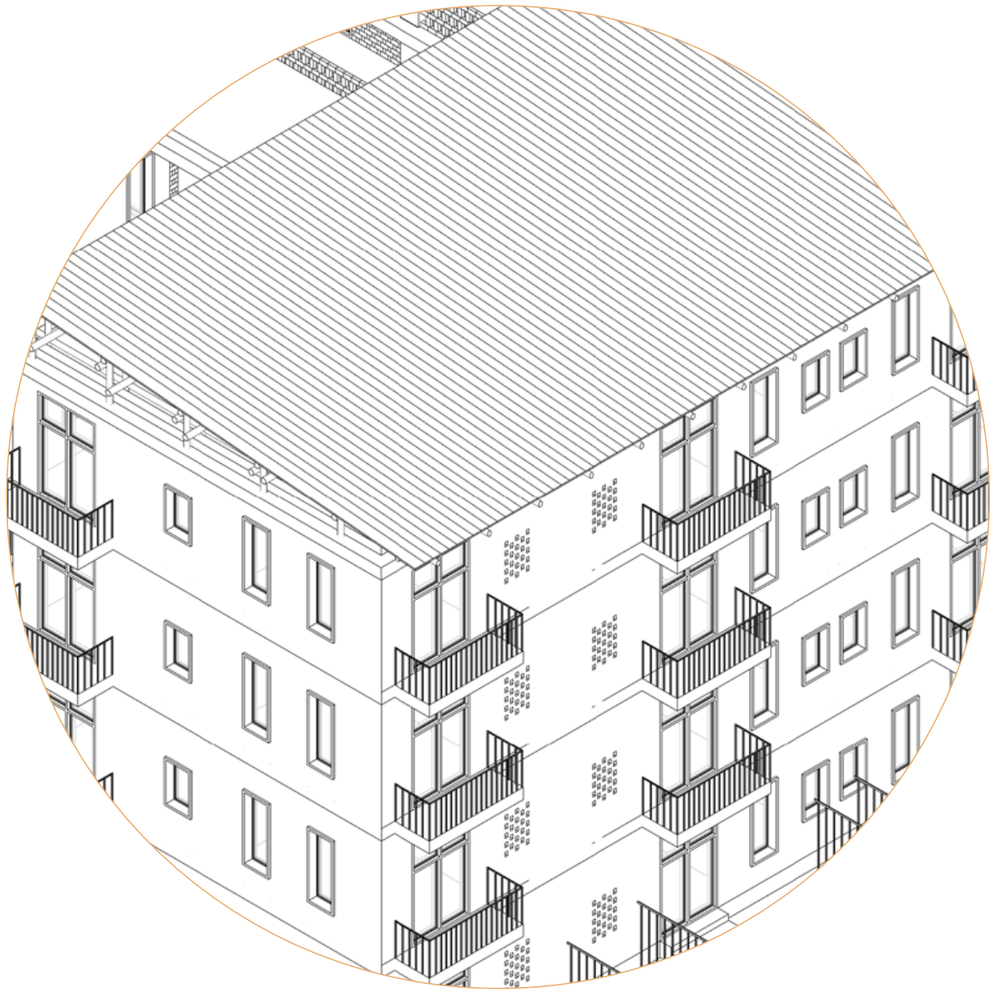
05 design
Facade

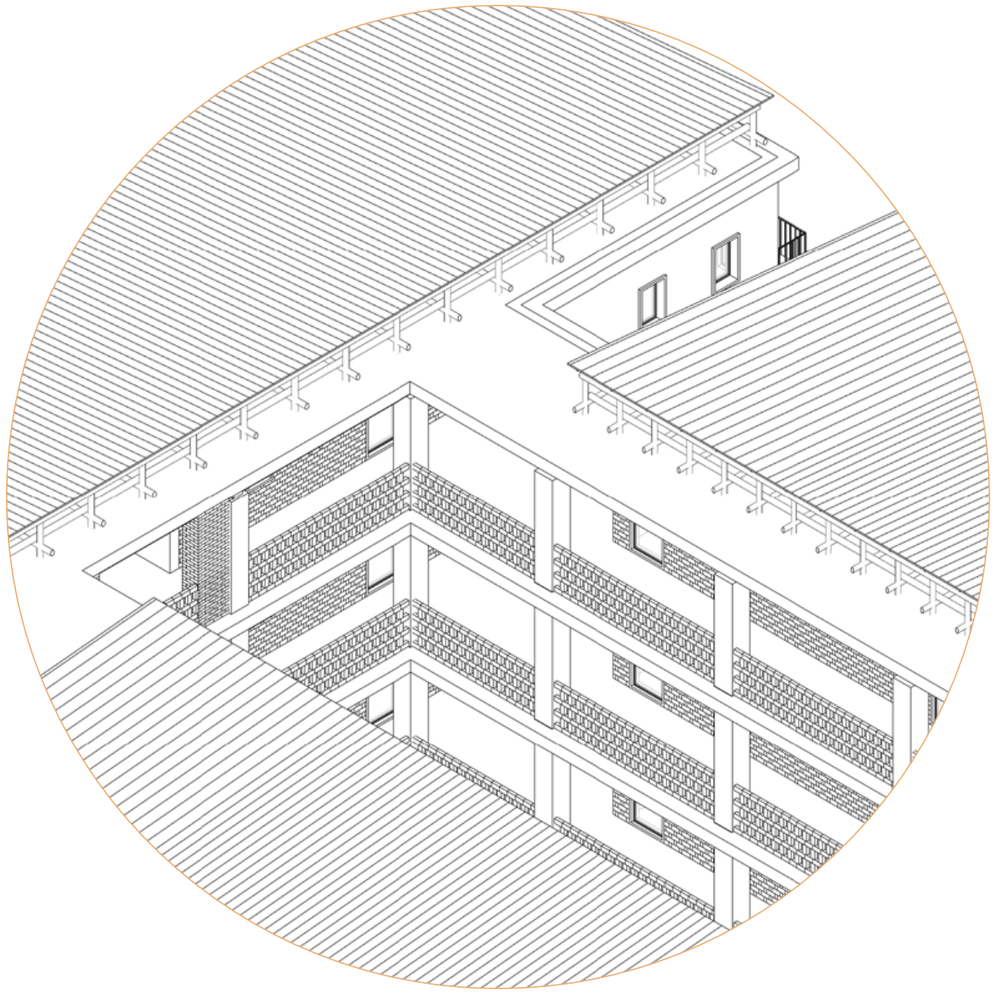
Fasade 1:150

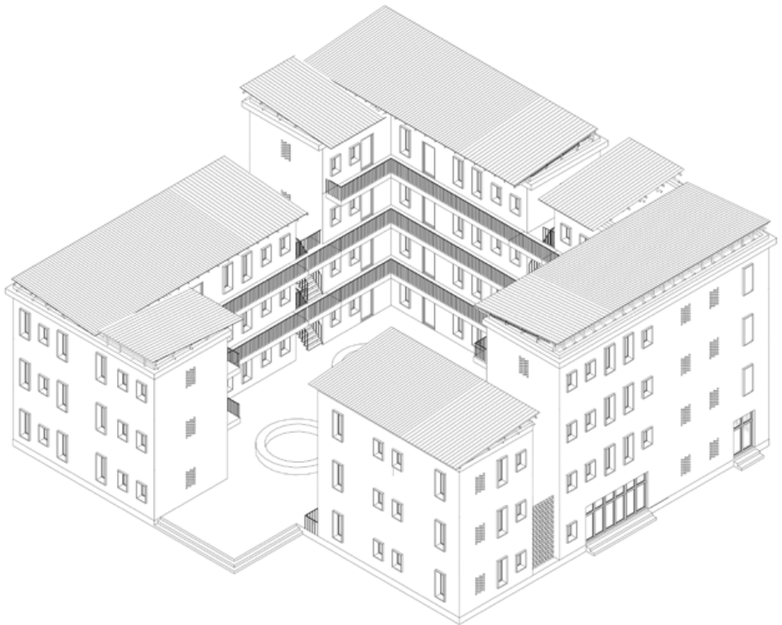
05 design
Section



Section 1:150



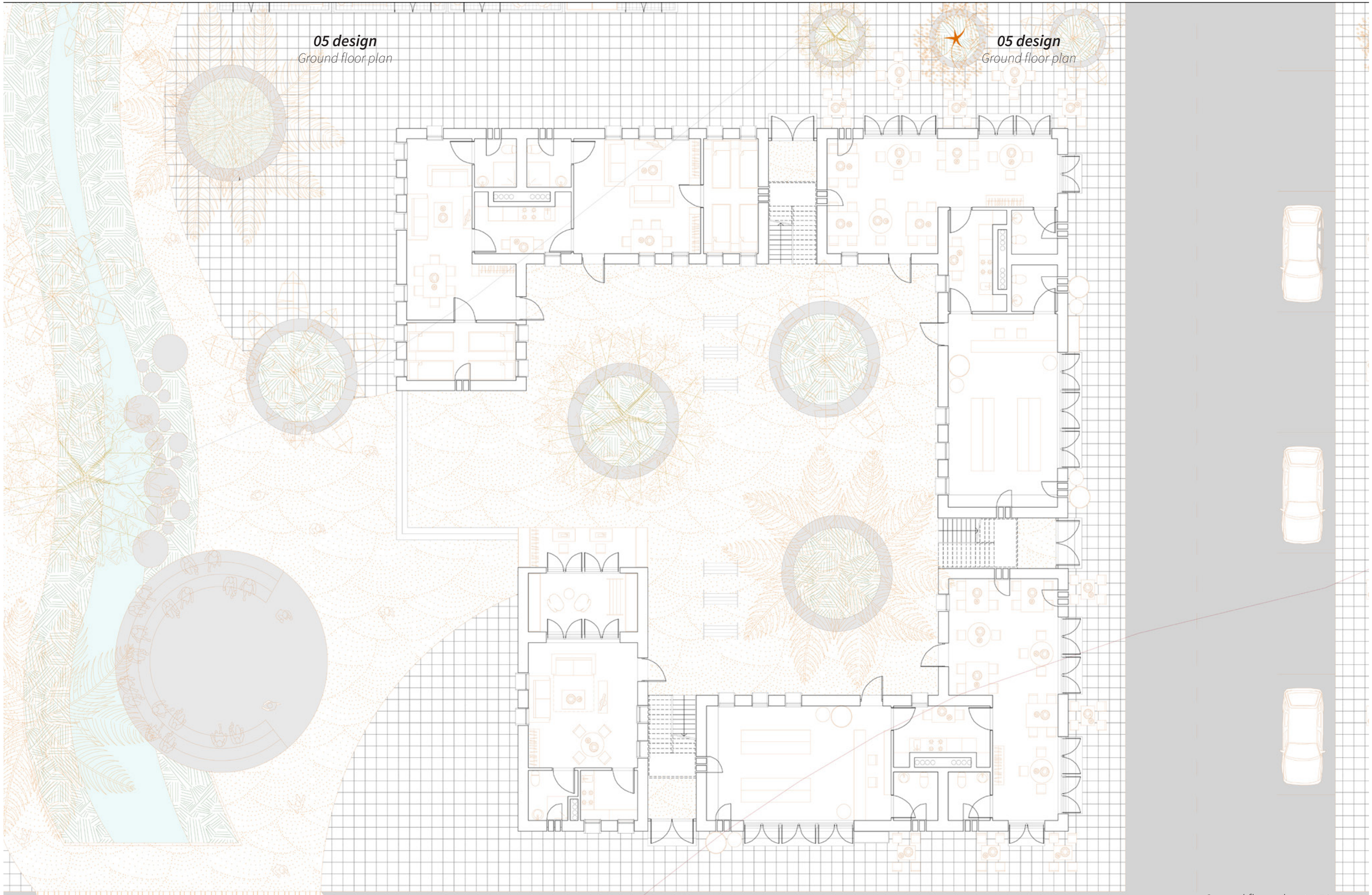




Compound

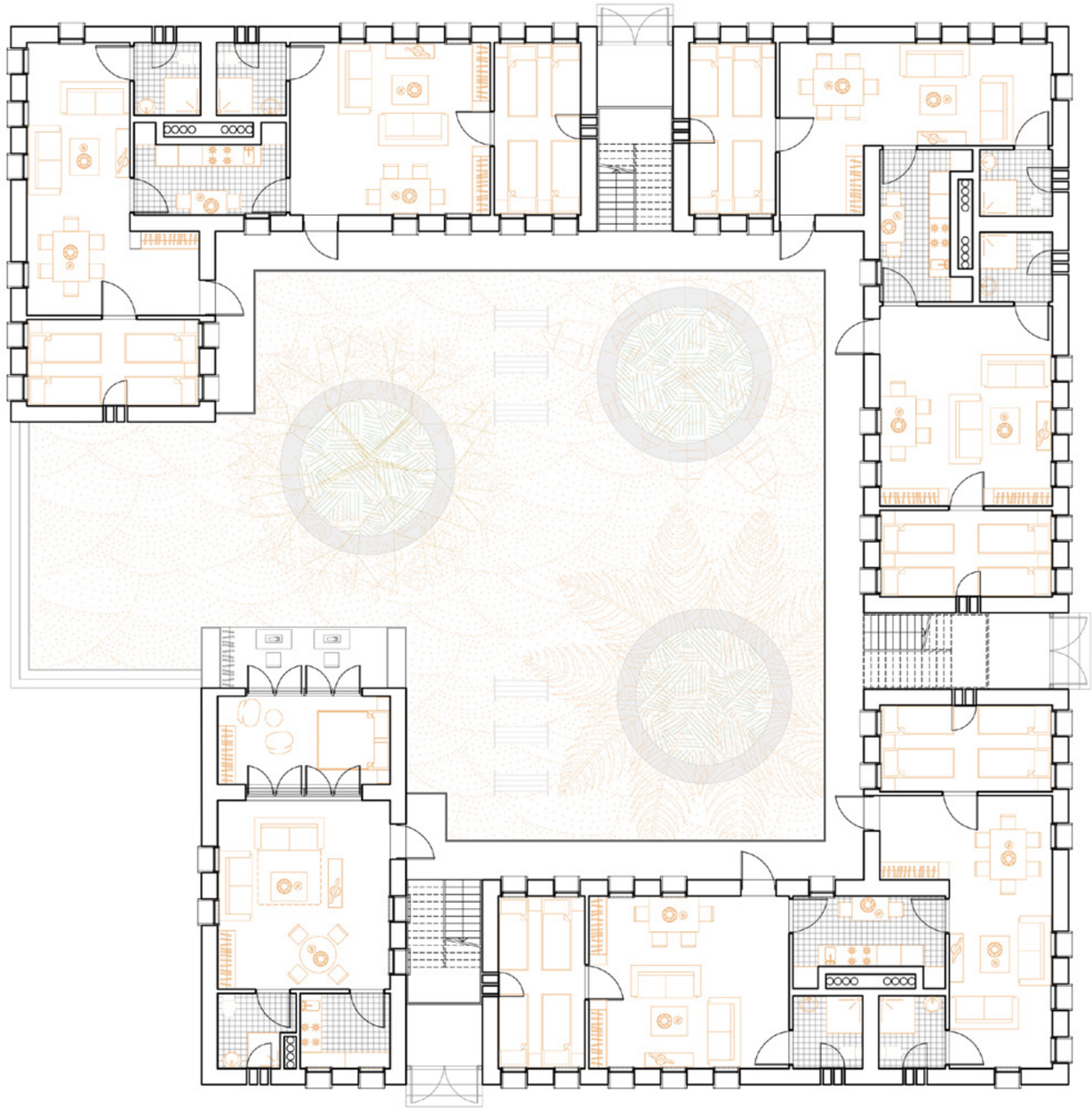
The typology of the compound would serve as an apartment complex for lowest income residents-migrants and economically weak social groups. The complex offers simple but good quality living units for shared living - L shape unit is a shared unit between 8-10 people (most likely migrants). There is a possibility for income generation in the I shaped unit, especially on the ground floor. The floorplan of both units allow for different activities to happen (ex. commercial shop on the ground floor). The typology of the compound helps rural migrants and urban poor to secure living and help climb the socio-economic ladder.

