GRADUATION PLAN
Master of Architecture, Urbanism & Building Sciences

A - Personal information
Monica Lelieveld
4166167
+31 647762888
monicalelieveld@gmail.com
B - Studio

a) Name / theme of the studio:
Affordable Housing for Sustainable Development in the Global Urban South – Addis Ababa

b) Tutors:
Prof. Ir. Dick van Gameren (D.E.vanGameren@tudelft.nl)
Dr. Ir. Nelson Mota (N.J.A.Mota@tudelft.nl)
Anteneh Tesfaye Tola (A.T.Tola@tudelft.nl)

c) Argumentation of choice of the studio:

Other cultures, travelling and ‘different ways of living’ have always attracted me. Last year I visited Brazil’s two biggest cities, Rio de Janeiro and Sao Paulo, as part of an MSc2 elective. While these cities have amazing architecture and a buzzing street life, they are also associated with phenomena, like ‘favelas’. These southern American slums generally carry a negative connotation due to the bad health conditions they often have. However, after visiting both cities I was amazed by the human and social side of these informal settlements. The autonomous communities and self-built environments fascinated me. In spite of me romanticizing the ‘favela’ it was evident that in many cases the need of better housing was urgent.

Coming from a country like the Netherlands, these kinds of neighborhoods are difficult to grasp. What in turn also makes it more challenging and interesting. When choosing the graduation studio, I saw this as a chance to learn more about these places, densities and cities. Thereby, I am intrigued by Africa and especially Ethiopia, as this country really distinguishes itself from its surrounding countries. Not only their degree of autonomy, the diversity in cultures or the financial growth sets them aside. Ethiopia is one of the least urbanized countries of the world, which indicates that this country still awaits a large urban growth. Dealing with this future growth is the challenge I would like to attempt to tackle.
C.1 Goal

CHALLENGE

In 1996, UN-Habitat declared that, for the first time in our history, the largest part of humanity would live in urban regions by the beginning of the 21st century. Estimating that the urban population, 2.4 billion back then would be doubled in 2025. These troubling statistics indicated an urgent situation, considering the largest part of this expansion would take place in the developing countries. Nowadays, twenty years later, it can be said that their estimation was quite correct, as the urban population has grown to four billion, which accounts for 54 percent of the whole population. In one of their latest reports concerning urbanization and development, the United Nations argue, again, that this growth is not distributed equally. Africa, followed by Asia and Latin America, has been the continent with the highest growth rate from 1995 to 2015 (3.44%), urbanizing eleven times faster than Europe (0.31%). This urban growth is predominantly accounted to natural increase, rural-urban migration and annexation. The natural increase rate, however, is generally lower in cities than in rural settlements what indicates that the previously mentioned migration and annexation/ transformation of villages are actually the most important reasons of this urban growth. As this expansion of the urban population predominantly takes place in poorer cities of the world, the question arises how these developing urbanisations will cope with this huge amount of new people. The impact of this growth due to rural-urban migration is even higher when the degree of urbanisation is low, which is the case in Ethiopia, one of the least urbanised countries of the world. This country will have to cope with forty million new urban inhabitants the coming 35 years. Besides, according to the UN-Habitat, in 2003 Ethiopian cities had the highest percentage of slum dwellers in the world (99.4%). If there is a correlation between these statistics, are the informal settlements the places where future migrants will move to?

Most migrants tend to move to the city for economical reasons. They are attracted by the prospect of a job, education and in general a better life for them and their children. This means that they often have no income when arriving and thus are forced to live in poor conditions. Generally the poor new urbanites do not have enough money to buy or rent a formal house and unfortunately social housing is often not available to them, caused by the large demand and the fact that governments retreated from their role as housing facilitator since the nineties. One could only imagine the amount of self-built shanties and informal settlements when realizing that the formal housing market of the developing countries barely amounts to twenty percent of the entire housing stock. Due to the growth of cities

---

2 Mike Davis, Planet of Slums (London: Verso, 2006), 2.
5 Charles Teller and Asseta Hailemariam, eds., The Demographic Transition and Development in Africa. The Unique Case of Ethiopia (Dordrecht: Springer, 2011), 146.
and the large influx of migrants, but the lack of suitable housing for these new inhabitants, the informal settlements came into being and rapidly increased in size and numbers.

