

# **Design Considerations and Sustainable Low Cost Housing Provision for the Urban Poor in Addis Ababa, Ethiopia**

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## **1 ABSTRACT**

Design considerations remain significant in low cost housing projects in both developed and developing countries; which are currently faced by challenges of shelter provision for everyone including the urban poor; due to unprecedented increase in rates of urban migration and urbanization. Ethiopia, particularly Addis Ababa city has not been spared. The city administration launched grand low cost housing projects through the Integrated Housing Development Programme (IHDP) in 2006. This study sought to unveil the significance of design considerations in low cost housing provision thorough the IHDP and the extent to which the Addis Ababa Administration had considered this relevant. The research made use of detailed case analysis of condominium housing on 103 sites of Addis Ababa City using primary and secondary data sources such as questionnaires, interviews, the Delphi technique and document analysis. Qualitative and quantitative data were produced. This research revealed that although the city administration has made great strides in low cost housing provision, there were omissions in the implementation of housing designs considerations with regards technical issues, people's culture, the needs and interests of the urban poor. As such the research recommends that the city administration should strengthen participation of beneficiaries in projects that affect them directly; and that building codes and policies in housing be enforced and monitored for sustainable housing provisioning; and prosperity of the poor living in cities.

## **1.1 INTRODUCTION AND BACKGROUND TO THE STUDY**

Design considerations remain significant in low cost housing projects in both developed and developing countries. Both regions are currently being faced by challenges of shelter provision for everyone including the urban poor. This situation is being exacerbated by unprecedented increase in rates of urban migration and urbanization being experience the world over. Ethiopia, particularly Addis Ababa city has not been spared. Addis Ababa is a city where mixity is evidenced by modern building erected side by side delapidated slum settlements (IHDP 2008).

The Addis Ababa city administration launched grand low cost condominium housing projects through the Integrated Housing Development Programme (IHDP) in 2006 to minimize housing backlog, slums, and to provide decent shelter to middle and low income groups. The Addis Ababa city government designed condominium housing project as a response to acute housing shortage in the city due to unaffordability problems and the ever increasing gap between the demand and supply of housing in the city. Currently 33,000 condominium housing units have been constructed and transferred to beneficiaries in Addis Ababa city alone (MWUD, 2008). The condominium housing can be defined as a form of ownership arrangement for housing tenure in which several households occupy one property so that each dweller owns a housing unit; and has equity in common areas(Hecht, 1999).

## **1.2 AIM OF THE STUDY**

The aim of this study is to unveil the significance of design considerations in low cost housing provision thorough the IHDP and the extent to which the Addis Ababa Administration had considered design consideration in low cost housing provision relevant.

### **1.2.1 Research objectives**

- To establish the compatibility of the condominium housing project with people's social, economic and cultural needs
- To highlight the significance of design considerations in housing projects

### 1.2.2 Research methodology

The research made use of detailed case analysis of condominium housing on 103 sites of Addis Ababa City using primary and secondary data sources such as questionnaires, interviews, the Delphi technique and document analysis. Qualitative and quantitative data were produced.

### 1.2.3 Design considerations

Design considerations in project planning remain a significant tool for project planners in reducing costs and increasing sustainability of the project. Housing projects design considerations increase the economic viability of the project, improve quality of life for residents and enhance the vitality of communities (Wachter; Global Report on Human Settlement 2005). Housing in this regard is not only the physical structure but it made up of a combination of different facilities and infrastructure that helps for physical well being of groups and individuals and extends to accessibility security and neighborhood setting in broadest sense. As such, for housing projects to be sustainable they need to be consistent with policy procedures, needs, preferences and demand pattern of the beneficiaries; hence it is very important to determine what project beneficiaries regard as standards housing. In most cases however it is often difficult to define what can be labeled standard because people or communities hold different perceptions and interests with regards standards. The public interest is the prism through which we should always look as we make our decisions... a standard has no fixed meaning (Schultze 2008).

### 1.2.4 Condominium Housing in Ethiopian Context

The idea of condominium housing is a new phenomenon in Ethiopia. It is just as old as the IHDP. It emerged as a strategic response to rapid urban population growth, high prevalence of urban poverty, and urban unemployment in major Ethiopian cities; because only 30% of the urban house stock was regarded to be in fair condition; and the housing shortage is being estimated to be between 900 000 and 1 000 000 (MWUD, 2006, IHDP 2008). The condominium housing project thus aims at meeting the elements of Millennium Goal 7 on Environmental Sustainability, target 11 which seeks to achieve a significant "improvement in the lives of at least 100 million slum dwellers" In Addis Ababa city more than 70% of the population lives in slums and the houses are made predominantly from mud and straw (IHDP 2008). Below is a table that shows the distribution of condominium houses in Addis Ababa City, Ethiopia

Sub city	Total number of sites	Housing typology					No of apartment block	No of housing units	No of common blocks
		Studio	One bed room	Two bed room	Three bed room	Commercial			
Arada	19	535	744	858	116	42	67	2253	24
Addis Katema	9	435	435	504	65	111	40	1550	18
Lideta	9	473	598	538	42	25	51	1676	18
Kirkos	14	367	590	994	183	131	61	1965	26
Yeka	12	162	500	1786	387	237	97	3050	37
Gulele	7	339	415	638	10	62	58	1464	18
Kolfe	10	1343	1353	4298	830	790	231	8619	86
Nifassilik	10	564	1372	2280	548	489	158	5286	39
Bole	9	544	690	2264	258	478	115	4234	44
Akaki	5	234	284	625	135	24	39	1302	15
Total	103	4996	6981	14485	2574	2389	917	31399	325

Fig. 2 Distribution of condominium houses in Addis Ababa city (Seyoum, et.al 2006)

The condominium houses in Ethiopia are mainly G+ 5 structures. Each block contains between 125 and 130 housing units. The house typologies range from studio, one bedroom, two bedroom and three bedroom units; which have the dimensions shown in the table below.