05 design
Ground floor plan

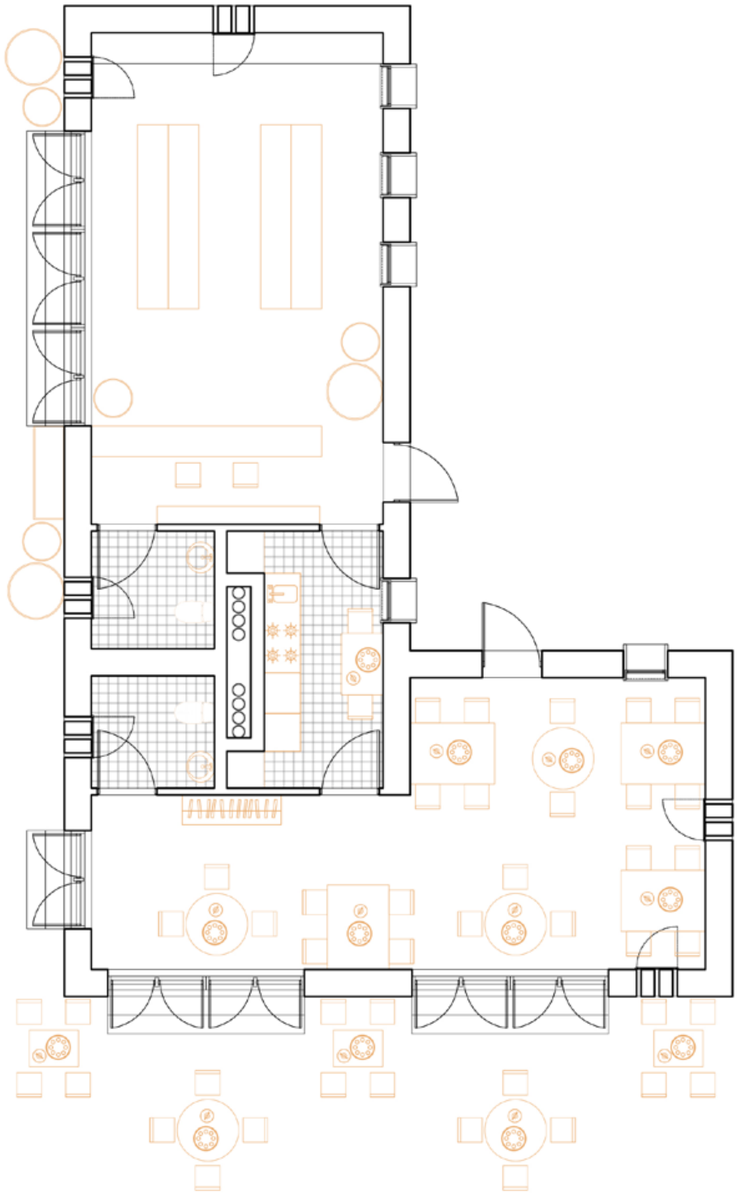


Ground floor plan 1:150

05 design
First floor plan

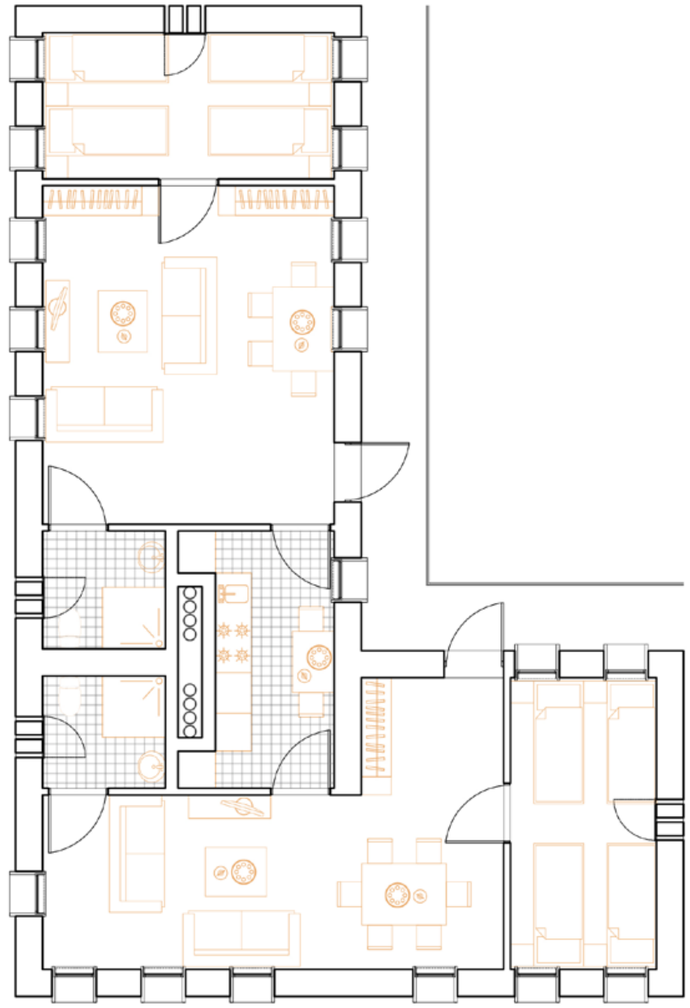


First floor plan 1:150



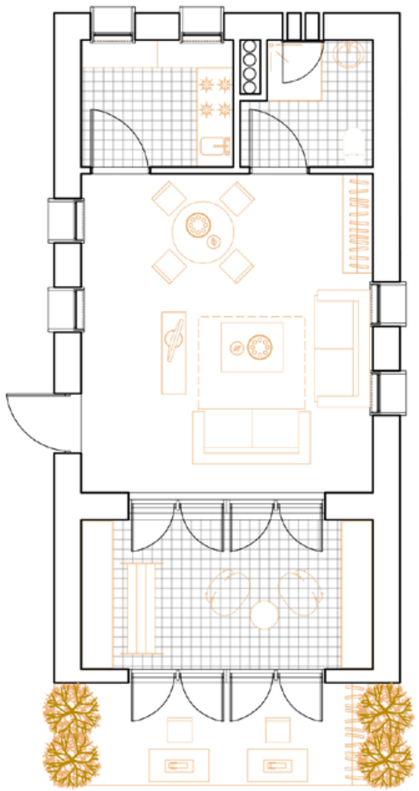
Commercial functions on the ground floor near the main road 1:100

05 design
Units



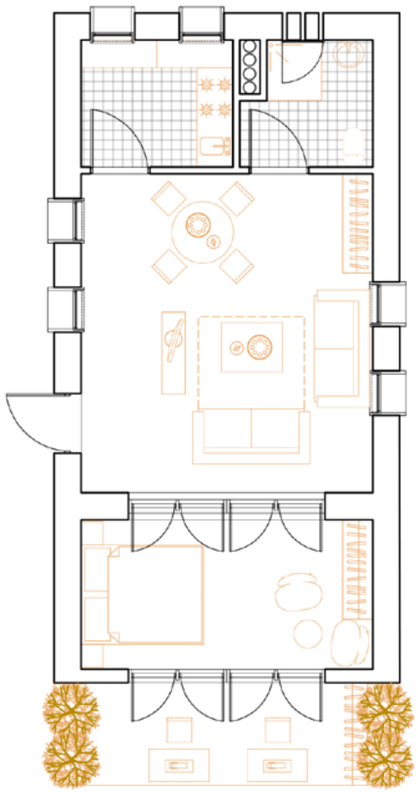
L shaped partment with shared facilities for rural migrants and urban poor 91.6m²

Apartment for rural migrants and urban poor with shared facilities 1:100



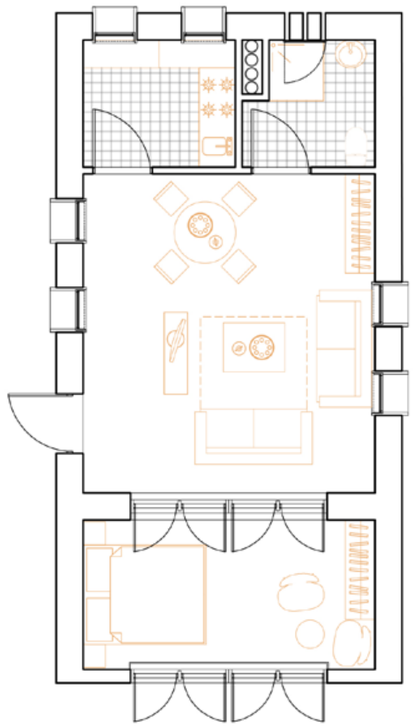
Studio apartment 34.2m²

Room for income generation
11.5m²



1 bedroom apartment
45.7m²

Studio apartment transformed to 1 bedroom apartment on the ground floor 1:100



1 bedroom apartment
45.7m²

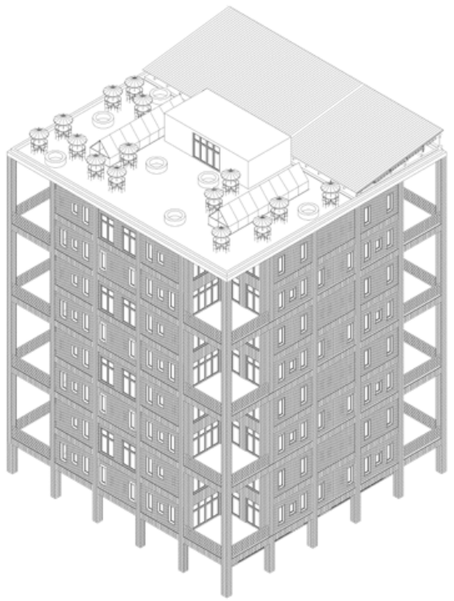
1 bedroom apartment 1:100

Facade1:150

05 design
Facades

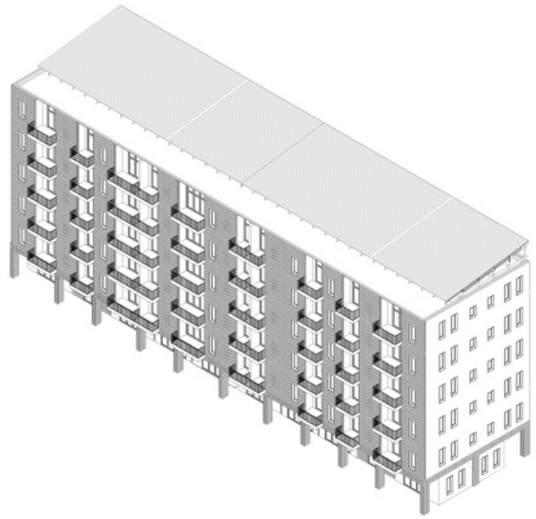
Fasade 1:150

Section 1:150



Tower

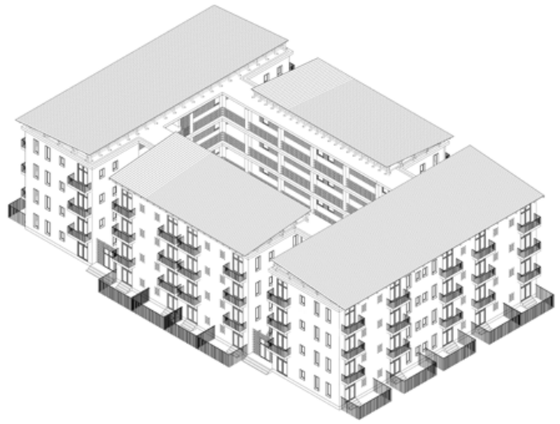
High-income groups
Terrasce on the rooftop for residents
Offers panoramic view, big balcony, privacy
Offers bedroom for maid
Possibility to hire people from the neighbourhood for daily chores
Commercial functions on the ground floor
Craftsmanship required facade detailing
Units size: 5 bedrooms apartments
210m²
9 + floors



Slab

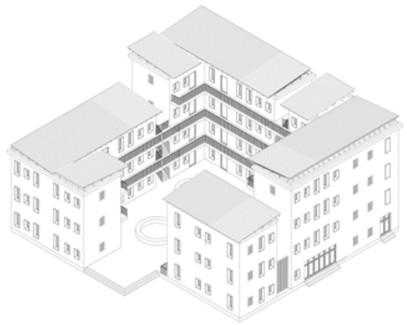
Middle- and middle-higher income groups
Offers views over Addis Ababa, privacy and entrances through galleries
Commercial functions on the ground floor
Craftsmanship required facade detailing
Units size: 1-4 bedroom apartments
from 46m² to 115m²
5-6 floors

05 design
Summary



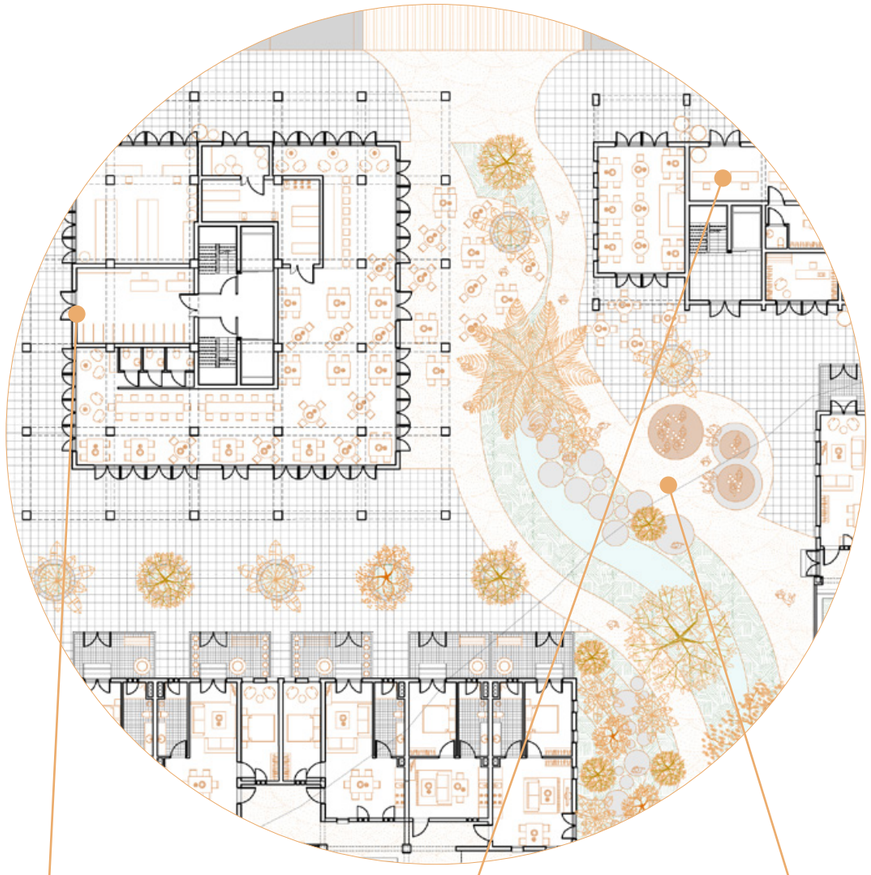
Courtyard

Low- and middle-low- income groups
Offers courtyard for interaction, possibility to extend units and re-arrange the floorplan
Gardens are offered of the ground floor, therefore possibility for working-living units or small space for business could be created
Open-fire kitchens are offered on every floor
Units size: Studio - 2 bedrooms apartment
from 34m² to 55.2m²
4 floors



Compound

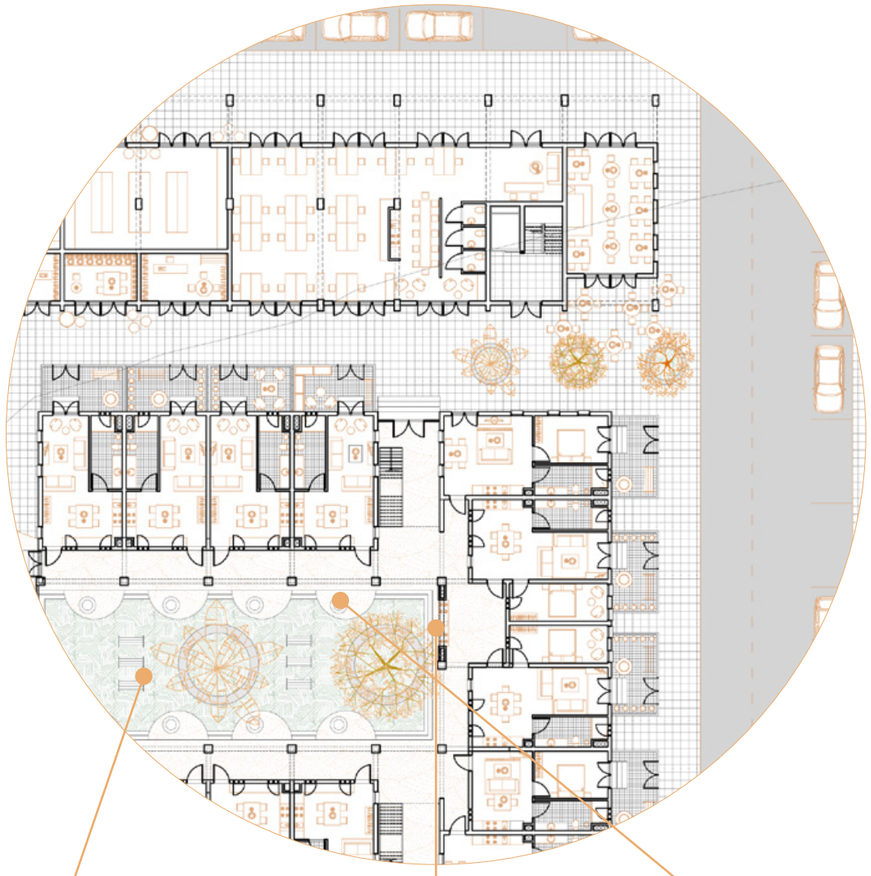
Economically weak social groups - migrants and urban poor
Public living, shared facilities, communual activities taking place on the ground floor of the courtyard
Possibility for different activities on the ground floor (ex. commercial shop)
Units size: Studio - 1 bedroom apartment
from 34m² - 46m²
Shared apartment by 8 -10 people
90m²3-4 floors