At the same time it is not only migrants that cause human movement and the growth and densification of slums in the city. Its current inhabitants also move from place to place within the city as they are evicted or their socioeconomic status changes. Looking again at the Ethiopian capital, it is evident that over the century it has gone through incredible expansion and densification. Since 2005 the city is undergoing an urban transformation as the government has implemented the Integrated Housing Development Programme (IHDP). The IHDP is aimed at using housing as an instrument to increase urban development and empower people through property ownership. This program tried to provide low- and middle income housing and to eventually replace the historical ‘sefers’ which originally acted as arrival cities. This means, however, that most of the places where the condominiums were and will be built people had to leave their homes. In spite of the programme’s goal to compensate all inhabitants the eviction often felt forced and the reallocation to remote parts of the city unwanted, but inevitable. Homeowners were compensated and tenants were offered to live in the condominium provided that they were able to pay the down payment. For those who did not have the financial means, reallocation to another kebele house, informal settlement, lies ahead. The problem is once again postponed. Precisely for this group of very-low-income urbanites the location of where they live is very important, as John Turner argues in Housing priorities, settlement patterns and development in modernizing countries. He states that when migrants settle in a city, proximity to the city centre is of great value. Thereby proximity is also important for those already living in the city and that are dependent on insecure jobs. They have to live close to the source of these opportunities, to increase their chances of success.

It seems that these informal places are necessary for newcomers and residents to continue their lives in the city, but the often poor conditions of these neighbourhoods have caused a worldwide negative image. Next to unhealthy living conditions, the lack of basic services, high density and insecurity regarding to tenure, informal settlements also possess spatial qualities that make these spaces suitable as a foothold for newcomers. City slums are described by Peter Cutt Lloyd, as well as by Doug Saunders, as dynamic entities where people move in and move out and where they reach success or fail hopelessly. The arrival city is a space which functions as a bridge between the village and the city, creating an intermediate culture. These are the spaces where new migrants settle at first and where the transition from poverty to middle-class takes place.

RESEARCH QUESTION

The main question emerging from this short inquiry in statistics on migration and the spaces where migrants settle within the developing cities is: To what extent can sustainable urban transitory spaces contribute to the development of cities in the global south which await a huge growth of internal and rural migrants the coming decades?

---

13 UN-HABITAT, Condominium Housing in Ethiopia, 32-33.
16 Peter Cutt Lloyd, Slums of Hope?: Shanty Towns of the Third World (Manchester: Manchester University Press, 1979), 27.
17 Doug Saunders, Arrival City: How the largest migration on history is reshaping our world (London: Windmill Books, 2010), 12.
Sub questions…
Where do people settle in the city and how do people move to and in the city?
What are the qualities of the places where migrants settle at first?
In what kind of ways can transitory spaces contribute to developing cities?
What different migratory types can be distinguished through time at the scale of the city?

Sub questions to explore while on the field trip…
What kind of spatial en social qualities do arrival cities/ transitory spaces possess?

Research question concerning design…
What kind of structure can function as a foothold for migrants and urbanites?
What kind of structure encourages transformation and is able to absorb transformation through time?
How can the (building) costs of housing units be diminished?

DESIGN EXPLORATION

The case of Ethiopia, previously mentioned as example, can be instrumental in investigating to which extent arrival cities contribute to the development of the city. Despite the low percentage of urbanites in Ethiopia, it has one of the highest urban population growth rates (3%)\(^9\). Thereby the fact that in urban areas 49.3 percent is migrant indicates a large movement of people within the country\(^9\). As mentioned before, Addis Ababa is a city under construction, it is growing and changing at a fast rate. The Serategna and Basha Wolde Chilot sefer, neighbourhoods in the historical centre of Addis, have undergone major changes in the last 7 years. Until 2010 this whole site was dominated by informal structures. Nowdays the eastern side of the area is partially filled with new condominium blocks, eradicated from any informal settlers. Unfortunately these new housing units do not cater the low-income group, creating segregation. Half of the people living in this area had been evicted to other locations across the city or when wanting to stay in the same area forced to live in even more dense situations around the neighbourhood. The western side awaits the same faith. Where will the evicted go now? Thereby this site lays in the proximity to political, educational and economical centres, which shows the job potential for future migrants or urbanites.

