

Improving the Shelter Design Process for a better Shelter Provision

Introducing Design guidelines for Large scale Housing Development in Addis Ababa



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Introduction

Housing problem is one of the most challenging aspects of the urbanization process in the developing world. Lack of proper institutions, appropriate financial system, legal and technical frameworks, political commitment, among others, can be cited as the causes for not addressing the urban housing problems. Nevertheless, having put in place all these instruments, there is also a need for additional tool in addressing the problem in a proper way for reasons that the gap between the supply and demand for housing is so wide. It calls for a housing scheme that addresses the urban poor. In order to fill the huge gap, a cost-efficient house with a better quality and quantity is necessary.

The Addis Ababa housing development Project office has been engaged in the construction of the cost efficient houses since 2005 with a mission to address the housing problem of the urban poor. In the due course of the construction process, 33,000 housing units have been constructed, skill in the construction sector has been improved, construction management experience in large-scale projects are some of the benefits of this project. However, challenges associated

with large- scale housing development hinders the progress of the construction. The aim of this short paper is to show the impacts of the challenges and to propose the way out.

Shelter Situation Analysis

Geography

Ethiopia, situated in the eastern Africa with 8^o North and 38^o East, covers an area of 1.14 million square kilometers or 437,600, square miles. The country has dry and wet seasons, which prevail from October through May and June to September respectively. It has an elevated central plateau varying in height between 2000 and 3000 meters. Ethiopia has a federal government structure that comprises of 9 Regional States and two Autonomous city administrations. Afar, Amhara, Benishangul Gumuz, Harari, Oromia, Somali, Southern Nations, Nationalities and Peoples, SNNP and Tigray are the regional states, Addis Ababa, and Dirre Dawa, the two autonomous city administrations. Addis Ababa is the seat of the federal government and the capital city of the country and the centre of The African union (AU). The Federal Democratic republic of Ethiopia is a multi-ethnic state with a variety of languages spoken in the country. *Amharic* is the working language of the Federal Government.

Demography and Health

Currently, Ethiopia is the third most populous country in Africa with a total population of 71, 066,000 (CSA, 2004). Out of the total population, 35,813,000 are female. The life expectancy is to be 43 years; mortality rate at birth per 1000 is 125. Even though the country has a long history of statehood, only 16% of the total population lives in urban areas. This fact shows that the country has a lower rate of urbanization as compared to the rest of African countries. The total labour force accounts 32,000,000 with an unemployment rate of 32%.

Alike any developing countries, malaria, HIV/AIDS prevail. According to the 2005 estimate of the World Bank the health expenditure per capita was 6 USD, which takes only 5.3% of the total GDP.

Economy

Ethiopia, with a GDP per capita of about USD 100, is indisputably one of the poorest countries in the world. The agricultural sector, on which more than 80% of the population depends, accounts about half the GDP with 60% of the export. Coffee is the most critical agricultural product with the exports of some USD 350 million in 2006. Flowers; hide and skins are emerging into the export market.

Shelter Related Fact and Figures

Access to Shelter (The case of Addis Ababa)

Since 1974 to 1991 (the times of the previous socialist government) the housing cooperatives constructed a total number of 40,539 housing units 80% of which were owned by the low and middle income households, the rental housing administration (governmental) constructed 8,805 housing units. The total housing units constructed in this period met only 21% of the housing demand in this period. According to a study conducted by the Office for the revision of the Addis Ababa Master Plan, ORAAMP, there is an estimated need of 311, 432 housing units. Moreover, the existing housing units are mainly made of non-durable construction material. According to the UN and PADCO estimate, 80 to 90 percent of the city dwellers live in sub-standard houses and in un-planned settlements. Irregularly shaped plots, absence of vehicular access to the neighbourhoods, low infrastructure and minimal service coverage are the most pervasive phenomenon of those areas. The Ministry of works and Urban Development (MWUD) estimate shows that 40% of the housing units in the city need replacement and an additional 10% to be replaced for the provision and improvement of infrastructure up to the year 2015 (MDG period). Various studies show that the average household size of the urban centres in the country is about 4.6 persons. The total Ethiopian urban housing stock grew by about 4.2% yearly between 1984 and 1994. The MWUD projection shows the total housing needs between 2005 and 2015 for the country will be 3, 416,444 50% of which would be for Addis Ababa.