Private entrance

Amenities on the ground floor

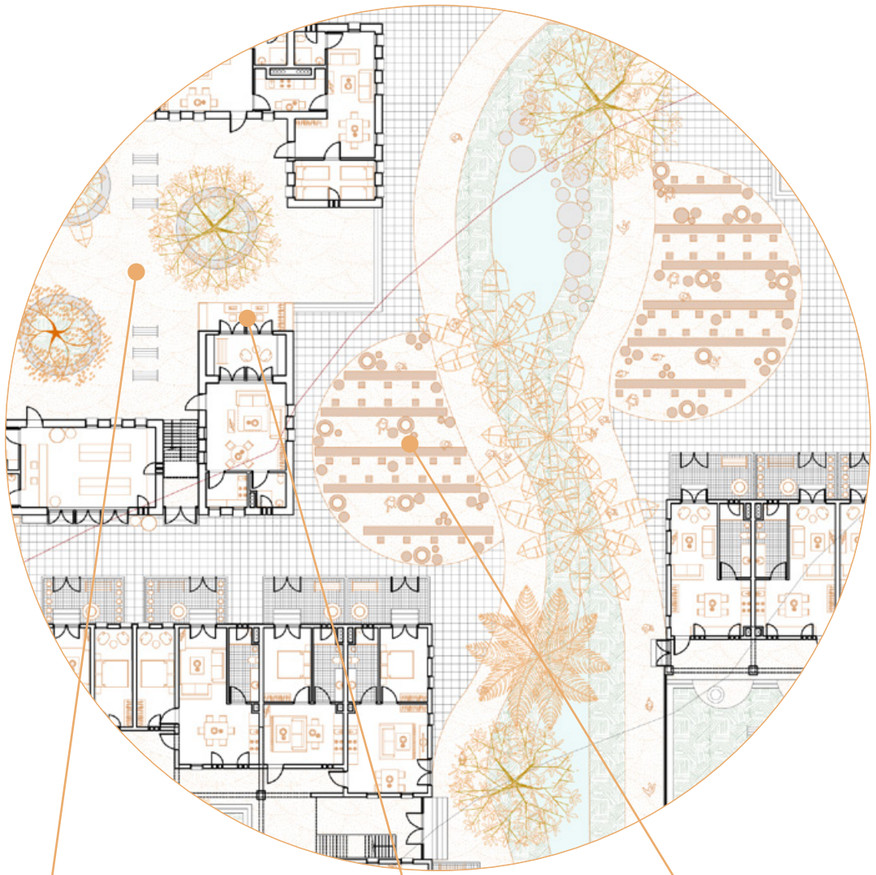
Children playing outside



Drying clothes in the courtyard

Communal living - open-fire, outside kitchen

Space for washing clothes

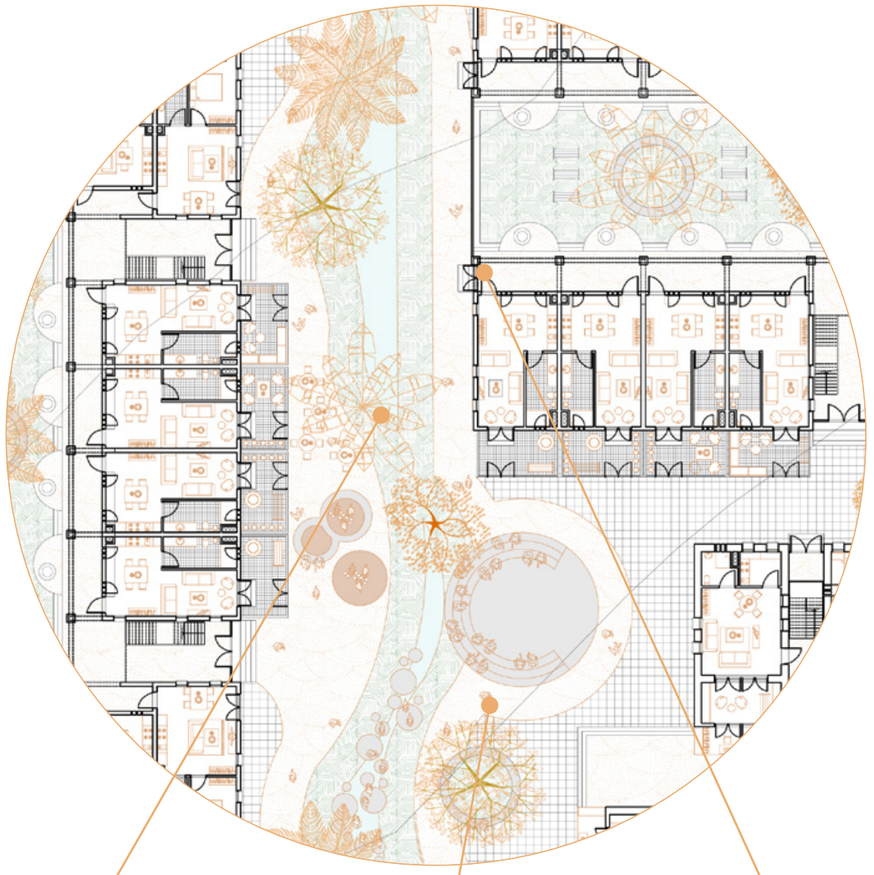


Drying grains in the compound

Income generation

Informal market

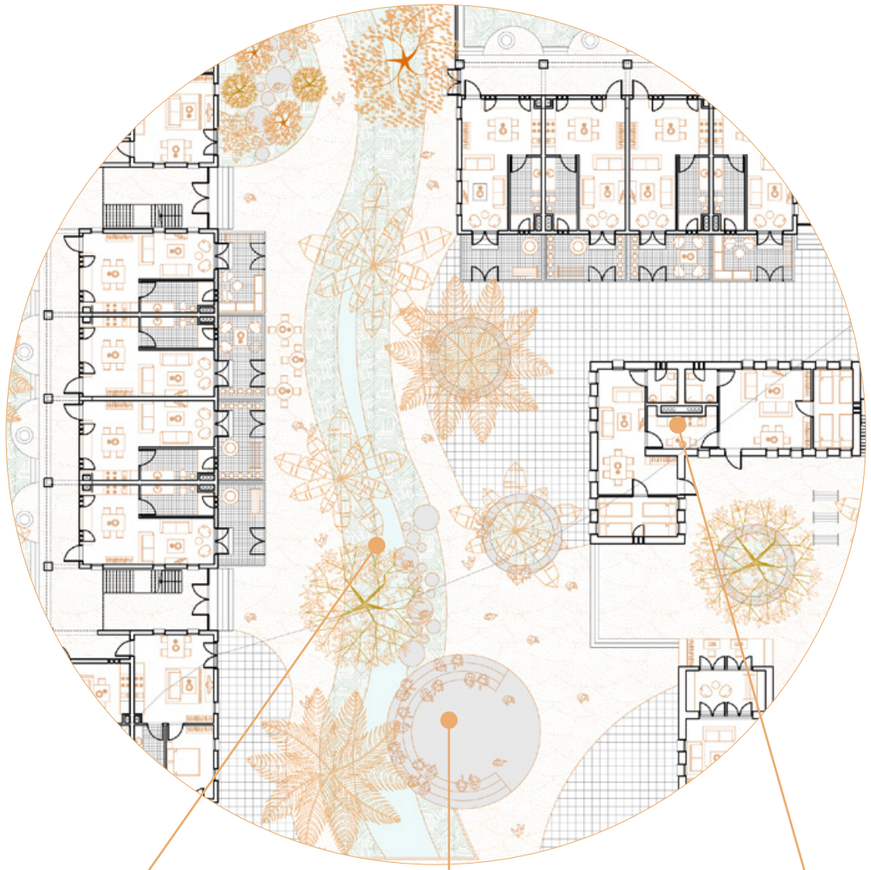
05 design
Summary



Good quality green space

Stoned pavements

Appropriation of space

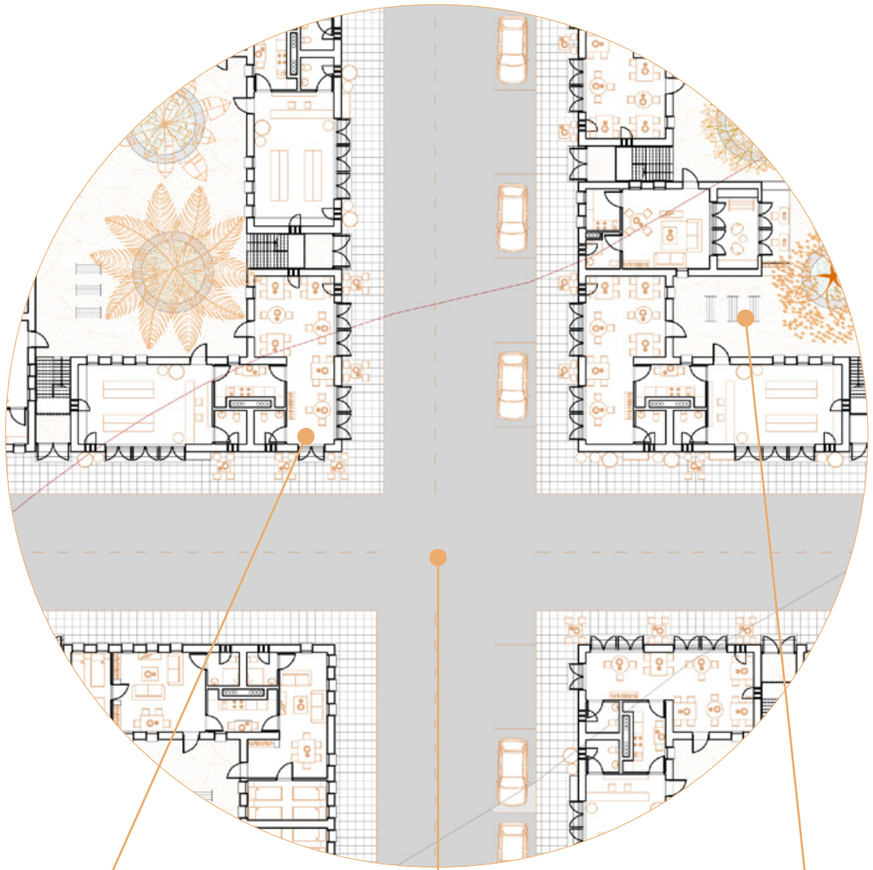


Urban playground

Amphitheathre transformed to cinema

Shared facilities

05 design
Summary



Coffee on the corner of the

Asphalted car road

Close community

06 building technology

On the Horn of Africa, ***bounded by Eritrea*** (in the North), ***Djibouti*** (in the North-east), ***Somalia*** (in the East), ***Kenya*** (in the South), ***South Sudan*** and ***Sudan*** (in the West), Ethiopia is the most populous landlocked country in the world.

The elevation of Ethiopia is ranging, from 1290m to 4533m above sea level, ***situating Addis Ababa at an elevation of around 2400 meters above sea level.***

There are multiple climatic regions in Ethiopia, ranging from equatorial desert to a humid subtropical climate. Because the altitude plays a major role in differences in climate, ***Addis Ababa has the climatic type of a subtropical highland climate.***

With an average temperature of 18°C during the year, ***May is the warmest month in the year, where temperature can reach 28°C and higher***. November has the lowest temperatures of the year, where the average temperature is 14.8°C. During the year, the average minimum temperature is 6.8°C, while the average maximum temperature can reach 25°C.

Even though, Ethiopia has a range of 5 ***climatic zones, characterized by altitude and temperature, Addis Ababa has two seasons***: the warm to cool, semi-humid zone and the cool to cold humid zone. The warm to cool, semi humid zone, covers the mild highlands between 1500 and 2500 meters. The cool to cold humid zone, comprises the mild highlands between 2400 and 3200 meters.

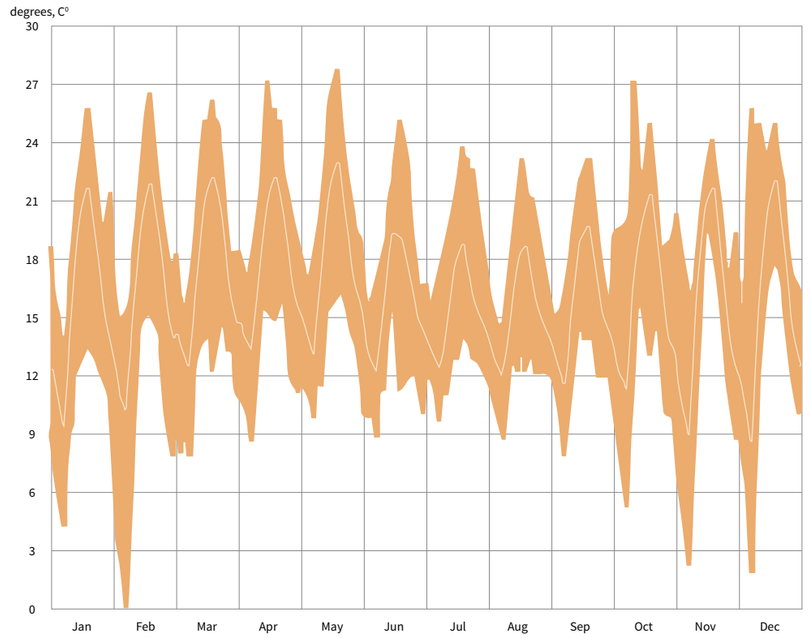
The annual precipitation in Ethiopia depends on the altitude. In the lowlands the annual rainfall is less than 395 mm, whilst in the highlands it can reach 1250 mm annually.

The graph on the right, below the diagram of monthly temperature changes, ***identifies the monthly precipitation in Addis Ababa*** (World Weather Information Service, 2019) In the months of July and August, the precipitation reached up to 300 mm per month.

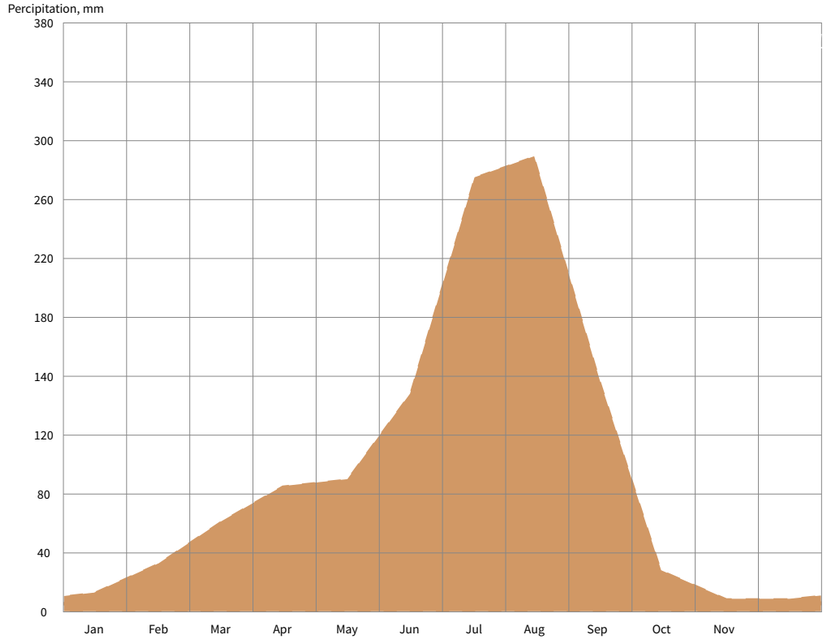
The days in Addis Ababa starts at 6 in the morning, when the sun rises and ends at 18 in the evening, when the sun sets. It creates a 12-hour days, where the sun is hottest in the afternoon.

Rising effects of Global Warming, changes the face of Addis Ababa, increasing the hot days, decreasing the amount of rainfall water and increasing the rainfall variability. It threatens food security in low-income and agriculture-based economies, that is still the main economy sector of Ethiopia.

06 building technology
Climate



Monthly temperature changes in Addis Ababa, Ethiopia



Monthly precpitation in Addis Ababa, Ethiopia

The new neighbourhood of Kolfe is constructed for different income groups, from economically-weak income to high income group. The initial research question and chosen approach of the new masterplan, helped to identify 4 different typologies, that will have positive outcome for the development of the neighbourhood.

To reflect on the differences between income groups, but also to identify that every human being is equal, the new design suggests feasibility not only in an architectural way, but also in a constructional.

To emphasize the differences, different constructional options for the newly designed typologies are used. The chosen constructional scheme and materials, are preserving similar building principles, but offering different qualities where needed. ***The difference between typologies could be noticeable in the assemble of the facades, the usage of different materials and the sizes of the buildings. However, the patterns of bricks and structural elements are same.***

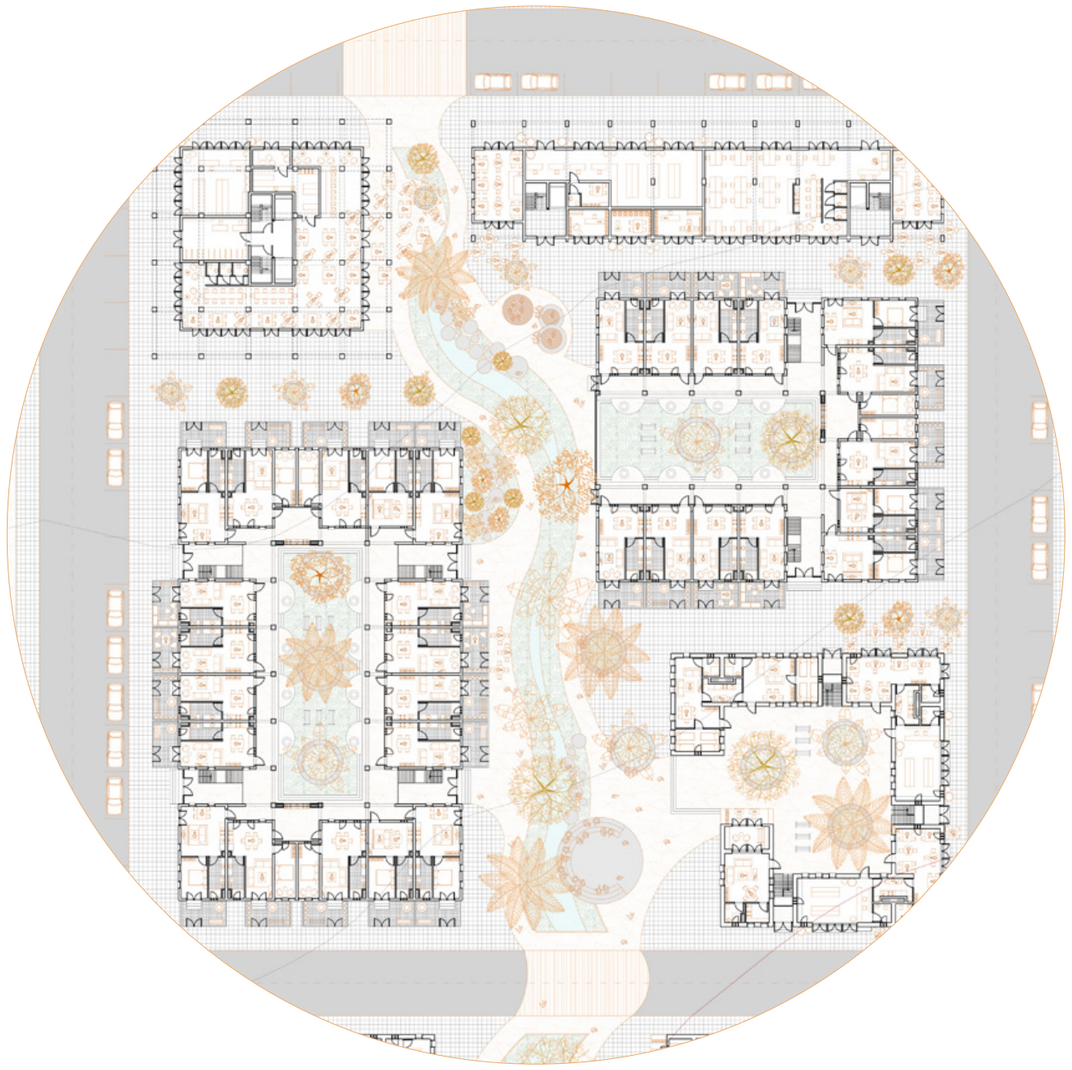
To reduce the costs of the project, same elements, like balcony doors, sizes of windows, doors, staircases, are repeated throughout the whole project.

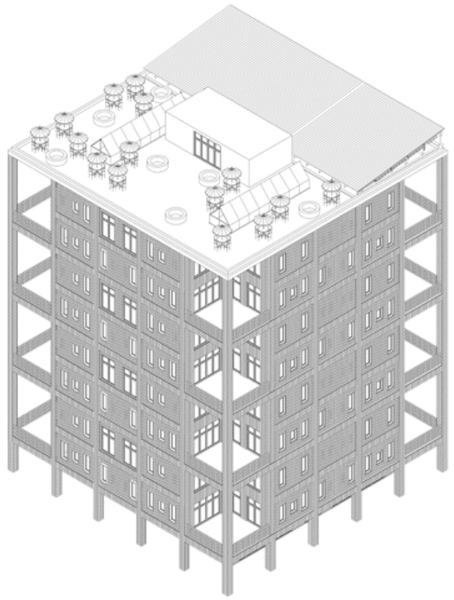
The tower and slab typologies, originally designed for middle- and higher-income groups, use more craftsmanship and expensive materials, to provide the qualities, that would attract new people to the neighbourhood. Selling apartments in tower or slab typologies, would subsidize the construction of the low-income groups' typologies.

The courtyard and compound typologies, originally designed for economically-weak income and low-income groups, are constructed using local materials. Mostly, to reduce the cost of the construction and future rent, but also to proove that even local materials, if using proper building techniques, can be secure and durable.

The courtyard typology acts as a mediator between different income groups, providing possibilities for social interactions and faith in climbing the social and economic ladder. The techniques used in the construction of courtyard typology are reflected in all other typologies. Therefore, the courtyard typology will be analysed more thoroughly.

