THEME & SOCIAL RELEVANCE OF GRADUATION STUDIO

The graduation studio Global Housing: Cross-cultural Methods and Positions / Addis Ababa engages with pressing dwelling issues in developing territories, as well as with the increasing cross-cultural character of contemporary architectural practice. Ethiopia’s rapid urbanization of the past decades has proposed many opportunities for economic growth, but has also resulted in an enormous shortage in decent affordable housing in cities. The same way it has happened, and is still happening, in many other countries in the Global South. By investigating this problem and designing housing systems to accommodate the urban poor in the developing territory of Addis Ababa, the results of the studio contribute to the creation of more inclusive, vivid and resilient urban territories.

GENERAL RESEARCH

In the first semester of the graduation year, a collective knowledge base has been established within the studio by executing an extensive group research about Addis Ababa’s history, development and identity, in combination with literature studies on various themes related to the process of urbanization in the developing world. The process started with an analysis of the historic urban transformation and housing figures of Addis Ababa, followed by a thematic research addressing the following four themes that are key to support housing policies in contemporary Addis Ababa:

- Migration: accommodating the rural-urban migration
- Built heritage: slum upgrading and inner city urban renewal
- Infrastructure: mobility and spatial inclusion
- Mass housing developments: strategies to accommodate the great number

Subsequently, a field trip to Ethiopia including a tour through the country, site survey in Addis Ababa and lectures at guest university EiABC have formed the basis for the ‘Addis Ababa Book of Patterns’. Based on Christopher Alexander’s *A Pattern Language,* the patterns of inhabitation in Addis Ababa are documented around the themes of income generation, social spaces, boundaries and building techniques.

Analysis and a personal interpretation of the collective knowledge base acquired in the first semester, has highlighted three themes: the *community lifestyle, mixity* and the *appropriation of space.* The fact that these themes are recurring throughout the entire research period, has helped me to understand the fundamental aspects of Ethiopian culture and in framing the large amount of information that has been acquired in the analysis of the current Addis Ababa.

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PROBLEM STATEMENT

The city of Addis Ababa, Ethiopia, is rapidly evolving. To accommodate for this growth, the Ethiopian government has established the Integrated Housing Development Program. Gradually replacing the cities self-built “informal” settlements, the large-scale and highly cost-efficient condominium housing scheme greatly increases the housing supply and simultaneously stimulates the economy by creating employment in the construction sector. However, the scheme fails to reflect the patterns of inhabitation that Ethiopian people are accustomed to. Throughout history until modern day, mixity and a community-centered lifestyle have been essential characteristics of Ethiopian culture. In current Addis Ababa, 35% of the city’s economy consists of informal ways of income generation. In the informal settlements, these characteristics are represented in the way that inhabitants are able to make use of the space in between the private of their own dwellings. Dwellings are often centered around collective courtyards in which all sorts of domestic activities take place. At the same time, the collective and the public domain blend together in the streets that are appropriated in all sorts of ways, from practicing business to hanging laundry or meeting with friends. The new condominium schemes, even though they are an upgrade in terms of density and of the quality level of the individual dwellings, fail to reflect the identity of Ethiopian (low-income) households in terms of the strong sense of community and the need for habitable open spaces that cater for a mix of functions and people. The polyvalent, collective buffer between the private and the public domains is missing, resulting in an endless monotony and a lost “in-between space”.

DESIGN ASSIGNMENT

Answering to the demand for making Addis Ababa a modern and urban city, while maintaining it’s historical identity, my thesis is aimed at creating a dwelling system that challenges the density and efficiency in construction of the condominium scheme, while preserving the qualities of the community-centered identity and active streets of the informal settlements.

DESIGN SPECIFIC RESEARCH

Having formulated the problem statement and research question for the design, in the second semester the general collective research has been complemented with a more specific literature research towards the social and spatial aspects of my chosen design direction. In time, numerous studies have been conducted about creating a meaningful and active in-between space in urban settings; many of these reflecting on the problems posed by the wide and open layout of the modern cities. The condominium schemes remind of the modernist approach to mass housing in Europe and Northern America of the first half of the 20th century. Stressing the importance of the human scale in urban planning, the ideas of Jane Jacobs², Chermayeff & Alexander³ and Jan Gehl⁴ have directly influenced the layout and organisation of this thesis design. Additionally, Herman Hertzbergers⁵, ⁶ notion of polyvalence,

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opposing the functionalist approach common in post-war western architecture has become one of the key elements in the concept of catering for mixity and endorsing various forms of income generation. Studies about privacy zoning\(^7\)\(^8\) have helped me to test the synchronisation of the attributes of the different types of collective spaces and their readability, to create a clear sequence of levels of privacy that generates the sense of ownership and belonging needed to establish a safe community.

In addition to these societal aspects, a more concrete research towards building environmentally sustainable but low-tech affordable housing has been composed. Literature research ranged from academic papers on the performance of materials and water management systems to practical manuals about building in developing countries. Studying precedents, both the Ethiopian condominium scheme and other examples has helped to understand the [im]possibilities of the solutions of this worldwide problem.

A reference within the theme of mass housing for developing countries that particularly has been of great inspiration to me is Raj Rewal’s CIDCO housing in Mumbai. Creating a variety in communal spaces and a hierarchy of streets and clusters to complement the value of the dwellings themselves like in this design, has been a starting point for the design of this thesis.

