

Beyond a Roof over the Head

Proposals for sustainable housing developments in Addis Ababa, Ethiopia

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Introduction

With a housing supply rate of 7% of demand, the formal support to low-income house builders and its output lie in Addis Ababa far behind the demand and the programs rarely address the target groups. For the majority shelter provision remains to be a private venture i.e.,

- Inhabitants double up in existing residential areas and extend their houses illegally as the population density cannot be relieved through new housing supply, and
- People erect new improvised shelters in contravention of some legislation because public programs do not reach them or the planning process and building permits are too complicated and bureaucratic.

These responses are responsible for about 80% of the floor area increase. They comprise, on one hand, the traditional inner city settlements that have become substandard and overcrowded through a combination of age, neglect, subdivision and extension. On the other, they refer to the semi-formal dwellings and the informal settlements that are emerging in the city outskirts.

The genesis of semi-formal houses bases on legally acknowledged plots upon which incomplete dwellings units are initially built either by governmental institutions or by dwellers themselves. They pass through several incremental stages to accommodate growing family sizes and subletting opportunities. This is accomplished by the dwellers themselves without any technical, financial, logistic and legislative supports. As the case study in four semi-formal residential areas in Addis Ababa reveals, the new developments remain usually sub-standard and temporary nature; a consolidation process takes place very rarely as compared to other developing countries. Instead, they decline to the standard of the traditional rural dwellings. This suggests that low-income people are able and willing to improve their housing conditions but are restrained by many obstacles that impede long-term sustenance. It attributes mainly to the lack of comprehensive planning approaches and calls for an integrated, participative and sustainable development approach.

Objectives

The objective of this paper is thus:

- to point out the main causes and consequences of the current housing problem.
- to discuss the limitations associated with the long-term sustenance of semi-formal houses in Addis Ababa and assert the principal hypothesis that housing programs implemented as a mere roof over the head could not solve the need of low-income people in a sustainable manner.
- provide preliminary proposals on how to plan and implement integrated housing development in the way many projects ensure sustainable development of settlements.

Information for the paper is mainly taken from an ongoing thesis, which involves a field survey in four residential areas in Addis Ababa. It outlines the applied strategies and examines why they fail to develop progressively and sustainably. Recommendations for future programmes are made at the end based on the limitations, successes and perspectives of the cases and in accordance with the lessons acquired in LCHS and own experiences.

Conceptual Framework

Formal Housing Supply

The formal housing supply and its social acceptability in most of the developing countries is low and, hence, dwellings are usually constructed informally and through self-help process.

International views and theoretical explanations on these points were very debated in the last three decades and have passed through fundamental changes. In the 1970s it was felt that problems of poor housing could be overcome through policies and programmes pursued at state level. This assumption was the base for several low-cost housing projects over the past few decades. But the inadequacy of this top-down and isolated intervention has become all too apparent. The strategies consisted of only temporary relieving local conditions, making little signifi-

cant impact on national or even urban need. Only few programs succeeded in terms of quantity and long-term sustainability. Since then the need for more and better housing has increased, informal settlements have expanded and existing structures have continuously deteriorated. Estimates of future urban growth and the changing social-economic conditions point also to the further heightening of these problems (Hamdi, 1995:35-6).

The Need for Sustainable Housing

Housing is not just a roof over the head or blocks and mortars. The number of allocated lots and finished units do not measure its value. Beyond the physical structure, the plot of land and the infrastructure services its relation to the urban fabric and the role of the house as a basis for social and economic development are deciding factors. A housing project with opportunities to improved income, local environment and social interaction supports the dwellers and community organisations to play a major part in the long-term sustenance of the settlements. Projects whose principles cannot be rapidly expanded and replicated in scale, whatever their site-specific merits, are generally a waste of time, effort and money.

So changing this type of approach requires the involvement and partnership of households, facilitating organizations and municipalities in the housing processes; the integration of housing and productive activities; and a flexible but progressive development approach.

The questions of shelter for low-income population in Addis Ababa are yet constrained by inappropriate policies, municipal administrations, socio-economic problems and isolated planning approaches and calls for a comprehensive approach.

The Housing Situation in Addis Ababa

Current Housing Conditions

The housing situation in Addis Ababa is marked by big backlogs, substandard physical substances and lack of infrastructure facilities. Including all housing types, the average available living space in 1994 was only 4.3m²/person as compared to the African average of 6.5m²/person.¹ Over half of the housing stock is constructed out of temporary materials and deteriorates from time to time. As per Baker only 21% of the total housing stock meet the local definition of acceptable housing (Baker et al., 1997:102)². Although big efforts have been made in infrastructure construction and maintenance and still going on, the need is still very high, mainly for sanitation and water supply. The following data show the per-

centage of houses without adequate material and technical service in relation to the total number of houses:

- 80% Chika wall (wattle and daub construction),
- 95% metal roofing,
- 55% tamped earth floor,
- 90% without shower and bathroom,
- 25% without toilet and 63.1% with dry latrine,
- 25% without kitchen (CSA, 1995:180-9).

Despite the initiatives being made by dwellers and ongoing formal housing programmes, the deterioration of existing houses is alarming and the construction of new houses very low. 80% of the population are currently overcrowded and live at an average density of 2.6 persons per room. This is a result of the inefficiency of the formal sector and low level of the semi-formal and informal sectors. A recent data (Baker et al.1997) shows that the total housing needs arising from population growth and new family formation, easing the existing overcrowding and replacement of obsolete dwellings has been estimated to be about 50,000 dwelling units annually (1995–2000):

- Population growth: 106,000 (44%)
- Overcrowding: 46,000 (18%)
- Replacement of obsolete houses: 93,000 (38%).

Housing-need assessments reveal also that the low-income group share 63% of the new housing needs and shows the urgent need of new housing production, which should addresses this income group (Table 1). So far, the problem has been tackled only in terms of numbers. The long-term settlement regeneration has never been addressed and the situation remains to be a vicious circle.

Factors behind the Housing Problem

Socio-economic Condition

With an average per capita income of \$120 a year, Ethiopia is a 'low-income developing country'. More than 80% of its population live in rural areas and its economy is heavily dependent on the earnings of the agricultural sector. The share of this sector on the gross social product is around 56% and its annual growth only 0,1%. The average life expectancy at birth is around 47 years; the infant mortality rate about 135 per 1000 live births. The unemployment rate in Addis Ababa was in 1984 10,5%. In 1993 it became more that 20% and in 1994 35% (CSA, 1995:117). These facts show the low level of socio-economic development and indicate the fact that housing deficit and low standard of dwelling in Addis Ababa are a direct outcome of poverty and vice versa. As some public investigations show, the city population could be roughly categorised into three income groups based on average monthly salaries: 'low-income', 'middle-income' and 'higher-income group'. The proportion of each to the total population, their average income and the corresponding need of housing units between 1995–2000 are shown in Table 1.

¹ Personal communication with GTZ (Deutsche Technische Zusammenarbeit)

² This refers to the permanence of structures; their resistance against wind, rainwater, flood, etc. and existence of basic services.

