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RESOURCE ALLOCATION AND URBAN GROWTH:  
THE ROLE AND SIGNIFICANCE OF URBAN  
HOUSING MARKETS IN NIGERIA

by

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A Thesis Submitted to the School of Graduate  
Studies in Partial Fulfillment of the  
Requirements for the Degree of  
Doctor of Philosophy

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UNIVERSITÉ D'OTTAWA  
UNIVERSITY OF OTTAWA

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Problem perception and the mind-set which permeate most doctoral dissertations often go beyond the perception and mind-set of the author. Manuscripts are often either watered-down or subjected to extensive revision and reorganization. This study is not an exception. The initial research proposal was concerned with how the Nigerian industrial strategy affects labour force movement, and the consequences of massive labour movements on urban quality of life. As the principal concern was not specifically with the growth of industrial shipments and value-added but, rather, on urban quality of life, it was decided that a narrower investigation of an aspect of the urban residential situation would be more appropriate.

I would like to thank Professor Barry Wellar, my supervisor, and former Chairman, Graduate Committee, for early clarification of pertinent issues, for reading through the drafts and providing continuing insight in both style and substance.

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Ottawa, Ontario  
January 1987

Evans Enyolu

"Human settlement policies should aim to improve the condition of human settlements particularly by promoting a more equitable distribution of the benefits of development among regions; and by making such benefits and public services equally accessible to all groups."

  
Habitat, 1976

## ABSTRACT

The crucial role which housing plays in the economic life of a nation is manifested by physical structures, construction of which reaches its highest peak during periods of economic boom. The social, physiological and cultural significance of housing, however, is most sharply perceived and most deeply experienced if the housing needs of large segments of the population are not met. Due to the prevalence of substandard housing in many Nigerian cities, the dissertation examines relationships among government expenditures, urbanization, and urban overcrowding.

On the urban housing demand side, the empirical finding is that rapid urbanization (accentuated by urban-bias in resource allocation) increased the demand for urban housing in Nigeria from 1970 through 1980. As more people "voted with their feet" by migrating to the growth poles, the size of the urban housing deficit increased. To lay their heads somewhere, many rural-to-urban migrants crammed themselves into substandard houses, which further degenerated into tenements of squalor.

On the urban housing supply side, the empirical finding is that the urban housing deficit in Nigeria emanated from a combination of inappropriate development budget shares, inadequate responses in urban development policies and programs, and a rigid adherence to high, foreign building standards and criteria. As a result, while relatively few urban dwellers consume high-quality public housing as income-in-kind, large segments of the urban population are severely limited in terms of both the quantity and quality of housing space and amenities which they consume.

To mitigate the acute housing shortage, and the environmental health hazards which substandard housing generate, resource reallocation towards Basic Needs, especially social housing, is deemed necessary as a result of this investigation. In addition, a rural-based settlement strategy is required in order to enforce "Development From Below" and to mitigate the national urban drift syndrome which is a major contributing factor to Nigeria's national urban problems.

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## CHAPTER 1

### INTRODUCTION

#### 1.1 Subject Matter of Dissertation

Nearly all countries, rich and poor have a housing problem. But the nature, size and incidence of housing problems are different, in different countries. In countries where population growth is fast, and change in spatial population distribution rapid, housing problems tend towards exasperating proportions. For, more often than not, sub-standard housing arises, urban overcrowding occurs, and squatter settlements characterize the sprawling cities.

The federal Republic of Nigeria provides a good example in which to investigate the nature and magnitude of urban residential housing deficit, and the incidence of overcrowding in urban areas. This is in part because the country is large, with an estimated population of 87 million, and per capita income of \$800, in 1981 (Federal Office of Statistics, 1984). Further, and as in most developing countries, government expenditures and economic growth in the country are largely urban-based, the population rate of growth has been in excess of 2.5 per cent, per year, and rural-to-urban migration is seemingly an endless train. There is, therefore, the ever-

present debate over what should be government investment priorities: whether on Social Basic Needs,<sup>1</sup> or in the directly productive sectors.<sup>2</sup>

This dissertation is prompted in part by the fact that the Nigerian Federal Government was signatory to the accord of United Nations Conference on Human Settlement (Habitat) in Vancouver, in June 1976. The Habitat accord embodied commitments<sup>3</sup> to tackling problems of housing -- the territorial habitat within which humanity lives, works, raises the family and seek physical, spiritual and intellectual well being (United Nations, 1974). Since the Nigerian urban housing problem has been recognized as a basic need (Third National Development Plan, 1975-80), this study can be viewed as an assessment of the degree to which Nigeria's Habitat commitment has been met...

Nigeria is a prototype oil exporting developing country where five-year development plans have been institutionalized through central planning. Since the attainment of political independence in 1960, development plans have been formulated and launched for four periods: (i) 1962-68, (ii) 1970-74, (iii) 1975-80 and, (iv) 1981-85.

In theory, an underlying fiscal principle of resource allocation in Nigeria is the notion of horizontal fiscal balance, or that equals should be treated equally, so as to induce horizontal equity (Second National Development Plan,

1970-74:32). Towards that end, the federal government plays the leading role by allocating major capital expenditures, and by financing the bulk of state (provincial) development programs through transfer and equalization payments (Federal Ministry of Economic Development, 1970:33).

Although the lofty principle of equitably allocating development expenditures between people and among regions in Nigeria is horizontal fiscal balance, the rural areas have been short-changed (Olatunbosun, 1975). Urban-bias in resource allocation has been the norm. Propelled by the (OPEC-driven) oil-price boom in the 1970's, economic growth has been spurred in urban areas and within urban-sectors, by expenditures on capital intensive industries and technology-intensive infra-structural works. The mass of Nigerians residing in rural areas received few benefits from growth through the channel of government capital expenditures, and even fewer benefits associated with direct, indirect, or induced multiplier effects. Therefore, many rural residents "voted with their feet", so to speak, by migrating to the growth poles.

It appears that many Nigerian cities, including Lagos, the former capital, now manifest aspects of what is commonly referred to as the "urban problem" (Lithwick and Paquet, 1968; Lithwick, 1970; Roberge, 1974; Glickman, 1980; Wellar, 1981; Wellar, 1982).

That is, due to heavy rural-urban migration beginning in 1974, and apparently inadequate government responses in urban development policies and programs, heavy pressures have been imposed on the residential housing stock, as well as on associated water, sanitation and health facilities and services. Consequently, as a result of an apparently widening gap between demand for and supply of housing, the shelter situation in Lagos and other cities may be characterized at present as having two recognizable components:

(1) A formal or legally built component in which overcrowding and over-utilization occur; and,

(2) A slum or squatter component, which lacks such household amenities as:

- (i) water,
- (ii) flush toilet, and,
- (iii) electricity.

In response to the author's observations in Nigerian cities and review of available information, the dissertation is concerned in general with examining relationships among government expenditures, urbanization, and urban overcrowding.

At a more detailed level, the research is organized around the following related activity elements:

(1) Document and analyze, at the national and sub-national levels, the spatial and temporal dimensions of housing demand and supply in selected Nigerian cities during the four development plan periods (1962-68, 1970-74, 1975-80, and 1981-85);

(2) Document and analyze the key factors and forces behind urban housing needs resulting from rapid urbanization, and the national housing policies and programs designed to deal with the urban housing needs;

(3) Conduct a field or case study exercise in selected neighbourhoods of Lagos to gain insight into the present state of the housing demand-supply situation and process; And, as a related task,

(4) Forecast urban housing trends in Nigeria for the planning period 1985-1995.

## 1.2 Significance of Research

The line of inquiry followed is similar to that pursued by studies that measure the effect of state policies on urbaniza-

tion (Peek and Standing, 1982; Jimenez, 1982; Wellar, 1982; Struyk and Tuccillo, 1983; Harloe and Martens, 1984). However, unlike these previous studies, the links between urban outputs and factors that influence them as a process are explored. Since each dwelling unit yields different levels and qualities of housing services, a deeper understanding of why differences exist in the consumption of urban housing services, is pursued.

### 1.3 Scope of the Study

There are, of course, various ways of basing an examination of the adequacy of housing. Seven housing attributes are depicted and related in Figure 1 to illustrate the nature of inquiry possibilities:

- (a) basic shelter;
- (b) land;
- (c) amenities;
- (d) utilities;
- (e) location;
- (f) density; and,
- (g) cyclical (in)stability.

In this dissertation, the principal interest is in the stock and quality of residential housing in the Nigerian growth poles.<sup>4</sup> In particular, the inquiry seeks to ascertain whether

**FIGURE 1**  
**ELEMENTS OF URBAN HOUSING ADEQUACY**

Policy Area	Primary Attributes or Output Characteristics	Social Indicators: Possible Proxy Variables	
HOUSING	i. Multiple	a. basic shelter	% population in standard/ substandard housing; mean cost for family of 4; persons/room
		b. land	land area/resident person; mean distance from park land
		c. amenities	facility capacity/people served
		d. utilities	% residences served; frequency of garbage pick-up
		e. location	mean time to Central Business District (CBD)
		f. density	people/acre
		g. cyclical instability	growth rates of new multiple dwellings; multiple dwelling expenditure as % of GDP; Trends in multiple housing budget shares relative to other sectors.
	ii. Single	a. basic shelter	% population in standard/ substandard housing; mean cost for family of 4; persons per room
		b. land	land area/resident person; mean distance from park land
		c. amenities	facility capacity/people served
		d. utilities	% residences served; frequency of garbage pickup
		e. location	mean time to CBD
		f. density	people/acre
		g. cyclical (in)stability	growth rates of new single dwellings; single dwelling expenditure as % of GDP; Trends in single housing budget shares relative to other sectors.

overcrowding is present and, if so or not, to isolate factors and forces which produced the identified housing demand-supply situation. Hence, although all the housing attributes noted above are important and merit study in their own right, attention is focussed here on attribute (a), basic shelter, and the associated incidence of the overcrowding characteristic. In order to assess the incidence of overcrowding, given the stated central concern for basic shelter ((a) above), the Nigerian planning target of 2.0 persons per-room is used as a benchmark (Central Planning Office, 1970).

#### 1.4 Organization of the Thesis

The introductory Chapter presented the subject matter of the dissertation as well as its objectives and relevance. In addition, the introductory Chapter referenced the fundamental attributes associated with the "essence" of housing and in particular its adequacy. It was acknowledged at the outset that while all the attributes are fundamental to a comprehensive, synthesizing treatment of housing, only one attribute -- overcrowding -- can be accorded in-depth consideration in this study.

Chapter 2 deals with the theoretical issues, and establishes the methodological basis of the dissertation.

Urbanization trends and the emergence of urban housing problems in Nigeria are discussed in Chapter 3. Subject to

data limitations, the nature and magnitude of urban housing needs are identified in Chapter 4; and, in Chapter 5, the national housing policies and programs brought to bear on the urban housing problems are analyzed.

Chapter 6 presents the empirical findings, with special attention given to the statistical tests of the research hypotheses. In Chapter 7, a case study approach is used to report on the present housing conditions in selected neighbourhoods in the city of Lagos. An urban housing forecast for the decennial period, 1985-1995, is presented in Chapter 8, together with an assessment of the future of urban housing markets in Nigeria.

Finally, Chapter 9 presents the summary, conclusions and selected concerns or topics to be addressed in future urban housing research in Nigeria. The summary of the study sequence is presented in Figure 2.

Literature Search	→	examine available literature on housing policies and programs
Data Search	→	examine time series data on government expenditures, urbanization and housing conditions
CHAPTER ONE	→	Introduction establish the research problem, namely: investigation of government expenditure, urbanization and urban housing condition (overcrowding) relationships
CHAPTER TWO	→	Theoretical Issues identify gaps in the literature and establish the research methodology
CHAPTER THREE	→	Urbanization Trends and the Emergence of the Urban Housing Problems analyze urbanization trends and the emergence of urban housing problems
CHAPTER FOUR	→	National Housing Needs in Nigeria analyze the nature and magnitude of urban housing problems induced by rapid urbanization
CHAPTER FIVE	→	National Housing Response in Nigeria analyze national housing policies and programs designed to supply urban housing
CHAPTER SIX	→	Empirical Findings develop and test research hypotheses on government expenditures, urbanization and urban housing conditions (overcrowding) relationships
CHAPTER SEVEN	→	Case Study report on housing conditions in Lagos, in 1985
CHAPTER EIGHT	→	The Future of Urban Housing Markets in Nigeria project and assess the future of urban housing markets
CHAPTER NINE	→	Conclusion and Implications For Future Research summarize dissertation objectives and findings, and suggest avenues for future research on urban housing in Nigeria

FOOTNOTES TO CHAPTER 1

- 1 Conceptually, basic needs consists of two elements:  
First, the minimum requirements of a family for private consumption: adequate food, shelter and clothing; and,  
Second, they also include essential services provided by and for the community such as drinking water, sanitation, public transport, health and educational facilities. However, among the plethora of human needs, water, food, shelter, health services and education constitute basic needs (Seers, 1969; UNESCO, 1976; Seers, 1977; Habitat, 1976; Streeten, 1977; Streeten, 1979; ILO, 1981; and Seers, 1981).
- 2 In the Nigerian system of capital expenditures, the directly productive sectors include: manufacturing, agriculture, power and transportation (Second National Development Plan, 1970-74).
- 3 Prior to the 1976 Habitat accord, other conferences on global social issues included: Human Environment (Stockholm, 1972), Population (Bucharest, 1974) Food (Rome, 1974) and the Role and Status of Women (Mexico City, 1975).
- 4 The growth poles are: Lagos, Ibadan, Kano, Ilorin, Port Harcourt, Kaduna, Maidaguri, Enugu, Benin City, Jos, Calabar, Sokoto, Aba, Onitsha, Abaokuta, Ondo, Zaria, Warri, Sapele and Ikot Ekpene.

## CHAPTER 2

### THEORETICAL ISSUES

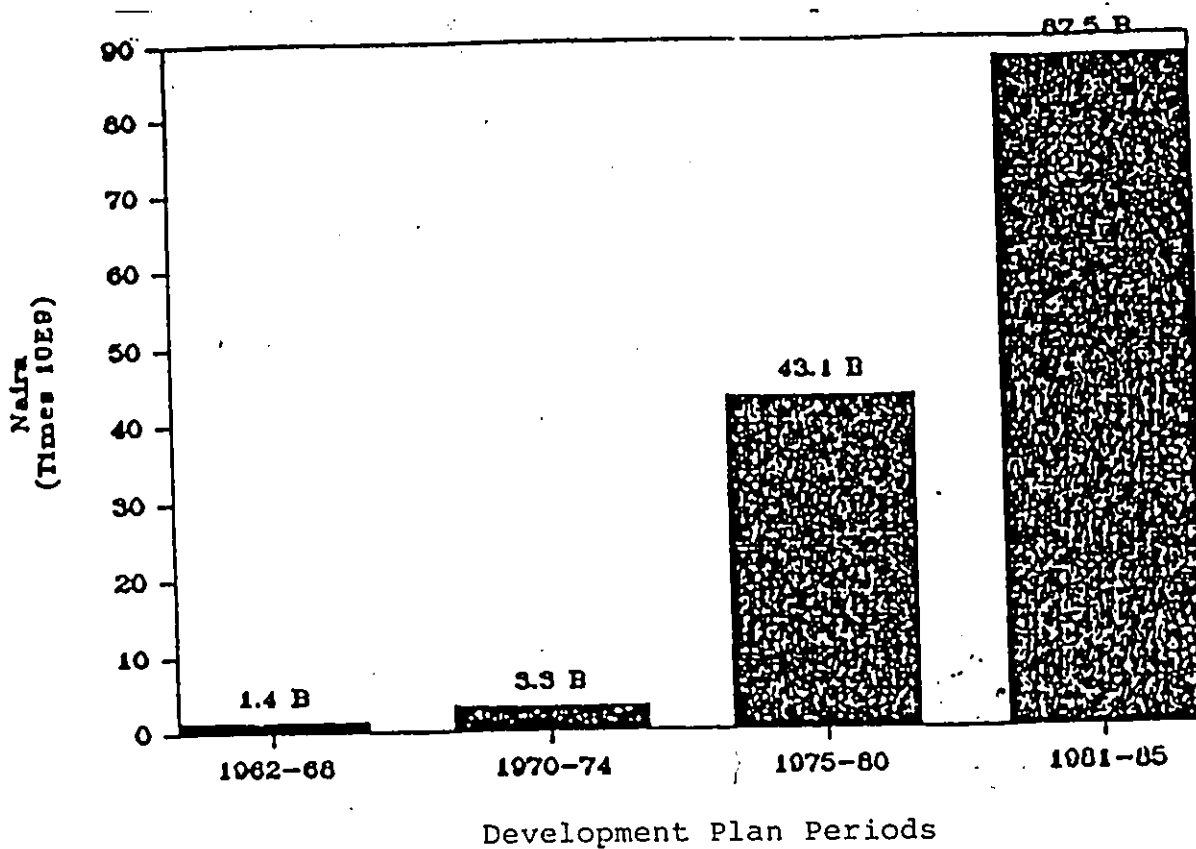
#### 2.0 Introduction

In this chapter reference is made to the origin and nature of the Nigerian urban housing shortage, and substandard housing condition, before moving on to identify gaps in the literature which seek to explain the occurrence of such housing problems in urban areas. Thereafter, the rationale underlying the selection of urbanization and government expenditure patterns as the explanatory variables are presented, followed by elaboration of the research methodology.

#### 2.1 Origins and Nature of the Nigerian Urban Housing Shortage, and Substandard Housing Condition

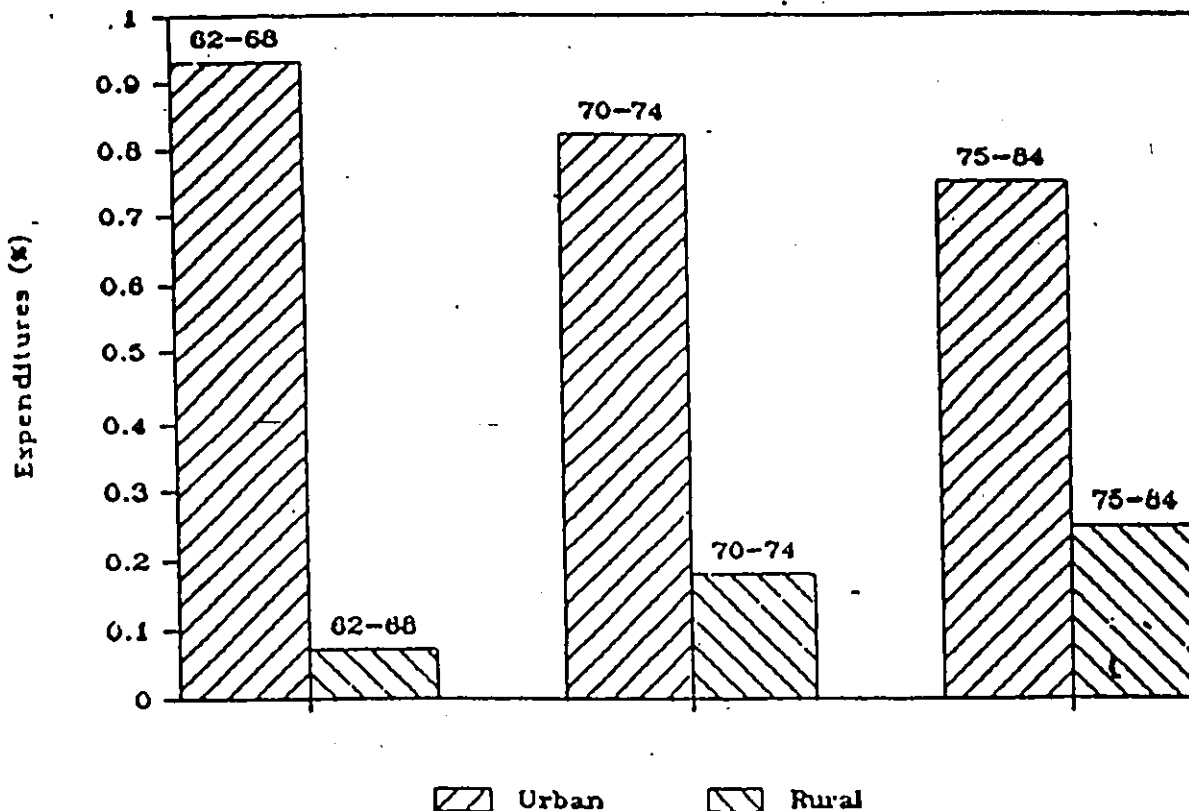
—After resource allocations to, and implementation of four national development plans (Figure 3), it can be held that Nigerian rural-to-urban migration accelerated due to "development from above" strategies.<sup>1</sup> That is, rural-urban migration accelerated because economic growth in Nigeria was urban-based (Figure 4), and did not trickle down to the rest of the country.

Because the mass of the Nigerian people residing in the rural areas received few of the benefits of growth, either through the channeling of Government expenditure or through their multiplier effects, many migrated to the cities, putting

**FIGURE 3****RESOURCE ALLOCATION IN NIGERIA**

SOURCE: Derived from First, Second, Third and Fourth National Development Plans, Federal Ministry of Economic Development, CPO, Lagos 1981.

**FIGURE 4**  
**URBAN BIAS IN GOVERNMENT EXPENDITURES**  
 1962-1984 (averages)



SOURCE: Derived from S.A. Aluko, "Industry in the rural setting", proceedings of the 1972 Annual Conference of the Nigerian Economic Society, Ibadan, p.217; Mabogunje A.L., "Rural Development in Nigeria: Problems, Policies and Issues" in Rural Development: National Policies and Experience, R.P. Misra, UNCRD, Vol. 4, Nagoya, Japan 1981; and Nigerian Development Plan Documents (various issues). Lagos, 1985.

severe strain on city housing and urban sanitation. Since many of those who migrated to the cities are 'ill-housed', there is a housing problem in Nigerian cities, including Lagos, the commercial centre and former capital.

The period 1960 through 1975 saw almost complete neglect of matters related to the supply of urban housing in Nigeria. With heavier migration following the oil-induced wage hikes beginning in September, 1975, housing conditions which had been bad (for the poor), for two decades, worsened.

With respect to the nature of the urban housing problem in Nigerian cities, the following observations are indicative of the extent and degree to which a problem exists.

As determined by the 1975 National Housing Survey, "type 0" or substandard housing constituted 41% of the total urban residential housing in Nigeria.<sup>2</sup> In 1981, over 70 percent of urban low and middle-income groups were housed in rooming apartments, where density exceeds 1,000 dwelling units per hectare. In Lagos, these apartments housed over 80 percent of the population (Seers, 1981:119), with over 3 million urban households in the country lacking adequate housing (Anusionwu, 1981).

Furthermore, while 2.0 persons per room was chosen as the government planning target, in all Nigerian cities at least 3.6 persons currently sleep in one room. (Seers: 1981:120).

In addition, many low income groups pay more than 40 percent of their monthly income in rent, and the excess of

payment over the government standard is positively correlated with urban housing shortage (Seers, 1981:120).

Although the private sector is vigorous in house building, most new private and government houses are designed for the middle and high income groups. Consequently, the gap in dwelling supply is being filled by slum and squatter dwellings. In Lagos, and in other large cities in Nigeria, many migrants are sleeping on the streets, in the open air. It is necessary therefore, to explain the root causes of the Nigerian urban housing problems. To this extent, we begin by reviewing the literature which seek to explain the occurrence of, and the solutions for, urban housing problems.

## 2.2 Review of Literature

Perceptions on the need for and effect of housing policies and programs are influenced by disciplinary biases. Since public policy is purportedly designed for the welfare of the people as a whole the literature review begins with the work of economists. Thereafter, the approaches taken and perspectives offered by geographers, sociologists, regional scientists and planners are examined.

### 2.2.1 The Economists' Perception of Urban Housing

Three dominant themes stand out in the vast economic literature dealing with urban housing.

(1) The changing structure, conduct, and performance of urban housing markets (Maisel, 1953, Kelley, 1959; Lloyd, 1961; Grebler and Maisel, 1963; Needleman, 1965; Dennis and Fish, 1972, Cooper, 1973; Smith, 1974; Mills and Oates, 1975; Hershkovitz, 1981; Hardoy and Satterthwaite, 1981);

(2) The inter-relationship between residential housing and urban standard of living (Bogue, 1949; Alonso, 1961; Needleman, 1965; Muth, 1969; Blanco, 1969, Carliner, 1973; Straszheim, 1975; Artle and Varaiya, 1978; Weiss, 1978; Hitchcock, 1978; and Fallis, 1985; and,

(3) The macroeconomic importance of housing, especially the role of housing as an economic stabilizer. That is, consideration is given to the use of housing as a pro-cyclical or contra-cyclical economic policy instrument (Goldberger, 1969; DeLeuw, 1971; Sterlieb, 1971; Swan, 1973; Rosen, 1974; Schnare, 1974; Schnare and Struyk, 1975; Kearl, 1979; Follain, 1982; and Trebilcock et al., 1982).

An important finding from economic perspective of the housing market -- housing as an element of stabilization policy, and housing as a development instrument.-- is that the housing industry generally reflects what is happening in the economy. In effect, when economic activity is slowing down and unemployment is high, few new houses are built or bought, some construction workers are laid off, and unemployment worsens. On the other hand, when there is a great deal of activity in housing construction, many workers are hired in construction and related enterprises -- lumber mills, brick yards, steel mills, paint factories, furniture industries etc. Hence, events in the housing industry have repercussions which extend beyond the housing industry to other related sectors of the economy as well.

While the unifying notion of housing markets as utilized in the economic literature forces one to view the complex system in which consumers demand housing, and builders, financial institutions and governments supply it, the concept of housing markets does not fully portray the differences in housing services.

As Straszheim aptly noted, the housing market involves an unobservable theoretical entity called housing service, viz: benefits or disbenefits for builders, owners and renters (Straszheim, 1975:20).

That is, since different kinds of housing are available

in different submarkets (formal and informal), each dwelling unit yields different levels and qualities of housing services.

Consequently, if housing deficits are huge and housing gaps are being informally filled by shacks, slums and squatter settlements, then the root causes of the housing problem and urban gentrification<sup>3</sup> remain to be explained. To be meaningful, and as maintained in this study, such an explanation must shed light on relationships among urbanization, government expenditures and urban overcrowding, and must also elaborate the social forces which influence urban overcrowding as a process.

#### 2.2.2 Perspectives of Geographers, Sociologists, Regional Scientists and Planners on Urban Housing

For other writers such as Geographers, Sociologists, Regional Scientists and Planners, etc., discussions of housing or housing quality and related considerations, in rural and urban environments, have proceeded on two major fronts. First, the metaphysical concept of quality of housing and its environment has been examined. This has entailed examination of such questions as:

- (i) How is housing quality and its environments defined and measured? (US Bureau of Census, 1967; US Department of Commerce, 1968; Wellar, 1969; Duncan, 1971; Wellar and Graff, 1972;

Dwyer, 1975; Michelson, 1979; Drakakis-Smith, 1981; Peil, 1981; and Greer-Wootten and Validis, 1983).

(ii) How is housing related to its environment? (APHA, 1945; Wellar, 1969; McGee, 1971; Ermuth, 1974; Bourne, 1976; Gillingham and Reece, 1980; and Atkinson, 1982).

(iii) What are the relationships between the physical and functional attributes of housing and its physical, social and economic environments? (APHA, 1945; Wellar et al., 1968; Michalos, 1978; Michelson, 1979; Milbrath, 1979; Mckay and Cox, 1979; Milbrath, 1982; and Greer-Wootten and Validis, 1983).

(iv) How do housing and its physical, social and economic environments affect an individual's mental, physical and social well-being? (Perloff, 1969; Wellar and Graff, 1972; Porteous, 1974; Speare, 1974; Zapf, 1975; Pickvance et al., 1976; Wexler, 1979; Gilbert and Gugler, 1982; and Rapport, 1982).

Second, housing and its environment have been considered

pragmatically in terms of the significance of related programs and projects to persons who are affected. Kinds of programs and projects which come to mind include:

- (i) urban renewal;
- (ii) planning of new subdivisions and public housing developments;
- (iii) maintenance of sanitary conditions and prevention of disease; and,
- (iv) development of community projects to remove certain blighting features<sup>4</sup> of urban neighbourhoods.

Individuals and agencies involved in such programs include the federal, state, provincial and local governments, and private and volunteer agencies that establish, evaluate, administer, monitor and arrange for funding of programs and projects (Wellar and Graff, 1972; Dwyer, 1975; Currie, 1976; Murison and Lea, 1978; Sule, 1979; Hardoy and Satterthwaite, 1981; and Anusionwu, 1982).

In particular, the International Development Research Centre (IDRC), based in Ottawa, has supported several research projects designed to seek a better understanding of the nature

and scope of low-cost housing, housing attributes, preferences, patterns, space requirements, and the competition of housing with non-residential construction, in developing countries. Worthy of mention in Asia is the eighty country projects conducted between 1972 and 1975. This project resulted in six published country studies and an important comparative volume -- "Housing Asia's Millions", (IDRC, 1979).

In addition, in 1983, the IDRC published "A Place to Live", which expanded and updated the stock of knowledge on the subject of low-cost housing. Another important large-scale enterprise, jointly supported by the World Bank and IDRC, was an evaluation study of sites-and-services and slum upgrading projects in Indonesia, Singapore, Hong Kong, Philippines, Zambia, Senegal and El Salvador (World Bank, 1974).

Regardless of whether the housing project is to be designed for an old city, or a new town, these studies stressed the need to ameliorate the shelter needs of the poorest socio-economic groups as a first priority (Yeung, 1973, World Bank, 1974; 1975; Yeung and Drakakis-Smith, 1974; United States Agency for International Development, 1978; IDRC, 1979; 1983).

While the social importance of housing in providing shelter has served as a common point of departure, disciplinary biases have led to divergent thrusts as summarized in Figure 5.

On the positive side, divergent disciplinary thrusts have led to numerous partial explanations of a variety of urban housing problems, issues, questions etc., as illustrated by the

FIGURE 5DISCIPLINARY BIASES IN URBAN HOUSING RESEARCH

Field of Study	Indicative Research Domain(s)
1. Economics	Short-run and long-run issues of resource allocation in the urban housing sector.
2. Geography	Housing and land-use patterns, <sup>5</sup> location, preferences and mobility of households, and environmental consequences of housing projects, policies and programs.
3. Planners	Housing as an official plan and zoning component, housing aesthetics, gentrification, causes of and consequences arising from variation and differences in housing demand and supply relationships, and availability and distribution of public or social housing.
4. Political Science	The role of power relations in determining who gets what, where, why, and how, in the housing domain.
5. Regional Science	Externalities associated with and urban impacts emanating from housing policies and settlement patterns.
6. Sociology	Housing social relations, and housing ecology including the "culture" of poverty.

subject matter of the Indicative Research Domain(s) noted in Figure 5. That traditional disciplinary or sectoral thrusts may not be adequate to provide the order of explanation in Section 2.2.1 above may be outlined as follows.

Housing production brings together a variety of "inputs" while occupancy of that housing provides a series of "outputs". These inputs (capital investment, labour, land, location, physical facility, entrepreneurship and government incentives) and housing services (outputs) such as adequate or inadequate shelter, amenities, utilities, accessibility, satisfaction, status, social relations and environment, provide benefits or dis-benefits for governments, builders, owners and renters.

The occupancy of housing contributes in part to defining a set of social relations, to identifying a household's position in the social and spatial structure of a local community and a city. This in turn influences the occupants' life style as well as their personal commitment to the status quo in a neighbourhood, a city, and the social system generally (Clinard, 1966; Clark, 1967; Pickvance et al., 1976; Costello, 1977; Payne, 1977; Swan, 1979; Morrison and Gutkind, 1980; Bourne, 1981).

Hence, on the negative side, it is suggested, three errors of omission or commission can be associated with the social assessment of urban housing adequacy. These errors, ascribable to divergent disciplinary research thrusts, are identified and elaborated below.

### 2.3 Gaps in the Literature

First, no reported, systematic attempts have been found which rigorously related local housing amenities, lack of such amenities, population shifts, housing incentives, and building standards and criteria, to Federal Government resource allocation decisions. By the same token, no concerted effort was located which sought to rigorously assess the inadequacy of basic urban housing amenities, and their relative significance within the context of Nigerian urban growth processes. Further, while there are indications of recognition that housing has a significant impact on the urban environment of developing countries, the literature search did not uncover considerations related to the pressing, basic need to house people adequately because of the economic, social and environmental gains which would arise therefrom.

Second, the literature review did not produce evidence of attempts to integrate or link the various housing research domains (Figure 5) and methods devised within each discipline for the study of housing issues, trends and concerns. It appears, rather, that much research on housing problems and related concerns is based on separation or division into narrow disciplinary biases or orientations.

In particular, discussions of housing supply usually refer to the physical stock of dwellings, while studies of demand frequently refer to the demand for housing services in general. Consequently, those wishing to gain an understanding of:

- (i) the nature of demand and supply of different urban housing types;
- (ii) the nature of demand and supply of different urban housing services; and,
- (iii) the forces that influence various urban housing types and different urban housing services as a process;

are not well served by the approaches presented in the literature.

Since the approaches do not converge in subject matter or methodology underlying the disciplinary approaches, they are of limited value in understanding the causes underlying the presence or provision of different housing types and different housing services. Further, the studies are of limited value in contributing to an understanding of the forces that influence the urban housing stock or urban housing services as a process.

In addition, and third, no published evidence has been found wherein an attempt was made to synthesize all housing concepts and terminologies, and to rationalize different interpretations of housing policies, housing problems and environments which have been advanced during parallel debates within neighbouring fields. Accordingly, "a general theory" of housing problems and policies is yet to be written.

By focussing on government expenditures and urban growth, this study seeks to modestly contribute towards narrowing the first gap noted above. The next section (2.4), presents the rationale for selecting government expenditures and urbanization as explanatory variables underlying overcrowding of urban housing in Nigeria.

#### 2.4 Justification for the Selection of Government Expenditures and Urbanization as Explanatory Variables

Everyone requires adequate shelter in order to secure and maintain a healthy mind, in a healthy body (Bourne, 1981). Therefore, on the urban housing demand side, urban growth was selected as the explanatory variable because when people migrate to the city, they demand housing -- a place to lay their heads. Since differences in housing services consumed in the city depends on the quantity and quality of housing available, government capital expenditures (Federal and Provincial) was selected as the explanatory variable on the urban housing supply side, in view of the government's HABITAT undertaking. Before developing and testing the research hypotheses (Chapter 6), we first present the study's theoretical foundation and discuss the research methodology.

#### 2.5 Theoretical Foundation

The central economic questions of resource utilization are: What to produce and why? Where to produce it? How it

is to be produced?, and, For whom is it to be produced? The social questions, on the other hand, revolve around whether the welfare of society is being improved or not being improved based on either the principle of "need" or systems of redistribution, that is, social welfare (Peacock, 1960; Titmus, 1974; Streeten, 1974; ILO, 1977; Morawitz, 1977; Streeten, 1977; Mehmet, 1978; Griffin and James, 1979; Islam and Henault, 1979; Streeten, 1979; Seers, 1981; and Stohr and Taylor, 1981).

Standard economic theory visualizes an improvement in the allocation of society's resources on the basis of a value judgment à la the thinking of the Italian economist, Wilfredo Pareto (Gorge and Shorey, 1978). The Pareto Optimal Condition states that economic welfare is increased by an allocation decision or change if one person is made better off<sup>6</sup> and no one is made worse off. Similarly, economic welfare is decreased if a change results in one person becoming worse off and no one better off.

Following Pareto's syllogism, an efficient allocation of resources is one from which no economic reorganization can result in an improvement in resource allocation. In other words, an efficient allocation of resources may be interpreted as one that does not contain any slack. Alternatively, it may be viewed as one where there is no way to reorganize production and distribution such that no one is made better off without making anyone worse off. Three relationships are therefore involved:

(1) Product-product relationship, that is, consumers must arrange their expenditure so that the marginal satisfaction from the last dollar spent on good X is exactly equivalent to the marginal satisfaction from the last dollar spent on good Y.

(2) Factor-factor relationship, that is, producers must employ factors, say labour and capital, to the point where the marginal product attributable to the last dollar of expenditure on labour is equal to the marginal product of the last dollar expended for the services of capital. And,

(3) Factor-product relationship, that is, each factor of production should be employed to the point where its marginal value product is equal to its price.

Hence, any distortion to perfect competition, where all prices equal marginal cost, would equally distort a Pareto Optimal world. However, since a complete laissez-faire price system does not exist in practice, governments intervene in the economy to either allocate or reallocate production possibilities and consumption opportunities. In so doing, governments influence (directly and indirectly), the distribution of income, wealth, and welfare among people and among regions.

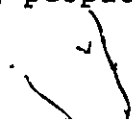


Figure 6 depicts the main linkages in satisfying basic needs (Seers, 1981:22). In the Nigerian case, drawing primarily on oil revenues, the government can directly influence supplies of water, food, shelter, health services, as well as provide facilities for learning, through its development expenditures. Also, the government can create or provide employment directly and indirectly in the private sector through policies for employment generation, stable prices and wages. Finally, through monetary and fiscal policies, the government can influence national income and its distribution among people and regions.

### 2.7 Rationale for A Basic Needs Strategy

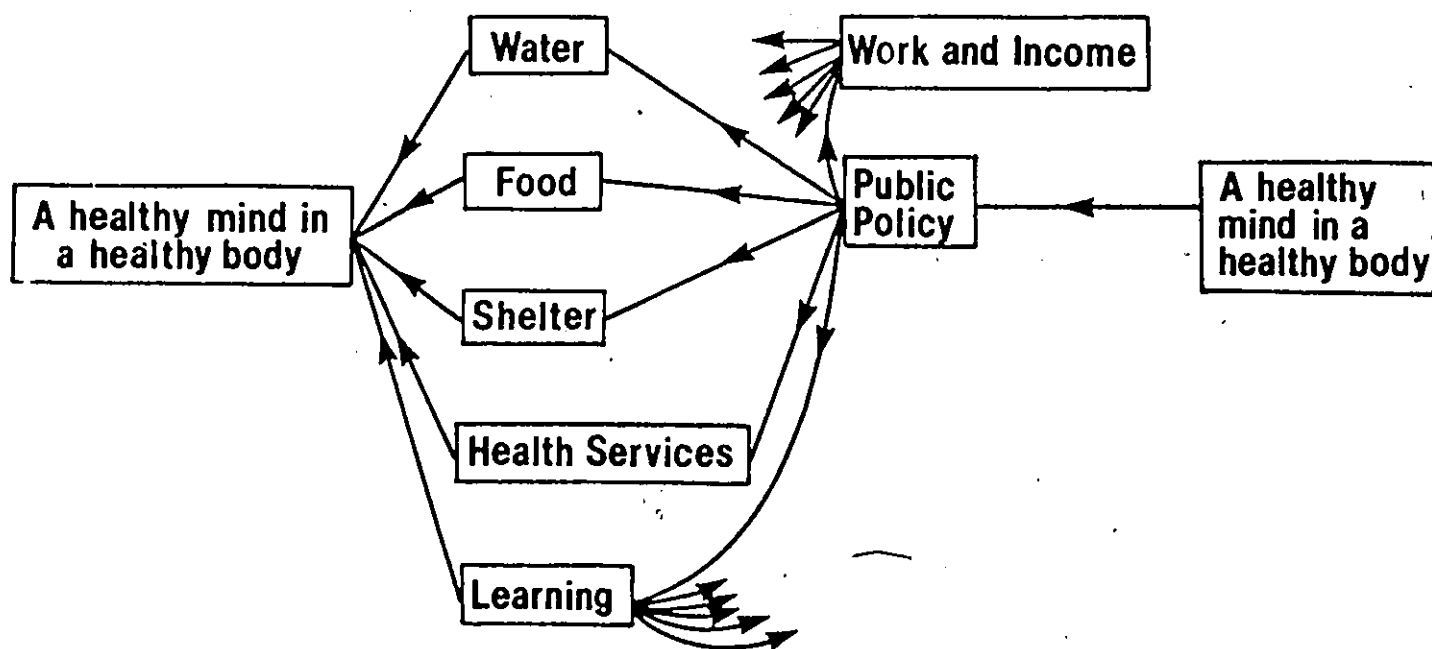
A healthy mind in a healthy body is not a limited or narrow objective of social policy; that is, such a state (of human condition) contributes to work and productivity, and thus helps provide for the other basic needs. As Figure 6 suggests, only the individual who is healthy in the full sense of the word can participate fully in national political life, and thereby help to effect or implement policies in ways that facilitate the satisfaction of basic needs. Hence, satisfaction of basic needs constitutes a sound basis of resource allocation for two major reasons.

First, a basic needs strategy of development includes recognition of certain minimum requirements of a family for private consumption: clean water, adequate food, shelter,

FIGURE 6

MAIN LINKAGES IN SATISFYING BASIC NEEDS IN NIGERIA:  
THE ROLE OF PUBLIC SECTOR POLICY AND RESOURCES

Ultimate objectives	Basic needs	Sources	Ultimate sources
---------------------	-------------	---------	------------------



SOURCE: Seers, D. et al., First Things First: Meeting the Basic Needs of the People of Nigeria, ILO, Addis Ababa, 1981.

health services and basic education. And, second, a basic needs strategy embodies the provision of these "essential services" by and for the community at large.

