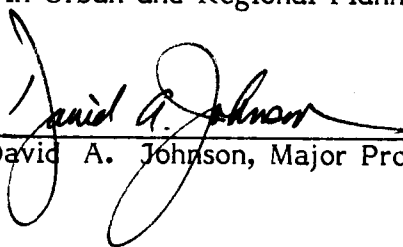


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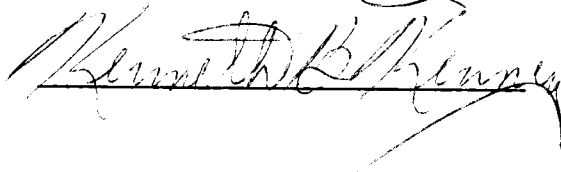
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LOW-COST SHELTER IN
THIRD WORLD COUNTRIES

A Thesis
Presented for the
Master of Science in Planning
Degree
The University of Tennessee, Knoxville

Cammie Jeannine Davenport

December 1985

DEDICATION

To my parents James and Shirley Davenport
and my brother, James, Jr. (Junie)
each of whom provided
much love, concern,
encouragement, and support
greatly needed to
turn a dream
into a reality.

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In the process of thesis research, a number of people prove to be vital actors in the scheme of things. In particular I owe a great debt to Dr. David A. Johnson, Dr. Kenneth B. Kenney, and Dr. Thomas P. Boehm who served as my major advisor and committee respectively. Dr. Linda Lacey of the University of North Carolina at Chapel Hill also provided invaluable assistance. With their advisement and encouragement I was able to achieve results unimagined.

I also acknowledge with thanks the assistance of Ms. Johnnie Williams and Ms. Vivian Ross, and a host of other friends who believed in me and spurred me on.

ABSTRACT

Globally, the quest to provide housing for poor peoples is a pressing concern. In Third World Countries where the constraints for providing housing are often monumental, and there are competing demands for capital, the achievement of adequate shelter has generally been regarded as an impossible task.

Low-cost shelter, however, has been secured in many Third World Countries through subsidized housing projects, assisted by international aid agencies, private foundations, and national governments. This paper presents an analysis of four forms of low-cost shelter projects that have been implemented or are currently being implemented and studied in select Third World Countries. The low-cost shelter approaches investigated include self-help, sites-and-services, upgrading of squatter settlements, and public housing.

A low-cost housing experiment in Lagos, Nigeria, suggests that esthetically attractive houses can be built using locally produced materials, reducing the costs of housing substantively. The experiment also demonstrated that affordable housing in developing countries is possible but not without problems and tradeoffs.

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CHAPTER I

INTRODUCTION

Statement of the Problem

Housing, the provision of shelter, is one of man's basic needs and has the same critical importance as food and clothing. Providing shelter has traditionally been one of the primary means by which man has taken responsibility for his own existence as well as that of his progeny. Beyond the basic importance of shelter in man's survival, it is also one of those elements that defines one's social status and self-worth. For example, owning a home is often regarded as a universally sought goal. In fact, the primary impetus of the "American Dream" is home ownership. Unfortunately, many of the world's people have not been able to pursue the dream of owning a home. Most are struggling with meeting the simplest means of shelter--a roof overhead. However acquiring shelter is not the only concern of the poor. Many tradeoffs are made on a daily basis between health and housing. These tradeoffs are necessary because of the range of poverty that exists in poor groups throughout the world.

In general, when discussing housing and the inability of the poor to secure housing it is important to understand the cyclical nature of housing and poverty. The poor have to make choices between food, health care, and shelter on an on-going basis. Money is needed for food, which is a basic necessity, and money is also needed when medical problems arise. There is never enough money to take care of all their needs. Therefore, shelter affordable by the poor is not their only need but part of a hierarchy of needs. For this reason housing gets pushed down on the list of priorities not only on an individual

level, but also on a national level. Developing countries are faced with economic priorities ranging from agriculture to industry. And because housing is viewed as a consumer good, it is often not looked upon as a contributing factor for the economy.

In the world's developing countries, or Third World Countries as they are usually called, shelter is a precious commodity. Resource constraints such as access to land, building materials, and capital are being felt. The United Nations estimates that authorized construction annually falls four to five million housing units behind demand in Third World cities alone (Stokes, 1981, p. 1). Stokes suggests that this shortfall comes at a time when at least 800 million people are living in poorly built dwellings. One main underlying reason that has led to the struggle for shelter and has helped to create a scarcity of adequate low-cost housing is the high housing expense relative to income. Low incomes and the difficulty of financing housing has helped to create a bleak shelter situation in many urban centers of the Third World. The income/cost gap has resulted in housing shortages, overcrowding, and high rent burdens. Figure 1-1 shows a distribution of households unable to afford economic cost of cheapest dwelling unit built.

In mid 1981, the world's population stood at 4.5 billion and it was expected to reach 6.1 billion by the year 2000 (UNFPA, 1981). Providing adequate shelter for this many people will stretch the resources and test the ingenuity of all societies (Stokes, 1981, p. 17). The scarcity of housing in Third World Countries is particularly a problem in the urban centers due to massive in-migration and population growth. In Nigeria, for example, the rate of urban population growth is estimated at about 4.7% per year (World Bank, 1984, p. 69). The total population of Nigeria is estimated to be 87,603,000 (World Bank,

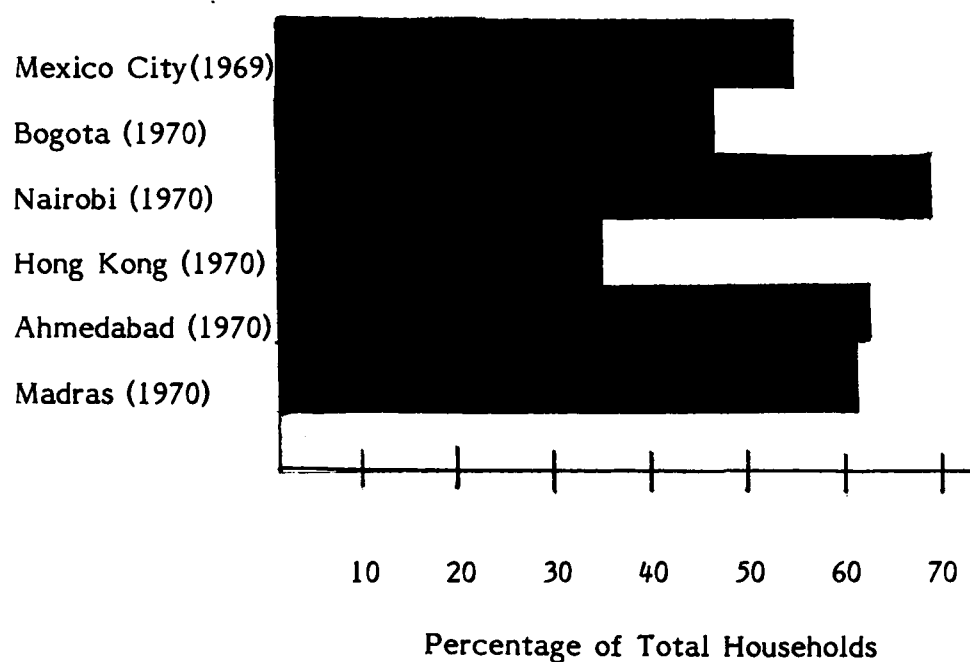


Figure 1-1. Percentage of Households Unable to Afford Economic Cost of Cheapest Dwelling Unit Built, Selected Cities.

Source: Grimes, O.F., Jr. (1976). Housing for Low-income Urban Families: Economics and Policy in the Developing World. Baltimore, MD: John Hopkins University Press. p. 73.

1982, p. 179). Table 1-1 shows the urban population in Nigeria since 1950. Rapid population growth in urban areas has led to the establishment of substandard, illegal housing conditions, namely squatter settlements.

Table 1-1. Nigeria's Urban Population Growth 1950-2000
(in thousands)

	1950	1960	1970	1980	1990	2000
Nigeria	3595	5642	9009	14,811	25,665	45,041

Source: United Nations (Population Division). (1980). Patterns of Urban and Rural Growth. Table 2.1.

It is no overstatement to say that housing conditions in developing countries are deplorable. A recent survey in Kanpur, India showed that three-quarters of the dwellings had no windows and two thirds became waterlogged when it rained (Agarwal, 1981).

Housing demand is the result of the impact of both population growth and economic variables--a family's income, the cost and availability of financing, and the price of various housing resources--on patterns of household formation (Stokes, 1981, p. 42). The high demand for shelter due to population increases, particularly in urban areas, has caused existing housing to become very costly. Consequently, construction costs, rents, and maintenance costs have become prohibitively high for the large majority of people. Table 1-2 shows the projected growth of urban households in poor Third World Countries.

Overcrowding refers to the average number of persons occupying each room of a dwelling. When compared to the U.S. average the severity of

Table 1-2. Projected Growth in the Number of Urban Households in Poverty, 1975-2000^a (in thousands).

Region	Increase or decrease		Increase or decrease		Increase or decrease	
	1975		1980		1990	2000
Eastern Africa	1,039	+330.5	1,369	+1,175	2,544.5	4,703
Western Africa	1,072	+333	1,405	+861	2,266	3,227
East Asia and the Pacific	2,664	+1,491	4,155	+956	5,111	5,744
South Asia	10,213	+3,757	13,970	+7,285	21,255	32,555
Europe, the Middle East, and North Africa	5,581	+669	6,250	+1,324	7,574	8,743
Latin America and the Caribbean	12,945	+1,078	14,023	+2,775	16,798	19,328
Total	33,514	+7,658.5	41,173	+14,376	55,548.5	74,300

^aBased on estimates of real per capita incomes through the year 2000, using United Nations medium-variant rates of population growth and World Bank projection of real growth of national income. In determining movements in and out of poverty in the course of time, the thresholds of both absolute and relative poverty are held constant in 1975 dollars. The accuracy of the projected figures is dependent upon a fairly stable distribution of income.

Source: Churchill, A.A. & Lycette, M.A. (1980, September). Shelter: Poverty and basic needs series. Washington, D.C.: World Bank. p. 3.

the overcrowding situation in Third World Countries becomes clear. The U.S. average of .6 persons per room (Follian, Linn, and Renaud, 1982, p. 252), contrasts significantly with India, in which more than one half the urban households occupy a single room with an average occupancy per room of 4.4 persons (Rosser, 1972). Room densities in Ghana range from 2.5 to 3.2 persons per room (Hinderink & Sterkenburg, 1975); in Mexico room densities are 2.2 persons per room (Follian, et al., 1982, p. 250); and in Nigeria room densities are 2.0 persons per room (Sule, 1982, p. 11).

High rent and the high purchasing price of housing are other issues surrounding shelter in Third World Countries as well as globally. In Nigeria, for example, rent may exceed the average worker's income by as much as 300%. For example, the average worker in Calabr, Nigeria earns \$1,036 annually; however, the annual average cost per unit is \$3,456 (Sule, 1982, p. 12). Therefore, in order to afford a dwelling unit renting for \$3,456 annually, it would take all of the income of 3.3 workers in order to meet the rental cost alone. During the last decade, the average price of a new home in most countries rose faster than inflation. For example, the median price of a new house in the U.S. was \$64,000 in 1980, compared with \$23,400 in 1970. The price of a new house in Tokyo or Osaka, Japan had risen 23% from 1970 to an average price of \$137,000, in 1981 (Stokes, 1981, p.6). Consequently, overcrowding exists and squatter settlements have become very prominent in the urban areas.

In sum, scarcity, overcrowding, and high rent are reasons to search for low-cost shelter alternatives for the urban poor in the Third World Countries. The problems associated with overcrowding, squatter settlements, and the high cost of housing are numerous, and pose a tremendous threat to Third

World Countries' economy, health, and productivity. Preventive measures should be initiated, but this intervention should come from within these countries if it is to be effective.

Purpose of the Study

The main objective of the study is to assess and investigate approaches of low-income shelter commonly used in Third World Countries. To better understand the many facets of this problem of shelter and its possible solutions, this study will investigate the housing situation in a Third World Country such as Nigeria. The approaches to be assessed are self-help, sites-and-services, upgrading, and public housing. This objective will be reached by answering the following questions:

Primary Research Question: What low-cost shelter approaches have been and are currently being effectively implemented, and which have not been effectively implemented in Third World Countries? What circumstances explain success or failure? How transferable are the approaches from country to country?

The study will respond to these questions by:

1. Determining prospects and problems of implementing suitable low-cost shelter programs in Third World Countries.
2. Describing and summarizing the approaches for providing low-cost shelter for the urban poor utilized in the study.
3. Investigating the difficulties Third World Countries face in implementing programs for the provision of low-cost shelter.

4. Determining the transferability of each of the approaches to other Third World countries and the conditions or requirements for successful transfer.

The policy approaches for the provision of shelter that will be analyzed in this study include the following:

Self-help. A means by which low-income families construct homes with their own unpaid labor is termed self-help housing (Rodell & Skinner, 1983, p. 4). This is manual self-help, by which the builder-owner constructs or participates in the construction of his house (Lewin, 1981, p. 131). In many developing countries self-help usually implies that construction is planned, organized, and supervised by the builder-owner who serves as his own contractor (Lewis, 1981, p. 131). This approach, as opposed to the others, requires less governmental intervention and monetary contributions. Self-help programs may be most successful where they rely primarily on indigenous organization and individual self-improvement (Herbert, 1979, p. 119).

Sites-and-services. This housing approach is a scheme in which the government lays out and provides plots and utilities and gives each owner the option to use his own skills or hire others to complete the construction of the dwelling. Grindley and Merrill offer the following definition of sites-and-services:

Three physical components of urban residential settlements which comprise sites-and-services are building plots, public utilities, and community facilities. Sites-and-services development is limited to the demarcation of individual plots, the installation of public utilities, or the construction of community facilities. By excluding any component of households' dwelling structures, sites-and-services development essentially becomes urban public works (Grindley & Merrill, 1972).

Sites-and-services differs from conventional housing in two ways: (1) families who move into a sites-and-services neighborhood receive only incomplete

housing, and (2) the families invest directly in their own housing rather than pay for something decided and provided by someone else (Rodell, 1983, p. 22).

Upgrading. The upgrading of squatter settlements is a newer concept, although upgrading in-and-of itself is not new (Martin, 1983, p. 53). Upgrading may be seen primarily as a housing process, in which the main emphasis is to upgrade the housing stock through a combination of house construction or improvement loans, technical assistance, secure tenure, and the reduction of densities (Martin, 1983, p. 55). Upgrading is also a form of sites-and-services. The housing stock that this scheme attempts to upgrade are squatter settlements, illegal establishments in which the squatters are in defiance of the state and sometimes of private landowners as well. The participants in this scheme are not self-selecting, unlike those who obtain a publicly owned house or a sites-and-services plot. The only option most squatters are given is either to accept or reject a proposed upgrading scheme (Martin, 1983, p. 55).

Public housing. This type of housing mainly involves charging below market prices for publicly owned land and government loans, and has been a feature of successful sites-and-services and low-cost housing programs in several countries (Grimes, 1976, p. 99). This system of subsidization offers the possibility of helping the poor with little or no net fiscal burden falling on the government (Grimes, 1976, p. 99). Land development is planned so that high-income households pay ground rents that approximate the market value of the land after servicing (Grimes, 1976, p. 99). Public housing programs are most effective when developed, phased, and coordinated as part of a comprehensive program that is directed at a households' basic housing

needs, with both public and private resources allocated appropriately to each problem area (Hubert, 1979, p. 121). In most cases, it will be important for public housing programs to be directed toward increasing the total housing stock, emphasizing projects and programs that minimize the dislocation, and relocation of existing households (Herbert, 1979, p. 121).

Procedures and Methodologies

In order to describe, synthesize, and evaluate low-cost shelter programs in Third World Countries, and specifically Nigeria, information was gathered primarily from available documents. Relevant periodicals, books and research papers were carefully reviewed.

Through and extensive literature search and analysis of available source materials, the study presents a summary of current low-cost shelter approaches; a review of what is working and why; and what the necessary conditions are for successful implementation. The means by which success or failure is assessed is based on what housing experts have concluded from working in several countries on various types of projects.

CHAPTER II

LOW-COST SHELTER IN THIRD WORLD COUNTRIES

Providing low-cost shelter for the urban poor has been a world-wide concern for many years for planners, economists, architects, geographers, and other persons who are interested in assuring that all people acquire one of the most basic needs--shelter. However, the quest for delivering housing has met with many obstacles. Dimensions of the urban housing problems (land invasion, overcrowding, lack of basic services, poor access to employment opportunity and rapidly rising land and housing prices) can be seen to be the inevitable result of a rapid increase in demand for housing, putting a heavy strain in an inelastic housing supply (Linn, 1979, p. xvii).

World population figures have been rising steadily over the past decade at explosive rates. It has been suggested that the increase has been a net of 67 million people yearly. The population increase, coupled with the demolition of substandard existing housing has created a dismally low supply of urban housing. In 1977, world-wide, one new housing unit was being constructed for every 4.6 persons added to the world population (Burns & Grebler, 1977, p. 4).

Population increases in Third World Countries in 1977 were rising by 59 million annually (Burns & Grebler, 1977). "The disparity between rich and poor countries is brought into sharp relief when the average Third World Country ratio of population growth to new construction, 10 to 1 is contrasted with 1.3 to 1, the average ratio in the developed countries" (Burns & Grebler, 1977, p. 4). Burns and Grebler suggest that Third World Countries show

a current or static disequilibrium between the supply of housing and the quantity of housing needed to accommodate their population on average world standards or those of the advanced nations (Burns & Grebler, 1977, p. 4).

The differences in housing conditions in different Third World cities are a function of differing levels of per capita income, the distribution of wealth, the rate of urban growth, and the form of societal organization. It is desirable to remain within certain income constraints when developing housing projects (Gilbert & Gulger, 1982). It is also important to understand that what the household can afford and what society as a whole can afford are superimposed (Churchill & Lycette, 1982). There is also the problem of a lack of resources or the political will to transfer enough income to subsidize shelter programs for large numbers of their citizenry in these Third World Countries whose incomes are low. Therefore, these countries have no choice but to make low-cost shelter programs, to a greater extent, self-supporting.