Table 1: Income and housing needs in Addis Ababa 1995-2000

Income group	Monthly income Birr	Household 1995 %	Existing units 1995 No	Need 1995-00 No.
1	2	3	4	5
Low	< 340	50	212,214	162,440
Middle	340-670	24	89,923	66,698
Upper	> 670	26	67,000	16,650
Sum		100	369,137	245,788

Sources: Column 2 = Coleman & Woldeyesus, 1995:8; Column 4/5 = Ditto: Annex A; Column 3 = Author
1 Birr = Around 1.21 SEK

The average monthly income in the city lies around 391 Birr. A household should give 29% of this income for basic needs such as food and water, and 21% for housing. But 60% of the households earn below 340 Birr per month. According to Coleman & Woldeyesus (1995:7) the minimum existence threshold is 340 Birr. This part of the population can invest only 10–20% of their income for housing. This shows that the lower middle-income and especially low-income population is the main victim of the housing problem. As there are still no fundamental policies to improve the socio-economic conditions of the urban poor, there exists a big disparity between provision of basic needs (such as living space, infrastructure and employment) and demographic growth. So this leads to unplanned growth of the city as well as to overcrowding, decay and spontaneous extension of existing dwellings.

Urbanisation

Addis Ababa is a young but fast growing city, which changed from a garrison to a metropolis without any fundamental physical planning. As a permanent city, its foundation stone was laid in 1886. By then it had only 2,000 inhabitants. In 1912 the number of inhabitants reached 85,000 and in 1952 about 318,000. The urbanisation rates in the 1960s and 1970s were very high and uncontrollable. Annual growth rates of 7.5% and 7.8% were registered in the respective decades. Due to the new political system and strict control of population mobility the urbanisation rate declined in the following years. Consequently, the annual growth rate between 1974–78 was only about 3.0%, 1978–84 around 5.4% and 1984–90 4.8%. Despite the high rural-urban migration as a result of the previous control on population movement exists, official sources estimate the growth rates today between 4.1% and 4.9%. It could be however assumed that Addis Ababa would have exceeded the 3 million-limit in the beginning of the new century.

The main reasons for this are:

- Distribution of infrastructure in the country is still unbalanced,
- Basic social facilities and agricultural technologies are still backward in rural areas and result regular and seasonal rural-urban migration, and
- The age, sex and income structures of the population in the capital will bring about further population explosion.

Land Policy

The other factors that gave rise to the current housing problems in Addis Ababa are the land policy shortcomings since the foundation of the city. They usually favour specific income groups and employee and impede investments in the housing sector. Thus, failure to use and mobilise human, financial and material resources appropriately prohibits the low-income population from having access to shelter.

Pre-1974

The time before 1974 was marked by monopoly of land, speculation and exorbitant rent. At the beginning of 1974 only 7% of urban land was owned by private citizens, while the remaining percentage was almost equally shared by the imperial family, the Ethiopian church and the feudal lords, with the exception of another 7% owned by foreign embassies. Owing to economic aspirations unplanned, low quality and temporary rental units emerged. But the majority was almost totally excluded from access to urban land and house building and ownership. Thus, unlike the practices in other cities of developing countries, the participation of low-income people in building activities was very limited. The current substandard dwellings and low level of building skills are a direct result of this past experience.

1974-91

This period was characterised by a socialist economy and social structure that the military government adopted in 1975. Urban land and all extra houses were nationalised and house rents were reduced to 15%–50%. The rent revenue was supposed to be used for maintenance and compensation of original owners. But due to planning and management problems and lack of motivation over 60% of the city housing stock remained archaic. It can be argued that the confiscation of indigenous dwellings, which normally needs an annual maintenance, was a big resource failure in the history of Ethiopia. The corresponding theories and thoughts of Karl Marx and Fredric Engels should not have been applied in a pre-industrial and archaic dwellings. It has to be however admitted that the co-operative housing programs, the technical supports and the credit systems promoted by the government have contributed to ease the housing shortage in the capital.

Post 1991

Since 1991 the economic development plan and socio-political orientation of Ethiopia base on the premises of free market economy, public ownership of land and on the recognition of the fact that urban land is a scarce resource. This has brought about a new land and housing policy. The main shift was that the former financial subsidy and technical assistance for housing co-operatives were abolished and a land-lease policy at national level introduced. Accordingly, the regional government of Addis Ababa adopted this and proclaimed a land lease policy in 1993 (Ethiopia, 1993). The policy fixed the minimum and maximum sizes of plots for private dwellings between 73–175m² and the lease period up to a maximum of 99 years. Lots are distributed to applicants through a lottery with a fixed annual rent of 0,5 Birr/m². The regulation states that plots below 73m² are issued without any

charge, but individuals who wish to have more than 175m² for housing would acquire the whole lease hold by public tender (Region 14 Administration, 1994). So far, plots are at the outskirts and there is no clear policy to find a complementary answer for the spontaneous inner city settlements that are characterised by socio-economic problems and highest land value and to utilise the lease revenue for infrastructure.

The current policy of land allocation and housing construction eliminates all low-income households from participating in the housing sector as it urges an advance deposit of 20% of the construction cost (Baker et al., 1997: 28). This is almost twice the minimum annual income of the city when compared to the smallest standard house prepared by the municipality. No credit schemes have been, however, introduced. Hence individual ventures play still the biggest role for shelter production and improvement. These are however improvised, rural type and lack the necessary legislative, technical, financial and logistic support for a sustainable consolidation.

The Housing Sector

The main housing sectors in Addis Ababa could be categorised into formal, semi-formal and informal housing. This category is based upon their origin, development processes and legal status.

Formal Housing

The formal housing sector refers to the public or private houses that are planned and built as complete units according to the regulations and permission procedures of the regional municipality. It comprises private houses, low-cost housings, rental houses and apartments. The Municipality of Region 14, with its agencies, is in charge of formulating and co-ordinating the formal housing and urban development policy and provides guidelines for their implementation. It is responsible for the identification and issuance/leasing of land for individuals, cooperatives and developers and preparing housing standards. It also constructs and administers rental houses through the Agency for the Administration of Rental Houses (AARH). However, due to lack of appropriate housing policy the output of this sector and the way it addresses the low-income people is very low – both at regional and national level at large.

Most of the developing countries allocate 3%–6% of their GDP for housing. The total national urban housing investment in Ethiopia is only 0.5% of GDP. Available data for 1976–92 indicate that the formal housing supply in Addis Ababa satisfied only 7.0% of the entire requirements (MWUD 1993:15), that addressed only a small portion of the population. This attributes to the bad use of human, financial and material resources available and more specifically, to the lack of appropriate policies to mobilise private resources, and refers to the accumulated effects of the pre-1974 monarchic monopoly of urban land and dwellings, the nationalisation of land and extra houses in 1975 and the recent ambiguous land policy. Most of the built-up areas of the city are therefore a result of spontaneous building and extension activities (Fig. 1).

Semi-formal and Informal Housing

As a result of the inefficiency of the formal sector, this is the new form of housing provision and maintenance of existing housing stocks in the capital, which holds true for both owner occupancy as well as government-owned ones. It comprises the incomplete legal dwellings that transform with time through dwellers' initiation and the illegal settlements in the city outskirts.

In order to address the main objectives of this paper, the following part gives a general picture of the informal and, more specifically, the semi-formal housing in Addis Ababa.