## 2.8 Research Methodology

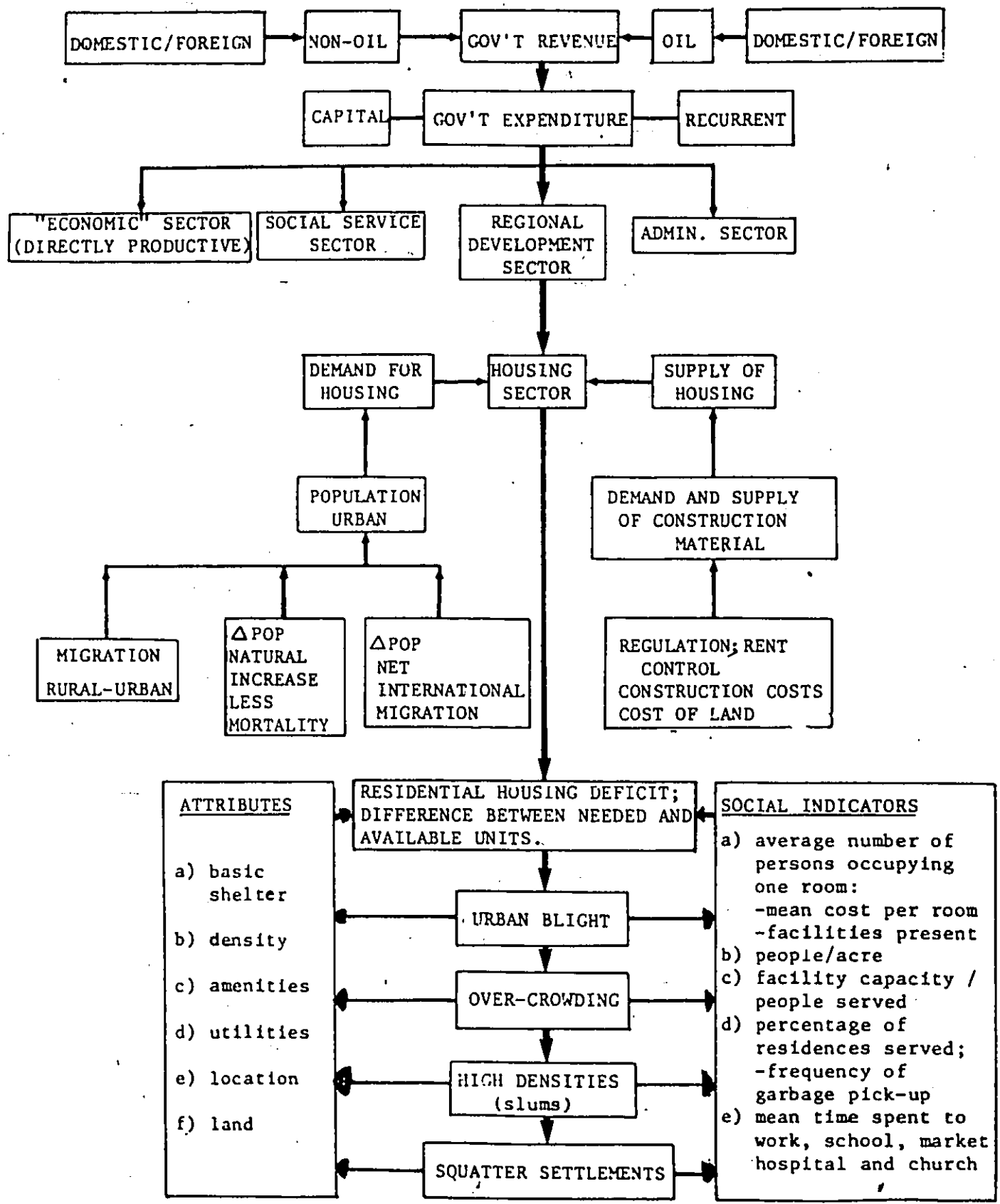
The basic research philosophy adopted is Kantian. The central characteristic feature of a Kantian inquiry is that truth is synthetic; that is, the truth content of a system is not located in either its theoretical or its empirical components, but in both. Further, the Kantian methodology discriminates between competing explanations by building at least two alternative representations or models (Ackoff, 1953; Churchman, 1971; Harvey, 1970; and Mitroff and Turoff, 1973:66). Hence, like other Scientific Research Programs (SPR's), a Kantian research program is characterized by a "hard core" surrounded by a protective belt of auxiliary hypotheses which has to bear the brunt of empirical tests (Lakatos, 1975:49-52; Popper, 1965:38; and Kuhn, 1970:182).

In this dissertation, following the Kantian spirit, we express the hypotheses in terms of equations, estimate varieties of forms of these equations, select the best fit, discard the rest, and then make statistical inferences based on the empirical results.

A general model of the demand for and supply of government services is provided in Appendix 2. Figure 7 depicts the model within the context of the Nigerian urban housing situation

# A MODEL OF THE DEMAND FOR AND SUPPLY OF GOVERNMENT SERVICES:

## THE CASE OF URBAN HOUSING IN NIGERIA



and, hence, the background scenario within which the general hypotheses are predicated. The arrows in Figure 7 indicate the direction of linkages.

### Summary

This chapter has argued that after resource allocation to, and implementation of four national development plans (Figure 3), rural-to-urban migration accelerated in Nigeria because of urban-bias in government expenditures (Figure 4). Since many of those who migrated to the urban areas are ill-housed it is held that housing problems exist in Nigerian cities, a situation which is not adequately explained by the available housing literature.

Therefore, to adequately explain urban housing problems in Nigeria, a Kantian research philosophy is adopted with government expenditures and urbanization as explanatory variables. The next chapter analyses the relationship between urbanization trends and the emergence of Nigerian urban housing problems, of which overcrowding is a part.

FOOTNOTES TO CHAPTER 2

- 1 "Development from above" has its roots in neoclassical economic theory, and its spatial manifestation is the growth centre concept. The basic hypothesis is that development is driven by external demand and innovation impulses, and that development driven by few dynamic sectors, or geographical clusters, would in either a spontaneous or induced way "trickle down" to the rest of the system (Stohr and Taylor, 1981:1).
- 2 "Type O" houses represent slum/squatter housing with little or no basic facilities. (National Housing Survey, Federal Office of Statistics, Lagos, 1975).
- 3 Gentrification is the process whereby lower income areas are converted into middle and upper income areas through private purchase and modernization of old buildings. Lower income households are usually driven away with the introduction of higher rents following gentrification.
- 4 Urban blight is taken here to refer to areas of housing (commercial, industrial and residential) in a state of disrepair but occupied at high density. In its residential aspects, "blight" connotes substandard or poor quality housing occupied too intensively.
- 5 It has been conventional to regard land as a two-dimensional phenomenon. In recent years, however, it is increasingly being realized that "land" has a third dimension, that is, its vertical dimension (Davis, 1960; FAO, 1961; Stump, 1962; US Bureau of Land Management, 1962; Wellar, 1975; and Group of Experts on Urban and Regional Research Colloquim, 1983).
- 6 The terms "better off" and "worse off" mean that the utility associated with a change in the consumption of goods and services is increased or decreased, respectively.

## CHAPTER 3

### URBANIZATION TRENDS AND THE EMERGENCE OF URBAN HOUSING

#### PROBLEMS

#### Introduction

Research on urbanization and urban housing policy processes have many components and elements.<sup>1</sup> By considering the urban pull and rural push forces behind urbanization, this chapter examines a critical aspect of Nigerian urban growth processes: that is, the extent to which the various forms of substandard housing emerged in Nigerian cities, due to rapid urbanization and the resulting quest of urban migrants to lay their heads somewhere, is examined.

#### 3.1 Perspectives on Urban Growth

The concept of urban growth means different things to different disciplines, in terms of substance as well as emphasis.

Definitional diversity and occasional ambiguity stems from the fact that urbanization in general and urban growth in particular depicts both a state and process of change (Hauser and Schnore, 1965; Lithwick and Paquet, 1968; Lithwick, 1970; Roberge et al., 1974; UN, 1979; Wellar, 1982; Orubuloye and Oyeneye, 1983).

Sociologically, for example, urban growth is conceived as

the growth of societal forces inducing cultural change, and the spread of those behaviour and value patterns classified as "urban" (Hauser and Duncan, 1959; Bruner, 1961; Castells, 1969; Johnson et al., 1964; Pickvañce et al., 1976; Abu-Lughod, 1977).

In geography, on the other hand, urban growth is largely seen in terms of urban land-uses, that is, whether "order" or "disorder" characterizes urban land-use patterns (Dwyer, 1975; Doxiadis, 1976; Drakakis-Smith et al., 1978; Mubogunje, 1982). Prior to 1940, most geographers pursued urban growth investigations in terms of the three p's of geographical inquiry -- people, places and processes -- behind areal differentiation.

After 1940, however, urban growth increasingly came to be seen in terms of determinants of spatial interaction (Zipf, 1949; Hauser and Schnore, 1965; Berry and Horton, 1970; Yeates, 1975; and Wellar, 1982). A significant finding in this regard was that the (larger) cities of most developing countries were characterized as "primate" as opposed to being part of log-normal distribution. In terms of the rank-size rule (relative rank of city population distribution) this meant that population distributions in cities of developing countries were more skewed than those of countries where the urban system was better developed (Berry, 1961; Clark, 1967; Johnson, 1970; Hilhorst, 1971; and Engwall, 1972).

For planners, urban growth is viewed in terms of outward manifestations of processes of spatial competition, and the

associated quest by social groups in the city for adaptation to ecological equilibrium (Berry, 1967; Johnston, 1970; Friedman, 1974; Berry and Kajorda, 1977; Herbert and Johnston, 1976 and Cooke, 1983:133).

In the economist's perspective, however, urban growth connotes the response of factors of production to urban economic opportunities. The response pattern is said to arise from low wage sectors (relatively low labour demand) to urban high wage ones (relatively high labour demand (Sjaastad, 1962; Fishlowtiz, 1965; Sahota, 1968; Todaro, 1969; Stark, 1975; and Lipton, 1982).

And, as a final disciplinary reference, urban growth is defined demographically either as the growth of population in urban areas, or more commonly, as the increasing proportion of urban to total population (Davis, 1969; Hanse, 1970; Green and Milone, 1973; Caldwell, 1975; World Bank, 1979; Simmons and Vlassoff, 1982).

While definitional differences exist due to varying disciplinary concerns, examination of the literature on urban growth processes and problems yields a central message. Namely, there is a fundamental distinction between: (1) the urbanization of people; and, (2) urban land "invasion", that is, urban land-use order and disorder. Hence, whichever of these definitions is adopted, it is crucial to indicate the effects of urban population increases on urban quality of life and

environment.<sup>2</sup> As such, a demographically-based definition within a spatial context is adopted in this study, wherein emphasis is placed on the quality of life within the purview of urban housing (recall Figures 1 and 7 on pages 7 and 33 respectively).

Many investigations of why urban areas have grown, and why this growth has been accompanied by problems, revolve around considerations of the economics of migration to various cities. Conceptually, migration can be pictured as a process involving investment in human capital (Sjaastad, 1962; and Becker, 1964). In brief, a migrant incurs short-term costs in order to reap future benefits and his migration decision is hypothesized to depend on the rate of return from doing so (Todaro, 1969; Blanco, 1969; Harris and Todaro, 1970; and Stark, 1982).

The act of migration thus becomes a function of three variables: first, differential returns (the difference between monetary returns accruing to the migrant before migration and after); second, differential costs (the difference between costs incurred due to migration and costs which would have been incurred had the migrant remained at the origin); and third, the length of time over which the returns are received and costs are incurred.

### 3.2 Urban Growth Forces in Nigeria

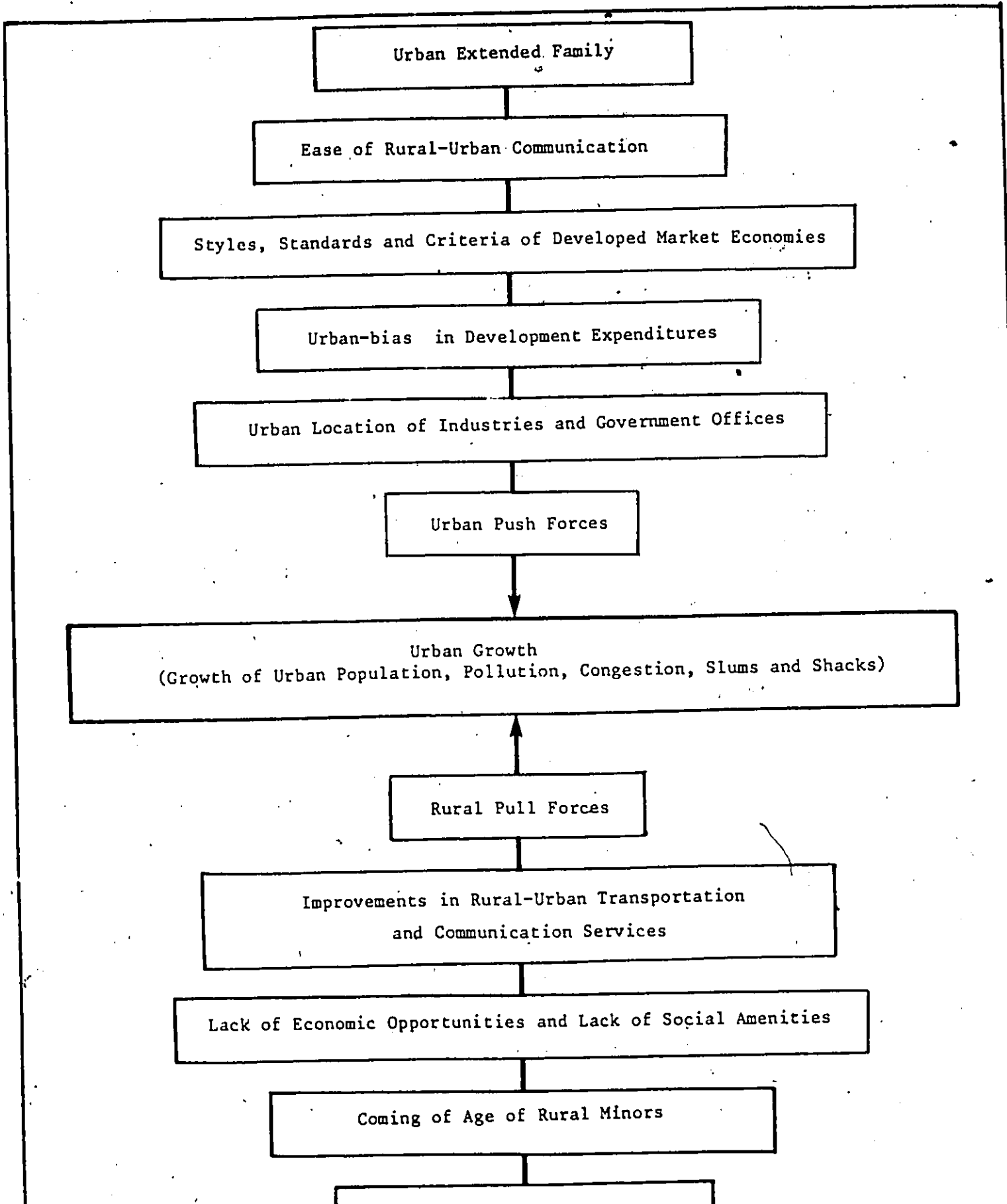
The differential returns function postulates migration on the basis of pull and push forces. As shown in Figure 8, urban growth forces in Nigeria are in consonance with "pull" and "push" migration hypotheses. The major determinants of migration from rural to urban areas of Nigeria can be attributed to three central forces:

- a. demand-pull forces;
- b. supply-push forces; and
- c. ease of rural-urban communication.

The primary demand-pull element in Nigerian rural-urban migration is the expectation of urban employment. This expectation may be associated with urban location of industries and government offices, and increasing trade relations with developed market economies (Mabogunje, 1968; Nigeria Economic Society, 1977). Within the context of the Nigerian retail trade, the generation of formal jobs is an obvious demand-pull factor; less obvious but also relevant to the strength of the demand-pull force is the indirect generation of opportunities to earn a living in the burgeoning urban informal sector.

A second demand-pull element is due to the perception that cities promise a better chance of access to western norms, styles, standards and criteria in all fields of human endeavour. In addition, cities are perceived to offer eagerly desired

# Urban Growth Forces in Nigeria



amenities such as durable consumer goods, schools, hospitals, public transportation and other social services.

And, third, the proximity to bureaucratic centres and decision-makers is seen to improve the opportunity of obtaining government jobs or contracts and, thereby, the possibility of either making a "fortune" or benefiting from government economic and social programs.

Supply-push factors, on the other hand, relate to poor living conditions and lack of economic opportunities in rural areas. These factors are reflected in extremely low levels of rural income per head, low technical levels of peasant agriculture, lack of linkages between agricultural output and urban industrial inputs,<sup>3</sup> and low land-labour ratios (Table 1). Also, in many rural communities, when a young man comes of age tradition requires that he build his own house, set up a home, and participate in social activities such as naming ceremonies, burial ceremonies, and payment of local dues and taxes. In order to meet these financial commitments, migration to urban areas in search of employment opportunities becomes the preferred option due to limited economic opportunities in rural areas.

A third cluster of factors is related to ease of rural-urban communication. Owing to dissemination of information through the mass media which tends to be located in (larger) urban centres, rural residents are becoming increasingly aware

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of the possibilities offered by life in the city. Further, expansion, upgrading and improvement in the national transport system has facilitated both territorial and functional integration. Finally, the presence of relatives already in urban areas in the form of an urban extended family, (Figure 9), facilitates urban-ward migration. Among other things, in this latter regard, the urban extended family is required, by tradition, to sponsor and/or provide food and accommodation for relatives while they look for work.

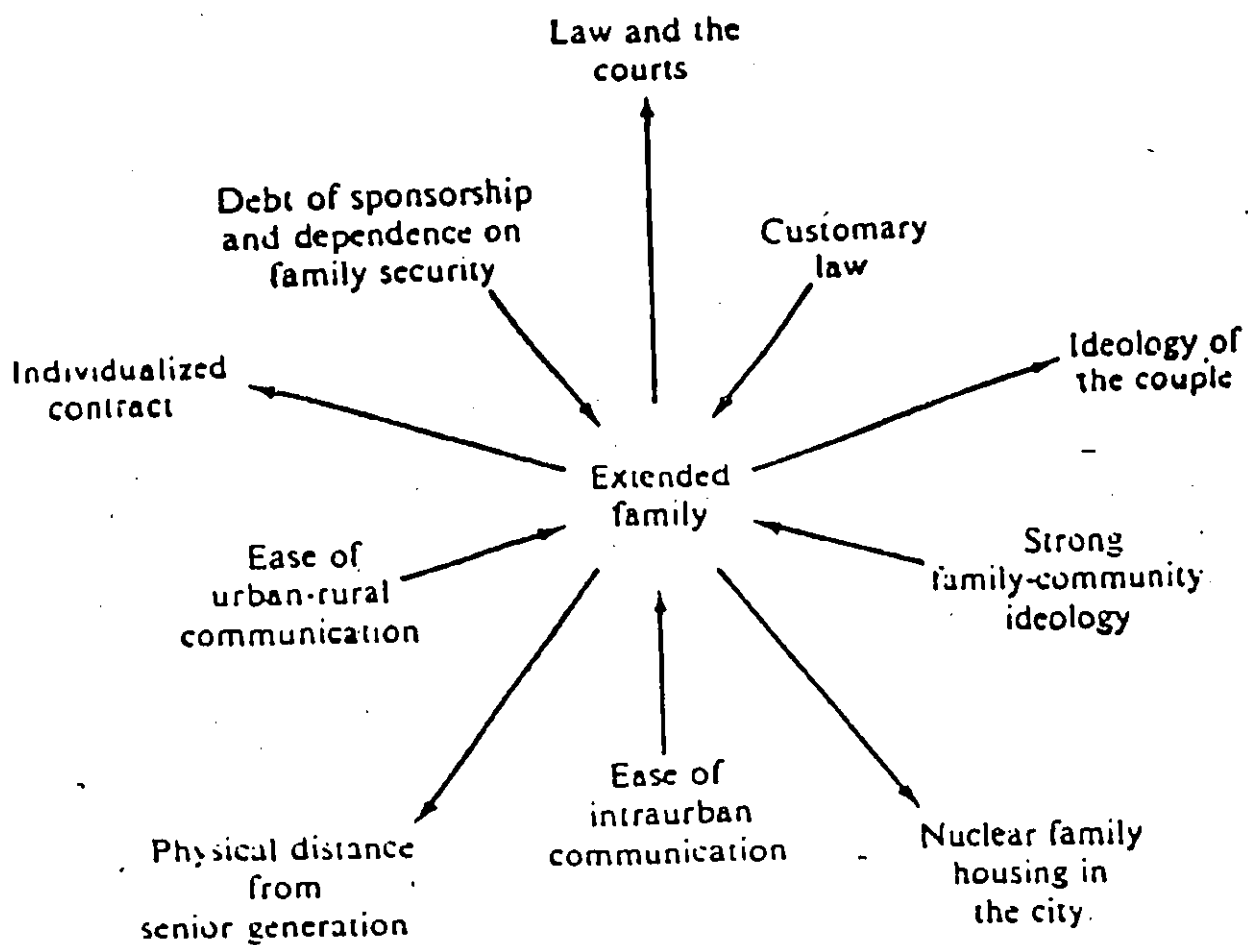
### 3.3 Urbanization Trends in Nigeria

The genesis of urban growth in the Nigerian major cities can be traced to their economic, administrative and social roles (Mabogunje, 1968; Onyemelukwe, 1977). In his analysis of the early phase of urban growth in Nigeria, Mabogunje pointed out that on the basis of a 20,000 base-line population for urban areas, as many as 25 towns and cities existed in Nigeria before colonial rule (Table 2).

Administrative specialization did not emanate from early forms of urbanization in Nigeria. However, the cities played central place roles effectively, and signs of stress in the form of congestion and agglomeration diseconomies were absent (Mabogunje, 1968; Green and Milone, 1972; Shatzl, 1973).

Following colonial rule and expansion of export agriculture, transportation systems (especially railroads) were used to link areas with high agricultural and mining export poten-

**FIGURE 9**  
**FORCES SUPPORTING AND STRAINING THE**  
**EXTENDED FAMILY IN NIGERIA UNDER URBAN GROWTH CONDITIONS**



SOURCE: Gugler, J. and Flanagan, W., Urbanization and Social Changes In West Africa, Cambridge University Press, 1978, p. 122.

TABLE 2

POPULATION OF PRE-COLONIAL TOWNS OF 20,000 OR MORE PEOPLE  
ESTIMATED PRIOR TO 1880

TOWN	POPULATION ('000)
Sokoto	120
Ibadan	100
Abeokuta	100
Ilorin	70
Zaria	40-50
Iwo	50
Oyo	40
Ijebi-Ode	35
Kano	30-40
Ijaiye	30
Ogbomosho	30
Ede	30-40
Argonou	30
Addo	20
Deegoa	30
Kiama	30
Oke-Odan	24
Baebajie	20-25
Dirkwa	25
Isehin	20
Koso	20
Epe	20
Wawa	20
Tabra	20
Lagos	20

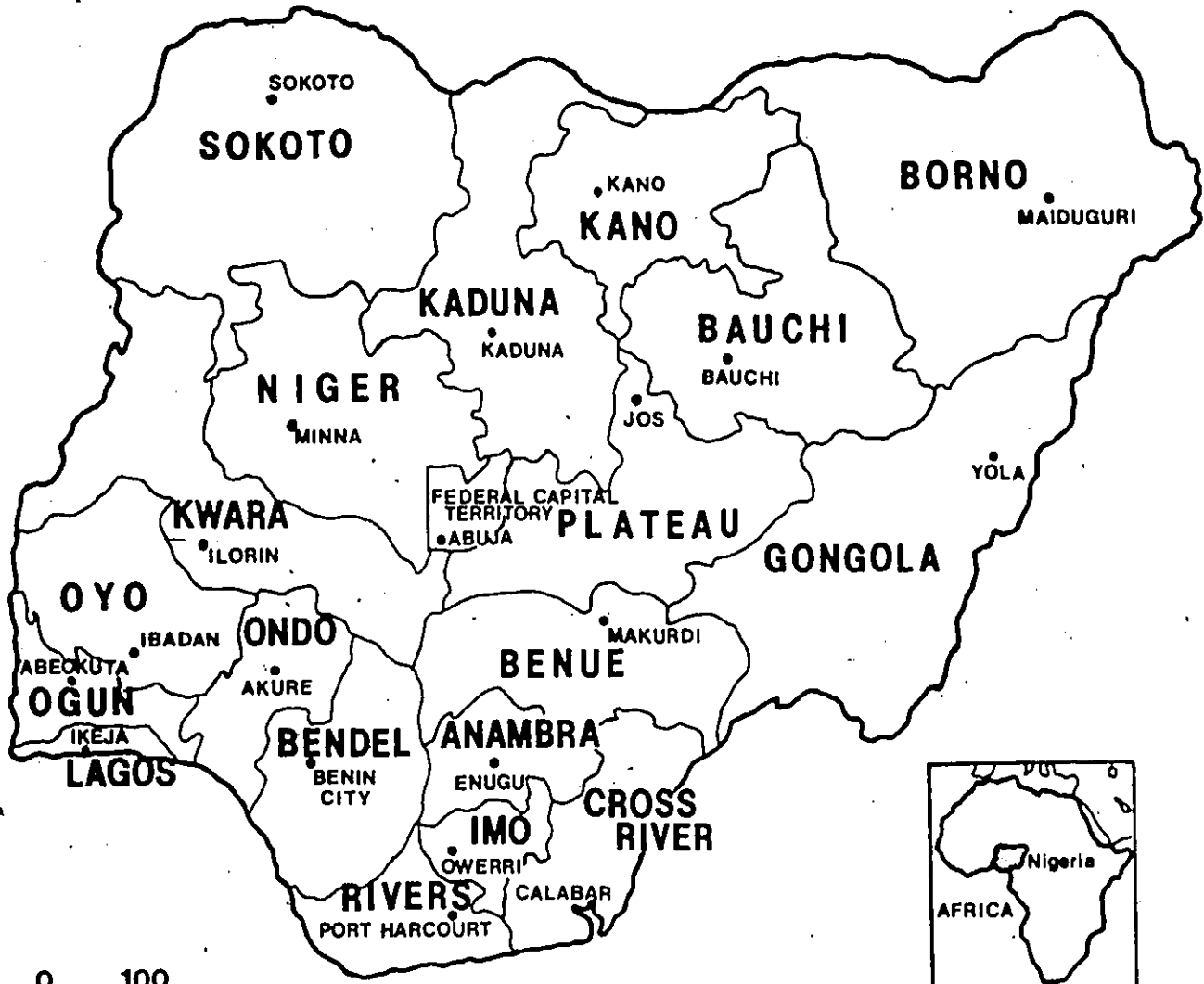
SOURCE: A.L. Mabogunje, Urbanization in Nigeria, University of London Press, London, 1968.

tial. Consequently, pre-colonial cities which were by-passed, for example, Sokoto, Yerwa, Oyo, Ijebuode, etc., started to lose population, while new towns such as Kaduna, Jos, Port Harcourt, Aba, and Enugu, sprung into existence on the rail-line. These new towns gained population at the expense of others by virtue of their emergent administrative and commercial (trading) functions.

By the late 1950's three growth poles emerged:

- (i) In the south-west, the port city and federal capital of metropolitan Lagos, which is a vast industrial complex and national transport hub;
- (ii) In the north, a central, closely-settled zone which embraces the cities of Kano, Zaria and Kaduna, the administrative, commercial, manufacturing and transport hubs of Northern Nigeria; and,
- (iii) In the south-east, a well-knit network of urban places dominated by Port Harcourt, Onitsha, Aba and Enugu, also, industrial, commercial and administrative in character (Green and Milone, 1973). Within these three population growth poles, migration to the largest commercial cities and provincial capitals accelerated (Figure 10).

# NIGERIA: 19 STATES AND CAPITALS



0 100  
km



As a result, a hierarchical urban growth pattern emerged by 1963. At its apex stood the primate city of metropolitan Lagos, with a population expanding at four times the national rate of growth (15.36 percent, per year to 3.84 percent, per year). The second order of centres was comprised of the core areas of Northern and Eastern Nigeria, with urban populations expanding at about three times the national rate. Locally-important towns, with populations expanding at approximately twice the national rate formed a third order of centres. The number of urban centres containing 20,000 or more inhabitants increased from 56 in 1953 to 184 in 1963. Also, the percentage of the country's population that was urban rose from 10.6 percent in 1953 to 19.3 percent in 1963 (Green and Milone, 1972; Onyemelukwe, 1977:29).

Regarding 1953 to 1963 as a ten year period, the annual growth rates of towns of 20,000 population and over is shown in Table 3. The rates are computed by means of the following formulation:

$$r = [(P_1/P_0)^{\frac{1}{10}} - 1] 100$$

where:

- r = annual growth rate of urban population;
- P<sub>1</sub> = urban population in 1963 census;
- P<sub>0</sub> = urban population in 1952/3 census;

TABLE 3

GROWTH RATE OF TOWNS OF 20,000 AND OVER FROM 1952/3 TO 1963

Town	Pop. in 1953 (000)	Pop. in 1963 (000)	Annual Growth Rate (%)	Town	Pop. in 1953 (000)	Pop. in 1963 (000)	Annual Growth Rate (%)
Lagos	267	665	9.5	Iseyin	50	95	6.6
Ibadan	459	627	3.1	Katsina	52	91	5.8
Ogbomosho	140	320	8.6	Sokoto	52	90	5.7
Kano	127	295	8.7	Jos	39	90	8.7
Mushin	321	258	16.1	Ilobu	38	87	8.6
Oshogbo	123	210	5.5	Offa	21	86	15.1
Ilorin	41	209	17.6	Owo	31	80	9.9
Abeokuta	84	187	8.3	Ikirun	26	80	11.8
P. Harcourt	72	180	9.5	Calabar	47	76	4.9
Zaria	54	166	11.8	Shaki	28	76	12.6
Ilesha	34	166	17.1	Ondo	36	74	7.4
Onitasha	77	163	7.7	Akure	39	71	6.1
Iwo	100	159	4.7	Gusau	40	69	5.6
Kaduna	45	150	12.8	Ijebu-Ode	24	69	11.1
Ado-Ekiti	25	158	20.2	Kumo	29	65	8.4
Maiduguri	57	140	9.4	Oka	28	62	8.2
Enugu	63	138	8.1	Sapele	34	61	6.0
Ede	45	135	11.6	Ikare	25	61	6.0
Aba	58	131	8.4	Warri	20	61	9.3
Ife	110	130	0.3	Shagamu	30	51	5.4
Illa	26	115	16.0	Ikire	20	54	10.4
Oyo	72	112	4.5	Nnewi	28	44	4.6
Ikerre	63	107	11.7	Nguru	23	43	6.4
Benin	54	101	6.4	Ihiala	24	40	5.2
Fiditi	24	27	1.2				

SOURCE: Computed from: (a) Population Census, 1952/3, Federal Office of Statistics, Lagos; (b) Annual Abstract of Statistics, 1970, Federal Office of Statistics, Lagos.

Table 3 indicates that the cities grew from a low of 3.1 percent to a high of 20.2 percent yearly, with migration accounting for over 75 percent of annual urban growth (World Bank, 1972:80).

The onset of large scale oil production, and the subsequent oil-boom euphoria which it generated introduced a slightly modified pattern of urban growth. The fastest and most important Nigerian urban centre, without rival, is Greater Lagos. Apart from the Nigerian civil war period (1967-1970), Lagos has grown from about 1 million in the early 1960's to over 5 million at present (Kirk-Green and Rimmer, 1981).

The petroleum and natural gas resources of Nigeria have also stimulated urban growth in the second growth area southeast of Lagos, in the cities of Benin, Warri, and Port Harcourt. Since oil-induced industrial investments -- petroleum refineries, petrochemical industries, and steel -- are located in this triangle, urban growth has soared. By way of illustration, Port Harcourt's population rose from under 300,000 in 1969 to about 800,000 in 1977. But infrastructural facilities and housing have remained at almost 1969 levels, thus creating an urban crisis of major proportions (Ogbonna, 1979:197).

As for the new industrial city of Warri, its situation is similar, although more extreme in terms of an inability to cope with problems arising from rapid growth. That is, the city of Warri has changed from being a tiny inland river port with a

population of 55,254 in 1969, to the fastest growing city in the country after Lagos, with an estimated population of 400,000 in 1977 (Ogbonna, 1979:198). Both Port Harcourt and Warri, it is noted, attract large numbers of migrant labourers because of the employment opportunities, and high wages and salaries, that the oil industries offer.

The third urban concentration of importance emerged after the 1950's along the Kaduna-to-Zaria axis, and includes Kano, the regional economic centre for the northern states of Nigeria. All three cities attract migrant labour because they are the main recipients of petroleum revenues redistributed from Lagos, as well as being the sites for local, state and international industrial development based on the import-substitution strategy. With Kano's population approaching an estimated 1.5 to 2 million, Kaduna containing roughly 1 million, and Zaria another 400,000 persons, this corridor contains an urban population of nearly 4 million (Kirk-Green and Rimmer, 1981).

In addition, given the significance of the Nigerian economy within the West African region, the urban population now includes millions of aliens<sup>4</sup> from neighbouring countries. This is due to the Economic Co-operation of West African States treaty, (that is, the ECOWAS Treaty) which allows free movement of people among member countries of West Africa. It is estimated that the proportion of Nigeria's urban population (persons residing in centres with population of 20,000 or greater) is about 30 percent of the national population (Table 4).

TABLE 4

GROWTH OF URBAN POPULATION IN NIGERIA

Year	Total	Urban Population (millions)	Urban Population As % of Total Population
1960-61	52.93	9.72	18.36
1962-63	55.67	10.73	19.27
1965-66	59.95	12.36	20.62
1968-69	64.95	14.22	21.89
1971-72	70.34	16.74	23.80
1974-75	76.64	19.70	25.70
1977-78	83.50	23.19	27.77
1978-80	88.41	25.86	29.25

SOURCE: Derived from, A. L. Mabogunje "Rural Development in Nigeria: Problems, Policies and Issues" in Misra, R.P., Rural Development: National Policies and Experience, UNCRD, Vol. 4, Nagoya, Japan, 1981, p. 300. Urban population is defined as persons residing in centres with population of 20,000 or greater.

The bias of state and private investment toward urban centres ensures, therefore, that the drift to urban areas will continue, and that the urban informal sector will continue to flourish. According to the United Nations<sup>5</sup>, 50 percent of the labour force in Lagos is "employed" in the informal sector (UN, Tunis, 1983:43), and the squatter areas are growing at twice the rate of urban areas as a whole (UN, Mexico City, 1980:11).<sup>6</sup> In Lagos the slum/squatter areas include Ajagunle, Isale Eko, Maroko, Badiya, and parts of Mushin, Shomolu, Bariga, Agege and Ojota (See Chapter 7). In order to identify the origins of Nigerian urban housing problems, the next section first examines the structure of the urban labour market where the urban migrants made their living.

#### 3.4 Anatomy of Nigerian Formal and Informal Urban Labour Markets

Against the background of demand-pull and supply-push forces on urban-ward migration, and occupational differentiation in Nigerian cities, two labour markets flourished -- one formal, and the other informal. Table 5 shows the urban wage hikes<sup>7</sup> which fueled urban-ward migration on the one hand, and more fierce competition for formal sector employment on the other. In the informal labour market, two major types of informal sector participants existed.

The first group generally consisted of unskilled labour without capital. These were people who came to urban areas in

TABLE 5OIL-INDUCED URBAN SALARY SCALES -- UDOJI AWARDS, 1974

SALARY GROUP	OLD GRADES (Niara)		NEW SALARY GRADES (Niara)	
	MIN	MAX	MIN	MAX
1 .....	312	612	720	870
2 .....	336	878	800	980
3 .....	336	1,016	900	1,280
4 .....	406	1,950	1,100	1,380
5 .....	492	2,040	1,370	1,810
6 .....	516	2,592	1,630	2,310
7 .....	848	2,668	2,000	3,000
8 .....	482	1,988	2,780	3,980
9 .....	3,090	4,140	3,980	5,340
10 .....	492	2,040	1,370	1,810
11 [Sm 1].....	492	2,040	1,370	1,810
12 [Sm 2].....	--	--	6,129	7,749
13 [Sm 3].....	5,064	6,480	6,895	8,730
14 [Sm 4].....	5,472	7,320	7,760	9,810
15 [Sm 5].....	6,240	6,480	8,730	11,025
16 [Sm 6].....	6,480	6,961	9,819	12,411
17 [Sm 7].....	6,480	7,860	11,043	13,959

SOURCE: Daily Times, Lagos, December 28, 1974, pp. 10, 11 and 12.

search of formal sector employment, without any plan whatsoever of working in the informal sector. However, given the limited capacity of the formal sector to absorb the teeming urban labour force, what was initially expected to be a short-term transition (from rural to urban living) became an extended period of continuous struggle to make ends meet by petty trading, hawking, prostitution, etc., on the city streets (Fapohunda, 1977:8; UN, Tunis, 1982).

The second group of informal sector participants consisted mostly of migrants who came to the city and decided to make a livelihood from a particular craft or line of business in the informal sector -- members of this group would re-orient their employment intentions if formal employment opportunities arose. In addition to sporadic unemployment, then, the major problem for most households in the urban informal sector was under-employment and the low, fluctuating incomes which this entailed (UN, Mexico City, 1980:18).

Based on the preceding discussion of the informal sector, the major components of the Nigerian urban labour force (as a result of the oil boom) is elaborated by considering labour force factors and relationships as follows.

The growth in urban unemployment rate ( $g_{UR}$ ) can be expressed as the difference between the growth in the numbers in the labour force ( $g_{LF}$ ) and the growth in the numbers unemployed ( $g_U$ ).

$$\begin{aligned}
 g_{UR} &= g_{LF} - g_U \\
 &= \frac{1 - UR}{UR} (g_{LF} - g_E)
 \end{aligned}$$

That is,  $g_{UR}$  is equal to the difference in  $g_{LF}$  and the growth rate in the numbers employed ( $g_E$ ) multiplied by the employment rate ( $1-UR$ ) divided by the unemployment rate ( $UR$ ).

For a given growth in employment over any fiscal year, the unemployment rate grows if the labour force grows faster than employment, and the rate declines if the labour force grows more slowly than employment. Consequently, if the growth in employment ( $g_E$ ) is taken as given, then  $g_{UR}$  depends upon  $g_{LF}$ . But the labour force expands as a result of labour force participation rate ( $g_R$ ) and growth in the working age population ( $g_{pop}$ ).

In the Nigerian case, the working-age population during the oil boom period increased due to three factors:

- (i) Natural increases in the population ( $g_n$ );
- (ii) Internal rural-to-urban migration, ( $g_{Mi}$ ) and,
- (iii) Net international migration, ( $g_M$ ).

Consequently, the Nigerian labour force,  $g_{LF}$  (that is, employed and unemployed) is represented by the formulation,

$$\begin{aligned}
 g_{LF} &= g_R + g_{pop} \\
 &= g_R + g_n + g_{Mi} + g_M
 \end{aligned}$$

Since much of the unskilled component of  $g_{LF}$  did not find employment in the formal sector, rapid growth of the informal sector in Nigeria is attributable to this unskilled component of the labour force. Consequently, the rate, size and pattern of migration as reflected in annual changes in the unskilled component of  $gm_i$  and  $g_m$ , manifested itself physically in the growth of the informal sector (especially roadside hawkers) and slum/squatter settlements.

The squatter settlements and their sub-standard houses were officially regarded as anomalous or pathological phenomena, which should be suppressed or removed (Ayeni, 1977). As a result, the settlements were rarely considered to have a role in the process of national development, and programming for them was therefore not included in the National Development plans (Mabogunje, 1982)..

Yet, within the context of security and legality of urban housing tenure, six housing types emerged in all cities. They are shown in Table 6. The refusal by governments to either extend basic amenities, or accept the legitimacy of the various categories of sub-standard housing, and thereby require that these units satisfy associated institutional requirements, made them an environmental and health hazard.

Since these housing types (Table 6) are visible features of the Nigerian urban scene, the Nigerian urban housing market consists of two housing components -- one formal and legal, the other, informal and substandard. Apart from constituting an

TABLE 6

TYPOLOGY OF URBAN HOUSING TYPES IN NIGERIAN CITIES  
(1972-1985)

Housing Type	Type of Tenure
1. Legal Occupancy	Institutionally recognized form of tenure e.g., freehold, lease, rental, on houses with approved standards and criteria.
2. Slum	A group of buildings or areas characterized by overcrowding, deterioration, unsanitary conditions and lack of sufficient facilities or amenities; legal tenure.
3. Semi-squatter	Sub-standard housing without full recognition but with some rights; semi-legal tenure.
4. Established Squatter	Sub-standard housing occupancy without legal status but with land rights; illegal tenure.
5. Tentative Squatter	Sub-standard housing occupancy without either legal status or guarantee of continued tenure; illegal tenure.
6. Itinerant Squatter	Transient occupancy of sub-standard housing with no intention of permanent tenure; illegal tenure.

environmental and health hazard, the informal housing type induces disorder in planned industrial and residential land-use systems (Mabogunje, 1982).

### Summary

This chapter pointed out that the primary demand-pull element in the Nigerian rural-urban migration is employment and income expectation. Supply-push factors, on the other hand, relate to poor living conditions and lack of economic opportunities, in rural areas. Against this background it was argued that rural migrant labourers, as well as labourers from neighbouring countries (due to the ECOWAS Treaty), were drawn to cities in search of jobs in the formal sector. Due to lack of jobs in the formal sector, however, most of the migrants had no choice but to seek to achieve a (minimum) level of subsistence living in the informal sector. That outcome led, in turn, to the emergence of various types of sub-standard housing types, ranging from shacks to squatter settlements because of the need by urban migrants to lay their heads somewhere (Table 6).

The following chapter examines the nature and magnitude of urban housing problems in Nigeria induced by rapid urbanization.

FOOTNOTES TO CHAPTER 3

- 1 See chapter 9 for a discussion of the research issues on the urban policy processes.
- 2 For a succinct and well-argued discussion of this point, see the Globe and Mail, May 11, 1987, and the letter entitled "Feeling the Squeeze" by John Meyer, President, Zero Population Growth of Canada.
- 3 Spatially, most of the industries are concentrated in few growth centres, regardless of the source of local raw materials and other industrial inputs. As a result, whether it is with respect to car assembly plants or electronic factories, there is no relationship between industrial input demand and availability of local inputs. Consequently, income changes in the Nigerian economy, and changes in demand associated with them, reinforce the divergence between domestic resource use and domestic demand. Further, because industrialization and urbanization are two closely related processes, the urban informal sector and slum/squatter settlements have grown rapidly in Nigerian cities due to the inability of the formal sector to absorb all the migrant labour into the formal labour force.
- 4 About 1.3 million illegal migrants were expelled from various cities in January 1983: 700,000 to Ghana, 180,000 to Niger, 150,000 to Chad, 120,000 to Cameroon, 5,000 each to Togo and Benin and a smaller number to Mali, Senegal and Ivory Coast. (The Economist, February 9, 1983, p. 59).  
  