The demand for adequate shelter exists throughout the entire spectrum of the income distribution. In contrast, effective demand for some goods and services judged to be basic, such as family planning, education, and nutrition are found to be inadequate because of custom, ignorance, or tradition (Churchill & Lycette, 1982, p. 5).

A housing policy reflective of at least a modest attempt at accommodating the urban poor with adequate shelter should exist. Rod Burgess suggests that an effective housing policy would be based on:

1. the principles of self-government in housing;
2. the use of small-scale technological and managerial tools, i.e. 'small is beautiful with the proviso that some jobs need large organizations and powerful machinery' (Turner, 1976); and

3. the basis of 'proscriptive' planning legislation (thou shalt nots) rather than 'prescriptive' laws (thou shalt), as only the former can guarantee the multiplicity of means necessary for the satisfaction of highly variable housing needs (Burgess, 1982, p. 65).

Historical Overview of Low-cost Shelter

Low-cost shelter in Third World Countries has historically taken the form of self-help housing. Other forms of providing shelter have more recently been introduced. These include sites-and-services, squatter settlement upgrading, and public housing.

Self-help housing remains the basic means of obtaining housing in Third World Countries. The concept of self-help extends beyond the realm of housing to include employment, welfare, churches, medical services, and infrastructures. Self-help may involve individual as well as group inputs and corresponds to a system of production, financing, and maintenance in which a significant part is organized and carried out by that person or group (Ward, 1982, p. 7). Following in Figure 2-1 is an overview of a typology of housing provision for the urban poor in Third World Countries.

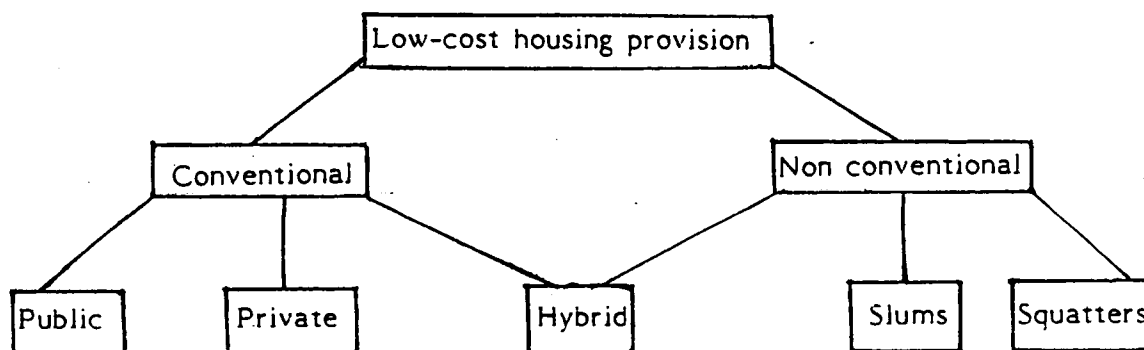


Figure 2-1. Typology of Housing Provision for the Urban Poor in Third World Countries.

Source: Drakakis-Smith, D. (1979). Low-cost housing in the Third World: Some theoretical and practical alternatives, in Housing in Third World Countries: Perspectives on Policy and Practice, Hamish S. Murrison and John Plea, eds. New York: St. Martin's Press. p. 23.

Hans Harms in his article "Historical Perspectives on the Practice of Self-help Housing," asserts that self-help is by no means new (Harms, 1982, p. 20). The first of Harms' propositions about self-help is that self-help housing as a policy solution to housing problems in capitalistic societies has occurred with great regularity throughout history, invariably when there is a crisis in capitalism (Harms, 1982, p. 20). The second proposition is as follows: Self-help housing, in political terms, is varied and therefore a distinction must be made between self-help that is initiated and controlled by the workers and self-help that is initiated and controlled by the state, or by external international agencies or by national governments. Third, self-help housing has an economic dimension. Self-help policies allow accounting of housing costs to be shifted from societal costs to individual and family cost accounting. The result is that those who have the lowest wages and the least choice in the market and those who are unemployed or underemployed have little choice but to provide their own housing. Thus housing can be used to increase the overall amount of unpaid labor in our society. The final proposition is: Self-help housing has an important ideological dimension. Self-help advocates try to emphasize the privatization of the housing dilemma and voluntary user contributions, justifying it by declaring housing to be a personal service and a necessary activity of the residents themselves (Harms, 1982, p. 21). Self-help can be introduced under the ideological banner of greater "user" control and of its ability to increase the "freedom" from government and bureaucratic control (Harms, 1982, p. 22).

Self-help housing, emerging into the realm of planning, became popular in the late 1950's and early 1960's due to the rise of urban populations in

Third World Countries. Two influential proponents of self-help housing in Third World Countries in this period were Charles Abrams and John F.C. Turner. An historical overview of self-help housing would be incomplete without a review of their contributions to the field of housing planning in developing countries.

The idea of self-help housing within only one decade (1964-1974) changed from a simple technological concept to a more complex social one to involve decision-making on the part of the families involved in the self-help housing process. Before Abrams' book, Man's Struggle for Shelter in an Urbanizing World, 1964, self-help housing was looked at in a technological sense--houses low-income families built with their own unpaid labor. Charles Abrams argued that self-help should be seen as part of a form of traditional life that disappears when populations move to large, contemporary cities (Rodell & Skinner, 1983, p. 10). Abrams, working with Koenigsberger, formulated the broad outlines of what is now known as sites-and-services. During the time of the formulation, it was called the land-and-utilities scheme. The aim there was not primarily to train workers, but "it is preferable (instead of aided self-help housing) for the government to lay out and provide plots and utilities and let each owner decide whether to use his own skills or hire others for all, most, or part of the work" (Abrams, 1965, p. 174). Abrams was an advocate of using land-and-utilities as an alternative to self-help housing.

Abrams measured the success of sites-and-services in terms of access, and he saw access as a function of (a) government providing whatever could be produced quickly in huge numbers, and (b) families providing costs, what they could afford on top of this (Rodell & Skinner, 1983, p. 8). In the Abrams-

-Koenigsberger schemes, families participated more in the decision-making process for the future of the houses. Therefore families are not excluded because they cannot afford the expenses or the necessary labor of unsubsidized portions of costs. Abrams suggests that this is a more universal recipe for housing shortage than is self-help. It is no substitute for traditional self-help. Often it is more efficient than organized self-help operations now (around 1966) being laboriously launched in cities (Abrams, 1964, p. 181).

Building on Abrams' work in the mid 1970's, John F.C. Turner had begun to study squatter settlements in Peru. Turner's studies of squatter housing effectively changed the popular image of squatter housing (Rodell & Skinner, 1983). Turner approached the utilization of self-help housing through his study of squatter settlements. Squatter housing was seen as an autonomous phenomenon sometimes related to other informal sector activities (Harms, 1982, p. 18). Turner has been criticized as interpreting self-help as an ideal form of social organization which involved small-scale, self-sufficient, non-hierarchical and autonomous actions of free and independent self-governing people (Harms, 1982, p. 18). In his work, Turner found squatter neighborhoods that could not be visually distinguished from legal conventionally built housing (Rodell & Skinner, 1983, p. 9). Through Turner's observations of these neighborhoods, it was noted that their squatter dwellings were build slowly and in increments, much like Abrams' "installment construction" whereby "acquisition of materials and savings from wage labor come in increments" (Rodell & Skinner, 1983, p.9). This is what Turner termed housing by people.

Turner effectively redefined self-help to comprise two elements:

1. Direct investments by families, either unpaid labor or cash savings or, as in the standard squatter neighborhoods, both of these.
2. Families making decisions (Rodell & Skinner, 1983, p. 12).

The second point is shared by both Abrams and Turner. Therefore as is the case with traditional self-help, contemporary self-help refers to a form of social decision-making about construction rather than to a particular technological ingredient in the assembly of building components into houses.

Historically, low-cost shelter provision has been a self-help phenomenon. However, over the past decade low-cost shelter has expanded to include housing provision that has many factors involved in the process: public, private, and informal sectors. Whereas self-help housing was primarily aimed at families' participation, low-cost shelter has to take into account for all the people--singles, couples, families, destitute and others who cannot fend for themselves in securing adequate housing.

Summary

World population is growing at a very fast pace. Populations in developing countries are steadily increasing at alarming rates. World population increase is estimated to be 67 million yearly. Fifty-nine million of this is in developing countries (Burns & Grebler, 1977, p. 4). Rapid population increases are putting a severe strain on the housing supply worldwide, but especially in developing countries. While supply of new construction falls quite short of the population growth, the need and demand for shelter is great and growing.

There are a variety of ways to provide adequate low-cost shelter. Self-help housing is a vehicle for delivering housing through unpaid labor. The owner-occupier is usually the builder of the dwelling unit as well. Sites-and-services require governmental and/or private participation for laying out of the plots and providing the services. Squatter settlement upgrading is an attempt to upgrade squatter settlements through rehabilitation of shacks

or through rebuilding dwellings to meet codes. Public housing offers housing to low-income families at lower than average costs through subsidies.

Low-cost shelter approaches have historically been in the form of self-help housing. The more recent forms of low-cost shelter include sites-and-services, squatter settlement upgrading, and public housing. Social decision making about construction is characteristic of contemporary low-cost shelter.

CHAPTER III

CONSTRAINTS ON THE PROVISION OF SHELTER IN THRID WORLD COUNTRIES

The constraints on the provision of adequate shelter for the urban poor in Third World Countries are numerous. There are varying reasons for the existence of these constraints that become apparent when analyzing their manifestation in different countries. The most visible of these are affordability and availability of land. In addition to these two broad categories, there are underlying restraints to overcome, such as land tenure, financing, and construction materials and costs. Added to these constraints are the competing demands of other sectors in the economy such as industry, schools, and health. The responses to these constraints are sometimes governmental, sometimes private, and often informal. Informal, as used here, means without government support or private sector involvement.

In review of these constraints, one underlying theme is constant: "Without some security of tenure, the poor will not make the investment necessary for the improvement of their shelter," (Churchill & Lycette, 1980, p. 4). This chapter will review these constraints on the provision of shelter in Third World Countries.

Affordability and Availability of Land

The cost and quality of a home are determined by the type of land it stands on and the materials from which it is built (Stokes, 1981, p. 9). A study in 1981 by Jorge Hardoy and David Satterthwaite of the International Institute for Environment and Development found that in

eighteen Third World Countries the cost of building materials represented one-half to two-thirds of the price of a new home, excluding land. Land costs vary, as some are very high and some land costs are near nothing. Such is the case in some Philippine cities where land makes up an estimated two-thirds of the total housing costs--to nearly nothing in some rural areas (Hardoy and Satterhwaite, 1981). On the other hand financing costs are usually minimal because interest rates on the informal market in Third World Countries are prohibitively high and few funds are available. As a result, most people borrow very little. Stokes suggests that a society's ability to provide adequate shelter at affordable prices will be determined by its capacity to gain some control over the cost of such basic housing resources as land, capital, and materials. Stokes asserts further that: "The amount of money a nation invests in shelter is probably the best single indicator of the quality of its housing. In 1978, Asian, African, and Latin American investment in housing ranged from 1.5% to 5.5% of the gross domestic product, while it was 7.5% in Japan, 6.2% in West Germany, and 5.2% in the United States" (Stokes, 1981, p. 19).

Land scarcity is due to two main problems: land is expensive and land title is difficult to acquire in many Third World cities. This latter problem is one reason for the formation of illegal communities in and near the urban fringes, called squatter settlements. The squatter stakes illegal claim to both public and private land, establishing residence there and carries on daily activities. The land that these squatters establish their shacks on is not always very well-suited for building sites for houses.

This land is often located in swamps or ravines with steep slopes which pose dangers to their inhabitants. Netzahulocoyth, a large squatter settlement on the outskirts of Mexico City, for example, is on a dry lake bed

that often floods after heavy rains (Stokes, 1981, p. 22). The squatter does not willingly seize the land illegally, but rather he does so out of a necessity resulting from his inability to either pay for the land in cash or to secure a loan for purchase. The presence of the squatter poses another societal problem besides illegal claim to land. His presence creates a problem of relocation when it is time for urban renewal through demolition or upgrading. Resettling these squatters can be costly and sometimes can result in civil unrest in the community.

Another aspect of the problem is the lack of a supply of suitable land for shelter in many Third World Countries. Priorities in developing countries have been toward national economic development. The land allocation process is met with two competing activities, one is for housing purposes and the other is for industrial development that would yield badly needed employment opportunities for both skilled and unskilled labor. For this reason, governments are less likely to intervene and enforce land take-over powers for residential purposes. The problem is compounded when decisions are made to withhold land from development as a speculative investment, resulting in price rises (Stokes, 1981, p. 22).

Land Tenure

Land tenure in Third World Countries may be the most difficult hurdle to overcome in housing schemes and yet one of the most fundamental ingredients towards ensuring adequate housing. Land tenure will afford a family the ability to secure a loan for building materials, labor costs (if not self-built), and site preparation. Security of tenure appears to be essential to stimulate the individual initiative necessary for the provision

of adequate dwellings for a large part of the urban population of developing countries (Dunkerley, 1983, p. 12). Land tenure, or right of title, is a basic instrument of overall development policy performing both an indirect, facilitating role and a direct and active one. Land in terms of tenure has several important characteristics in that it has both a public and private side. Dunkerly suggests that land, on the public side, is permanent, it is one of the three classic elements of all production; and it has value, particularly in cities where it is created to a considerable degree by the social phenomenon of urbanization (Dunkerley, 1983, p. 12). On the private side of tenure, there are deep psychological needs for the security that has traditionally been associated with ownership of land and a house.

Generally, land tenure is considered a legal concept. However, it fundamentally involves the occupant's perception of his security in relation to the investment contemplated. Thus in Africa, a renewable license to occupy may give enough feeling of security to persuade its holder to make a substantial housing investment, whereas in Latin America, a twenty-five or forty year lease may not be sufficient to elicit a similar response (Doeble, 1983, p. 66). C.W. Rowling, for many years Nigeria's federal advisor on lands, described the traditional land tenure system as one in which rights of individuals ramify into those of others, and into fields we may not suspect. Nor will they fit neatly into our own legal categories; indeed, these may be wholly irrelevant (Rowling, 1977, p. 82).

Land tenure, a complex phenomenon, comprises various categories of tenure. Nonformal, defacto tenure is a type of tenure squatters utilize in which land is occupied and used without permission from the owner. One of the most familiar types of tenure is private freehold whereby

a private individual or firm owns the land outright and the only determinant of its use is the market place. Within the rental sector, a type of tenure exists called private leasehold whereby the private owner leases property to a private individual or firm. When a government is full owner of the land, public freehold tenure exists which generally applies to land directly used by the public such as parks, roadways, and sites for public buildings. Public leasehold is much like private leasehold whereas a public agency owning land leases or rents to a private individual or firm. Communal ownership (tribal) is perhaps the oldest form of land tenure. Territory controlled by the tribe is considered the personal property not of any firm or family but of the group as a whole (Dunkerley, 1983, p. 11). In this case, the tribal chief allocates the land for residential and agricultural uses. Another type of tenure is communal ownership (neighborhood) for which low-income neighborhoods pool land ownership and give control over alienability and price to some self-created neighborhood organization (Dunkerly, 1983, p. 11).

Financing and Affordability

Next in importance to land tenure is housing finance. Financing shelter is an important issue in Third World Countries, however, credit institutions are not widespread, although some do exist. However, most of these credit institutions are informal ones made up of relatives, friends, or members of a community or neighborhood who know each other. These types of lending institutions are called rotating credit societies, whereby people contribute a pre-determined amount of money to a pool of funds on a weekly or monthly basis. The principal shortcoming of these rotating credit systems is that they fail to mobilize a great deal of capital or

to realize the economies of scale that would allow wider access to funds and increased extensions of credit (Stokes, 1981, p. 42).

The prevailing cost of money affects housing prospects in two discrete ways:

1. Homebuilders--be they commercial contractors, governments, or people building their own houses--must borrow money for construction. The short-term interest rates they pay help determine the supply of housing and its selling price or rent.
2. Homebuyers in turn must borrow money to pay for a house. The interest on this mortgage is often the main component of a family's monthly housing costs (Stokes, 1981, p. 37)

Third World Countries operate with two interest rates--one set by the central bank and one charged by traditional village moneylenders (Stokes, 1981, p. 37).

Most people in developing countries cannot afford to borrow money from a bank or savings institution and therefore simply draw on their own disposable income or borrow from relatives to buy building materials or to pay contractors to lay a foundation (Stokes, 1981, p. 42). Mortgage lending is impeded by the combination of insecurity of the rights of the borrower to tenure and the lack of protection of the lender (Churchill & Lycette, 1980, p. 8).

Construction: Materials and Costs

After securing land tenure and/or at least some type of financial assistance has been granted toward building the shelter, consideration is then given to the construction of the housing. The United Nations estimates that authorized construction annually falls four to five million housing units behind demand in Third World Countries alone (Stokes, 1981, p. 1).

Construction of adequate shelter encompasses two very important elements: materials and costs. When considering materials, it is impor-

tant to recognize the importance of the availability of raw materials because this component helps to determine the construction system. The African people who build round shapes, showing a dislike of rectangles, do so because bundles of tall thatching grass cut directly from the field provide the most effective waterproof cover if formed together into a conical canopy (Parry, 1984, p. 249).

Even though building materials have changed over the years due to technological breakthroughs and the need to safeguard families from such disasters as fires, traditional materials are still very much in use. Earth is the most basic traditional building material because it is universally available and inexpensive. However, it is easily water-eroded and it tends to pull apart, so it is a poor material for roofing or for framing doors and windows (Stokes, 1981, p. 26). To compensate for some of these drawbacks, homebuilders in many parts of the world plaster the earth with dung or straw to weatherize it (Stokes, 1981, p. 26). Today, to strengthen the earthen blocks in order to increase the insulating capacity of the earth, builders mix about two percent asphalt with the earth. This strengthened brick is called "asfodobe" (Parry, 1984, p. 252).

Lumber is an important component of almost every type of housing. However, with the prevailing problems of deforestation facing many Third World Countries today, alternative means of roof support are being sought. The timber trade has devised systems of trusses which minimize the volume of wood required to support the required load and withstand high winds (Parry, 1984, p. 252).

Masonry products such as bricks and cement are the second principal housing materials. They first came into use in the 17th century to prevent

the spread of fire in Amsterdam, London, and Paris (Stokes, 1981, p.28).

