GRADUATION PLAN
Master of Architecture, Urbanism & Building Sciences

A - Personal information
[F B]
B - Studio
a) Name / theme of the studio:

Global Housing Graduation Studio:
Addis Ababa Living Lab

b) Tutors:
Dr. Nelson Mota (N.J.A.Mota@tudelft.nl)
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c) Argumentation of choice of the studio:

The choice of Global Housing as graduation studio follows the academic path
I started last semester, first attending the Global Housing studio in Dhaka (Mc2), and
then a two-weeks workshop in Mumbai, during summer. The broad spectrum of
topics touched by the chair is indeed stimulating. On top of that, the issues related to
dwelling (scarcity of accommodation, affordability, poor services, overcrowding) that
are affecting most of the countries in the world, in the Global South are exacerbated,
making designing more challenging. Also, the studio aims to achieve a project which
can answer these problems and, at the same time, set a model that can adapt to
different areas of the city. Therefore, what makes the course more intriguing is the
concept of redesigning a new and different urban condition, which implies a new way
of thinking and living in the city.
C - Graduation Project

[On the Fringe]

C.1 _Goal_

During the last fifty years, many cities in the world have been developing and growing at a very high pace. The ongoing fast urbanization has been stressing the urban environment and the life which takes place. The structure of most of our cities, like Hong Kong, Sidney, and London, is now showing its fragility and weaknesses, having to face housing shortage, inequalities, and poor living conditions. An unmitigated market force has driven most of the recent urbanization developments, increasing builders’ profits while lessening amenities per capita. Furthermore, this “speculative fever” has often activated processes of gentrification, thus destroying communities and intensifying social inequalities.

Therefore, the general problem of many contemporary metropolises has been the lack of sustainable strategies for urban growth combined with speculative market forces. The resulting image of this process is also currently shaping several developing cities throughout the world. Indeed, especially in the Global South, the importation of the western model of growth is resulting in the proliferation of top-down masterplans aiming at densification without considering local people and their modes of life, which Richard Sennett summarizes with the word “cité”. In India, Mumbai and Delhi are an example of this mindset and strategy as the government is evicting informal dwellers and demolishing some old low-rise development to build new high-rise and valuable buildings. Nowadays, these typologies, indeed, do not often suit residential purposes, destroying communities as Charles Correa argues. As a matter of fact, the problem is the lack of implementation of new sustainable models of urban expansion, which can cope with the rapid urbanization occurring in many countries.

Actually, in the developing world, because of many factors such as food insecurity, wars, and climate change, migration and urbanization rates are still very high. Indeed, in the African Continent, waves of migration are flooding from rural areas into the main cities. In fact, besides all the limits of the contemporary city, generally, it must also be

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4 Sennett, *Building and Dwelling. Ethics for the City*, 107-117.


6 “Tall buildings do not generate community – only anonymity.” Varma, “Affordable Cities. Interview with Charles Correa.”

acknowledged that it still represents the hope for many people, a gateway for a better future, especially for migrants, as Charles Correa asserted in an interview in 2014. 

Thus, according to several scholars like Richard Sennet, Esra Akcan, and Gert Urhahn, a new structure of the city should be drawn. Hence, planners should aim at the design of an “open city” or “open architecture” were the cité is fostered, and not overwhelmed by the built environment (the “ville”). This system is focused on the process rather than the end-product, as past theories used to be. In fact, during the past century, many architects, especially the members of CIAM, aimed at an image of the city ruled by order, control, and equilibrium, nonetheless resulting in a static system. Hence, recognizing the limits of seeking an ordered and defined destiny, the open city is instead based on incompleteness and spontaneous urban planning, leaving the possibility for future generations to accommodate the space to their needs.