06 building technology
Constructional concept





Tower

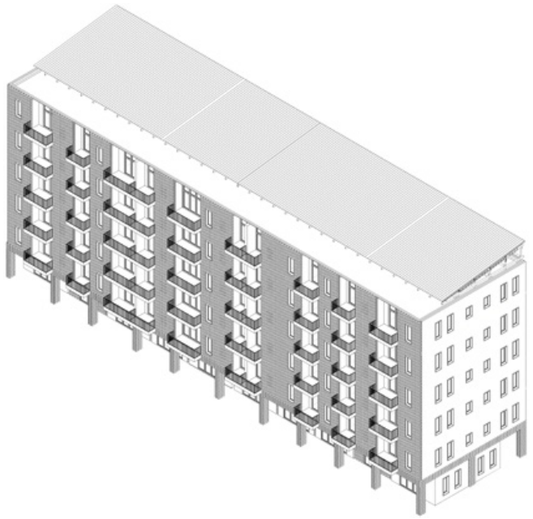
Load-bearing system: *concrete columns (5x5 metres grid) and concrete beams supporting them*

Flooring: *concrete slab (palettes of 5x5 metres)*

Non-load bearing walls: *compressed earth blocks*

Facade finishing: *the assemble of red-concrete bricks, using different patterns*

Roof: *Bamboo and corrugated metal sheet structure for water management and white tiles for rooftop terrace*



Slab

Load-bearing system: *concrete blocks (grid varies), concrete columns ground floor, concrete block columns supporting galleries*

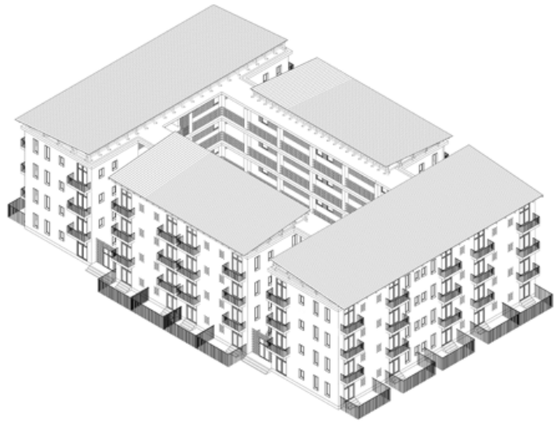
Flooring: *concrete slab (palettes of 5x5 metres)*

Non-load bearing walls: *compressed earth blocks*

Facade finishing: *the assemble of red-concrete bricks using different patterns, plastered walls and compressed earth blocks in the facade of galleries*

Roof: *Bamboo and corrugated metal sheet structure for water management*

06 building technology
Constructional concept



Courtyard

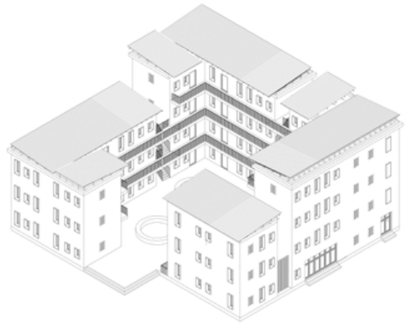
Load-bearing system: *concrete blocks (5 metres grid), concrete block columns supporting galleries*

Flooring: *concrete slab (palette of 5x5 metres)*

Non-load bearing walls: *compressed earth blocks*

Facade finishing: *the assemble of compressed earth blocks, plastered with white paint and compressed earth blocks in the facade of galleries, unplastered*

Roof: *Bamboo and corrugated metal sheet structure for water management*



Compound

Load-bearing system: *compressed earth blocks (5 metres grid)*

Flooring: *concrete slab (palette of 5x5 metres) with 1 metre offset for galleries*

Non-load bearing walls: *compressed earth blocks*

Facade finishing: *the assemble of compressed earth blocks, plastered with white paint*

Roof: *Bamboo and corrugated metal sheet structure for water management*

Concrete columns

Used for tower typology and the ground floor of slab typology to provide flexible building structure where needed. Flexible structure allows people to change their dwelling units or commercial spaces more frequently according to their needs. ***The usage of concrete columns in the building construction is a common practice in Ethiopia nowadays, therefore, the builders will be familiar with the building technique.***

Concrete flooring

Concrete flooring is used for all the typologies. Concrete is poured into the forms of 5x5 metres where clay pots are placed to shape the circular forms in the concrete palettes. ***This technique reduces the amount of concrete needed by 30% and steel by 20%. It increases the need for craftsmanship, therefore, supporting informal economies.***

06 building technology
Structural materiality

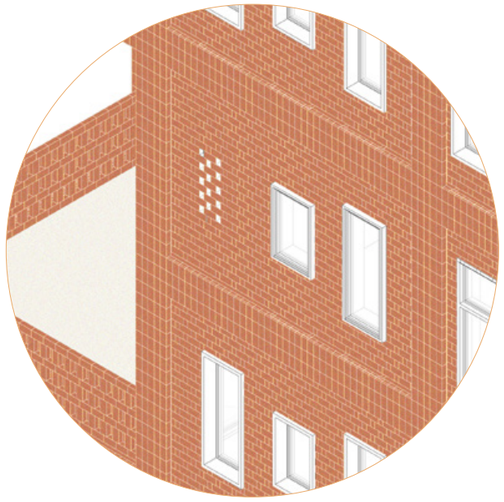
Concrete blocks

Used for load-bearing walls in the slab and courtyard typology, concrete blocks reduce the amount of steel needed for the construction, but provides the needful stability for the buildings. ***The usage of concrete blocks in the building construction is a common practice in Ethiopia nowadays, therefore, the builders will be familiar with the building technique.***

In courtyard typology, concrete blocks are also used for the construction of columns. This way it allows to reduce the steel and concrete needed for the construction of flexible gallery structure.

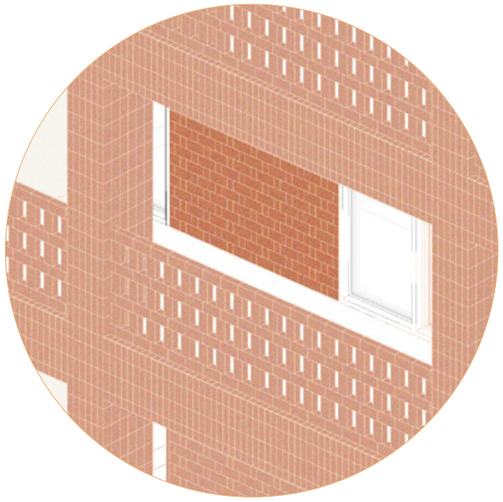
Compressed earth blocks

Used for load-bearing walls in the compound typology, compressed earth blocks reduces the construction costs to bare minimum of the compound typology, that originally was designed for the economically-weak income group. To prevent destruction, compressed earth blocks are mixed with lime, to give additional strength. The surface is plastered to prevent damages by rainfall. The white plaster should be renewed annually.



Red concrete bricks

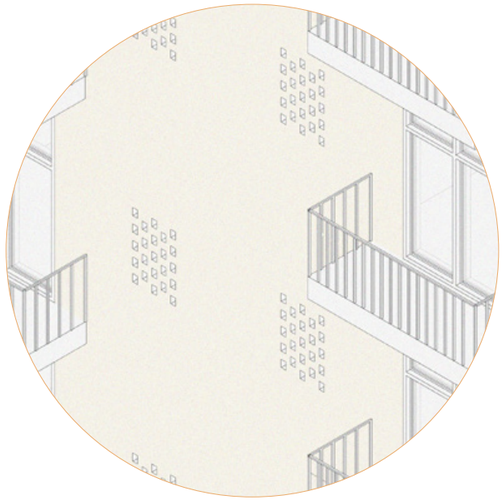
Red concrete bricks are used to assemble facade of tower and slab typology buildings. The colour of the bricks is gained by mixing concrete with local soil. Concrete bricks are assembled in different patterns and exposed to the rainwater, however, due to the good water absorption, bricks are not vulnerable to rainwater. Therefore, does not need high maintenance annually.



Red compressed earth blocks - unplastered

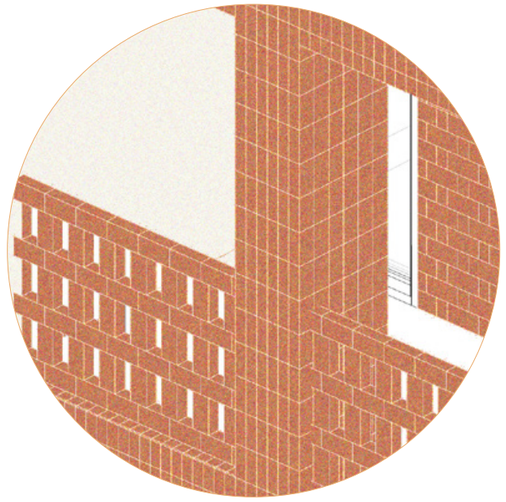
Unplastered compressed earth blocks with lime mixture are used where rainwater cannot directly reach the wall: in the galleries, that lead to the entrances of the apartments in the slab and courtyard typologies. Compressed earth blocks are extremely vulnerable to water, therefore a mixture with lime and protection against direct water is implemented to prevent bricks from destruction.

06 building technology
Materiality of facades



Compressed earth blocks - plastered

Plastered compressed earth blocks with lime mixture are used where rainwater can directly reach the wall. The main facades of the courtyard and compound typologies are assembled using CEB, therefore, plastered to prevent blocks from damage by the rainwater.



Combination of brick patterns

Three different brick patterns are used: the assemble of bricks in a rat-trap-bond texture, the vertical assemble of the bricks and the combination of the vertical and horizontal brick, used for railing.

Therefore, the materiality of the facades are similar, but at the same time - different, offering architectural qualities for different income groups.

06 building technology
Construction of the courtyard

For the construction of the courtyard typology, the following materials are used:

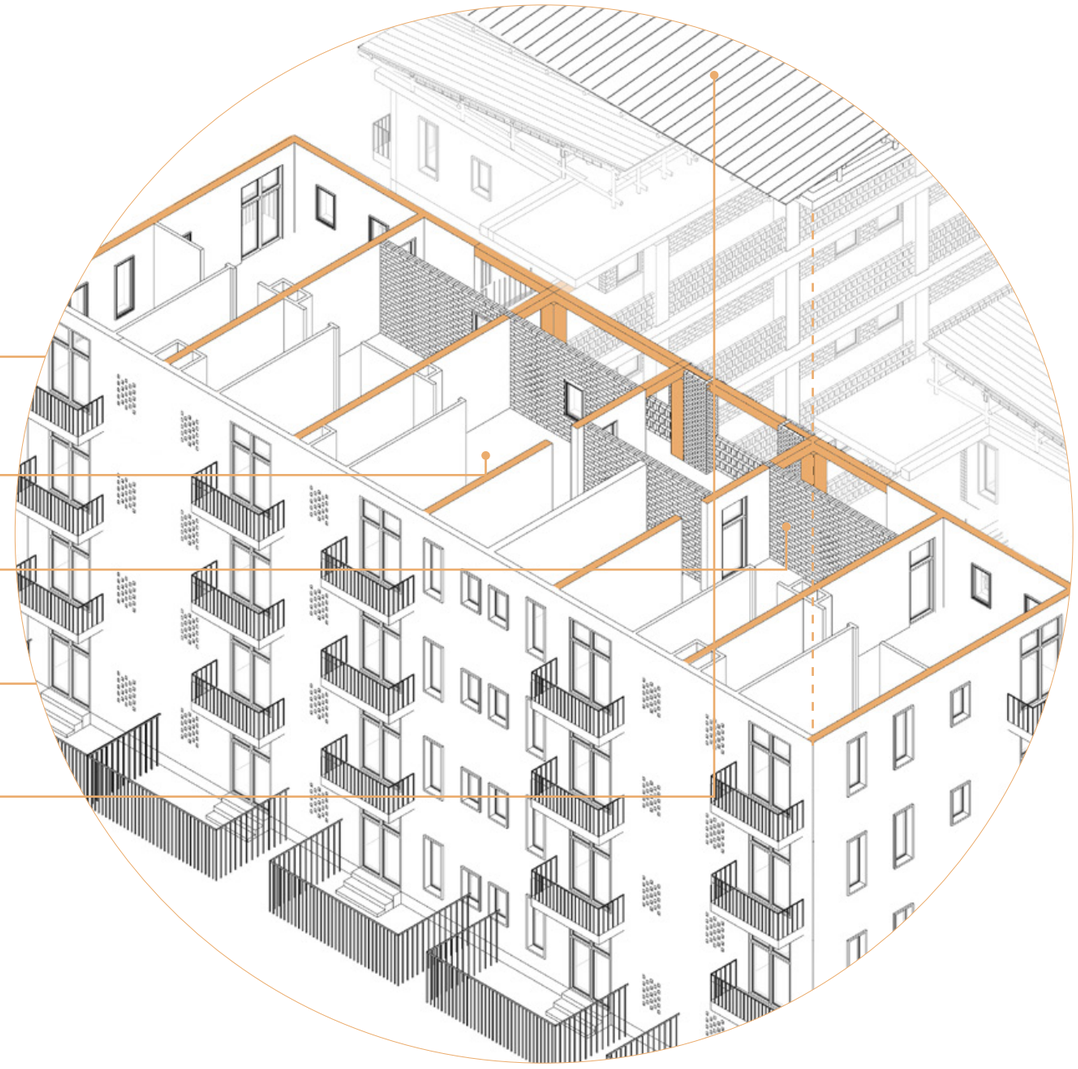
Load-bearing system: *concrete blocks (5 metres grid), concrete block columns, supporting flooring in the passages of galleries*

Flooring: *concrete slab (dimensions of one palette is 5x5 metres)*

Non-load bearing walls: *compressed earth blocks, mixed with lime and impregranted with l*

Facade finishing: *the assemble of compressed earth blocks, plastered with white paint and compressed earth blocks in the facade of galleries, unplastered*

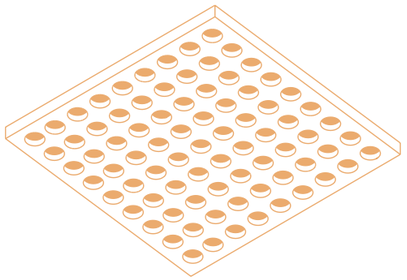
Roof: *Bamboo and corrugated metal sheet structure for water management*



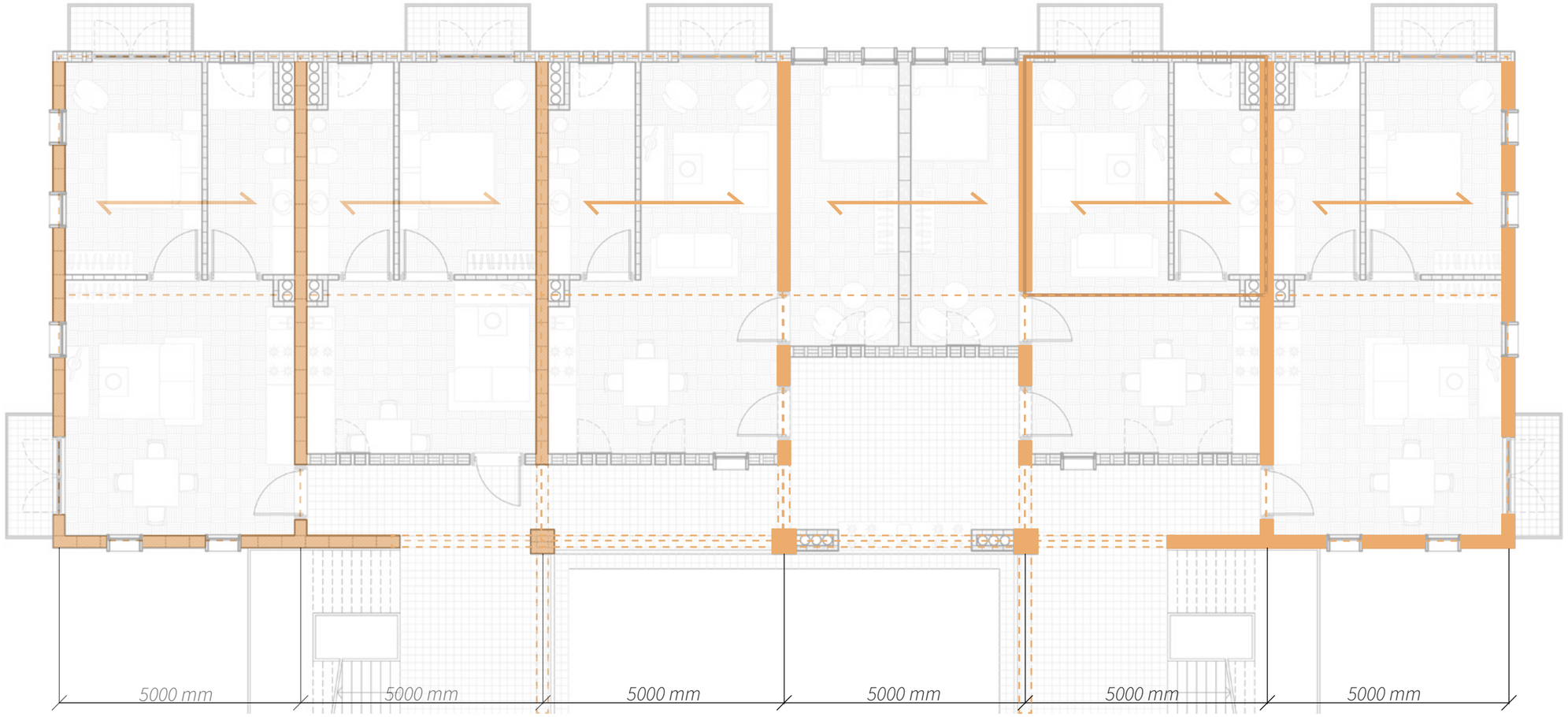
06 building technology
Structure

Structure

The load-bearing walls, constructed using concrete blocks, are arranged using a grid of 5 metres. The entrances to the houses are designed through the gallery, that is structurally defined by the concrete block columns, connected by concrete beams. The concrete slab flooring (palette size 5x5 metres), are supported on the load-bearing walls precisely. The walls inside apartment units are constructed using the compressed earth blocks of different sizes.