However, due to poor economic conditions in their home countries, most of these illegal immigrants have found their way back to Nigerian cities (Author's Field Work in Nigeria, 1984/1985).
- 5 United Nations, Conditions of Work and the Working Environment, Sixth African Regional Conference, Tunis, Oct. 1983, pp. 42-51.
- 6 United Nations Commission on Human Settlement, Upgrading of Urban Slum and Squatter Areas, Report of the Executive Director, Third Session, Mexico City, 6-15, May 1980, p. 11.
- 7 Under the oil-induced wage increases in Nigeria beginning with the Udoji Award of 1975, those at the bottom of government pay scale received increases of 122 percent, that is, from N27 to N60 per month. Other public servants received increases in the neighbourhood of 30 percent more in absolute terms. See Schatz, S.P. Nigerian Capitalism, University of California Press, Los Angeles, 1977, p. 31.

## CHAPTER 4

### NATIONAL HOUSING NEEDS IN NIGERIA

#### 4.0 Introduction

Urban housing problems in Nigerian cities can be viewed as having three key components or attributes:

First, an absolute shortage of housing units in the cities;

Second, many dwellings fail to satisfy selected (minimal) standards of sanitation and safety; and,

Third, although a family might obtain satisfactory housing, it would be obligated to pay a high rent (as proportion of income), which in turn limited its ability to afford other necessities of life.

These are the central arguments presented in this chapter.

To put the arguments in perspective, an economic analysis of the residential housing market is first presented. Thereafter, the quantitative and qualitative deficiency of urban housing in Nigerian cities are discussed.

#### 4.1 Economic Analysis of the Urban Housing Market

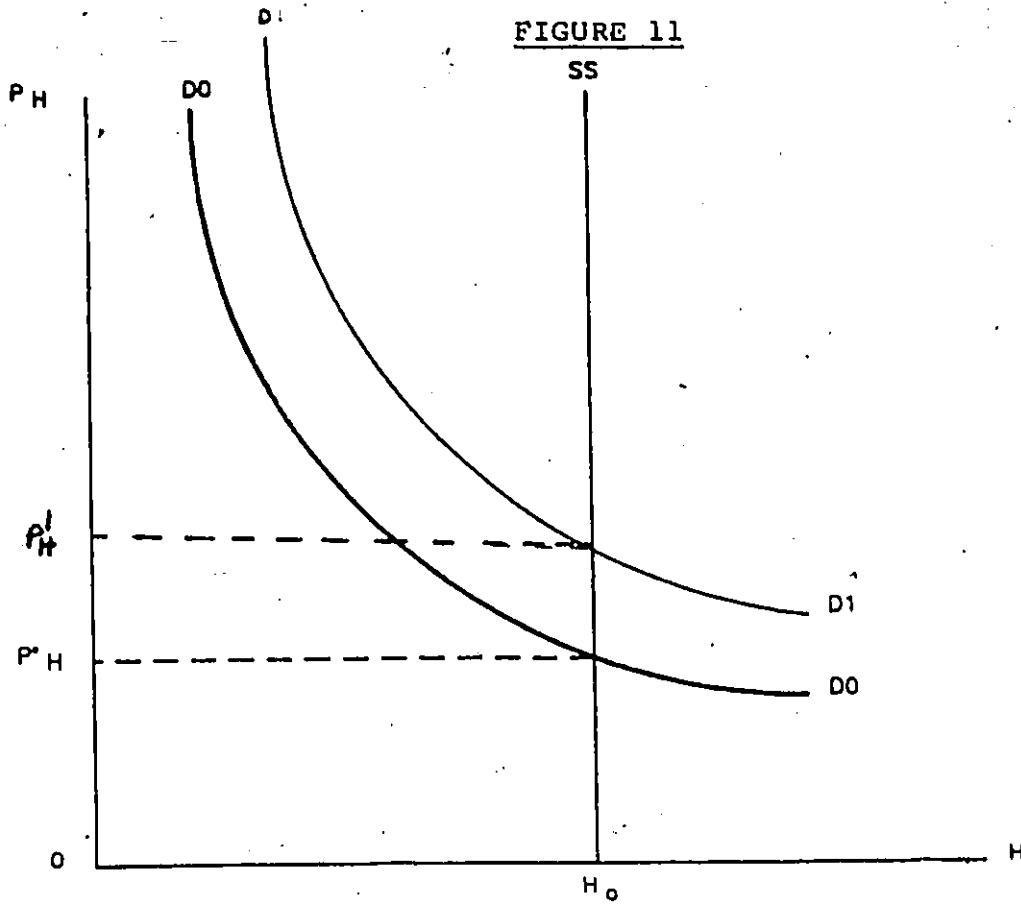
Conceptually, the housing market refers to the numerous

interrelationships between housing and other components of urban development and planning. In urban areas, the social issues created by housing arise because of the way demand (consumers) and supply (governments, building industry and financial institutions) respond to either changing housing needs, or housing market conditions. The stock and quality of residential housing available is usually central in determining the nature of housing problems which arise.

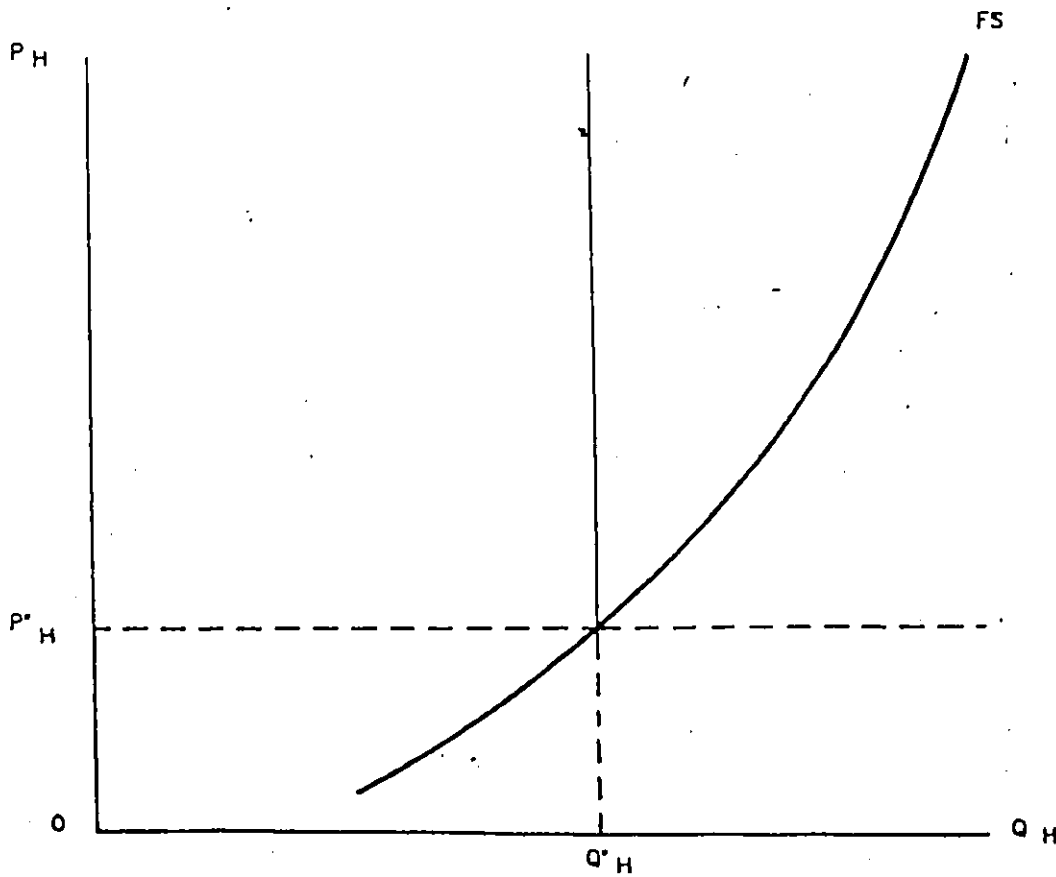
Residential investment consists of the building of single-family and multi-family dwellings, which together constitute residential (as opposed to, for example, institutional) housing. Conceptually, housing is distinguished as an asset by its long life (Friedman, 1957; Maisel, 1960). Consequently, investment in housing in any one year tends to be a very small proportion of the existing stock of housing, that is, about 3 per cent (Guttentag, 1961).

Figure 11 (panel A) shows the demand for the stock of housing in the downward sloping  $D_0D_0$  Curve. The position of the demand curve depends on wealth, real return available on other assets, net real return obtained by owning a house, demographic changes, migration, and regional changes in income, employment and other economic factors (Guttentag, 1961; Grebber and Maisel, 1963; Olsen, 1969). The price of housing ( $P_H$ ), is determined by the interaction of demand with the stock supply of housing. The lower the price of housing, the greater the demand.

FIGURE 11



PANEL A



PANEL B

THE HOUSING MARKET AND RATE OF HOUSING INVESTMENT

However, at any one time, the available stock or (supply) of single or multi-family housing is fixed. That is, there is a given stock of housing that cannot be adjusted quickly in response to demand changes. Hence, the supply curve of a given stock of housing is the SS curve, and the equilibrium price of a typical house or apartment,  $P_H^O$ , is determined by the market for each particular component of the stock of housing.

If demand suddenly shifts to  $D_1D_1$ , in the market for any particular housing type (single or multi-family), prices rise to  $P_H^1$ .

The FS curve in panel B shows the supply of new housing as a function of the price of housing. The FS curve can be thought of in the same way as the regular supply curve of any industry. That is, it represents the supply of new housing as a function of the price of housing. The position of the FS curve is affected by costs of factors of production used in the construction industry, technological factors, and government regulations. The FS curve is therefore gross investment in housing or total additions to the prevailing housing stock.

Any factor affecting the demand for the existing stock of housing will affect the price of housing ( $P_H$ ), and thus the rate of investment in housing. Similarly, any factor shifting the flow supply curve, FS, will affect the rate of housing investment. The foregoing therefore implies that each household selecting residential housing chooses the combination of space and quality which suits its needs, income and taste.

That is, each household is directly interested in only a small part of the total residential housing stock (roughly, that part in which its socio-economic peers reside and from which members of the household can conveniently commute to work and other social activities). There is an indirect interest of households in the broader housing stock, or market, however, due to the process referred to as "filtering". In brief, through the filtering process and the homes of the rich often become homes for the middle class and, similarly, the homes of the middle class become homes of the lower income groups as incomes change and job patterns shift (Abrams, 1964; Timms, 1971; Aaron, 1972; Bhatt, 1972; Drakakis-Smith, 1981; and Fallis, 1985).

The principle of filtering is one thing; however, its occurrence in reality may not be "easy" which is explained as follows. If the desired housing types are available at affordable price, the housing selection processes would be orderly. However, if a state of housing "crunch" exists, and particularly if many households are not financially positioned to operate within the terms of the market, whether at the high, middle or lower income levels, then the housing selection process would be disorderly. That is, in the latter situation, (households are not financially able to deal with the market), sub-standard housing<sup>1</sup> would emerge to fill the gap in the quantity of housing demanded.

Against this background, the nature and magnitude of

urban housing problems in Nigerian cities can be defined in three respects:

- (i) An absolute shortage of housing units in the cities;
- (ii) A failure of dwellings to satisfy minimal standards of sanitation, safety and visual aesthetics; and,
- (iii) While a family might obtain satisfactory housing, it would be required to pay for it "through the nose", so to speak.

Subject to data limitations, the quantitative inadequacy of the Nigerian urban residential housing is examined in the following section (4.2) and then the qualitative deficiency is considered in section 4.3.

#### 4.2 Quantitative Deficiency of Nigerian Urban Housing

The total urban population in Nigeria was estimated to be 23.2 million in 1975, 31.0 million in 1980 and 40.8 million in 1985 (National Census Bureau, Lagos, 1985). In terms of urban households,<sup>2</sup> these figures imply 3.9 million, 5.2 million and 6.8 million households in 1975, 1980, and 1985 respectively (Anusionwu, 1982:305).

Table 7 provides information on the quantitative deficiency (households requiring adequate housing) in various regions of Nigeria from the First to the Fourth Development Plan Periods. Assuming that an occupant of a house requires a self-contained apartment with kitchen and toilet facilities, about 50 to 75 per cent of Nigerian urban residents were obliged to occupy sub-standard residential units in the period 1975-1985 (Central Planning Office, Lagos, 1975:307; IBRD, 1975:63; ILO, 1981:115-125).

As shown in Table 7, the number of households whose accommodation was inadequate increased from a low of 412,000 households in 1962 to a high of 4.4 million in 1985. Since it is assumed that each household is entitled to a self-contained apartment with toilet and kitchen facilities, then the number of households with inadequate housing is a proxy of annual urban housing deficits. Accordingly, in 1979, an additional 2.4 million new housing units were required. If all the urban households in the country were to have adequate accommodation from 1979 to 1985, a total of 4.4 housing units needed to have been built (Anusionwu, 1982:306).

The reality of the situation was, however, that the Nigerian urban housing deficit worsened because, while the urban housing stock increased by less than 2 percent annually, the urban population grew by more than 5 percent per year.<sup>3</sup> While all regions experienced housing deficits, there were variations in the intensity of housing problems from one city

TABLE 7

ESTIMATE OF CUMULATIVE NUMBER OF URBAN HOUSEHOLDS REQUIRING  
ADEQUATE HOUSING BY REGIONS IN NIGERIA  
(thousands)

PLANNED PERIOD YEAR	WEST	LAGOS	BENDEL	EAST	NORTH	NIGERIA
First Plan Period	1962	85	25	19	90	412
	1963	97	29	22	101	474
	1964	110	33	25	113	524
	1965	125	38	28	127	581
	1966	143	44	31	142	644
	1967	161	51	35	159	713
	1968	182	59	39	178	790
Second Plan period	1970	229	79	48	222	966
	1971	257	91	53	248	1068
	1972	288	105	59	278	1182
	1973	323	121	66	311	1309
	1974	362	140	73	348	1450
Third Plan Period	1975	406	162	81	390	1609
	1976	455	187	90	436	1784
	1977	510	216	100	488	1980
	1978	572	250	112	546	2200
	1979	641	290	125	611	2445
	1980	718	336	140	684	2718
Fourth Plan Period	1981	800	386	156	762	3009
	1982	886	440	173	844	3315
	1983	978	499	191	931	3641
	1984	1075	562	210	1024	3986
	1985	1178	630	230	1122	4351

## Footnote:

- (i) West includes Ogun, Ondo and Oyo states
- (ii) East includes Anambra, Imo, Rivers, Cross River States
- (iii) North includes Kwara, Niger, Sokoto, Kano, Kaduna, Plateau, Benue, Bauchi, Gongola, Borno States.

SOURCE: Derived from data from National Census Bureau, Lagos, and Anusionwu, E.C., "Low Cost Housing in Nigeria: Problems and Prospects", The Nigerian Journal of Economics and Social Studies, Vol.24, No.3, 1981:314.

to another. Figure 12 shows the variations in the intensity of housing deficits in 20 major growth poles in Nigeria during 1970-80.

According to the Federal Ministry of Economic Development (now Federal Ministry of National Planning), a deficit of an estimated 867,316 dwelling units occurred in Nigeria's 20 largest cities in 1980. That is, a ratio of about 115 percent of additional relative to available dwelling units were required to house people properly in the 20 growth poles (Federal Ministry of Economic Development, Lagos, 1980).

As the basic social role of housing in providing shelter was not fulfilled, the significance of the urban housing deficits manifested itself through inadequate housing types and poor housing conditions. While differences in the housing problem varied from state to state and from city to city, five common distributional significances can be attributed to the housing condition: Economic<sup>4</sup>, Environmental<sup>5</sup>, Social<sup>6</sup>, Spatial<sup>7</sup> and Ethical<sup>8</sup>. In view of the central concern with basic shelter in this study, attention is limited here to the incidence of overcrowding characteristics:

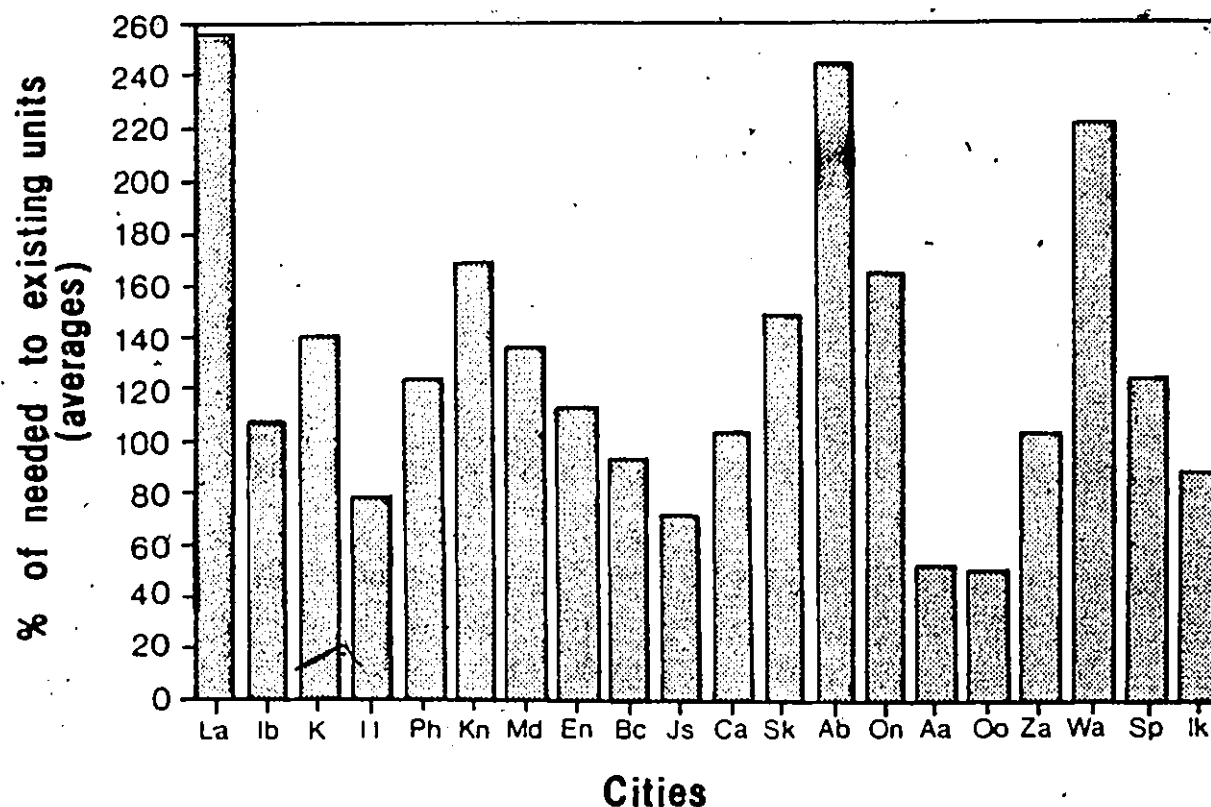
#### 4.3 Qualitative Deficiency of Nigerian Urban Housing

The concept of "a habitable home" or "an ideal home" consists of the following interrelated elements:

- (a) The social, behavioural, cultural and personal characteristics of the inhabitants;

FIGURE 12

### HOUSING DEFICITS IN NIGERIA 1970-80 (selected cities)



Note: Symbols represent cities as follows: La (Lagos), Ib (Ibadan), K (Kano), IL (Ilorin), Ph (Port Harcourt), Kn (Kaduna), Md (Maiduguri), En (Enugu), Bc (Benin City), Js (Jos), Ca (Calabar), SK (Sokoto), Ab (Aba), On (Onitsha), Ab (Abeokuta), Oo (Ondo), Za (Zaria), Wa (Warri), Sp (Sapele), Ik (Ikot Ekpene).

SOURCE: Derived from data from Central Planning Office, Lagos, (various years)

- (b) The physical, architectural and engineering components of the house;
- (c) The components and texture of the environment of which the home is a part; and,
- (d) The nature of the institutional arrangement under which the house is managed (Bauer, 1951; Michelson, 1966; U.S. Department of Commerce, 1967; Wellar, 1969; Elias, 1973; Onibokun, 1973; Greer-Wootten and Velidis, 1983).

Following these yardsticks for a habitable home, a common sight throughout Nigerian urban centres is the juxtaposition of the architecture of two different ages<sup>9</sup>. On the one hand, there is traditional architecture, characterized by round or rectangular walls, flat or conical roofs, single or multiple chambers, and compound buildings with oval-shaped entrances. In most of the smaller cities of northern Nigeria where this architectural style dominates, the buildings are made of traditional materials: thatched roofs, unplastered walls, and sandy floors. The modern or non-traditional architecture is usually rectangular in shape, with cement block walls, zinc roofs and doors made of wood or iron. In the major cities, the size and location of modern residential dwellings symbolizes the social and economic status of the owner.

Table 8 provides information on housing structures in Nigeria's 19 states. During 1979-80, dwellings classified as "0" (that is, Sub-standard houses) accounted for 29.2 percent

**TABLE 8**  
**PERCENTAGE DISTRIBUTION OF BUILDINGS BY STRUCTURE OF**  
**BUILDINGS, URBAN AREAS, 1979-80**

STRUCTURE	TYPE OF STRUCTURE												Total
	Dwellings			C.F.L. Dwellings				C.I. Dwellings					
	WALLS	Dwellings		Mud Cement Walls				Block/Stone/Brick Walls					
STATE	Thatch	Asbestos	Corrugated	Thatch	Asbestos	Corrugated	Cement	Thatch	Asbestos	Corrugated	Cement		
	or		Iron Sheets	or		Iron Sheets		or		Iron Sheets			
	mud			mud				mud					
1. ANAMBRA	23.1	-	9.9	-	0.3	13.7	-	-	2.8	47.6	2.8	100.0	
2. BAUCHI	31.3	-	21.8	0.8	-	27.7	-	-	0.8	17.6	-	100.0	
3. BENOUE	0.3	-	12.2	0.2	-	26.8	-	-	0.3	59.2	1.0	100.0	
4. BENUE	3.8	0.1	15.5	0.6	2.1	51.6	0.7	1.2	2.0	22.0	0.4	100.0	
5. BORNO	54.6	-	20.8	3.8	-	0.4	-	4.4	-	16.0	-	100.0	
6. CROSS RIVER	22.3	-	11.4	5.0	-	13.7	-	0.7	0.5	46.4	-	100.0	
7. GONGOLA	13.4	-	26.0	-	-	47.8	-	-	-	12.8	-	100.0	
8. IMO	1.6	-	3.6	1.5	-	11.3	-	11.7	0.5	36.4	13.4	100.0	
9. KADUNA	37.0	-	15.5	6.1	0.3	32.5	0.1	-	-	8.5	-	100.0	
10. KANO	28.5	-	33.2	10.3	2.9	10.0	-	-	2.5	5.8	6.8	100.0	
11. KWARA	-	0.1	12.1	-	3.3	48.0	0.1	0.1	0.3	34.3	1.7	100.0	
12. LAGOS	4.1	1.1	10.1	0.7	0.8	24.3	-	0.4	10.5	45.7	2.3	100.0	
13. NIGER	0.3	0.1	17.5	0.7	1.3	45.4	-	0.1	4.4	30.2	-	100.0	
14. OGUN	0.3	0.4	15.5	0.2	0.5	55.7	0.7	-	0.7	23.6	2.4	100.0	
15. ONDO	-	-	28.6	-	-	47.0	-	-	-	23.9	0.5	100.0	
16. OYO	-	0.1	21.0	-	0.6	45.8	-	-	8.0	24.5	-	100.0	
17. PLATEAU	2.6	-	6.5	0.3	-	39.3	0.3	0.4	0.2	49.9	0.8	100.0	
18. RIVERS	9.6	-	33.2	-	0.4	2.2	-	-	3.4	50.2	1.0	100.0	
19. SOKOTO	24.0	2.4	21.5	2.2	-	26.6	-	0.1	4.0	19.1	0.1	100.0	
ALL STATES	11.0	0.2	18.0	1.8	0.4	31.2	0.1	0.5	3.6	31.1	1.6	100.0	

SOURCE; Federal Office of Statistics, Social Statistics in Nigeria, 1980, FOS, Lagos, 1983, p. 23.

of all urban buildings. The "C.I. type" of buildings (houses built of cement or brick blocks and roofed with asbestos and corrugated iron sheets) accounted for 36.8 percent. The "C.M.I. type" of houses (dwellings made of mud, plastered with cement, and roofed with corrugated iron sheets) accounted for 33.9 percent of all urban dwellings.

According to the 1982 National Integrated Survey of Household (NISH) findings depicted in Table 9, dwellings made up of a combination of single rooms accounted for 85% of urban housing. On the other hand, flats constituted 4.40 percent, duplexes 1.30 percent, and other types of buildings 8.70 percent (Federal Office of Statistics 1983:27). The average numbers of persons per room were 2.34 and 3.34 in 1976 and 1979, respectively, while the average number of rooms per household stood at 2.07 in 1976 and 2.09 in 1979 (Federal Office of Statistics, Lagos, 1982).

The critical point to be drawn from information contained in the foregoing tables is that Nigerian urban dwellers are not well housed because:

- (i) The quantity of urban residential housing made available has been generally less than required during the four plan period, 1962-85;
- (ii) The majority of urban households occupy one-room units; and,

**TABLE 9**  
**DISTRIBUTION OF HOUSEHOLDS BY TYPE OF DWELLING**  
**(1981) - URBAN**

STATES	Single Room	Flat	Duplex	Whole Building	Total
Anambra	58.3	11.3	5.8	24.6	100
Bauchi	88.5	0.7	-	10.8	100
Bendel	92.7	4.6	-	2.7	100
Benue	72.9	1.7	5.0	20.4	100
Borno	87.0	4.5	-	8.5	100
Cross River	85.0	5.0	0.5	9.5	100
Gongola	65.5	1.8	-	32.7	100
Imo	82.2	14.3	0.4	3.1	100
Kaduna	85.0	9.1	5.0	0.9	100
Kano	95.4	0.4	-	4.2	100
Kwara	90.4	0.4	-	9.2	100
Lagos State	88.5	9.6	0.4	1.5	100
Niger	72.0	11.8	-	16.2	100
Ogun	94.8	-	-	5.2	100
Ondo	93.7	3.1	-	3.1	100
Oyo	83.3	1.1	-	15.6	100
Plateau	80.5	21.3	-	8.2	100
Rivers	70.0	3.9	-	26.1	100
Sokoto	81.4	0.7	7.9	5.7	100
ALL NIGERIA	84.60	4.40	1.30	8.70	100

SOURCE: Federal Office of Statistics, Nigeria: National Integrated Survey of Households (NISH), Household Survey Unit, FOS, Lagos, 1983, p. 27.

(iii) The average number of persons per room exceeds the planning target of 2 persons per room.

In effect, urban dwellers were not well-housed because of overcrowding. But the quality of most of the houses in each state also left much to be desired due to lack of basic amenities (Tables 10 and 11).

The distribution of dwellings in rooming houses by type of amenities, shown in Table 10, reflects the poor quality and high degree of urban residential housing inadequacy. As illustrated by Table 10, during 1976-79 about 18 per cent of the units in rooming houses did not have a toilet, 16 per cent did not have washrooms, and 19 per cent lacked basic kitchen facilities. In addition to the lack of toilet, washroom and kitchen facilities, however, nearly 45 percent of such units had no tap water and 48 per cent no electricity, as shown in Table 11.

In addition, and to compound the fact that Nigerian urban housing is generally of poor quality (Tables 8-11), urban housing is expensive and difficult to obtain (Nelson et al., 1972:159; Aradeon, 1981:179; ILO, 1981:120).

According to the 1982 National Integrated Survey of Households, (NISH), about one-quarter (25%) of Nigerian households occupied rent-free units (due to the extended family system), while 3% paid nominal rent.

TABLE 10

DISTRIBUTION OF DWELLINGS IN ROOMING HOUSES BY THE

TYPE OF AMENITIES

(URBAN) 1976 AND 1979

PERCENTAGES

STATE	TOILET						WASHROOM						KITCHEN						
	1976			1979			1976			1979			1976			1979			
	Pit	Water Closet	None	Pit	Water Closet	None	Water Closet	None	Used Exclus.	Shared	None Exclus.	Shared	None Exclus.	Shared	None Exclus.	Shared	None Exclus.	Shared	None Exclus.
1. Anambra	43	9	8	14	23	6	9	88	3	19	77	4	11	87	2	24	69	7	7
2. Bauchi	91	6	3	95	2	0	33	43	24	44	44	12	37	53	10	49	47	4	4
3. Bendel	62	10	5	64	13	3	22	73	5	15	80	5	36	57	7	17	63	20	20
4. Biele	88	1	11	84	-	8	22	72	6	19	76	5	26	67	7	19	72	9	9
5. Borno	84	4	11	95	0	5	50	11	39	43	34	23	57	23	20	48	23	29	29
6. C/River	57	2	13	59	13	6	19	69	12	21	72	7	27	60	13	23	58	19	19
7. Gongala	82	5	10	88	0	0	32	18	50	46	52	2	39	12	49	46	43	11	11
8. Imo	8	24	0	10	44	10	6	90	4	27	68	5	9	90	1	27	63	10	10
9. Kaduna	76	12	1	98	-	2	35	51	14	20	65	15	35	53	12	20	61	19	19
10. Kano	89	5	4	79	7	14	40	39	21	47	32	21	44	36	20	51	21	28	28
11. Kwara	37	8	53	34	3	32	12	52	36	13	63	24	16	56	28	13	58	29	29
12. Lagos	38	9	13	47	10	6	3	88	9	6	94	-	5	79	16	7	87	6	6
13. Niger	93	1	4	84	5	2	52	40	8	44	54	2	53	40	7	37	58	5	5
14. Ogun	82	7	10	52	3	39	6	81	13	7	70	23	6	74	20	6	51	43	43
15. Ondo	39	4	55	16	20	45	18	55	27	22	54	24	28	62	10	24	57	19	19
16. Oyo	45	13	39	47	1	26	8	64	28	14	75	11	10	65	15	14	64	22	22
17. Plateau	44	7	1-	50	9	11	12	80	8	19	74	7	15	80	5	20	70	10	10
18. Rivers	23	7	36	1	10	17	13	60	27	13	84	3	29	56	15	14	66	20	20
19. Sokoto	90	7	3	90	7	2	39	48	13	48	34	18	35	41	24	38	20	42	42
ALL STATE	56	9	20	53	12	16	17	64	19	20	68	12	21	62	17	21	59	20	20

Source: Federal Office of Statistics, Social Statistics in Nigeria, 1980, FOS, Lagos, 1983, p.21.

TABLE 11

DISTRIBUTION OF DWELLINGS IN ROOMING HOUSES BY AMENITIES  
(URBAN) 1976 AND 1979

PERCENTAGES

STATE	WATER						ELECTRICITY						
	1976			1979			1976			1979			
	Pipe Water	Stream	Total	Pipe Water	Well	Stream	Total	With	Without	Total	With	Without	Total
1. Anambra	91	5	100	69	-	31	100	70	30	100	57	43	100
2. Bauchi	40	46	100	32	68	-	100	36	64	100	53	47	100
3. Bendel	90	10	100	67	9	24	100	69	31	100	77	23	100
4. Benue	40	58	100	43	24	33	100	50	50	100	44	56	100
5. Borno	83	13	100	95	5	-	100	25	75	100	13	87	100
6. Cross River	82	0	100	80	-	20	100	25	75	100	55	45	100
7. Gongola	24	17	100	83	17	-	100	3	97	100	32	68	100
8. Imo	64	18	100	87	-	13	100	75	25	100	93	7	100
9. Kaduna	46	54	100	26	71	3	100	44	56	100	37	63	100
10. Kano	71	28	100	94	6	-	100	38	62	100	34	66	100
11. Kwara	42	52	100	28	60	12	100	31	69	100	47	53	100
12. Lagos	58	40	100	33	46	21	100	85	15	100	72	28	100
13. Niger	47	48	100	77	19	4	100	45	55	100	63	37	100
14. Ogun	97	1	100	41	20	39	100	82	18	100	74	26	100
15. Ondo	76	9	100	15	32	53	100	36	64	100	30	70	100
16. Oyo	87	8	100	69	30	1	100	48	52	100	48	52	100
17. Plateau	62	38	100	73	26	1	100	65	35	100	63	37	100
18. Rivers	82	2	100	42	58	-	100	43	57	100	55	45	100
19. Sokoto	93	7	100	72	26	2	100	43	57	100	51	49	100
ALL STATES	72	22	100	55	31	14	100	54	46	100	52	48	100

Source: Federal Office of Statistics, Social Statistics in Nigeria, 1980, FOS, Lagos, 1983, p.20.

Of the rented dwellings, and excluding those which were rent-free or involved only a nominal rent, rent varied according to:

- (i) Location (of the house);
- (ii) Type of structure; and,
- (iii) Nature of facilities available.

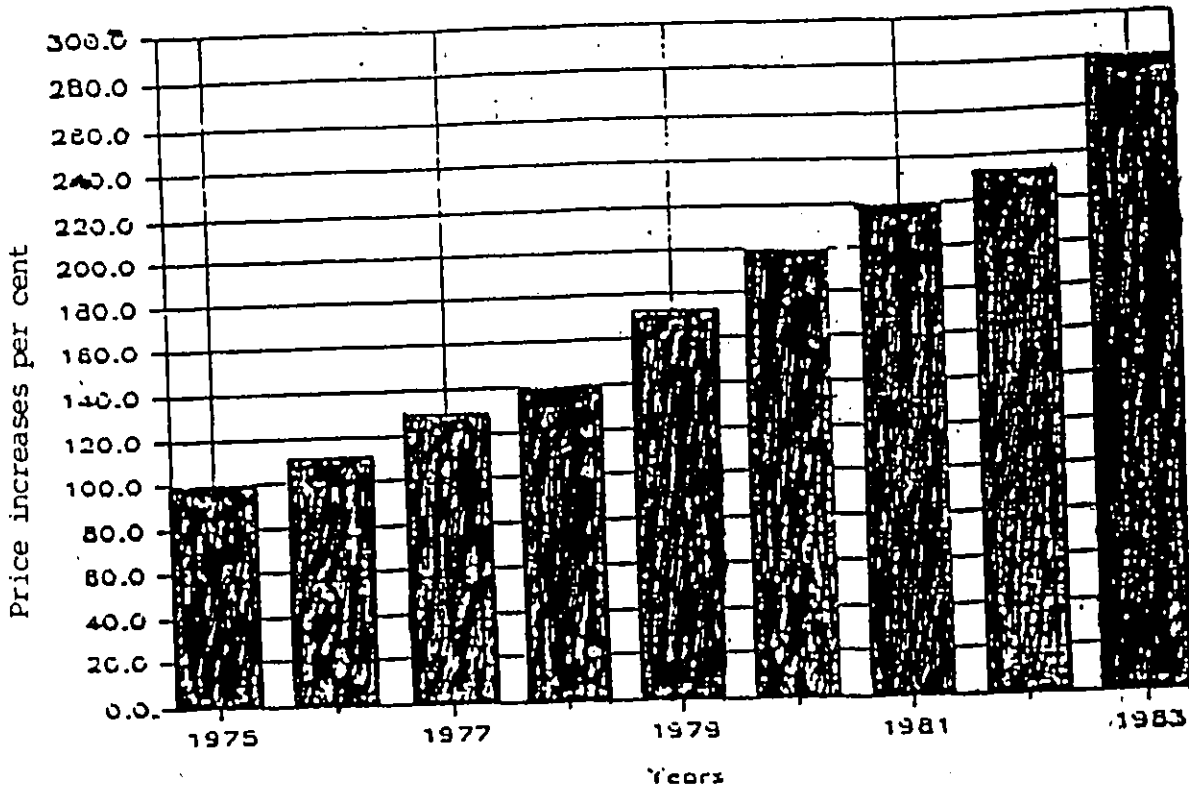
However, with the exception of Lagos, where rent inflation is substantial due to the acute housing shortage, one single room was found to cost N14.00 per month, a one bedroom flat about N50.00, a 2 bedroom flat about N60.00, a three-bedroom flat about N100.00 and bigger flats, over N160.00 (Federal Office of Statistics, 1983). In terms of rent-income ratio, these rates averaged 40 per cent of urban average income (ILO, 1981:118). Figure 13 reports on urban housing prices increases in Nigeria from 1975 through 1983, reflecting a trend towards higher rent-income ratios.

The evidence acquired to illustrate quantitative inadequacy and qualitative deficiency of urban housing in Nigeria is summarized in Table 12 and Figure 14. In light of the assembled evidence, it can be inferred that during the past development plan periods, 1962-68, 1970-74, 1975-80, and 1981-85, many consumers have been made worse-off and a few households better-off. That is, due to concentration of low-income earners in particular areas, the filtering process left these areas increasingly deprived of water supply,

FIGURE 13

URBAN HOUSING PRICE INCREASES IN NIGERIA (1975-1983)

(1975 = 100)



SOURCE: Derived from Annual Reports 1975-1983, Central Bank of Nigeria, Lagos, 1985.

**TABLE 12**  
**HOUSING CONDITION IN SELECTED URBAN CENTRES IN NIGERIA**  
**1972-82**

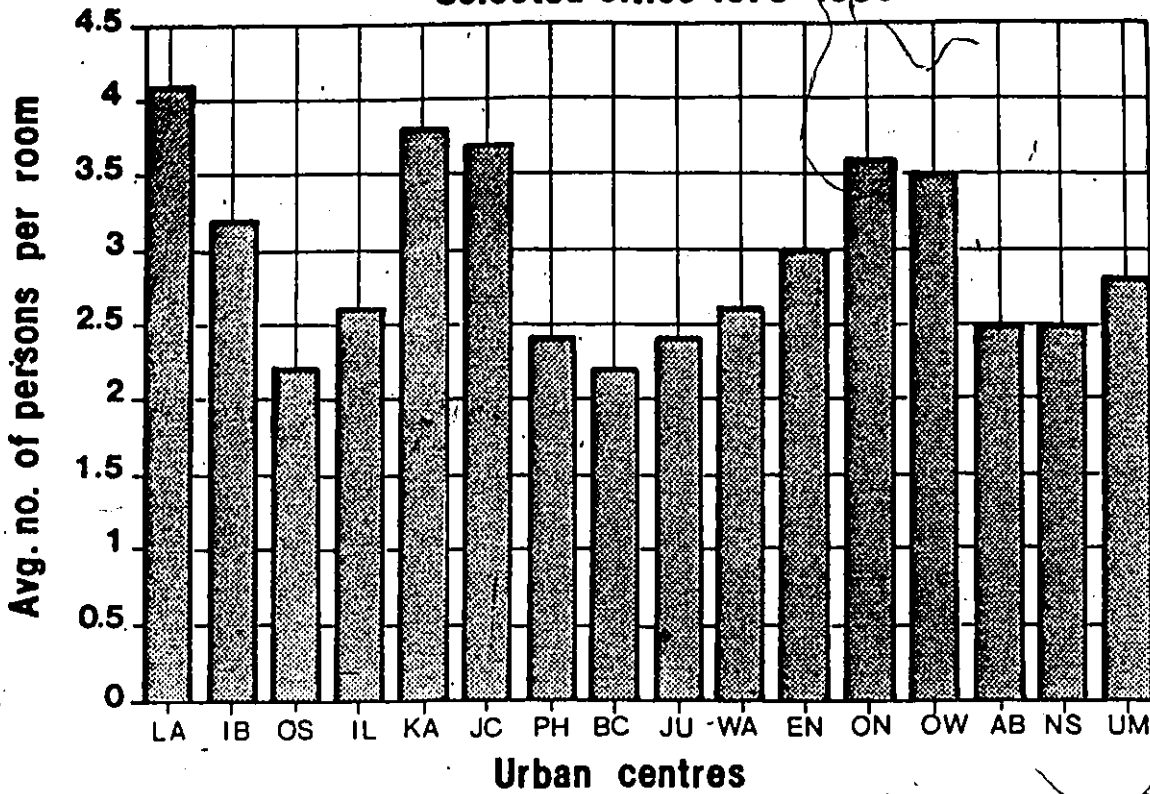
CITY	Households Occupying Apartments (percentage)	Average number of Persons per room
Lagos (metro)	88.5	4.10
Ibadan	83.3	3.20
Kano	85.4	2.40
Kaduna	85.0	3.80
Ilorin	80.4	2.60
Port Harcourt	80.0	3.50
Makurdi	72.9	2.30
Maiduguri	87.0	2.19
Minna	72.0	2.33
Enugu	78.3	3.19
Benin City	82.7	2.33
Bauchi	88.5	3.30
Calabar	85.0	2.50
Aba	82.2	3.50
Onitsha	85.0	3.40
Abeokuta	84.8	2.60
Owerri	80.0	3.30
Zaria	80.5	2.50
Sapele	82.0	3.90
Sokoto	81.4	2.30
Ikot Ekpene	81.5	2.50
Yola	65.5	3.15
Jos	74.1	3.70

**SOURCES:**

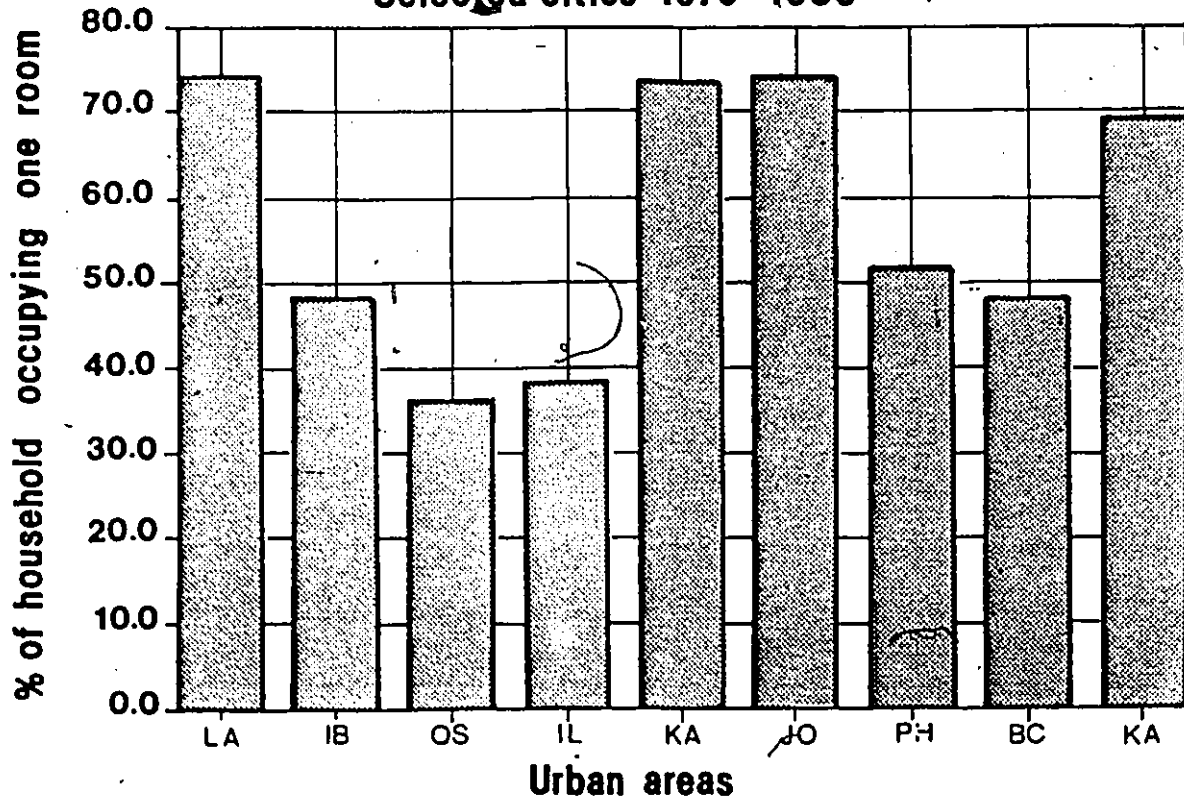
- (i) Derived from Survey of Housing Conditions in Selected Urban Centres in Nigeria, NISER, University of Ibadan, 1973.
- (ii) Field Survey of Housing Conditions in Seven Centres of the (Former) East-Central State, C-E Tec, Inc., Waltham, Mass., 1978.
- (iii) Social Statistics in Nigeria, 1980, FOS, Lagos, 1983, page 22.
- (iv) Nigeria: National Integrated Survey of Households (NISH), FOS, Lagos, 1982, page 27.