The challenge here is to come up with a business model concerning cheap and temporary housing and investigate in which ways the costs can be reduced. For instance by clustering units through which residents can share most facilities at different levels. Many examples that offer temporary housing are themselves structures with a short, temporary lifespan. But is this really sustainable and how do investors gain something from this? In other words, by which means can a project be affordable for the lower income and still be attractive for investors? A possible solution could lie within prolonging the lifespan of this structure that offers temporary housing. Turning it into a long-term investment, which will pay itself back when the migration wave decreases by making it possible to change and sell the structure. Creating a structure which will be there for the long run and which can evolve and grow when demand changes.

Design hypothesis:
Create a permanent structure for temporary inhabitation, which can evolve with the changing housing needs of the future.

\(^9\) Feleke Tadele et al., Migration and Rural-Urban linkages in Ethiopia case studies on five rural and two urban sities in Addis Abeba, Amhara, Oromia and SNNP Regions and Implications for Policy and Development Practice (Bath: University of Bath, 2006), 16.

\(^9\) Teller and Hailemariam, The Demographic Transition and Development in Africa, 162.
The goal of the project is to create a strategy which can be implemented on a city scale. Complemented by a design which at first serves as a foothold for reallocated people and migrants until they find other permanent housing, but which can eventually change over time as the type and the needs of the temporary inhabitants change.

C.2 _ Process

METHOD

The graduation project has started by exploring Addis Ababa through deducting research in groups on four different historical areas, called ‘sefers’, in the centre of Addis Ababa. At first this research was done by exploring offline and online sources from our home university in Delft. By analyzing historical maps and pictures the development of this historical neighborhood was constructed.

The field trip in November provided more in-depth information about Addis Ababa and in specific about the Basha Wolde Chilot and Serategna sefer. During the field research I took foto’s, made short videos and sketched maps to record the visual data of the area. I also talked to the inhabitants of the sefer with help of a few very kind Ethiopian students and visited some homes and other private plots to gain qualitative insight of the site. By talking with the residents I gained information about; where they came from, if they have a rural or urban background, how they moved through the city, what their current socioeconomic status is, their opinion and attachment regarding the ‘sefer’ and the opposing condominium and their own or imposed future plans regarding housing.

Furthermore I wanted to stay longer at some places in order to indentify in what way and how much spaces, such as street, alleys, squares, staircases and corridors were being used. In these situations I also looked at literal places of arrival and looked at how people moved.

This information will be used as input when researching movement and settlement patterns in Addis Ababa and will eventually lead to a scenario mapping of the Seratenga and Basha Wolde Chilot. Thereby, it will be key in the design hypothesis and proposal regarding phasing the various movements in the future.

LITERATURE

The list below shows the sources that I have inquired in the last months and that I intend to use further in my future investigation:


CASE STUDY

Below precedents and other practical references are listed:

Vigliecca and Associados - Parque Novo Santo Amaro 5, Sao Paulo, Brazil (2009-2012)
Interesting how this design deals with the preexisting urban and natural landscape by reintegrating water and green and adopting the surrounding buildings and forms in the new design.
Biselli e Katchborian Arquitetos Associados – Housing Complex Heliópolis Gleba G, Sao Paulo, Brazil (2011)
Interesting how the design featuring walkways and connecting bridges deals with the natural slope. The housing complex can be accessed on different levels from the ground floor allowing the building to have more levels without the need of an elevator.

Interesting how four houses which have a central private courtyard are clustered around a collective outdoor space; creating a shared courtyard. The organization of these clusters creates open spaces, squares of different sizes encouraging different encounters.