In the Third World today, the use of cement is increasing as concrete has come to represent all that is modern and desirable in housing (Stokes, 1981, p.28). Although the use of bricks and cement is on the rise in many Third World Countries, rising masonry costs have proven to be a particular problem in Africa, Asia, and Latin America. Concrete houses are often unsuited to tropical climates because the humidity makes for uncomfortable living conditions. Kamel Noui-Mehedi (1981) recounts the lesson learned by one peasant family that bought a concrete house: "Only a few months sufficed for the humidity to cause the whole family to flee from their home. Today that family is living in a house with a thatch roof and is keeping its cattle in the concrete house."

Lower cost is a principal advantage of using traditional materials. In Sudan, cement blocks cost \$60-\$96 per thousand and regular bricks, \$20 - \$32 per thousand (Stokes, 1981, p. 30). Asfodobe bricks can be produced for less than \$12 per thousand (Stokes, 1981, p. 30). And because mud and thatch are readily accessible, their use creates opportunities for even the poorest families to construct and also repair their homes. But there is one problem. There is a sense of status associated with living in a house built using modern materials; the traditional materials; the traditional materials are linked with poverty.

Summary

This chapter has emphasized obstacles to the provision of shelter in developing countries. Two main obstacles are the affordability and

the availability of land. Related constraints are those related to financing, and affordability, and construction materials and costs. Added to these constraints are the competing demands for capital from other sectors such as industry, schools, and health.

The lack of land tenure or title of ownership of the land and the subsequent inability to buy the land has led to the creation of squatter settlements whereby squatters stake illegal claim to the land and build their shacks. Various types of tenure exist in developing countries that include nonformal tenure, private freehold, private leasehold, public freehold, and communal ownership. Although there are various forms of tenure, without capital to invest, the low-income individual remains outside the legal boundaries.

Financing the purchase of land and shelter is difficult for low-income persons. Credit institutions are not widespread and those that do exist are informal, made up of relatives, friends, or members of the community who contribute money monthly or as they can afford to. These type of credit institutions are called rotating credit societies.

A resurgence of using locally-produced, indigenous building materials is underway in Third World Countries today. It is suggested that the overall costs of building a new dwelling unit can be cut drastically by employing these materials. An example of a cost-reducing building material is asfadobe brick.

Chapter IV describes some measures that can be taken toward reducing the constraints and providing safe, adequate shelter for the urban poor in Third World Countries.

CHAPTER IV

POLICY RESPONSES IN THIRD WORLD COUNTRIES FOR THE PROVISION OF SHELTER

The constraints of land availability, land tenure, financing, affordability, and construction materials availability and costs were discussed in Chapter III. These constraints, coupled with problems of rapid urbanization, have made it apparent that there exists a dire need to find workable solutions for the delivery of shelter for the masses of ill-housed and/or the unhoused in these countries. Studies have shown that Third World urban populations are growing at steady and alarming rates.

There are various reasons for this growth in the urban areas that include increased rural-urban migration and natural causes such as higher birth rates and longer life expectancies due to improved medical care in many parts of the developing world. The rural-to-urban migration process occurs primarily because of a desire to improve one's family's or one's own position and social standing. Employment opportunities are nonexistent in the rural areas, so they travel to the urban areas for brighter futures. The migrant worker may come into the city seeking employment for one or both of the following reasons: (1) in order to send money to their rural compounds, or (2) to save enough money to move their family into the city with them.

Finding adequate shelter is a problem not only faced by the migrant worker, but also the permanent resident as well. Adequate shelter that is not exorbitantly priced and that is in a suitable location is like a well-hidden treasure. Overcrowding of dwellings exists because of the problem of securing shelter which creates the building up of problems from disease

to anarchy. If left alone it can, and often does lead to irreversible slum problems causing governments to seek out new locations for urbanized towns. It has been suggested that the Nigerian government's decision to move their capital city from Lagos to Ajuba was in large part due to the "bursting-at-the-seams" of the city's population (Onyemelukwe, 1982, p. 60).

However, the problem of urbanization that results in a deteriorating supply of adequate shelter can be handled without relocating capital cities. The absence of an adequate housing supply can be dealt with utilizing various policy responses. Solutions of new housing construction, rehabilitation of existing housing, and/or new low-income communities can be established through governmental or private means. Some of the policy responses that have been initiated in Third World Countries for the much needed provision of shelter include self-help, sites-and-services, squatter settlement upgrading, and public housing.

Contemporary literature suggests that self-help is no longer restricted to the owner-builder-occupier, but can involve other actors as well. Self-help has become an umbrella term to include all means of housing whereby the occupant(s) has/have a role in the decision-making process concerning their housing. This chapter will discuss the scope, use, and possible implementation of the approaches, and the policy constraints, and will look at the beneficiaries of these low-cost shelter programs. This will be presented through a compilation of various authors' opinions concerning shelter provision through a survey of current low-cost strategy activities. Table 4-1 is an overview of low-cost shelter approaches to be presented.

Table 4-1. Low-cost Shelter Approaches.

Approach or Technique	Description	Role of Government	Other Actors Involved
Self-help	Owner-occupier builds home (sweat equity). An umbrella term that encompasses sites-and-services squatter settlement upgrading, and to some extent public housing.	Government has no major role	Community members
Sites-and-services	Sites are surveyed and services such as electricity and water are provided.	Survey plots and provide tenure	Private sector
Squatter settlement upgrading	Upgrade housing stock through house construction, improvement loans, technical assistance, and tenure (also a form of sites-and-services).	Rehabilitation and building of new dwellings; provide tenure.	Private sector
Public housing	Government-built and/or owned housing, in the form of charging below market prices.	Provides public subsidized housing to low-income groups	Private sector

Source: Author.

Self-help Housing

Rodell and Skinner define self-help housing as a means by which low-income families construct their homes with their own unpaid labor. This form of self-build is called manual self-help by which the builder-owner constructs or participates in the construction of his house (Lewin, 1981, p. 131). In many developing countries self-help usually implies that construction is planned, organized, and supervised by the builder-owner who serves as his own contractor (Lewin, 1981, p. 131). There are three methods of self-help construction which include self-help building by the allottee; self-help building using subcontracted labor; and self-help building by the builder's groups. There are various reasons for this self-built decision, which include:

1. It may be the only path to homeownership.
2. The builder wants to live without paying rent.
3. There is a need for more space.
4. It provides an inheritance for their children (Harms, 1982, p.36).

The self-build approach requires less governmental intervention and/or monetary contributions. Herbert suggests that self-help programs may be most successful when they rely primarily on indigenous organization and individual self-improvement (Herbert, 1979, p. 119).

Self-build implies that the house is built using a family's own resources, be they financial, or their own construction materials, thus reducing high capital costs. One of the most distinctive features of self-help housing is the chance it affords participants for owning their dwellings and land, thereby accruing a variety of economic, social, and psychological benefits (Burns, 1983, p. 299). The self-build process can be organized in two ways, either individually or by a group of participants (Harms, 1982,

p. 35). In his discussions of self-help housing, Hans Harms suggests that self-help can provide the possibility of lowering the level of circulation of capital in housing; increasing the amount of unpaid labour in society, and devalorizing labor power, and to lower pressure for wage increases by excluding housing costs from wages (Harms, 1982, p. 51). Self-help housing can also reduce the need for public subsidies to housing because the reproduction of housing is done by the reduced costs of labor itself (Harms, 1982, p. 51). Mutual help, another form of self-help, is useful because it is a medium through which to teach building skills which the household can then use after the completion of their house for maintenance and/or expansion (Bamberger, 1982, p. 98).

Self-help housing is not without fault. It cannot, for example, always accommodate the poorest of the poor because they still cannot afford the materials to build their homes. Self-help strategies can be assisted through governmental intervention or private support. Successful self-help approaches often utilize both sectors.

In discussing the self-help phenomenon of providing shelter for the urban poor in Third World Countries, it quickly becomes apparent how intertwined all the approaches of low-cost shelter really are. Sites-and-services requires the use of self-help after the government or private sector has plotted the land and provided such services as utilities. Upgrading of squatter settlements is another way in which self-help construction is utilized. The upgrading process of existing illegal dwellings requires self-help construction more often than the sites-and-services schemes, primarily because the participants are much poorer. Their shanties, as substandard as they generally are, were put together employing the occupant's own skills.

The low-cost shelter approaches analyzed in this paper have been implemented in various countries throughout the Third World by utilizing various tools of implementation. The technique of self-help or self-build has been used throughout the world. It is not a Third World phenomenon because providing low-cost housing is not purely a Third World problem. Many scholars have sought solutions to housing the street dwellers in developed and underdeveloped nations for decades. Homelessness occurs at any time in any place. The desires of the homeless are universal. There are no cross-cultural differences when it comes to wanting safety and security from intrusion.

The discussions to follow concerning the selected low-cost shelter programs will offer insight as to what approaches are current and which ones are working. The discussions will also allude to the fact that several of the approaches include some aspect of self-help. It is difficult to discuss the scope and implementation of a self-help approach without discussing sites-and-services or upgrading because of their intertwined nature.

Sites-and-services

Sites-and-services is a low-cost shelter program that has as its major characteristic, the aspect of self-help. Under this method, the government provides land, plans the layout of the site and circulation, secures land tenure for the occupants, and installs facilities for water supply and waste disposal, playgrounds and other community needs. The chief aim of site development should be to provide maximum benefits and amenities to the largest number of people at a minimum cost (Saini, 1978, p. 91). In some projects the owner is given an option to use his own skills or hire others to complete the construction of the dwelling. In other projects

self-build is a prerequisite for participating in the sites-and-services scheme.

Sites-and-services has also been known as gradual construction, through which a family can pace the building of the dwelling as disposable income becomes available. Gradual construction also allows for the expansion of the family's house at those times that are more feasible for them in terms of finances. This affords the family direct investment in its own home rather than pay for something decided on and provided by someone else (Rodell, 1983, p. 23).

It is a common impression that gradual construction and self-help reduce housing costs and therefore agencies will settle more families in sites-and-services programs than in the conventional housing estates (Rodell, 1983, p. 23). One reason that may support the argument of lower costs is that agencies lower the standards for house construction in these schemes. Rodell asserts that gradual construction accelerates the rate of housing starts in public projects by diverting funds that would otherwise be used to complete infrastructure in sites-and-services projects. Self-help, in contrast, works much like down payments work in conventional schemes (Rodell, 1983, p. 23)

Many low-cost shelter projects have been developed and implemented, both successfully and not so successfully due to an interest within the past two decades of planning in Third World Countries. These projects have not all been governmentally-implemented. Private means also have been used to spearhead low-cost housing schemes. One such privately

funded project is the El Salvador sites-and-services project adopted by the Fundacion Salvadorena de Desarrollo y Vivienda Minima (FUNDASAL), and successfully implemented and able to achieve a high rate of cost recovery. This project will be discussed along with another sites-and-services project that was developed by the governmental sector, the Dandora Project in Nairobi, Kenya.

FUNDASAL--El Salvador Sites-and-services Project

Michael Bamberger and Alberto Harth Deneke describe and evaluate the experiences of a shelter program in San Salvador, El Salvador which was able to successfully reach the low-income urban population while at the same time achieving one of the highest cost recovery rates of any World Bank-financed urban shelter program by providing serviced plots. Highlights of the project along with discussions of the objectives, implementation, and evaluation will be presented.

The sites-and-services scheme in El Salvador was funded by FUNDASAL. FUNDASAL is a private non-profit foundation in El Salvador that, as a premise, operates on the basis of the importance of community participation, progressive shelter construction (self-help), and financial accessibility to the low-income populace. Another characteristic of FUNDASAL is that it is a non-governmental organization with the capability of reaching the scale and impact normally achieved by public sector agencies. FUNDASAL's shelter program can be viewed as a part of a broader institutional commitment aimed at achieving community social awareness through community participation (Bamberger & Deneke, 1984, p. 37). The participation objective of the Foundation's shelter programs is to overcome the restraints on formal and informal housing

supply by providing a wide range of serviced sites and basic dwelling units (Bamburger & Deneke, 1984, p. 37).

Because the foundation's objectives were aligned with the interest of the World Bank in their ability to design and implement the lowest low-cost and highly subsidized units, they were able to secure two World Bank loans and also secure grants from various U.S., Canadian, and European agencies. Therefore, the program was not completely without outside financial support.

El Salvador is the smallest and most densely populated country on the American continent. In 1980, 41% of the population was urban. According to the 1972 census, 55% of the existing housing stock needed replacement or improvement, and of these, about two-thirds were occupied by households earning less than the equivalent of US \$100 per month. Although the most urban homes (84% in 1975) had electricity, only 38% had sewerage connections (Bamberger & Deneke, 1984, p. 38).

Objectives

FUNDASAL has been in operation since 1973, and was one of the first sites-and-services schemes to be supported by the World Bank. In review of this approach it is important to highlight and overview the shelter program's objectives. In short, the objectives of the scheme were: (1) to show that sites-and-services is a viable alternative to conventional, government provided housing programs. It has been shown that government-built housing often is too expensive for the needy and is generally unavailable to the lowest income groups; (2) to help alleviate the overwhelming shortage of adequate low-cost housing by providing such units

at prices that reach as low as the 17th percentile of the urban income distribution scale (Bamberger & Deneke, 1984, p. 13). This has been a most difficult task to assume, but the FUNDSAL has successfully accomplished this; (3) to lessen the dependence on government resources by showing that there is an important role to be played by both informal and non-government sectors toward providing low-cost housing; and also (4) to create efficient neighborhood groups who would be capable of developing efficient communities both socially and economically.

Standards were lowered in order to make the housing more affordable. Those elements that were allowed to have lower standards were water supply, plot size, and land use. By 1978, a typical unit was being offered with 20 year financing at about 6.5% interest for the purchase of a serviced plot, and with 12 year financing at 8% for a materials loan to complete the construction of a basic living unit (Bamberger & Deneke, 1984, p. 43).

As noted earlier, sites-and-services is an approach whereby plots are subdivided and utilities are provided. One basic element to sites-and-services schemes is the provision of ownership where otherwise it could be an impossibility. However, sites-and-services does not always involve land ownership. The FUNDASAL project provided these elements and some others such as financing for construction materials designed for the extension of core units using self-build; the construction and equipping of health clinics; multi-purpose community centers; sports fields; and markets. Another component provided for in the FUNDASAL project was short-term technical assistance for training, studies, and the evaluation of the socio-economic effects of the programs (Bamberger & Deneke, 1984, p. 44).

The intention of the Foundation's program was to demonstrate that the serviced-site approach, combined with progressive shelter development through family and community participation, is effective, viable, and replicable on a national scale (Bamberger & Deneke, 1984, p. 44).

Implementation

In order to ensure a high level of community participation and reduce costs, the sites-and-services scheme included several organizational and design innovations. High emphasis was put on community participation in terms of building the dwelling units. As part of the selection process, it was required that there be participation in the mutual help construction groups. Participating in the mutual help process eliminated paying a 10% down payment, and also served as a way of teaching needed construction and organizational skills that would prove useful in the completion of the dwelling units. This mutual help construction learning process can also be seen as a way of preparing low-income households for future management of their communities. The mutual help groups formed were comprised of 20-25 families, depending on the number of plots surrounding a park. In this project, although rigorous evaluation was not undertaken, it is believed that the process of working together effectively created a sense of community solidarity and responsibility which was one of the main factors contributing to the program's long-term success (Bamberger and Deneke, 1984, p. 45). Figure 4-1 depicts the community participation common in the FUNDASAL project in house and site development.

Evaluation

The target population for this program, when initially designed, was defined as those households falling between the 17th and 65th percentiles

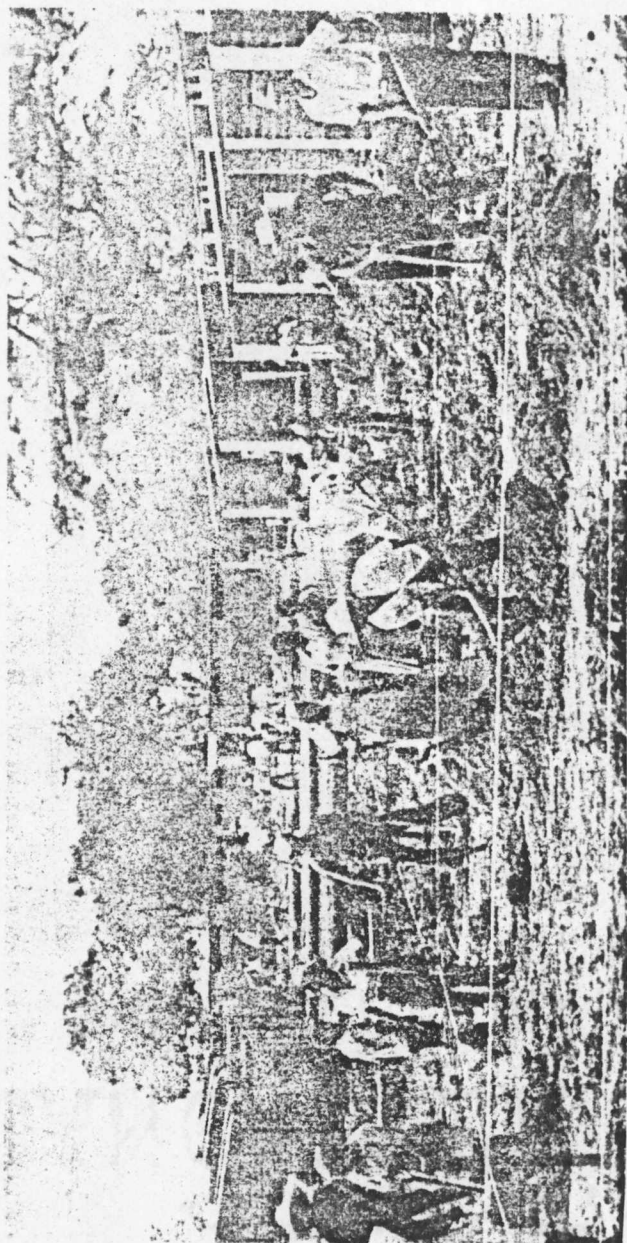


Figure 4-1. Community Participation in House and Site Development

Source: Bamberger, M. and Deneke, L. (1984). The experience of El Salvador. in Low-income Housing in the Developing World: The Role of Sites-and-services and Upgrading. Geoffrey Payne, ed. New York: John Wiley and Sons, p.46.

on the national urban income distribution curve (Bamberger & Deneke, 1984, p. 49). It was estimated that 85% of the households had incomes placing them below the upper income limit.