**PROJECT BRIEF**

In the design, spaces are organised in a sequence of ‘privacy domains’, going from the very private within the dwelling itself to the highly urban outside border of the neighbourhood. The various characteristics of these spaces create different images and provide for different activities. The outside border of the neighbourhood provides the urban character that is needed in this central location, containing formal commercial units and being of a more organised and refined character than the commercial street one layer in. This domain provides places for more informal commercial activities, preserving an important part of the immaterial heritage of Addis Ababa culture, and in particular the Kirkos area where the project is located. The pedestrian courtyards formed by the apartment clusters in the centre of the neighbourhood are focussed on creating a community feeling for the inhabitants of that cluster.

By creating maisonette apartments with a smaller footprint, the number of dwellings that have a direct relationship to the street is maximised. The segregation that emerges within the dwelling layout due to the division over various levels provides a form of privacy zoning already within the dwelling. Additionally, it facilitates combination with small businesses or subletting, supporting informal forms of income generation.

All dwellings entrances are situated on a collective outside space that is shared with a limited number of families. These communal terraces on various levels, connected through an exterior vertical circulation system, provide space to carry out domestic activities and amplify close bonds between neighbours. This organisation of spaces mirrors the one of the informal settlements, creating a collective domain that endorses social networks and creates a sense of belonging. The ‘fencing off’ of a part of the open space for private use, common practice in the condominium scheme, is prevented by avoiding dead ends in the circulation system and sharing entrance areas with multiple families. While the maisonette typology and the more complex circulation system proposed are more costly than the current solutions executed in the condominium schemes, they introduce such a surplus value that the additional investment will repay itself in durability and social sustainability. Moreover, the variety in dwelling variations and the complexity in outside spaces is actually made up of a very straightforward construction


\(^8\) Harmen van der Wal and Machiel van Dorst, 2014. “Privacy scripting en de leesbaarheid van ruimtes.” *De Architect* 5
system, creating three basic typologies. The building method of a concrete column and slab structure, prevailing the optimal span of 6 meters, is familiar to local contractors. The inner sheet of the facades and the partition walls are made up of agrostone panels, a sustainable and light-weight building material composed of local industrial waste. To improve the acoustical quality and weather resistance of the facade, the agrostone panels are complemented with an outer sheet of ferrocement panels. This outer layer of cement can vary in color and pattern, introducing an aesthetical preciousness and a sense of belonging for the various clusters. Costly elements, like stairs, are standardised for mass production. The high degree of repetition in the construction system reduces expenses in both material supplies and labour. The project contributes to the local economy and construction sector by exclusively locally available building materials that provide jobs for unskilled labourers.

Density - Because of the different types of outside spaces that are provided on multiple levels, on the ground level the blocks of various clusters can be placed closely together. Contrary to the condominium neighbourhoods where the in-between is an over-dimensioned space where nothing really happens, in this design all the corners, alleys and shared spaces on a human scale promote a sense of belonging and ownership. Moreover, a density of over 300 dwellings per hectare is achieved, which is far above the condominium benchmark. This makes this approach suitable for the inner parts of the city, preserving a “right to the city” for the low-income families currently living in Kirkos.

Commercial spaces - In addition to the dwellings being very suitable to be combined with informal ways of income generation, the urban border contains a commercial plinth of two stories facing the outside of the neighbourhood. Like for the dwellings, the design does not imply how the spaces should be used. They are therefore very open in design and can be easily combined or used separately, for different purposes ranging from office or retail spaces to café’s and restaurants.

Community facilities - The connecting units forming the urban border together with the standardised border blocks, can be entered from both the urban street and the commercial street. They are set up in a more large-scale manner, making them suitable to house communal functions like daycare, community centers or launderama’s.

Public facilities - Because of the location next to the large park and many down town facilities, the design purposely does not contain a lot of large scale public facilities with assigned functions. One of the key aspects of the design are the small scale and polyvalence, avoiding to dictate how spaces should be used. The users themselves are to appropriate the spaces, both indoors and outdoors, provoking a livelihood and ever changing character that will be able to suit the requirements of the time.

Accessibility and parking - By avoiding ongoing streets throughout the neighbourhood, traffic is limited to destination traffic. Normally, the commercial streets are accessible for one way motorised traffic but can easily be closed off for market days or public events. Broad sidewalks facilitate appropriation by dwelling businesses and street venders. Desolate parking lots are avoided by parking at small-scale parking strips in the streets outside of the clusters, which are only accessible for pedestrians. This leaves the pedestrian spaces in between the clusters are available for community events, like setting up tents for equib and idir activities.
Water management - Excess rain water and grey water from households are led to the constructed wetlands in the adjacent large city park. From here, the cleaned water can be used for both cleaning streets and irrigating greenery in the city, as well as flushing toilets. The system is ambitious, but low-tech and therefore feasible. Black water is discharged to the sewerage separately.

CONCLUSION

By clearly establishing the essential elements of the collective research and focusing all design concepts and subsequent research on three central themes, the thesis has become a coherent story from the first general research to the design of the detail.

A rational basis of repeating units and a clear hierarchical road system pave the way for an endless variety in use, creating an inclusive and lively community.