Also, a further issue is the widespread approach that neglects existing structures and networks. Indeed, several 20th-century theoretic approaches, like the ones proposed by CIAM, did not have any relation to the past and the environment. The modern ideal city, in the attempt to reach something new and keep pace with time, was denying its heritage. Likewise, in Plan Voisin, Le Corbusier “paint(s) the ville white”, by outlining a potentially infinite housing scheme, based on the repetition of a color-neutral tower typology. This attitude also comes from an antiquated conception of city and time. The obsessive and frenetic strive to reach the present, that has been pushing our system, is based on a linear and sequential notion of time, which does not correspond to reality. As the philosopher Hans Magnus Enzensberger, the architect Rafael Moneo and even before Colin Rowe suggest, our world and so the cities are complex stratified structures, whose layers should be recognized and respected.

Hence this “modern city rush” is affecting different cities throughout the Globe, erasing their past and making them converge to the same form, despite their very different cultural and historical background. The aftermath can be seen in Shanghai, Bangkok, Tokyo, Singapore, and Dubai, which have drastically changed in the name of progress. Thus, the specific problem of cities has been the loss not necessarily of specific and unique sites, but of ordinary people’s buildings, of physical and social structures which used to shape the broader cultural spectrum of society, destroying the collective identity. For instance, in Tokyo, the traditional type of house, known as “minka” progressively disappeared. Indeed, the Japanese architect Wajiro Kon analyzed and collected information about its spaces and dwellers’ habits during the 1980s, before its obliteration.

8 Varma, “Affordable Cities. Interview with Charles Correa.”
9 Sennett, Building and Dwelling. Ethics for the City; Akcan, “Open Architecture as Radical Democracy: Berlin Kreuzberg.”
10 Sennett, Building and Dwelling. Ethics for the City, 74-77.
11 Sennett, 73.
14 Biedasse, “Heritage Preservation, a Lost Cause?”
Having said that, it must be recognized that these cities need to go through a process of redevelopment to provide answers to several issues. First, it is the low quality of housing condition, due to overcrowding, lack of maintenance, and unsustainable sanitary conditions. These topics are often bound to the lack of affordable solutions and possibilities of income generation, which drive people to build informal housing, squat, or settle in unsuitable accommodations. Second, the inadequate infrastructure that involves sewage systems, accessibility to safe water sources, and lack of amenities.

A further issue related to the improper planning of infrastructure is the dearth of security. Indeed, the scarce policing, combined with the lack of street lighting, can generate an unsafe environment, or the perception of it. Also, the presence of a hard border between streets and housing often leads to the lack of interactions and activities by the public space, increasing segregation, divisions, and “urban fear” 15.

Therefore, how can architecture use in-between spaces to negotiate the transition between public and private space, improving the current living condition, in synergy with tangible and intangible values of a place?

This question strongly relates to the situation of Ethiopia’s capital Addis Ababa which is now going through a rapid process of urbanization and, thus, toward a series of transformations that might threaten its residents’ lifestyle 16. In fact, after the first urban expansion toward the periphery and the outskirts of the metropolitan area, the new masterplan is now seeking the redevelopment of the inner areas and neighborhoods, called “sefers” 17. Indeed, albeit Addis Ababa is a relatively young city, it has been shaped by several layers of history, which can be traced down to its built heritage 18.

On the one hand, new constructions should consider the possibility of changing and adapting through time in order to make more growth options available to future generations 19. Furthermore, they shall work as a what Sennett calls “type-form” 20, which is a basic unit of the urban fabric that can admit variations within certain limits, to target an extensive range of income groups. A strategy to achieve that can be the use of spontaneous and incremental systems, like the ones adopted by Doshi in Ahmedabad 21, Aravena in Chile 22, and for Previ low-cost project in Lima 23. They are based on unfinished forms, which can be extended and modified by the residents over time. It can also involve non-permanent structures, as the “kachcha” houses 24.