Abderrahim Charai & Abdelaziz Lazrak – Dar Lamane Housing, Casablanca, Morocco (1983)
Interesting network of squares, pedestrian streets and open staircases born out of the observation that for people with a low income, usually former rural people, the public space and pedestrian network have more importance than the design of the single unit.

Refugee Housing Projects Database, collaboration of Deutches Architekturmuseum and the Bauwelt magazine. It can be retrieved from http://www.makingheimat.de/en/refugee-housing-projects
Interesting database concerning already finished or under construction projects for refugees and migrants in Europe, but mainly in Germany. It presents a variety of projects which deal with high densities, shared facilities, temporary structures or low-cost long term housing and so on.

C.3 _ Relevance

In developing cities across the globe, as in Addis Ababa, the number of residents is growing while the amount of good-quality housing remains low. The demand for low-income housing is rising rapidly due to the contemporary aim to eliminate the unhealthy living conditions and the influx of migrants. Without newcomers a city would not be able to grow, as internal migration is essential for urbanization. Research has shown that migration within a country can even play a role in poverty reduction and economic development. A large amount of migrants can, on the other hand, also put pressure on a city when the city fails to have the capacity to adequately house all the newcomers. In turn this may lead to the formation of informal settlements, as previously mentioned. This describes in very few words what has and still is happening in Addis Ababa.

The cities government realized at the beginning of this century that the capital suffered a tremendous housing backlog and initiated the previously mentioned IHDP with good intentions. Unfortunately the result did not live up to its initial goals or the citizens needs and expectations. Only half of the predetermined amount of units were built, thereby the construction costs increased making the units unaffordable for one of the target groups; the lower-income. This so-called urban renewal begins with clearing out the site, meaning the often clinical demolition of entire neighbourhoods. Moreover, this means that the places which used to function as a foothold, the informal settlements, are being destroyed and replaced by static housing units where the newcomers and other poor can only dream of living in.

This research and design proposal aims at investigating the importance and potential of transitory spaces within developing cities. Eventually it has the goal of providing the poor with a foothold in the city, by creating truly cheap housing for a temporary period which encourages the individual or group to develop.

C.4 Time planning

Sept 36 (1.1) Introduction to the studio
37 (1.2) Explore sources concerning studio theme and research topics
38 (1.3) Group research on Basha Wolde Chilot and the Serategna sefer
39 (1.4) Research on sefer

Okt 40 (1.5) Research on sefer
41 (1.6) Research on sefer
42 (1.7) Start exploring themes for the problem statement
43 (1.8) Research on sefer

Nov 44 (1.9) Work on problem statement
45 (1.10) Developing problem statement and research question

Dec 49 (2.4) Work on ‘Patterns of Inhabitation’ discovered in Addis

Jan 1 (..) Christmas holiday

Feb 5 (2.10) Continue working on design proposal
6 (..) Spring break
7 (3.1) Develop spatial organization and qualities design from the scale of the masterplan to the scale of the single unit
8 (3.2) Develop indoor and outdoor spaces
9 (3.3) Develop building structure and climate design

Mar 10 (3.4) Start drawing details
11 (3.5) Work on drawings (plans, sections and details) of the design
12 (3.6) Prepare for this week’s presentation

Apr 13 (3.7) Evaluate comments and design
14 (3.8) Continue developing design and finishing the design
15 (3.9) Continue developing design and finishing the design
16 (3.10) Finish the interior and exterior design

Exam AR1A060
Final presentation Typology transfer AR3AD010
Hand-in Position Paper for AR3A160
17 (4.1) Finish floor plans and sections
May  18 (4.2) Finish façade and materialization
19 (4.3) Finish building construction and climate design
20 (4.4) Finish detail design
21 (4.5) Prepare for this week’s presentation
       P4 Presentation
       Final application date P5 on 24 May
22 (4.6) Evaluate comments on start finalizing all products
Jun  23 (4.7) Start making final model and continue finalizing drawings
24 (4.8) Finalize all products
25 (4.9) Finalize all products
26 (4.10) Finalize products (all drawings and model) for P5 presentation
Jul  27 (4.11) P5 Presentation