In looking at the original affordability estimates, it has been assumed that the households would not be willing to spend more than 20% of their monthly income on housing (average monthly income = US\$100.00). However, it was found that the families were sometimes willing and prepared to invest twice this amount (Bamberger & Deneke, 1984, p. 49).

Being able to reach down into the lower levels of the poor, as this project did, is a reason to praise it as successful. The project also created a sense of community solidarity through the mutual help process. This process in turn served as an instructional device for families to learn housing management skills.

The Foundation's achievement can probably be replicated in other countries easily since it was accomplished by a non-governmental, non-profit organization with set objectives and goals compatible with those of major international donor agencies such as the World Bank. The Foundation's approach of providing financing for serviced sites is one way of facing the three main supply issues: the supply of land, the supply of urban infrastructure, and the supply of mortgage finance, especially for new households and for those living in the non-tenured rental submarkets (Bamberger & Deneke, 1984, p. 51). Therefore, an aggressive policy for increasing the supply of affordable serviced sites is one key shelter strategy (Bamberger & Deneke, 1984, p. 51).

Dandora Project: Nairobi, Kenya

The Dandora Community Development Project in Nairobi is an example of a sites-and-services project involving the government (public), private, and the informal sectors. It is also an example of a housing project in an urban context. Nairobi, the capital city of Kenya, is growing at a rate of about 75% per annum with a population almost reaching the 1 million mark making it the only city of that size in the whole of the East African region (Chana, 1984, p.19).

In Nairobi, there are major groups of actors in the existing housing process ranging from the users to various international agencies. The Nairobi City Council established the Dandora Community Development Department in 1975 as part of the loan agreement between the World Bank, International Bank for Reconstruction and Development (IBRD), International Development Agency (IDA), and the Government of Kenya (GOK). These actors are assisted by the various divisions of the Housing Development Department (HDD) of the Nairobi City Council (NCC), especially the Technical and Community Development Divisions.

The structure of this cooperative process is important. First, the HDD is the major implementing agency of the local authority to provide low-income housing in the city (Chana, 1984, p. 19). The Ministry of Works and Housing (MOWH), which is the overall national operational ministry of the Government of Kenya, guides the NCC. An outline of the structure follows in Figure 4-2.

The informal or popular housing in the uncontrolled and squatter settlements are a response to the failure of the public and the private formal sectors to supply enough housing at affordable prices to meet the needs of the low-income households (Chana, 1984, p. 18). These types

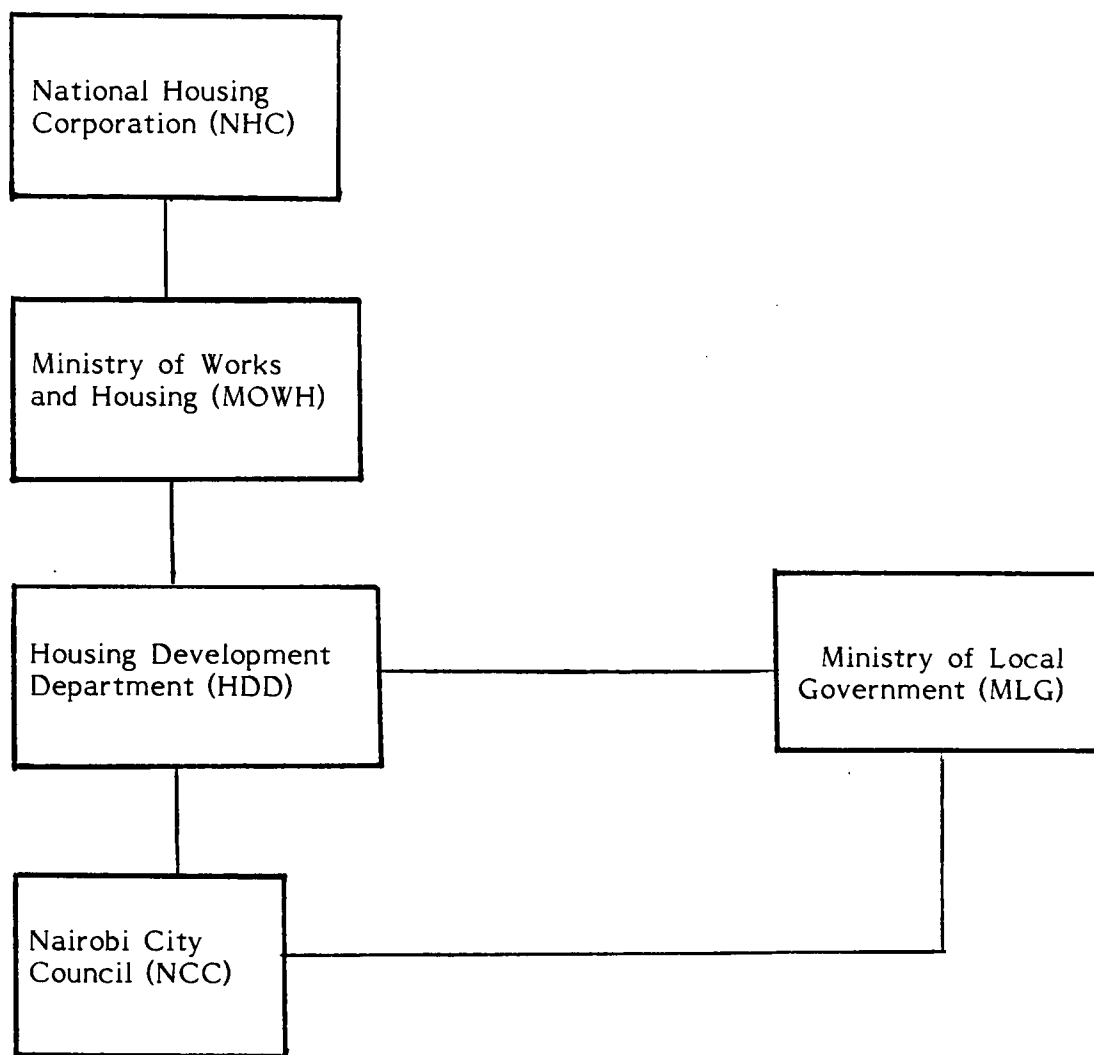


Figure 4-2. Housing Provision Structure.

Source: Author.

of settlements provide shelter for over one-third of the city's population (Chana, 1984, p. 18).

Another one-third of the housing is in public housing which is provided for by the Nairobi City Council (NCC) and the National Housing Corporation (NHC). However, as is often the case with public housing projects in Third World Countries, the main groups catered to are those in the medium- and high-income groups. The remaining one-third of the populace is housed by the private formal sector.

In Kenya, any settlement above a population size of 2000 is considered urban. It was estimated that 12% of the total population of about 16 million is urban most of which live in Nairobi and Mombasa. In 1979, Nairobi accounted for about 45% of the total urban population (Chana, 1984, p. 17).

The Dandora Project is another example of a project capable of reaching some of the lowest income families earning as little as K.Shs. 280 per month. In 1977, the minimum wage in Nairobi was K. Shs 480 per month (1US\$=11K.Shs) or about \$60.00 per month. This monthly wage inadequacy is important in terms of the income/housing cost gap it presents. For example, in 1977 the cost of a newly built two-room self-contained dwelling of about 42m² and of minimum infrastructure standard (water supply, sewerage, street lighting, and roads only) was about K.Shs 33,500 (Chana, 1984, p. 18). With a monthly repayment schedule of about K.Shs 290, the minimum monthly income would have to be about K.Shs 1400. This puts such a dwelling beyond the reach of about 50% of the population in Nairobi (Chana, 1984, p. 18). Table 4-2 indicates that in higher-density

areas, where the plot sizes are small, the cost of services and buildings is lower than in lower-density areas, where the plot sizes are large.

Table 4-2. Comparative Costs of Dandora and Other NCC Projects (1977 figures).

Project	Plot size (m ²)	Built area (m ²)	Cost (incl. services) (K.Shs)	Monthly payment (K.Shs)	Affording income pe month (K.Shs)
Dandora	120	60	12,800	115	575
Biafra (Pumwam)	102	36	32,500	290	1400
Kimathi	210	70	78,000	700	3500
Kibera	150	110	109,000	980	4900
Ngei	700	130	160,000	1440	7200
Loresho	2500	260	242,000	2100	10,500

Source: Chana, T.S. (1984). Nairobi: Dandora and other projects in Low-income Housing in the Developing World: The Role of Sites-and-services and Settlement Upgrading. Geoffrey Payne, ed. New York: John Wiley and Sons, p. 19.

Objectives

The Dandora Community Development Project began in 1975, and when the project was completed it had provided 6000 serviced plots over seven years. The project has been the major supplier of low-income public housing in Nairobi, especially for the households in the lowest 20th percentile income group (Chana, 1984, p. 21). This is still miniscule, because the need is still great. At the time of implementation there were about 26,000 applicants for the 6,000 plots advertised for allocation (Chana, 1984, p. 21). In 1973, a study conducted by the Urban Study Group on the Nairobi Metropolitan Growth Strategy showed that 14,500 units will be needed every year up to 1985. This need is expected to almost double

from 1986 to 2000, resulting in a total expected need of about 348,100 housing units and average annual rate of about 23,000 units (Chana, 1984, p. 19).

HDD, as the implementing agency for the project, had to follow stated objectives. Several of the objectives were much like those of the FUNDASAL project in El Salvador, for example, operating and administering a materials loan fund for building materials was set up. One of the objectives calls for three options in constructing the wet cores (toilet and shower) and demonstration houses for the serviced plots:

1. option A provided 3,870 plots with wet cores on plot sizes of 100, 120, 140m², at estimated capital costs ranging from K.Shs 6,200 to 7,100 per plot;
2. option B provided 1,800 plots with wet cores and one kitchen on plot sizes of 100, 120, and 140m², at an estimated capital costs ranging from K.Shs 9,800 to 10,600 per plot;
3. option C provided 300 plots with wet cores, one kitchen and store room on 160m² plots at an estimated capital cost of K.Shs 16,500 per plot, and 30 demonstration houses to illustrate housing for option A and B plots; the option C plots to be sold at market prices (Chana, 1984, p. 21).

Another objective was to construct facilities including six primary schools, two health centers, two multi-purpose community centers with day care facilities, one sports complex, and 400 market stalls. As with the FUNDASAL project, access roads to the project site were to be provided.

In order to participate in the project prospective tenants had to meet minimum requirements, such as income and residency. The total income of the household had to be between K.Shs 280 and K.Shs 500 per month for option A, and K.Shs 450, and K.Shs 650 per month for option B plots (Chana, 1984, p. 22). Also prospective tenants had to pay the NCC the appropriate fees for sewerage and water connection and a deposit of K.Shs

400 within 60 days of notification that they had been allocated a plot (Chana, 1984, p. 22). The repayment schedule of the plot and materials loan was set charging an interest rate of 8.5% per annum, for 30- or 20-year periods for option A and B plots respectively (Chana, 1984, p. 22).

The Dandora project was the first of its kind on a large scale basis to be funded by the World Bank in Nairobi. A second joint project is being implemented at the present time. This project covers the urban cities of Nairobi, Mombasa, and Kisumu. The results of this project will yield 11,700 serviced plots; upgrading of about 10,000 households; 2,500 surveyed plots with minimum infrastructure; 3,240 service sites for market sale; related community facilities; and employment generation programs. All of this to be provided at the estimated cost of K.Shs 576 million.

A third project is currently at the planning and appraisal stages which will also be a joint venture involving the Government of Kenya, the World Bank, the United States Agency for International Development (USAID), and the Overseas Development Administration (ODA) of the United Kingdom. It is anticipated that a total of about 38 secondary small towns in the country will benefit from these projects (Chana, 1984, p. 23).

Implementation

Implementation of the Dandora project was carried out in two phases. Phase I consisted of Residential Area I and Phase II consisted of Residential Areas II, III, IV, and V. The community facilities were developed over a period of about four years. Phase I of the project consisted of a total of 1038 residential serviced plots, with 704 option A plots, 273 option B plots, 5 unserviced plots, 56 option C plots (including 21

demonstration plots), 3 community facilities plots for daycare; 6 commercial plots for corner kiosks; 1 primary school; 2 markets; and 1 pilot workshop cluster for small-scale industries (Chana, 1984, p. 23). The houses in this phase were constructed utilizing self-help or self-contracted methods.

Phase II of the project consisted of a total of 4971 residential serviced plots, with 3180 option A plots; 1536 option B plots; 26 option C plots; and 9 demonstration plots. In addition it had 5 primary schools, 4 markets, 2 multi-purpose centers, 2 health centers, and a sports complex (Chana, 1984, p. 23). This phase took four years to complete, beginning in 1978.

The overall structure layout plan of the site was designed to minimize public land and infrastructure investment per serviced area and to maximize individual responsibility in the development of the serviced plot (Chana, 1984, p. 23). The phasing of the project offered an invaluable experience for planning and evaluating subsequent project phases. Phase I served as a demonstration project and helped in the avoidance of future problems.

Along with abiding by the objectives set forth by the World Bank, a series of related components were simultaneously implemented by different agencies and consultants. Chana (1984, p. 28) lists them as follows:

1. monitoring and evaluating the Dandora project;
2. joint Government of Kenya and International Monetary Fund Study on the Municipal Finances;
3. Housing Operation Study of the Nairobi City Council;
4. Nutritional Needs Survey in Nairobi City; and
5. Low-cost Housing and Upgrading Survey for future sites-and-services and upgrading projects in Kenya (Chana, 1984, p. 28).

Evaluation

Evaluation of the Dandora project reveals that sites-and-services is a viable alternative to providing low-cost shelter for the urban poor. Phase I was completed with most of the houses being constructed through self-contracted or self-help. Loans were repaid with almost 100% cost recovery. Chana (1984, p. 22) points out that this experience confirmed one of the main objectives of the Dandora project and showed that low-income households in the urban areas can repay loans and organize adequate housing through the sites-and-services approach. This outcome of the project was one of the major contributing factors to the replicability of the project in other urban centers of the country in the second and third projects (Chana, 1984, p. 22).

Chana notes that one of the innovative features of the project was the participation of the allottees in the construction of their houses. There were three methods employed, to include self-help building by the allottee; self-help building using subcontracted labor; and self-help building by the building groups. These are the typical modes of self-help construction. In the Dandora project, self-help building using subcontracted labor was the most popular. Figures 4-3 and 4-4 below are examples of participation of laborers building a house for an allottee and a contractor built wet core.

The Dandora housing project had an impact on other low income housing schemes of the government in that it helps to diminish or lessen the severity of the fears many have about large-scale sites-and-services projects.

This project is an example of the positive possibilities on a large-scale when there is collaboration. The Dandora project also exemplified the planning process in that there were pre-planning, planning, implementing,



Figure 4-3. Paid Laborers Building a House for an Allottee.

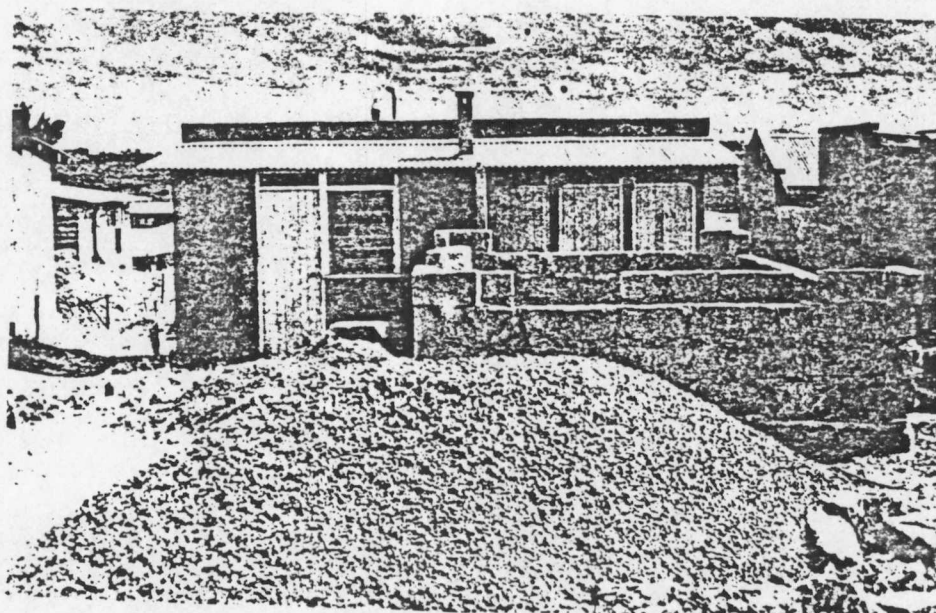


Figure 4-4. Contractor-built Wet Core.

Source: Chana, T.S. (1984). Nairobi: Dandora and other projects in Low-Income Housing in the Developing World: The Role of Sites-and-services and Settlement Upgrading. Geoffrey Payne, ed. New York: John Wiley and Sons. p. 30.

and evaluating phases which all served to aid in its successful outcome.

In terms of international replicability, this project is a prime choice. International funding agencies were employed implementing rigorous guidelines, which will offer easy duplication. The Dandora project proved successful and it is thought that it can be cross-culturally implemented.

Although the sites-and-services schemes presented here proved successful, this approach does have its share of problems. One of the biggest problems is that of the allocation of land. If the land is not governmentally held, there may be long delays in securing title. This approach can encounter a number of administrative and institutional difficulties. Technical assistance within Third World Countries is often scarce and overloaded with concurrent work on housing programs. But as seen with the two sites-and-services projects presented here, the technical assistance is available and proved to be very useful.

Upgrading of Squatter Settlements

Entering into a discussion of squatter settlement upgrading requires a brief overview of the nature of squatter settlements. Squatter settlements refer to the aggregates of houses built on lands not belonging to the housebuilders, but invaded by them, sometimes by individual household groups, sometimes in collective action (Leeds, 1981, p. 333). These types of temporary settlements are also called shanty towns, irregular settlements, or spontaneous settlements. Whatever the name given, it is an example of an illegal seizure of land held without title and is unusually open and defiant, tempting more squatting by its successes (Abrams, 1977, p. 293). When squatting is prevalent, orderly development is impeded, investment in greatly needed urban enterprises may be discouraged, and the political stabilization of governments may be delayed (Abrams, 1977, p. 293).