FIGURE 14

### OVERCROWDING IN URBAN CENTRES Selected cities 1970-1980



### HOUSING CONDITION IN URBAN AREAS Selected cities 1970-1980



electricity, garbage collection and other services. On the other hand, however, Government Reserved Areas and their elite neighbourhood extensions were accorded the full measure of regular water supply, electricity, refuse disposal and other services.

Hence, horizontal inequity in urban housing in Nigeria can be linked to government housing expenditures. As "inputs" into the urban system, government housing expenditures produced unhealthy "outputs", that is, different and inequitable housing types resulted in response to competing claims of the electorate. Since government slum clearance schemes have necessitated the use of even more public funds, it appears that allocative costs (opportunities for production or consumption foregone because of housing expenditures) were greater than allocative benefits (favourable consequences of the housing expenditures which present opportunities to increase national production or consumption).

#### Summary

In this chapter, the spatial and temporal dimensions of urban housing deficits in Nigeria have been analyzed. It is held that the nature and magnitude of urban housing problems in Nigeria (induced by rapid urbanization), can be categorized as having three attributes:

First, an absolute shortage of housing units in the cities;

Second, dwellings failed to satisfy selected (minimal) standards of sanitation and safety; and

Third, although a family might obtain satisfactory housing, it would be obligated to pay a high rent (as proportion of income), which in turn limited its ability to afford other necessities of life.

Since rapid urbanization occurred, expenditures on basic needs (including social housing) were necessary to make urban areas more livable.

The justification for social housing stems from the fact that, after food and water, shelter ranks as man's most significant basic need. But a house is not just a place to live, to eat, and to sleep. It is a home, a place for privacy and rest, necessary to secure and maintain a healthy mind, in a healthy body (Bourne, 1981). In addition, within the context of adequate housing policies and programs, while the family that dwells in a house is the major gainer, there is an additional gain to society because the environment is kept clean, safe, healthful, etc. for everyone's benefit.

In the next chapter, the national housing policies and programs designed to supply urban housing in Nigeria are analyzed.

FOOTNOTES TO CHAPTER 4

- 1 In the typology of urban housing, sub-standard housing was identified as including (i) Slum (ii) Semi-Squatter, (iii) Established Squatter, (iv) Tentative Squatter and, (v) Itinerant Squatter housing, respectively. Recall Table 6, page 59.
- 2 For the purposes of estimating the cumulative number of urban households requiring adequate housing, a household is defined as follows: a man, his wife and four children (Anusionwu, 1982:306).
- 3 See "Housing Standards: A Constraint on Urban Housing Production in Nigeria" Okpala, D.C. in Ekistics, No. 270, June 1978, pp. 249-257.
- 4 The "economic significance" was reflected in conspicuous consumption for the "rich" (for example, occupants of Government Reserved Areas), and abject poverty and rustic living standards for the bulk of the poor in the informal sector.
- 5 In terms of "environmental significance", those who secured legal occupancy enjoyed a benign environment. On the other hand, occupants of substandard housing were faced with environmental decay as follows:

<u>Environmental Parameter</u>	<u>Significance (disutility)</u>
Air quality:	<ul style="list-style-type: none"> <li>- personal health</li> <li>- odour</li> <li>- visual aesthetics</li> </ul>
Water quality:	<ul style="list-style-type: none"> <li>- personal health</li> <li>- visual aesthetics</li> <li>- lack of stability and health of ecosystems</li> </ul>
Residential facility:	<ul style="list-style-type: none"> <li>- Lack of tap water</li> <li>- Lack of electricity</li> <li>- Lack of flush toilet</li> <li>- Lack of sewage facilities</li> <li>- Lack of garbage collection facility</li> <li>- Lack of recreational facilities</li> </ul>

FOOTNOTES TO CHAPTER 4 (continued)

- |                          |                                      |
|--------------------------|--------------------------------------|
| Noise Level:             | - effect on infants                  |
|                          | - effect on living conditions        |
|                          | - effect on personal health          |
| Greenery and open space: | - visual aesthetics                  |
|                          | - psychological strain               |
|                          | - recreational capability            |
|                          | - microclimate                       |
| Vegetation:              | - visual aesthetics                  |
|                          | - recreational capability            |
|                          | - stability and health of ecosystems |

(US Bureau of Census, 1967; Wellar, 1969; Wellar and Graff, 1972; Elias, 1973; Onibokun, 1973; Okpala, 1978, and Greer-Wootten and Velidis, 1983).

- 6 The social significance of the urban housing system manifested in form of class structures in various cities. See Barnes, S., "Public and Private Implications", in Housing the Poor in Africa, Morrison and Gutkind (eds), Syracuse University, Syracuse, 1980, pp. 5-32.
- 7 Spatially, the following became evident:
- (i) Spatial separation of affluence and poverty;
  - (ii) Relative concentration of affluence and poverty;
  - (iii) Disorder of urban land use system;
  - (iv) Decay of rural-urban fringe; and
  - (v) Lack of an integrated housing concept.
8. With respect to "Ethical Significance", three distributional significances were discernible:
- (i) Concentration of capital in few hands.
  - (ii) Acquisition of "easy" wealth by a few.
  - (iii) Less facilities for social need and more facilities for profit.

FOOTNOTES TO CHAPTER 4 (continued)

9 This observation arose from the author's field work, 1984-85 in Lagos, and a visit to other cities -- Ibadan, Jos, Kano, Kaduna, Benin, Onitsha, Enugu, Calabar, Port Harcourt etc. In Lagos and these other cities visited, what is particularly striking is the sharp contrast between the formal and informal (sub-standard) housing types. While the former were usually modern and built to foreign standards and criteria, the latter mostly consisted of a labyrinth of wooden or tin-roofed dwellings, crammed together on narrow, twisting alleys.

10 Note: Symbols represent cities as follows:

La (Lagos), IB (Ibadan), OS (Oshogbo), IL (Ilorin)  
KA (Kano), JO (Jos), PH (Port Harcourt),  
BC (Benin City), JU (Ijebu-ode), WA (Warri),  
EN (Enugu), ON (Onitsha), OW (Owerri)  
AB (Aba), NS (Nsukka) and UM (Umuahia).

## CHAPTER 5

### NATIONAL HOUSING RESPONSE IN NIGERIA

#### 5.0 Introduction

The purpose of this chapter is to provide a basis for the research hypotheses to be tested in the next chapter. Following the sectoral approach adopted in the study, national housing policies and programs designed to supply urban housing are examined. In addition, how the housing programs were purportedly modified to deal with the accelerated housing needs induced by rapid urbanization are analyzed. The point of departure is that urban housing policy in Nigeria is elitist-oriented and urban housing programs are distributionally inequitable.

#### 5.1 Urban Housing Policy in Nigeria

The history of urban housing development in Nigeria can be divided into three main periods, viz: (i) Colonial period, (ii) Immediate post-Colonial period, and (iii) Oil boom period.

##### (i) Colonial Period

One of the major reasons for government adoption of a housing policy is to alter the distribution of income (Aaron, 1972). Although there is little data on income distribution in Nigeria, there are wide gaps between earnings in urban areas between foreigners and the

local or indigenous population, and between management and workers (Aredeon, 1981). The existence of such wide income gaps would suggest that, ideally, the poorer segments of the population would need public assisted housing in order to increase the small quantity of goods and services (basic needs), they consume.

During the colonial period, however, there was no government policy or program that sought to help lower-income groups find housing. Indeed, the national housing policy pursued a quite contrary objective: that is, the policy sought to ensure the provision of high quality houses and infrastructure in low-density, garden-city ~~type~~ residential areas for expatriates and senior government officials.

This policy dates back to the inception of colonial rule when Government Reservation Areas (GRA's) were created for British administrators. The provision of high-quality houses near exclusive enclaves with subsidized rents for the armed forces, police and most senior Nigerian civil servants were later introduced under the African Staff Housing scheme (Onibokun, 1978:2), but no direct action was taken to evolve a housing policy or program to benefit the bulk of urban dwellers. Much of the urban population, and especially that component residing in Lagos, lived in a labyrinth of tin-roofed houses on narrow, twisting alleys, with open sewers (Nelson et al., 1972:152).

(ii) Immediate Post-Colonial Period

The provision of high quality subsidized houses and infrastructure in Government Reserved Areas (for senior public servants) continued after independence.

Under the first National Development Plan (1962-68), neither housing nor town planning received government attention. However, housing corporations and development authorities were set up for the Northern, Eastern and Western Regions, along the lines of the Lagos Executive Development Board, established in 1929 (Aredeon, 1979:180). The activities of the housing corporations were limited largely to the construction of middle-class housing developments in Kaduna, Enugu and Ibadan, that is, in the regional capitals.

Limited sites and services provided with public funds benefited only a small number of "credit-worthy" and influential urbanites. Government employees who were able to build houses with long-term government low-interest loans, remained in their government-subsidized houses and rented out the houses they built (Aredeon, 1979:179). Most private individuals who were fortunate enough to secure sites in government-serviced neighbourhoods (through the housing authorities), were unable to get loans to construct the houses. Consequently, most of these sites were turned over to the contractors who built

the houses and rented them out for five years, with all the rent paid "up-front", that is at the start of the five year rent period.

By the mid-1970's, the public sector was accounting for 20 per cent of housing construction in urban areas -- essentially for the influential upper income groups -- while the private sector accounted for the rest (Aredeon, 1979:179). The poor, urban majority received no help from either public or private banking sources. They were therefore obligated to rent accommodation which cost a high percentage of their meagre incomes, or they built their own houses, in piecemeal fashion, in the urban periphery with limited or no basic services and infrastructure.

Meanwhile, inappropriate government slum clearance schemes exacerbated housing shortages in various cities. For instance, in the Lagos metropolitan area alone, about 250,000 - 300,000 people were displaced in the 1970's as a result of slum clearance schemes (Abiodun, 1974; Mariss, 1961; Ayeni, 1977). The basic intent of Nigerian housing policy in the 1960's and 1970's was the provision of housing subsidies for the "able" rather than the "unable". In other words, the housing policy was elitist-oriented rather than populist (Sule, 1978:110).

(iii) Oil Boom Period

The thrust of urban housing policy starting from the oil boom period (1975-80) was to encourage individuals to build their own houses (Guidelines for the Fourth National Development Plan, 1981-85:56). To achieve this objective, the following activities were to have been carried out:

- a. creation of layouts serviced by roads, drains and other infrastructure in urban areas;
- b. provision of financial resources from federal and state government to institutions concerned with housing credit; (such as mortgage banks);
- c. liberalisation of commercial bank credit for housing; that is, making mortgage funds from commercial banks easy or easier to obtain;
- d. establishment of self-help ownership programs in each local government area to facilitate home ownership;
- e. promulgation of a land-use decree transferring "ownership" of all land to the government to facilitate land acquisition by private developers;
- f. encouragement of locally-manufactured building materials as a means of lowering construction costs; and,
- g. encouragement of large firms to provide residential housing for their staff (Guidelines For The Fourth National Development Plan, 1981-85:57).

Examination of the housing policy outcomes reveals that while initiatives or activities (a. through g.) have not progressed much beyond "drawing board status", those which were implemented tended to benefit only credit-worthy individuals, that is, members of the elite. Hence, the period 1960-80 was one which saw little if any progress towards solving urban housing problems in Nigeria (Anusionwu, 1982:300).

## 5.2 Modifications of the Housing Programs

Housing development expenditures which previously had been insignificant were revised upwards by 1.4 percentage points (from 3.8% to 5.2%) of total development expenditures during the Third National Development Plan period, 1975-80 (Third National Development Plan, 1975-80, Revised Volume II:8-9).

Specifically, housing expenditures under the Third National Development Plan are shown in Table 13. The table clearly reveals both the recency and the limited extent to which attention has been given to housing: 12 of the 19 states had no budgets for housing in the original plan. Further, while the housing budget of 2.26 billion naira (about \$3.6 billion U.S.) may appear impressive, high foreign building standards and criteria were the housing specifications used. As a result, the units constructed were too few and too expensive for the majority of urban dwellers (Okpala, 1978:250).

**TABLE 13**  
**NIGERIAN GOVERNMENT HOUSING PROGRAMS 1975-80**

**( N '000 )**

State	Original housing program estimate for 1975-80	Revised housing program for 1975-80
Anambra	-	9,500
Bauchi	-	3,500
Bendel	30,000	45,000
Benue	-	5,000
Borno	-	5,000
Cross River	10,000	15,000
Gongola	-	3,500
Imo	-	15,000
Kaduna	10,000	13,300
Kano	30,930	23,860
Kwara	8,000	3,500
Lagos	11,000	16,000
Niger	-	15,000
Ogun	-	10,000
Ondo	-	10,000
Oyo	-	10,000
Plateau	-	10,000
Rivers	10,000	10,000
Sokoto	-	32,580
<hr/>		
Total Seven States, Original Plan	109,930	255,740
Total Federal Government, Original Plan	<u>1,650,000</u>	<u>2,000,650</u>
Total all Governments	1,759,930	2,256,390

SOURCE: Federal Republic of Nigerian: Third National Development Plan 1975-1980, (revised), Vol.2, (Federal Ministry of Economic Development, Lagos), pp. 8-9.

By way of illustration, the housing projects in Lagos reflected the excessive cost. The unit cost of a two-bedroom flat in a block of flats ranged from 50 to 70 thousand naira, while that of three bedroom flat ranged from 83 to 125 thousand naira (Anusionwu, 1982:303). The houses can only be afforded by a household with an income of at least 2,600 naira per annum, which is well above the Nigerian urban per capita income of less than 1,000 naira (ILO, 1981:122).

Moreover, the income level set by the government put a ceiling on rental participation by low income residents, that is, the poor. Since households were income-tested for eligibility, rental amounts of N720, N1,500, N2,500 and N5,000 for one bedroom, two bedroom, three bedroom, and four bedroom flats, respectively, low income households cannot participate (Ministry of Lands and Housing, 1976). Yet, it is this segment of the population -- that is, the low income group -- that has the greatest need for subsidized housing.

In physical terms, only about 30,000 units or 15 per cent of the planned 200,000 units were completed and allocated at the end of 1980 (Fourth National Development Plan 1981-85:56). But even if the planned target of 200,000 units had been met, it would have made only a small impression on growing urban housing needs. Specifically, the 200,000 housing unit target during 1975-80 plan period represented little more than a matching of the annual growth in urban housing needs (Aredeon,

1979:180), and would have done nothing to relieve the back-log of needed units.

Hence, although the importance of housing in the Nigerian economy rose to nearly 8% of GDP at the beginning of the Third Plan Period, it declined thereafter to about 4% of GDP in the 1980's, as shown in Figure 15. Consequently, from one state growth pole to another, there were more households than housing units. As urban population soared due to increased urban migration, urban housing became grossly inadequate both in quantity and quality. Due to socio-economic bias associated with the privilege of position, horizontal inequity occurred with regard to which household occupied which housing type, and/or consumed which housing services.

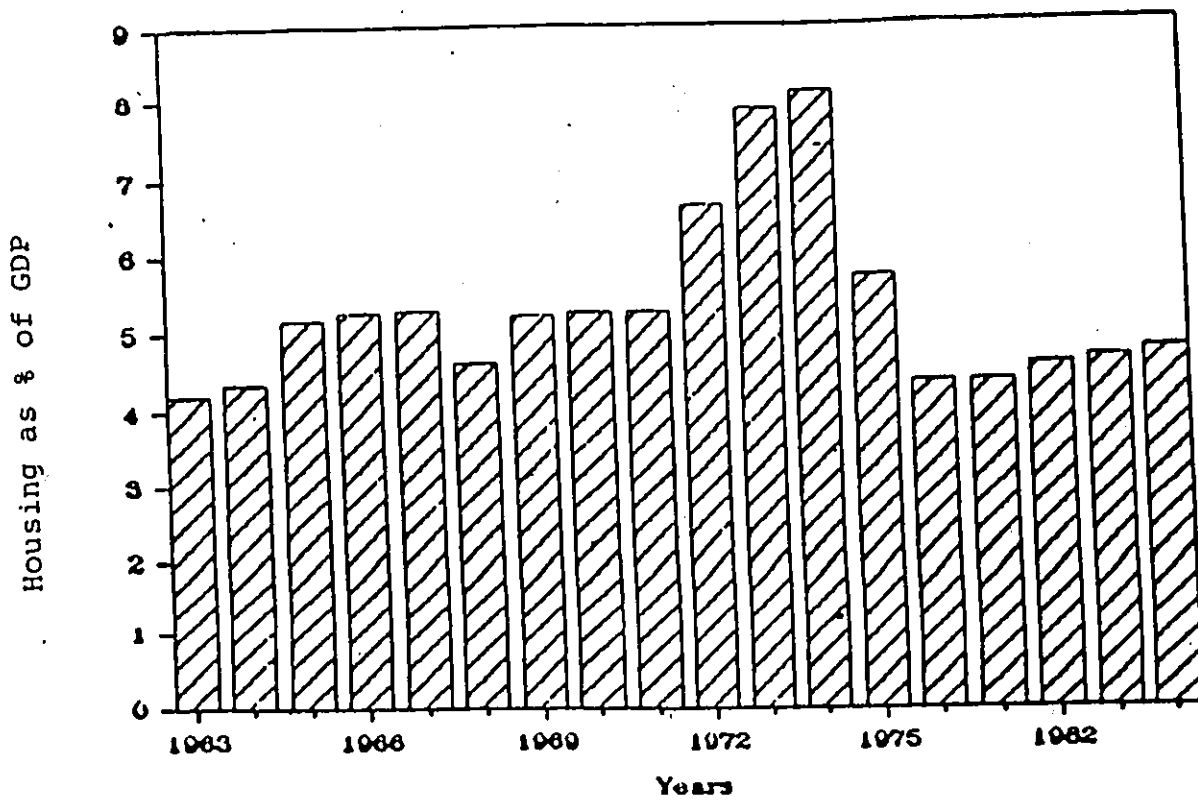
In general, then, the thrust of government urban housing policy in Nigeria was to promote the emergence of a society of homeowners. In practise, however, the urban housing programs took the form of reducing the price of housing for higher income groups. As a result, the poorer socio-economic groups were constrained to consume inadequate or substandard housing.

### Summary

This chapter examined the national housing response in Nigeria and made the argument that development plans in Nigeria lacked any urban development policy component; rather, they contributed to a worsening of overall urban housing problems. That outcome arose because as urbanization occurred: (1) rural

**FIGURE 15****THE IMPORTANCE OF HOUSING IN THE NIGERIAN ECONOMY,**  
**1963-1982**

Housing Industry as % of Total GDP



SOURCE: Derived from Nigerian Gross Domestic Product and Allied Macro-aggregates, 1963-1981, Federal Office of Statistics, Lagos, 1983.

development expenditures were not made to control the flow of people to the cities; and, (2) cities were not made more livable through promotion of healthful housing for all.

Indeed, housing provision was left to the vast majority of individuals to deal with as best as they could on their own, while (the national) government concerned itself with the provision of expensive dwellings for senior civil servants in socially segregated neighbourhoods.

Further, the adoption of high foreign building standards and criteria tended to increase the cost per unit of new public dwellings. Consequently, the total number of units built were too few relative to need. A huge housing gap therefore resulted and, fueled by rural-urban migration, informal housing became (by necessity) the means adopted to cope with the gap in urban housing deficits.

Consequently, within the context of government resource allocation and Nigerian urban growth, of which inadequate housing is a part, three relationships need to be confirmed:

- (i) The relationship between urban growth and urban housing deficit;
- (ii) The relationship between sectoral development expenditures and urban housing deficit; and,

(iii) The relationship between urban growth, sectoral development expenditures, and urban housing condition.

In the next chapter, these three relationships are examined by means of statistical tests of the research hypotheses.

CHAPTER 6EMPIRICAL FINDINGS ON THE RELATIONSHIP BETWEEN NIGERIAN  
RESOURCE ALLOCATION AND URBAN HOUSING INADEQUACY6.0 Introduction

Urban housing shortages and related infrastructural deficiencies perhaps represent one of the more pressing problems which Nigerian urban dwellers are facing. One approach which lends itself to investigating such (housing) problems involves using an econometric model. However, urban housing econometric research<sup>1</sup> indicates that a well-specified housing model should begin by including a set of structural demand equations, which separately predict both the aggregate number of units and the average housing services per unit. The structural demand equations should then be complemented with a separately identified long-run supply schedule so as to allow: (1) estimation of price elasticities, and, (2) assessment of monetary, fiscal and social policy impacts.

For Nigeria, time series data do not exist on the formal and informal urban housing types (Table 6, page 58), and as a result, a somewhat different approach is followed in this study. That is, since where people work and the income they earn influence the types of homes they live in, the objectives of this chapter are twofold:

(1) To describe the formal and informal urban employment environments which influence different types of tenure in Nigerian cities;

and,

(2) To provide an empirical test of the research hypotheses attributable to the relationship(s) between (i) urban growth; (ii) sectoral development expenditures; and, (iii) overcrowding.

#### 6.1 Modelling the Urban Employment Environments in Which Nigerian Urban Housing Markets Operate

We begin by denoting remunerations from employment in the urban formal sector, the urban informal sector, and the rural sector by  $W$ ,  $W'$ , and  $MPL$ , and unemployment by  $O$ , respectively. For individuals in urban areas,  $W$  and  $W'$  are exogenous parameters as follows:

$W$  is set by forces in the formal sector of the economy through (union) collective bargaining. And,  $W'$  is set through various local linkages with urban subsistence conditions.

Employment prospects in the two urban sectors are:

For the formal sector:  $O \quad P \quad 1$  and,

For the informal sector:  $O \quad P' \quad 1$

Where  $P$  and  $P'$  represent the probability of securing formal and informal employment, in the urban formal and informal sectors, respectively.

Assuming a simple linear utility function, the migrate-vs-stay-behind indifference condition for any rural family considering "sending" someone to an urban area is:

$$MP_L = PW + P'W' \dots \dots \dots (2)$$

However, once in the urban area, the join-the-formal-sector versus join-the-informal-sector indifference condition is:

$$PW = P'W' \dots \dots \dots (3)$$

The labour market equilibrium conditions represented by equations (1) and (2) determine the intersectoral and intra-urban allocation of urban migrant labourers between the formal sector (where wages are higher and reliable), and the informal sector (where wages are low and unreliable). Both the formal and informal sectors exist side by side in each Nigerian city. Accordingly, expansion of employment in the formal sector through public works and private business ventures usually induces economic activities, in the informal sectors. Similarly, when economic activity in the formal sector is low, many workers in the informal sector lose business, including

roadside hawking, on city streets. Hence, just as some urbanites work in the formal sector and others in the informal sector, urban housing types (where urbanites live) can be similarly dichotomized into two components: a legal or formal component and a substandard or informal component.<sup>2</sup>

## 6.2 Preamble for Research Hypotheses

During each plan period, and in any given year, labour migrates to the cities, thereby increasing the demand for urban residential accommodation. But the supply of urban housing lags behind demand because:

- (i) Less money is spent on housing relative to other sectors (recall Chapter 5, Section 5.2); and,
- (ii) Housing construction is based on rigid adherence to high (foreign) standards and criteria,<sup>3</sup> especially in Government Reserved Areas (GRA's) (recall Chapter 5, Section 5.1).

The two central pressure points in the dynamics of the Nigerian urban housing market can therefore be expressed as general hypotheses on the demand and supply sides:

On the demand side, urban growth increases urban (residential) housing demand (especially the demand for apartment housing by young urban migrants).

On the supply side, the urban housing deficit is a consequence of inadequate sectoral budget shares allocated to public housing.

Therefore, to examine the behavioural significance of the formal and informal housing, that is, deficiencies in the urban shelter situation, we focus on three research hypotheses:

- RH.1 Urban residential housing deficit is a consequence of urban growth, on the demand side;
- RH.2 Urban residential housing deficit is a consequence of relative Federal and state capital expenditures, on the supply side; and
- RH.3 Urban overcrowding is a consequence of urban growth and inadequate housing expenditures.

To examine and subsequently attempt to make predictions arising from the underlying structure and form of these research hypotheses (Walizer and Wienir, 1978:78-80), the attendant statistical hypotheses need to be tested. Towards this end, regression analysis is used to attempt to uncover the underlying direction and strength of the relationship between the dependent variable (Y) and the independent variable(s) ( $X_s$ ). Then a Chi-square test ( $\chi^2$ ) is applied to the data set in order to establish the degree of statistical significance. In the next section, we examine the three consequential relation-

ships by testing the statistical hypotheses. For this purpose, the hypothetico-deductive method (Watson and McGraw, 1980:15) where H stands for the hypothesis and I represents the test implication, is followed.

### 6.3 Test of the Statistical Hypotheses

- H<sub>1.1</sub> Urban residential housing deficit is a consequence of urban growth, on the demand side (H).
- H<sub>1.2</sub> If urban residential housing deficit is a consequence of urban growth on the demand side (H), then urban growth increases urban residential housing demand (I).
- H<sub>1.3</sub> Does urban growth increase urban residential housing demand?
- H<sub>1.4</sub> Urban residential housing deficit as a consequence of urban growth, on the demand side, is either confirmed or disconfirmed.

In order to estimate the parameters of the statistical hypotheses, a functional form must be specified for the relationship. If HD denotes housing deficits, UG urban growth, and E errors in measuring variables, the simplest form of the underlying regression equation can be written as:

$$HD = HD [UG, E]$$

$$\frac{\partial HD}{\partial t} = \frac{\partial HD}{\partial UG} \cdot \frac{\partial UG}{\partial t} > 0$$

Assuming a linear relationship, the regression equation estimated to test  $H_1$  is of the form:

$$Y_t = nB_0 + \sum_{t=1}^n B_1 X_t + E_t$$

where

$Y_t$  = new housing units required in the  $t^{\text{th}}$  city, 1970-1980.

$B_0$  = intercept term or value of  $Y$  when  $X$  is zero.

$B_1$  = coefficient to be estimated.

$X_t$  = city population during the same period.

$E_t$  =  $t^{\text{th}}$  error term.

Following the principle of ordinary least squares (OLS) for estimation of parameters in a single equation model (SEM), assuming that the explanatory variables are statistically independent of the random error term, then,

$HS_1$ : Specification

$$Y_t = \beta_0 + \beta_1 X_t \quad (t = 1, 2, \dots, n)$$

In matrix notation, the above equation is conveniently rewritten as:

$$Y = X\beta + E$$

where:

$$Y = \begin{bmatrix} Y_1 \\ Y_2 \\ \vdots \\ Y_n \end{bmatrix} \quad X = \begin{bmatrix} 1 & X_1 \\ 1 & X_2 \\ \vdots & \vdots \\ 1 & X_n \end{bmatrix} \quad B = \begin{bmatrix} B_0 \\ B_1 \end{bmatrix} \quad E = \begin{bmatrix} E_1 \\ E_2 \\ \vdots \\ E_n \end{bmatrix}$$

Applying the properties of the normal equation, we have,

$$\begin{bmatrix} 1 & 1 & \dots & 1 \\ X_1 & X_2 & \dots & X_n \end{bmatrix} \begin{bmatrix} 1 & X_1 \\ 1 & X_2 \\ \vdots & \vdots \\ 1 & X_n \end{bmatrix} \begin{bmatrix} b_0 \\ b_1 \end{bmatrix} = \begin{bmatrix} 1 & 1 & \dots & 1 \\ X_1 & X_2 & \dots & X_n \end{bmatrix} \begin{bmatrix} Y_1 \\ Y_2 \\ \vdots \\ Y_n \end{bmatrix}$$

Hence,

$$\begin{bmatrix} b_0 \\ b_1 \end{bmatrix} = \begin{bmatrix} n & \sum X_i \\ \sum X_i & \sum X_i^2 \end{bmatrix}^{-1} \begin{bmatrix} \sum Y_i \\ \sum X_i Y_i \end{bmatrix}$$

$$= \frac{1}{n \sum X_i^2 - (\sum X_i)^2} \begin{bmatrix} \sum X_i^2 & -\sum X_i \\ -\sum X_i & n \end{bmatrix} \begin{bmatrix} \sum Y_i \\ \sum X_i Y_i \end{bmatrix}$$

$$= \begin{bmatrix} \frac{\sum X_i^2 \sum Y_i - \sum X_i \sum X_i Y_i}{n \sum X_i^2 - (\sum X_i)^2} \\ \frac{n \sum X_i Y_i - \sum X_i \sum Y_i}{n \sum X_i^2 - (\sum X_i)^2} \end{bmatrix}$$

Consequently, for all the cities under review,

$$Y_1 = \beta_{0_1} + \beta_{1_1} X_1 + e_1$$

$$Y_2 = \beta_{0_2} + \beta_{1_2} X_2 + e_2$$

$$Y_n = \beta_{1_n} X_n + e_n$$

or, rewritten in matrix notation:

$$\begin{bmatrix} Y_1 \\ \vdots \\ Y_2 \\ \vdots \\ Y_n \end{bmatrix} = \begin{bmatrix} \beta_{0_1} \\ \vdots \\ \beta_{0_2} \\ \vdots \\ \beta_{0_n} \end{bmatrix} + \begin{bmatrix} \beta_{1_1} & \dots & 0 & \dots & 0 & \dots & 0 \\ \vdots & & & & & & \\ 0 & \dots & \beta_{1_2} & \dots & 0 & \dots & 0 \\ \vdots & & & & & & \\ \vdots & & & & & & \\ \vdots & & & & & & \\ \vdots & & & & 0 & \dots & \beta_{1_n} & \dots & 0 \end{bmatrix} \begin{bmatrix} X_1 \\ \vdots \\ X_2 \\ \vdots \\ X_n \end{bmatrix} + \begin{bmatrix} E_1 \\ \vdots \\ E_2 \\ \vdots \\ E_n \end{bmatrix}$$

The result of estimating regression statistics to test  $H_1$  is presented in Table 14. (Experiments with other fitting techniques such as maximum likelihood and limited information methods yielded less convincing results). The correlation between urban housing deficit and urban growth in the 20 growth poles during 1970-1980, ranges from 0.83 to 0.99. The coefficient of determination ( $r^2$ ) shows that over 97% of the total variation in urban housing deficit during the period can be explained in terms of the estimated regression equation.

TABLE 14

ORDINARY LEAST SQUARES LINEAR REGRESSION RESULT OF RELATING  
URBAN HOUSING DEFICIT AND URBAN POPULATION IN NIGERIA, 1970-1980  
 (selected cities)

City	Independent Variable	$\beta_0$	$\beta_1$	t-stats	SEE	r
Lagos (Metro)	Change in City population, 1970-1980	-17.83	1.59	20.22	98.13	0.98
Ibadan	"	-87.92	1.58	25.47	81.14	0.98
Kano	"	-53.0	4.61	1.34	39.0	0.99
Ilorin	"	-23.0	3.32	7.35	64.22	0.96
Port Harcourt	"	-26.0	1.24	25.47	24.78	0.99
Kaduna	"	-33.14	3.71	18.32	39.75	0.97
Maiduguri	"	-55.14	2.16	6.56	67.48	0.83
Enugu	"	-29.46	4.73	29.22	24.48	0.99
Benin City	"	-17.52	5.17	41.27	11.63	0.99
Jos	"	-26.93	3.29	25.48	24.00	0.98
Calabar	"	-12.14	1.52	2.39	69.74	0.99
Sokoto	"	-15.21	5.58	41.29	94.57	0.99
Aba	"	-38.12	6.03	25.48	35.72	0.99
Onitsha	"	-26.92	3.30	25.47	24.99	0.98
Abaokuta	"	-13.05	1.45	25.47	12.87	0.98
Ondo	"	-56.78	1.04	22.30	59.06	0.98
Zaria	"	-14.13	1.66	22.57	15.88	0.98
Warri	"	-19.74	1.20	22.54	19.03	0.98
Sapele	"	-83.23	2.06	29.46	68.09	0.99
Ikotekpene	"	-40.77	8.77	25.38	39.93	0.99

That is, all but less than 3% of the variation in urban housing deficit over the period, 1970-1980 has been accounted for, with appropriate ( $\beta_1$ ) coefficients. All the estimated coefficients have appropriate signs and are significant at the 0.05 level. The (positive) signs of the correlation coefficients suggest that as city populations increase, so also does the housing deficit. Since urban growth increases the urban residential housing deficit, the hypothesized relationship ( $H_{1.1}$ ) cannot be disconfirmed. If the city population "increase" is zero, no new housing units would be required by virtue of the negative  $\beta_0$  coefficients for each city.

However, since correlation coefficients measure the level of association without providing much if any insight related to producer-product (Ackoff, 1953:65) or, more popularly, a "causation" relationship, we merely conclude that a close relationship exists between urban housing deficits and urban population growth in the 20 Nigerian cities examined.

Having established that a relationship exists in Nigeria between urban housing deficits and urban growth, on the demand side, events on the urban housing supply side remain to be explained. Towards this end, the relationship between urban housing deficit and sectoral development expenditures was examined through a multiple regression analysis (under various functional forms) of Nigeria's fiscal patterns.

- H<sub>2.1</sub> Urban residential housing deficit is a consequence of (inadequate) sectoral budget shares, on the supply side (H).
- H<sub>2.2</sub> If urban residential housing deficit is a consequence of (inadequate) sectoral budget shares, on the supply side (H), then substandard houses would be used to fill the gap in urban residential housing (I).
- H<sub>2.3</sub> Are substandard houses being used to fill the gap in urban residential housing?
- H<sub>2.4</sub> Urban residential housing deficit as a consequence of (inadequate) sectoral budget shares, on the supply side, is either confirmed or disconfirmed.

HS<sub>2</sub>: Specification

The simplest form of the underlying regression equation can be written as:

$$\begin{aligned}
 HD &= HD (ECS, SOS, HOS, AdS, DV, E) \\
 \frac{\partial HD}{\partial t} &= \frac{\partial HD}{\partial ECS} \cdot \frac{\partial ECS}{\partial t} + \frac{\partial HD}{\partial SOS} \cdot \frac{\partial SOS}{\partial t} + \frac{\partial HD}{\partial HOS} \cdot \frac{\partial HOS}{\partial t} \\
 &\quad + \frac{\partial HD}{\partial AdS} \cdot \frac{\partial AdS}{\partial t} > 0
 \end{aligned}$$

where HD represents actual urban housing deficits and ECS, SOS, HOS, AdS, DV, and E represent actual sectoral expenditures on the economic, social service, housing and administration

sectors, respectively, DV (the dummy variable) and E (errors in measuring variables) are the remaining symbols.

Taking a linear form of the regression equation,

$$Y_t = \beta_0 + \beta_1 X_{1t} + \beta_2 X_{2t} + \beta_3 X_{3t} + \beta_4 X_{4t} + \beta_5 X_{5t} + e_t$$

where

$Y_t$  (dependent variable) = percentage of new housing units  
required in 20 growth poles,  
1960-1980

and,

Independent variables<sup>4</sup> are:

$X_{1t}$  = Actual Federal and State Capital Expenditures on  
the Economic Sector as percentage of Total Annual  
Capital Expenditures, 1960-1980.

$X_{2t}$  = Actual Federal and State Capital Expenditures on  
the Social Service Sector, as a percentage of  
Total Annual Capital Expenditures, 1960-1980.

$X_{3t}$  = Actual Federal and State Capital Expenditures on  
the Housing Sector, as a percentage of Total  
Annual Capital Expenditures, 1960-1980.

$X_{4t}$  = Actual Federal and State Capital Expenditures on  
the Administration Sector, as a percentage of  
Total Annual Capital Expenditures, 1960-1980.

$X_{5t}$  = Dummy variable which takes the value of 0 during pre-oil boom period, 1960-74, and 1 during the oil boom period, 1975-80.

$e_t$  =  $t^{\text{th}}$  Error term.

In a matrix notation

$$Y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} \dots + \beta_k X_{ki} + E_i \quad (i = 1, 2 \dots n),$$

which may be rewritten as

$$Y = X\beta + E$$

where:

$$Y = \begin{bmatrix} Y_1 \\ Y_2 \\ \vdots \\ Y_n \end{bmatrix} \quad \beta = \begin{bmatrix} \beta_0 \\ \beta_1 \\ \vdots \\ \beta_k \end{bmatrix} \quad E = \begin{bmatrix} E_1 \\ E_2 \\ \vdots \\ E_n \end{bmatrix}$$

$$X = \begin{bmatrix} 1 & X_{11} & X_{12} & \dots & X_{k1} \\ 1 & X_{12} & X_{22} & \dots & X_{k2} \\ \vdots & \vdots & \vdots & \dots & \vdots \\ \vdots & \vdots & \vdots & \dots & \vdots \\ 1 & X_{1n} & X_{2n} & \dots & X_{kn} \end{bmatrix}$$

Economic theory seldom specifies a priori the detailed functional relationship expected to hold between variables; rather, it outlines certain constraints that any functional relationship must satisfy (Baumol, 1977). It may be that the proper functions are quite complex and possibly nonlinear. In the absence of more specific knowledge, however, a linear relationship is assumed to prevail in the hypothesized regression model. Hence, if more money is spent on one sector's endeavour relative to another, a higher positive coefficient would be expected, and vice versa.

Initial regression experiments tested the sensitivity of variations in urban housing deficit to each of the explanatory variables, and then the sensitivity of urban housing deficit to all the explanatory variables simultaneously. It was found that during the 1960-80 development plan period, public funds going to the economic and social service sectors constituted the two most powerful variables in the regression model. That is, both sectors exhibited the highest positive coefficients. However, during the 1970-1980 development plan period, economic and public administration expenditures accounted for much of the variation in urban housing deficit.

With respect to the sensitivity of urban housing deficit to all the explanatory variables, the presence of multicollinearity was observed, as well as high standard errors and positively correlated sample residuals. Consequently, as a result of regression experiments with Koyck lag, Almond lag and

distributed lags, it was observed that a better fit would be obtained by using first differences<sup>5</sup> to reduce multicollinearity and auto-correlation (Cochrane-Orcutt, 1949). Following Fisher, first differences is analytically the correct form for the estimation of short-run reactions (Fisher, 1962:23).

Table 15 contains the regression result of the log-linear model which relatively provided a better fit than other models. The overall estimates presented in the regression equation are in conformity with a priori expectations. All the estimated coefficients are statistically significant at the 5 percent confidence level. The size of the coefficients reveals that a 1 percent change in urban housing deficit necessitated a 6 percent change in Administration expenditures, a 4 percent change in Economic Sector expenditures, a 2 percent change in the expenditure on Social Services, but less than a 1 percent change in Housing expenditures (that is, the increase necessary to close the urban housing gap).

Hence, in decreasing order of magnitude, public expenditures on the Administration and Economic Sectors accounted for much of the variation in the urban housing deficit. This finding is as expected, because apart from mis-guided capital expenditures during the oil boom, a large portion of government expenditures before the oil boom was concentrated on development of infrastructure, the civil war, and rehabilitation projects at the end of the Nigerian-Biafra war.

**TABLE 15**  
**ORDINARY LEAST SQUARES MULTIPLE REGRESSION RESULTS OF**  
**URBAN HOUSING DEFICIT ON NIGERIAN SECTORAL CAPITAL EXPENDITURES,**  
**1960-1980**

Independent Variables (Sectoral Capital Expenditures)		Regression Coefficient	T-value	Standard Error
X <sub>1</sub>	Economic Sector	$\beta_1 = 0.36$	(5.02)	0.003
X <sub>2</sub>	Social Service Sector	$\beta_2 = 0.21$	(3.04)	0.001
X <sub>3</sub>	Housing Sector	$\beta_3 = -0.10$	(-9.02)	0.004
X <sub>4</sub>	Administration	$\beta_4 = 0.64$	(6.08)	0.002
X <sub>5</sub>	Dummy	$\beta_5 = 0.49$	(9.72)	0.007
		$R^2 = 0.995$		
		F = 19.4		
		D.W = 2.01		
		Skewness = -0.23	Kurtosis = 3.09	
		RH0 ( $\rho$ ) = 0.0		

ANOVA

Source	DF	SS	MS	F
Due to regression	1	19.36	19.36	19.4
Due to residual	18	0.00	1.00	

$$19.4 > F(18, 1 \ 0.99) = 8.29$$

That is, the F-ratio is greater than the test statistics.

To return to the regression procedure, a test of the appropriateness of the regression assumptions -- Barlett's test for homogeneity of variance, skewness test for deviation from a normal distribution -- both vindicated the standard assumptions of regression analysis. In view of the fact that the F-ratio is greater than the test statistics ( $19.4 > F(18,1 \ 0.010) = 8.29$ ) we conclude that urban housing deficit is a consequence of (inadequate) sectoral budget shares, on the supply side (Aradeon, 1979; Seers, 1981; Anusionwu, 1982 and Onibokun, 1983).

Having established that a relationship exists between urban growth, sectoral budget shares and the urban housing deficit, it remains to attempt to explain the relationship between urban growth, housing budget shares, and urban overcrowding. Towards this end, we test the next research hypothesis.