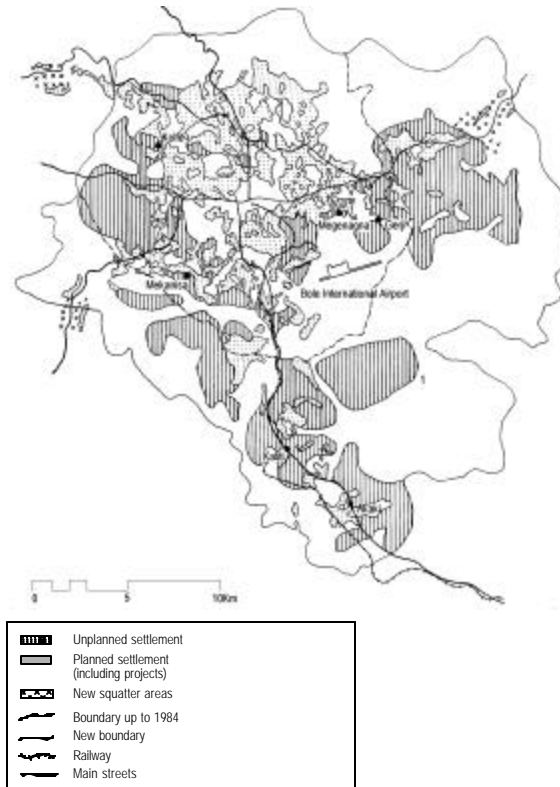


Figure 1: Spatial distribution of planned and unplanned settlements in Addis Ababa (Baker et al. 1997:61; Addis Ababa Master Plan Project Office; Author)

Development of Semi-formal and Informal Housing

Background

Self-help building activities comprise in Addis Ababa informal extension of traditional inner-city settlements, unplanned extension of public-provided houses, progressive development of legally acknowledged land, and unplanned development of illegally occupied land. As some studies show 90% of the houses erected between 1980–85 and 80% between 1984–95 in Addis Ababa were results of

unplanned and informal buildings and extensions (Baker et al. 1997). It is very evident that this share is related to the semi-formal and informal settlements.

The origin, form and consolidation tendency of dweller-initiated building activities can however hardly be compared with that of other developing countries. For a better understanding of this matter the self-help building activities of low-income people in Addis Ababa are categorised on the basis of their genesis and legal status in three forms:

1. Semi-formal: Spontaneous extension in the traditional inner city settlements areas which eventually

changed from autochthonous neighbourhood to slums,

2. Semi-formal: Unplanned development in legally acknowledged lots and progressive extension of incomplete housing units, and
3. Informal: Illegal occupation of land in undeveloped peripheral areas and successive developments.

Despite the scantiness of data on the proportion of these three settlement typologies, the author believes that the first two models are the dominant forms in the city. The following descriptions portray comparatively the genesis and peculiarity of each type of settlement.

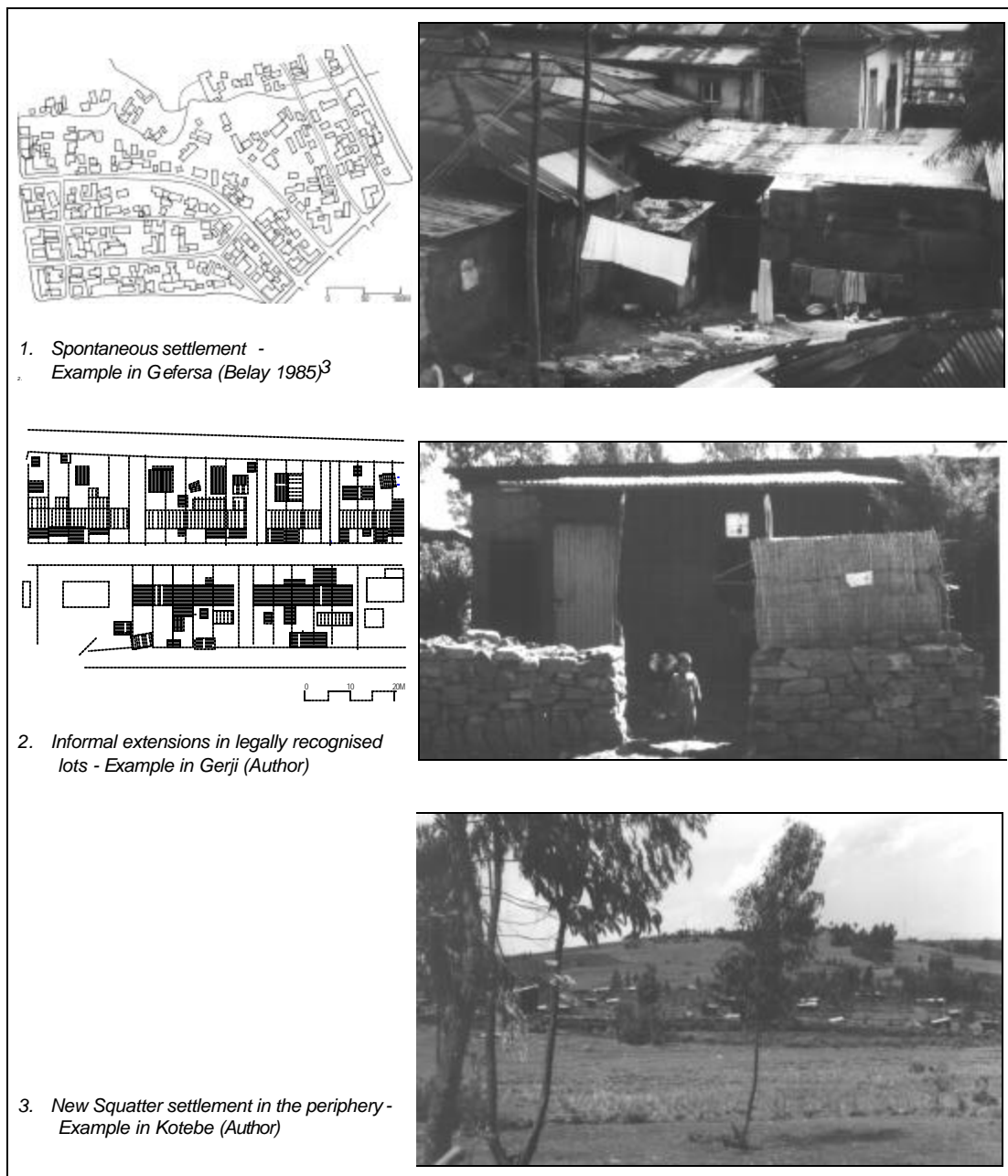


Figure 2: Typologies of informal housings

³After 1985 the density has extremely increased and will still grow. There is however no structural improvement.

Semi-formal: Spontaneous Extension in the Traditional Inner City Settlement Areas

This refers to the inner city, which eventually changed from traditional neighbourhood to slums and which could be seen in connection with overcrowding and decay of urban units. The origin of the primary housing stocks in the inner city of Addis Ababa lies in the monarchic period (1886–75). Originally they consisted of round huts and cellular neighbourhood structures in conformity with traditional-rural settlement practices and construction methods. The extensive pre-1975 speculation and the centralised economic systems and general development problems after 1975 led to improvised extensions, through which high population density and rudimentary structures emerged. In light of statistical data a population density of 538 inh./ha was registered in 1995 in such quarters (Fig. 2). One of the most important reasons for the over crowding of these areas is that housing programs have never addressed low-income groups and as a result new household members and immigrants must double up themselves in existing units and make precarious extensions. Both original houses and extensions are one storied and constructed with temporary structures. Hence one third of the housing stock of the entire city must be newly replaced (Baker et al. 1997: Annex).