Concrete slab palette with hollow pattern

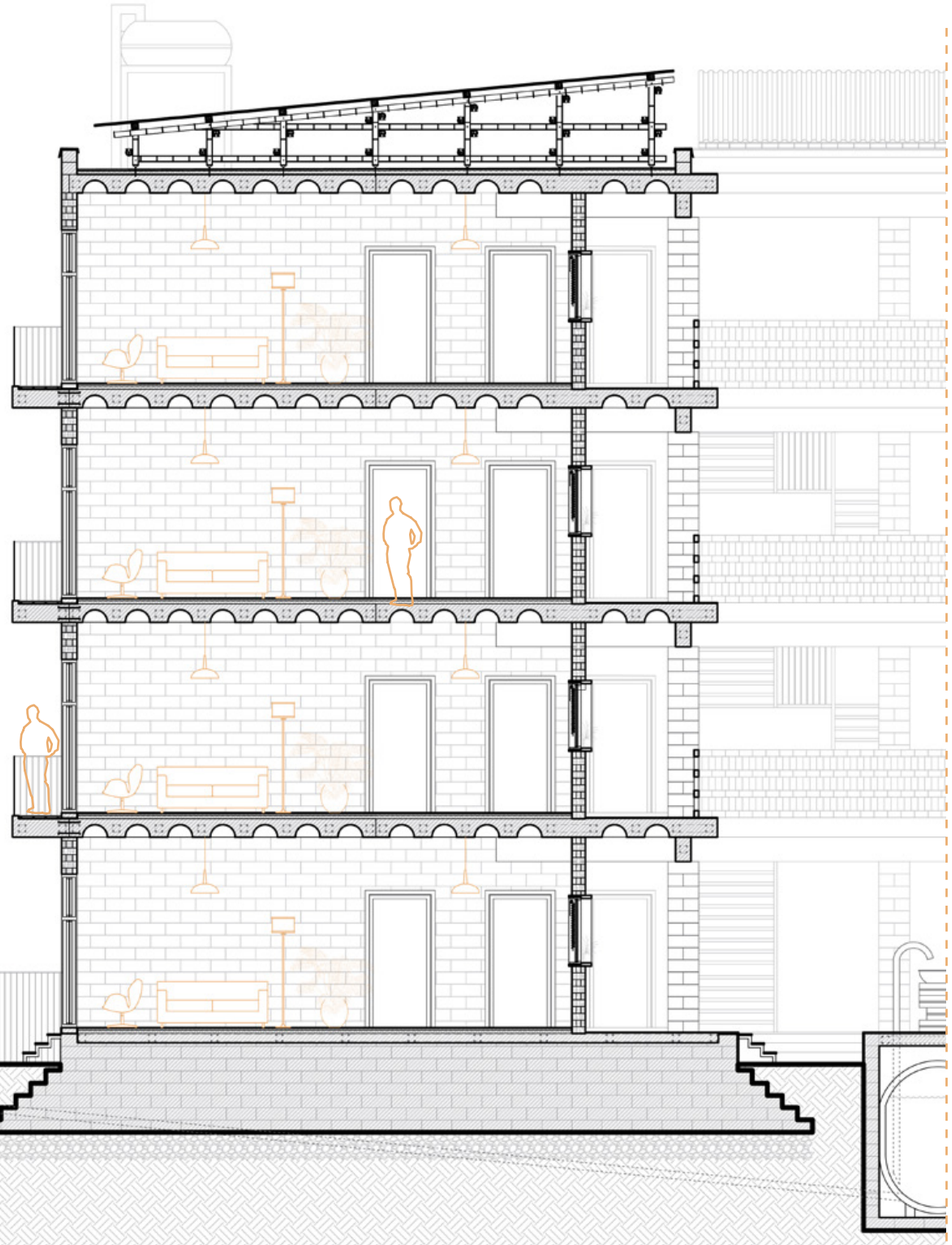


Structural floorplan 1:100

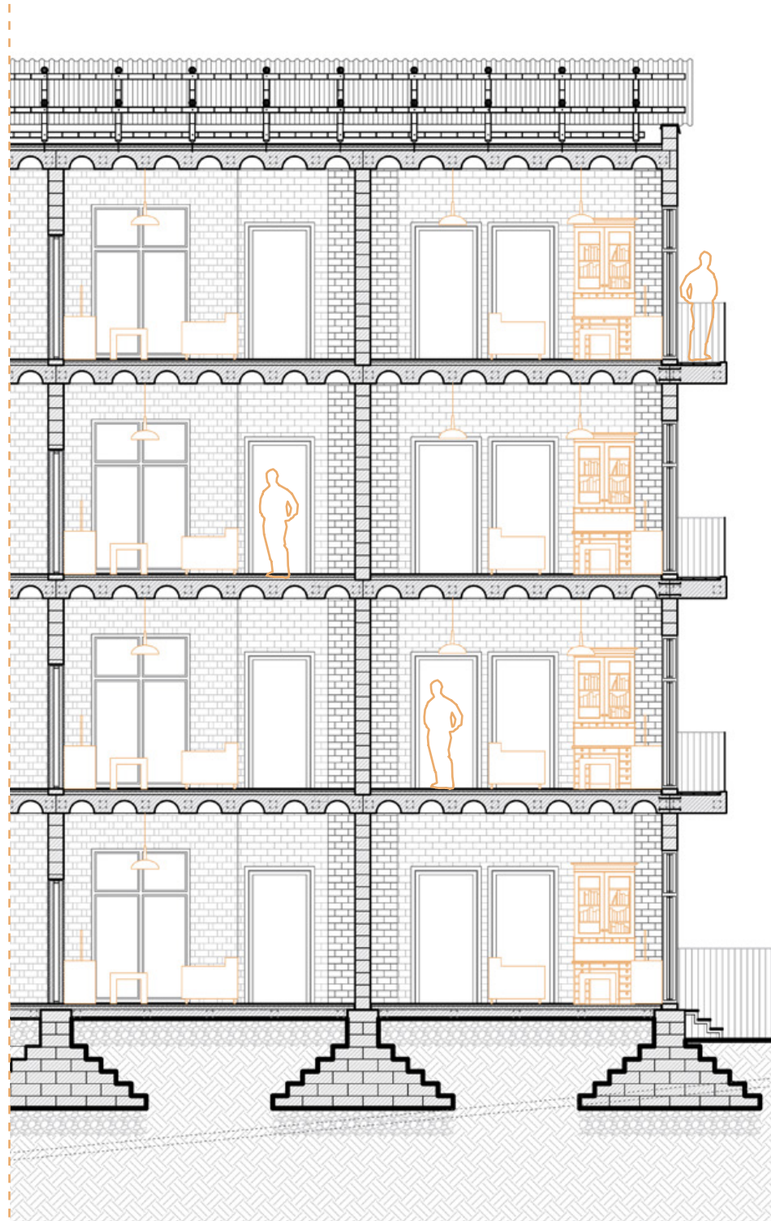
06 building technology
Floorplan

Detailed floorplan 1:50

Facade 1:100



Vertical section 1:100



Horizontal section 1:100

06 building technology
Facade, vertical and horizontal sections

Materiality of the facade

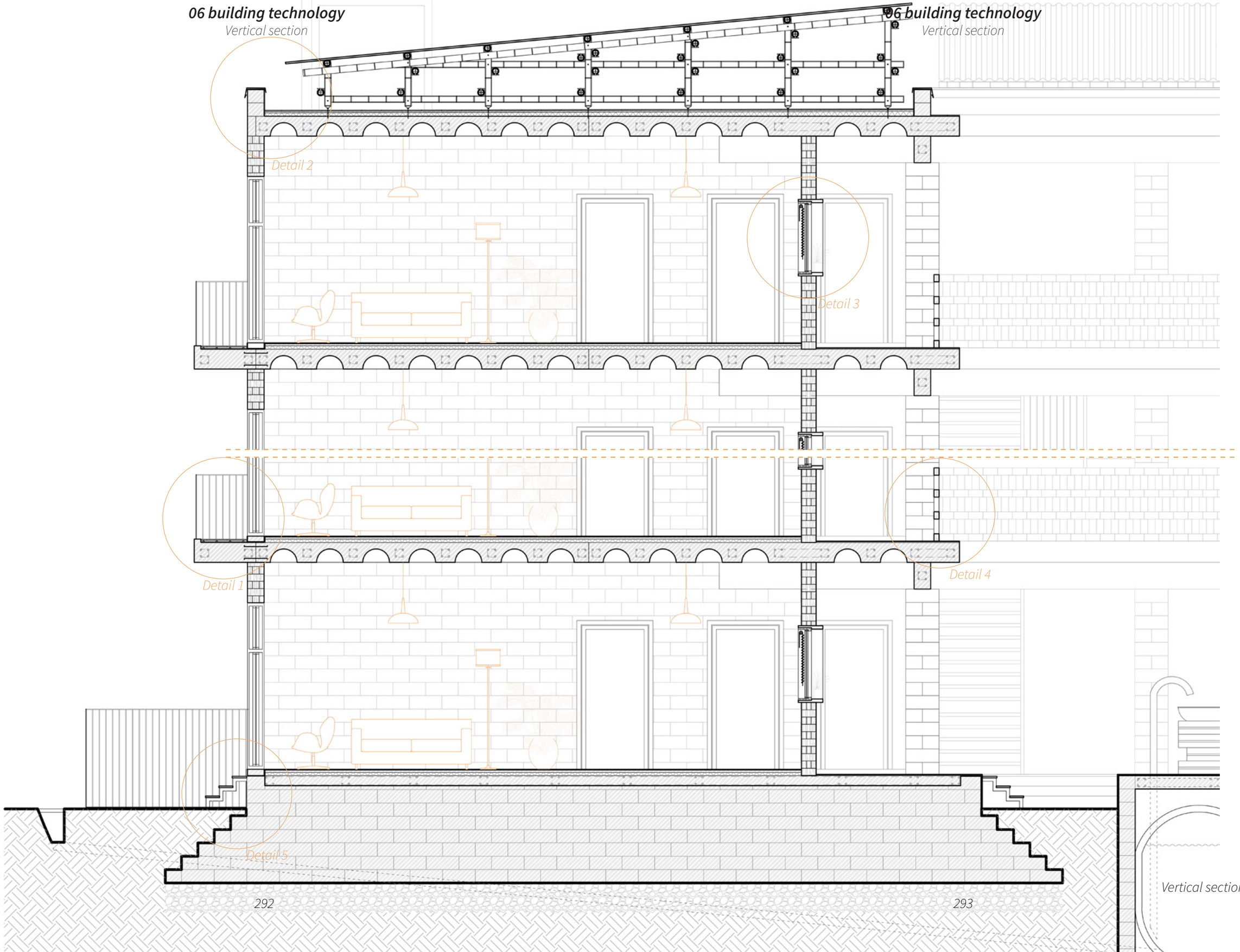
The load-bearing walls are grey when placed. The non-load bearing facade is assembled using compressed earth blocks with lime mixture, that is light red (soil colour of Ethiopia) when placed. To preserve the facade from water damage and to create a unanimous style, the facade is being plastered in light tones: white, sand, light-brown colour. Light tones of the facade not only create unique and cozy environment, but also reflects the direct sun light.

The window frames are made from laminated bamboo. The rooftop is made from the upcycled materials found in the neighbourhood: corrugated metal sheets, that been used for the roofing of the old buildings and bamboo poles, that are connected together in a system (the eucalyptus tree poles can be used as an alternative).