- H<sub>3.1</sub> Urban overcrowding is a consequence of urban growth and inadequate housing expenditures (H).
- H<sub>3.2</sub> If urban overcrowding is a consequence of urban growth and inadequate housing expenditures (H), then substandard housing would emerge to worsen the urban shelter situation (I).
- H<sub>3.3</sub> Has substandard housing emerged to worsen the urban shelter situation?
- H<sub>3.4</sub> Urban overcrowding as a consequence of urban growth and inadequate housing expenditures is either confirmed or disconfirmed.

HS<sub>3</sub>: Specification

Denoting urban overcrowding as UC, urban growth as UG, housing expenditures as HE, and E as errors in measuring variables, the regression model can be written as:

$$UC = UC(UG, HE, E) \dots\dots\dots (1)$$

$$\frac{\partial UC}{\partial t} = \frac{\partial UC}{\partial UG} \cdot \frac{\partial UG}{\partial t} + \frac{\partial UC}{\partial HE} \cdot \frac{\partial HE}{\partial t} > 0$$

Hence, taking the linear form of (1),

$$Y_t = \beta_0 + \beta_1 X_{1t} + \beta_2 X_{2t} + e_t \dots\dots\dots (2)$$

where:

$Y_t$  dependent variable = Average number of persons per room, 1970-1980.

Independent variables are:

$X_1$  = Change in absolute size of urban population in 20 growth poles, 1970-1980.

$X_2$  = Actual Housing Expenditures on the 20 growth poles, 1970-1980.

$e$  = disturbance term.

Following the matrix notation:

$$\begin{bmatrix} y_1 \\ y_2 \\ \cdot \\ \cdot \\ \cdot \\ y_n \end{bmatrix} = \begin{bmatrix} \beta_0 \\ \beta_1 \\ \cdot \\ \cdot \\ \cdot \\ \beta_2 \end{bmatrix} \begin{bmatrix} 1 & x_{11} & x_{12} \\ 1 & x_{21} & x_{22} \\ 1 & x_{31} & x_{32} \\ \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot \\ 1 & x_{n1} & x_{n2} \end{bmatrix} + \begin{bmatrix} e_1 \\ e_2 \\ \cdot \\ \cdot \\ \cdot \\ e_n \end{bmatrix}$$

The normal equations when the variables are expressed as deviations from their means may be expressed as:

$$\begin{bmatrix} \Sigma x_1 y \\ \Sigma x_2 y \end{bmatrix} = \begin{bmatrix} \Sigma x_1^2 & \Sigma x_1 x_2 \\ \Sigma x_1 x_2 & \Sigma x_2^2 \end{bmatrix} \begin{bmatrix} \hat{\beta}_1 \\ \hat{\beta}_2 \end{bmatrix}$$

Premultiplying both sides by

$$\begin{bmatrix} c_{11} & c_{12} \\ c_{21} & c_{22} \end{bmatrix} = \begin{bmatrix} \Sigma x_1^2 & \Sigma x_1 x_2 \\ \Sigma x_1 x_2 & \Sigma x_2^2 \end{bmatrix}^{-1}$$

we get

$$\begin{aligned} \begin{bmatrix} \hat{\beta}_1 \\ \hat{\beta}_2 \end{bmatrix} &= \begin{bmatrix} x_1^2 & x_1 x_2 \\ x_1 x_2 & x_2^2 \end{bmatrix}^{-1} \begin{bmatrix} x_1 y \\ x_2 y \end{bmatrix} \\ &= \begin{bmatrix} c_{11} & c_{12} \\ c_{21} & c_{22} \end{bmatrix} \begin{bmatrix} \Sigma x_1 y \\ \Sigma x_2 y \end{bmatrix} \end{aligned}$$

$$\text{Hence } \hat{\beta}_1 = C_{11} \Sigma X_{1Y} + C_{12} \Sigma X_{2Y}$$

$$\text{And } \hat{\beta}_2 = C_{21} \Sigma X_{1Y} + C_{22} \Sigma X_{2Y}$$

$$\text{where } C_{11} = \frac{\Sigma X_2^2}{\Delta}, \quad C_{12} = \frac{-\Sigma X_1 X_2}{\Delta},$$

$$C_{21} = \frac{-\Sigma X_1 X_2}{\Delta}, \quad C_{22} = \frac{\Sigma X_1^2}{\Delta},$$

and

$$\Delta = \Sigma X_1^2 \Sigma X_2^2 - (\Sigma X_1 X_2)^2;$$

$$\text{var } (\hat{\beta}_1) = C_{11} \cdot \hat{\sigma}_e^2; \quad \text{var } (\hat{\beta}_2) = C_{22} \cdot \hat{\sigma}_e^2$$

An initial regression was run to test the sensitivity of urban overcrowding to each of the explanatory variables, and then the sensitivity of urban overcrowding to both explanatory variables. It was found, as expected, that increases in urban overcrowding are positively associated with increases in urban population growth, but negatively associated with inadequate housing expenditures. However, while the explanatory variables can together explain movements in the dependent variable very well, the standard errors were high and t-ratios small. This suggests the existence of the problem of multicollinearity within the two regressors. Consequently, it was necessary to manipulate the data set in such a way as to reduce multicollinearity. After

extensive regression experiments, it was found that a better fit would be secured by transforming the data to first differences, expressed in percentages.

Table 16 contains the regression result of the double logarithmic model which provided the best fit. The overall estimates presented in the regression equation are in conformity with a priori expectations. All the estimated coefficients have the appropriate signs and are significant at the 5 percent confidence level. The overall hypothesis represented by the regression equation passes the F (goodness of fit) test at the 1 percent confidence level, with 99% of the variation in urban overcrowding accounted for.

A final test of the appropriateness of the estimates is reflected in the finding that a 1 percent increase in urban overcrowding can be positively associated with a 4 percent increase in urban population growth. However, a 1 percent increase in urban overcrowding is negatively associated with zero housing expenditure ( $\beta = -0.005$ ), with the standard assumptions of the regression model unviolated. Since the F-ratio is greater than the test statistic, and in view of the fact that substandard houses are visible features of the Nigerian urban scene, we conclude that urban overcrowding as a consequence of urban growth and housing expenditures has been confirmed by the regression model.<sup>6</sup>

While the regression analyses captured the relationships between urbanization trends (Chapter 3), housing expenditures

TABLE 16  
ORDINARY LEAST SQUARES REGRESSION RESULTS OF THE NUMBER  
OF PERSONS PER ROOM ON THE INCREMENTAL SIZE OF URBAN  
POPULATION AND HOUSING EXPENDITURES, 1970-80  
 (annual percentage change).

Independent Variables	Regression Coefficient	T-value	SEE
X <sub>1</sub> , Absolute Size of urban population, 1970-1980	$\beta_1 = 0.44$	(6.23)	0.007
X <sub>2</sub> , Actual Expenditures on the housing Sector, 1970-1980	$\beta_2 = -0.005$	(-4.66)	0.001
	$R^2 = 0.999$		
	$F = 19.0$		
	$D.W = 1.98$		0.001

ANOVA

Source	DF	SS	MS	F
Due to regression	2	0.041686	0.020843	20.84
Due to residual	7	0.000017	0.000002	
Total	9	0.041703		

20.47 > F(2,7 0.99) = 9.55      Skewness = 0.0      Kurtosis = 3.0

That is, the F-ratio is greater than the test statistics.

(Chapter 5), and urban overcrowding (hypothesis 3), the question of statistical significance remains.

Given the central concern for overcrowding characteristics, a Chi-square test ( $\chi^2$ ) was applied to the data set in order to establish the degree of statistical significance.

Table 17 shows the cross tabulation of housing budget shares with average number of persons per room. About 8 out of 9 (88.9%) of the valid cells have an expected frequency less than 5.0. The Chi-square = 3.53759 with 4 degrees of freedom.

From the table of "percentage points of  $\chi^2$  distribution"

$$P[\chi_4^2 > 3.53759] = .30$$

That is, a Chi-square value of 4.878 occurs about 30 percent of the time just by chance out of a comparison population in which there is no relationship, and 70 percent of the time where such a relationship exists. Therefore, we conclude that urban overcrowding in Nigeria is induced by inadequate housing expenditures.

In the final analysis, no study can ever be more accurate than the data upon which it is based. To this extent, it should be noted that:

TABLE 17

CROSS TABULATION OF HOUSING BUDGET SHARES WITH AVERAGE  
NUMBER OF PERSONS PER ROOM

V<sub>2</sub>: PERM.

		Low	Medium	High	Row Total
D <sub>4</sub> : STDEV		1.	2.	3.	
	1.	25.0	50.0	25.0	4
	Low	50.0	15.4	25.0	21.1
		5.3	10.5	5.3	
	2.	0	9	2	11
	Medium	0	81.8	18.2	57.9
		0	69.2	50.0	
		0	47.4	10.5	
	3.	1	2	1	4
	High	25.0	50.0	25.0	21.1
	50.0	15.4	25.0		
	5.3	10.5	5.3		
Column Total		2	13	4	19
		10.5	68.4	21.1	100.0

Notes:

8 out of 9 (88.9%) of the valid cells have expected frequency less than 5.0.

Minimum expected cell frequency = 0.421.

Chi-square = 3.53759 with 4 degrees of freedom; significance = 0.4722.

Cramer's V = 0.30511.

Contingency coefficient = 0.39619!

Lambda<sup>a</sup> (Asymmetric) = 0.1250 with D<sub>4</sub>: STDEV dependent.

Lambda (Symmetric) = 0.07143.

Uncertainty Coefficient (Asymmetric) = 0.11556 with D<sub>4</sub>: STDEV dependent.

Uncertainty Coefficient (Symmetric) = 0.12507.

(1) Data on urban overcrowding and urban growth were derived from various Social Statistics compendia in Nigeria, published by the Federal Office of Statistics, Lagos. And,

(2) Data on actual development expenditures were taken from various issues of the Economic and Financial Review, Central Bank of Nigeria. The Central Bank figures originated from various issues of the Federal Republic of Nigeria: Official Gazettes.

It follows, therefore, that because the quality and authenticity of data relating to one urban area or another, or one year or another might be questionable (due, for example, to lack of a regularized or automated data collection system), some caution should be exercised in the detailed interpretation of the empirical findings. However, in view of their basis on general fiscal patterns and the broader aspects of the urban situation in Nigeria, it appears safe to assert that the derived underlying conclusions are valid.


#### Summary

The dynamics of the Nigerian urban housing market has been examined in this chapter. Essentially, urban areas in Nigeria have been shown to be characterized at present by two recognizable housing markets: a formally- or legally-built component in which excessive overcrowding and over-utilization

of housing amenities occurs, and an informal component which lacks basic household needs such as water, flush toilet, and electricity.

While labour migration to urban areas increases the demand for urban residential housing, the supply of urban housing lags behind due to rigid adherence to high standards and criteria in housing design and construction. Since shelter is an inexorable basic need informal housing, which constitutes an environmental and health hazard, is used to fill the urban housing deficit.

The underlying linkages between the formal and informal housing components, and the dynamic (behavioural) significance of those linkages, were therefore established in terms of three consequential relationships:

- (i) The relationship between urban housing deficit and urban growth, on the demand side;
  - (ii) The relationship between urban housing deficit and sectoral capital expenditures on the supply side; and,
  - (iii) The relationship between urban growth, housing expenditures, and urban overcrowding.
- 

Specifically, urban overcrowding in Nigeria was found to be induced by inadequate housing expenditures.

The next chapter presents the findings from the field work that was undertaken (as a case study), to: (1) examine the present housing condition in Lagos, where the urban shelter problem is most acute; and (2) to provide a city-based perspective for relating to and interpreting the national-level data assembled for hypothesis testing.

FOOTNOTES TO CHAPTER 6

- 1 See for instance, Maisel S., "A Theory of Fluctuations in Residential Construction Starts", American Economic Review, Vol.53, June 1963. pp. 359-82. DeLeeuw, F., and Ekanem, N., "The Supply of Rental Housing", American Economic Review, Vol.61, Dec. 1971, pp. 806-17; Rosen S., "Hedonic Prices and Implicit Markets", Journal of Political Economy, Vol.82, Feb. 1974, pp. 34-53; Straszheim, M., An Econometric Analysis of Urban Housing Market, NBER, 1975, and Burns, L. and Grebler, L., The Housing of Nations (New York: John Wiley & Sons, 1977).
- 2 Although urban shacks and squatter settlements constitute illegal tenure, "fees" are usually paid to landlords or their representatives, before the construction of such substandard housing structures (Author's Field work, 1984/85).
- 3 See Mabogunje, A.L., Hardoy, J.E., and Misra, R.P., Shelter, Provision in Developing Countries: The Influence of Standards and Criteria. John Wiley and Sons, Toronto, 1978.
- 4 All values were expressed in 1970 constant naira.
- 5 The first difference approximation employed is given by:

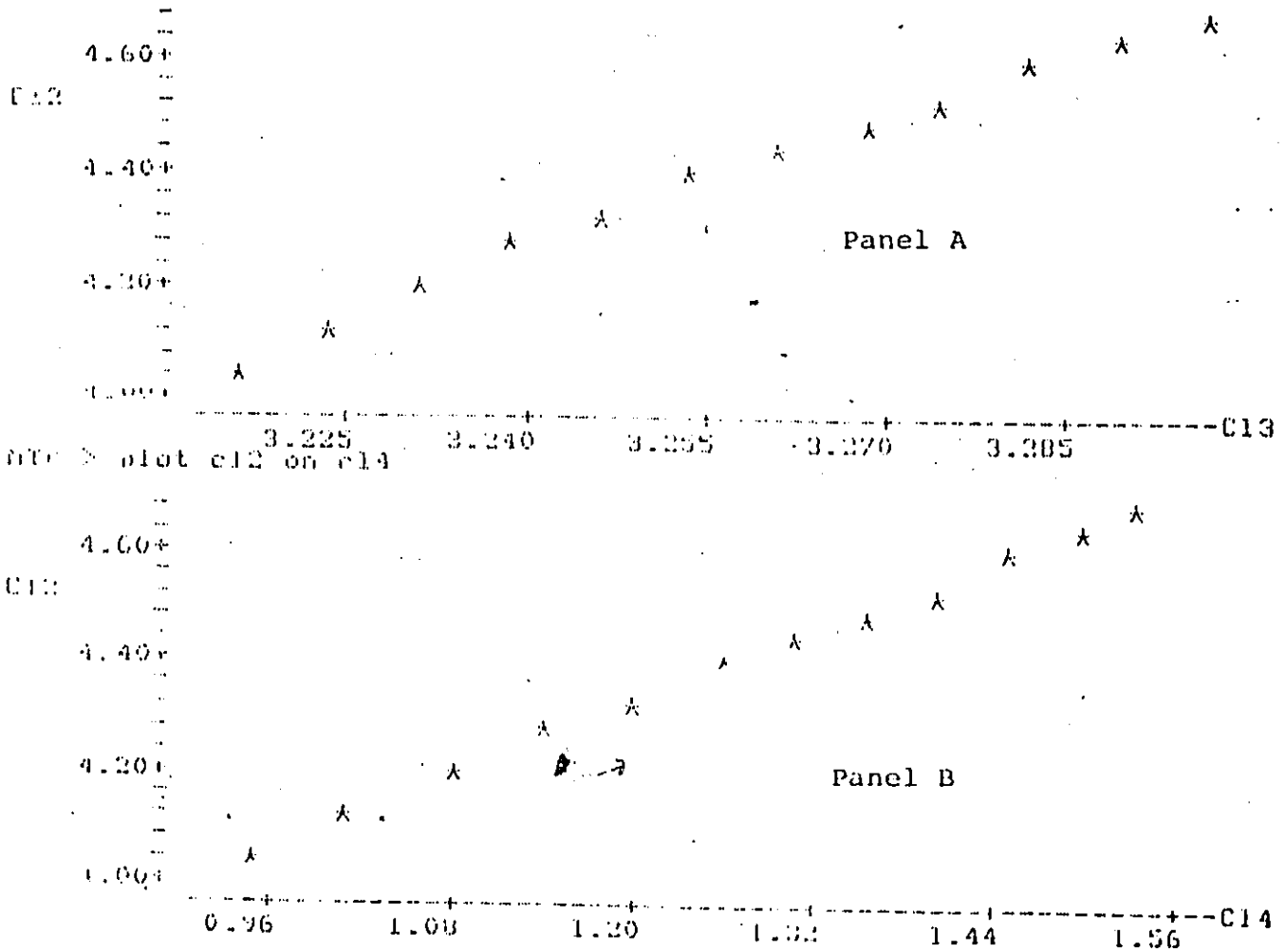
$$Y_t - Y_{t-1} = F(X_t^i) - F(X_{t-1}^i) + C + (U_t - U_{t-1})$$

That is, X induces changes in  $Y_t$  with the long-run component of the ( $C^t$ ) constant during the interval over which the first difference is taken.

See D. Cochrane and G.H. Orcutt "Applications of Least Squares Regression to Relationships containing Auto-Correlated Terms", Journal of the American Statistical Association, Vol. 44, March, 1949, pp. 32-61.

- 6 Panel A depicts the graph of average number of persons per room with the change in urban population and panel B, the graph of average number of persons per room with housing expenditures (natural Logarithms).

FOOTNOTES TO CHAPTER 6



Legend

- Panel A: Graph of Average Number of Persons per Room with the Change in Urban Population, 1970-1980.
- Panel B: Graph of Average Number of Persons per Room with Urban Housing Expenditures, 1970-1980 (20 cities).

## CHAPTER 7

### HOUSING CONDITIONS IN LAGOS: A 1985 CASE STUDY

#### 7.0 Introduction

Focussing on the residential consequences of rapid urbanization, the previous chapters highlighted the need for government fiscal expenditures to mitigate the urban shelter situation. The underlying rationale for soliciting effective government fiscal response stems from the need to maintain the social role of urban residential housing in Nigerian cities.

As suggested earlier (Chapter 4, Section 4.3), residential housing standards provide the central mechanism by which the basic social roles of housing are made operative for two reasons:

First, housing is the built environment and the physical container of social and economic development measures.

Second, housing is the instrument for the sustenance of improved forms of social existence, for the maintenance of hygienic life styles and good community spirit. To this extent, it is by the quality of the prevailing housing standards, that any society can finally judge whether its housing policies and programs, are performing according to expectations.

In Nigeria, as in many countries (developing or developed), small-area data do not exist for an in-depth evaluation or impact assessment of housing policies and programs at the

neighbourhood level. Therefore, the sample survey of housing conditions in metropolitan Lagos (Appendix 3, pages 215-220) was designed to shed light on the adequacy of basic shelter (Figure 1(a), page 7), in Nigeria's fastest growing city. A total of 1,000 households in the slum districts of Ajagunle, Abule Ijesha, Mushin, Shomolu/Bariga and Isale Eko were surveyed. The survey was conducted by the Author with the help of local recruits from November, 1984 through January 1985. Among the population surveyed about 80 per cent of the household heads were male, 20 percent were women, and 25 percent were married. Information on geographical location of Lagos, its population growth, and the survey's findings on housing conditions in Lagos are presented in turn.

### 7.1 Geographical Location of Lagos

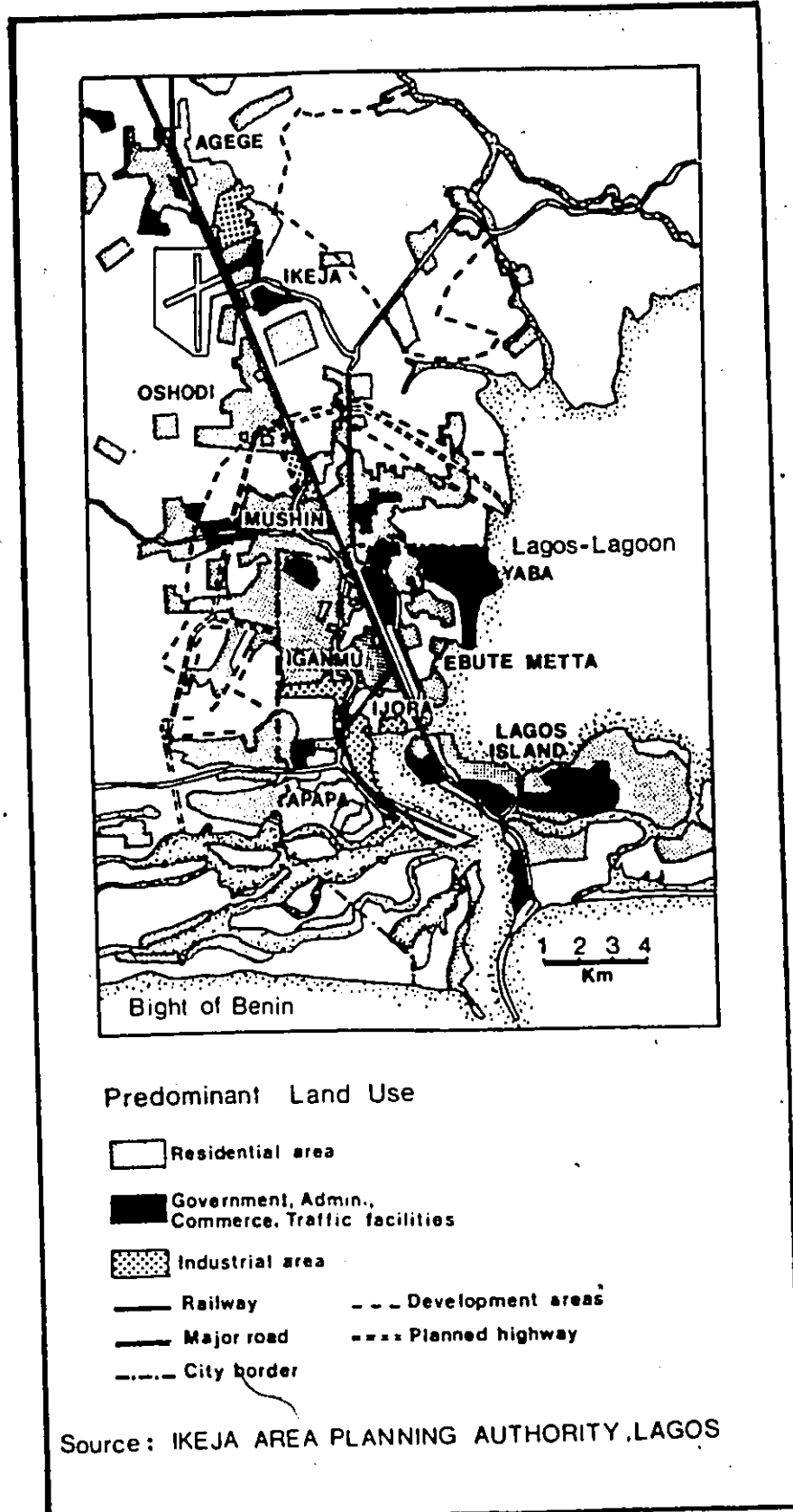
Lagos, the capital of the Federal Republic of Nigeria<sup>1</sup> until October 1982, is renowned for its bustling business energy and incredible pace. With an area of approximately 271.20 square kilometres, Lagos is comprised of several islands and the adjacent mainland (Figure 16).

In addition to Lagos Island, Ikoyi and Victoria Island where most federal Government offices are located, Lagos includes Iddo Island, (best known for the Railway Terminal and Inter-city motor park), and the boroughs of Ebute-Metta, Yaba, Surulere and Apapa on the mainland (NIGERIA year book, 1984:60).

Contiguous to the mainland area, but a city in its own

FIGURE 16

LAND USE MAP OF GREATER LAGOS



right is Ikeja, the capital of Lagos state, and the location of Nigeria's busiest airport -- Murtala Mohammed International Airport.

Together with commercial and residential developments along the expressway to the neighbouring town of Badagry, expansion in Lagos has created a vast, sprawling metropolis. Substantial funds have been expended to construct bridges, highways and ring roads, as well as to develop sea transport in order to facilitate movement of people to and from Lagos. These developments have yielded minimal dividends because Lagos' traffic congestion, euphemistically referred to as "GO SLOW", still persists.

Further, and in addition to endogenous growth in Lagos and its environs, heavy rural-urban migration to Lagos was fueled by the oil-price boom beginning in 1973 (OPEC Information Booklet, 1973:5-11). However, due to inadequate government responses in urban development policies and programs, heavy pressures were imposed on the residential housing stock, as well as on associated water, sanitation and health facilities, and social services. As urban growth soared, urban problems<sup>2</sup> in the city of Lagos became unmanageable (Abiodun, 1974; Ayeni, 1975; Ogunpola and Ojo, 1975; Fapohunda, 1977; Mabogunje, 1982; The Economist, January 23, 1982). The next section provides information on population growth in Lagos to illustrate the magnitude of one of the causes accounting for the "renowned" problems of the city.

## 7.2 Population Growth in Lagos, 1888-1981

In 1901, Lagos city was restricted to the Island of Lagos, West of MacGregor Canal with an area of 3.97 square kilometres and an estimated population of 41,847 people. As Table 18 indicates, the area of Lagos increased to 46.08 square kilometres in 1911, 69.68 square Kilometres in 1963 and to its current size of 271.20 square kilometres since 1984 (Lagos State Government, Ikeja, 1984).

These changes in the area base of the city reflected the growing urban population. Between 1901 and 1950, for example, the population of Lagos increased by 450 percent, and between 1950 and 1975 the percentage increase was 1,428 percent (Hunponu-Wusu, 1977:288; Ayeni, 1979:126). The catalyst in this regard was the Nigerian oil boom in the 1970's during which time migration to Lagos increased dramatically.

Accordingly, the city's annual population growth rate rose from 3.3 percent in 1950 to an estimated 12 percent in the 1970's, with migration accounting for over 75 percent of annual urban growth (World Bank, Urbanization Working Paper, 1972:80; The Economist, January, 1982:36). Figure 17 depicts the sudden surge of urban growth in Lagos, accentuated by the concentration of government services and economic activities in the metropolis.

For the most part, massive building projects and infrastructural works in Lagos constituted the visible signs of the oil-boom, and were the basis of "easy employment" for unskilled

TABLE 18

LAND AREA AND POPULATION GROWTH IN LAGOS, 1901-1985

Year of Census	Area (km <sup>2</sup> ) (000)	Total Population	Intercensus Increase (000)	Estimated Increase Due to Migration	Average Annual Growth Rate (%)
1901	3.97	41,847	28.7	21.5	2.5
1911	46.08	73,766	76.3	57.2	5.8
1931	65.51	126,108	26.5	19.9	2.4
1950	69.68	230,256	82.6	62.0	3.3
1952	69.68	267,407	16.1	12.1	7.8
1963	69.68	1,136,154	188.9	141.7	11.9
1975	178.36	3,519,000	232.6	174.5	12
1985	271.20	5,000,000	232.6	174.5	12

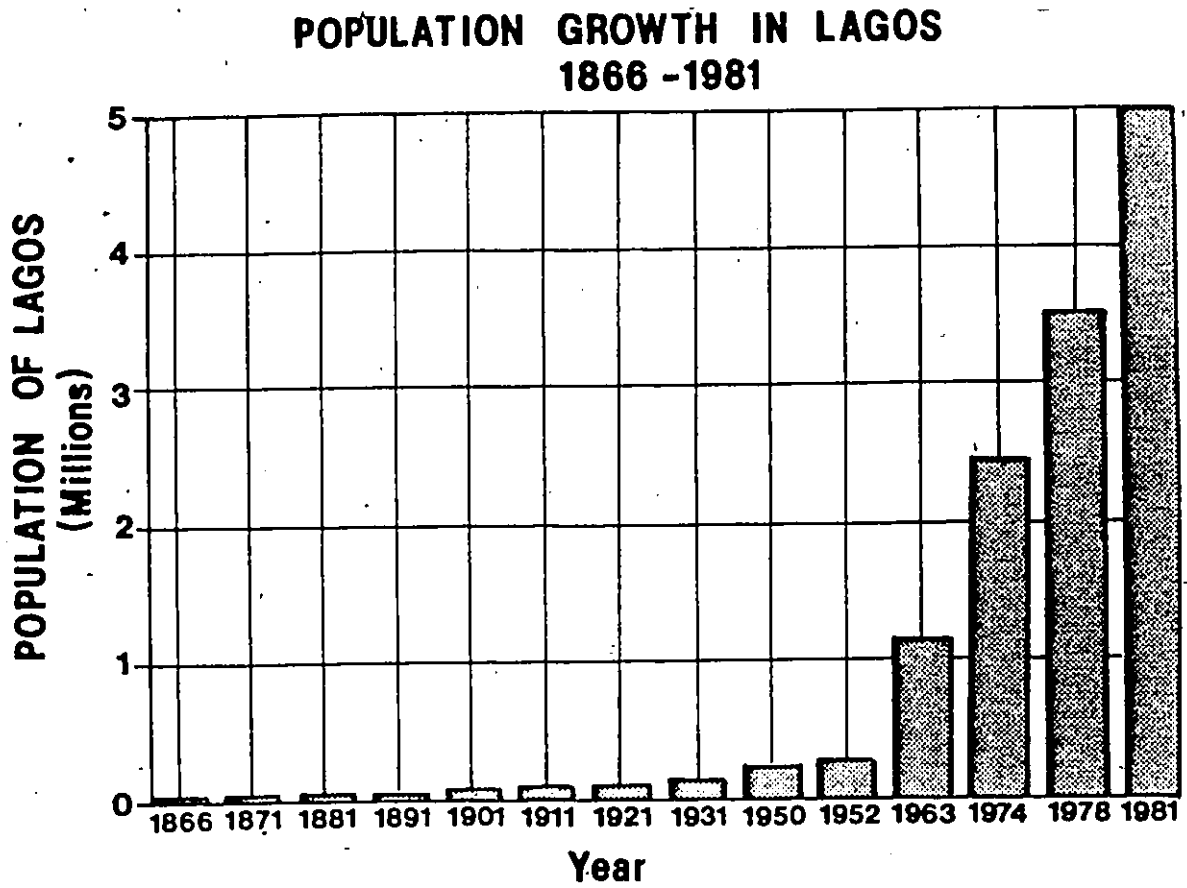
SOURCE: Population Census of Nigeria, 1952/3, Federal Office of Statistics, Lagos.

Population Census of Nigeria, 1963, Federal Office of Statistics, Lagos.

Annual Abstract of Statistics, (various issues), Federal Office of Statistics, Lagos.

Lagos State Government, 1984.

FIGURE 17



SOURCE: Lagos State Government, 1984.

labour. As the years progressed, the tempo of migration increased on the expectation that city jobs would continue to be readily available. However, and unfortunately for many migrants, the search for city jobs increasingly proved futile (Abiodun, 1974; Ogunpola and Ojo, 1975; Ayeni, 1977; Kirk-Green and Rimmer, 1981:63; and *The Economist*, January 23, 1982:36).

Meanwhile, the unprecedented increase in the population of Lagos worsened traffic congestion and imposed heavy and mounting demands for water, electricity and health services, as well as for waste disposal, sanitation, housing facilities and services. To lay their head somewhere most of the unemployed, and much of the labour force in the informal sector,<sup>3</sup> took refuge in substandard houses in the slums or near slum areas. The substandard houses constituted an environmental and health hazard, and disrupted the physical layout of the city. In particular, the squatter settlements induced "disorder" to the urban land-use system (Mariss, 1961; Abiodun, 1974; Ayeni, 1977; Onibokun, 1978; Peil, 1981 and Mabogunje, 1982). The following paragraphs elaborate on the characteristics of residential land-use in Lagos and its environs.

Residential land occupies about 50 percent of the total built-up area of the metropolis, while industrial usage occupies 11.31 percent, (Figure 16, page 132).

Other major uses of land are educational institutions, which occupy 5.73 percent, commercial activities, which occupy 3.92 percent, transport, which occupies 8.88 percent, and

administration which occupies 3.02 percent (Doxiadis Associates International, 1977).

Spatial variation in the density of residential land-use occurs in the Lagos metropolitan area. The largest residential tracts are found in Agege, Mushin, Ijeshatedo, Ikoyi East and Maroko, where residential land occupies more than 80 percent of total built up area, (Ayeni, 1979:130). In contrast to the heavily built-up residential zones are places such as Lagos Island, Ikoyi West, Mushin NW, Sogunle and Ketu, where more buildings are used for commercial purposes. However, the central characteristic of residential land-use in Lagos is the areal differentiation of people by socio-economic status.

Generally, low-density areas characterized by tracts of open land and state-of-the-art architecture are inhabited by higher income groups in exclusive neighbourhoods. These areas include parts of Victoria Island, Ikoyi East, Government Reservation Area Ikeja, Ilupeju and Palm-Grove Estate. The medium-to high-residential areas include parts of Yaba, Surulere, Ebute-Metta and numerous privately-owned residential estates in Maryland, Anthony Village and Okupe. Elsewhere are located the poor and substandard residential areas characterized by very high density.<sup>4</sup> Information on characteristics of residential land-use in Lagos is summarized in Table 19.

### 7.3 Housing Conditions in Lagos in 1985

As discussed earlier (Chapter 4, Part 4), housing conditions in Lagos, as in other Nigerian cities, can be viewed in three respects:

TABLE 19

SOME CHARACTERISTICS OF RESIDENTIAL LAND-USE IN LAGOS, 1977

ZONES	Total Area (hectares)	Built-Up Area	Gross Residential Area	Fraction Residential (%)	Estimated Inhabitants (thousands)
Agege	2428	1139	910	79.9	393.6
Airport-Sogunle	2783	2414	403	16.7	131.8
Ikeja	2010	1353	820	60.6	144.2
Oregun-Ketu	2358	590	293	49.7	138.0
Mushin NW	940	624	197	31.6	30.6
Ijeshatedo, Itire	876	704	615	87.4	250.3
Mushin W, Surulere N	565	506	388	75.7	298.8
Mushin Central	323	302	193	63.9	289.7
Mushin E, Bariga	1837	881	697	79.1	480.5
Surulere S., Ebute-Metta	1274	1012	537	53.1	143.6
Yaba S., Ebute-Metta E	980	834	427	51.2	242.6
Amuwo Town	4553	1716	553	32.2	12.2
Festac Town	4553	1716	553	32.2	12.2
Igammu, Ajagunle, Apapa	2586	1771	1044	59.0	519.0
Lagos Island N. CBD and	361	281	128	45.6	243.1
Institutions	163	158	6	3.8	9.5
Ikoyi West	409	317	114	36.0	33.8
Ikoyi East	720	591	524	88.7	51.3
Victoria Island	505	358	194	54.2	14.4
Maroko	514	234	222	94.9	85.4
	27,120	16,177	8288	51.0	3519.0

SOURCE: Lagos State Ministry of Works and Planning, Lagos, 1977.

- (i) In the sense of absolute shortage of housing units for various socio-economic groups;
- (ii) In the sense that a family's dwelling fails to satisfy certain minimal standards of sanitation, safety and visual aesthetics; And,
- (iii) In the sense that a family might have satisfactory housing but pays a high rent (relative to income).

In 1961, the total housing stock in Lagos was estimated at 19,000 units (Federal Office of Statistics, 1961). From aerial photographs in the same year, the United Nations recorded a rough figure of 23,000 units for Lagos Division, and 19,000 units for Metropolitan Lagos (United Nations Statistical Year Book, 1973:724-758). Assuming an annual net increase of 1.75% (Ogunpola and Ojo, 1975:114), the housing units in metropolitan Lagos increased from 86,197 units in 1976 to 99,030 units in 1984, an increase of 13 percent in eight years.

Due to rapid migration to Lagos and attendant rapid urban growth beginning in 1974 (Figure 17, page 136), there were far more households than housing units. That is, demand for housing drastically outstripped supply. According to the United Nations, over 50 percent of Lagosians can be said to live in substandard residential conditions (United Nations,

Conditions of Work and the Working Environment, 1983:42-51). The bulk of the city's population (80 percent) lives in rooming apartments where density exceeds 1,000 persons per hectare (Lagos Metropolitan Master Plan, 1979; ILO, 1981:120; Federal Office of Statistics, National Integrated Survey of Households, 1984). In Lagos, as in other Nigerian cities, only a single common kitchen and one common toilet are provided for all households in rooming apartments.

Assuming that an occupant of a house requires a self-contained apartment with separate kitchen and toilet facilities, then the number of households with inadequate housing reflects housing deficits (Anusionwu, 1982). Accordingly, in 1980, 336,000 new units were required. As indicated in Table 20, if all the households in Lagos were to have adequate housing through 1985, an additional 630,000 new units were required to be built (Anusionwu, 1982:314).

In the interpretation of housing statistics (urban social indicators), it is assumed that, within the city, citizens demand public goods and services while the government supplies them.

In other words, the government is essentially viewed as a production unit purchasing factor inputs, transforming them into public goods and services, and supplying them (water, shelter, garbage collection, health facilities, electricity, etc.) to constituents in various neighbourhoods (Tiebout, 1956; Downs, 1975; Breton, 1966; Tullock, 1967; and Lancaster, 1971).

**TABLE 20**  
**ESTIMATE OF CUMULATIVE NUMBER OF URBAN HOUSEHOLDS REQUIRING**  
**ADEQUATE HOUSING IN LAGOS**  
 (thousands)

YEAR	Households in Lagos requiring adequate housing (000)	Households in Nigeria requiring adequate housing (000)	Households in Lagos as percentage of households in Nigeria requiring adequate housing (%)
1962	25	412	6.07
1963	29	474	6.12
1964	33	524	6.30
1965	38	581	6.54
1966	44	644	6.83
1967	51	713	7.15
1968	59	790	7.47
1970	79	966	8.18
1971	91	1068	8.52
1972	105	1182	8.88
1973	121	1309	9.24
1974	140	1450	9.65
1975	162	1609	10.07
1976	187	1784	10.48
1977	216	1980	10.91
1978	250	2200	11.36
1979	290	2445	11.86
1980	336	2718	12.36
1981	386	3009	12.83
1982	440	3315	13.27
1983	449	3641	13.70
1984	562	3986	14.10
1985	630	4351	14.48

SOURCE: Derived from data from National Census Bureau, Lagos, and Anusionwu, E.C., "Low Cost Housing in Nigeria: Problems and Prospects", The Nigerian Journal of Economics and Social Studies, Vol.24, No.3, 1981:314.

The availability of inexpensive housing and housing amenities comprise a basic need and serves as an indicator of the quality of life which a household leads (Abrams, 1964; Seers, 1969; Habitat, 1976; Streeten, 1977; Streeten, 1979 and Seers, 1981).

Beyond the quantitative deficiency aspect of housing, there are of course concerns related to the qualitative aspect: that is, even when there are sufficient housing units for different households, the quality of the housing units and services offered is a major determinant of the overall housing condition. Hence, housing amenities such as a kitchen, cooking facilities, water supply, toilet facility, electricity and garbage collection facilities are prerequisites for a hygienic neighbourhood and healthy housing condition (Wellar, 1969; Onibokun, 1973; Streeten and Burki, 1978; Seers, 1981; United Nations, 1983).

The materials which follow are based on a survey of 1,000 households in the slum districts<sup>5</sup> of Ajagunle, Abule, Ijesha, Mushin, Shomolu/Bariga and Isale EKO (Figure 18). The survey was conducted from November, 1984 through January, 1985.

Information on the characteristics of the sample which consisted mainly of households in single rooms (86%) is provided in Table 21. The availability of basic facilities in the selected slum areas of Ajagunle, Agege, Mushin, Shomolu and Lagos Island (Figure 18) is summarized in Table 22.

**FIGURE 18**  
**AREAS WITH SUBSTANDARD HOUSES IN LAGOS, 1985**

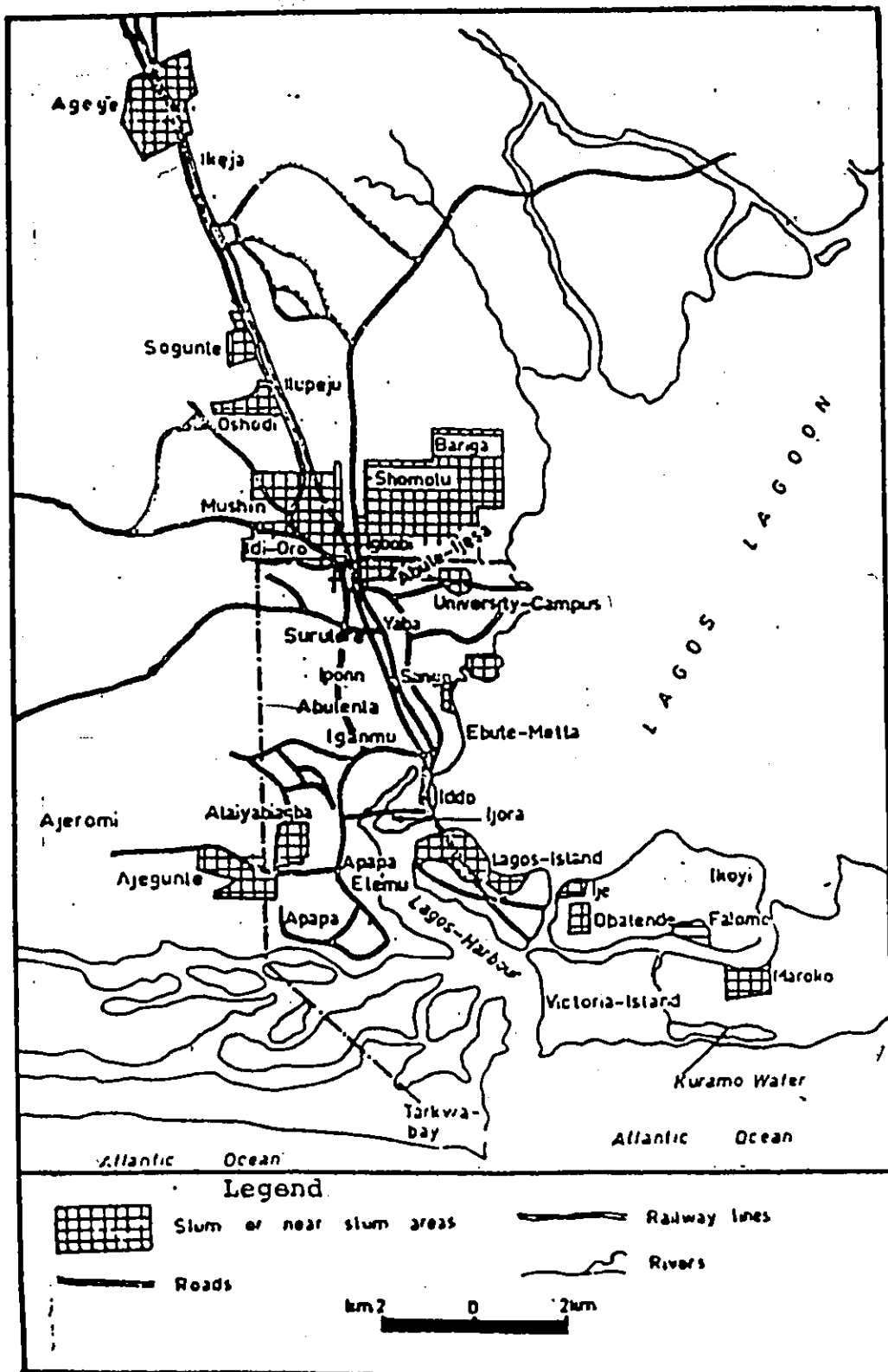


TABLE 21  
CHARACTERISTICS OF THE SAMPLE: HOUSES, HOUSEHOLDS  
AND HOME-OWNERSHIP IN SELECTED LAGOS SLUMS, 1985

Zones of Lagos	Total Number of Houses	Total Number of Households	Owner Occupied	Rented	% Owner Occupied
Ajagunle	100	200	6	94	6
Agege	100	200	30	70	30
Mushin	100	200	7	93	7
Shomolu	100	200	8	92	8
Isale Eko	100	200	17	83	17
<b>TOTAL</b>	<b>500</b>	<b>1000</b>	<b>68</b>	<b>432</b>	<b>13.6</b>

SOURCE: Author's Field work in Lagos, 1984/85.