Illegality of possession of the land necessarily involves insecurity of tenure: squatters and squatter settlements are always in danger of removal commonly with loss of their investments in housing and ancillary facilities such as water and sewerage (Leeds, 1981, p. 23). The insecurity of title to land is a primary reason why these settlements are most of the time slums and absent of any financial investment toward their rehabilitation. It should be noted, however, that not all squatter settlements are substandard or temporary. In such places as Peru, Brazil, Turkey, Venezuela, and the Philippines, some squatter settlements consist of stable, solid structures.

Squatter settlements are often very organized communities and they display a broad array of occupations and strata. According to Leeds (1981), not all squatter settlements are associated with poverty. Abrams (1977, p. 293) points out that squatting is usually a by-product of urban homelessness and housing famine.

Over time, squatter settlements are transformed into regular parts of the city with standard housing by the residents themselves (Leeds, 1981, p. 24). This may take place through natural maturation or through upgrading projects by the government. Upgrading of squatter settlements are increasingly being considered as an alternative to relocation and replacement (Herbert, 1979, p. 121). In fact, squatter upgrading schemes should prevent as much as possible a decrease in the supply of existing shelter. Rodell (1983, p. 55) sees this as a primary objective of upgrading, viewing upgrading as a means of solving the housing problem by transforming "illegal" dwellings into "legal" ones, thus improving the housing statistics.

The objectives of upgrading are multidimensional including health, economics, social, legal, and housing. In terms of health, upgrading may

be seen as a means to reduce or eliminate the incidence of disease. Economically, upgrading may produce loans for sites-and-services projects, small industries, and vocational training for the youth and unemployed. The social dimension is satisfied through the provision of schools and community facilities. The legal dimension is perhaps the most important, concerning the aspect of tenure. Upgrading, as with sites-and-services, may be the only way many of the urban poor can acquire land ownership. The last dimension, that of housing, is primarily a housing process with upgrading as the main emphasis.

Squatter settlement upgrading as a housing scheme has been implemented in many parts of the Third World, often being implemented in conjunction with sites-and-services, thus employing the self-help means of construction. The Ismailia, Egypt combined upgrading and sites-and-services project is one example of a joint activity. Forbes Davidson, a member of the 1983 Master Plan Study Team, states that these projects are innovative in that they are self-financing, locally staffed, and have become integrated in the local system.

Ismailia, Egypt Upgrading and Sites-and-services

The project had two project areas, one in the north of Ismailia, called El Hekr, and one in the south called Abu Atwa which is more rural. El Hekr is the largest informal low-income area in Ismailia. After Sadat's peace initiative, El Hekr was renamed "Hai el Salam" or "District of Peace" (Davidson, 1984, p. 127). The growth rate of El Hekr which is expected to reach 600,000 by the year 2000, creating a demand of housing units required to reach 2500 per year. This is up from an 800-1000 annual requirement in 1978.

In many countries the parameter to judge needs varies and terms denoting housing may vary as well. In Egypt a "housing system" is taken to mean all the activities and people involved in building, financing, renting, buying, living in, and controlling a particular form of housing provision (Davidson, 1984, p. 127). Included in this housing system are various actors. In Ismailia 50% of the housing stock is informal, 30% is private formal, and 20% is public and company combined. The role of the government within this housing system is limited to the formal sector. Location and design of houses and the regulation of the supply or subsidized building materials are all controlled by the government. The government directly builds some 10-15% of the current rental housing units in the form of public rental housing, and also controls rents of private dwellings (Davidson, 1984, p. 128).

The Central Government sets housing policy and allocates funds to the Governorates giving them wide delegated authority. However, the Governorates have little freedom in allocating the funds. The Governorates are responsible only for selecting sites and implementing projects. But, because of limited resources, an insufficient number of units have been built, and the ones built usually go to the families that can afford to pay for them. This limits the housing options open to low-income groups and public housing has long waiting lists. Therefore, the next option is the private rental sector. In El Hekr within the private sector, 25% of the houses were rented to families at a rent equivalent to 20% of the median family income for the area (Davidson, 1984, p. 129).

As has been the general case for low-income groups in Third World Countries, homeownership is only possible in the informal sector of the housing scheme. As is the case with squatter settlements, and Egypt is not immune to this type of arrangement, a family might settle on the

desert margin by building a wall and perhaps one room in mud-brick or buy land already claimed by someone else, but closer to the city (Davidson, 1984, p. 130). But as is also the case with squatters, the land is not really owned because it lacks security of tenure.

Objectives

One important objective was to design a project that could be easily replicated in other urban areas of the country with minimal subsidy and done as soon as possible. However, the primary aim of the project was to reach the families with incomes between fE 180 and fE 830 per annum, The median income of the target population was fE 290 per annum.

Another objective was that the proposals be able to be administered without the need for a high level of sophistication and continued support from outside (Davidson, 1984, p. 132). The proposal should also be realistic and be implementable within the existing administrative and executive structures. It should not require fundamental legal or organizational reform (Davidson, 1984, p. 152).

Because the demonstration projects involved both upgrading and sites-and-services, two areas of different characteristics were selected in order to test appropriate conditions under which the approach would work best. El Hekr was an area of unplanned expansion onto the desert north of the city, while Abu Atwa was a collection of villages, originally rural and surrounded by agricultural land (Davidson, 1984, p. 133). Though there were two study areas, Davidson focuses on El Hekr, now called the Hai el Salam project, for discussion.

The El Hekr project was straightforward in that the government owned most of the land and there were reasonable ground conditions such as

soft sand with a low water table and it was relatively flat. Another positive aspect was the fact that 75% of the houses were owner-occupied. Lack of security of land tenure was a major concern for the remaining 25%, therefore delayed freehold tenure was proposed with freehold being given after five years, depending on the project conditions being met.

Implementation

A semi-autonomous land development agency with a board of directors was proposed with the responsibility of buying and selling land, and investing their proceeds in infrastructure. The structure of the Hai el Salam Agency (El Hekr) is shown in figure 4-5.

Even though the projects were designed to be self-financing, a grant from the British Government of fE60,000 was needed and used for initial site preparation and the building of an office in Hai el Salam. In October of 1978, the Egyptian Ministry of Housing along with the British Government funded a small technical team to set up the development agency (Davidson, 1984, p. 140).

Davidson notes that the self-financing nature of the projects is a very important feature. In 1980 and 1981, the agency's income was more than fE one million and expenditures on capital works, services, and administration was fE 7,000,000 (Davidson, 1984, p. 141). Davidson notes however, that these expenditures were relative only to the provision of infrastructure and other services by the agency. The settlers themselves assumed the bulk of the expenditures.

As is the case with many low-cost shelter schemes of this nature, the housing was constructed utilizing a combination of self-help, the use of skilled workers, and the use of small local contractors. The means

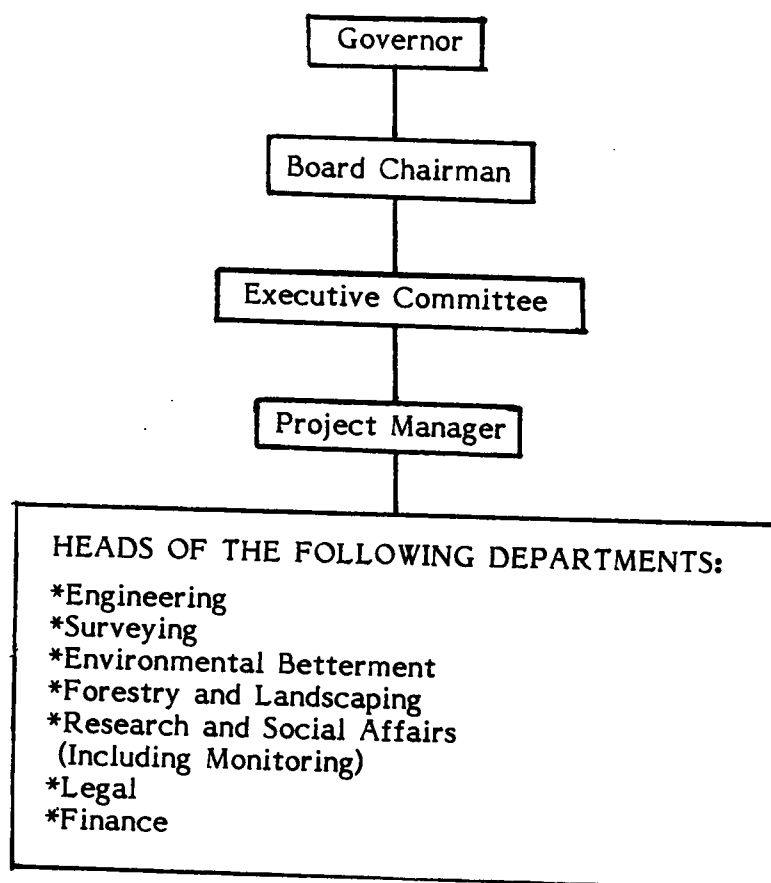


Figure 4-5. Structure of the Hai el Salam Agency.

Source: Davidson, F. (1984). Ismailia: Combined upgrading and sites-and-services in Egypt in Low-income Housing in the Developing World: The Role of Sites-and-services and Upgrading. Geoffrey Payne, ed. New York: John Wiley and Sons. p. 140.

of house construction was contingent on income.

Demonstration projects serve as the means by which the problems of the stages from planning to implementation can be worked out. The main change was in the application of standard building regulations which are relatively strict even though loosely enforced in Egypt. Using the more modern building materials had the possibility of putting a strain on low-income families, therefore, a concession was made that allowed the use of temporary materials such as mud-brick. However final freehold would not be granted until buildings met the full regulation. Another change was that land prices increased and harsher payment terms were enforced. The original 30 years repayment was changed to 10 and 5 years and downpayments were introduced of 25% for C plots, 50% for B plots, and 100% for A plots (Davidson, 1984, p. 143). Other changes were: (1) interest rates decreased from 7% to 5%; (2) water and sewerage to be provided by USAID; (3) minimum plot width increased from 6m to 7.5m; and (4) selection of settlers based on income and need was partially rejected based on practicality.

Evaluation

Davidson's evaluation of the project is positive. The project succeeded in keeping the price of land and the amount of compulsory payments low. Local project replicability exists and it is now accepted that such projects are part of the means of developing the city. Groups throughout Egypt have visited the project, but there would be considerable advantages in wider distribution of information and a training program to help adapt the experience (Davidson, 1984, p. 145).

Other positive aspects of the project are that implementation was done with minimum subsidy and employment has been created not only

in construction, but also in many small workshops which have been established on plots. In Hai el Salam, 3000 existing plots have been given legal tenure, 2200 new plots have been sold, 18km of roads built, 28 standpipes installed, 5 new public buildings built, and 100,000m² of tree belt planted (Davidson, 1984, p. 145).

The El Hekr (Hai el Salam) project served as an example to give the central government a working example of an alternative approach to housing. It can serve as an example for other countries as well. The project has formalized the informal sectors, which is a characteristic of upgrading projects, creating standard developments with standard buildings using standard building materials.

Successful upgrading is possible, all that is really needed is the will and the desire to rehabilitate existing structures and provide some security of land tenure. Squatter upgrading has proved to be surprisingly successful in many countries, and residents have been willing to cooperate to improve the physical and social environment in which they live (Bamberger, 1982, p. 104). Bamberger suggests that one of the reasons for the positive response is that contrary to the popular image, many squatter areas are very dynamic and contain significant proportions of families with both the motivation and resources to respond to the investment opportunities provided by the physical improvements.

Public Housing

Public housing or government housing, as it is sometimes generically referred to, is a type of provisional housing response not restricted to Third World Countries alone. Many developed countries provide this type housing for their poor and homeless. Public housing, unlike the other approaches discussed earlier, does not have the flexibility to reach down

into the levels of the very poor, unless subsidies are unusually deep. The participants in this scheme usually must have a minimum income in order to be admitted and, therefore low-middle to upper-middle income persons are, more often than not, the beneficiaries in this approach. And even if a low-income family acquires public housing, they become burdened with trying to meet the monthly payments, and find themselves having to sell out or sublease their unit. But this does not necessarily have to be the situation. The successful schemes are found in wealthier Third World cities however. Two such examples are the public housing activities of Hong Kong and Singapore to be presented as examples later in the chapter. As mentioned earlier in Chapter III, in discussing the constraints on providing shelter, one of the reasons for such low level of government sponsored housing is that there are competing and profitable areas for investment which tend to induce a neglectful indifference towards the living conditions of the urban poor (Drakakis-Smith, 1979, p. 22).

Where public housing schemes exist they tend to be high-rise apartments. This meets with objections based on cultural preferences. The single family detached dwelling unit prevails throughout the world as desired adequate shelter. However, this single family unit may have to comfortably house a man and three wives or the family of the husband and/or the family of the wife. Therefore, it is important to understand how a single family dwelling unit is defined.

Subsidized housing mainly in the form of charging below market prices for public owned land, building materials, and low interest government loans, has been in existence for some time. It has been a feature of sites-and-services and upgrading programs in several countries (Grimes, 1976, p. 99). The upgrading and sites-and-services scheme in Ismailia, Egypt is one example of a subsidized government program.

Herbert (1979, p. 121) points out that public housing programs are most effective when developed, and coordinated as part of a comprehensive program that is directed at a household's basic housing needs, with both public and private resources allocated appropriately to each problem area. In most cases, it will be important for public housing programs to be directed towards increasing the total housing stock, emphasizing projects and programs that minimize the dislocation and relocation of existing households (Herbert, 1976, p. 121).

Public Housing: Hong Kong and Singapore

Yue-man Yeung and D.W. Drakaki-Smith (1984, p. 221), in their presentation of the public housing schemes in Hong Kong and Singapore, hail them as successful examples of government subsidized efforts. They point out however, that while Hong Kong and Singapore have achieved equal international distinction, their planning philosophies and approaches are sufficiently different enough to make a comparative study instructive.

Each city will be presented separately and then compared and evaluated jointly.

Hong Kong

Public housing schemes began in Hong Kong as early as 1954, after 50,000 squatters were left homeless due to a massive fire. These earlier resettlement blocks were built within very low standards. For example, six to eight story buildings were built having only communal washing, cooking and toilet facilities and no lifts. It was normal for five persons to be housed in one concrete room of 11 square meters. Also common were low monthly rents of US\$3.

Objectives and Implementation

For the Hong Kong public housing scheme, the emphasis was on squatter resettlement. In 1964, public housing was for families with monthly incomes under US\$100 (Yeung & Drakakis-Smith, 1982, p. 221).

In 1973, a Ten-Year Housing Program was outlined calling for the provision of housing for 2.1 million people by 1983. This proved inadequate and unrealistic because it was similar to the program 20 years earlier in which the emphasis was also on squatter rehousing.

In order to be more efficient, structural changes were implemented creating one Housing Authority responsible for planning, clearance, construction, and management of all public housing.

The present emphasis of the Housing Authority is to continue building programs geared towards existing and planned New Towns that will accommodate 900,000 people (Yeung & Drakakis-Smith, 1982, p. 223). Another emphasis is to make all units self-contained within a minimum space allocation of 4.6 square meters per adult. This is a change from the previous 3.3 square meters per adult. Providing new estates with a full range of services and amenities from supermarkets to kindergartens was yet another emphasis.

Recently, the Housing Authority decided to build public housing for sale as a result of a demand from within the present government estates rather than by a desire to meet middle-income needs in general. In 1976, a revolving fund of US\$65 million was set up to help finance this flats-for-sale scheme (Yeung & Drakakis-Smith, 1982, p. 233). In 1978, a total of 8400 flats in six localities were offered for sale to the existing tenants and their flats were reallocated to poor families. It is expected that in six phases over eight years (from 1978-1986), 42,000 flats will be built

for sale to families with incomes up to US\$750 a month. However, primary focus will remain with rental units.

Evaluation

Evaluation of the Hong Kong program shows that since the 1973 re-organization, housing standards have steadily improved. According to the Yeung and Drakakis-Smith evaluation, 5000-6000 new units have been completed each year. However, the actual number of persons living in public housing in 1975 of 1.8 million is lower than the earlier predicted number of 2.1 million.

Overcrowding in the oldest resettlement estates still prevails at an appalling rate. In 1975, there were 400,000 people living below the original 2.2 square meters per person allowance (Yeung & Drakakis-Smith, 1982, p. 227). This may be due to the fact that the government started its program at a very low level, concentrating more on quantity, than on quality.

Singapore

Public housing schemes began in Singapore as early as 1927, although half-heartedly. In 1960, a Ten-Year Building Program was chartered that marked the beginning of the present phase of large scale and integrated development. At that time it was projected that 150,000 dwelling units would be needed to relieve over-crowding in the central city and from pressures of urban renewal and increases in the population. Through various Five-Year Plans, other projected needs were presented. The Third Five-Year Building Program (1971-1975) added another 113,819 units of flats and shops; the Fourth-Year Building Program (1974-1980) added 125,000

to 150,000 units. By March, 1978, 68,479 units had been completed (Singapore Housing Development Board, 1978). In 1978, it was established that 1.4 million (60%) of the population lived in public housing.

Objectives and Implementation

One objective of the Singapore scheme was that rents were not to exceed 15% of the family's income.

Although Singapore imposed very generous housing standards (10 square meters for one room) the Housing Development Board stopped building one room flats in 1966 in order to enhance the attractiveness of public housing.

In 1964, Singapore also launched a homeownership scheme. The monthly income ceiling to buy flats was revised from US\$450 to US\$530 in 1970, to US\$670 in 1971 (Yeung & Drakakis-Smith, 1982, p. 225). And for the first time more residents lived in owner-occupied homes (53%) than in renter-occupied flats. Another reason for this increase was a relaxation of the qualifications for renting and buying flats from a minimum household size of 5 to 2 persons for any type of public housing.

Evaluation

Yeung and Drakakis-Smith cite some notable gains in evaluation of the Singapore project. For example, housing standards were changed: floor space increased; the number of households per dwelling were reduced from 2.8 in 1964 to 1.2 in 1970 (Yen & Pang, 1973, p. 8-31). The average number of persons per room decreased from 4.8 to 2.5.