Semi-formal: Informal Development in Legally Acknowledged Lots

Absorption of immigrants and new family members through improvised extension was a typical characteristic of the old settlement. However since the 1970s informal development on legally acknowledged property and extensions of formerly planned houses have been customary in the city. Despite the fact that plot development without building permits are strictly prohibited, almost all semi-formal settlements have unplanned dwellings and are built mainly through self-help. This sector plays therefore a big roll in filling the lacking efficiency of the formal sector. Plots are parcelled, issued and usually serviced by the government.

In most cases the dweller should build all parts of his house and cover also infrastructure costs. In some cases basic housing units and infrastructure are provided by the municipality or NGOs and developed further by dwellers. Dwellers carry out progressive horizontal extensions on the orthogonal plots until a saturated level is reached. Owing to the continuous growth of householders and family sizes, the usage degree of urban infrastructure –not intended for such magnitudes – increases considerably. Due to the ownership status, socio-economic conditions and the low level of building technology in the country, the self-built parts are almost similar to the first type and constructed mainly out of improvised materials. It could be therefore argued that settlement typologies that are not integrated with social and economical activities would come in few years as redevelopment area in the list.

Informal: Illegal Occupation of Land in Peripheral Areas

This refers to the illegal occupation of undeveloped land and unplanned building activities. It has started since a

couple of years and could be compared with the second phase of informal settlement in cities of Latin America. As experiences show, extreme overcrowding in existing settlements brings about new squatting in city outskirts. This is however still in its earliest stage in Addis Ababa and could be hardly compared with the organised land invasions in other countries that are induced by industrialisation and political systems. The main factors for the non-existence of an organised land invasion and land development and a struggle for ownership recognition in Addis Ababa is to be looked for in the economic system, in the long central-state oriented political structure of the country and in the predominantly passive attitude of the social substratum. At this time only individual persons or families occupy undeveloped public land and erect improvised housing units. The units consisted of mostly one or two rooms and are constructed with mud and wood and/or iron sheets. There is no technical services and social infrastructure in such settlement areas. But the author believes that a substantial improvement can be achieved if the local authority acknowledges their existence. It should be also noted that the isolated and slow occupation of public land could turn to a massive scale unless the housing policy addresses the shortage of housing.

The Cases: Semi-formal Housing

The successes, limitations and perspectives of the development processes of four typical semi-formal settlements in Addis Ababa are pointed out in the following sections.

Case 1: Kolfe Low-cost Housing Pilot Project

Kolfe lies in Woreda 25/ Kebele 04, the lowest administration unit of the city. It is around 3 km from the main market and well connected to the urban transportation system. The project was implemented in the late 1960s as a pilot project to rehouse inner-city slum dwellers.

This was the first *strategy* practised in the country to alleviate the housing problem through various new concepts i.e., low-cost housing program, rotating fund and partnership between local government and institutions, international agency and dwellers. The planning, implementation processes were also based on the co-operation between these main *actors*. The United Nations (UN), Swedish and Ethiopian governments financed the project. But this was also considered as part of the community activities for which the dwellers are responsible. They had therefore to pay off the loan within 15 years period. The houses were designed and built mainly by ESIBT (Ethio-Swedish Institute of Building Technology) without participation of dwellers. Only 13% of the householders took part in the construction process.

The main objective of the *design* was the erection of new dwellings for low-income people on small plots and with minimum infrastructure. The site layout is composed of simple combinations of free-standing houses, row houses and carpet layouts that enable a compact system of sanitary and electrical installation. Two types of housing units were developed: a complete type-C2 and an unfinished one-B2. They were all constructed in one phase. 12 houses were built through self-help while the remaining 79 by ESIBT. The self-help building activity of the 12

B2-houses covered around 40% of the building cost. The corresponding rent of these houses were 10 Birr per month whereas that of B2-Normal and C2-Normal 15 Birr and 25 respectively. The rent contract ended in 1985 and full ownership was transferred to dwellers. Walls are made of 20×40cm onsite-produced cement blocks whereas roofs are of galvanised iron sheet on wooden purlins. Floors are constructed with concrete slab and finished with cement screed.

Case 2: Mekanisa Cooperative Housing

Mekanisa is a new residential area, which has been extensively developed since the late 1980s and earmarked by the master plan as one of the potential development area of Addis Ababa. The studied neighbourhood unit was founded as a housing co-operative by the Co-operative Housing Agency (CHA), which formerly used to organise applicants, issue plots of land, facilitate subsidised bank loans and offer technical assistance. The implemented *strategy* was therefore one of the most widely applied responses to the housing problem in the city. The role of the members was more or less restricted to organisational matters and financial contributions. This system was however abolished with the fall of the former regime and emergence of a new political and economical system.

The responsibility of the main *actor*, the government, is now plainly limited to the provision of land. A member should therefore bear all costs and design and construct the houses without any kind of assistance from outside. The studied area in Mekanisa evolved also with minimum support from outside.

In regard to *design*, the layout and land parcels were implemented as planned by the local government. Plots with a size of 9×17m are grouped around a central court where a common water tap is located in the center. The co-operative members did not accept the standard plan prepared by the agency as no bank credit was involved. Hence, the development of plots was the exclusive responsibility of the owners. They save their formal and informal incomes, employ informal builders and introduced progressive developments. The dwellers have even managed to install individual taps. Most of the houses have septic tanks that serve as a sewage collection and pit latrine at the same time. The cost of roadwork, electricity and water supply was also sustained by the dwellers.

Case 3: Megenagna Flood Victims' Settlement

This settlement area is located in Woreda 17/Kebele 24 and was founded in 1980 as a result of a flood incident in the central city, which brought about the relocation of many inhabitants.

The *strategy* applied for this project was the provision of minimum rental units for the flood victims in the city periphery. Similar to that of Kolfe different *actors* were involved in this project. The municipality issued land and OXFAM, a non-governmental international organisation, and the Ethiopian government financed the project. The building process was also organised by these groups and carried out by formal builders. The tenants pay monthly rent for the AARH (Agency for the Administration of

Rental Houses), which is in principle responsible for the administration and maintenance of most of the units.

Regarding the *design principles*, the site is well serviced and connected to the city road system. The layout consists of rows of houses with a 'back-to-back' scheme to maximise the use of shared walls. The allocated plot size is around 97m² for two-room units and 144m² for three-rooms units. Roofs are constructed of iron sheets supported on wooden purlins, while walls are made of 15cm thick bricks. Unlike the traditional space hierarchy toilets are located at the main entrance side for easy sewerage and water supply connections.

Case 4: Gerji Emergency Resettlement Area

The residential area in Gerji is located near the airport and was built in 1986 to rehouse inhabitants whose previous settlement was claimed by the airport.

The main *actors* in this project were the local government and the airport - a government company. The local administration, which manages these rental units, provided land on which the company built temporary structures as a compensation for the former units. Similar to case 3, the tenants were not considered in the planning and construction process and were only responsible to pay the monthly rent to the local administration.

The *design* layout consists of 3-5 row houses arranged along an unpaved pedestrian street. The size of plots ranges between 80-130m². Each unit has only one room and the occupancy rate reached initially 5,2m² per person by average. All external surfaces are constructed of second-hand iron sheets on eucalyptus supports. There are no floor finishing and ceiling treatments. Most of the house-holders are provided with electricity. In contrary to this, no single house was provided with sanitary facility, sewerage system and water supply. Despite the fact that maintenance and sustenance of rental units are the responsibility of the local administration, no single undertaking has been registered since the establishment of the settlement.

Comparison – Strategies, Actors and Design Principles

The following three points give a comparative description regarding the strategies, roles of actors and design principles (See also Table 2).

