

Regeneration of Vernacular Settlements in Addis Ababa (Ethiopia): towards sustainable housing for the local community.

Instead of demolishing a built environment, transforming in a sense of '*upgrading in place*' will improve socioeconomics, social interaction and environmental fabrics. The master thesis and project of Mebratu Hassen Butta, at the master of interior architecture adaptive reuse started from studying the historical background of a society, the way of life of its people, and its social integration in order to improve the housing typology through adaptive reuse, and in particular in the context of *Addis Ababa, Ethiopia*.

Most African cities have historical traces of European Architecture, because of the colonization period. For example, the older part of Addis Ababa, the capital city of Ethiopia, has Italian influences which is visible on many old buildings. Beside Italian and other foreign influence, the local builders also contributed a lot. Ethiopia is known as the land that houses 80 tribal and ethnic groups. These groups, who live in different topographical surroundings, have different languages, culture, lifestyle and religion as well as different housing typologies and construction techniques. Addis Ababa is home of all nations and nationalities, and for that reason the city is very rich and diverse in its vernacular housing typologies and a succession of architectural layers have been developed through time. This brought forth different housing typologies derived from different traditional housing styles.

Mebratu examined the Ethiopian rural vernacular housing components and the extent to which they have influenced the transformation process in Addis Ababa's architecture. One of the main Ethiopian rural vernacular housing component, for example, was a veranda. It was adapted to the early Addis Ababa's housing type in which it was mostly used as a place for socializing. Social and cultural contexts are one of the main reasons why the vernacular houses have so many different forms beside the inter-relationship between built environment and nature. In the study area, the local people had practiced building the traditional lower ground housing with neither fencing nor a wall surrounding the plot. Here, as families are growing, people started to enlarge their house and started to build houses with large living spaces, directly connected to the traditional veranda's. This way of building created the new typology of vernacular housing. Another trend is that more wealthy inhabitants build more modern house made of stone and brick. They could build a two-storey structure with stone masonry for the support of the upper floor. The upper level would then be completed with clay-plastered wooden frame walls.

In the master's project, which is strongly related to the master's thesis, a particular site was selected in the older part of Addis Ababa. It is locally known as '*Arada Piazza*'. The city is growing fast in its peripheral areas, but the inner parts still shows deteriorated housing and infrastructure facilities. *Arada Piazza* grew in an unplanned, and loosely structure that bears many physical, social and cultural problems. Many of the buildings are informally constructed, standing aside the historical ones. As families are growing,

they demand more space for bed and living. This resulted in overcrowded informal settlement and unplanned city shaping. Most of the housing is in a bad condition and provide poor living standards. Intervene in a very sensitive manner without touching the historical patterns, using locally available construction materials and local craftsmanship skill are proposed as a method for regeneration of the selected site.

Two design proposals are made: one at an urban scale and one at a smaller scale. At an urban scale, the proposal aims to improve the existing stone pavement street to enable easy access for all kind of users: it recommends smoothing and softening, and filling all small corners and gaps. '*Pikionis Pathway*' which leads to the Acropolis forms a source of inspiration. *Pikionis* path is made of reclaimed stones found from demolition sites in the area. In *Addis Ababa* natural stone is locally available and is hence environmentally sustainable. Moreover, it reduces implementation and maintenance cost and it supports the local craftsmen. The participation of local craftsmen is an alternative way to maintain the continuity of the local builders. It is one way to preserve the vernacular ways of construction and to transform techniques applied.

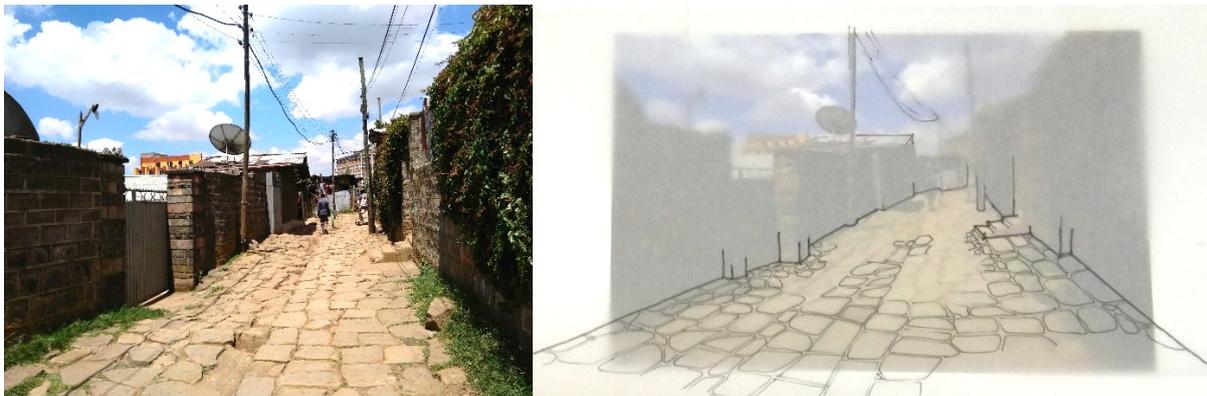


Fig. 1: (a) Illustrates existing stone pavement; and (b) Schematic sketch showing improvement proposal.

At a small scale, the proposal came up with a design of new typology and improving historical buildings that are structurally secure. The inspiration for new design came from the early *Addis Ababa*'s vernacular housing typologies. The spatial arrangements are designed by examine the influence of architecture on original living and societal standards. Proposed construction materials are locally available, renewable, recyclable, energy and resource efficient, and affordable. This make the proposed housing typology: cost effective and sustainable. For instance, heavy masonry walls on ground and basement level to support the building structurally. On top floors, light material like mud mixed with strew (earthling) and wooden frames are generally proposed. Bamboo is potentially alternative light weight material to maintain the upper floors and to construct new roof truss.



Fig. 2: Illustrate the hillside house proposal model; inspired by the early Addis Ababa vernacular housing typologies.

This project contributes to remembering the past and understanding the modes of culture, to build on a more sustainable present. It is imperative to analyze social integration in order to transform the traditional way of life. In the process of transformation, it is good to take into consideration, keeping useful traditional values and adopting them without having a conflict between innovation and tradition. Analyzing the historical background of a society, the way of life, and its social integration are key aspects of adaptation and preservation. These aspects can help an architect to offer an improved and innovated housing typology and in the other hand, minimizes the existing social integration and socioeconomic disturbance. Significantly, it can keep the *Genius Loci* or spirits of place. '*Genius Loci used in architectural theory to describe the distinct identity and character of a place*'. Therefore, knowing the local tangible and intangible traditions and natural resources, can help to understand better the spirit through which innovation can come.

Mebratu Hassen Butta

email: mebratu1919@gmail.com

Tel: +251 947 89 21 20

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