17 French and Hegab, Condominium Housing in Ethiopia : The Integrated Housing Development Programme.
19 Varma, “Affordable Cities. Interview with Charles Correa.”
20 Sennett, Building and Dwelling. Ethics for the City, 232.
22 Sennett, Building and Dwelling. Ethics for the City.
24 In India “Kachcha” houses are the temporary structures, made of mud or more in general in locally sourced materials. It opposes to “Pakka” which is used for more permanent constructions.
or temporary constructions made of locally sourced materials with a limited-circular life cycle. Indeed, the open city should be thought as something sustainable in time, as it is suggested in France by calling the sustainable development “développement durable”. The whole system should also allow to host and integrate middle-income families (gentle “mixité”), which demand central accommodations.

On the other hand, the focus should be on improving living conditions by a gentle renovation of the area, aiming at densifying the neighborhood without erecting high-rise buildings and keeping the local communities, thus not erasing its cité. Also, especially regarding the Global South, a challenge would be preserving the modes of life of the compounds and gated communities while opening them to the city and resew the fracture between residences and streets to improve security. Indeed, according to Jacobs and Mumford, enhancing social interactions and putting “eyes on the street” are the most effective ways to improve safety. Concerning the tangible values, instead, the existing historic structures should bridge with the past through their role of memory, while avoiding turning the city into a museum or a collection of simulations. They may be used as they have been working throughout the last decade, as “shells”, hosting different activities, both public and residential, which would be changed according to the needs.

Overall, the touched topics address the condition of a panoply of cities around the world. Thus, the design assignment and the following strategies can be distilled and adapted to different locations.

27 Sennett, Building and Dwelling. Ethics for the City, 107-117.
28 Sennett, 228-230.
C.2. Process

The first step of the studio was the desk research. The aim was to develop basic generic knowledge about Ethiopia by reading articles and books, especially regarding the history and condition of housing in the country. If possible, we used sources written by local professionals and architects 29, trying to comprehend historical and cultural aspects through different lenses.

The following stage of the research was the field trip to Ethiopia. The first days visiting the rural areas outside the capital were useful to become acquainted with the place and understand a more rural context. Indeed, as resulted from the desk research, although the country is going through a process of fast urbanization, it is still very connected to a rural lifestyle. Thus, understanding the spatial relationships of these settlements can be useful in designing more suitable places for people. To take notes and collect data of these sites, together with the group I was traveling with, we used an ethnographic methodology, interviewing people, taking pictures, drawing plans as well as objects, and materials. This methodology, which aim is to observe and analyze social and spatial interactions 30, has been often used by architects, especially in Japan, where to preserve society’s cultural heritage and memory 31.

The same methodology was utilized afterward in Addis Ababa, on the chosen site. It was possible to get accurate information about the dwellings and locals’ habits, having several days and a big team. The aim was also to map as much information as possible regarding daily routines, habits, and past events. The strategy followed an inductive discovery-based research process 32 to explore different aspects without precluding any possibility. Simultaneously, besides this approach, a participatory methodology was used, involving local people in the design of a theoretic upgraded house or a dream house to grasp future aspirations, ambitions, and needs. Also, this method was significant to understand acceptable changes in the current modes of life. The participation of people was also involved in the design of possible required amenities, such as hospitals, playgrounds, and parks.

The interviews, which represent a crucial aspect of the research, were carefully performed to build a narrative of daily routines and habits and not as disconnected pieces of data. Regarding this aspect, both seminar types of research in Rotterdam and Addis Ababa (Summit area), which demanded a graphic novel as an end-product of the analysis, were useful to develop and improve this attitude. The graphic novel method has also been used by professionals, like the designers Li Han and Hu Yan, who showed the relation between people, architecture, and city in their series of comic-strips about Beijing 33.

After the field trip, the process focused on the elaboration and translation of data, already started in Addis Ababa, redrawing more accurate plans, throughout sketches, pictures, the measurement we took on-site. During this phase, the intention was to identify repetitive motifs and distill their essential characteristics. This approach follows the theory elaborated by Christopher Alexander, who defined these essential spatial functions and features as “patterns of inhabitation” 34. As he claims, the knowledge of the patterns can strengthen the project.