1. Despite differences, all the strategies aimed at provision of housing units of minimum standard. The Kolfe scheme could be related to the top-down low-cost housing approach of the 1970s and 1980s of other developing countries. It was assumed that an affordable housing for every low-income citizen would be achieved through a mere reduction of standards and rotating funds. The Mekanisa settlement is seemingly a bottom-up approach, but regardless of the legal land titles it is not quite different from its informal counterpart. The Megenagna and Gerji projects represent one of the ad hoc strategies to shelter low-income families in centrally controlled rental units. Due to lack of management from the government side and lack of ownership right from the dwellers side buildings deteriorate from time to time and extensions remain inferior.

	<i>Kolfe</i>	<i>Mekanisa</i>	<i>Megenagna</i>	<i>Gerji</i>
Strategies:	<i>Low-cost housing</i>	<i>Co-operative housing</i>	<i>Emergency solution/ rental</i>	<i>Emergency solution/ rental</i>
Actors:				
Land	<i>Local government</i>	<i>Local government</i>	<i>Local government</i>	<i>Local government</i>
Finance	<i>International agencies/ Local government/dwellers</i>	<i>Dweller</i>	<i>Local government/ NGO</i>	<i>Government agency</i>
Planning	<i>Government institution</i>	<i>Dweller</i>	<i>Government institution</i>	<i>Local administration unit Government/institution</i>
Construction	<i>Government institution/ Dwellers/Building contractor</i>	<i>Dweller</i>	<i>Building contractor</i>	<i>Local administration unit/Informal builders</i>
Design:	<i>Minimum standard/ Progressive development</i>	<i>Minimum standard/ Progressive development/ Without permit</i>	<i>Minimum standard</i>	<i>Minimum standard/ Provisional</i>

Table 2: Comparison of the strategies, actors and design principles

- The projects in Kolfe and Megenagna entailed the involvement of many actors, whereas in Gerji and Mekanisa government bodies and dwellers were the main actors. Land provision is in all cases the sole domain of the government. The projects in Kolfe and Megenagna were funded through a partnership between international and governmental agencies, whereas that of Gerji and Mekanisa by governmental agencies and individuals respectively. The involvement of the Kolfe dwellers in the financing, construction and management process is relatively better than in the other three. In Mekanisa they have to bear all activities but these are usually that of individual and isolated type. In the other two areas the role of the community is limited to rent payment.
- Most of the schemes provided designed solutions rather than supporting ideas of dwellers. Over 95% of the houses in Kolfe, Gerji and Megenagna were designed and built by governmental agencies and institutions. Dwellers were never involved in the planning and execution processes. In contrary to these, the planning and implementation of the project in Mekanisa was carried out exclusively by the dwellers themselves with out any financial, technical and legislative support.

Development Trends

The accomplishment of a housing project can not be measured by the number of units and types of houses completed but rather by its sustainability i.e., the successive betterment of income, sustenance of the whole settlement environment and progressive improvement of physical conditions and social fabric. The following descriptions give a short insight into the changing trend of economic situations, infrastructures and housing substances.

Socio-economic Conditions

The studied areas represent a typical low - and middle-income group in Addis Ababa. Only dwellers in Mekanisa have regular incomes, whereas most of the other residents earn in the informal sector. Therefore, due to the collateral requirement of credit institutions almost 80% of the inhabitants are ineligible for loan. Under this weak economic situation financial sources for house improvements are private savings and use of self-help labour. This is an

important component to avoid additional overheads that come from additional fees and licenses, professional fees, profits and interests. In most cases traditional saving association and informal activities assist the housing process considerably. Subletting of units is one of the major sources and motives of housing extensions. But the improvements are usually of improvised nature and reaffirm the fact that housing should be integrated with social and economic activities –not as mere roof over the head.

Infrastructures

As already outlined, the roll of the local government in infrastructure development is not well defined in the new land and housing policy. Provision of sewerage systems, water supply, electricity and road construction are therefore in many current settlements the responsibility of the people. This holds true for both initial implementation and also maintenance of existing ones. The state ownership of land and absence of income generating activities in the neighbourhood hampers however self-initiated construction of infrastructure services and their long-term sustenance. This is especially remarkable in low-income neighbourhoods where minimum and/or irregular incomes predominate. The author did not therefore register any infrastructure improvement by dwellers except individual and isolated endeavours inside own plot.

Structural Changes

All houses have been extended to accommodate the growing family need and subletting chances. By average, every family has managed to extend 24.4 m². The available floor area has reached around 8.0 m²/person against the average value of the city, which is 5.6m²/person. The development typologies of each settlement confirm the fact that the house types correspond the socio-economic levels and ownership types. Due to the full ownership status, developments and extensions seem permanent in Kolfe and Mekanisa than in the other two areas. The new extensions and produced floor plans can be taken as a transition between rural and urban housing forms where-by the evolutive traditional space module dominants in the entire process (Fig. 4, 5 & 6). The most commonly used room sizes are 3.5 × 3.0m, 3.0 × 3.0m and 3.0 × 2.0m. Over 92% of the dwellers-initiated extensions have evolved through a hybrid agglomeration of these modules: simple addition, opposition and angle building of rectangular units.

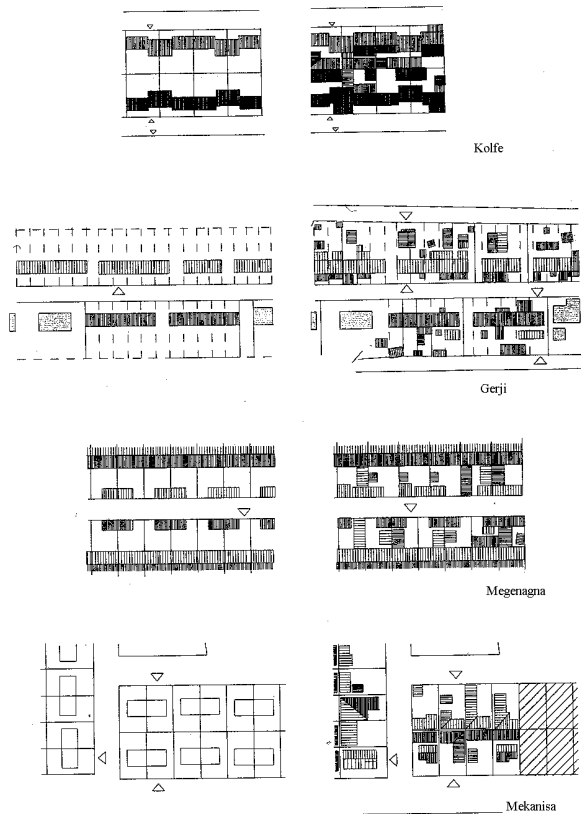


Figure 3: Structural changes

However, the entire property is almost in all cases over-built and brings about overloading of the urban infrastructure. In addition, the improvised extensions lead to fragmentation of plots in several small spaces and cause bad lighting and ventilation. Due to the lack of means and skills, the improvement process of dwellings is closely linked to the traditional practices (Fig. 3 – 5).