06 building technology
Facade

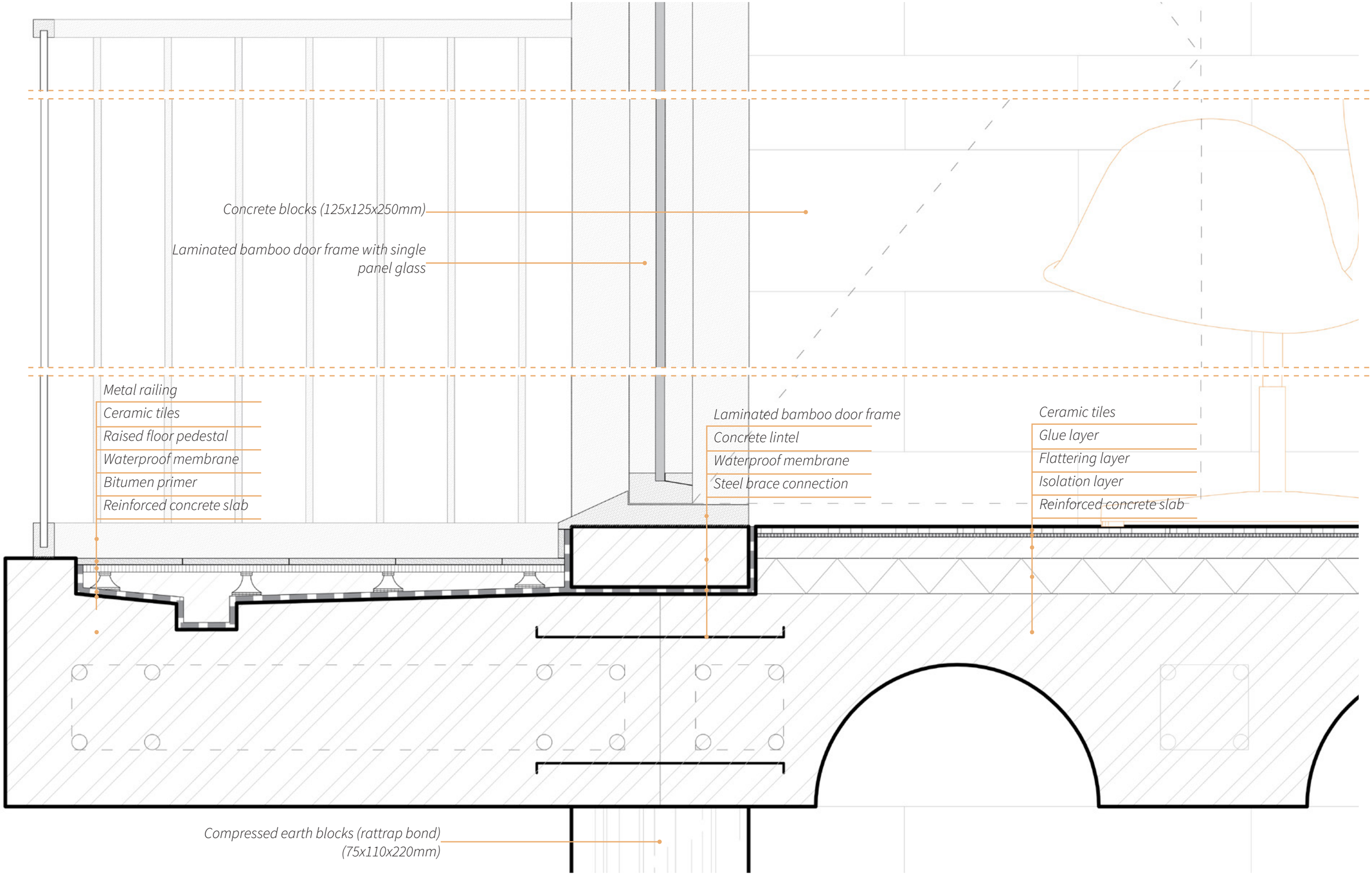
Facade 1:50

06 building technology
Vertical section



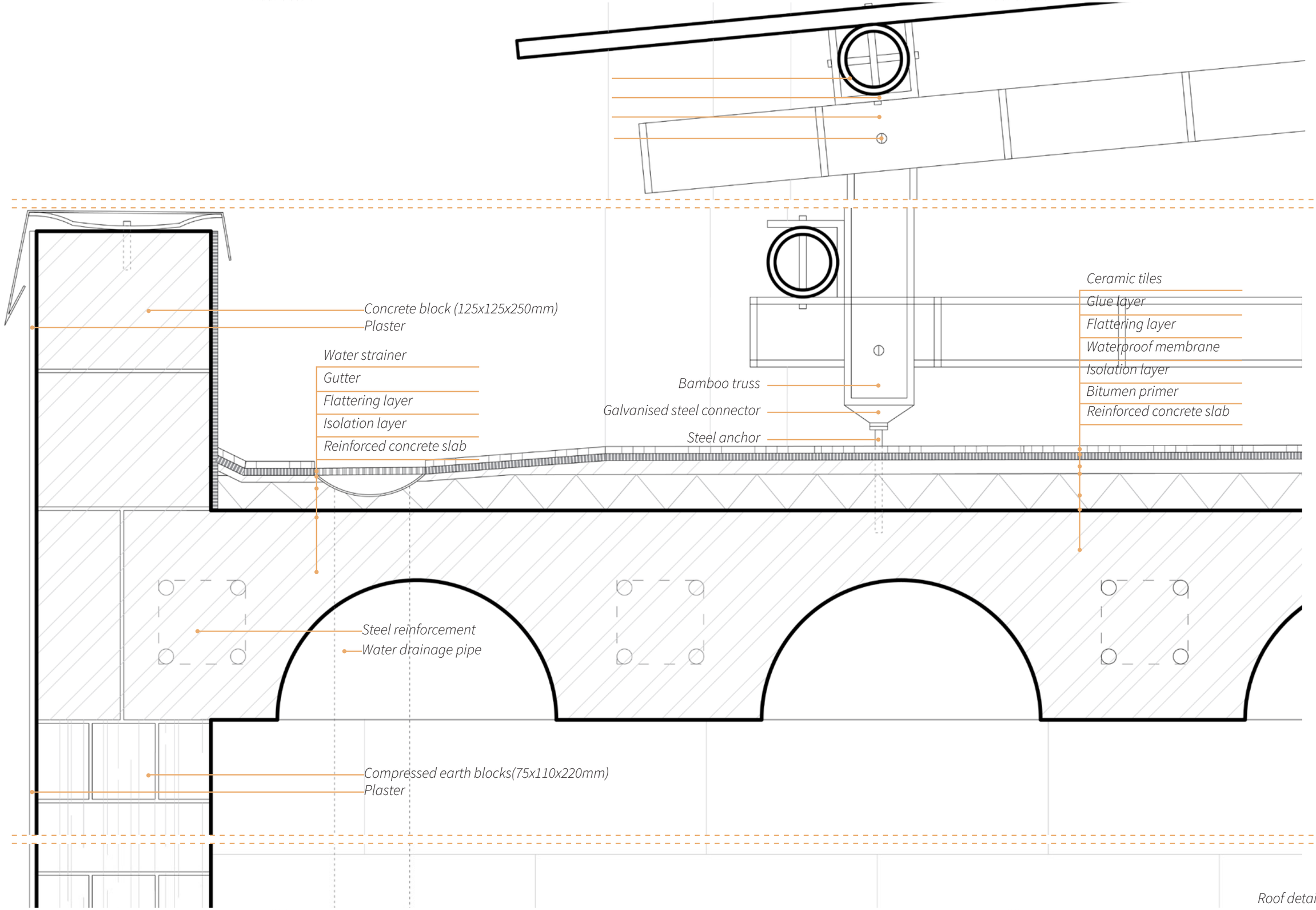
Vertical section 1:50

06 building technology
Balcony detail



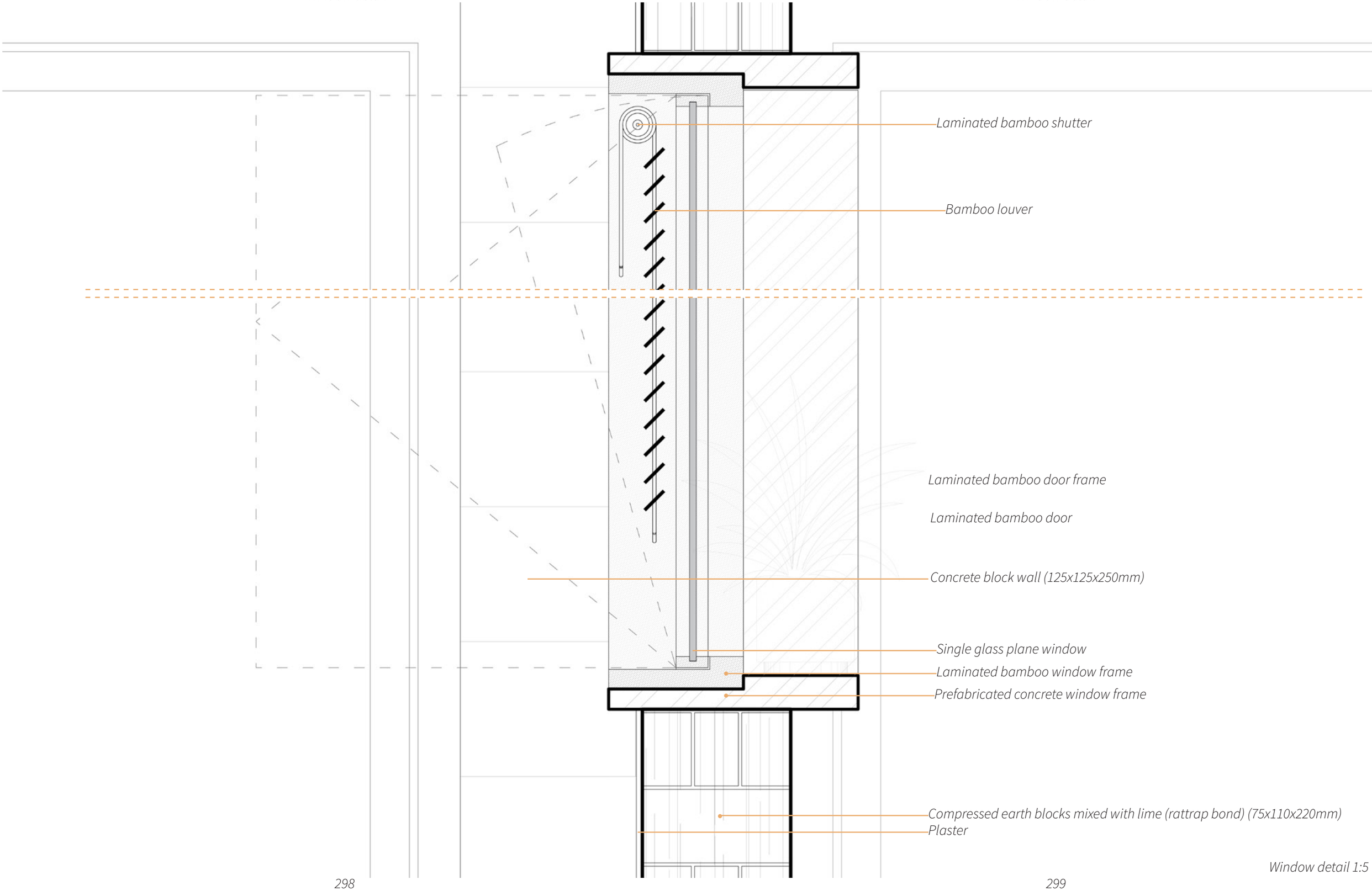
Balcony detail 1:5

06 building technology
Roof detail

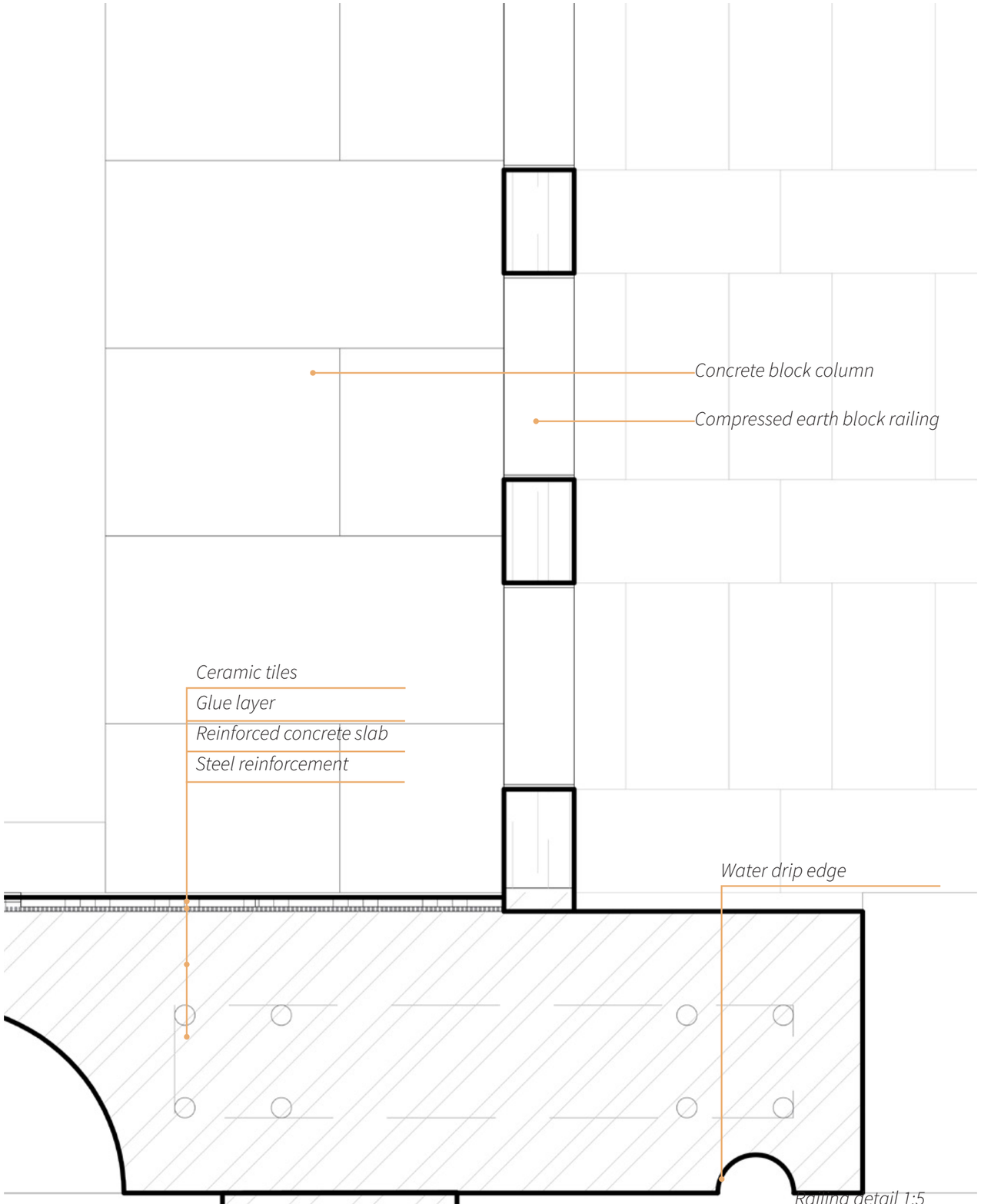


Roof detail 1:5

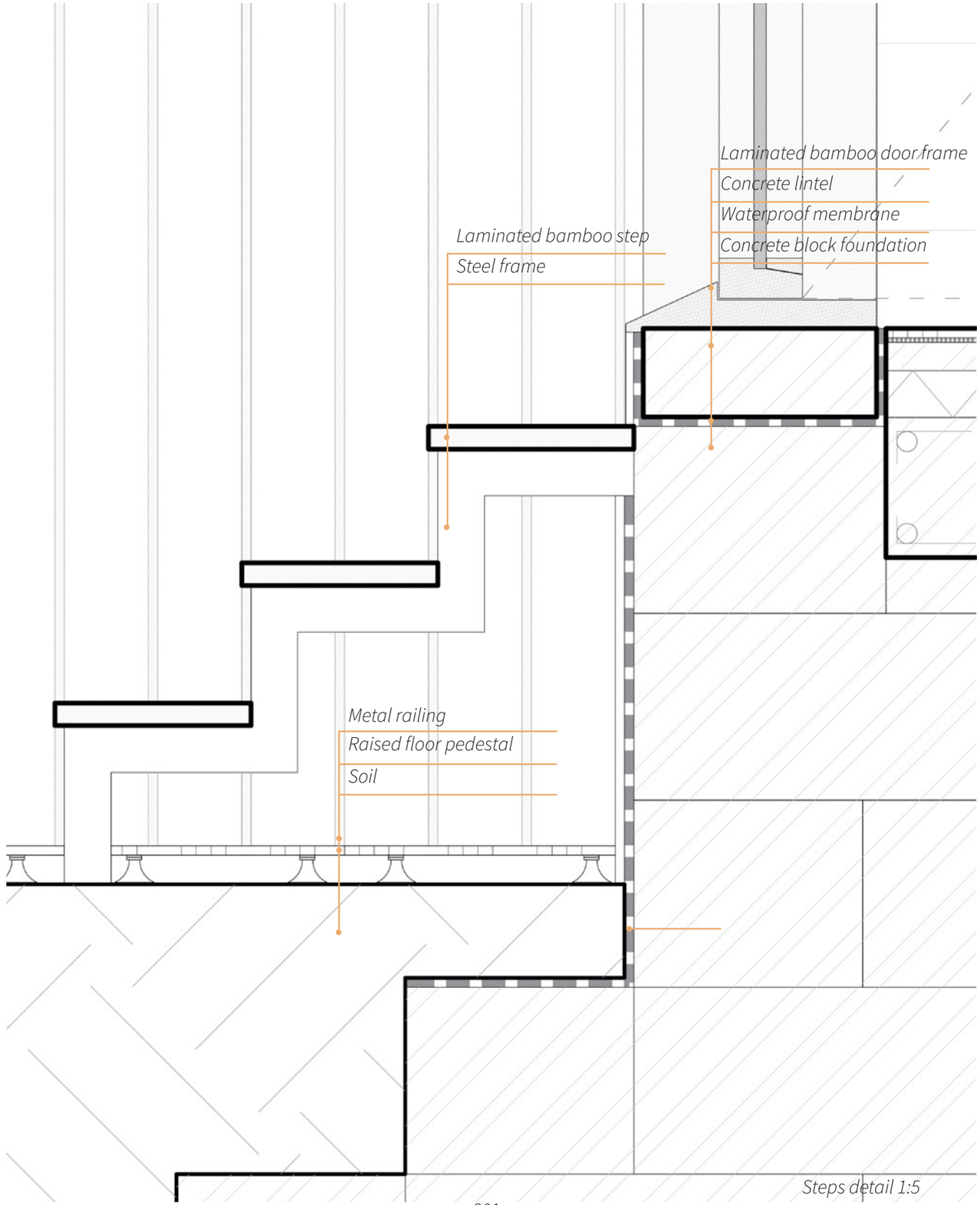
06 building technology
Window detail



Window detail 1:5



Railing detail 1:5

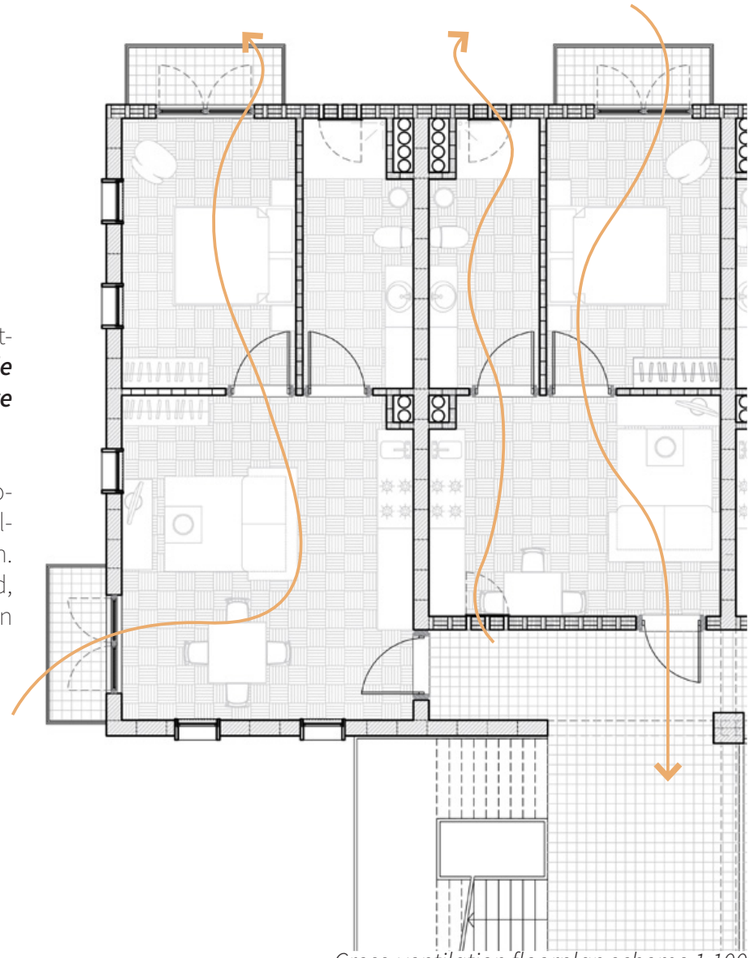


Steps detail 1:5

Ventilation

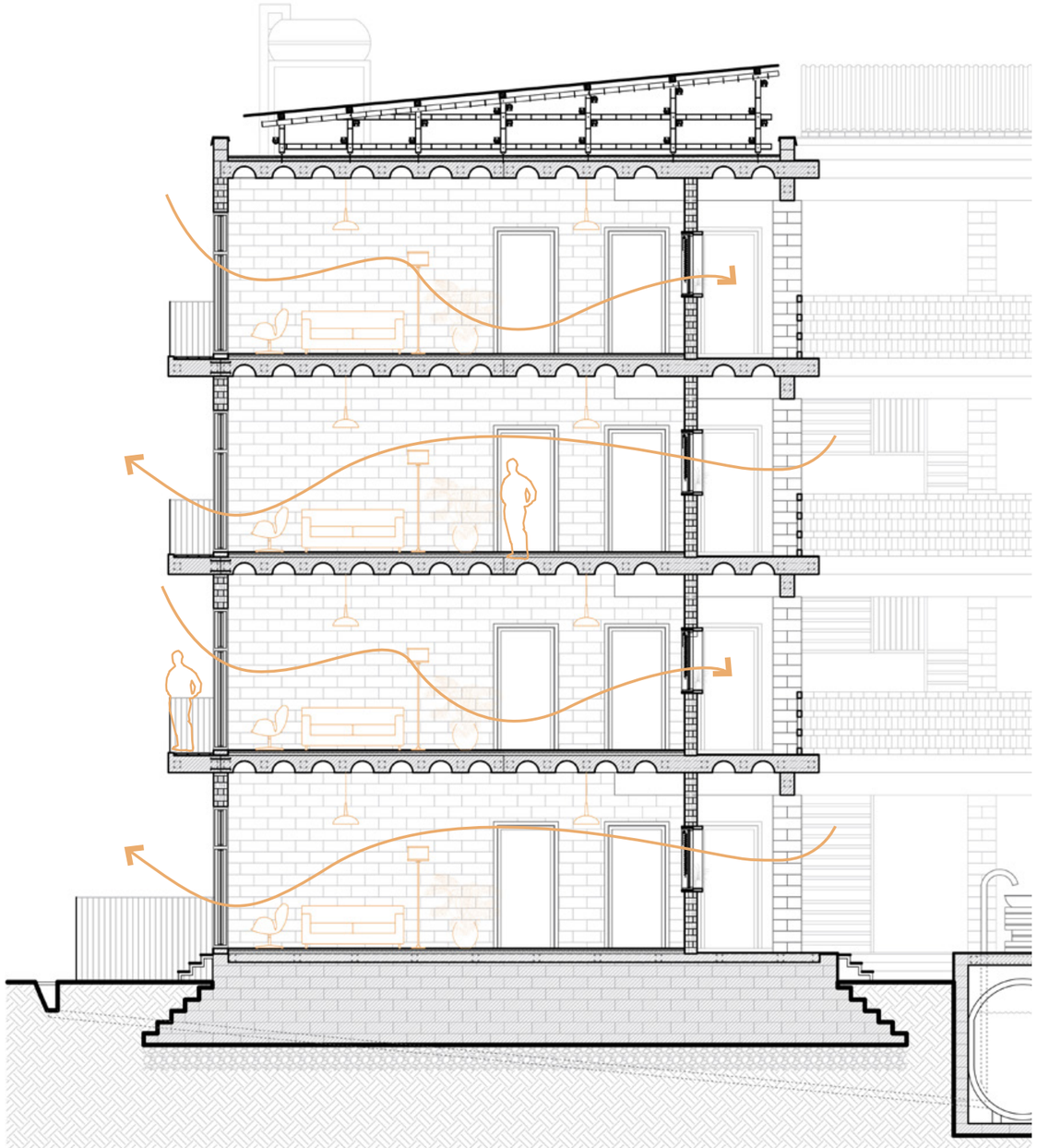
Every apartment is opened to the outside in two directions. ***This principle allows each dwelling unit to receive cross ventilation***.

Every bathroom and kitchen are located near the external facade, allowing for direct natural ventilation. The pushed-out brick pattern is used, which can be opened and closed when needed.



Cross-ventilation floorplan scheme 1:100

06 building technology
Ventilation concept

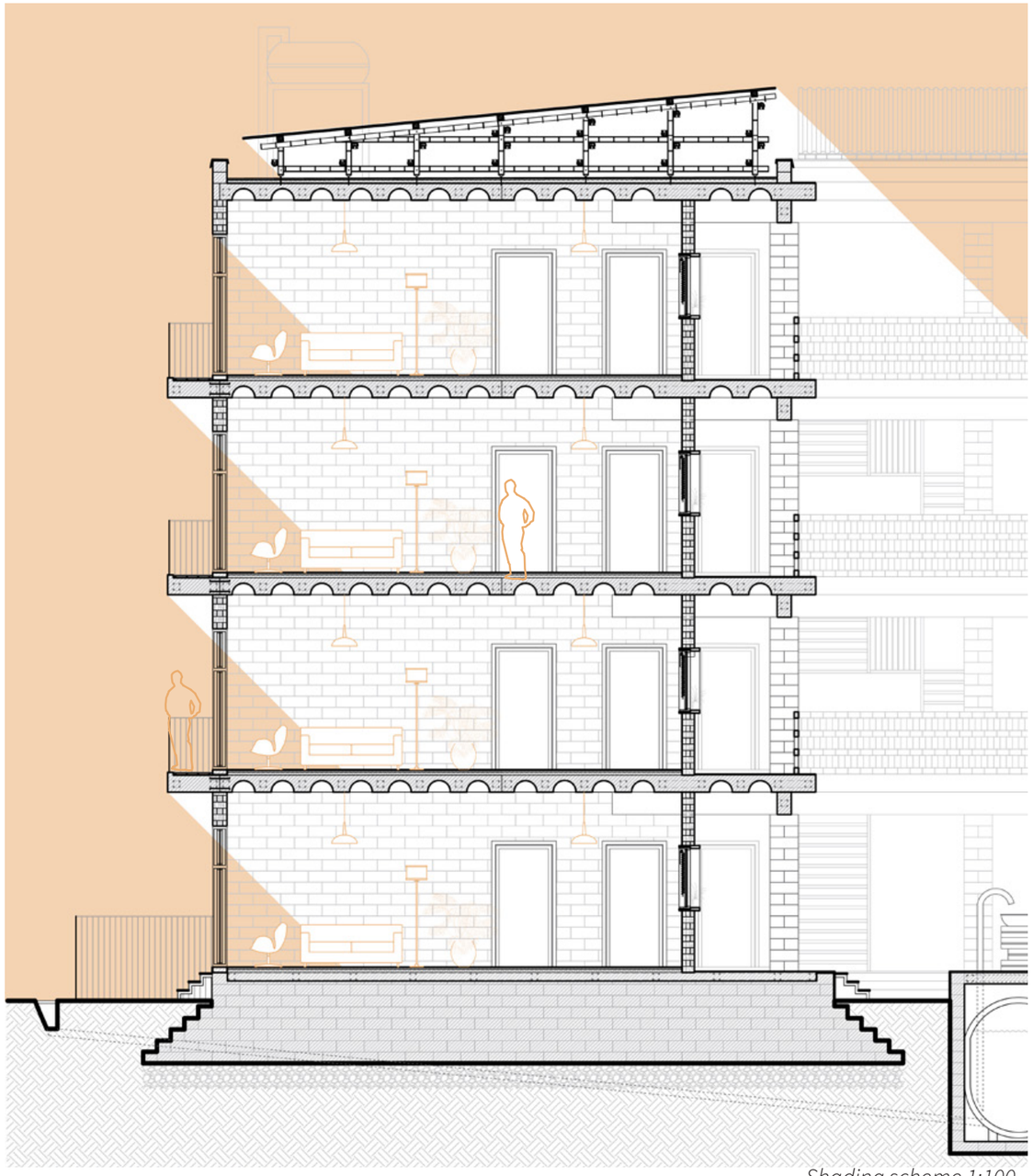


Cross-ventilation section scheme 1:100

Shading

The building has several buffer zones that help to maintain the thermal comfort inside each of the apartments. Elements such as brick cavity in the wall, overhangs, extended window frames, pushed back facade in the galleries and tropical roof are used to keep most of the direct sunlight out of the building.