Economic production increased also. From 1960, the construction sector grew at an average rate of 23% and its contribution to GDP rose from 2.0% to 6.8% in 1973 (Teh, 1973, p. 1-21). During this period, more

than 60% of the total construction was attributed to the public sector.

Nationally, the Singapore project was regarded as a success, largely due to the existence of a competent administrative leadership at the middle level that complemented the political leadership at the top.

Comparative Evaluation

Whereas the Hong Kong public housing scheme was directed toward the lower-income group, the Singapore project was not. This accounts for the fact that by the mid-1980's, a 75% increase of the population living in public housing was anticipated, up from 60%. Another difference between the two was that whereby public housing in Singapore was planned with employment opportunities provided by light industries within, the Hong Kong project was not.

It may be concluded that success in the public housing programs in Hong Kong and Singapore is attributable to clear urban priorities, high administrative capacity, intensive population planning measures, and the absence of a rural hinterland to divert scarce capital resources (plus a prosperous economic base) (Yeung & Drakakis-Smith, 1982, p. 236). However, these conditions are frequently not present in other Third World Countries.

Role of Donor Agencies

International assistance for shelter is a relative late-comer to the development field with the exception of USAID, which in the 1960's established a housing guarantee fund to stimulate private U.S. investments in developing countries. The housing guarantee tended not to assist the lower-income households, but rather, catered to the upper-middle income groups.

Non-government organizations, especially church and voluntary service groups, were working with funds in slum and squatter settlements to help local communities provide some basic services such as better health care and child care and small water supplies (Williams, 1984, p. 173).

During the same period international assistance was being used for other types of urban infrastructure such as major roads, water supply, and electrical distribution systems. At that time little attention was given to the needs of the growing number of urban poor.

The philosophies of international agencies began changing in the early 1970s which led to increasing levels of investment in urban shelter with associated policies directed to institutional changes in related areas including land tenure, financing and community relations. Williams sets out two possible reasons for the philosophy changes: (1) the increasing speed and extent of urban growth could no longer be ignored or swept under the carpet, and (2) the increasing disparity between the rich and the poor in developing countries (Williams, 1984, p. 174). The traditional division of rich and poor was that the rich lived in urban areas and the poor lived in the rural areas. Today, the rich as well as the poor live in urban centers of Third World Countries.

The structure of international funding agencies parallels that of government ministries, both being organized along functional sectors, such as industry, water supply, transport, etc. Very little attention was paid to the dynamics or the social and economic effects of urban agglomeration, the distribution of benefits, or the linkages between one sector and the other (Williams, 1984, p. 174). This was the World Bank's original set-up and it still operates within these sectoral lines. In the early 1970's as a result of research and analysis of housing and urban settlement, ac-

accompanied by the discovery that rural and urban poverty were not being reduced by projects oriented toward conventional growth economics, began to make the Bank more aware that major changes were required not only in project design but also in associated policy areas of land and finance (Williams, 1984, p. 174).

The United Nations Development Programs (UNDP), a department of the U.N. that is exclusively concerned with development planning programs, has generally restricted itself to funding studies on urban strategy and master plans, although some attention has been given together with the World Health Organization (WHO), another U.N. agency, to analyzing and developing technical solutions to health problems which has subsequently resulted in changes to design of water supply and sanitation projects (Williams, 1984, p. 175). Bilateral aid agencies have tended to fund discrete studies and a limited number of physical projects in urban infrastructure, often noticeably with regard to transport (bilateral agencies are agencies by which aid arrangements are made between two nation states). These agencies have proven to be a vital part of the development process in many developing countries. The aid agencies have set stringent criteria, that, if followed should result in a more efficient environment.

The current housing programs of the World Bank and USAID, which focus their lending efforts to help people shelter themselves through resource-conserving self-help housing programs, are salutary examples of major bureaucracies learning from past mistakes and developing new progressive programs (Stokes, 1981, p. 54). When developing shelter programs it is important to realize the basic criteria that must be met in order to be effective. The criteria that follow are taken from the 1981 Integrated Improvement Program for the Urban Poor: An Orientation

for Project Design and Implementation, designed by USAID:

1. Shelter programs for the urban poor must be capable of massive application on a sustained basis.
2. They must have acceptable low per capita capital and operating costs with potential for cost recovery from the urban poor.
3. They must provide substantial opportunity for self-help and participation from the urban poor themselves.
4. They must have acceptable low levels of administrative requirements.
5. They must be flexible and capable of change in response to changing needs of the urban poor target groups.

Perhaps, if the preceeding criteria are met, the failures common in many countries will not exist. Churchill and Lycette (1980, p. 34) through a survey of experiences with public programs for providing shelter suggest that most of the failures can be accounted for by the following:

1. Standards have been too high in relation to the ability to pay of the poor, with the result that large subsidies have been required.
2. Governments have been either reluctant or politically unable to enforce collection of rents and mortgage payments.
3. Shelter units have been built far from sources of employment and often without complementary social infrastructure.
4. Little account has been taken of the ways of living of members of low-income communities, and few attempts have been made to involve them actively in solving their problems.

Summary

Through this review one theme has been constant--all approaches require community participation, government enthusiasm, sound planning, capital and land. There is also a common thread called self-help running through each approach whether from the onset or later in a housing scheme.

As seen in both examples of the sites-and-services projects, self-help or self-build construction was an important ingredient. This was also

the case in the Ismailia, Egypt squatter project.

The FUNDASAL sites-and-services project in El Salvador successfully reached the low-income urban population and at the same time achieved a high cost recovery rate. The project also created a sense of community solidarity through the utilization of mutual help. Eighty-five percent of the households involved had incomes placing them below the upper income limit for the project, most households earned less than the equivalent of US\$100 monthly.

The Dandora Project in Nairobi, Kenya is another sites-and-services scheme, with a few major differences, this project involved the government, private, and informal sectors. This project is an example of the positive possibilities on a large-scale when there is collaboration.

Ismailia, Egypt's upgrading and sites-and-services scheme succeeded in keeping the price of land and the amount of compulsory payments low. Implementation of this project was done with minimal subsidy and employment was created not only in construction, but also in many small workshops which have been established on plots.

The Hong Kong and Singapore public housing projects serve as examples of successful government subsidized efforts. The success of these projects can be attributed to formulating clear urban priorities, high administrative capacity, intensive population planning measures, and the absence of a rural hinterland to divert scarce capital resources.

The implementation of any international housing project requires a good understanding of the country's government structure and their prioritization of needs. As shown in the project presentations, implementation is made possible through many different means varying from government subsidies to funding from international agencies such as the World

Bank, USAID, the British Government, and the United Nations. Table 4-3 summarizes for each project the method of implementation (public and/or private), lowest monthly income for project population, and benefits yielded.

Table 4-3. Overview of Policy Responses.

Country	Policy Response	Implementation		Lowest Monthly Income	Units/Plots Provided
		Public	Private		
El Salvador	Sites-and-services		X	US\$40-\$100	Improved living conditions for 15,000 households
Kenya		X		US\$60	15,740
Egypt	Squatter settlement upgrading	X	X	fE290	5,200
Hong Kong	Public Housing	X		US\$100	30,000
Singapore		X		*	150,000

Source: Author

* Information not available

CHAPTER V

NIGERIA: A PERSPECTIVE ON HOUSING

Examples of various policy responses which have recently or are currently being implemented in such countries as El Salvador, Kenya, Egypt, Hong Kong, and Singapore that proved successful for various reasons ranging from community participation to government support were presented in Chapter 4. These responses included sites-and-services, squatter settlement upgrading, and public housing (subsidized housing) which all had the element of self-help as an underlying tool for implementation.

The turbulent days of this decade being experienced in Third World Countries have made it important to forge ahead toward diverse problem-solving. There exists famine and hunger in Ethiopia; divided people in Lebanon and Beirut; and unrest in Central America. Along with these problems of hunger and striving for peace is the problem of homelessness in urban areas of the Third World which has been the basis of this study. This chapter will analyze Nigeria, the most densely populated African nation, by reviewing its migration and urbanization process and subsequent housing concerns. It has been suggested that rapid urbanization and migration are among the chief reasons for the diverse housing problems in many Third World cities today.

Although Nigeria is a quasi-modern country, many traditional values and ways of life prevail. There are two countries coexisting in Nigeria--a traditional country and a more modern one. The coexistence of these countries has often made it difficult to plan and implement development projects because of differing values. Coupled with these impediments, the country has also undergone governmental changes. There have been

three changes in the government structure over the last fifteen years from military to democratic rule, to military rule. Nigeria is a diverse country with diverse people, but the value of adequate shelter is shared nationally. With whatever materials a house is built and whatever its architectural and structural plan, the house in all Nigerian communities is a sacred institution (Okpala, 1982, p. 97).

Introduction

The federation of Nigeria became an independent nation on October 1, 1960, within the British Commonwealth, and later became a Republic on October 1, 1963. The federal Republic of Nigeria is the most populous country in Africa, having 25% of black Africa's population. The population density is two times as high as the African average. With a population of over 85 million, it is still growing with a projected population by 1990 of close to 95 million (see Figure 5-1).

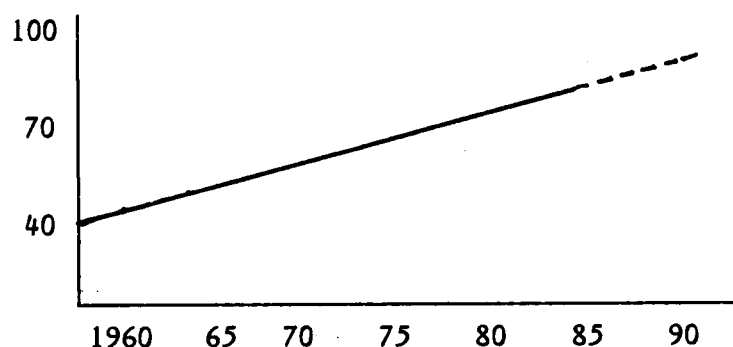


Figure 5-1. Nigeria's Projected Population Growth.

Source: Kurrian, G. (1983). Atlas of the Third World. New York: Facts on File Publications.

Nigeria's large population includes a multitude of ethnic backgrounds. The principle groups are the Hausas, Fulani, Ibo, Yoruba, Edo, Dfiik, Ijaw, and the Kanuri peoples.

As shown in Figure 5-2, Nigeria lies within the tropics between latitudes north of the equator and longitudes west of Greenwich Meridian. It is bounded on the west by the Republic of Benin, on the north by the Niger Republic, on the east by the Republic of Cameron, and on the south by the Atlantic Ocean (Worldmark Encyclopedia of the Nations, 1984, p. 2164).

The land mass consists of an area of 913,072.64 square kilometers and is well watered by the Niger and Benue Rivers and their tributaries. The climate varies from tropical at the coast to sub-tropical further inland. There are two definite seasons—dry and wet. The wet season is called monsoon which generally lasts from April to October. The dry season generally lasts from November to March.

Migration and Urbanization

Nigeria's large and growing population has helped to create a need for its government to take a stand on the subject of implementing sound urbanization policies that will monitor and control rural-to-urban migration. Definitions of urban vary country to country. A locality in one country must have 10,000 or more inhabitants to be considered urban, in another country, localities of 1,000 or more inhabitants may be classified as urban (Todaro, 1979, p. 3). An urban area in Nigeria is defined as having 20,000 or more inhabitants. The urban population has increased substantively. The rate of urban population growth in the country was estimated at about 5% per annum between 1931 and 1953 (Mabogunje, 1968, p. 313).

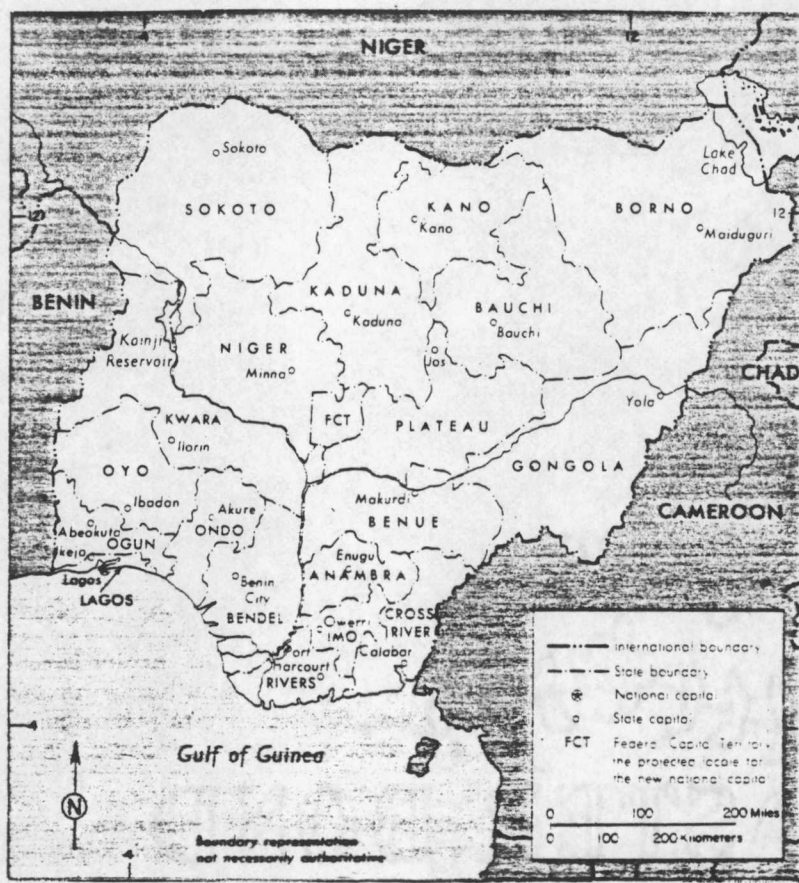


Figure 5-2. Federal Republic of Nigeria.

Source: Nigeria: A Country Study. (1982). Harold D. Nelson, ed. p. xxii.

Today that figure is estimated to be about 8.5 (Onokerhoraye, 1977, p. 3). The increased urban population is due in part to the rural-to-urban migration process. Urbanization problems have reached serious proportions in the cities of Lagos, Ibadan, Kano, Onitsha, Engu, Aba, and Port Harcourt.

The following map shows the vast population concentration of major urban areas (see Figure 5-3). Knowing the areas of major urban population concentration aids in targeting of new towns. Environmental problems created by the increase in urban population have reached critical levels.

This is largely manifested in the bad state or the total lack of drainage and refuse disposal systems, in the inadequacy of the human waste disposal system, and in the excessive congestion and noise (Onyemelukwe, 1982, p. 100).

It is common knowledge that accurate data on migration patterns are generally not available for tropical African countries. However, there is a general consensus concerning the reasons for the movement. Onokerhoraye (1977, p. 1) suggests that four crucial factors push rural inhabitants to the cities: (1) land hunger; (2) lack of employment opportunities; (3) displacement of traditional skills; and (4) the lack of social amenities in the rural areas. Consequently, only the urban centers offer opportunity for work and cash wages, for education and healthier living and a better way of life. For many migrants the city symbolically represents freedom from traditional restrictions (Onokerhoraye, 1977, p. 1).

A case study of Calabar, the capital city of the Cross River State, conducted by R.A. Olu Sule is presented here as an illustration of the rural-to-urban migration process. After 1967, when Calabar became a capital city, the development process was marked by a concentrated spatial tendency. Between 1967 and 1977, Calabar had become the focus and

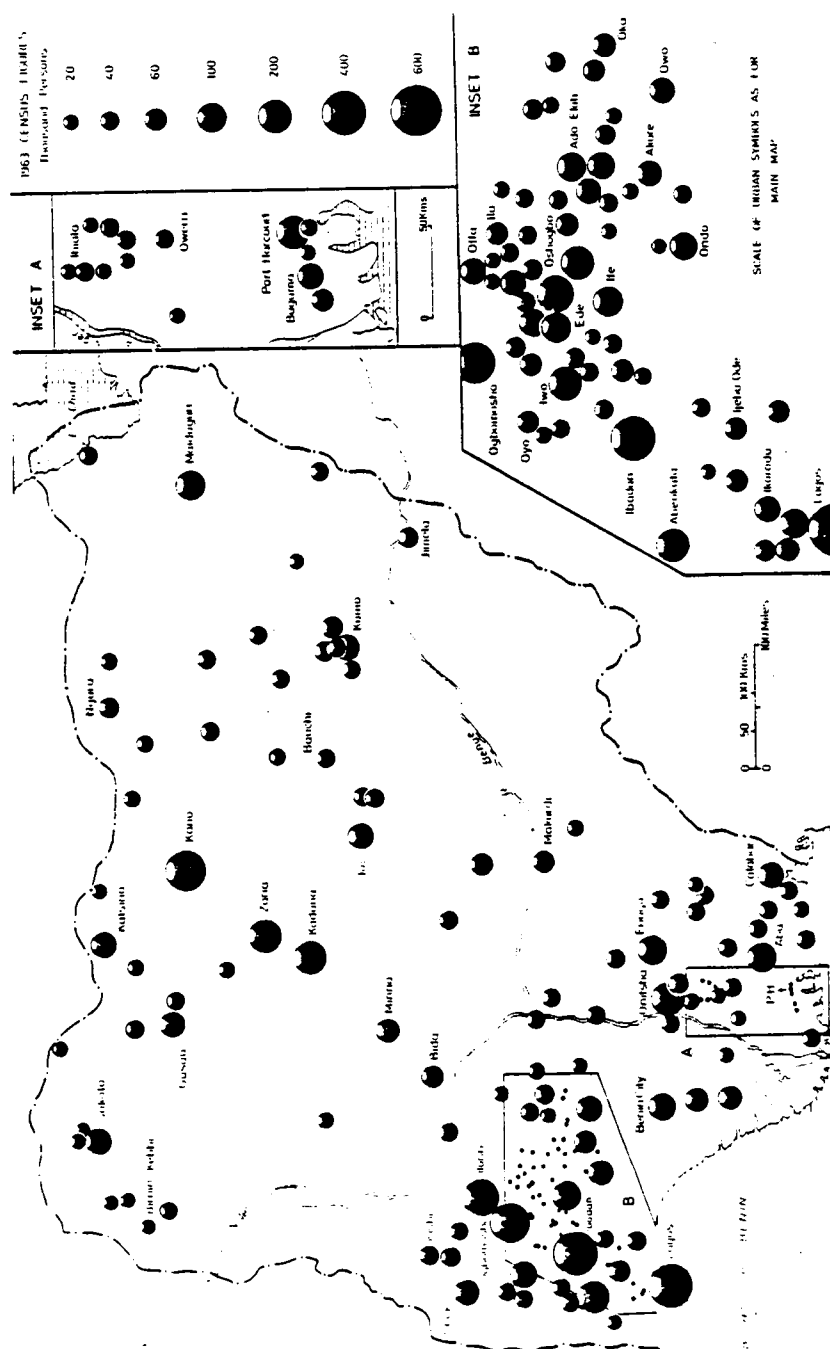


Figure 5-3. Population Concentration of Major Urban Centers.