**TABLE 22**  
**LAGOS SLUM HOUSING FACILITIES, 1985**

Type of Amenities	Zones of Lagos				
	Ajagunle (%)	Agege (%)	Mushin (%)	Shomulu (%)	Lagos Isl. (%)
Houses with pipe borne water supply	79.0	55.0	68.0	35.0	82.0
Houses with wells	30.0	80.0	0.0	45.0	0.0
Houses with electricity	92.0	90.0	93.0	95.0	96.0
Houses with single bathrooms	100.0	98.0	99.5	100.0	99.0
- bathroom using pail	86.0	99.0	62.0	90.0	52.0
- bathroom using pipe-water	10.0	1.0	38.0	5	30.0
Houses with single tap water	100.0	100.0	100.0	100.0	100.0
Type of cooking fuel					
- wood	24.0	28.0	56.0	54.0	40.0
- coal	64.0	61.5	14.0	33.5	20.5
- gas	12.0	10.5	30.0	12.5	39.5
Houses with single toilet facilities	96.0	90.0	95.0	89.0	85.0
Types of toilet					
- pail	40.0	27.0	10.0	50.0	39.0
- pit	45.0	70.0	62.0	41.0	30.0
- water closet	15.0	3.0	28.0	9.0	31.0

SOURCE: Author's field work in Lagos, 1984/85.

While a substantial percentage of houses surveyed had electricity (93.2%), kitchen facilities were grossly inadequate as only a single kitchen was provided for all households in each house. Also, only 64 percent of the houses sampled had pipe-borne water, 99.3 percent had a single bathroom, and 93 percent, a single toilet. Hence, as Table 21 reveals, most of the houses sampled lacked basic housing amenities. In particular, excessive utilization of housing facilities was particularly acute in houses where overcrowding was greatest, that is, in rooming apartments.

The low proportion of houses with water closets (15.4 percent), and the absence of a central sewage system in Lagos, means that untreated feces are either buried in the ground, or simply dumped into Lagos Lagoon. From both health and environmental points of view, this method of human waste disposal is very unhygienic and likely to promote the generation and spread of disease. For those who live in a labyrinth of tin-roofed houses without basic households needs, pollution of air is an additional health burden. This is because, apart from being subjected to the odours of open sewers and human waste, residents have to contend on a daily basis with kitchen pollution as well as -- smoke from burning wood, coal and kerosene.

Furthermore, an additional danger to health in the area can be ascribed to the filth of the residential environment. In many parts of the slum districts garbage disposal constitutes a problem. As shown in Table 23, regular collection and

TABLE 23  
DISPOSAL OF REFUSE WHERE HOUSEHOLDS BINS ARE NOT  
CLEARED BY LOCAL AUTHORITY

TYPE OF REFUSE DISPOSAL	No. of Households	Percentage
1. Group collection depot	200	15
2. Open dumping (e.g. in unclaimed land)	100	10
3. Around unemptied bin	300	30
4. Incinerator	50	10
5. By Burial	100	10
6. Anywhere on the road	100	10
7. Into drains or gutters	100	10
8. Into the Lagoon	50	5
<b>TOTAL</b>	<b>1,000</b>	<b>100</b>

SOURCE: Author's field work in Lagos, 1984/85..

disposal of refuse is the exception rather than the rule. Consequently, the dumping of garbage, -- rotting, smelling and otherwise -- onto city streets, into open sewers and in free zones, is the order of the day!

Although housing facilities in the slum areas are generally poor, in other parts of Lagos where housing facilities are available they are either over-utilized or ill-maintained. That is, the inadequacy of housing facilities cannot be disassociated from the phenomenal demand generated by high and rapid rates of urban population growth (due to high levels of immigration and rural-urban migration on the one hand, and inappropriate responses in urban development policies and programs on the other hand).

Table 24 presents information on housing characteristics for the entire city of Lagos. The Table reveals that overcrowding is not restricted to the slum or squatter areas of the city. For instance, while the average number of people per room is 4.0 for all of Lagos, in the high-class residential areas of Ikoyi West and parts of Yaba and Surulere there are over four people per room (see also Figure 19). Higher densities occur in the slum districts of Lagos Island (5.4), Agege (5.0), Shomolu (4.5), Ajagunle (4.2) and Mushin (3.5). (It may warrant being recalled that the standard being pursued by the Nigerian government is two (2) persons per room).

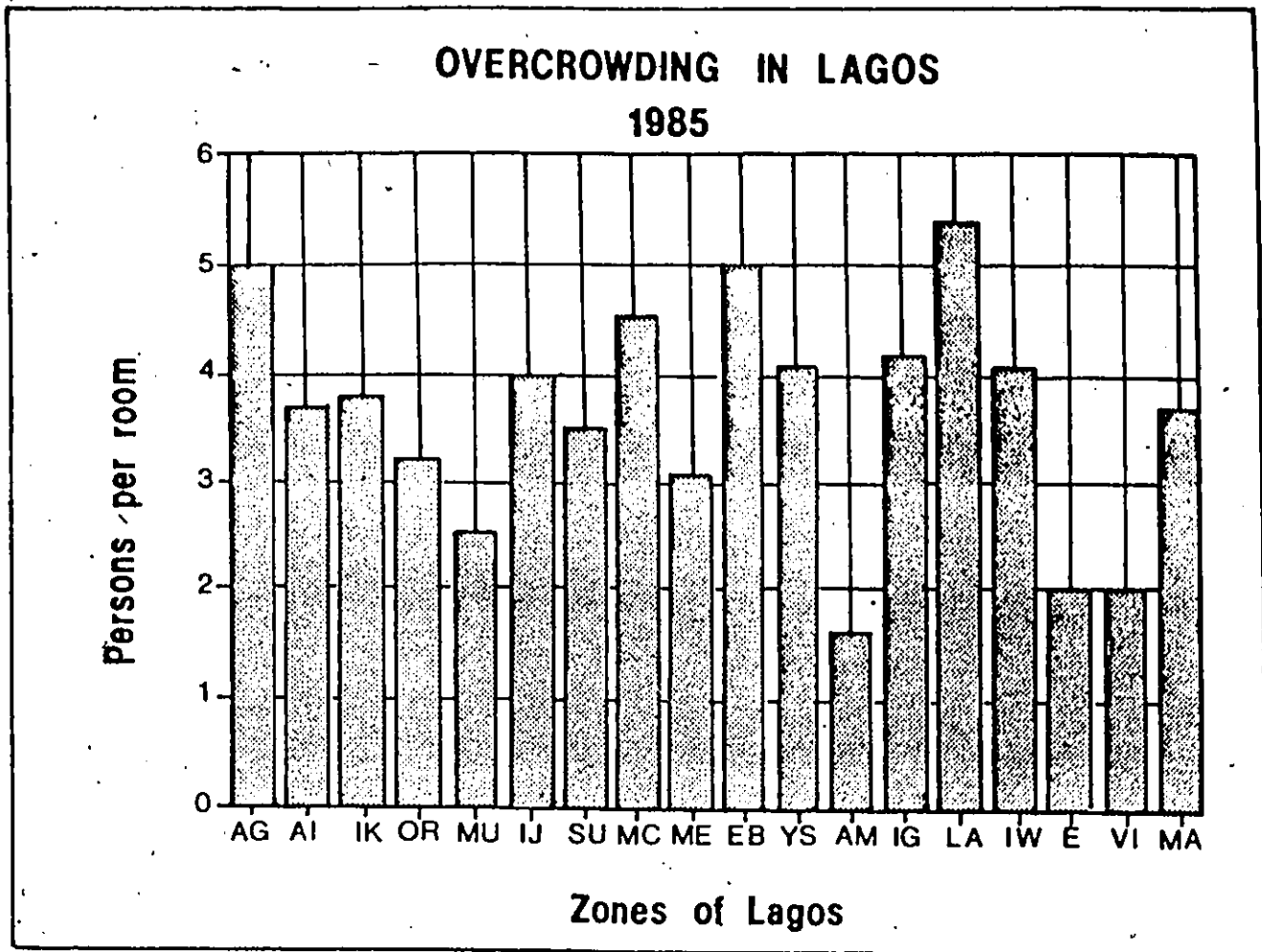
The extent of overcrowding is also reflected in the very high ratios of inhabitants per house. The average for Lagos

TABLE 24  
HOUSING CHARACTERISTICS IN LAGOS, 1985

Zones of the Metropolis	Inhabitants per house	Inhabitants per household	Inhabitants per room	Average rent per room (naira)
Agege	29.4	6.1	5.0	35.0
Airport-Sogunle	32.9	8.2	3.7	40.0
Ikeja	23.9	5.7	3.8	40.0
Oregun-Ketu	54.9	6.7	3.2	30.0
Mushin NW	27.4	6.5	3.5	40.0
Ijeshatedo, Itire	43.1	5.9	4.1	45.0
Mushin W, Surulere N	64.6	5.1	3.5	45.0
Mushin Central	67.4	6.1	4.5	40.0
Mushin E, Bariga	50.9	5.1	4.1	30.0
Surulere S.				
Ebute-Metta	24.9	6.1	4.1	35.0
Yaba S.,				
Ebute-Metta E	41.4	5.1	4.1	40.0
Amuwo, Festac Town	16.9	4.5	2.0	50.0
Igammu, Ajagunle,				
Apapa	55.7	5.8	4.2	35.0
Lagos Island N.	44.3	8.8	5.4	35.0
Ikoyi West	27.1	7.6	4.1	60.0
Ikoyi East	21.9	4.0	2.5	65.0
Victoria Island	15.3	4.0	2.5	65.0
Maroko	27.4	6.0	3.7	35.0
<b>AVERAGE</b>	<b>32.7</b>	<b>5.9</b>	<b>4.0</b>	<b>42.5</b>

SOURCE: Author's Field work in 1984/85 in Lagos and Lagos State Government, Lagos, 1985.

FIGURE 19  
OVERCROWDING IN LAGOS, 1985



NOTE: Symbols represent residential zones of Lagos as follows:

AG (Agege), AI (Airport-Sogunle), IK (Ikeja), OR (Oregu-Ketu), MU (Mushin), IJ (Ijeshatedo-Itire), SU (Surulere), MC (Mushin Central), ME (Mushin East, Bariga), EB (Ibute-Metta), YS (Yaba South), AM (Amuwo, Festac Town), IG (Iganmu, Ajagunle-Apapa), LA (Lagos Island), IW (Ikoyi West), E (Ikoyi East), VI (Victoria Island), MA (Maroko).

SOURCE: Author's Field work in Lagos, 1984/85.

metropolis is 32.7, although higher figures are recorded in Mushin Central (67.4), Mushin West (64.4), Ajagunle (55.7), Oregun and Ketu (54.9). The lower number of inhabitants per house (15.3) and number of persons per room (2.5) in Victoria Island and Ikoyi Government Reservation Areas (GRA's) reflect their exceptionally high-class residential status, in a relative sense: that is, not even these areas satisfy the standard of 2 persons per room.

Normal rent varies, depending on location of a house, type of structure and housing amenities available. However, the rent for a single room averaged 35 naira per month in the slum districts, and 65 naira per month in other parts of the city. Also, in most non-slum areas the rent for one bedroom amounted to 80 naira, and for three bedrooms it ranged upwards from 150 naira.

In terms of rent-income ratio, the rent of lower income groups amounted to 40 percent of monthly income. Hence, for most households in the lower income groups, high rents jeopardize obtaining other necessities of life.<sup>6</sup> Since the provision of housing is part of the employment package for higher income earners, they receive housing as income-in-kind, or housing allowance in lieu of housing, or both.<sup>7</sup>

To mitigate the housing shortage situation, private companies with more than 500 employees have been required (since 1977) to build houses for their middle-echelon workers. While this policy marginally increased housing construction, it

created company-owned segregated housing neighbourhoods, that are similar to Government Reservation Areas (GRA's).

Also during the 1975-80 plan period, the Lagos State Government empowered the Lagos State Development and Property Corporation (LSDPC) to provide 1,500 housing units in addition to 416 units earmarked for Ogba, 80 units for Surulere and 924 units for Epe, Ikorodu and Badagry, (Lagos State Government, 1984). In addition, the LSDPC provided 75 units under its home-ownership savings scheme, as well as a number of serviced residential plots for private development in Gbalada, Omole and Ogba. Owing to logistical problems and especially difficulties in securing imported building materials (in order to conform with the stipulated building standards and criteria), some of the public housing projects remained uncompleted as of 1985 (Lagos State Government, Ikeja, 1985).

Since heavy immigration to Lagos is a continuous process, the public housing initiatives did not match the number of households with the number of housing units needed. Rather, over three-quarters of Lagos households continued to live in single rooms, with the average number of persons per room for the whole city being close to four. Further, the public housing programs were not geared to benefit the unemployed, the less educated, and less secure migrants who, being less able to provide for themselves, most needed public housing assistance.

Meanwhile, as in urban renewal programs in the United

States, and town design efforts in many other countries, inappropriate slum clearance schemes worsened housing shortages. Specifically, various slum clearance schemes and Lagos urban renewal programs displaced nearly 300,000 people (Aredeon, 1979:179). Rather than provide alternative housing for those displaced, much of the land secured was used for new roads, bridges and flyovers, in the (vain) hope of improving traffic congestion. As a result, those displaced were constrained to go to other potential slums. Hence, government responses, in urban development policies and programs can be seen as exacerbating the shelter situation in Lagos in two ways, namely:

- (i) Through disrupting the filtering process on the supply side; and,
- (ii) Through encouraging gentrification on the demand side.

Conceptually, the mobility of families from one housing market to another involves a filtering process (Grebler, 1952; Smith, 1964; Yeates and Garner, 1971; Dwyer, 1974; Drakakis-Smith, 1981 and Bourne, 1981). This process can be perceived in, and has implications for economic and social welfare.

In the economic sphere, the filtering process relates essentially to the changing of occupancy as the housing that is occupied by one income group becomes available to the next

(lower) income group. The implication of the economic view of filtering is that if the relative price of housing decreases more rapidly than the quality, then the lower-income groups will be able to afford successively better quality housing. In terms of the social interpretation of filtering, a rapid rate of downward filtering in relative house prices will make possible an upward filtering of income groups into better quality housing. Conversely, a low rate of downward filtering in house prices would result in limited possibilities of upward filtering of income groups into better quality housing.

In Lagos, the filtering process did not work because slum clearance was not accompanied by programs to provide adequate replacement or alternatives housing. That is, although new housing units were available primarily for the upper-income groups, upward filtering was not possible for all income groups. The bulk of the lower income groups displaced from one slum clearance area merely moved to another slum or potential slum area, they could not and did not move up the housing condition ladder.

Consequently, as a result of the forced removal of affected low income groups from the areas undergoing change, a deterioration process was induced whereby lower income groups came to be concentrated in slum neighbourhoods. Since the lower income groups lacked political influence, their neighbourhoods were systematically denied basic government services -- water, electricity, sanitation and social services.

Further, on the supply side, one of the most pervasive effects on house-building in Lagos and hence on overall housing conditions in the city, can be attributed to the government's differential interest rate policy. Essentially, following the high levels of migration to the city beginning in 1974, the demand for rooming apartments consistently exceeded the demand for other types of housing. However, rather than gear housing incentives to the building of rooming apartments, a policy which would have yielded the largest return per unit of housing expenditure, annual interest rates for loans to build single homes were reduced to 3 percent while loans for the construction of other houses -- including rooming apartments -- were placed at 6 percent (Aradeon, 1979:180). Since the rent for executive houses in Lagos averaged N45,000 (over \$70,000) a year, many landlords preferred to build executive homes. The building of executive homes was deemed more profitable for obvious reasons, as follows:

A builder can borrow at the stipulated low rate, (3% interest rate) build a number of modern executive homes, demand five years rent in advance, repay the loan, and still make a handsome profit (Business International 1980:40; The Economist, January 23, 1982:36).

Second, as revealed by the partial equilibrium diagram or comparative statics of urban rental and ownership housing

markets in Lagos (Figure 20), the reduction of incentives for rental housing shifted the rental supply curve downwards. Specifically, in Figure 20, panel A, the rental supply curve shifted to the left from  $SR_0-SR_0$  to  $SR_1-SR_1$ , increasing monthly rent from  $R_0$  to  $R_1$ , and lowering the equilibrium rental housing stock from  $HR_0$  to  $HR_1$ . However, as shown, in panel B, the demand for flats and duplexes shifted to the right from  $D_0D_0$  to  $D_1D_1$ . That is, to satisfy housing demand, the ownership housing stock (flats and duplexes) rose from  $H_0$  to  $H_1$ , increasing imputed home ownership benefits from  $N_0$  to  $N_1$ , in panel B.

Against this background, it can be inferred that the growth of slums and poor housing conditions in Greater Lagos is a consequence of:

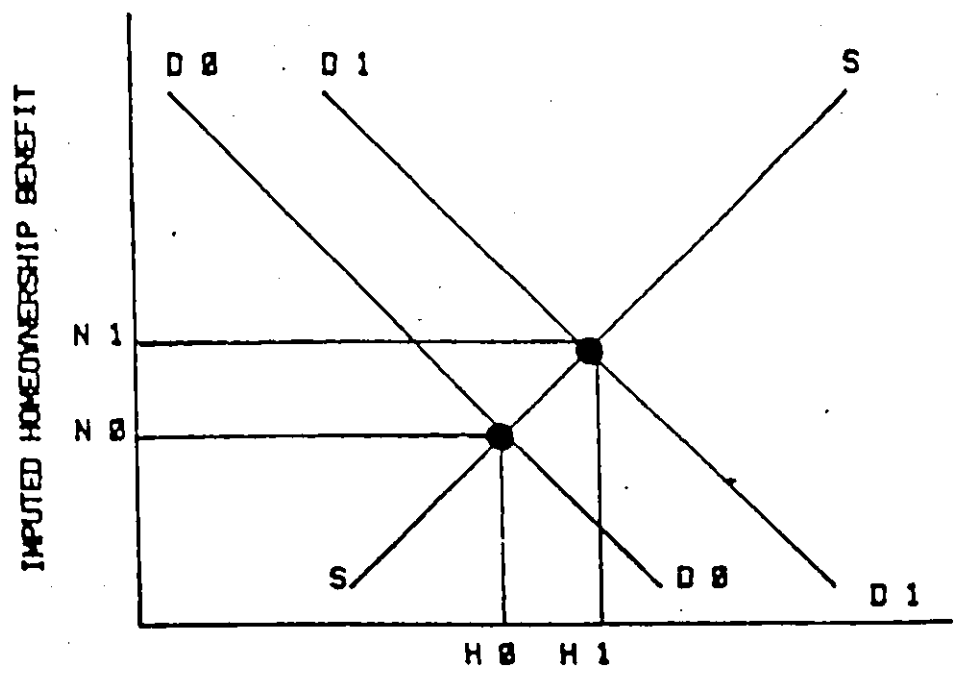
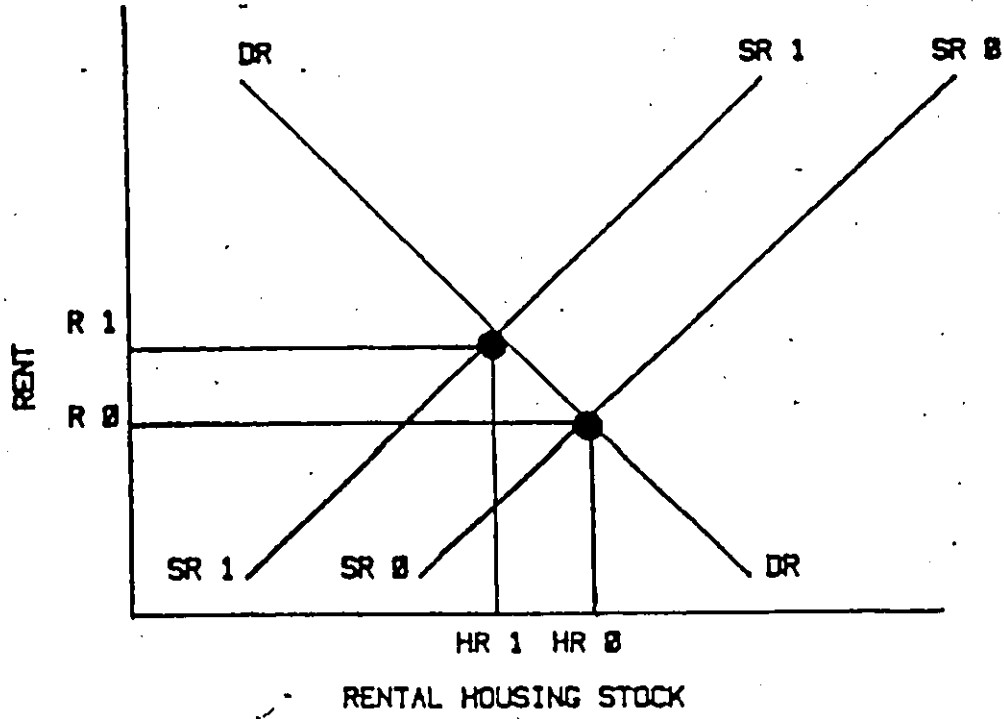
- (i) Rapid urban growth, on the demand side; and,
- (ii) Inappropriate urban development policies and housing programs, on the supply side.

The benefits of conducting the sample survey of housing conditions in selected neighbourhoods of Lagos are therefore considered to be twofold:

First, the survey which involved going "into the field", that is, into the slum and squatter settlement parts of Lagos, provided detailed empirical evidence, and graphic

FIGURE 20

INTERACTION OF THE URBAN RENTAL AND OWNERSHIP HOUSING MARKETS



sensory evidence of a personal nature, of the consequences of failed Nigerian housing policies and programs. And,

Second, the survey results indicated that instead of the current practice of lumping all urban substandard houses together, (Table 8, page 73), national and sub-national housing data files should be organized according to urban housing, types (Table 6, page 59), in order to provide the level of detailed information required for effective (remedial) social policy.

#### Summary

Nowhere are the problems of Nigerian urbanization and urban housing problems more starkly depicted than in Lagos. This chapter has discussed the quantitative inadequacy and qualitative deficiency of housing amenities in selected slum areas of Lagos. It has been suggested that the shelter situation in Lagos in general, and slum districts in particular, may be defined in three respects:

- (i) In the respect that the housing gap (shortage of housing units) in the city of Lagos amounts to some 630,000 units. Since households in Lagos are roughly double the number of housing units needed, the high incidence of overcrowding (that is, four people sleeping in one room) is evident;

(ii) In the respect that the shelter situation in Lagos is inadequate to needs because sub-standard houses are being used to fill the housing gap. In particular, many dwellings in the city's slums fail to satisfy minimal standards of sanitation, safety and visual aesthetics, thereby creating environmental pollution and a serious health hazard. And,

(iii) Residential housing in Lagos is inadequate because some households, whose housing is satisfactory in terms of condition criteria, pay nearly half their monthly incomes in rent. As a result; they have little income left for other necessities of life.

Against this background, the growth of slums and poor housing conditions in Greater Lagos is deemed a consequence of:

(1) Immigration-induced urban growth, on the demand side; and,

(2) Inappropriate urban development policies and misguided housing programs, on the supply side.

The next chapter projects and assesses the prospects of urban housing markets in Nigeria.

FOOTNOTES TO CHAPTER 7

- 1 In February, 1976 the Federal Government of Nigeria decided to build a new administrative capital to ease the pressure of unrelenting growth on the infrastructure of Lagos. The new federal capital, named Abuja, is virtually at the geographical centre of Nigeria and is being developed "from scratch". Abuja came into partial use in October, 1982.
- 2 Following Wellar (1982) the "urban problem" is a "tightly wrapped essemble of problems, for example, congestion, sprawl, pollution, unemployment, crime, anomie, poverty, housing shortages, high costs, poor delivery of social services, loss of park and prime agricultural land, obsolescent manufacturing firms and industries, which are integral, non-separable parts of the process of urbanization".
- 3 According to the United Nations, about 50 percent of the labour force in Lagos work in the informal sector, and more than 90 percent of the unemployed in the city are comprised of youths between the ages of 15 and 29. For elaboration of the structure of the Lagos labour market, see United Nations, Condition of Work and the Working Environment, Sixth African Regional Conference, Tunis, Oct. 1983, pp.42-51 and Fapohunda, Olarewaju, Employment and Unemployment in Lagos, Institute of Social Studies, The Hague, 1977.
- 4 Rooming apartments housing up to 50 people, mostly in single rooms with one common kitchen and toilet, dominate the Lagos residential scene. About 88.5 percent of all households in Lagos live in single rooms, 10 percent live in flats and duplexes and 1.5 percent in whole buildings (Federal Office of Statistics, National Integrated Survey of Households, 1982:27).
- 5 Urban building regulations in Nigeria specify that the built-up area of any plot of land should not be more than 50 percent. But in all the slum districts, the proportion of the built-up area is above 60 percent (Ayeni, 1977:78). Consequently, the proportion of the open space left around buildings is small. The buildings themselves conform to the United Nations' definition of slums, namely: a group of buildings or areas characterized by overcrowding, deterioration, unsanitary conditions and lack of sufficient public facilities or amenities (United Nations, Upgrading of Urban Slum and Squatter Areas, Mexico City, 1980:4).

FOOTNOTES TO CHAPTER 7 (continued)

6 The minimum wage for low income groups amounts to 120 naira per month (Federal Office of Statistics: National Consumer Survey, Lagos, 1984).

7 The housing allowance is usually received net of tax by the employee. It may be paid as a percentage of basic salary, as follows:

- + Senior management and middle management in Lagos 40% of basic salary, elsewhere 20% of basic salary;
- + Junior management -- in Lagos 20% of basic salary, elsewhere 10% of basic salary;
- + Other junior staff -- none.

Alternatively, the housing allowance may be paid as a flat sum, which again varies according to the level of the employee and, possibly, his location, as follows:

- + Senior management -- N6,000-8,000 per year, depending on grade;
- + Middle management -- N1,500-4,000 per year, depending on grade;
- + Junior management -- N700-1,000 per year, depending on grade;
- + Other staff -- zero-N600 per year, depending on grade.

In effect, the higher one's position is, the higher the housing allowance would be, and vice versa, (Business International 1980:39-41).

CHAPTER 8THE FUTURE OF URBAN HOUSING MARKETS IN NIGERIA8.0 Introduction

Every succeeding Nigerian federal or regional government has consistently recognized housing as a basic need in its policy documents. In practice, however, national housing policies have been elitist and unresponsive to shelter needs of the poor and powerless (Chapter 4). To a large extent, available resources in the housing sector are distributed so as to benefit higher income groups as opposed to lower socio-economic groups with the greatest needs (chapter 5). It is against this background that the future of urban housing markets in Nigeria is assessed.

The following premises serve to put this chapter in context: if urban residential houses continue to be built as they were in the past, then Nigerian urban housing markets will continue to function poorly as urban housing deficits grow, and urban housing conditions will continue to worsen. In order to elaborate this argument, a forecast of urban housing demand in Nigeria to 1995 is presented in the next section, followed by an assessment of the spatial implications of the urban housing deficits.

### 8.1 Urban Housing Demand to 1995

The projection of the population of Nigeria to 1995 by the Nigerian National Population Bureau and the United Nations are based on four central assumptions:

First, that the annual population growth rate of Nigeria will average at least 2.5 percent;

Second, that the crude birth rate will decline slightly from 49.4 per thousand to 37.1 per thousand by the year 2000;

Third, that the crude death rate will drop from 15.6 to 10.8 per thousand; and

Fourth, that migration from neighbouring West African countries as a result of the ECOWAS Treaty (which allows free movement of people among member countries) would no longer be significant.

In the absence of current national or regional census counts in Nigeria, population projections for Nigeria based on the 1963 census conducted between the 5th through 8th of November, 1963 are used (Social Statistics in Nigeria, Federal Office of Statistics, 1982:116).

Table 25 depicts the estimated urban population of various regions in Nigeria, derived from the formulation:

$$P_{uit} = B_i P_{oi} e^{rt}$$

TABLE 25ESTIMATED URBAN POPULATION IN NIGERIA BY REGIONS, 1985-1995

Year	(thousands)					Nigeria
	West*	Lagos	Bendel	East**	North***	
1985	10910	5524	2127	10401	11813	40775
1986	11346	6076	2212	10817	12285	42736
1987	11800	6684	2300	11250	12777	44811
1988	12272	7352	2392	11700	13288	47004
1989	12763	8088	2488	12168	13820	49327
1990	13273	8897	2588	12655	14373	51786
1991	13804	9786	2691	13161	14948	54390
1992	14357	10765	2799	13687	15546	57154
1993	14931	11842	2911	14235	16168	60087
1994	15528	13026	3027	14804	16814	63199
1995	16149	14328	3148	15396	17487	66508

Footnotes:

\* West includes Ogun, Ondo, and Oyo States.

\*\* East includes Anambra, Imo, Rivers, and Cross River States.

\*\*\* North includes Kwara, Niger, Sokoto, Kano, Kaduna, Plateau, Benue, Bauchi, Gongola, and Borno States.

Source: Derived from data from the National Population Bureau, Lagos and United Nations, World Population Trends by Country 1950-2000, ST/ESA/SER, New York, 1980.

where:

- $P_{uit}$  = total urban population in region  $i$  in year  $t$ ;  
 $B_i$  = proportion of population in region  $i$  that is urban;  
 $P_{o_i}$  = total population of region  $i$  at the base year (1963);  
 $r$  = annual rate of population growth;  
 $t$  = number of years from the base year (1963).

With an average household size of six (Federal Office of Statistics, National Integrated Survey of Households, Lagos, 1983), the estimated urban households in Nigeria, by region, are as shown in Table 26. Essentially, urban households in Nigeria are expected to increase from 6,797,000 in 1985 to 11,086,000 in 1995.

If adequate census data were available and existing urban housing stock in good condition, then estimates of future housing need might be readily derived from statistical forecasting techniques such as: (1) exponential smoothing, (2) application of the Box-Jenkins method of fitting a stochastic model to an observed time series, or (3) through step-wise autoregressive forecasting procedures.

While these statistical forecasting techniques qualify for the official stamp of academic respectability, they cannot be fruitfully applied to urban housing forecasting when the incidence of urban substandard housing is widespread, and the data elements comprising the housing data set are as coarse as those used in Nigeria (page 73).

TABLE 26ESTIMATED URBAN HOUSEHOLDS IN NIGERIA BY REGIONS, 1985-1995

(thousands)						
Year	West	Lagos	Bendel	East	North	Nigeria
1985	1818	921	355	1734	1969	6797
1986	1891	1013	369	1803	2048	7124
1987	1967	1114	383	1875	2130	7469
1988	2045	1225	399	1950	2215	7834
1989	2254	1348	415	2028	2303	8348
1990	2127	1483	431	2109	2396	8546
1991	2212	1631	449	2194	2491	8977
1992	2300	1794	467	2281	2591	9433
1993	2393	1974	485	2373	2695	9920
1994	2588	2171	505	2467	2802	10,533
1995	2692	2388	525	2566	2915	11,086

Source: Computed by dividing estimated urban population (Table 25 by six (average household size), National Population Bureau, Lagos, 1985.

Under the circumstances, it is therefore suggested that the most relevant information for forecasting the future of urban housing trends in Nigeria is tied to a central fact: the bulk of urban households in the country use a common kitchen, a common toilet and a common bathroom (Anusionwu, 1982; Author's Field work in Nigeria, 1984/85). Adopting this position means that available forecasts of urban housing trends, made on the presumption that all existing houses in Nigerian cities provide basic housing needs, must be considered unrealistic (United Nations, 1973; Planning Research Company, 1980; Ogunbiade, 1983). As such, derivation of the estimates of urban housing requirements assumes herein that all urban households should have access to basic housing needs as a minimum condition of healthful housing.

Essentially, since the existing urban housing deficit is related to the number of existing urban households, it can be assumed that this relationship would continue to hold for the period 1985-1995.

Hence, symbolically,

$$\frac{D_x}{H_x} = \frac{D_y}{H_y} \dots\dots\dots(1)$$

where:

- Dx = dwelling stock known
- Dy = dwelling stock unknown
- Hx = households in Dx
- Hy = households in Dy

But:

$$H_x = \frac{D_x}{h_x} \quad \text{and,}$$

$$H_y = \frac{D_y}{h_y}$$

where:

$P_x$  = population housed in  $D_x$   
 $P_y$  = population housed in  $D_y$   
 $h_x$  = household size of  $P_x$   
 $h_y$  = household size of  $P_y$

The ratio<sup>2</sup> in (1) can therefore be expressed as:

$$D_y = D_x \frac{P_y}{P_x} \frac{h_x}{h_y}$$

Equation 2 implies that:

$$D_n \quad D_1 \quad \frac{P_n}{P_1} \quad \frac{h_1}{h_n} \dots\dots\dots(2)$$

where:

$D_1$  = dwelling stock at the beginning of the period;  
 $D_n$  = dwelling stock at the end of the period;  
 $P_1$  = population at the beginning of the period;  
 $P_n$  = population at the end of the period;  
 $h_1$  = household size at the beginning of the period;  
 $h_n$  = household size at the end of the period;

However, since household size at the end of the period depends on what the population size and, hence, household size was at the beginning of the period, then,

$$D_n \quad D_1 \quad \frac{h_n}{h_1} \dots\dots\dots(3)$$

Table 27 shows the estimates of households -- using equation 3 -- which would require adequate housing in Nigerian urban areas from 1985 through 1995. In brief, if urban residents in Nigeria living under unsatisfactory if not inhumane conditions -- 50-75 percent (Anusionwu, 1982:306), were to have access to self-contained apartments providing basic housing needs, the number of housing units required would increase from 4,351,000 units in 1985 to 7,140,000 units -- a 64 percent increase -- by 1995. It is noted and emphasized that the estimates in Table 27 should be interpreted with caution, because the total number of households requiring adequate housing is sensitive to regional changes in household sizes. Nevertheless, and regardless of what the exact estimates might be had up-to-date census figures and type-based sub-standard housing data been available, the underlying conclusion holds: numerous additional units are required if the bulk of Nigerian urban dwellers are to be properly housed by 1995.

### 8.3 Spatial Implication of the Nigerian Urban Housing Deficit

If urban houses continue to be built as they were in the past, the urban housing deficit in Nigeria would continue to grow as a result of demographic forces. In the circumstances slums, shacks, and squatter dwellings would continue to be used to fill the bulk of the urban housing gap. The result, therefore of a failed urban housing policy -- adequate, affordable

TABLE 27

ESTIMATE OF CUMULATIVE NUMBER OF URBAN HOUSEHOLDS REQUIRING  
ADEQUATE HOUSING BY REGIONS IN NIGERIA, 1985-1995

(thousands)

	West	Lagos	Bendel	East	North	Nigeria
1985	1178	630	230	1122	1191	4351
1986	1225	693	239	1167	1239	4563
1987	1274	762	249	1213	1288	4786
1988	1325	838	258	1262	1340	5023
1989	1378	922	269	1312	1393	5274
1990	1433	1014	280	1365	1449	5541
1991	1490	1115	291	1420	1507	5823
1992	1550	1227	303	1476	1567	6123
1993	1612	1350	315	1535	1630	6443
1994	1676	1485	327	1597	1695	6780
1995	1744	1633	340	1660	1763	7140

SOURCE: Computed by the author using the ratio in equation /,  
p. 169 and data in Table 26.

shelter is not provided for all socio-economic groups -- is an urban housing gap that manifests itself spatially on the demand side as follows:

- (i) Spatial separation of affluence and poverty in Nigerian cities;
- (ii) Relative concentration of affluence and poverty;
- (iii) Disorder in the urban land-use system;
- (iv) Disruption and deterioration of land, and environment, on the rural-urban fringe; and, above all,
- (v) Spatial homogeneity of the housing stock and heterogeneity of housing quality. That is, at the city-wide level, while the aggregate housing stock is heterogeneous in quality, it is comparatively homogeneous at the neighbourhood level. This feature results from the historical process of urban growth whereby different areas represent various categories of social classes, as well as different historical epochs in construction technology and housing design style.

Associated with urban separation of affluence and concentration of poverty in Nigerian cities, is the incidence of overcrowding, high average rent per room, and lack of basic housing facilities. Since the number of dwellings in virtually all Nigerian growth poles (Figure 12, page 71) is less than the number of households, poor urban migrants are forced to occupy not only less space, but also space of poor quality. The following paragraphs explore the underlying dimensions of urban residential blight<sup>3</sup> in Nigerian cities.

Reduced to their bare essentials, four salient spatial dimensions of urban blight exist in Nigerian cities: namely, shortage of housing accommodation in densely populated areas; concentration of congestion; deterioration of housing stock and the environs; and, urban-land invasion (U.S. Department of Commerce, Bureau of Census, 1967; Wellar et al, 1968, Onibokun, 1973; United Nations, 1980; Mabogunje, 1982; Greer-Wooten and Velidis, 1983).

The shortage of housing accommodation in the view of some authorities (Dwyer, 1975; United Nations, 1980; and Mobagunje, 1982), provides a sufficient explanation for the emergence of slums and residential congestion. The spatial dimension in that circumstance -- severe lack of accommodation relative to needs -- then becomes more of a descriptive than explanative, or incidental rather than essential feature of urban blight.

Concentration of congestion, however, can be attributed to three spatial conditions:

- (1) Income inequality across various subdivisions and neighbourhoods within Nigerian cities;
- (2) Heterogeneity of housing quality over the city as a whole; and;
- (3) Comparative homogeneity of housing quality at the neighbourhood level (Author's field work, 1984/85).

Deterioration in areas of congestion can be viewed as resulting from three interrelated factors:

- (a) Intensity of use of already overcrowded stock;
- (b) Small marginal value placed on housing quality by the overcrowding urbanites; and
- (c) Unhygienic lifestyles coupled with inadequate urban sanitation in low income neighbourhoods.

Finally, the spread of urban blight, including urban-land invasion in the city, stems from the loss of dwelling space to other land-uses (highways, bridges, flyovers, etc.), the migration of poor people from rural areas, and the natural growth of the urban population (Author's field work, 1984/85).

Against this background, net density (that is, population per acre of urban residential land), in each Nigerian city is a composite of several measures of the intensity of residential land-use. These components can be broken down as follows:

$$\frac{P}{A} = \left( \frac{P}{R}, \frac{R}{D}, \frac{D}{S}, \frac{S}{A} \right) \dots\dots\dots (1)$$

where:

- P/A = total population upon urban land area,
- P/R = total population upon total number of rooms,
- R/D = total number of rooms upon total number of dwellings,
- D/S = total number of dwellings upon total residential buildings, and
- S/A = total residential buildings upon urban land area.

If net density is taken as given at any period,

$$\frac{\partial P}{\partial A} = 0; \frac{\partial R}{\partial A} = 0; \frac{\partial D}{\partial A} = 0; \frac{\partial S}{\partial A} = 0;$$

then the change in residential density as a result of the Nigerian urban housing policy is therefore given by:

$$\frac{\partial}{\partial A} \left( \frac{P}{A} \right) = \frac{d}{\partial A} \left( \frac{P}{R} + \frac{R}{D} + \frac{d}{S} + \frac{S}{A} \right) \dots\dots\dots (2)$$

$$= \frac{\partial d}{\partial A} \left( \frac{P}{R} \right) + \frac{d}{\partial A} \left( \frac{R}{D} \right) + \frac{d}{\partial A} \left( \frac{d}{S} \right) + \frac{d}{\partial A} \left( \frac{S}{A} \right) \dots\dots\dots (3)$$

If, in equation (3), a = P/R, b = R/D; c = D/S and d = S/A, then, mathematically, a = g(P,R), b = g(R,D), c = g(D,S) and d = g(S,A).

Following the chain rule of calculus operations,

$$\frac{\partial d}{\partial a} \left( \frac{P}{A} \right) = A * \frac{\partial P}{\partial a} - P * \frac{\partial A}{\partial a} = 0$$

Hence:

$$\frac{\partial P}{\partial A} = \frac{\partial P}{\partial P} * \frac{\partial P}{\partial a} + \frac{\partial P}{\partial R} * \frac{\partial R}{\partial a} > 0 \dots\dots\dots (4)$$

$$\frac{\partial P}{\partial b} = \frac{\partial P}{\partial P} * \frac{\partial d}{\partial b} + \frac{\partial P}{\partial d} * \frac{\partial d}{\partial b} > 0 \dots\dots\dots(5)$$

$$\frac{\partial P}{\partial C} = \frac{\partial P}{\partial P} * \frac{\partial P}{\partial C} + \frac{\partial P}{\partial S} * \frac{\partial S}{\partial C} > 0 \dots\dots\dots(6)$$

$$\frac{\partial P}{\partial d} = \frac{\partial P}{\partial P} * \frac{\partial P}{\partial d} + \frac{\partial P}{\partial A} * \frac{\partial A}{\partial d} > 0 \dots\dots\dots(7)$$

The spatial implications of equations 4-7 for the Nigerian urban housing policy may be explained as follows..

First, the lower the net density of population per acre (for example, in Government Reserved Areas), the greater is the amount of land needed for a given quantity of public housing.