Access to and cost of Basic Services/Infrastructure

Mainly, due to the poor legal and institutional arrangement and weak financial base of the urban centres of the country, inadequate social and physical infrastructure provision is below the minimum requirement. The 1997 PADCO survey shows only 55.7 percentage of the housing units in Addis Ababa had private or shared water connections. In addition, 30 % to 40% of the water produced is lost due to leakage and improper management of the system. The 1994 census shows that only about 27.7% of the housing units in urban Ethiopia had private toilets. In the same year, about 28.9% had shared toilets while 42.35% had no toilets at all.

Housing Policy

Since 2005 the country had no a comprehensive urban housing policy. However, the city government of Addis Ababa in 2004 has launched a five-year Grand housing development programme. The programme envisaged to build 250,000 housing units within five years time. In spite of some political problems associated with the 2005 election process, the programme has managed to build 66, 000 housing units. The Federal Government, having taken the experience as a good opportunity, has replicated the programme as a means to alleviate shelter problems in many parts of the regional towns in the country. Consequently, in the year 2006, the **urban development package** that addresses the housing sector has been enacted. The package deals with the Housing development with the main objective of constructing a cost and land-saving condominium houses for the middle and low income people as a strategy to alleviate the shortage of housing in a meaningful way and create wide employment opportunity to improve the lives of urban poor.

With main objectives:

- Create a wide range employment opportunities and increase in income by expanding micro- and small-scale enterprises in the construction sector;

- Strengthen the construction industry by increasing the construction material supply capacity; promote construction techniques pertaining to low-cost housing construction;
- Improve vocational training system to strengthen the professional capacity of individuals working in the construction industry;
- Regenerate the city centre thereby create a favourable development opportunity for private investment
- Enabling the low and middle income residents own a decent housing that ensures a fair income distribution

Actors in Shelter Delivery and their Roles

Housing co-operatives and the Agency for administration of Rental housing (AARH) were the sole actors in the housing provision before the year 1991 (the times of the socialist government). Currently, the main actors highly involved in shelter provision are private companies engaged in real estate development, individuals who are entitled to have a legal title deed for their plots or own an informal or 'illegal' plot of land, housing co-operatives and the Federal and Regional governments. The Federal and Regional governments are responsible in the provision of urban land, infrastructure and construction of condominiums. Despite the attempts made to provide shelter by those actors, the problem of housing remains acute and aggravated. The city government of Addis Ababa has introduced a mechanism of encouraging real estate developers by providing a 50m square area of land per households free of lease. Nevertheless, the real estate developers have shown interest only to build luxurious houses that meet or suit the 'needs' of the rich (for the *Diaspora* as some call it). Housing cooperatives, with a limited financial capacity, limited access to land have had a considerable contribution in the provision of housing as compared to the real estate developers or individuals. The ever-increasing urban land value, absence of provision of serviced land for the urban poor, speculation in urban land along with improper urban management practices have made shelter provision to be high in the agenda of the government. Since 1975, urban land and 'extra houses in urban centres of the country, have been nationalised that 37% of the housing

stock is owned by the government (CSA, 1994) and rented to the urban poor below the market price. In addition, the socialist government, with some technical assistance from former east European countries, had managed to build apartment blocks along the main road from the international airport to the city centre, rented to either party officials or middle-income civil servants. Access to these rental housing was so impossible that one needs to be either a higher government official or illegally buy the 'right' to rent from the tenants to rent.

Currently to fill the huge gap of housing demand the federal and regional governments are undertaking a grand housing development programme that targets to build about 1,000,000 housing units within 5 years in the urban centres of the country. The grand housing programme aims to ensure the low and middle-income residents more to own decent houses than to rent. One is only expected to pay 20% of the total construction cost in advance whereby he is expected to pay the rest 80% based on the arrangement made by the government with the Commercial Bank of Ethiopia.