06 building technology
Shading concept

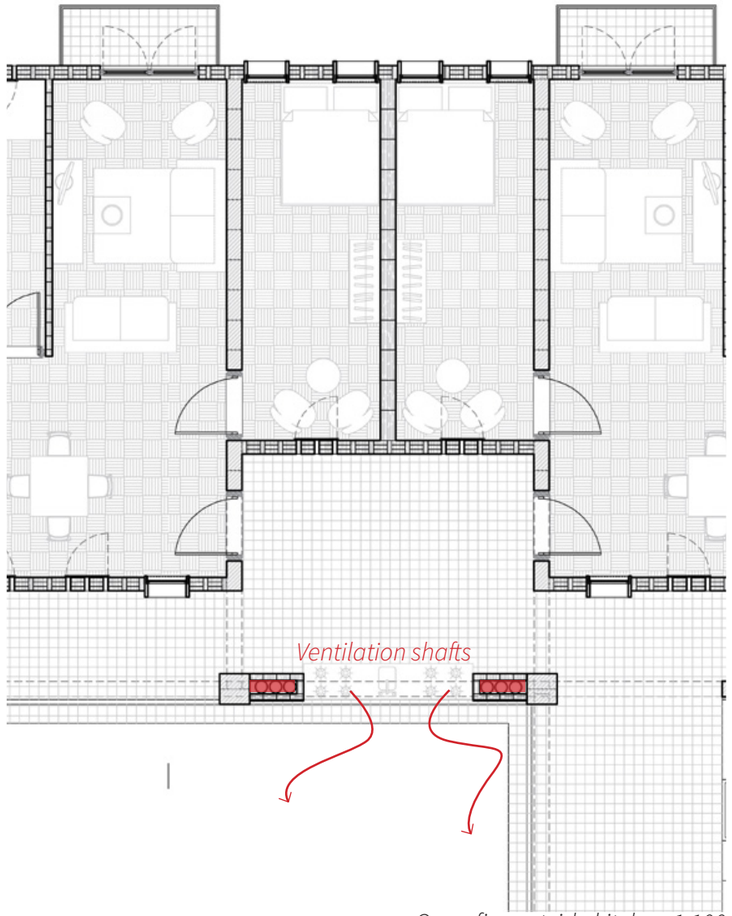


Shading scheme 1:100

Heating

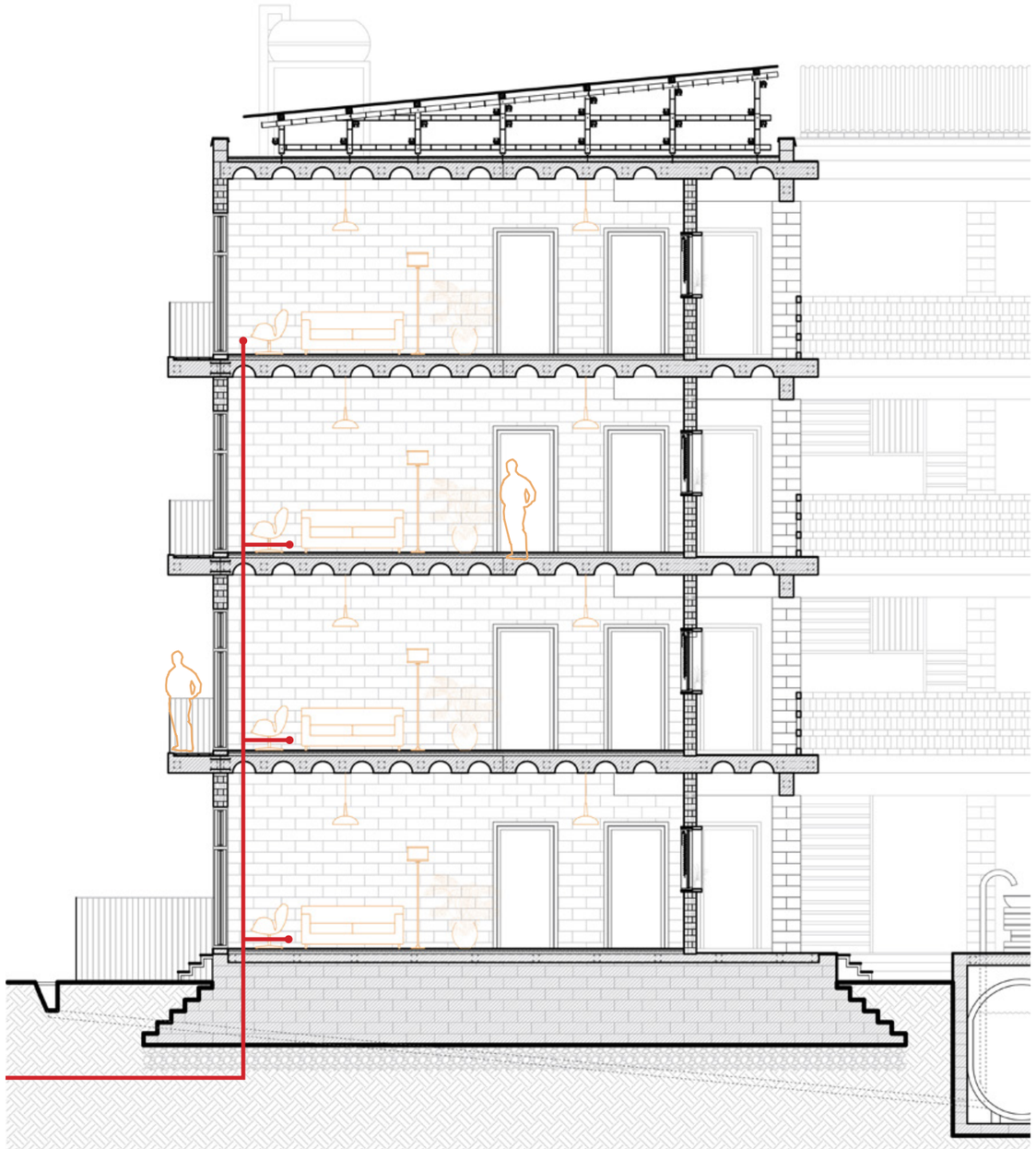
In general, Addis Ababa is located in a warm climate and does not require much heating, on the other hand, after sunset it gets relatively cool. To offer comfortability, central heating would be offered for the compound and courtyard typologies. The tower and slab typologies offer a possibility for a fireplace inside the house for comfortability.

The courtyard typology offers open-fire kitchen on every floor for communal cooking. The smokes are directed instantly outside.



Open fire outside kitchen 1:100

06 building technology
Heating concept



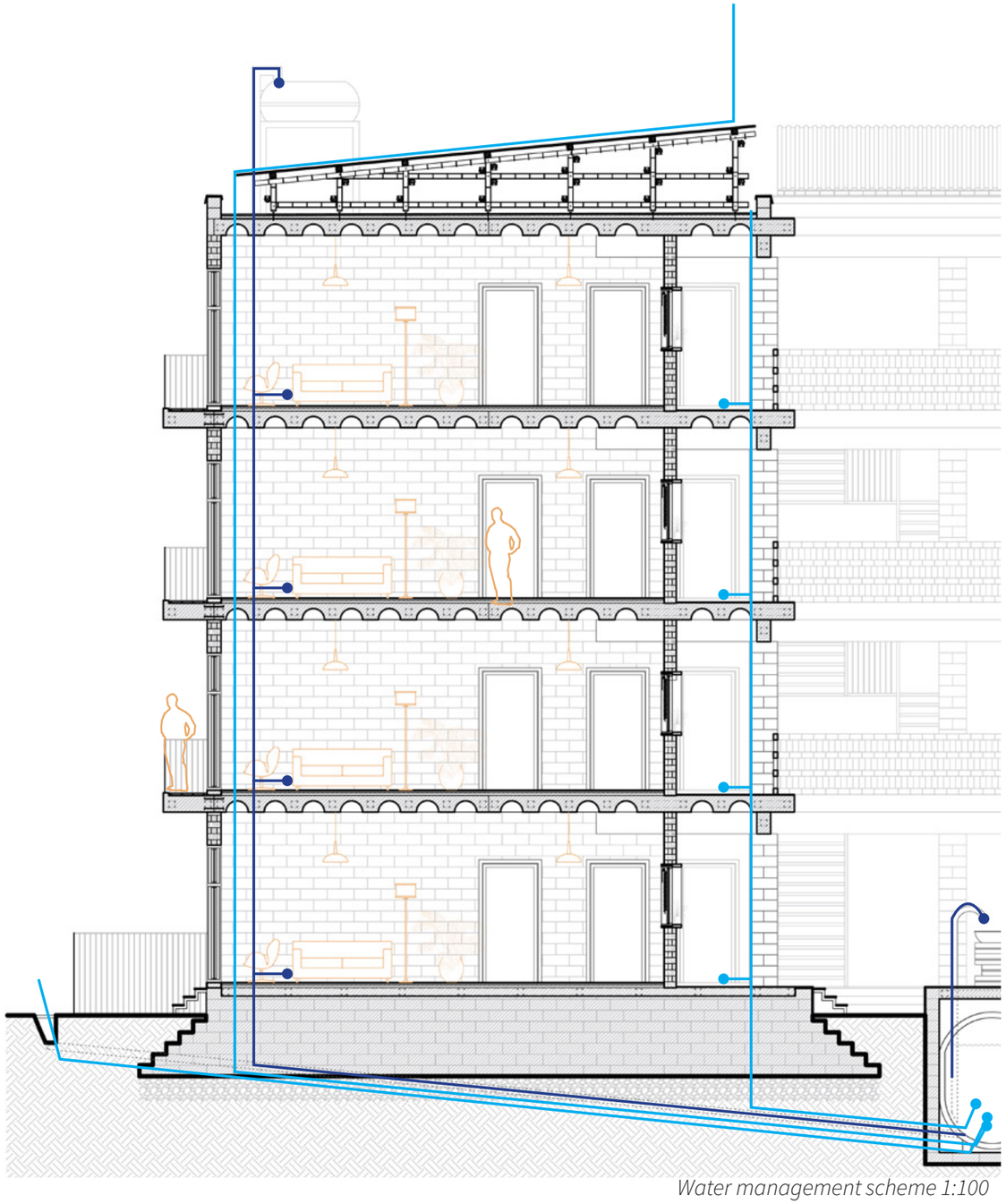
Heating scheme 1:100

Water management

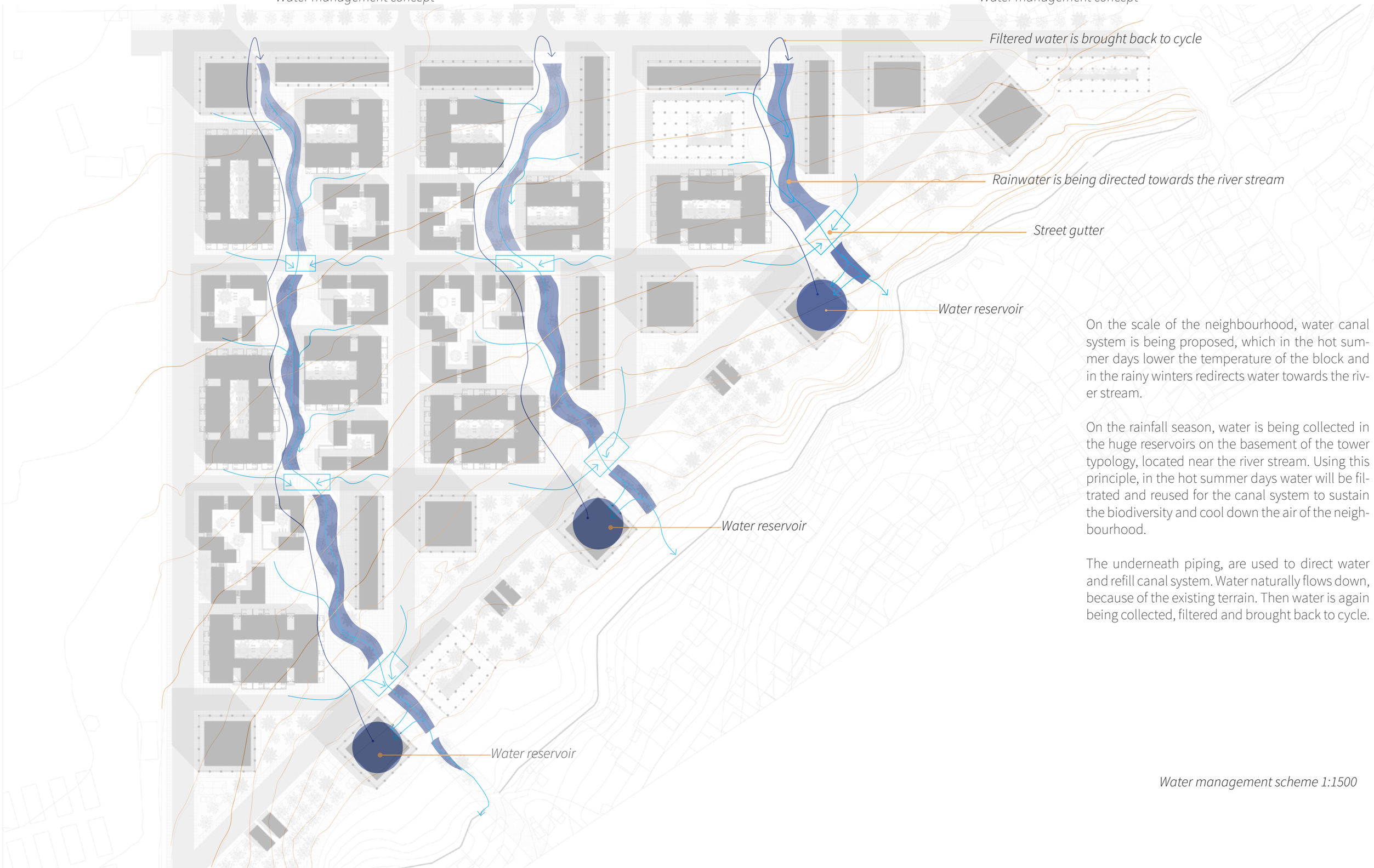
During the winter season, when it rains daily, water can be collected in every building. Collected rainwater will be filtered and then preserved in the water tanks. Collected water will be mainly used as a grey water to flush toilets and for other uses such as irrigation or washing clothes outside in the inner courtyard.

The bamboo and corrugated metal sheet roof acts as a large gutter, collecting the water before it is transported to the water tank. Gutters on the galleries also redirect rain water to the storage. The water tank on the rooftop creates pressure and in that way water is being pumped in the apartments.

06 building technology
Water management concept



Water management scheme 1:100



06 building technology
Water management concept

On the scale of the neighbourhood, water canal system is being proposed, which in the hot summer days lower the temperature of the block and in the rainy winters redirects water towards the river stream.

On the rainfall season, water is being collected in the huge reservoirs on the basement of the tower typology, located near the river stream. Using this principle, in the hot summer days water will be filtrated and reused for the canal system to sustain the biodiversity and cool down the air of the neighbourhood.

The underneath piping, are used to direct water and refill canal system. Water naturally flows down, because of the existing terrain. Then water is again being collected, filtered and brought back to cycle.

Water management scheme 1:1500

07 managerial model

Interest groups

Federal Housing Corporation

owns land; provides funding

aim:
higher FSI
more income for further developments
accommodate more low-income residents

offers:
managerial framework
maintainence of the property

Designers

designs

aim:
income
accommodate more low-income residents
create feasable project

offers:
knowledge

Current low-income group residents

rents property

wish:
stable income
generate extra income
decreased downpayment for owning property

offers:
labour

Current middle-income group residents

rents property

wish:
own property
generate extra income

offers:
income
maintainence of the property

Low-income group newcomers (migrants) ⟷ (sweat equity) ⟷ High-income group newcomers

rents property

wish:
stable income
generate extra income
accomodation
possibility to bring family

offers:
labour

owns property

wish:
safe neighbourhood
amenities
good quality living conditions
living close to work

offers:
income
maintainence of the property

Social and typological analysis

Rural migrants

Low-income current residents

Middle-income current residents

High-income new residents

migrants: *limited or none possible money; no job opportunities, low-education; requires low-cost living and job opportunities, secure and good quality living space, safe environment, local networking*
low-income residents*: limited amount of money; possibilities for income generation; offers labour; benefit from communal areas; sharing and interaction with neighbours; possible house extention*

middle-income residents: *big families; offers income; prefer to have same possibilities as in current plots; good quality living space; privacy; possible extention*
high-income newcomers*: privacy; comfort; attraction of the site: overview of park and Addis Ababa, development of the area would offer new attractive public facilties; big balconies; need servants to take care of their living space*

Low-income affordability typology building

Compound typology

Courtyard typology

Made of local and affordable materials:
compressed earth blocks and concrete blocks; reinforced hollow concrete slab

Height:
3-4 stories height / no elevator

Privacy:
more shared facilities; courtyard as an active space for interaction; possibility for ownership

Extendable housing units, set main structure

Middle-income affordability typology buildings

Slab

Tower

Made of imported materials:
concrete blocks and concrete columns; reinforced hollow concrete slab