Second, emphasis on excessively high building standards and criteria, coupled with low density in the face of increasing urbanization of the population, leads to uneconomic utilization of government expenditures and public urban land.

Third, the market allocation of housing space which disfavours the poor in terms of housing quality would perpetually lead to overcrowding and relative concentration of congestion in low-income neighbourhoods.

Fourth, increasing congestion in slum areas would tend to raise the rent per unit of substandard housing and would, thereby, facilitate the extension of congestion to other potential slums.

If the total housing stock, the formal (good) houses, substandard (bad) houses, city population, housing expenditures, and development plan periods are denoted as follows:

Total Housing Stock = H  
 Formal houses =  $H_f$   
 Substandard houses =  $H_f^-$   
 City population = P  
 Housing expenditures = E  
 Development plan periods = t

Then,  $H = H_f + H_f^- \dots\dots\dots (1)$

Which may be rewritten as

$H_f + H_f^- = H \dots\dots\dots (2)$

$\partial H_f + \partial H_f^- = \partial H \dots\dots\dots (3)$

The rate of growth of urban housing is thus:

$\frac{\partial H_f}{\partial H} + \frac{\partial H_f^-}{\partial H} > 0 \dots\dots\dots (4)$

Since the urban housing condition is a consequence of urban growth and housing expenditures, (Chapter 6), equation (2) can be written as:

$H_f(P, E, t) + H_f^-(P, E, t) = H(P, E, t) \dots\dots\dots (5)$

Differentiating equation (5) with respect to population, housing expenditures and plan periods, we obtain equations 6, 7 and 8:

$\frac{\partial H_f}{\partial P} + \frac{\partial H_f^-}{\partial P} = \frac{\partial H}{\partial P} \dots\dots\dots (6)$

$$\frac{\partial H_f}{\partial E} + \frac{\partial H_{\bar{f}}}{\partial E} = \frac{\partial H}{\partial E} \dots\dots\dots (7)$$

$$\frac{\partial H_f}{\partial t} + \frac{\partial H_{\bar{f}}}{\partial t} = \frac{\partial H}{\partial t} \dots\dots\dots (8)$$

Hence

$$\frac{\partial H_f}{\partial p} \frac{\partial p}{\partial E} + \frac{\partial H_f}{\partial E} \frac{\partial E}{\partial t} + \frac{\partial H_f}{\partial t} = \frac{\partial H_f}{\partial t} \dots\dots\dots (9)$$

However, since nearly 75 percent of Nigerian urban residents lived under inhumane residential condition in the period under review (Central Planning Office, Lagos, 1975:307; IBRD, 1975:63; ILO, 1981:115-125; Anusionwu, 1982:306), it follows that:

$$\frac{\partial H_{\bar{f}}}{\partial t} > \frac{\partial H_f}{\partial t} \dots\dots\dots (10)$$

That is, the growth of substandard houses during the four plan periods (1962-68, 1970-74, 1975-80 and 1981-85) exceeded the growth of formal houses.

The equations above therefore suggest that Nigeria's horizontal inequity in urban housing and growth of urban substandard housing markets, can be linked to (1) government initiatives in favour of high-class formal housing, and, (2) the failure of the trickle-down process which was supposed to enable socio-economic groups to work their way up the housing quality ladder.

Further, due to zoning regulations, that is, (enforcement of the non-integrated housing concept) dwellers of slums and

squatter settlements were forced to suffer the bulk of "nuisance effects" (overcrowding, pollution, congestion, and concentration) attributable to government resource allocation decisions and urban-housing policy.

In sum, Nigerian urban housing policy, by creating a huge housing deficit, diminished the commercial incentive either to upgrade quality or to arrest deterioration in quality. Unwittingly, in fact, the housing policy worked against making even the minimum outlays which are essential to keep substandard housing space in use. In a perverse sense, then, while high standards and criteria in public residential housing represent a positive step towards improving urban housing conditions and visual aesthetics, they indirectly increase urban consumption of an inferior good -- poor quality housing space. That is, the price of "good housing space" is increased but, in real terms, the overall demand for and maintenance of "good housing quality" is reduced! The urban housing markets, as structured, therefore do not operate either to improve urban housing quality, or to promote healthful housing for all urban dwellers.

From the point of view of someone who needs to lay his head somewhere, the availability of any housing space -- regardless of quality -- satisfies that need to at least a minimal degree. However, substandard housing, as noted earlier (Chapter 3) and as manifested by odour, pollution, ugly visual aesthetics, environment decay, etc., imposes a cost upon society, (APHA, 1945; Burgess and Bogue, 1964; United Nations, 1983).

As a result, it is socially necessary to minimize the growth of substandard housing.

It follows, therefore, that the resources used in producing few high quality units, for a few, should be reallocated. Hence, to mitigate the externalities of Nigerian urban housing policy which is oriented towards high quality houses in segregated neighbourhoods, a restructuring of housing expenditures in favour of "integrated low-cost" public housing is necessary. That proposal is considered in detail within the context of urban housing policy process, in the following section (Chapter 9).

#### Summary

This chapter has estimated urban housing trends in Nigeria for the period 1985-1995. Since the bulk of urban households in Nigeria live in rooming apartments with one common kitchen and one common toilet facility, the number of units needed to properly house Nigerian urbanites ranges from an estimated 4,351,000 units in 1985 to 7,140,000 units by 1995 (Table 27).

If urban houses continue to be built as they were in the past, the Nigerian urban housing deficit will continue to grow as a result of demographic and migration pressures. In the circumstances, slums, shacks and squatter dwellings will continue to be used to fill the bulk of the urban housing deficit. It has therefore been argued that, in combination,

- (i) The shortage of housing,
- (ii) The incidence of urban income inequality,
- (iii) The heterogeneity of quality in the urban housing stock, and,
- (iv) The homogeneity in accumulated housing stock at the neighbourhood level,

are accountable for the characteristics of overcrowding and concentrated congestion which Nigerian urban blight exhibits.

Since substandard housing imposes a cost upon all society, and particularly upon those who are directly affected, that is, the men, women and children who are obliged to live under housing conditions of inadequate to inhuman proportions, a restructuring of public housing expenditures in favour of integrated low-cost public housing is advocated. The next chapter expands on this theme, provides a summary of the principal elements of the dissertation, and suggest several avenues for future research on urban housing in Nigeria.

## CHAPTER 9

### CONCLUSIONS AND IMPLICATIONS FOR FUTURE RESEARCH ON URBAN HOUSING IN NIGERIA

#### 9.0 Introduction

Due to the prevalence of substandard housing in many Nigerian cities, the previous chapters examined relationships between government expenditures, urbanization and urban overcrowding. Within the context of urban housing policy development, this chapter presents a summary of the findings of the dissertation, and suggestions on the leads to follow, in future research on urban housing adequacy in Nigeria.

Section 9.1 contain the summary of the empirical findings. This is followed by conclusions drawn in light of the research hypotheses. The chapter ends with suggestions for future research on the Nigerian urban housing issues, and identification of the study's contribution to the stock of knowledge on urban housing strategic policy planning in Nigeria.

#### 9.1 Summary of the Empirical Findings

On the urban housing demand side, the empirical finding is that rapid urbanization (accentuated by urban-bias in resource allocation) increased the demand for urban housing in Nigeria from 1970 through 1980. As more people "voted with

their feet" by migrating to the growth poles, the size of the urban housing deficit increased. To lay their heads somewhere, many rural-to-urban migrants crammed themselves in substandard houses, which further degenerated into tenements of squalor.

On the urban housing supply side, the empirical finding is that the urban housing deficit in Nigeria emanated from a combination of inappropriate development budget shares, inadequate responses in urban development policies and programs, and a rigid adherence to high foreign building standards and criteria. As a result, while relatively few urban dwellers consume high-quality public housing as income-in-kind, large segments of the urban population are severely limited in terms of both the quantity and quality of housing space and amenities which they consume. In particular, urban overcrowding was found to be induced by inadequate housing expenditures. The conclusions which are drawn from these empirical findings are presented below.

## 9.2 Towards an Urban Housing Policy as an Element of Social Policy in Nigeria

The central objectives of the dissertation has been to develop and to test research hypotheses on relationships involving government expenditures, urbanization and urban overcrowding (Chapter 6). As a result of completing that task, three conclusions emerge which bear upon urban housing policy as an element of social policy in Nigeria:

First, urban residential housing deficit in Nigeria is a consequence of urban growth, on the demand side; Second, on the supply side, the urban residential housing deficit in Nigeria is a consequence of inappropriate sectoral budget shares, inadequate responses in urban development policies and programs, and a rigid adherence to high foreign building standards and criteria; And, Third, urban overcrowding in Nigeria is a consequence of urban growth and inadequate housing expenditures.

To mitigate the acute housing shortage and environmental health hazards which arise because of urban housing deficits, resource reallocation towards Basic Needs, and especially social housing, is necessary. In order to achieve the desired result, the social housing program should be geared to benefit those who currently consume the worst substandard housing types -- the unemployed, urban hawkers, petty traders and urban artisans in the informal sector.

Following the lead of the United Nations, integrated low-cost public housing is appropriate for this target population (United Nations: Design of Low-Cost Housing and Community Facilities, 1971; Social Programming of Housing in Urban Areas, 1971; Report of the Expert Group on Standard Setting in Social Affairs, 1974; and Upgrading of Urban Slum and Squatter Areas, 1980).

Since the cost of provision of service rises as the densities of use are reduced, and the higher the density the

greater the number of people served and more economical the service (Kain, Wheaton and Schussheim, 1955, ULI, 1958, Katz, 1964 and Okpala, 1978), the rationale behind low-cost public housing is to maximize space (accommodation) economies as well as economies of expenditures for infrastructure (that is, household facilities).

While specifications of the range of low-cost housing would need to vary in order to reflect Nigerian differences in climate, it is expected that within a hectare of land, up to 180 dwellings of 50 square metres each<sup>1</sup> can be built as apartments with basic services such as running water, flush toilet, electricity, paved roads and gardens with easy access to schools, hospitals, public transport and other communal services (Cameron, 1980).

Beyond the housing need of the target population (socio-economic groups most vulnerable to various forms of economic and social deprivation), a realistic housing program for Nigerian cities should be predicated on a balance between residential quality and the ability of households to pay for that quality. Housing standards<sup>2</sup> and density control are central in this regard.

With respect to housing standards, in order to produce housing units at prices which the rest of the public can afford, two basic principles should be enforced:

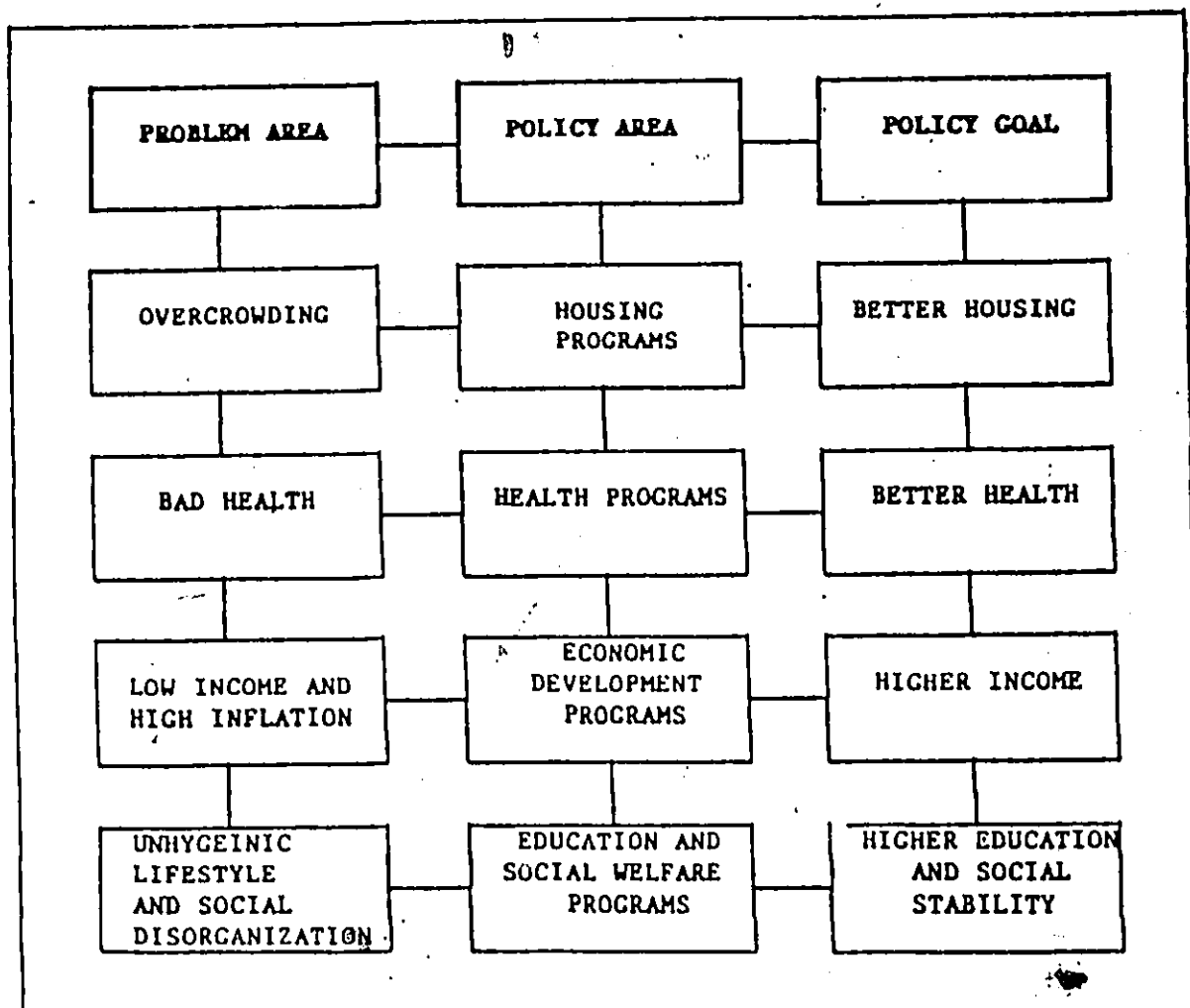
(1) Standards of finish for rental housing should be modest and costs of construction reasonable to avoid rent inflation. And,

(2) Housing designs and structural characteristics should be modest, flexible, and amenable to future upgrading as the income of occupants rise.

In terms of density control, it should be recognized that the public purse bears the brunt of excessively low densities in Government Reservation Areas and other elite neighbourhoods. Consequently, in order to evolve a more even or equitable (less-skewed) density distribution, an integrated housing program is necessary, as is a more equitable distribution of facilities and services in each city.

Beyond these housing initiatives, the policy instruments available to be called on should be at least equal to the challenge set by the social policy goals (Figure 21), if urban poverty and health hazards in various cities in Nigeria are to be ameliorated. But one cannot solve the housing problem without first solving, or jointly solving, the employment problem. Therefore, in addition to the housing initiatives, a rural-based settlement strategy is required in order to precipitate and sustain "Development From Below",<sup>3</sup> and to mitigate the national urban drift syndrome which is a major contributing factor to Nigeria's national urban problems.

FIGURE 21

MAJOR PROBLEM AREAS AND DESIRED URBAN POLICY GOALS IN NIGERIANOTE:

A specific policy goal can be partly or indirectly reached through activities in a different policy domain; for example, better housing can be realized as one of the consequences arising from economic development, and/or better education. However, such an approach, if solely adopted, might significantly and even perpetually delay the realization of better housing at a scale that respects the magnitude of the problem.

Section 9.3 which follows, offers some suggestions for future research on urban housing in Nigeria.

### 9.3 Implications for Future Research on Urban Housing in Nigeria

The central goal of housing policy is to provide households with that combination of housing features, housing locations and housing prices that will maximize each household's budget constraint and happiness. In arriving at the policy mix that can best achieve this goal, the policy maker requires knowledge about:

(1) What types of housing will maximize utility for different socio-economic groups;

(2) What types of programs will maximize the probability that each socio-economic group and its constituent households will be able to consume their desired housing types; And,

(3) Because housing has a social significance which goes beyond the ability-to-pay criterion of households, what kinds of related policies and programs are needed to promote or support healthful housing environs.

In such a policy context,<sup>4</sup> and in view of the various

process, content and direction aspects of urban policy formation (Wellar, 1984b), future research thrusts should seek to determine the extent to which urban housing markets, in Nigerian cities respect the following criteria:

- (1) The elements of urban housing adequacy (recall Figure 1, page 7);
- (2) The ability-to-pay of households; And,
- (3) The (healthful) quality of urban residential environments.

Notwithstanding that the housing policy and program initiatives are at the national level politically, they are delivered or are effected at the city, neighbourhood and household levels. Hence, the more disaggregate the geographic areas or units of housing data reporting, the higher the likelihood that policy and program analysts will be able to determine whether housing policies and programs are performing or producing (goals and services) as intended (Wellar, 1984a, 1984b).

The call for disaggregate housing data in the Nigerian circumstance cannot be over-emphasized. That is, in brief, available time series on Nigerian urban housing markets are of limited duration and coverage, and cross-sectional data sets on

housing markets, household's ability-to-pay, and the quality of the residential environment are also limited in scope and depth of coverage. As a result policy-makers and their advisors frequently have been and are operating from a weak to non-existent knowledge base. A future research program should therefore generate data, at no more than the neighbourhood level of aggregation, to facilitate the necessary in-depth studies of the structure and performance of urban housing markets in Nigeria.

With regard to the context of the proposed data services, there appear to be three candidate streams:

(1) Data obtained by (objective) evaluation of buildings based on the criteria used by the Federal Office of Statistics (Table 8, page 73);

(2) Data derived from economic analysis of consumer choice and preference patterns with respect to prices of structures, location of amenities and provision of public services;

(3) Data obtained by interviewing members of different households in a given neighbourhood to determine the level of satisfaction or dissatisfaction they experience from different types of units they occupy.

Since different types of houses provide different levels of housing services, housing-related data obtained through the interview approach appear to be (relatively) preferable for two reasons.

First, unlike the current official practice of lumping substandard houses together, (Table 8, page 73), various urban housing types and different types of urban housing tenure will be accounted for (recall Table 6, page 59). Due to the coarseness of current housing data series, this would represent a very critical achievement in terms of "knowing" the status of the housing stock, and its spatial characteristics.

Second, these kinds of data would enable policy and program analysts, and researchers, to better relate urban substandard houses to the socio-economic and occupational characteristics of those who live in tenements of squalor, in each city.

As a matter of overriding consequence, policy-makers would be able, technically at least, to initiate and distribute new housing programs on the basis of greatest needs. The matter of political will is, of course, a different consideration:

#### 9.4 Contribution to Urban Housing Strategic Policy Planning

Beyond demonstrating the relationship between government service inputs (public expenditure levels) and urban outputs (housing social indicators) in Nigeria, the study developed and utilized a framework which is proposed as an important contribution towards increasing our understanding and knowledge about:

(1) The links between urban outputs and government expenditures, and the factors that influence them as a process (Appendix 2);

(2) Why differences exist in residential housing services consumed across communities and across different residential neighbourhoods within the city; and,

(3) The spatial characteristics of residential housing shortage.

In particular, the implications of this research for policy-makers and development planners may be expressed as "lessons learned", as follows:

(i) If emphasis is placed solely on investment in directly productive sectors, then maladjustments will occur in urban areas, often at a net loss to society.

(ii) Housing and the urban environment need to be taken into explicit account when considering investments in direct means of production, and should not be treated merely as policy variables to be used in achieving pro-cyclical or contra-cyclical monetary or fiscal objectives.

(iii) Public investment in low cost housing for low-income groups would help to reduce urban shacks, slums and squatter settlements.

And, in summary, and very importantly,

(iv) How resources are allocated and utilized rather than (mere) shortages of capital may be the overriding factor determining whether "poor people stay poor".

FOOTNOTES TO CHAPTER 9

1 For specification of feasible housing densities for developing countries, see George Cameron, "Housing Densities for Developing Countries", Third World Planning Review, Vol.1, No.1, 1980, pp.45-52.

2 Generally speaking, a housing standard indicates the level of satisfaction of needs regarding the size of the dwelling, its quality, interior equipment and exterior facilities connected with housing (Wellar, 1969; Mabogunje, et al., 1978; Okpala, 1978; and Cameron, 1980). Hence, in each house, there are several housing standards, namely:

- (i) The interior standard, or standard for the dwelling itself;
- (ii) The external standard, or a standard referring to external facilities;
- (iii) The direct standard, a standard reached or maintained according to legal requirements; and
- (iv) The statistical standard, that is, the actual level of satisfaction of housing requirements established for a defined area, at a given time.

In Nigeria, standards and criteria applied to urban housing derive from elitist values of what is socially desirable (Mabogunje, et al., 1978:61-76).

3 "Development from Below" (DFB) considers development to be based primarily on maximum mobilization of each area's natural, human and institutional resources in order to satisfy the basic needs of the inhabitants of that area. To serve the poor and depressed areas, development projects must be oriented directly towards the problems of poverty and spatial balance. For elaboration of DFB, see (Seers 1977; Goulet 1978; 1979; and Stohr and Taylor, 1981). For Nigeria, implementation of DFB implies that the existing Centre-Down Development planning system would have to be modified to favour local government development initiatives. See Filani, M. (1981). "Nigeria: The Need to Modify Centre-Down Development Planning", in Stohr W.B. and Taylor, D.R.F. (eds), Development From Above or Below? Toronto: John Wiley and Sons, pp. 283-304.

FOOTNOTES TO CHAPTER 9 (continued)

- 4 As has been demonstrated elsewhere (Wellar, 1984a, 1984b) neither the formulation nor the implementation of urban development policies, programs and plans lend itself to easy prescription. By way of elaboration of Wellar's position, which is based upon the frequently harsh urban policy experience in a number of countries -- failures far out-number successes -- even this high developed policy model is not disaggregated beyond the policy variable level.

Further, on the matter of decision support systems Wellar (1984a) is of the view that elected officials are frequently overwhelmed with data and underwhelmed with information, and that as such much more attention needs to be paid to the generics of decision-making processes, and data base development exercises.

While Wellar's comprehensive urban policy formation approach is beyond the scope of the present study, his caveats and concerns are not, and they should be considered prior to the adoption of the findings from this more narrowly-focussed study.

## APPENDIX 1

EXPLANATION OF TERMS

Government Resource Allocation: Government resource allocation is reflected in government capital and recurrent expenditures. Capital expenditures generally reflect government "development efforts" through various sectoral investments. Recurrent expenditures denote the cost of day-to-day operations of government.

Urban Growth: Urban growth connotes increases in urbanization and agglomeration diseconomies. Demographically, growth of urban centres, especially increases in the proportion of the population residing in urban centres, is epitomized by rapid urbanization.

Role and Significance of Housing: The role of housing is essentially to provide shelter although house-building has other direct and indirect effects in generating employment, mobilization of savings through owner-occupier schemes, and multiplier effects in the markets for cement, steel, timber, paint, power, etc. The social significance of residential housing is manifested in its physical condition, housing quality and environment, and in the distribution of income yielding assets.

Housing Policy: Housing policy encompasses government expenditures, incentives and subsidies, loans, investments in structures, zoning regulations, building and housing codes, as well as legal provision concerning property rights and tax treatment of residential property and income from it.

The emergence of substandard housing, slums and squatter settlements suggest that housing policy and programs are either inadequate or mis-guided.

Slums: Slums are run-down housing in older established, legally built parts of the city, mostly located in the older parts of a city.

Squatter Settlements: Squatter settlements are mainly uncontrolled low-income residential areas with ambiguous legal status regarding land occupation and minimal public utilities and community services.

## APPENDIX 2

A GENERAL MODEL OF THE DEMAND FOR AND  
SUPPLY OF GOVERNMENT SERVICESIntroduction

The line of enquiry followed in this model is akin to that pursued by studies that measure the effect of state policies on urbanization.<sup>1</sup> However, unlike these previous studies, three innovations are introduced:

(1) Since GNP is largely a measure of production whereas many social scientists<sup>2</sup> argue persuasively that individual and social welfare depend on consumption, a consumer-oriented approach is adopted. In the housing sector, individuals derive utility if they benefit from housing service attributes which public residential housing offers. Basic shelter, density, amenities, location and land are the primary attributes of residential housing.

(2) The links between urban outputs and the factors that influence them as a process are examined. It is therefore possible to make analytical statements about urban social indicators (in the housing domain), which goes beyond the traditional practice of (merely) measuring their incidence or level of presence or absence.

(3) Urban-ward migration is seen as the mechanism and government expenditure decisions the main instrument through which those favoured or not favoured by government services change over time. This perspective is an innovation because it focusses attention on the dynamic relationship between development strategies, government expenditures and population movements in the explanation of urban growth processes, including differences across communities and across neighbourhoods within the city.

Among the plethora of human needs, water, food, shelter, health services and education constitute basic needs. Within an urban system, provision for these basic needs is an output of the city that profoundly affects peoples' lives and welfare. The goods and services (outputs) which satisfy these basic needs are produced by government policy actions through the allocation, re-allocation or regulation of production possibilities and consumption opportunities.

City-dwellers in general, and elites in particular, attempt to influence government supply decisions (related to these basic needs) for their own benefit. Consequently, government supply decisions are manifested as responses to competing demands between rural and urban areas on the one hand, and among various socio-economic groups within the city on the other.

In the elucidation of the model of the demand for and supply of government services, equations 1 to 7 which follow describe the government budget. The remaining equations are intended to illustrate two points pertinent to Nigeria.

First, urban residential housing is an attribute or characteristic output of the system. Second, the interaction between individuals and their government(s) give rise to the production of housing attributes and residential social indicators<sup>3</sup> with far-reaching implications for income and welfare distribution in the country.

#### The Model

If 'd' and 'f' denote 'domestic' and 'foreign', and

$GR_t^d$  = Government domestic revenue at a given plan period;

$GR_t^f$  = Government foreign revenue at a given plan period;

$GE_t^f$  = Government foreign expenditures at given plan period, mainly for imports;

$GE_t^d$  = Government domestic expenditures, consisting  
of two major parts:

$GC_t^d$  = Government capital or "development"  
expenditures, and,

$Gr_t^d$  = Government recurrent or day-to-day "operating"  
expenditures.

Then the long run budget constraint of the Government is:

$$GR_t^d + GR_t^f \equiv GE_t^d + GE_t^f \dots\dots\dots (1)$$

Rearranging,

$$GE_t^d - GR_t^d = GR_t^f - GE_t^f \dots\dots\dots (2)$$

But,

$$GE_t^d + GC_t^d + Gr_t^d \dots\dots\dots (3)$$

Rearranging,

$$GE_t^d - Gr_t^d = GC_t^d \dots\dots\dots (4)$$

Hence each financial year,

$$\frac{\partial GE_t^d}{\partial t} - \frac{\partial Gr_t^d}{\partial t} = \frac{\partial GC_t^d}{\partial t} \dots\dots\dots (5)$$

In effect, equations 1 to 5 suggest that the overall budget balance  $B$  is the difference between total expenditures (domestic  $G_d$  and foreign  $G_f$ ), and total revenue (domestic  $R_d$  plus foreign  $R_f$ ).

Symbolically,

$$B = G_f + G_d - R_f - R_d \dots\dots\dots(6)$$

That is,

$$B = (G_d - R_d) + (G_f - R_f) \dots\dots\dots(7)$$

where  $(G_d - R_d)$  is the government's domestic budget balance and  $(G_f - R_f)$  is the government's foreign balance.

When governments supply public services, the utility of the individual or any socio-economic group is derived from a set of service characteristics  $(X_i)$ . Thus, for each group,  $(k)$ :

$$U^k = U_k(X_1^k, \dots X_n^k) \quad k = 1, \dots N \dots\dots\dots(8)$$

The service characteristics are produced by combining a set of publicly provided goods and services  $(A_j)$  and a set of private market goods  $(G)$ . The production relations for the attributes<sup>4</sup> or commodity characteristic can be specified as

$$X_i^k = X_i^k(\alpha_{i1}^k A_1, \dots, \alpha_{im}^k A_m, G^k) \quad i = 1, \dots, n \dots (9)$$

$$k = 1, \dots, N$$

where

$$\frac{\partial X_i^k}{\partial A_j} < 0 \quad \text{and} \quad \frac{\partial X_i^k}{\partial G^k} > 0$$

In these production functions,  $A_j$  ( $j = 1, \dots, m$ ) is the amount of the  $j^{\text{th}}$  collective good provided to the community (city) as a result of government development expenditures. The variable  $\alpha_{ij}^k$  is a distribution parameter which indicates the portion of the collective good  $A_j$  relevant to group  $k$  in the production of attribute  $X_i$ .

The distribution parameter suggests that government policies and development expenditures may not benefit all groups equally. That is, even when the government policy stance is horizontal fiscal balance, equals are not treated equally. For any single group in society, any particular policy tends to contribute to the production of different attributes in varying degrees. The positive relationship in equation 9 is as expected. The negative possibility allows for possible interdependencies, namely, a policy directed toward one goal may adversely affect another. The first partial derivative of output with respect to private market good ( $G$ ) is always assumed to be positive, thereby implying that an individual will always arrange his private expenditures to add to his utility level.

### The Policy Variables

The policy action variables ( $A_j$ ;  $j = 1, \dots, m$ ) are identifiable and measurable elements of government decisions. These decisions range from the provision of services through sectoral investments (Figure 7, p. 33) in directly productive sectors, the social services, and Regional Development and Administration, to transfers, regulation, and controls, for example, zoning. Although the measurement of government policy actions can be accomplished in many ways, expenditures on a service, actual levels of activity, or its measurable outcomes<sup>5</sup> are the possible ways of measuring the  $A_j$  variables. Hence, all or some of the  $m$  policy actions enter each of the  $n \times N$  production functions of equation (9) to produce the commodity or service characteristics which provide consumers' utility.

### The Distribution Parameters

The distribution parameter

$$\alpha_{ij}^k \quad (0 \leq \alpha_{ij}^k \leq 1)$$

represents the portion of the total action  $A_j$  entering the production function of group  $k$  for the attribute  $X_i$ . If for a given  $i$ ,  $\alpha_{ij}^k = 1$  for all  $k$ , then  $A_j$  is a pure public good.<sup>6</sup> On the other hand if  $\sum_k \alpha_{ij}^k = 1$  for all  $k$ , then

$A_j$  is a pure private good. A portion of the private good goes to each group and the sum exhausts the total with no spillovers or externalities.<sup>7</sup>

Between these two extremes is a wide spectrum of cases representing quasi-public goods or goods involving externalities. In these cases,

$$0 > \frac{k}{ij} > 1,^8$$

for some  $k$ , but no restrictions apply concerning the exhaustion of the good or service.

The distribution parameters, which reflect properties of the government goods and services, may account for external effects of two kinds:

- (i) Geographical effects involving the distribution of goods or services spatially throughout the city, for example, Government Reserved Areas (GRA) versus squatter areas; and,
- (ii) Demographic effects involving distribution patterns independent of one's abode, and arising as a function of non-spatial characteristics such as income, type of residence, or tenure of residence.<sup>9</sup>

Equilibrium

Each group seeks to maximize its utility subject to its own income.<sup>10</sup> This constraint may be written as:

$$I^k = G^k + t^k \dots\dots\dots(10)$$

where

$$t^k = \beta^k \sum_j C_j(A_j)$$

And

$$\frac{\partial t^k}{\partial A_j} = \beta^k \frac{\partial C_j}{\partial A_j} \geq 0 \dots\dots\dots(11)$$

Total disposable income ( $I^k$ ) is exhausted on the purchase of the private market goods ( $G^k$ ) and total tax payments to the local government ( $t^k$ ). The tax assessment falling on each group is, in turn, the share ( $\beta^k$ ) of the total cost of all government activities  $\sum_j C_j(A_j)$  borne by the group. The relation between tax payments ( $t^k$ ) and government activity ( $A_j$ ) is assumed to be non-negative. A positive relationship suggests that increasing government activity is associated with increasing costs, a portion of which ( $\beta^k$ ) is paid by the  $k^{\text{th}}$  individual or family unit.

The zero relationship  $\frac{\partial t^k}{\partial A_j} = 0$ , may be observed under three circumstances:

- (i) The activity ( $A_j$ ) may be an action which is carried out by local authorities for which no federal fiscal transfers are made, for example, zoning,

$$\frac{\partial C_j}{\partial A_j} = 0;$$

- (ii) The funds for the activity may come from a source external to the city in form of a (foreign) grant, and as such, the relevant costs in the model are zero; and,

- (iii) The costs of the activity may be borne by or shifted to another group of individuals in the community, that is,  $\beta^k = 0$  for particular individuals or family units.

The first order conditions for the  $k^{\text{th}}$  individual can be obtained by substituting the transformation functions (equation (9)), in the utility function (equation (8)), and maximizing subject to the budget constraint (equation (10)). The term  $\lambda$  is the Lagrangian multiplier. Therefore, the first-order maximization conditions for the  $k^{\text{th}}$  individual are:

$$\sum_i \frac{\partial U^k}{\partial X_i^k} \frac{\partial X_i^k}{\partial A_j} - \lambda \beta^k \frac{\partial C_j}{\partial A_j} = 0 \dots\dots\dots(12)$$

$$j = 1, \dots, n$$

$$\sum_i \frac{\partial U^k}{\partial X_i^k} \frac{\partial X_i^k}{\partial G^k} - \lambda = 0 \dots\dots\dots(13)$$

$$I^k - G^k - \beta^k \sum_j C_j(A_j) = 0 \dots\dots\dots(14)$$

Dividing equation (12) by equation (13) yields the first order ratio for the k<sup>th</sup> individual:

$$\frac{\sum_i \frac{\partial U^k}{\partial X_i^k} \frac{\partial X_i^k}{\partial A_j}}{\sum_i \frac{\partial U^k}{\partial X_i^k} \frac{\partial X_i^k}{\partial G^k}} = \beta^k \frac{\partial C_j}{\partial A_j} \quad j = 1, \dots, m \dots\dots(15)$$

If an individual can adjust his consumption of all goods and services provided in the city, the utility of individual k can be maximized. The point of maximization will occur where the ratio of the marginal utility gained from a public policy action to that gained from market goods is equal to the marginal tax increase associated with further government action, the price of G being unity.<sup>11</sup> Consequently, the individual k will desire more of the collective good of the city as long as its marginal contribution to his utility is greater than its relative (to market goods) marginal cost through taxes.

The marginal productivity of a collective good in the production of an attribute consumed by family  $k$  depends upon the portion of the good that enters the family's transformation functions, as well as the actual form of these functions. Given the production relations, the larger (smaller) the  $\frac{k}{ij}$ 's the greater (smaller) will be the change in utility due to an increase in total  $A_j$ . An increase in government development expenditures can therefore lead to horizontal inequity, that is, a regime where the poor are made poorer and the rich made richer.

If individual  $k$  could select the optimal quantities of collective and private goods, the equilibrium conditions of equation (15) would prevail. However, this is usually not the case. The actual level will equal the optimal level if and only if the quantity of each of the  $A_j$ 's chosen by the community equals the quantity that individuals or families would have chosen for themselves. Hence, in any community at least  $N-1$  family units will achieve utility levels that are below the possible optimum.

To reduce the loss between optimal and actual utility levels, each citizen or group of citizens (for example the elites) will find it worthwhile to influence government actions or public policy initiatives. The extent of the effort applied depends by-and-large upon the size of the potential gain in

utility envisaged from the policy output. Based on the equilibrium conditions of equation (15), the demand functions for the  $k^{\text{th}}$  unit can be written as:

For the collective goods,

$$A_j^k = A_j^k(I^k, \gamma_1^k, \dots, \gamma_m^k) \quad j = 1, \dots, m \dots\dots\dots (16)$$

and, for the market good,

$$g^k = g^k(I^k, \gamma_1^k, \dots, \gamma_m^k)$$

where  $A_j^k$  and  $g^k$  are the demand quantities for individual  $k$  of the collective and private market goods respectively, where

$$\gamma_j^k = \beta^k \frac{\partial C_j}{\partial A_j}$$

denotes the marginal tax cost of the  $j^{\text{th}}$  collective good to the  $k^{\text{th}}$  individual, such that

$$\frac{\partial A_j^k}{\partial I^k} \leq 0; \quad \frac{\partial A_j^k}{\partial \gamma_k^k} \leq 0; \quad \frac{\partial A_j^k}{\partial \gamma_h^k} \geq 0; \quad \frac{\partial g^k}{\partial I^k} > 0; \quad \frac{\partial g^k}{\partial \gamma_j^k} \geq 0$$

$$j, h = 1, \dots, m \quad j \neq h$$

The conditions on the partial derivative generally imply normal substitution effects among all the goods; the demand for one good (private or public) will increase with the relative price of any of the others (private or collective) allowing for the possibility that the substitution effect may be zero. The remaining partial derivatives are of the expected sign; the demand for private market goods moves inversely with their respective relative prices.

If government actions depart from the desired (demanded) levels of equation (16), that is, if  $A_j - A_j^k \neq 0$ , city dwellers will attempt to influence government actions to their advantage.<sup>12</sup> However, success in being able to change  $A_j$  depends on one's socio-economic importance. It follows, therefore, that it is reasonable to expect that the basic needs of elites and civil servants would be satisfied first, because of their greater "access" to policy-makers.

#### Supply of Government Services

The previous section determined for each individual or family unit, in the city, a set of demands for outputs provided through government actions. Hypotheses concerning the supply of these outputs (water, food, shelter, health services, and education) in a "democratic system", involve an assessment of government responses to these demands. It can therefore be

assumed that the government adjusts the supplies of its services in response to constituents' demands.<sup>13</sup>

This supply pattern may be generally expressed as a government response function:

$$A_j = A_j(A_j^1 \dots A_j^N) \quad j=1, \dots, m, \quad \text{where} \quad \frac{\partial A_j}{\partial A_j^k} > 0$$

The response function states that governments supply services in response to citizen's demands. However, depending on how effectively citizens and citizens' groups transmit their demands to the decisions-makers, their benefit from public goods may be small or large. In concrete terms, the sign of the partial derivatives indicates that some individuals or groups (elites) are more influential than others. Therefore, when opposing demand signals are transmitted to government decision-makers, the resulting supply of government services tends to favour the elite, the more powerful group.<sup>14</sup>

### Conclusion

Over a long period of time, one can expect that:

- (1) Urban and rural areas, as well as their constituent households, would consume different levels of welfare and quality of life;

(2) Migration -- rural-to-urban, or urban-to-urban (if the latter areas are favoured) -- would constitute the main mechanism through which people would experience different levels of welfare. If mobility rates are high, urban growth rates would be high (*ceteris paribus*). Accordingly, the pattern of social inequality (e.g. in urban residential housing consumption) would emerge much more quickly, And,

(3) Above all, residential housing differences across communities, and across neighbourhoods within the city, can be associated with government expenditure patterns and socio-economic differences of the city's population distribution.

FOOTNOTES TO APPENDIX 2

- 1 Peek, P. and Standing, G. (ed) State Policies and Migration, Croom Helm Ltd., London, 1982.
- 2 Seers, D. What are we trying to measure? The Journal of Development Studies, Vol. 8, 1972, pp. 77-98 and "The Meaning of Development", International Development Review, Vol. II, 1969.
- 3 See the flow chart, Figure 4, Chapter 2, page 48.
- 4 See Kelvin Lancaster, "A New Approach to Consumer Theory", Journal of Political Economy, Vol. 29, 1966 and Vol. 30, 1971. It is assumed that members of the community derive utility from a series of commodity attributes. Utility is not derived from goods themselves but from service characteristics that emanate from these goods. Shelter, density, amenities, utilities, location and land are the primary attributes in housing.
- 5 See the flow chart, Figure 4, chapter 2, page 48.
- 6 See Samuelson, P.A. The Pure Theory of Public Expenditure, Review of Economics and Statistics, Vol. 36, Nov. 1954, pp. 387-89.
- 7 A special case is where  $\alpha_{ij}^k = 1$  for one  $k$  and zero for all others. Here the entire service goes to one socio-economic group while others are completely excluded, e.g. subsidized housing for civil servants.
- 8 Three cases can be identified by the limits on the sum of the distribution parameters:

- (1) Samuelson type pure public goods:

$$\sum_k \alpha_{ij}^k = N$$

where  $N$  is the number of homogeneous groups in the community;

- (2) Pure Private goods:

$$\sum_k \alpha_{ij}^k = 1$$

- (3) Quasi-Public goods:

$$1 \leq \sum_k \alpha_{ij}^k \leq N$$

FOOTNOTES TO APPENDIX 2 (continued)

- 9 The contributions of the  $A_i$  to the production of the  $X_i$ 's and the contribution of the  $X_i$  to the utility within one group are independent of its size.
- 10 Making the full neo-classical assumptions of perfect competition in the land, housing and other markets, profit maximization behaviour by rational individuals would ascribe high utilities to houses located in high class segregated neighbourhoods, and low utilities to houses located in slum districts (Cooke, 1983:137).
- 11 The  $m$  equations in (15) also imply  $\frac{m(m-1)}{2}$  marginal rate of substitution relationships between each pair of policy action variables so that the ratio of marginal contributions to utility of any two  $A_i$ 's will equal the ratio of the tax increment associated with each.
- 12 Public expenditures which benefit only the elites provide short-term economic benefits only. This is because sooner or later, the "urban-problem -- sprawl, pollution, unemployment, housing shortages etc. would emerge. To mitigate the urban problem, remedial public expenditures are usually necessary. But such public expenditures often would have been avoided, had some prudence been exercised in the initial public expenditure decisions. See Mehmet, O. Economic Planning and Social Justice in Developing Countries, St. Martin's Press, N.Y., 1978 and Wellar, B.S., "The Need For And Nature Of A Policy Context For Rural Planning In The Coming Decades", Los Angeles, Annual Conference of the American Planning Association, April 5-9, 1986.
- 13 For instance, see Downs, A., An Economic Theory of Democracy, Harper and Row Publishers, N.Y., 1957 or Breton, A., The Economic Theory of Representative Government, Aldine Publishing Co., Chicago, 1974; and, Cooke, P., Theories of Planning and Spatial Development, Hutchinson & Co. (publishers), London, 1983.
- 14 In Nigeria both the distribution of public housing and standards and criteria applied in their construction derive from elitist values of what is socially desirable (Mabogunje et al, 1978; Okpala, 1978; Anusionwu, 1982; Onibokun, 1983; and Zartman, 1983).