Figure 1. New condominiums with shops on the ground floor on a main Street

Strengths	Weaknesses
<ul style="list-style-type: none"> ▪ Capable to provide large number of houses within a short period of time ▪ Can be a good model for the private real estate development in the provision of affordable houses ▪ Addresses the urban poor(low and middle income) ▪ Employment creation for the youth 	<ul style="list-style-type: none"> ▪ No clear design guidelines ▪ Lack of awareness of dangers or pitfalls associated with large scale housing development ▪ Lack of awareness in participatory planning approach ▪ Lack project management skill, cost effectiveness in construction
Opportunities	Threats
<ul style="list-style-type: none"> ▪ High commitment from the government side ▪ High potential to develop the old city centre ▪ Peoples support to the project 	<ul style="list-style-type: none"> ▪ Vacant land exhausted in the city centre ▪ Shortage of basic infrastructures for large scale housing scheme ▪ Creation of segregated communities in neighbourhoods

Table 1-SWOT Analysis of the organization in the provision of shelter

Provisions of urban land, infrastructure, social facilities etc. are the responsibilities of the government. Medium- scale private Construction companies construct those low- rise condominium buildings while the construction management and construction materials supply are the task of the local government. Since 2005, the Addis Ababa Housing development project Office has build a total number of 66,000 housing units, out of which 33,000 units have been transferred to beneficiaries. In addition, in the year 2009, 38,500 units will be constructed. 450, 000 beneficiaries are in the waiting list to get those condominium houses.

Shelter Design

Shelter design, before the emergence of the grand housing development programme, has been a concern only to an individual who is engaged in the design of houses or to a person who needs to hire an architect or engineer.

Individuals who can afford to hire an architect can enjoy the service and for those who feel that they can do without was normal construction practice. In most cases, people who want to build a house do not have the information whether to get the professional service from a contractor or an architect. Due to the absence of appropriate building codes and urban planning regulations, most of the new residential areas lack qualities of good neighbourhood. The absence of proper planning in the newly- built neighbourhoods by the private real estate developers is also a most pervasive phenomenon.

The housing project office prepares a number of house design types that vary from studios, one bedroom, two-bed room, to three-bedrooms to be accommodated in every block type .In addition, the office out-sources the design task, commissions design competition for interested architects, engineers and consulting companies to contest for a prize. In the case of neighbourhood planning or local development plan, planning firms from the private sector have participated.

In spite of the attempts to get better design quality, the project faces problems in design quality, compatibility, absence of landscape plans, variety in design types, and a detailed urban design guideline that corresponds to a large- scale housing development in the creation of a liveable neighbourhood is non-existent.

Organisation

The Addis Ababa Housing Development Project Office, established in the year 2004 by the city government of Addis Ababa, board chairperson and members from various federal ministries and local government offices administer the project office. The project office has one general manager and ten sub-city branch managers. The project office oversees designs, local development plans /LDP/, neighbourhood plans by either its employees or out-sourcing and commissioning a design competition. The office also allocates budget to the branch offices, assign branch offices to manage the construction according the schedule, quality and budget. Private contractors, upon signing an official agreement are assigned to each branch office for the construction works. The

branch offices manage the construction process, the supply of the main construction materials such as cement, reinforcement bar, hollow concrete block, aggregates and pre-cast beams to the private contractors. Small and micro enterprises engaged in the production of hollow concrete blocks and pre cast beams get the supply of the raw material, finance and technical assistance from branch offices. This interrelationship has been designed as a strategy to create employment opportunity and as an improvement in the skill of the people engaged in the construction industry. The branch office managers, in addition to their managerial tasks, involve in various activities such as design evaluation, contractors pre- qualification and selection processes.

Shelter Problem

So far, lack of project management skill, large-scale housing design and development experience, have had negative impacts on the progress of the housing programme. The shelter design process has been paid less attention than the budget allocation procedures or the land preparation process. In the new condominium housing scheme, the design has not integrated the traditional life styles of the people, the existing neighbourhoods, and lacks to maintain the unique historical character of the city's physical and cultural context.

Architects, engineers and urban planners have alone worked on the design.