Building Materials and Construction

The low and irregular incomes and the difficulty associated with building permits propel inhabitants to build initially temporary structures that could be replaced later on with relatively durable materials. The long-term output is however high as the initial structures do not have foundation, contain an expensive component ‘wood’ and need regular maintenance. As figure 6 shows, the applied building materials could be divided into three fundamental typologies that reflect the corresponding ownership status and income levels:

1. Provisional type of construction

As figure 6 –1 shows, over 80% of the structures built through self-build activities are of provisional type. This is also the prevailing construction method in the whole city. With the exception of the iron sheet roofing, they are mainly built according to the traditional construction system. Walls are constructed with mud and wood without any foundation and protection or treatment against rain-water and moisture. Hence, it is exposed to severe climatic risks and hygienic hazards and requires regular maintenance.

Gerji - House type 3

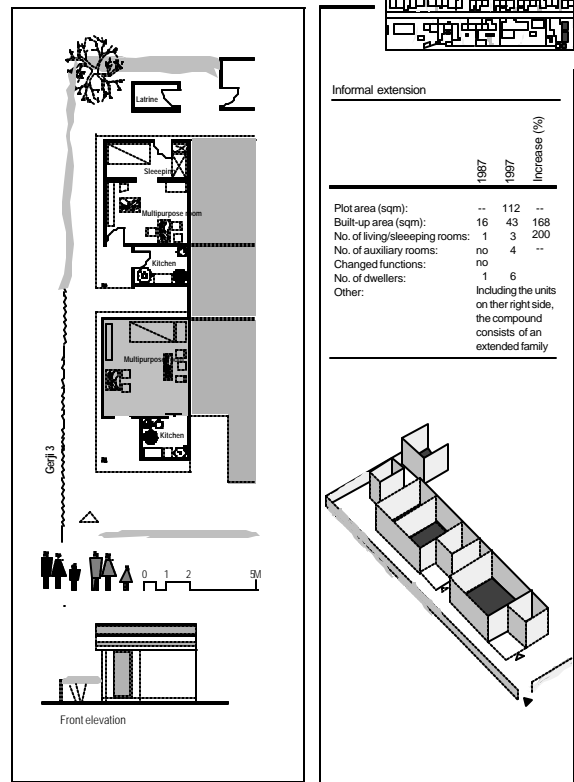


Figure 4: Typical housing development method

Megenagna - House type 4

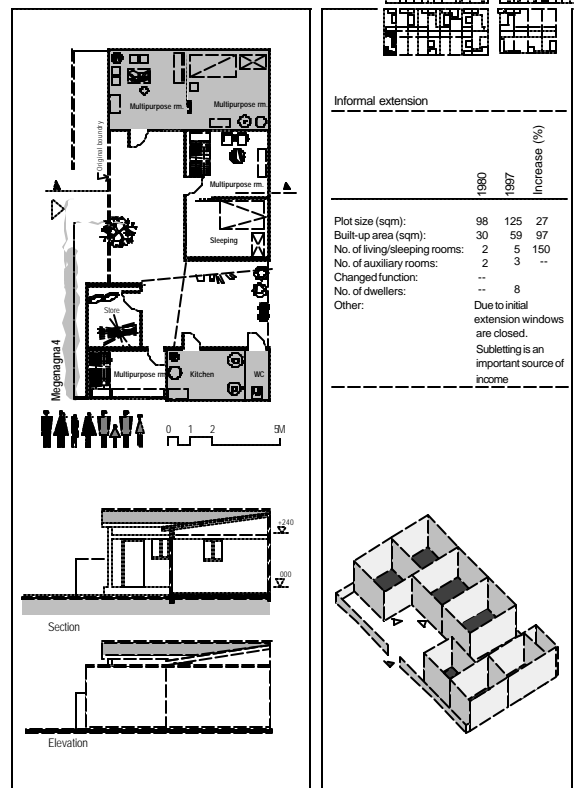
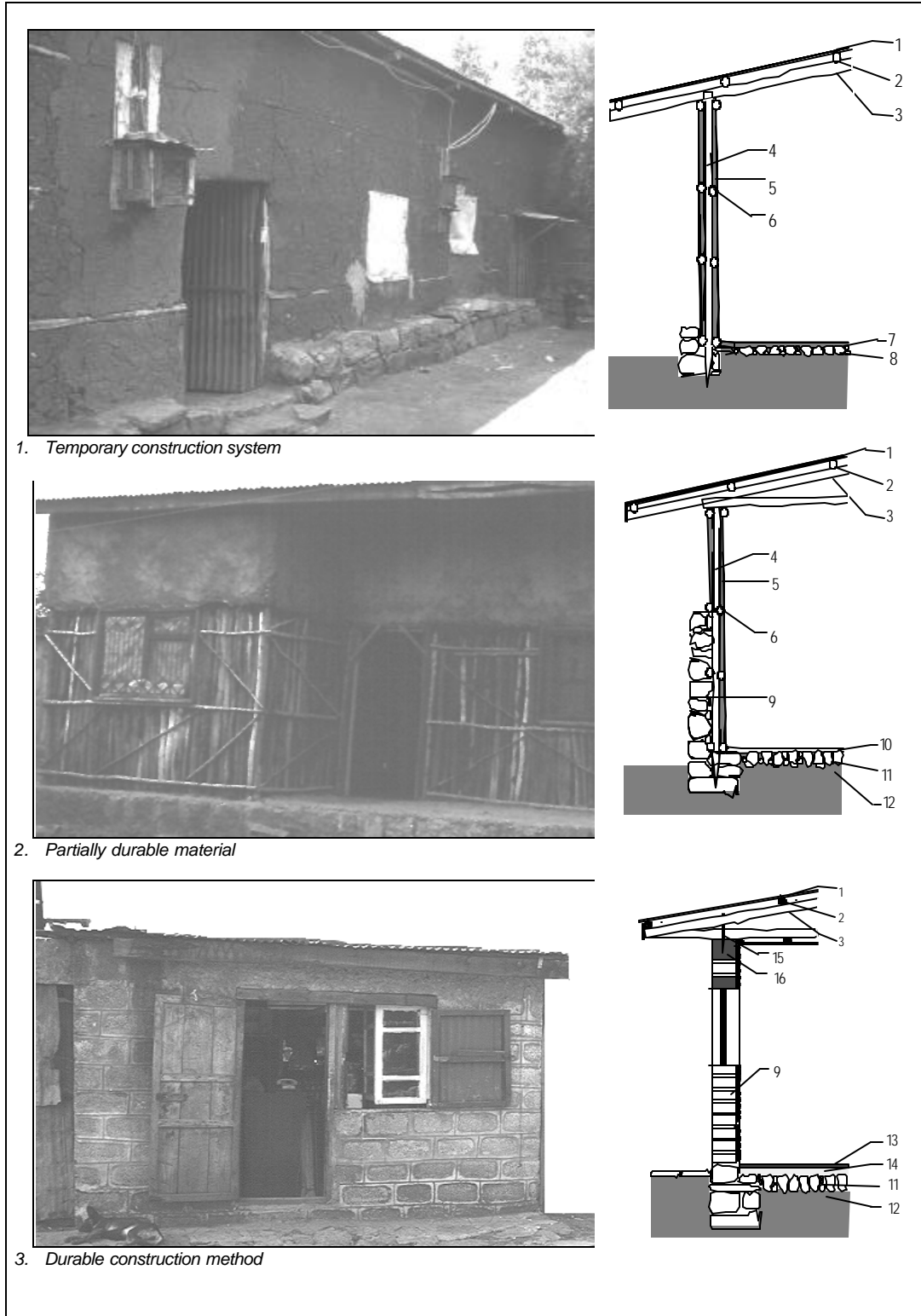


Figure 5: Typical housing development method



1. Temporary construction system

2. Partially durable material

3. Durable construction method

1) Iron sheet; 2) Wooden purlin; 3) Wooden rafter; 4) Wooden posts; 5) Mud plaster; 6) Wooden strut; 7) Mud mortar; 8) Broken stones; 9) Cement blocks; 10) Cement screed; 11) Hard core; 12) Tamped earth; 13) Floor finish; 14) Concrete slab; 15) Metal anchor; 16) Reinforced concrete beam

Figure 6: Typical selfbuilt construction systems in Addis Ababa

2. Partially durable construction method

This construction can be seen as a transition between the traditional light construction system and the modern construction method. It is erected with traditional wattle and daub method, which are partially disguised with lasting plaster or other materials (like natural stones, bricks or cement blocks). The durability is however limited due to the qualitative and quantitative problems of wood, lack of proper laying of stones, insufficient use of binding materials and poor foundation (Fig. 6–2).