32 Eriksson and Kovalainen, “ETHNOGRAPHIC RESEARCH The Emic and Etic Perspectives.”
While the analysis was still on-going, in parallel, it started a distinct research about projects which could share some topics with the site’s situation and the possible approach to cope with the found issues. Therefore, the focus was first on mass housing projects in the Global South, especially if related to incremental strategies. The analysis of the site’s area combined with study-cases lead to the investigation of mat-building strategies. The reason lies in the fact that this system makes use of a basic unit to generate a flexible and rhythmic structure, which also allows some alterations. Therefore, it relates to standardization, variation, and adaptability, which are key features in the realization of a complex urban tissue.

Also, the study has involved management strategies and the use of materials to have a broader point of view.

C.3 _ Relevance

The issue touched by the graduation project, which relates to the situation in Addis Ababa, are also currently affecting numerous cities in the world to varying degrees. First, the process of urbanization is still on-going at a very high pace and by 2050, 68% of the planet population will live in cities, according to the United Nations. Thus, the challenge of providing housing for the migrating population, which has been one of the crucial aspects of the current policies in Ethiopia, regards several metropolises. Besides the housing shortage, a consequent challenge is the dearth of affordable solutions, which can drive people to build or settle in informal development, especially in the Global South.

Therefore, the graduation project, aiming at increasing density while upgrading physical and social condition, and preserving local tangible as well as intangible values, can be a source of ideas when facing the discussed topics. In fact, although the project’s intent looks more responsive to similar contexts, mainly the developing countries’ ones, it should also be recognized that other themes are important in radically diverse cities. For instance, in Hong Kong and London, affordability, social cohesion, the relation between people and the city, and the preservation of cultural heritage are current challenges. Consequently, the project’s importance lies in the approach and the strategies rather than the physical project itself. As Hasibul Kabir, an architect met during the MC2 field trip in Dhaka, claimed in an interview:

“There is no model house to replicate, but a model process to replicate”

C.4 _ Time planning

Week 2.08 – 14th of February – P2

Graduation Plan
Urban draft / master plan 1:1000 / 1:500
List of requirements
Draft design (plans, sections, elevations) 1:200

Week 2.10

30th of February – Research Seminar: submission of Individual Assignment
31st of February – Addis Ababa’s graphic novel final version presentation

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36 French and Hegab, *Condominium Housing in Ethiopia: The Integrated Housing Development Programme*.


Week 3.08 – 3rd of April – P3
   Draft reflection
   Plans, facades, cross sections, 1:200 / 1:100
   Part of the building, plan and cross sections, 1:50
   Façade fragment with horizontal and vertical cross sections, 1:50 / 1:20
   Details, 1:20 / 1:5

Week 4.06 – 25th/29th of May – P4
   Theoretic and thematic support of research and design
   Final reflection on architectonic and social relevance
   Site 1:5000 / 1:1000
   Plan ground level 1:500
   Plans elevations, sections 1:200 / 1:100
   Part of the building, plan and drawings 1:50
   Façade fragment with hor. and vert. cross sections 1:20
   Details 1:5

Week 4.10/4.11 – P5
   Final Presentation with all the above deliverables.

C.5 – List of References

Bibliography


Reference Projects
James Stirling, PREVI Housing Project, 1976
Adalberto Libera, Unità di Abitazione Orizzontale, 1954.
The Walled City of Shibam (Yemen).
Elemental, Monterrey Housing, 2010.
Elemental, Universidad Catolica de Chile Innovation Center, 2014
Doxiadis, Tema
Kamran Diba, Shushtar New Town
Raj Rewal, CIDCO Housing
Filipe Balestra, Sara Goransson, Incremental Housing Strategies in India, n.d.
Donald Ball, Odham’s Walk, 1979.