Figure 2-Housing situation in the city centre, in front of the national Palace

Technical requirements override shelter design quality and taken for granted as the best tool for addressing shelter problem. Little or no attention has been paid to the drawbacks and pitfalls associated with large- scale shelter design and development. The basic shelter design requirements such as cultural and social aspects, physical needs, quality of housing, outdoor environment, integration with the neighbourhood and traffic circulation etc. are either neglected, or less considered. In addition, the beneficiaries of the project are not satisfied with the functionality of each housing unit for these houses do not meet their physical and psychological needs. These problems may seem to affect only the beneficiaries. In reality, it is not only a challenge to the professionals but also a problem posed to the city. This type of large-scale housing development is the first of its kind in a country where low-income people have never had an experience of residing in any multi-story buildings. In general, the design process has never given a chance to the beneficiaries to have their say or participate as to what their needs would be. The problem calls for a new design approach in the shelter design process if it is to meet the needs of the poor. The problems mentioned above are summarised as follows:

- Absence of proper shelter design guidelines and proper design review mechanism for the housing sector especially in the large -scale development.
- Lack of awareness of shelter design principles by professionals and decision makers
- Lack of experience in cost- efficient shelter design and construction
- Lack of integrating the concepts of sustainable development in the design and construction process
- Lack of experience and misunderstandings in participatory planning approach in the design process



Figure 3- new condominium houses, large- scale development in an area

Proposal for Change and Improvement

It is very proper and high time to propose change and improvement in the shelter design process with respect to the housing development project experience in the last four years of implementation. The housing development project has gone through two implementation phases. In the first implementation phase, 33,000 housing units have been transferred to beneficiaries while the remaining 33,000 will be completed in November 2008. A new project for the construction of 38,500 housing units is going to start in the year 2009.

In order to bring about change, a programme for the formulation of a sustainable shelter design guidelines needs to be devised. The purpose and intent of my proposal is to prepare a document. This document calls for professionals or consultants to render their services in producing a Design guideline that sets forth strategies and criteria to implement a specific area plan. The design guidelines will be the basis for the competition to be held periodically for new housing projects. All the requirements in the guideline must be met in order to be eligible to compete for service commitments. The guide lines should address problems encountered in the implementation process as related to the condominium houses to:

- Provide clear development criteria that promotes compatibility between the new and existing development and to provide opportunities for flexibility in standards.
- Allow flexibility in housing type and density
- Encourage development of housing in close proximity to employment and services development
- Enhance the human scale of development and respect the scale and the character of residential neighbourhoods

It is important to analyse here the strengths and the opportunities of the proposal in a SWOT analysis as a means to test the proposal. See the table below.

Strengths	Weaknesses
<ul style="list-style-type: none"> ▪ Proposal clearly shows the problems encountered in the last course of the project ▪ Can initiate, influence professionals and decision makers as well ▪ Can start afresh in the new phase 	<ul style="list-style-type: none"> ▪ Absorption in routine work at the office ▪ complacency
Opportunities	Threats
<ul style="list-style-type: none"> ▪ Ministry welcomes new ideas ▪ Colleagues are aware of the problem ▪ Good relationship with the association of the Ethiopian architects(AEA) 	<ul style="list-style-type: none"> ▪ Can be assigned to another ministry ▪ Officials can decide to keep working on the same manner

Table-2 SWOT ANALYSIS, PROPOSAL FOR CHANGE

Ways forward

In the last few years of the housing development programme implementation, the Addis Ababa Housing Development project has managed to build more than 60,000 housing units. In the due course of the construction, employment generation for the urban poor, improvement in the construction industry and

skills and experience in managing large-scale housing development projects have been attained.

The need for housing in the city still urges the government and the private sector to build more number of houses with a better quality. On the other hand, urban land in the city centre has become so scarce or exhausted, vacant land in the peripheries or the expansion areas is not equipped with the basic infrastructure or needs a huge investment. There is also a pressing need that for the evaluation of those houses built whether the shelter problem addressed properly or not and get feedbacks and lesson for further improvements. Before the start of the year 2009 new housing project, the project office must pave the way to enhance:

- Compatibility of character of the neighbourhoods
- The variety of designs
- Community values and participation
- Architectural quality and landscape design
- The use of land and resource in an efficient manner and the cost effective delivery of urban services.

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