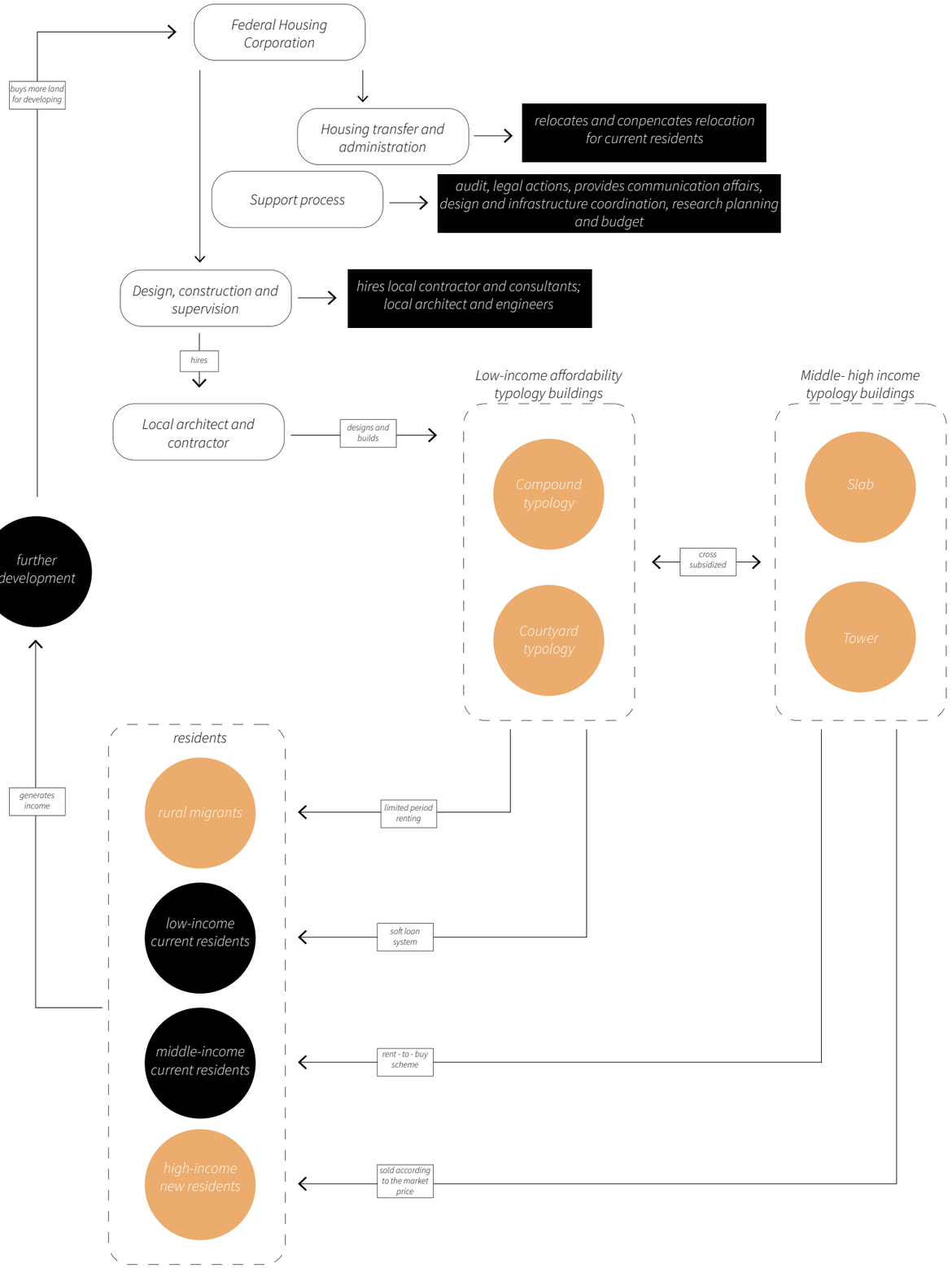
Height:
6-9 stories height, offers elevator

Privacy:
ownership; secure and private entrances

Big apartments with flexible arrangement of the structure

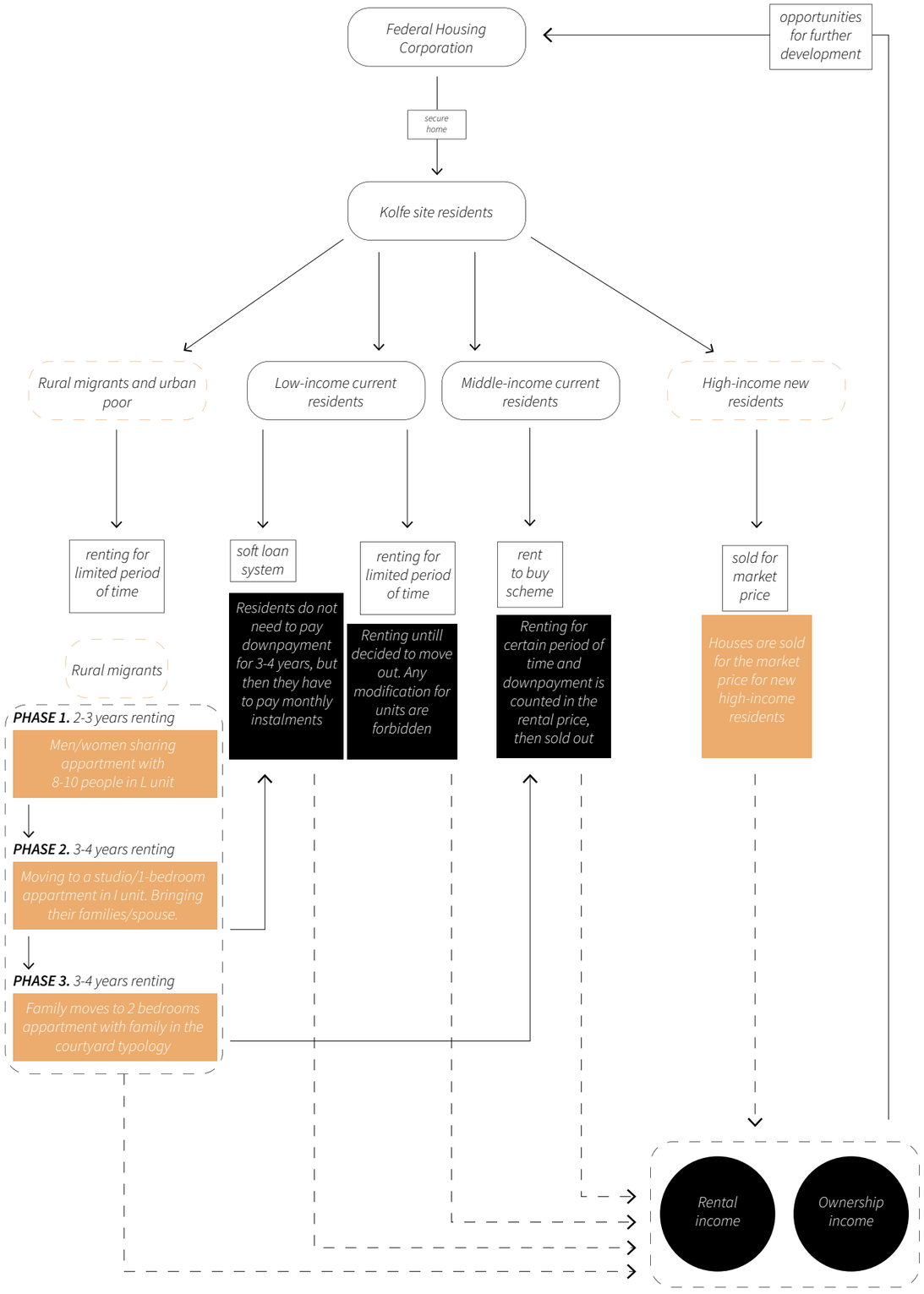
07 critical analysis

Operational model



07 critical analysis

Ownership model



appendix

Reflection

Introduction

Ethiopia has one of the fastest-growing economies in the whole world. Nowadays, it is experiencing rapid urbanization, substantial economic growth, population boom, and high numbers of internal migration from rural lands to the cities. Due to the reasons for intense migration and fast population growth, the major cities, and especially the capital Addis Ababa, cannot vastly and efficiently manage the inflow of people and they are left without any adequate housing or support from the government. Throughout history, Addis Ababa was the destination for most rural-to-urban migrants, often manifested because of the great famines, that devastated many rural areas and left people without other choices than moving. This process brought many traditional ways of rural living to the city.

Over the history of the capital city, Addis Ababa has become the home for a variety of social, ethnic, and economic groups. The informal way of living has spread through the whole city, enhancing the different social groups to coexist together side by side, turning Addis Ababa to an intensively heterogeneous city, where urban mixity is a key factor of inclusiveness. Increasing economic capabilities, investments from the other countries and shift from rural to industrial economic sectors creates more possibilities for the urban dwellers, however, establishes a bigger gap between the low-income and high-income groups. As the country is shifting between the different economic sectors, low-income families and rural migrants are experiencing great struggles. The lack of education and income, forces families to debt, leading to the struggle of finding adequate accommodation and put their children through school, creating a vicious circle of poverty.

Today, Addis Ababa has become home for around 4,5 million people and the majority is living in the informal settlements. The urban poor are facing problems due to the lack of sufficient housing, no access to services, low-paid jobs, unhealthy working conditions, and relocation processes. These numbers keep rising as more and more people are coming to urban life every day. Actions by the government have been implemented, offering standardized architectural solution housing. However, the Integrated Housing Development Programme is not accessible to all people, especially the urban poor, simply because they cannot afford the down payment. The new housing developments propose an international style of globalized architecture, that has little to do with the traditional dwelling patterns of Ethiopia and therefore, the program fails to meet the needs of the residents.

To stop this vicious circle, the housing issue must be solved and the secure and safe living environment for the city dwellers, rural newcomers, and urban poor, offered. I believe that proposing the solution for housing, which would sustain the mixity of social and economic groups, decreases the gap between rich and poor, and encourages not only the benefits for a stronger society but also the further growth of the economy of Ethiopia.

Method & Approach

The Chair of Architecture & Dwelling implies the best equilibrium between architectural theory and design to prevent vague architectural decisions. The space of the housing is introduced as the most important aspect of hu¬man life: this is where the day of human starts and ends, this is the place where most life-changing decisions happen. As the Global Housing studio is approaching ob¬stacles of unknown contexts, often in the Global South countries, the deeper social analysis must be implicated.

Primally, the method of research used is architectural ethnography. Architectural ethnography is the study of the nature of human actions, which takes into consideration the built environment as an everyday practice. In my opinion, it is an extremely useful research approach, as the resulting design is more holistic in solving societal challenges. Therefore, the architect focuses more on the habitation patterns, ties between community members, and informal usage of spaces, rather than only focusing on what is architecturally appropriate in the particular space. This way, the architect tries to research and learn about the processes of habitation using methods, derived from anthropology.

In the first phase of the studio, the students researched the fundamental knowledge of Ethiopia and Addis Ababa, concerning four topics: Soft Data, Hard Data, Spatial Mapping, and Housing. Within this collaborative research, together with the other three students, I worked on mapping urban growth patterns of the city of Addis Ababa, from its foundation to these days. We highlighted the important urban transformations of different eras for the city. Later on, I analysed the case studies of housing for different social groups, did a literature analysis on housing typologies, dwelling patterns of the urban poor, and reasons for migration. During weekly meetings with group and tutors, the analysis of different chapters of the book “Building and Dwelling: Ethics for the city” by Richard Sennett additionally broaden our knowledge of the history of urban developments and general research ideas, through the decades.

As a part of the architectural ethnographical research, we did a comparative study of two neighbourhoods in the Netherlands and Ethiopia. This comparison showed that the area of Kleiwegkwartier and the neighbourhood of Gerji are the examples, how completely different cultures could have similar and opposite living patterns. As a foreign researcher, it is important to be subjective and not to compare the differences in a concrete manner. The traditional dwelling patterns of the African country and the European ones are different fundamentally. However, even if the differences are visually noticeable, the understanding of secure living space is the same. Different cultures preserve community-like living and security becomes a major factor in sustaining comfortable living. The importance of the community and ownership of the property, as well as security, is the main conclusions visible after research. Even if, culturally the neighbourhoods are different, the residents have similar ambitions of living and developing their dwelling towards the more comfortable future.

The individual research started when the students from the Global Housing studio went to Addis Ababa and visited the chosen project site in Kolfe district. To further develop my micro-ethnographical research, I obtained interviews with residents of the site (with the help of local architecture students), introduced the participatory game of the dream house design. The series of drawings were conducted during the visit, which helped to un¬derstand the spatial qualities and living patterns better. Interviewing different social groups, helped to realise their aspirations and needs, that could be translated into a project that would cherish social mixing, as it is a pattern already visible in the site. The individual research methods were similar to the group's ones, however, it helped me to elaborate on certain topics, as migration and movement, better personally. I believe, that my project could be viewed as a case study, where the mixity of the urban poor and middle-, higher-income groups could be viewed as a strength and possibility, that would help to solve the key issues rural migrants face.

Using the method of architectural ethnography for the research led the project to be richer, helped to understand a small part of different cultures visually, and formed the logic behind many decisions for the project, however, I struggled to translate these findings in a more holistic architectural design. Adapting the findings and translating them into the architecture was difficult, because it was the first time, I tried creating a project using such an approach. In my opinion, I did not reach the wished result. I think, I lacked knowledge of adapting research results for the project to become successful in its surroundings and neighbourhood. I wish to have taken a longer time to analyse the current situation, spend more time on the site and interview more people to get even more knowledge of how my project should look like, researched more typologies of housing that would work better than the ones I defined. Nonetheless, for my future projects, I will use the same approach, because it is rewarding to create something, that was inspired and derived from the local residents, their needs, and ambitions. Just translating the findings better.

Relationship Between Research & Design

At the beginning phase of research, the issues correlated with the internal migrations within the country, and the struggles it brings to the capital city was in my interest. The case studies, literature research and the visit to the Kolfe site helped me to raise my design hypothesis, that would create a prototype, that would not only help to create an identity of the site itself but also would improve the lifestyle of the current residents by forming the resilient communities using mixity as a tool. The aim of creating a project that would change someone's life was a strong reason to keep on researching and achieving better results weekly.

The collective and individual research set a strong base for the further design process considering the context of Addis Ababa. By the feedback of my tutors, I was all the time encouraged to work in a bigger picture, zoom in and out to the project frequently, and never forget the initial goal of the project, which should create resilient clusters for different social groups. They constantly helped me to improve my project and challenged me to research better solutions in many cases.

The most important part of the research was the analysis of the aspirations and needs of different user groups that were observed through the interviews with locals in the site of Kolfe and Gerji. These needs set the goals for the project, that could be viewed even in the architectural case studies I analysed. For example, the hierarchy of spaces and the separation between the public and private, as well as the entrepreneurship possibilities of income generation from the home or shared housing for the migrants. The co-existence patterns are visible in my design approach, however, being less holistic as I expected, as the density of the project needs to address the issues of the megapolis of Addis Ababa.

Ethical Dilemmas

The approach of architectural ethnography requires spending a lot of time in the neighbourhood. However, using the approach of visual ethnography brought challenges in how the research could be conducted and interpreted. Living amongst the people, to understand their daily struggles and living patterns would be the key method of ethnographical research. However, our time was limited, as we had only a couple of days for the research, where we could be accompanied by the local students, due to the barrier of language. This was one of the hardest parts of the research, as not many people would clearly understand what we would be asking or not many would speak in English and students from EiABC would help plenty by translating and elaborating more. Unfortunately, sometimes people did not show trust as we were foreigners and then would refuse to answer questions. On the other hand, we spend a lot of time taking pictures, that I could say no one minded.

Due to the fact, that research was mainly conducted in a short period, we heavily interpreted the habitation patterns, maybe romanticized particular ways of living, and did not pay enough attention to the others. The interpretations concluded that people prefer to live in communal environments, share facilities, and interact closely with one another. Even though we knew this might become an issue, it seemed that sometimes we categorised income groups in black and white, implementing personal emotions to the research. Successfully, we could interview different social groups and did not view one from another as better or worse. To summarise, the ethical dilemmas were mainly raised because of the invasive way of obtaining the information and the interpretation of it.

Master of Architecture, Urbanism and Building Science

The topic of accommodating the urban poor and rural migrants is very relevant in architecture during the times of mass urbanization. Nowadays, sufficient housing became a commodity rather than a basic right for many people in developing countries. This calls for the solutions, that would often include the mixity of social, ethnic, economic

groups, to create a resilient and sustainable community. As cities all over the world are experiencing mass urbanization by the poorest, the solutions that could be achieved in the city of Addis Ababa, such as the ones I proposed, could be applied and adapted towards the future needs of other vastly growing cities in the Global South.

To enhance, my architectural design project focuses on creating an urban model of a co-existing neighbourhood scheme between two very different social groups: urban dwellers and rural newcomers, as well as different income groups: low-income and middle-higher income groups, in the mid-rise and high-rise housing units. The architecture becomes a tool for creating a healthier, safer environment for the localities. On a bigger scale, it offers solutions for the problems Addis Ababa faces, on a smaller scale, it creates a project that sustains the traditional dwelling patterns in a modernized architectural project.

Therefore, the aim of the Global Housing studio becomes unique within the other studios in the Master track of Architecture. Focusing on everyday life practises in a real environment for the urban poor, trying to understand their lifestyle: it requires openness, dedication, and hard work, but it is focused to make people lives better. It becomes a real project and not only an academic one. Comparing my project with other students in the Global Housing studio, it is fascinating how many different approached every one of us took and how many different projects we proposed. My design is different from the others as I defined different typologies for different socio-economic groups, to prevent forced mixity. Using the existing typologies in the city of Addis Ababa and adapting them towards a more sustainable neighbourhood with better planning solutions is good, as the knowledge of building technology by locals are there. However, it might also look to general or even insensitive, but I believe that the four typologies I chose reflect well on the needs and ambitions of different social groups, and being combined in one neighbourhood is the strength of the design.
I believe that suggesting solutions for the problems growing cities face requires the wide knowledge, that connects the different disciplines of multiple sectors, that all are embodied in the Master of Science in Architecture, Urbanism, and Building Science. At the same time, it requires determination to face these challenges, and compared with other studios, I believe the progress we did for our master thesis and the good intentional thoughts we had behind it is extremely valuable for becoming a future architect.

The Social, Professional & Scientific Framework

On the 25th of September in 2015, the 193 countries of the United Nations General Assembly adopted the 2030 Development Agenda titled “Transforming our world: the 2030 Agenda for Sustainable Development.” (The New York Times, 2015) The document laid out the vision for improving the lives of people all over the world, established as 17 Sustainable Development Goals. These goals are the blueprints to achieve a better and more sustainable future for all developing countries, thriving humanity to its strengths and fighting the variety of the global challenges of community’s face, including poverty, inequality, climate change, environmental degradation, peace, and justice.

The 11th goal particularly focused on making cities inclusive, safe, resilient, and sustainable. Focusing on the development of cities, taking an active interest in the governance and manage¬ment of the city, reduces inequality. Nowadays, over 1 billion people live in slums and this number keeps on rising. Cities occupy just 3% of the Earth’s land, but if planned poorly, they consume a lot of en¬ergy and produces 70% of the carbon emissions. Many underdeveloped cities are also vulnerable to natural disasters and climate change, due to the overcrowding of people and poor building constructions.

Vast migration and its consequences are increasing in the whole world annually. More and more people are willing to relocate for the opportunities of a better life. The topic of how rural migrants become a part of huge cities as a group of the urban poor is extremely important, so that architects, socialists, politicians could prevent patterns that are happening now from repeating in the future. Even in the Western world, similar factors drive people to migrate from city to city, or from country to country: better-paid job opportunities, stable work, better living conditions or opportunities for better education. My thesis focuses on these migrants and provides a theory on how they could not only be accommodated in the constantly growing cities but become a part of it. I think that the framework of research and aspects I focused on, could be implemented in more countries globally, but with the important modifications for the climate and social lifestyle.

My overall urban goal is to create a future-proof, resilient neighbourhood for a community that would live in a megapolis of Addis Ababa. It should adapt to changing residents, encourage entrepreneurship possibilities, provide a safe environment to raise children, and set a strong fundament for a dignified life in the future for many people. The strong community is achieved through the social mix, good tenure solutions, and architectural qualities, that could be repeated in the developments of more neighbourhoods in Addis Ababa and Ethiopia.

My project meets the targets, that United Nations drafted to by the 11th sustainable development goal: make cities inclusive, safe, resilient and sustainable: “By 2030, provide universal access to safe, in¬clusive and accessible, green and public spaces, in particular for women and children, older per¬sons and persons with disabilities, Support positive economic, social and envi¬ronmental links between urban, peri-urban and rural areas by strengthening national and regional development planning.”(United Nations, 2015)

Suggesting the solutions that would change lives for millions is the main purpose of my profession. Opening the discussion of the quality of life and providing results, creates opportunities for inclusive architectural solutions. In this regard, my project opens a conversation of the more inclusive, future-focused housing policies and architectural designs, that would acknowledge the need for changes.

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