Source: Nigeria in Maps. (1982) K.M. Barbour, ed. et al. Africana Publishing Company. p. 61.

locus of state political functions. During this time the Calabar Cement Factory was established; in 1975, the University of Calabar was created; and in 1979, the Calabar Port was developed. These acted as magnets to pull a large number of people into Calabar. Table 5-1 shows the major reasons for migrating into Calabar of sample heads of households.

As evidenced in previous discussions of rural-to-urban migration, the Nigerian process has variables in common with other Third World Countries such as employment, income, and rapid population growth. Migrants flee from areas where employment opportunities are stagnant and income is low to a point where they are higher and promising (Sule, 1982, p. 4). Data in Table 5-1 indicates the range of responses obtained from a sample survey of 300 migrant heads of households in Calabar and 200 in Uyo.

A number of social, environmental, economic, and other serious problems have resulted from the rapid growth of towns in tropical Africa in recent years (Onokerhoraye, 1977, p. 1). Among the social problems are: overcrowding of areas and homes; a paucity of social and health services; increased robbery, violence, and prostitution; conflict between ethnic, political, or special interest groups (Onokerhoraye, p. 2). The crowding components of housing needs is taken from the number of rooms and the number of persons occupying these rooms (Sule, 1982, p. 11). The occupancy standard is 2.0 persons per room. Onokerhoraye points out that in the economic sphere the government faces formidable problems in providing large amounts of money needed to finance a higher standard and a greater range of social services than are normally required in rural areas (Onokerhoraye, 1977, p. 2).

Table 5-1. Reasons for Migrating into Calabar and Uyo of Sample Heads of Household.

Responses	% in Sample	
	Calabar	Uyo
Short distance	5.1	14.5
Housing amenities	10.2	2.6
Other urban amenities	6.1	6.8
Employment	48.9	67.5
Income (high income)	24.5	6.9
Others	5.2	1.7
Total	100.0	100.0

Source: Sule, R.A.O. (1982). Urban Planning and Housing in Nigeria: Problems and Strategies. Sample survey by author, August 1978. New York: Vantage Press.

The rapid growth changes occurring in the urban centers have led government officials to formulate and implement policies on urbanization in Nigeria as well as other Third World countries. Urbanization refers to a process of concentrating in large numbers or locating in an urban center or converting a rural place to an urban one (Onyemelukwe, 1976, p. 13). By the year 2000 it is estimated that over 2.12 billion people or 66% of the urban dwellers of the world will reside in developing regions (Todaro, 1979, p. 1). This would represent an overall increase since 1975 of 166%, or 1.32 billion new urbanites in Africa, Asia, and Latin America (Todaro, 1979, p. 1). Todaro (1979, p. 1) states that almost all countries dissatisfied with the size and growth of their urban population believed that internal, rural-to-urban migration is the most prominent factor contributing to city growth.

Urbanization Problems

Urbanization is perhaps the primary manifestation of the radical physical, economic, and social transformation that the Third World is passing through as a consequence of development. There are economic, urban public utility, social, physical, and urban management problems surrounding national urbanization policy. In Nigeria, although reliable and internationally comparable data on the state of the urban economy, such as urban per capita income, labor force participation rates, urban unemployment, the nature of manufacturing establishments, and productivity are rarely available, some generalizations can be made about the economic structure of Nigerian cities (Onokerhoraye, 1977, p. 2).

Economic Problems

The heaviest concentration of workers is in the tertiary sector (small-scale or family enterprises) providing various services and involved in trade and commerce. The proportion of workers in the two categories ranges from about 40% in the main industrial centers to about 50% in the traditional cities.

Reflected in the heavy concentration of workers in trade and commerce and service is the absence or slow growth of employment opportunities in the manufacturing sector. This also explains the existence for the high urban unemployment. Moreover, when one considers that most of the viable industrial enterprises, commercial establishments, and other activities are concentrated only in the national and state capitals and in a few other cities, the economic conditions of vast numbers of smaller cities and towns can well be visualized (Onokerhoraye, 1977, p.2).

Urban Public Utilities

The provision of adequate, quality housing is an echoed urban problem throughout the Third World. This is the case in Nigeria where it is not uncommon to have about fifty people living in a single house, and a family of six occupying a single room (Onokerhoraye, 1977, p. 2). Onokerhoraye describes the Nigerian housing situation as:

"Added to this acute shortage of housing is the problem of slum living. A large proportion of the residential areas in most Nigerian cities is dominated by substandard housing built largely in areas having no accessible streets. Most of such houses are made of mud or mudbricks, some of which are quite rough while others are plastered with ordinary mud or cement in different degrees of efficiency. Their floors are made of cement or earth while most of the roofs are made of corrugated iron sheeting ranging greatly in quality. In most cases, the houses are provided with very limited ventilation, especially those built in the central parts of the traditional cities. A large proportion of the urban houses lack basic facilities for com-

fortable human living. There are no kitchens in some of the houses and whenever they exist, they are in most cases dirty and poorly maintained" (Onokerhoraye, 1977, p. 4).

Social Problems

Social problems emerge through ethnic differentiation which is reflected in the characteristic grouping of various ethnic groups into district quarters within the urban areas. The existence of a group known as "sons of the soil" further aggravate the problem. This group is made up of traditional residents or people who own the land where new cities have developed. They often oppose the acquisition of the land by migrants. There appears to be a growing resentment by youth, particularly the more educated, against the limitations imposed by family ties, the more obvious restrictions of their religion, the lack of social opportunity, and their inability to influence events (Onokerhoraye, 1977, p. 4).

Physical Problems

Socio-economic changes such as rising incomes and increased trend of individual land ownership have resulted in the replacement of the traditional compound dwelling, which was designed for a large extended family, by smaller houses built by nuclear families (Onokerhoraye, 1977, p. 5). The transformation from larger compound residential units to smaller ones has added to an already highly dense area of houses in the central parts of cities. The increase is due to a lack of any land use controls and as such the existing open spaces have all been built up with additional houses. As a result, it is very difficult to acquire adequate space for locating such community facilities such as schools, hospitals, transport services, postal facilities, and shopping centers.

A second problem related to the space-location problems is the existence of shanty settlements. These settlements exist around some major towns such as Lagos, Kano, Zaira, and Jos. They are pockets of congested and semi-permanent housing unplanned in layout. These are squatter settlements as described in Chapter IV. These shanty settlements are largely associated with new migrants who have a background of a low standard of living and who, because of poorly paid employment, cannot afford better quality houses inside the city. These shanty settlements are a menace because they are potential harbors for criminals and they constitute health hazards to the urban population.

Urban Management Problems

At best, management of urban activities in Nigeria is poorly carried out. At worst, it is non-existent. Until recently, with the establishment of the Federal Ministry of Housing Urban Development and Environment, the country was without an entity that would be responsible for urban management. Thus, there had been no federal ministry responsible for the formulation of national urban development policies which could, in turn, provide broad guidelines for the development of individual urban centers in the country. In addition, urban local authorities all over Nigeria face formidable problems which inhibit them from playing a more effective role in the planning and implementation process (Onokerhoraye, 1977, p.6). The results of this noneffective role are exemplified by poor revenue collection, the unsatisfactory maintenance of existing services, little development of new or improved services, lack of adequate staff and poor communication between local authorities and the general public they serve (Onokerhoraye, 1977, p. 6).

Urbanization Policy Formulation Issues

Todaro (1979, pp. 17-18) lists two critical questions which arise with regard to urbanization problems in developing countries: (1) is the numerical size and likely growth rate of developing world cities excessive in terms of the absorptive capacity of urban areas, and (2) if urban population density and growth are deemed excessive or undesirable, what practical policy options are available to national governments to ameliorate the situation? Absorptive capacity is the ability of the urban economy and society to provide basic social services to accommodate them (Todaro, 1979, p. 18). Todaro (1979, p. 20) concludes that for many developing countries the volume and rate of urban population growth is excessive in relation to absorptive capacities.

In order to curtail this absorptive capacity it is therefore necessary to develop urbanization policies that will benefit both the rural and urban sectors. The objectives of a national urbanization policy in a developing country such as Nigeria is no different from other national development policies. The common elements included are growth, efficiency, equity, and quality of life. In order to avoid divergencies and contradictions, a national organization policy should be established in line with the social and economic development plan prepared by the planning organizations at the national level.

The Nigerian government has long recognized the problem of rapid urbanization and has made attempts to formulate policies dealing with urbanization within the country. The government is aware of the close relationship between the rural and urban sectors of the economy. Therefore, according to the Third National Development Plan, the government had planned to pursue an integral urban-rural development strategy based

on a recognition of the vital functions of each segment and the overall development of the economy. A rural development program is needed. These amenities include employment and cash wages, adequate housing, waste disposal, schools, and hospitals. Although these are often not found upon arrival in the urban centers, these are the reasons for the rural-to-urban migration.

Nigeria's national development objectives have been briefly stated in the current Third National Development Plan of the country as follows:

1. increase in per capita income;
2. more even distribution of income;
3. reduction in the level of unemployment;
4. increase in the supply of high-level manpower;
5. diversification of the economy;
6. balanced development; and
7. indigenisation of economic activity.

Relating the contemporary problems of Nigerian urban development to the role urban centers can play in the achievement of the national development objectives stated in the Third National Development Plan, Onokerhoraye (1977, p. 8) sets forth five major points of urban policy for Nigeria which are scaled roughly on the basis of urgency and importance. The first point concerns the need for the transformation of Nigerian cities into productive complexes which will constitute dynamic units for economic development. This is needed for employment generation which emphasizes (1) reinforcement of measures for modern industrial development; and (2) the amelioration of the problems of the numerous small-scale enterprises so as to raise their contribution to the urban economies in which they are located. The second point about the formulation of an urbanization

policy in Nigeria relates to the fact that such a policy should seek to equalize the provision of public services among residents in the urban areas (Onokerhoraye, 1977, p. 9). Regarding public services, the provision of housing programs in the country is largely in favor of the high income households. The third major issue involves the need to create, in various urban areas, a physical environment which is sufficiently flexible to enable the various social and economic groups within them to live together in harmony (Onokerhoraye, 1977, p. 9). The policy should ensure that national integration is manifested so as not to promote inter-ethnic strife. The policy should provide Nigerians equal opportunities for advancement, good housing, and adequate health and education facilities. The fourth major issue concerns the need for federal and state governments to provide incentives for local governments to respond to the reality of metropolitan conditions (Onokerhoraye, 1977, p.9). This calls for decentralization of powers from the state which should allow for more effective local government powers. The final major issue, that should be noted in the formulation of a national urbanization policy for Nigeria, concerns the need for various governments in the country to provide more and better information concerning urban affairs (Onokerhoraye, 1977, p. 9).

Mass movement into urban areas has put a strain on existing housing. Sule (1982, p. 21) raises the question: Should the Nigerian government continue to encourage the flow of people into the cities, thus creating the need for housing and other residential services? Onokerhoraye (1977) makes a valid point suggesting a national urbanization policy, but it fails to address Sule's question. With an emerging urbanization policy formulation, the question of slowing movement would have to be addressed. This relates to Onokerhoraye's view on ruralization, equalizing the rural

and urban development process by employing amenities now characteristic of urban areas.

Slowing the rural-to-urban movement will require a reordering of development priorities of which a comprehensive rural development policy would assume greater importance. The development plan of Nigeria should address the problem of rural and urban areas. A long-run objective of such a dual development plan should be to create a hierarchy of small towns and service centers that give rural populations access to a wider range of producer and consumer goods and employment opportunities to strengthen agricultural development (Todaro, 1979, p. 23).

Todaro (1979, pp 23-24) suggests that a package of medium- and long-term policies to slow the pace of urbanization might include the following components of structural and institutional change:

1. Land reform supported by appropriate national policies. If properly instituted land reform should serve a dual purpose: (a) vehicle for redistribution of rural assets and income-earning opportunities; (b) means for achieving increased productivity through supportive policies that extend the availability of credit, improve input supply extend the availability of credit, improve input supply, expand research and extension services, and build new storage and marketing facilities.
2. Disperse urbanization. By taking steps to guarantee the viability of an industrial decentralization program by providing appropriate incentives for both domestic entrepreneurs and foreign investors to locate their activities in dispersed urban locales.

In terms of implementing an urbanization policy, there is initially the need to plan positively and comprehensively to deal with the immediate situation in the urban areas. There is also the need to plan realistically for the future. In Nigeria, new satellite towns are being created principally to relieve overburdened and heavily congested cities like Ibadan and Lagos (Onyemeluke, 1982, p. 60). The intention is to make access to the national capital easier from all parts of the country and at the

same time relieve congestion in Lagos, the nation's leading port and manufacturing center (Onyemeluke, 1982, p. 60). Further research is needed in this area and any recommendations presented should be made in light of the national development objectives, including those regarding housing.

Housing

Typically, housing has not ranked high on the list of priorities for social spending and the Nigerian Federal government has tended to rely on local authorities to deal with the problem. Because efforts of providing low-cost urban housing have been minimal, it is very common to find shantytowns and slums in the urban areas. However, during the fourth plan period from 1981-1985, projected public sector expenditures on housing amounted to N2,661.74 million or 38% of total expenditures. A total of 27,815 units were completed in 1981, under the National Housing Program (Kurrian, 1983, p. 245).

Housing subsidies exist in the country. However, only the upper- and medium income people are being favored and only this segment of the Nigerian population attracts the governmental subsidies (Sule, 1982, p. 113). The problem of housing for the urban poor or those living below poverty level is not adequately touched by government housing efforts even though the main purpose of the subsidies is to ensure that all members of the community have a suitable environment in which to live. In 1976, the income level set by the federal government of Nigeria set minimum incomes for participating in their low-cost subsidized housing programs. The income levels were set at N720.00 for one bedroom; N1,500.00 for two-bedroom; and N5,000.00 for three-bedroom units. And obviously, the truly low-income families cannot participate. A family

of four with an annual income of N200 really cannot afford to pay anything for housing, because this requires its entire income simply to eat properly, clothe themselves adequately, receive medical care, and pay other necessary expenditures (Sule, 1982, p. 117).

Sule points out that the difficulty with the controversial rent subsidy housing policy is the fact that the scheme was designed basically to alleviate the housing problems for top civil servants, people within the high-income bracket who could afford to pay for decent homes themselves (Sule, 1982, p. 155). As a result, the poor have no choice but to live in slum houses in the heart of cities.

The Nigerian Federal Government is cognizant of the fact that providing housing for the poor is an issue. However, the rent subsidies employed at present are not catering to the neediest groups. Figure 5-4 is an example of a dilapidated building that still provides shelter to some underprivileged residents in Owo town in Ondo State, Nigeria. It appears that new strategies to house Nigerias urban poor are needed. Basic to the provision of housing in Third World Countries are the issues of land availability and the cost of housing. Pursuant to this is also the issue of amenities. Amenities in Third World Countries include many elements that are considered basic to housing in developed nations. In Calabar, Nigeria, the percentage of houses with water or electricity can be summarized in Table 5-2. Table 5-3 offers an overview of housing conditions in selected Nigerian towns.

Land

Strong traditions of private ownership of land, especially urban land, accompanied by private rights can make it difficult for public authorities

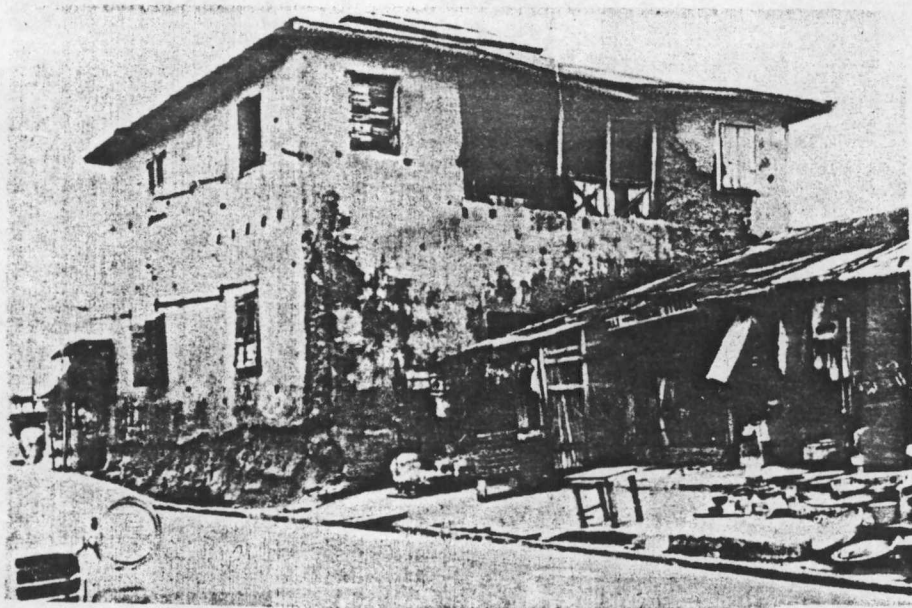


Figure 5-4. Dilapidated Building Structure in Owo Town Ondo State, Nigeria.

Source: Sule, R.A.O. (1982). Urban Planning and Housing in Nigeria: Problems and Strategies. New York: Vantage Press.

Table 5-2. Distribution of Amenities.

Type of Amenity	Number of Houses in Sample	Percentage
Total	406	100
Toilet	96	23.64
Electricity	222	54.67
Plumbing	120	25.55
Bathing	117	28.82
Kitchen	149	37.70

Source: Calabar Municipal Area Residents Quality Sample Survey (May, 1977).

Table 5-3. Housing Conditions in Selected Nigerian Towns.