House typology	Area in (m <sup>2</sup> )
Studio	21m <sup>2</sup>
1-Bedroom	30m <sup>2</sup>
2-Bedroom	40m <sup>2</sup>
3-Bedroom	60m <sup>2</sup>

Fig. 1 Size of condominium house typology (Source:- Amhara regional housing strategy (prepared by Marta Davids, 2006).

The function of housing these housing units vary from household to household depending on their social, cultural and economic values.

## 2 DISCUSSION OF FINDINGS

This research revealed that although the city administration has made great strides in low cost housing provision, there were omissions in the implementation of housing designs considerations with regards technical issues, people's culture, the needs and interests of the urban poor. When design considerations are observed; it leads to adequate shelter. Adequate shelter means more than just having a roof above one's head. It has varied dimensions such as having adequate space, adequate privacy, physical accessibility, adequate security, structural durability, security of tenure, basic infrastructure, accessible location with regards work and basic facilities (Global Report on Human Settlements 2005)

### 2.1 Site selection

According to the housing development project office of Addis Ababa Ethiopia; 173.8 hectares of land was spared and prepared for 34,280 condominium units in the city. This includes land for the erection of the condominium houses, land for common space, land for local kitchens, land for common laundry and land for septic tanks and drainage laying space. The research established that there was no criteria used for site selection. Land belongs to the government, as such the government provides land for condominium housing projects in order to cut construction costs. Building sites were randomly selected for the project on open spaces in inner city and some on the peripherals of the city. Households that benefited from condominium houses in the inner city had an advantage of living and working in the inner city without transport costs; and access services. Those households who benefited from condominium projects outside the city centre are now incurring costs of transport to acquire services to and from the city centre.

### 2.2 Social networks

Ethiopia is a traditional society where social networks play a very significant role in the people's day to day lives and activities. The condominium housing project has ushered new ways of living and new networks for many of the beneficiaries. The relationships of households in the condominium houses is fragmented compared to open neighbourhoods. Beneficiaries often need to make new friends with their new neighbours and they often miss social ties created earlier when they were still living in their old locations.

### 2.3 Communal kitchens

The condominium housing project has provided house design through use of professionals such as planners, engineers, architects (Wondimagegnehu 2009). The house designs were meant to benefit the low income earners of the Ethiopian society. However it has to be taken into consideration that affordable designs need not only consider to the cost of construction; but also cultural activities of the households. Many low income households who benefited from the condominium housing units previously owned a local kitchen; but the designed condominium houses can only offer a common local kitchen for use by several households and the design of these kitchens is narrow and lack a chimney. Some condominium sites did not have these communal kitchens at all and yet a kitchen is one of basic housing facilities that is regarded as very vital as the living room. In most cases the beneficiaries of the condominium house are the urban poor who often lack

finances to buy electronic utilities such as cookers. Observations revealed that condominium sites in Gerji-2, Adewa Park, and Bole Ring road have no common kitchen facilities. Poor households are forced to use charcoal and kerosene bringing additional items on their tight budgets.

## 2.4 Maintenance and finishing

According to the Addis Ababa Housing Development Project Office, maintenance and inside finishing of the houses should be done by the beneficiaries. Most beneficiaries had been experiencing malfunctioning of water pipes, electric cables sewage line, doors and windows on various sites. Research shows that on average households need to invest at least 5865 Birr for maintenance and finishing purposes. This is a lot of money for the urban poor who often earn at least 100bir per month.

## 2.5 Water and sanitation

The model of the condominium house project provides all site with drainage and sewer pipes. However due to the ever increasing population in Addis Ababa in search of better opportunities and services the drainage and sewer pipes are frequently bursting and blocked because they are failing to cope with increasing pressure. Designers did not consider the size of the pipes in anticipation of the proportion of the number of condominium housing units built with an average of 5-8 persons per household (Wubshet 2008).

## 2.6 Spaces and culture

The condominium housing project design needed to consider provision of different service facilities within the various neighbourhoods, such as, animal slaughtering room, coffee grinding room, spice drying areas, coffee ceremony spaces, children's play ground, green field, car park. Beneficiaries of the studio and one bedroom houses lack enough space for comfortable living given the fact that on average each household is made up of 5-8 persons. The person-per-room density is rather too big according to international standards which stipulate that one person must have at least 7m<sup>2</sup>. This implies overcrowding in the condominium houses. If more than two people share the same room, the room is over crowded, and not comfortable to live (United Nations Human Settlements). The design considerations for condominium housing project are failing the urban poor who have large families.

## 3 CONCLUSION AND RECOMMENDATIONS

From the findings, the condominium housing project of Addis Ababa has been an advantage to many local poor households. However the project has displayed problems with regards design consideration after beneficiaries occupy the new houses in terms of weak social interactions, housing conditions and insufficient traditional utilities such as kitchens. As such the research recommends that the city administration should strengthen participation of beneficiaries in projects that affect them directly; and that building codes and policies in housing be enforced and monitored for sustainable housing provisioning; and prosperity of the poor living in cities. However the Condominium is not effective in constructing quality and comfortable houses to beneficiaries and other is the better economic status of the beneficiaries who have capacity to invest huge amount of money benefits more from the program.

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