3. Durable construction type

The house is erected in accordance with modern and durable or improved traditional type of construction. Walls are made of cement blocks, bricks or natural stones. Roofs are constructed with corrugated iron sheets and floors finishes are usually cement screed or in some cases ceramic tiles. But this type of construction represents not more than 7% of the total self-built houses (Fig. 6–3).

Conclusion

The short analysis testifies that self-initiated improvement and construction of dwellings are the major supplier of housing for low-income people in Addis Ababa. This happens through spontaneous extension of traditional inner city settlements, unplanned development in legally acknowledged lots and illegal occupation of land in undeveloped peripheral areas. Even though such efforts are being made by dwellers, the construction of new houses is very low and the deterioration rate of existing units is alarmingly high. As the four cases indicate, the self-help activities give a temporary relieving solution. A steady up-ward development related to socio-economy and permanence of physical conditions takes place very rarely. This shows the big disparity between the standard and quantity of formal and self-built construction activities

Thus, existing low-income houses are overcrowded, overbuilt and substandard. This is mainly a result of the following factors:

- General socio-economic problems, unbalanced urbanisation processes, limitations of land and housing policies at national level.
- General housing shortage in the capital.
- Housing is viewed by public programs as a mere roof over the head without due attention to social and economic development and environmental aspects.
- Projects are usually implemented either through top-down method or informally through the precarious means and skills of people. So lack of active participation of people in settlement planning, implementation and management is the root cause for the dilapidation of all self-build constructions.
- High cost of modern building materials and low standard of traditional building technology: Lack of alternative and sustainable materials.
- Lack of experiences in planning and management and in self-help building activities.
- Scantiness of information and information dissemination in all sectors of housing.

Recommendations for Sustainable Housing Developments

The dilapidation of inner-city settlements, emergence of informal settlements in the outskirts and the lack of long-term sustenance in semi-formal settlements in Addis Ababa could be mitigated only through a comprehensive approach. This requires appropriate policies and extensive strategies that enable integrated development, partnership between different sectors and capacity building.

Housing Policy

Housing is a productive sector and a process having a direct relationship with socio-economic condition, urbanisation process, land and housing policies and level of building technology. The regional government should therefore set up feasible regulating frameworks which enables the production of new houses and upgrading existing ones and co-ordination of housing and socio-economic developments. In order to achieve these goals, the following main measures should be taken:

- Mobilise private resources to be invested in new housing and upgrading areas to the maximum possible extent.
- Create an ownership system, which enables the sustenance of settlement environments through dwellers.
- Enable decision-makings at the lowest administration unit of the city.
- Co-ordinate housing development with human settlements and related economic activities.
- Mobilise dwellers in housing building, maintenance and management, facilitating the necessary means and skills.
- Improve building materials production and introduce more appropriate and affordable technology.
- Ensure the twin goals of accountability and transparency concerning the government policies and procedures.

Strategies

Housing is something that is beyond a roof over the head. It needs rather broader and more long-term consideration than the duration of a construction contract. A comprehensive approach should be devised, reflecting partnership, the continued involvement of people in planning, implementation and sustenance of settlement improvements, and integration with income generation, enterprise development and skills training. This however receives scant attention in most of the housing programs in Addis Ababa as the case studies show.

Decentralisation

Management of a 3-million city is 10 times complicated than that of a city with 300,000 inhabitants. This is more complicated when the urban problems are manifold and the personal and financial capacities very low. The hous-

ing process in Addis Ababa is more or less managed by the regional government. Existing urban dwellers associations have no strong influence on the subject. They are limited to political activities, rent collections and prohibition of illegal building activities. They can however play a big roll in the housing and land management if they are equipped with the necessary logistic, technical and legislative devices. So beyond their pure administrative functions, they should be also responsible for community developments. This could enhance and ease the consolidation process of neighbourhoods.

Capacity Building

Institutions and Legal Frameworks

The informal building activities in the studied cases are a result of the inefficiency of the receptive authorities. This shows that the management capacity of housing and settlement improvement processes throughout the city is in serious need of strengthening. The regional municipality and its administrations are the key stakeholders in the management of the city. Yet, they are constrained by obsolete legislation, restrictive practices, outmoded equipment and ill-equipped staff. New approaches and skills are required; new uses of resources have to be employed; and new professional and technical capacities need to be built to ensure the sustainable development of dwellings. Institutional capacity building and human development still does not receive the attention that is needed to meet these challenges. This urges the municipality and aid agencies to strengthen their supports to legislative reform, administrative restructuring and, above all, the training of professionals.

Building Community Strength

Community development is a skilled process and part of its approach is the belief that communities cannot be helped unless they themselves agree to this process. It is a systematic approach to assisting community organisations to play a major part in the long-term regeneration of their neighbourhoods. Increasingly, community organisations are becoming involved in many countries in local partnerships, in the management of settlements and services and in the creation of community enterprise. The dwellers in the studied areas have a wealth of expertise and experience to contribute but are hampered by lack of skills. Housing programs should therefore incorporate training programs and organisational development to enable dwellers to have a full and lasting impact on neighbourhood consolidation. The primary requirements that could enhance the users' capacity building are:

- vocational training,
- self-help building process,
- awareness-raising at regional level,
- preparation of building manuals for self-help,

Apart enablement of parents and aged people, capacity building should be also integrated into school programs.

Capacity Building Programmes for Professionals

Like in the pre-industrial and industrial periods of the industrialised countries, professionals in developing countries have currently very little to do with the prolific building activities in housing. Few professionals are en-

gaged and are familiar with the process of planning and design participation and with dealing with ordinary people on day-to-day bases. As the cases show, practices concentrate mainly on considerations of standards and building economies. The author believes however that building houses or designing housing projects has little to do with solving housing problems. It is rather necessary to find innovations with good working linkages between desired goals of people and the local government; between the high ground of career and the prevalent practice of the poor. This necessitates the introduction of short and intensive workshops with practitioners working on real problems. Existing educational institutions and professional associations should include these issues in their programs.

Integrated Housing Development

Beyond giving people an increased stake in their own local environment and access to improved services, there must be opportunities to impact on poverty reduction. The cases studied have indicative evidence about the necessary link between housing and poverty. The generation of informal income is confined in the plots. The expansion and growth of such activities is however very limited due to several reasons. Consequently, income generating activities at settlement level are basic requirements for sustainable development of upgrading as well as semi-informal housing projects. This could be achieved through;

- employment
- income generation (like handicraft, vegetables, etc.)
- enterprise development

Partnership and Participation

The general housing situation in the capital and the studied cases show the necessary link between community partnering approach and housing improvement. The value of land in the inner city and investment potentials in the outskirts are, for instance, big potentials for upgrading and extending social, economical and technical infrastructures through the private sector. This has, however, received less attention. Existing procedures, rules and forms of contract that are routinely used act as a major barrier to the widespread involvement of the private sector in the building and management of local environments.