Town	% of houses with tap water	% of houses with flush toilet	% of house with electricity
Lagos	71.7	43.5	93.2
Port Harcourt	75.0	18.6	81.4
Benin City	24.0	4.0	59.3
Warri	62.4	10.9	89.7
Kaduna	40.3	14.1	53.3
Kano	26.1	1.8	69.1
Ilorin	30.7	10.3	28.4
Ibadan	33.4	25.2	56.1

Source: Federal Office of Statistics, Lagos, Nigeria. (1975).

to control land in the social interest. Land use policy is still evolving in Nigeria because development policies are still evolving. Land policies reflect the economic, social, and political objectives of the nations making them. Not until 1978, with the creation of the Land Use Decree, could Nigeria speak of land policy. This decree was issued during the military rule, before the Shagari regime took power in 1979.

The decree is a political document. The urgent need for a structural change in the country's land use system to achieve rapid economic development and social transformation led to the creation of this decree. The decree stipulates the conditions governing the control and use of land in every state or local government area of the country. It provides that land in every state in the Federation is to be held in trust by the State Government on behalf of the people of the state. According to the decree (1) any person owning land prior to the commencement of the decree where the land had been developed (enhanced value due to physical improvements such as buildings, water supply system, electricity, roads, and drainage structures) is obligated to notify the Military Government; (2) where the land had not been developed before the decree came into effect, its legal holder or owner shall continue to hold one portion of the land not exceeding half a hectare (5,000 square meters) as though the holder had been holding a statutory right occupancy; (3) undeveloped land in urban areas shall not be subdivided or laid out in plots or transferred to any person except with prior written consent of the Military Government. Any such transfer without consent is illegal and the act is punishable by imprisonment for one year or a fine of N5,000 (Sule, 1982, p. 55).

There are various low-cost shelter approaches available for implementation in Third World Countries such as sites-and-services, upgrading of squatter settlements, and public housing. The main concern in pursuing these schemes is the cost of instituting them. As evidenced earlier, housing in Nigeria is generally costly. One way to decrease the high cost of housing in Nigeria would be to utilize the use of local building materials in housing construction. Okpala (1983, p. 42) suggests that a major factor in the high cost of housing in Nigeria is the very high import content of building materials. Over 70% by value of the building materials of most houses are imported. The high import content of building materials, particularly cement, causes rises in the cost of housing. There are no shortages of natural resources for cement production, bricks, lime, asbestos sheets, and wood components. Nigeria is therefore in a position to develop a building materials industry to offset the enormous outlay of imports of building materials (Okpala, 1983, p. 42).

Okpala (1983, p. 42) sets out several justifications for encouraging the use of local building materials:

1. to reduce the demand for cement;
2. to reduce building costs by reducing imports and transport costs and consequently reducing housing costs;
3. to make for the production of more housing units as materials used would become cheaper and therefore more accessible (physically and financially) to a larger number of potential builders; and
4. the creation of more employment in the country.

In light of these justifications, the federal government has taken steps to meet the objectives of using indigenous, locally produced materials. The government has planned the establishment of seven clay building brick factories to be located at Enugu, Jos, Kaduna, Ibaidan, Lagos, and Maiduguri.

These clay building bricks will reduce housing construction costs. The clay for brick building is readily available almost everywhere in Nigeria.

Another measure the government employed was to severely restrict the export of timber and other wood products from the country, and to limit the importation of timber into the country (Okpala, 1983, p. 43).

Nigeria is a large producer of timber and wood products.

The government also placed the importation of some other building materials under license, so as to encourage and protect the production of such materials within the country (Okpala, 1983, p. 43). These materials include plastic pipes, asbestos roofing sheets, tubes and pipes of cast iron or steel, and corrugated galvanized roofing sheets.

In addition to these government measures, the industrial private sector (mainly foreign) is introducing some wood based technologies to use wood and wood waste products for manufacturing wooden panels for housing (Okpala, 1983, p. 44). These advocates of wood-based houses claim that modern timber houses are structurally sound, permanent, esthetically attractive and blend well into their surroundings (African Timber and Plywood [Nigeria] Ltd., 1968, p. 2). In addition they are said to have the following advantages:

1. They can be immediately occupied.
2. They can be mass produced.
3. They can be built quicker than brick or cement block houses.
4. They can be manufactured at low-cost (Onibokun, 1976, p. 115).

Stabilized soil bricks or lancrete are being encouraged as a substitute for cement as a conventional walling material. Stabilized soil refers to mud mixed with some quantity of cement. Soil bricks are noted as being cheaper than cement blocks or bricks.

Acceptability

In spite of the efforts to repopularize the use of indigenous and locally produced building materials, problems of acceptance still exist. There are the problems of social or status unacceptability of some of these materials, technology, legality, and cost economics.

Social and status unacceptability of some of these materials exist due to the fact that modernization and progress at the national, group, and individual levels have occurred. Certain informal parameters have been set as indicators of this modernization and progress. One of these is the erection of modern houses defined generally as a house of cement blocks with corrugated iron roofing (Okpala, 1983, p. 44). Building with traditional local materials is often seen as a step backwards instead of progressing forward.

Non-use of local building materials has caused some of the brick factories to have large stockpiles of unbought bricks. The factory at Okigwe in Imo State is an example of unsold bricks that resulted in the factory's radically scaling down production because of a lack of storage space.

Technological problems arise with the use of certain wood panels and other wood-based materials like wood-cement boards, wood-wool-cement boards, hardboard/fiberboards that require relatively sophisticated skills which are not commonly available. Most of the current building labor pool are only trained in cement block construction.

There is also the legal problem of town planning laws and some local government laws prohibiting the use of certain indigenous building materials (Okpala, 1983, p. 45). In order to fully repopularize locally

produced indigenous materials, building codes, and regulations need revision and modification.

Economically, the use of building materials based on wood may not be as inexpensive as is being suggested. These wood products require specialized skilled labor for production as well as for construction of houses which is still in short supply.

Review of a Low-cost Housing Experiment in Nigeria

An appraisal of a low-cost housing experiment in Nigeria financed by Western Nigeria Housing Corporation in 1976 is offered by Adepoju Onibokum. Onibokum is a Senior Research Fellow in Town and Country Planning at the Nigerian Institute of Social and Economic Research, University of Ibadan.

The fact that low-income groups cannot afford adequate, safe shelter is well-founded. Low-income groups are unable to secure housing loans because of an inability to provide a reliable guarantor; short amortization period; and low monthly income.

The main objective of the housing experiment was to illustrate that inexpensive, esthetically attractive houses can be built using locally produced materials in Nigeria. Another reason was to show that housing affordable by low-income groups is feasible.

Characteristics of the Housing Experiment

Three house types were constructed, a two-, three-, and four-bedroom house. The two bedroom bungalow was designed for a small family of 4-5 people. The three-bedroom house was suitable for a family of 5-7, and the four-bedroom house was designed for a very large family (Onibokum, 1976, p. 115). The cost of the houses was N3,700, N4,200, and N4,500

respectively. For comparison, if the houses had been contracted using conventional construction methods, material and equipment, the cost could have been as high as N12,500, N15,600, and N22,100 respectively. Table 5-4 is an illustration of the cost breakdown of the experimental houses.

Table 5-4. Cost Breakdown of the Experimental Houses.

	<i>Materials</i>	<i>Labour</i>	<i>Total</i>
Two bedroom house	N2,200.27	N1,510.20	N3,710.47
Three bedroom house	N2,578.90	N1,590.00	N4,168.97
Four bedroom house	N2,823.95	N1,704.40	N4,528.35

Source: Western Nigerian Housing Corporation, Works Department, Boija, Ibadan.

Employing the use of local materials; refining and adopting the customary method of house building; simple design; and economy of space all helped to keep the price of the houses low. Landcrete blocks were used for the walls as opposed to sand-cement blocks. Although excessive floor area wastage was minimized, a comfortable sitting/dining room with a floor area of 180 square feet; bedrooms, each 120 square feet; and a passage of 4-6 feet, were included (Onibokum, 1976, p. 116).

Evaluation

In general, the experiment was seen as a breakthrough, as a step in the right direction. However, with the praise, there were criticisms of two main kinds. The first criticism related to the finishing of the houses citing poor finishing of the windows and ceilings; lack of cross-ventilation in the living room; and no burglar-proofing on the windows (Onibokum, 1976, p. 116).

The second criticism was more fundamental. The housing experience could not be regarded as salvation for the really low-income groups in terms of their housing needs (Onibokum, 1976, p. 118). Even though the prices of the experimental houses were very low, in relation to the average income of a substantial proportion of the people in Nigeria, the prices are still considered quite out of reach.

Future Prospects

Onokerhoraye suggests that for Nigeria, the federal government should make the provisions to house the needy persons of the urban areas. Subsidized housing is provided, not for the destitute, but for civil servants, professionals, in other words, for the able, those groups who can afford adequate, safe homes with burglar proofing on the windows.

At present, the Military Council's position on housing in Nigeria is not known. Previously, however, housing was not ranked high on the scale of priorities for social spending, but as noted earlier in the chapter, 38% of the total national expenditures have been set aside for public sector housing.

The need for housing in Nigeria is critical, and to this end new housing, rehabilitation, and slum clearance projects have been implemented in the country. A. A. Akom, a private planning consultant in Nigeria also has shown concern for securing strategies toward providing adequate shelter for the urban poor. He calls upon the federal government to formulate a nationwide comprehensive rural development policy that includes the establishment of agroindustries in rural areas, the promotion of increased agricultural productivity, and the provision of essential infrastructure

facilities and social amenities for all rural areas of the country to arrest Nigeria's acute urban housing problems (Akom, 1984, p. 332).

Slum clearance carries with it high social and economic costs, therefore, Akom suggests discouraging this strategy wherever possible. Akom does encourage rehabilitation and renovation of slums, providing building materials, direct construction, sites-and-services development, relaxation of loan terms by such entities as the Federal Mortgage Bank, rent control, and research on housing (Akom, 1984, p. 332).

The government is cognizant of the role it must play in developing housing policy that can meet the needs of the seriously urban poor. The government is doubly cognizant of the competing demands for capital in the country. Economic development, education, health, housing, and social needs each compete for the same portion of government subsidies.

Low prioritization has forced the poor urban dweller to utilize second-best solutions for his housing problems by employing self-help techniques that provide the most basic protection--a roof that does not leak. Second-best solutions such as sites-and-services have proven to be quite feasible alternatives for governments in many Third World Countries. The Dandora Sites-and-Services Project in Nairobi, Kenya is one example by which the government laid out plots and provided utilities for dwelling units that were to be constructed by self-help measures.

Summary

Nigeria's urban population is increasing at a rate of about 8.5% per annum. There are several reasons for this that include high birth rates

and longer life spans. However, the most important reason for the increased urban population growth is the rural-to-urban migration process.

The increased number of urbanites have created problems of overcrowding and chaos in the urban center. Overcrowding exists because of the strain on housing due to rapid urbanization. Average occupancy in Nigeria is 2.0 persons per room. Environmental problems arise due to a lack of drainage and refuse disposal systems.

The increased population growth in urban areas has created a need to develop urbanization policies that will control the rate of urban growth. In developing the policies, problems of economics, urban public utilities, social problems, physical problems, and urban management problems all have to be addressed. Urbanization policy formulation also needs to be coupled with a rural development scheme that would recognize the vital functions of each segment and the overall development of the economy.

A rural development program is needed that will offer the advantages sought by would-be migrants such as employment and cash wages, adequate housing, waste disposal, schools, and hospitals.

To provide housing, Nigeria has to overcome the same obstacles faced by other Third World Countries. Land tenure and the costs of housing are real issues that must be addressed. In Nigeria, efforts are being made to reduce the costs of housing by employing traditional building materials. But there exists the problem of social acceptability. Modern building materials are seen as an indicator of progress and upward mobility.

In this chapter a review of a Nigerian low-cost housing experiment was presented. The experiment demonstrated that inexpensive, esthetically attractive houses can be built using locally produced materials in Nigeria, and that housing affordable by low-income groups is feasible.

CHAPTER VI

SUMMARY AND CONCLUSION

This thesis has presented four approaches to the provision of low-cost shelter projects as exemplified in projects completed or underway, in El Salvador, Kenya, Egypt, Hong Kong, Singapore, and Nigeria. The low-cost shelter approaches investigated include self-help, sites-and-services, upgrading of squatter settlements, and public housing. Self-help is thought of as an umbrella term to include both sites-and-services and the upgrading of squatter settlements.

Severe constraints exist in most Third World Countries inhibiting the delivery of adequate and affordable shelter to the poor. These obstacles include access to land, capital, and building materials. The greatest problem, however, is high housing expense relative to income. The income/cost gap has resulted in housing shortages that create overcrowding and high rent burdens. Each of the approaches presented in this thesis attempts to address one or more of these obstacles. Both sites-and-services and upgrading of squatter settlements focus on the problem of access to land and building materials. Squatter settlement upgrading also addresses the problem of the lack of capital for securing loans. Squatter settlements have been created due to the inability of homeseekers legally to acquire land.

In the sites-and-services approach sites are platted and legal occupancy of the land is provided. The chief aim of sites-and-services is to provide essential infrastructure and neighborhood services to the largest number of people at minimal cost. Squatter settlement upgrading is generally self-financing and affords the upgrading of the housing stock through house con-

struction and improvement loans, technical assistance, and also the provision of property ownership.

The solution to the problem of insufficient money to purchase or rent housing is typically the object of the public housing approach. In this scheme, government-built and/or -owned housing is provided by charging below-market rents.

Two examples of the sites-and-services approach include the FUNDASAL-El Salvador project and the Dandora project in Nairobi, Kenya. Findings of the FUNDASAL project are:

1. Privately sponsored sites-and-services projects can be an effective alternative to government-provided housing.
2. Affordable housing can be delivered to the very poor.
3. The sites-and-services approach as demonstrated in the FUNDASAL project can foster socially and economically self-sufficient communities.

The project demonstrated that the sites-and-services approach combined with self-help construction through family and community participation is effective and replicable in other cities throughout the country. Much of the success of the FUNDASAL project was attributed to the lowering of standards related to the quality of water and plot size thereby reducing costs.

The Dandora sites-and-services scheme in Nairobi, Kenya is an example of a large scale urban project exemplifying the success of collaboration between the Government of Kenya, the private sector, and the informal sector. A loan fund for building materials was set up for use by the allottees with repayment of loans for full cost recovery. The project provided services for 11,700 existing plots upgraded 10,000 dwelling units, and platted 2500 new plots. The Dandora project showed that low-income households can

repay loans and organize adequate housing through the sites-and-services approach.

The project in Ismailia, Egypt is an example of a combined upgrading and sites-and-services scheme that proved successful. The reason for success was that the price of land and the amount of compulsory payments were kept low. Another reason for success was that implementation was done with minimum subsidy. Training skills was given to local workers, thereby improving their future employment prospects.

The public housing schemes of Hong Kong and Singapore examined in this thesis are notable successes in housing the poor. Thirty thousand (30,000) new public housing units have been made available in Hong Kong and 68,479 units have been provided in Singapore since 1973 and 1978 respectively.

By 1986, 42,000 new units will be provided in Hong Kong and Singapore collectively. Wealthier countries have an advantage in providing public housing because in such countries an effective administrative capacity usually exists. It is questionable if the concepts of the Hong Kong and Singapore approaches can be easily transferred and implemented as successfully. One reason for success was the absence of a rural hinterland that could potentially divert capital resources.

The Lagos, Nigeria Low-cost Housing Experiment, showed that the use of locally-produced building materials has the potential to reduce the cost of housing significantly. The experiment demonstrated that low-cost housing affordable by low-income families is feasible through building cost reduction even in Nigeria where housing has not been heavily subsidized.

The six housing projects presented in this thesis were deemed successful by authorities on Third World housing for a variety of reasons. What are

the circumstances that explain success or failure of the projects presented?

Success in housing schemes is measured by a number of criteria which include:

- *high rate of housing provision relative to need
- *low costs of housing relative to income
- *commitment of the government
- *collaboration between entities responsible for the delivery of housing (public, private, informal)
- *transferable domestically
- *rigorous planning (pre-planning, implementation, evaluation)
- *community participation
- *ability of project to be self-financing

These successful projects were shown to be transferable from one location to another. Under what circumstances does an approach work internationally? What makes a country a better candidate than another for a particular housing approach? The single best indicator is perhaps government priority for providing housing for the urban poor. Other elements may include an effective and collaborative administrative capacity and land available through the public sector.

Low-cost shelter for the urban poor in Third World Countries is attainable. The projects analyzed have shown that shelter affordable by low-income groups is possible but not without some form of public and/or private intervention.

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VITA

Cammie Jeannine Davenport, daughter of James Walter and Shirley Kennedy Davenport, was born August 10, 1959, in Ocala, Florida. She came to Knoxville very early in life. She has one brother, James, Jr.

Miss Davenport attended both Fair Garden and West Haven Elementary Schools. She attended Northwest Jr. High School where she began her active involvement with the Y-teens, the school's Honor Guard, Honor Society, school newspaper, and yearbook staff. During her tenure at Holston High School, Miss Davenport continued her Y-teen involvement as YWCA National Teen Organization (NTO) Southeastern Regional Representative to the Canadian Conference, Y-teen Interclub Council president, school newspaper editor, varsity cheerleader, February Student of the Month, Danforth "I Dare You" Award recipient, student council officer, and Sr. Class vice-president.

She graduated from Holston High June 5, 1977, and entered the University of Tennessee-Knoxville the following fall. She received the Bachelor of Arts degree in Psychology fall 1980. During her undergraduate years, Miss Davenport served as a YWCA College Representative, member of the Undergraduate Psychology Coalition, service projects chairman and vice-president for Alpha Kappa Alpha Sorority, Inc.

Miss Davenport began graduate study winter quarter 1982 as a non-degree student, receiving a graduate assistantship from the Pre-Medical Enrichment Program. She was officially admitted into the Graduate School of Planning during the 1982 summer term. As a student, she was a member of the Collegiate Institute of Planners (CIP) and the American Planning Association (APA). She was also a recipient of the Housing and Urban Development (HUD) Work/study Grant. She is a very active member of the alumni chapter

of Alpha Kappa Alpha and currently serves as the graduate advisor to the undergraduate chapter. Miss Davenport is also a 1984 Outstanding Young Woman of America.

A long range career goal is to work in an environment that will afford her the opportunity to develop community and economic development and housing strategies for both the United States and Third World Countries in the pursuit to provide shelter for the urban poor.