Community partnering should be also the concept of sustainable development, reflecting both the continued involvement of people with the planning, implementation and sustenance of housing and settlement improvements, and with income generation, enterprise development and skills training. The implications of the study are:

- full acceptance of the urban poor as primary stakeholders in environmental improvements
- promoting co-operation both formally and informally with agencies and NGOs

The Role of Different Actors

The cases show that the housing process is accomplished mostly through loose or no relationships between public and private sectors. The role of the public sector does not

go beyond the issuance of land, preparation of standards and collection of revenue; the foreign agencies raise only fund; and the individual householders are either only users or carry many responsibilities. A sustainable housing development requires, however, the involvement of all actors in the planning, implementation and management process. This enables to use, mobilise and increase the capacity of human, financial and material resources.

Without this, housing standards will continue to deteriorate and acceptable standards of living will remain elusive for low-income group. The principal stakeholders in the public sector are the central and local government and government agencies, whereas the private sector comprises families, local communities, organisations, NGOs, funders, non-profit and voluntary organisations, small contractors, formal and informal sector developers and consultants.

As it is beyond the scope of this paper to explain each sector, only a general description of the role of the key actors are outlined here.

Public Sector

The role of the central government is to establish and implement integrated national wide strategies that enables socio-economic development, balanced urbanisation and involvement of communities in economic, social, political and environmental issues. The regional government should establish a framework for the co-ordination of interventions by government agencies related to the housing sector, including land acquisition, building materials production, infrastructure construction and economic activities, and to define clear guidelines for private individuals and institutions involved in the housing sector. It should comprise the elimination of major existing bottlenecks in upgrading of existing settlements and creation of new ones i.e.

- development of housing policy in respect of infrastructure standards, cost recovery strategy, financial support and credit for housing development and related productive sectors,
- enable and increase the efficiency of building materials production and distribution,
- develop a metropolitan wide housing information system, training for skilled labour, experiment and innovation in building technologies and use of materials, construction brigades,
- facilitation of land identification, including conflict resolution relating to land identification,
- acquisition of land for future release for housing development (Land banking), and
- provision and prioritisation of resources towards the provision of bulk infrastructure for future housing.

Private Sector

Private Developers

One of the reasons for the congestion of existing houses is the low production of new dwellings. As historical records show, the local government is not able to provide and manage housing in a sustainable manner. The explicit role of the private sector in housing is not either considered. If the government sets up guidelines and develops

intervention strategies, private developers are able to contribute in upgrading and new settlement developments. The high demand and value of land in the city is a good potential to channel financial resources into infrastructure development, income generating activities and even housing constructions.

NGOs, Bilateral and International Development Agencies

These actors can play a key role in assisting communities in the upgrading of settlements and building of sustainable semi-formal housing. As some of the cases show, the initiatives of these actors were limited to the making of instant projects. They were not either inherently inhibited by a support approach, which could enhance the long-term sustenance of settlements. By implication, there is a need to shift away from sectoral support programs and move toward programs that change and consolidate gradually. Beside financial assistance, an onus on in country innovation and even credit should be also motivated.

Local Consultants

The case studies testify that the responsibility of consultants should go beyond the planning and implementation of the initial physical structure. They are required to see into existing socio-economic and environmental conditions, and sustainable development of settlements. This needs co-operation with dwellers and different disciplines: experts, communities, and local organisations. Health improvement, income generation, community development demand greater collaboration with health workers, sanitary engineers, social workers, and others than is familiar. There must also be an awareness of the land market, infrastructure and transport, as well as long-term management of settlements.

Communities and Self-builders

Communities are able to make changes, which affect the lives of the residents if they are fully involved in the settlement development and management activities and work in partnership with other sectors. The four cases show also that they provide rental units better than the formal sector. The results are however inefficient and not sustainable due to legal and capacity constraints. It is therefore necessary that they are involved and assisted in housing processes. They should work from the very beginning in harmony with local government or local non-governmental organisations at all levels. The role of the community in planning, constructing and maintaining its own settlement as a way to achieve the elusive concept of sustainability should therefore be integrated in a housing process. In such a way sound housing improvement and consolidated neighbourhood environment can be ensured.

Design Principles

The development trend of the four cases shows the self-built houses vary very greatly from the initial planning. Projects should therefore be designed so that they can be built locally and operated and maintained by the community, and yet be upgraded from the community standard to the generally accepted conventional city standard. This requires maximum support to families, community or-

ganisations and local enterprises in planning and construction. This calls for:

- Self-help housing: The study in the four residential areas show that little success can be achieved in housing supply without an equivalent programme of sustenance capability, linking settlement situation directly in people's mind to health, environment, livelihood and economic development. So participation of the community in all stages of the housing process should be deliberated. Through training, workshops and building model low-cost housing at neighbourhood level, it could be demonstrated to people how they can build and sustain their own houses and settlements.
- Progressive developments: The cases demonstrate that housing problems can only be overcome in the long run, and must be based upon the concept of progressive improvement to meet conventional standards. Housing is not an overnight process. To build fast is to build progressively; to build progressively is to link the idea of minimum acceptable standards to local needs and affordability, and that success is counted in the number of families who benefit, and not in units of accommodations built. It constitutes a target for future development. This should however not be confined to the conventional approach of 'evolutive dwellings' only. The innovative housing scheme of Leberecht Migge teaches us that it should be broader and seen in terms of 'evolutive settlement.'⁴ This calls for a step-by-step development of economical, environmental and social bases of the whole neighbourhood.
- Affordable construction systems: There is a big disparity between the standard of formal houses and self-built constructions. Often self-initiated measures incline to traditional building technique, usage and materials. This has been found out in the four semi-formal housing areas. But as a principle, traditional materials and construction are not always 'lower quality'. They may be of higher quality in terms of health, climate, aesthetics, familiarity, relation to subtle cultural patterns, ease of maintenance: they may also be more economical if appropriately applied. As the cases show, their durability and replicability is limited in regard to scarcity of resources and rationalisation. It should be therefore envisaged to raise the standard of local materials and fill the gap between modern materials and construction systems and the traditional ones.

⁴ During the 1930's world economic crises the landscape architect Migge developed an integrated settlement scheme for low-income people in Germany against his counterpart Martin Wagner who designed evolutive houses.

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General Data

Ethiopia:

Population: 58,390,351 (July 1998 estimates)
National territory: 1 251 282 m²
Annual population growth rate: 3.0% (1997)
Population density: 45.3 inh/km²
Urban population: 15% (1995)
Urban population growth: 6.8% (1990-95)
GNP/capita: US\$120
Life expectancy: 48 years (m); 50 years (f) 1993
Illiteracy rate: 50% (1992)

Addis Ababa:

Population: 2.6 million (1997)
Population growth rate: 4.8% (1997 estimates)
Average household size: 5.2 (1995)
Number of Houses: 383.942 (1995)
Number of Households: 420.989 (1995)
Overcrowding rate: 5.7 persons per housing unit (1995)
Average monthly household income: US\$62
Minimum wage: around US\$20
Basic needs expenditure: US\$31
60% of the household's incomes are at or around the basic subsistence level