QUESTIONNAIRE FOR THE HOUSING SURVEY IN LAGOS  
1984

INTERVIEW NUMBER \_\_\_\_\_

DISTRICT NAME \_\_\_\_\_

LOCATION \_\_\_\_\_

DATE \_\_\_\_\_

## A. GENERAL INFORMATION

1. Type of Dwelling (One answer only)

- a. \_\_\_\_\_ Single family, one floor
- b. \_\_\_\_\_ Single family, two or more floors
- c. \_\_\_\_\_ Multifamily, one or two floors
- d. \_\_\_\_\_ Multifamily, three to five floors
- e. \_\_\_\_\_ Multifamily, six or more floors
- f. \_\_\_\_\_ Rooms in outbuildings

2. Name and sex of the respondent

\_\_\_\_\_

3. Name of the head of the household (household is considered to be persons who eat and live together)

\_\_\_\_\_

- a. \_\_\_\_\_ male
- b. \_\_\_\_\_ female

4. How many years have you lived at this site? \_\_\_\_\_

5. Tenure of the dwelling (One answer only)

- a. \_\_\_\_\_ Owner-occupied with a mortgage
- b. \_\_\_\_\_ Owner-occupied no mortgage
- c. \_\_\_\_\_ Rented
- d. \_\_\_\_\_ Granted or lent without charge
- e. \_\_\_\_\_ Family property
- f. \_\_\_\_\_ Other (explain)

6. If the house is not yours, what is the name and address of the owner or rental agency?

## B. THE DWELLING

7. How many years ago was this dwelling built? \_\_\_\_\_

8. Who built this dwelling? (One answer only)

- a. \_\_\_\_\_ The household; self-help
- b. \_\_\_\_\_ Workers paid by the head of the household; a direct arrangement
- c. \_\_\_\_\_ A contractor; using one of his own plans chosen by the head of the household
- d. \_\_\_\_\_ A contractor; using a plan designed for the head of the household
- e. \_\_\_\_\_ A private developer; this is the first occupant
- f. \_\_\_\_\_ House designed and built by city council
- g. \_\_\_\_\_ Mutual aid or communal effort
- h. \_\_\_\_\_ Dwelling not new; another household had previously occupied it
- i. \_\_\_\_\_ Other (explain)

9. Area of the lot:  
 \_\_\_\_\_ meters by \_\_\_\_\_ meters = \_\_\_\_\_ square meters
10. Floor space:  
 \_\_\_\_\_ meters by \_\_\_\_\_ meters = \_\_\_\_\_ square meters
11. Wall materials (If several, choose the principal material)
- \_\_\_\_\_ Reinforced concrete
  - \_\_\_\_\_ Concrete blocks
  - \_\_\_\_\_ Clay bricks (tiles)
  - \_\_\_\_\_ Wood
  - \_\_\_\_\_ Adobe
  - \_\_\_\_\_ Metals sheets
  - \_\_\_\_\_ Asbestos cement sheets (Eternit)
  - \_\_\_\_\_ Impermanent industrial materials - cardboard, burlap, plastic, and so forth
  - \_\_\_\_\_ Impermanent plant material - palm thatch, bamboo, and so forth
  - \_\_\_\_\_ Stones
  - \_\_\_\_\_ Other
12. Roofing materials (If several, choose the principal material)
- \_\_\_\_\_ Reinforced concrete
  - \_\_\_\_\_ Concrete blocks
  - \_\_\_\_\_ Clay bricks (tiles)
  - \_\_\_\_\_ Wood
  - \_\_\_\_\_ Adobe
  - \_\_\_\_\_ Metal sheets
  - \_\_\_\_\_ Asbestos cement sheets (Eternit)
  - \_\_\_\_\_ Impermanent industrial material - cardboard, burlap, plastic, and so forth
  - \_\_\_\_\_ Impermanent plant material - palm thatch, bamboo and so forth
  - \_\_\_\_\_ Stones
  - \_\_\_\_\_ Other
13. Number of rooms (exclude kitchen, toilet or bathroom) \_\_\_\_\_

### C. ADDITIONAL ROOMS

14. How many rooms have been added by this family? \_\_\_\_\_
15. How many rooms have been abandoned or lost, if any? \_\_\_\_\_
16. How was (were) the new room(s) made? (One answer only)
- \_\_\_\_\_ Subdivided an existing room without enlarging the house
  - \_\_\_\_\_ Added on at ground level
  - \_\_\_\_\_ Added on and subdivided the remaining structure
  - \_\_\_\_\_ Added on the roof
  - \_\_\_\_\_ Other (explain)
17. How many years ago was the room built? \_\_\_\_\_
18. How much did it cost (naira)? \_\_\_\_\_
19. How many working days did it take? \_\_\_\_\_
20. Why did you add the room(s)?
- \_\_\_\_\_ Had additional children
  - \_\_\_\_\_ Gained additional relatives
  - \_\_\_\_\_ Could afford more space; had higher income
  - \_\_\_\_\_ Wanted to earn rent from lodgers
  - \_\_\_\_\_ Wanted a workshop or store
  - \_\_\_\_\_ Wanted a long-term investment
  - \_\_\_\_\_ Other (explain)

## D. FACILITIES

## KITCHEN

21. Where do you cook
- a.  Outside
  - b.  Inside without a kitchen
  - c.  Share kitchen with other households
  - d.  Have own separate kitchen
22. With what type of fuel do you cook?
- a.  Wood
  - b.  Charcoal or coal
  - c.  Gasoline or kerosene
  - d.  Bottled gas
  - e.  Electricity
  - f.  Other (explain),

## WATER

23. What is your source of water? What type of facility do you have?  
(If several, mark the most important)
- a.  River, spring
  - b.  Rain, cistern
  - c.  Well
  - d.  Public standpipe
  - e.  Water wagon
  - f.  Neighborhood vendor
  - g.  Faucet, shared with another family (public service)
  - h.  Faucet, private, but no shower or bath
  - i.  Shower
  - j.  Complete bathroom
  - k.  Two or more bathrooms
24. Is there running hot water?
- a.  yes
  - b.  no

## SANITARY FACILITIES

25. What kind of sanitary facilities does this household have? (If several, mark the best)
- a.  None
  - b.  Pit latrine
  - c.  Toilet share with others, communal
  - d.  Septic tank
  - e.  Toilet connected to public sewerage system
  - f.  Two or more toilets connected to public sewage system
  - g.  garbage dump
  - h.  Other (explain)
26. How is the garbage generated in this dwelling cleared?
- a.  Group collection depot
  - b.  Open dumping, eg unclaimed land
  - c.  Improvised street refuse bin
  - d.  Incineration
  - e.  Anywhere on the road
  - f.  Into drains or gutters
  - g.  To fill lowland and swampy areas
  - h.  Into the lagoon
  - i.  Around the overfull refuse bin
  - j.  By random burial
  - k.  To fill potholes

27. Are there any recreational facilities in the dwelling?  
 a. \_\_\_\_\_ none b. \_\_\_\_\_ other (explain)

#### E. FINANCES

28. How much rent/mortgage do you pay each month? \_\_\_\_\_
29. How many months ago did it increase? \_\_\_\_\_
30. How much do you pay for utilities each month? \_\_\_\_\_
31. Do you pay real estate taxes, and how much? \_\_\_\_\_
32. How much was the down payment? \_\_\_\_\_
33. If you wish to sell your house today, how much do you think you could sell it for? \_\_\_\_\_
34. What share of your household income (including gifts, pensions, and so forth) are your monthly payments or your rent? (use percentage) \_\_\_\_\_
35. Before deciding to rent, buy or build this house, did you receive any special income, eg. retirement benefit, inheritance, etc.  
 a. \_\_\_\_\_ yes b. \_\_\_\_\_ no
36. If you got a loan, who lent the money?  
 a. \_\_\_\_\_ A government Agency  
 b. \_\_\_\_\_ A non-government agency  
 c. \_\_\_\_\_ A bank  
 d. \_\_\_\_\_ Relatives or friends  
 e. \_\_\_\_\_ Other (explain)

#### F. THE HOUSEHOLD

37. What is the occupation of the head of the household?  
 a. \_\_\_\_\_ Unskilled worker  
 b. \_\_\_\_\_ Skilled worker  
 c. \_\_\_\_\_ Highly skilled worker  
 d. \_\_\_\_\_ Office worker  
 e. \_\_\_\_\_ Foreman  
 f. \_\_\_\_\_ Technician, semiprofessional  
 g. \_\_\_\_\_ Professional  
 h. \_\_\_\_\_ Street vendor  
 i. \_\_\_\_\_ Other salesperson  
 j. \_\_\_\_\_ Owner of a store or business  
 k. \_\_\_\_\_ Domestic service  
 l. \_\_\_\_\_ Other personal services  
 m. \_\_\_\_\_ Other (explain, includes retirement)  
 n. \_\_\_\_\_ Police or military  
 Write the name of the job \_\_\_\_\_
38. What is the occupation of the spouse?  
 a. \_\_\_\_\_ Unskilled worker  
 b. \_\_\_\_\_ Skilled worker  
 c. \_\_\_\_\_ Highly skilled worker  
 d. \_\_\_\_\_ Office worker  
 e. \_\_\_\_\_ Foreman  
 f. \_\_\_\_\_ Technician, semiprofessional  
 g. \_\_\_\_\_ Professional  
 h. \_\_\_\_\_ Street vendor  
 i. \_\_\_\_\_ Other salesperson  
 j. \_\_\_\_\_ Owner of a store or business  
 k. \_\_\_\_\_ Domestic service  
 l. \_\_\_\_\_ Other personal services  
 m. \_\_\_\_\_ Other (explain; includes retirement)  
 n. \_\_\_\_\_ Police or military  
 Write the name of the job \_\_\_\_\_

39. What are the occupations of the other members of your household?

- a. Unskilled worker  
 b. Skilled worker  
 c. Highly skilled worker  
 d. Office worker  
 e. Foreman  
 f. Technician, semiprofessional  
 g. Professional  
 h. Street vendor  
 i. Other salesperson  
 k. Owner of a store or business  
 l. Domestic service  
 m. Other personal services  
 n. Other (explain; includes retirement)  
 Write the name of the job \_\_\_\_\_

G. GENERAL QUESTIONS ABOUT DWELLING IMPROVEMENTS

40. Are you planning to make other changes soon? If so, what changes?

- a. Additional room(s)  
 b. Better kitchen  
 c. More convenient water  
 d. Better toilet  
 e. Improved basic wall materials  
 f. Improved roofing materials  
 g. Plaster and paint  
 h. Improved flooring  
 i. Better windows or doors  
 j. Earth fill  
 k. None, the dwelling was finished  
 l. Others, not specified  
 m. None, although some were needed  
 n. Terrace or railing  
 o. Finished inside ceiling  
 p. Connection with the public sewerage system  
 q. Total reconstruction  
 r. Other (explain)

41. These other changes have not been made because:

- a. Lack of money  
 b. Regulations  
 c. Lack of space  
 d. Value of the dwelling would not increase  
 e. Lack of time  
 f. Other (explain)

42. How did you finance the improvements in your dwelling (Mark the most important)?

- a. Financing by the owner in rented dwellings  
 b. Self-help labor, cash for the materials  
 c. Self-help labor, credit from the materials supplier  
 d. Self-help labor, credit from other sources  
 e. Savings or sale of property  
 f. Advanced retirement funds  
 g. Inheritance, insurance, or other death benefits  
 h. Loans for everything from the bank  
 i. Loans from relatives or friends  
 j. Other (explain)

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43. What other type of work does your house still need?
- Additional room(s)
  - Better kitchen
  - More convenient water
  - Better toilet
  - Improved basic wall materials
  - Improved roofing materials
  - Plaster and paint
  - Improved flooring
  - Better windows or doors
  - Earth fill
  - None, the dwelling was finished
  - Others, not specified
  - None, although some were needed
  - Terrace or railing
  - Finished inside ceiling
  - Connection with the public sewerage system
  - Total reconstruction
  - Other (explain)
44. How would you compare the condition of the dwelling now with its condition when you acquired it?
- Much better
  - Somewhat better
  - Same
  - Worse
  - Much worse
45. What was the major reason you moved to Lagos?  
(One answer only)
- To secure job
  - To trade
  - Other (explain)
46. What was the main reason you moved to this neighbourhood? (One answer only)
- To be close to work
  - To have better public utilities
  - To have a better neighborhood in other ways
  - To become an owner
  - To pay less
  - To have a bigger dwelling
  - To have a better quality of dwelling
  - To have a shop, store or office
  - To move away from relatives
  - To move closer to relatives
  - Other (explain)
47. How many households live in this building? \_\_\_\_\_
48. When you moved here, how many minors (seventeen years old or less) were part of your household? \_\_\_\_\_
49. How many adults (eighteen years old or more) sleep in one room in your household? \_\_\_\_\_

## BIBLIOGRAPHY

- Aaron, H. (1972). Shelter and Subsidies. Washington, D.C.: The Brookings Institution.
- Abiodun, J.O. (1974). "Urban Growth and Problems in Metropolitan Lagos" Urban Studies, 11, pp. 341-347.
- Abrams, C. (1964) Man's Struggle for Shelter in an Urbanizing World. Cambridge, Cambridge, MA: The MIT Press.
- Abu-Lughod, H. et al. (1979). Third World Urbanization. New York: Methuen Press.
- Ackoff, R. (1965). The Design of Social Research. Chicago: University of Chicago Press.
- Adedeji, A. and Rowland, L. (eds). (1971). Local Government in Nigeria: Problems and Prospects. Ile-Ife: University of Ife.
- Adegboye, R.O. (1976). "The Need for Land Reform in Nigeria", NJESS, 3:9, pp. 339-350.
- Adeniyi, E.O. (1974). "Housing and the Construction Industry in Nigeria" in NIGERIA Economic Society, The Construction Industry in Nigeria. Ibadan: University of Ibadan.
- Akintola-Arikawe, J.O. (1981). "The Equity Principle and Central Allocation in the Manufacturing Sector: The Nigerian Third National Development Plan", The Nigerian Journal of Economic And Social Studies, 3:9, pp.339-350.
- Alonso, W. (1964). Location and Land Use. Cambridge: Harvard University Press.
- Aluko, S.A. (1971). "Resource Allocation and Overall Strategy", Quarterly Journal of Administration, 5, pp. 226-298.
- American Public Health Association (APHA). (1945). An Appraisal Method For Measuring the Quality of Housing, Part 1, Nature and Uses of the Method. New York: The Association.
- Anscombe, F. and Tukey, J. (1963). "The Examination and Analysis of Residuals", Technometrics, 5, pp. 141-160.
- Anthony, H. (1979). The Challenge of Squatter Settlements. Vancouver: University of British Columbia Press.

- Anusionwu, E. "Low Cost Housing in Nigeria: Problems and New Perspectives", The Nigerian Journal of Economic And Social Studies, 24:3, pp. 299-316.
- Aradeon, D. (1979). "Post Habitat Evaluation - Regional Reports on Human Settlements: Nigeria", in Hardoy, E. and Satterthwaite, D. (1981) Shelter: Needs and Response. London: John Wiley and Sons.
- Arrow, K., (1951). Social Choice and Individual Values. New York: John Wiley & Sons.
- Artle, R. and Varaiya, P. (1978). "Life Cycle Consumption and Ownership", Journal of Economic Theory, 18, pp. 35-38.
- Atkinson, T. (1982). "The Stability and Validity of Quality of Life Measures", Social Indicators Research, 10, pp. 113-132.
- Ayeni, B. (1977). "Living Conditions of the Poor in Lagos", Ekistics, 43:255, pp. 77-80.
- Ayida, A.A. and Onitiri, H.M.A. (1972). Reconstruction and Development in Nigeria. Ibadan: The Nigerian Institute of Social and Economic Research (NISER), Oxford University Press.
- Baldwin, R. (1964). "Pattern of Development in Newly Settled Regions", in Agriculture and Economic Development, Eicher, C. and Witt, L. (eds). New York: McGraw-Hill Book Co., pp. 238-251.
- Balogh, T. (1966). The Economics of Poverty. London: Inelderfled and Nicholson Inc.
- Barnes, S. T. (1980). "Public and Private Housing in Urban West Africa: The Social Implications" in Morrison, M.K.C. and Gutkind, P.C.W. (eds): Housing the Urban Poor in Africa. Syracuse: Maxwell School, Syracuse University.
- Bauer, C. (1951). "Social Questions in Housing and Community Planning", Journal of Social Issues, 7, pp. 1-34.
- Baumol, W.J. (1977). Economic Theory and Operational Analysis. London: Prentice-Hall Int. Inc.
- Berry, B. (1961). "City Size Distributions and Economic Development", Economic Development and Cultural Change, 9:4, pp.573-587.
- Berry, B. and Horton, F. (1970). Geographic Perspectives on Urban Systems. Englewood, Calif: Prentice-Hall.

- Berry, B. and Marble, D. (1968). Spatial Analysis. New Jersey: Englewood: Prentice Hall.
- Berry, B.J.L. (1973). Human Consequences of Urbanization. London: MacMillan Press.
- Bergson, A. (1966). Essays in Normative Economics. Cambridge: Harvard University Press.
- Bhatt, M. (1972). "Housing Problems of a Growing Metropolis", Economic and Political Weekly, 17:7 pp. 849-852.
- Bienen H. and Diejomaoh, V. (1981). The Political Economy of Income Distribution in Nigeria. New York: Holmes and Meier Publishing.
- Blanco, C. (1969). "The Determinants of Inter-State Movement", Journal of Regional Studies, 15, pp.283-297.
- Boadway, R. (1979). Public Sector Economics. Cambridge, Mass: Winthrop Publishers, Inc.
- Bodkin, R.G. (1977). "Keynesian Econometric Concepts: Consumption Functions, Investment Functions, and "The Multiplier" in Weintraub, R., Modern Economic Thought, University of Pennsylvania.
- Bogue, D., (1949). The Structure of the Metropolitan Community. Ann Arbor: University of Michigan Press.
- Bossons, J. (1978). "Housing Demand and Household Wealth", in Hitchcock, J. (ed.): Urban Housing Markets. Toronto: University of Toronto Press.
- Bourne, L.S. (1981). The Geography of Housing. Toronto: Winston and Sons.
- Bresse, G. (ed.). (1969). The City in Newly Developing Countries. New Jersey: Englewood Cliff.
- Breton, A. (1974). The Economic Theory of Representative Government. Chicago: Aldine Publishing Co.
- Burgess, E. and Bogue, D. (1964). Contributions to Urban Sociology. Chicago: The University of Chicago Press.
- Burns, L. and Grebler, L. (1977). The Housing of Nations. London: MacMillan Press.
- Business Int. S.A., (1979). Nigeria: Africa's Economic Giant. New York: Business Int. S.A.

- Cameron, G. (1980). "Housing Densities for Developing Countries", Third World Planning Review, 1:1, pp. 45-52.
- Canada Mortgage and Housing Corporation. (1983). "The Role of Human Settlement Policies in Periods of Severe Economic Stress". Ottawa: Group of Experts on Urban and Regional Research Colloquium, 19-23 Sept.
- Caldwell, J.C. and Okonjo C. (1968). The Populations of Tropical Africa (eds.). New York: Columbia University Press.
- Canner, G. (1978). "Redlining and Mortgage Lending Patterns," in Henderson, J. (ed.). Urban Housing Markets. Toronto: University of Toronto Press.
- Carlner, G. (1973). "Income Elasticity of Housing Demand", Review of Economics and Statistics, 55, pp. 528-532.
- Central Bank of Nigeria, (1984). Economic and Financial Review. (various issues), Lagos: CBN, Research Department.
- Central Planning Office, (1974). Second Progress Report: Second National Development Plan, 1970-1974. Lagos: Federal Ministry of Economic Development.
- Central Planning Office, (1975). The Third National Development Plan, 1975-1980. Lagos: Federal Ministry of Economic Development.
- Chatterjee, L. and Nijkamp, P. (1981). Urban Problems and Economic Development. Netherlands: Sythoff and Noordhff Press.
- Chaudhari, B.S. and Rhodes, H.V. (1979). "Low Income Housing Planning in Dade County: A Case Study", in Ural, O. (ed.): Housing: Planning, Financing and Construction. New York: Pergamon Policy Studies, 2.
- Chenery, H. et al. (1976). Redistribution With Growth. London: Oxford University Press.
- Clark, C. (1967). Population Growth and Land-Use. New York: Harper & Row Publishers.
- Clinard, M. (1966). Slums and Community Development. New York: Fress Press.
- Cochrane, D. and Orcutt, G. (1949). "Application of Least Squares Regression to Relationships Containing Auto-correlated Error Terms", Journal of the American Statistical Association, 44, pp. 32-61.

- Cooke, P. (1983). Theories of Planning and Spatial Development. London: Hutchison Publishers.
- Cooper, M. (1973). Social Policy: A Survey of Recent Developments. Oxford: Basil Blackwell Publishers.
- Costello, U. (1977). Urbanization in the Middle East. London: Cambridge University Press.
- Crooke, P. (1974). "Towards Participatory Urban Settlement and Housing Systems" Ekistics 224:38, pp. 9-12.
- Currie, L. (1976). Taming the megalopolis: A Design for Urban Growth. New York: Program Press.
- Damachi, U. and Seibel, H. (1973). Social Change and Economic Development. New York: Praeger Publishers.
- Datta, A. (1972). "Rent Control and Low-Income Housing", Economic and Political Weekly. 20:7, pp. 989-990.
- Davis, E. (1960). Urbanization, and Changing Land Uses: A Bibliography of Selected References. Washington: Government Printing Office.
- Dennis, M. and Fish, S. (1972). Programs In Search of a Policy: Low Income Housing in Canada. Toronto: Hakkert.
- Donnison, D. and Urgerson, C. (1982). Housing Policy. London: Penguin Books.
- Downs, A. (1957). An Economic Theory of Democracy. New York: Harper and Row Publishers.
- Doxiades Associates International, (1977). Regional Plan for Lagos State: Existing Conditions. Lagos: Lagos State Government.
- Doxiadés, K. (1968). Ekistics: An Introduction to the Science of Human Settlements. London: Hutchinson.
- Drakakis-Smith, D. (1981). Urbanization, Housing and Development Process. London: Croom Helm Publishers.
- Draper, N.R. and Smith, H. (1966). Applied Regression Analysis. London: John Wiley and Sons, Inc.
- Dwyer, D. (1975). People and Housing in Third World Cities. London: Longmans Group Ltd.
- Dwyer, D. (ed.). (1974). The City in the Third World. London: MacMillan Press.

- Eames, E. And Goode, J: (1973). Urban Poverty in a Cross-Cultural Context. New York: Fress Press.
- Elias, B. (1973). "A Comprehensive Model for Housing Standards", Ekistics, 216, pp. 318-321.
- English, M.C. (1959). An Outline of Nigerian History. London: Longmans Publishers.
- Enyolu, E. (1977). "Planning and Plan-Implementation in the Economic Development of Nigeria, 1960-1977" Unpublished Honours Thesis, Ottawa: Department of Economics, Carleton University.
- Enyolu, E. (1982). "The Impact of Oil Affluence on the Nigerian Economy: The Case of Agriculture", Unpublished IIDC Memoir, Ottawa: University of Ottawa.
- Enyolu, E. (1987). "Death Determinants in Nigeria: A Quantitative Analysis", Health Policy, Forthcoming.
- Enyolu, E. (1987). "A Conceptual Approach to Rural Water Supply Problems in Developing Countries", Journal of Rural Studies, Forthcoming.
- Ermuth, F. (1974). Residential Satisfaction and Urban Environmental Preferences. Ontario, Downsview: Atkinson College, York University.
- Page, J.D. (1961). An Introduction to the History of West Africa. Cambridge: Cambridge University Press.
- Fallis, G. (1985). Housing Economics. Toronto: The Butterworth Group of Companies.
- Fapohunda, O. (1977). Employment and Unemployment in Lagos. The Hague: Institute of Social Studies.
- Fapohunda, O. (1974). Characteristics of the Unemployed People in Lagos. Research Paper No.2, Lagos: University of Lagos.
- Federal Ministry of Economic Development. (1962). National Development Plan 1962-68, Lagos: Government Printer.
- Federal Ministry of Economic Development. (1964). First Progress Report of the Federal Government Programme 1962-68, Sessional Paper No.3. Lagos: Government Printer.

- Federal Ministry of Economic Development. (1972). First Progress Report of the Second Development Plan, 1970-74, Lagos: Government Printer.
- Federal Ministry of Economic Development. (1975). Building a Greater Nigeria - Third National Development Plan 1975-80 Lagos: Government Printer.
- Federal Ministry of National Planning. (1981). Guidelines for the Fourth National Development Plan, 1981-85, Lagos: The Ministry of National Planning.
- Federal Ministry of Information. (1982). Economic and Financial Review (various issues). Lagos: Federal Ministry of Information.
- Federal Office of Statistics. (1979). Economic Indicators, (various Issues). Lagos: FOS.
- Federal Office of Statistics. (1982). Digest of Statistics (various Issues). Lagos: FOS.
- Federal Office of Statistics. (1983). National Integrated Survey of Households (NISH). Lagos: FOS, GHS/SR/83/1.
- Filani M. and Onyemelukwe, J. (1977). A Geographical Analysis of Development Planning Problems in Developing Countries. Ibadan: University of Ibadan Press.
- Filani, M. (1981). "Nigeria: The Need to Modify Centre-Down Development Planning" in Stohr W.B. and Taylor, D.R.F. (eds.), Development from Above or Below? Toronto: John Wiley and Sons.
- Fischlow, E. (1965). "Driving Forces in Internal Migration in Brazil", Migration News, 14:6 Nov-Dec.
- Fisher, R. (1962). A Priori Information and Time Series Analysis: Essays in Economic Theory and Measurement. Amsterdam: North Holland Publishing Company.
- Food and Agricultural Organization of the United Nations. (1961). Land Utilizations. Rome: FAO.
- Friedman, M. (1975). A Theory of the Consumption Function, Princeton: Princeton University Press.
- Friedman, J. and Sullivan, F. (1974). "The Absorption of Labour in the Urban Economy: The Case of Developing Countries", Economic Development and Cultural Change, 27:3, pp. 385-413.

- Gana, J.A. (1981). "Spatial Allocation of Resources and Regional Development in Nigeria", in Mabogunje, A.L. and Misra, R.P. (eds). Regional Development Alternatives: International Perspectives. Nagoya, Japan: United Nations.
- Gilbert, A. (1972). "Rent Control and Low-Income Housing", Economic and Political Weekly, 12:20, pp. 27-34.
- Gilbert, A. and Gugler, J. (1982). Cities, Poverty and Development: Urbanization in the Third World. New York: Oxford University Press.
- Gillingham, R. and Reece, W.S. (1980). "Analytical Problems in the Measurement of the Quality of Life", Social Indicators Research, 7, pp. 91-101.
- Glickman, N. (ed.) (1980). The Urban Impacts of Federal Policies. Baltimore: The John Hopkins University Press.
- Gobson, W. (1960). "Non-linear Factors in Two Dimensions", Psychometrika, 25, pp. 381-392.
- Goldstein, S. (1977). Patterns of Urbanization: Comparative Country Studies, 1, Belgium: Ordina Editions.
- Golledge, R. and Gerard, R. (1976). Spatial Essays on the Analysis of Preferences and Perceptions. Columbus: Ohio State University.
- Gorge, K. D. and Shorey, J. (1978). The Allocation of Resources. Boston: Gorge Allen & Unwin.
- Goulet, D. (1978). "The Challenge of Development Economics", Communication and Development Review, 2:1, pp. 18-23.
- Goulet, D. (1979). Development as Liberation: Policy Lessons From Case Studies, Dossier International For Development Alternatives. Geneva: United Nations.
- Government of Nigeria (1946). "Nigerian Town and Country Planning Act, No.4 of 1946", Supplement to the Nigeria Gazette, Lagos, pp. 417-418
- Granger, C. and Newbold, P. (1974). "Spurious Regressions in Econometrics" Journal of Econometrics, 2, pp. 111-120.
- Grebler, L. and Maisel, L. (1963). "Determinants of Residential Construction: A Review of Present Knowledge" in, Commission on Money and Credits, Impact of Monetary Policy. Englewood Cliff: Prentice Hall.

- Green, L. and Milone, V. (1972). Urbanization in Nigeria: A Planning Commentary. New York: Ford Foundation.
- Greer-Wotten, B. and Velidis, S. (1983). The Relationship Between Objective and Subjective Indicators of the Quality of Residential Environments. Ottawa: CHMC, 6585/G37-1.
- Grimes, (Jr.) O.F. (1976). Housing for Low Income Urban Families, World Bank Research Publication, Baltimore: John Hopkins University Press.
- Guttentag, J.M. (1961) "The Short-Run Cycle in Residential Construction", American Economic Review, 15:3.
- Hadley, G. (1969). Linear Algebra. Mass: Cambridge University Press.
- Hanse, W. (1970). Population, Migration and Urbanization in Africa. New York: Columbia University Press.
- Hardoy, E. and Satterthwaite, D. (1981). Shelter: Needs and Response. London: John Wiley and Sons.
- Harman, H. (1960). Modern Factor Analysis. Chicago: University of Chicago Press.
- Harvey, D. (1970). Explanation in Geography. New York: St Martins Press.
- Hauser, P.M. and Schnore, L.F. (1967). The Study of Urbanization. New York: John Wiley and Sons.
- Hawkins, T. (1984). "Nigeria Looks to Austerity to Restore Economic Health", Globe and Mail, Jan. 30.
- Helleiner, G. (1966). Peasant Agriculture, Government and Economic Growth in Nigeria. Homewood, Ill: McGraw-Hill Publications.
- Henderson, R. (1976). "The Size and Types of Cities", American Economic Review. LXIV:4, pp. 27-34.
- Herbert, J. and Van Huyck, A. (1968). Urban Planning in the Developing Countries. New York: Praeger Publishers.
- Hershkovitz, S. (1981). Spatial Segregation Trends in Cities. Monticello: Vance Bibliographies, Ill.
- Higgins, B. and Higgins, D. (1979). Economic Development of a Small Planet. New York: W.W. Norton & Company.

- Hoselitz, B. (1955). "Generative and Parasitic Cities", Economic Development and Cultural Change. 3, pp. 293-297.
- Hotelling, H. (1960). "Analysis of a Complex Statistical Variables Into Principal Components", Journal of Educational Psychology, 24, pp. 417-520.
- International Labour Organization. (1977). "A Basic Needs Strategy for Development", Development Digest, 15:1.
- International Labour Organization. (1981). The Urban Sector in Developing Countries - Employment, Poverty, and Environment. Geneva: ILO.
- Ioannides, Y. (1979). "Temporal Risks and the Tenure Decisions in Housing Markets", Economic Letters. 4, pp. 293-297.
- Islam, N. and Henault, G. (1979). "From GNP to Basic Needs: A Critical Review of Development and Development Administration", International Review of Administrative Sciences. XLV:3.
- Jameson, K.P. and Wilber C.K. (1979). Directions in Economic Development. Notre Dame: University of Notre Dame.
- Kelly, B. (1959). Design and the Production of Houses. New York: McGraw-Hill.
- Kim, J. and Mueller, C. (1978). Factor Analysis: Statistical Methods and Practical Issues. Beverly Hills: Sage Publications.
- King, L., (1969). Statistical Analysis in Geography. Englewood Cliff: Prentice-Hall.
- Kirk-Green, A. and Rimmer, D. (eds.). (1981). Nigeria Since 1970: A Political and Economic Outline. New York: Holmes and Meier Press.
- Klein, L.R. (1965). An Introduction to Econometrics. London: Prentice-Hall.
- Klein, L.R. (1972). A Textbook of Econometrics. Englewood: Prentice-Hall.
- Kuhn, T. (1970). The Structure of Scientific Revolutions. Chicago: University of Chicago Press.
- Lagos State Government, (1977). Residential Densities in Metropolitan Lagos. Ministry of Works and Planning, Ikeja: LSG.

- Lagos State Government, (1978). Provision of Physical Infrastructures in Metropolitan Lagos. Ministry of Works and Planning, Ikeja: LSG.
- Lakatos, I. (1978). "The Methodology of Scientific Research Programmes", in Worrall, J. and Currie, G. (eds)., Philosophical Papers. Cambridge: Cambridge University.
- Lancaster, K. (1966). "A New Approach to Consumer Theory", Journal of Political Economy, 29 and Vol. 30, 1971.
- Lawley, D. and Maxwell, A., (1963). Factor Analysis as a Statistical Method. London: John Wiley.
- Lewis, W. A. (1954). "Economic Development with Unlimited Supplies of Labour", Manchester: Manchester School, 22, pp. 139-191.
- Lipton, M. (1982). "Rural Development and the Retention of the Rural Population in the Country-Side of Developing Countries", Canadian Journal of Development Studies, 3:1.
- Lithwick, N.H. and Paquet, G. (1968). Urban Studies: A Canadian Perspective. Toronto: Muthuen Press.
- Lithwick, N.H. (1970). Urban Canada: Problems and Prospects. Ottawa: CMHC.
- Lloyd, R. (1961). Housing and Economic Progress. Cambridge: Harvard University Press.
- Loring, W. (Jr.). (1956). "Housing Characteristics and Social Disorganization", Social Problems, 3, pp. 160-168.
- Lugard, F. (1919). "Political Memorandum: Revision of Instructions to Political Officers", No.11, London: Francass Printers.
- Mabogunje, A. L. (1974). "Towards an Urban Policy in Nigeria", The Nigerian Journal of Economic and Social Studies, 16:1, pp. 65-83.
- Mabogunje, A. (1968). Urbanization in Nigeria. London: University of London Press.
- Mabogunje, A. (1969). "Urban Land Policy and Population Growth in Nigeria", Population Growth and Economic Development in Africa. Ibadan: Heinemann Books Ltd.
- Mabogunje, A. (1974). Cities and Social Order. Ibadan: University of Ibadan Press.

- Mabogunje, et al. (1978). "Shelter Provision in Developing Countries: The Influence of Standards and Criteria." London: John Wiley and Sons.
- Mabogunje, A. (1980). Development Process, A Spatial Perspective. London: Hutchinson.
- Mabogunje, A. (1982). "Order on the Land", in Mapping and National Development. Lagos: The Nigerian Cartographic Association, Ch. 2.
- Maisel, S. (1953). House Building in Transition. Berkeley: University of California Press.
- Maisel, S. (1968) "Housing: Economic Aspects" in International Encyclopedia of Social Sciences, 6, Sills, D. (ed.). New York: MacMillan Press.
- Marris, P. (1961). Family and Social Change in African City: A Study in Rehousing in Lagos. London: Routledge and Kegan Paul.
- McGee, T. (1971). The Urbanization Process in the Third World. London: G. Bell and sons Ltd.
- McKay, D. and Cox, A. (1979). The Politics of Urban Change. London: Croom Helm.
- Mehmet, O. (1978). Economic Planning and Social Justice in Developing Countries. New York: St. Martin's Press.
- Michalos, A.C. (1978). "Social Indicators Research", Policy Studies Journal, 6, pp.393-404.
- Michelson, W.H. (1979). Man and His Urban Environment: A Sociological Approach. Reading, Mass: Addison-Wesley.
- Milrath, L.W. (1982). "A Conceptualization and Research Strategy for the Study of Ecological Aspects of the Quality of Life", Social Indicators Research, 10, pp. 133-157.
- Mitroff, P.C. and Turoff, M. (1973). "The Whys Behind the Hows". Spectrum, IEEE, 10:3, pp. 62-71.
- Morgan, D. (1979). "Fiscal Policy in Oil Exporting Countries, 1972-79" IMF Staff Papers. 26:1, pp. 56-86.
- Moriss, D. (1979). Measuring the Condition of the World Poor. New York: Pergamon Press.

- Moriss, M. and McAlpine, M. (1982). Measuring the Condition of India's Poor: The Physical Quality of Life Index. New Delhi, Promila and Co.
- Muller, P. (1976). The Outer City: Geographical Consequences of the Urbanization of the Suburbs. Washington: The American Association of Geographers (AAG).
- Murison, H.S. and Lea, J.P. (eds). (1978). Housing in the Third World Countries. New York: St. Martin's Press.
- Mutalik-Desai, P. (1982). Development Problems in Africa. Bombay: Himalaya Publishing House.
- Muth, R. (1969). Cities and Housing. Chicago: University of Chicago Press.
- Myint, H. (1958). "The 'Classical Theory' of International Trade and the Underdeveloped Countries", Economic Journal, 68, pp. 141-158.
- Myrdal, G. (1973). Asian Drama: An Inquiry into the Poverty of Nations. New York: Pantheon Press.
- Needleman, L. (1965). The Economics of Housing. New York: Staple Press.
- Nelson, H. et al. (1972). Area Handbook for Nigeria, Washington, D.C.: US Government Printing Office.
- Nie, N.H., Hull, C.H., Jenkins, J.G., Steinbrenner, K., and Bent, D.H. (1970). Statistical Package for the Social Sciences. (SPSS). New York: McGraw-Hill.
- Nigeria Economic Society. (1972). Rural Development in Nigeria, Proceedings of the 1972 Annual Conference of the Nigerian Economic Society. Ibadan: University of Ibadan.
- Nigeria Economic Society. (1974). Rural Construction Industry in Nigeria, Proceedings of the 1974 Annual Conference of the Nigerian Economic Society. Ibadan: University of Ibadan.
- Nigeria Economic Society. (1976). Poverty in Nigeria, Proceedings of the 1975 Annual Conference of the Nigerian Economic Society. Ibadan: University of Ibadan.
- Nigeria Economic Society. (1977). Urbanization and Nigerian Economic Development. Proceedings of the 1977 Annual Conference of the Nigerian Economic Society. Ibadan: University of Ibadan.

- Nwaka, G. (1979). "The Nigerian Land Use Decree: Antecedents and Prospects", Third World Planning Review, 1, Autumn, Liverpool: University of Liverpool.
- OECD, (1983). Managing Urban Change: Policies and Finance. Paris: OECD.
- Okigbo, P.N.C. (1981). Nigeria's Financial System: Structure and Growth. Essex: Longmans Group.
- Okoye, T.O. (1979). "Urban Planning in Nigeria and the Problems of Slums", Third World Planning Review, 1:1 (Spring) Liverpool: University of Liverpool.
- Okpala, D. (1981). "The Apparent Weakness of Local Governments in NIGERIA: A Fallacy of Affirming the Consequent", The Nigerian Journal of Economic And Social Studies, 23:2, pp. 249-265.
- Okpala, D. (1978). "Housing Density Standards: Aspects of Public -Policy Constraints on the Production of Urban Housing in Nigeria", Ekistics, 45:270, pp. 249-237.
- Olalokun, F. et al. (1979). Structure of the Nigerian Economy. Lagos: MacMillan Press.
- Olatunbosun, D. (1975). Nigeria's Neglected Rural Majority. Ibadan: Oxford University Press.
- Olayide, S. et al. (1976). Economic Survey of Nigeria. Ibadan: Caxton Press, West Africa Ltd.
- Olu, S. (1981). "The Future of the Nigerian Housing Subsidy: The Unanswered Questions". The Nigerian Journal of Economic And Social Studies, 23:1, pp. 109-128.
- Onibokun, A. (1973). "A System for Evaluating the Relative Habitability of Housing", Ekistics, 216, pp. 313-317.
- Onibokun, A. (1978). "Problems of Homeownership in Nigeria", Focus on Lagos Metropolitan Area. A Report submitted to the Department of Town Planning, Ibadan: The Polytechnic.
- Onibokun, A. (1983). Issues in Nigerian Housing. Ibadan: Nigerian Institute of Social and Economic Research (NISER).
- Orubuloye, I.O. and Oyeneye, O.Y. (1983). Population and Development in Nigeria. Ibadan: Nigerian Institute of Social and Economic Research (NISER).
- Oslon, E. (1969). "A Competitive Theory of the Housing Market", American Economic Review, 59, pp. 612-22.

- Ostrom, C. (1978). Time Series Analysis: Regression Techniques. Beverly Hills: Sage Publications.
- Pacione, M. (1981). Problems and Planning in Third World Cities. London: Croon Helm Ltd.
- Payne, G. (1977). Urban Housing in the Third World. Boston: Routledge and Kegan Paul.
- Peacock, A. (1960). The Welfare Society. London: Liberal Publications.
- Peek, P. and Standing, G. (eds.) (1982). State Policies and Migration. London: Cromm Helm.
- Peil, M. (1981). Cities and Suburbs: Urban Life in West Africa. New York: African Publishing Company.
- Perloff, H.S. (1969). (ed.) The Quality of the Urban Environment. Washington, D.C.: Resources for the Future.
- Perroux, F. (1955). "Note sur la notion de pôle de croissance", L'economie du XXème Siècle, Paris: Presses University de France, pp. 142-154.
- Pickvance, C. (ed). (1976). Urban Sociology. New York: St. Martins Press.
- Pidot, G. (1974). "A Principal Components Analysis of the Determinants of Local Government Fiscal Patterns", - Review of Economics and Statistics, 1:L1, pp. 176-188.
- Popper, K. (1965). The Logic of Scientific Discovery. New York: Harper Torch Books.
- Porteous, J.D. (1974). "Design with People: The Quality of the Urban Environment", in Sewell, W.R.D. (ed), Environmental Quality. Beverly Hills, Ca: Sage Publications.
- Quigley, J. (1979). "What Have We Learned About Housing Markets?" in Mieszkowski, P. and Straszheim, M. (eds.), Current Issues in Urban Economics. N.Y.: John Hopkins University Press.
- Ramsey, J. (1974). "Tests for Specification Error in Classical Least-Squares Regression Analysis", Journal of the Royal Statistical Society, 42, pp. 333-340.
- Ranis, G. and Fei, J.C.H. (1961). "A Theory of Development" American Economic Review, 51:4, pp. 533-565.

- Rao, B. and Deshpande, V., (1982). Poverty: An Inter-disciplinary Approach. New Delhi: Somaiya Publ.
- Rapport, A. (1982). The Meaning of the Built Environment. Beverly Hills, Ca:Sage.
- Rawls, J. (1971). A Theory of Justice. Cambridge, Mass: Harvard University Press.
- Richardson, H.W. (1976). "Growth Pole Spillover: The Dynamics of Backwash and Spread" Regional Studies, 10, pp. 1-9.
- Riddell, B.J. (1978). "The Migration to the Cities of West Africa: Some Policy Considerations", Journal of Modern African Studies, 16, pp.241-60.
- Riddell, B.J. (1981). "Is Continuing Urbanization Possible in West Africa?" African Studies Review, 23:1, pp. 68-79.
- Roberge, R. (ed). (1974). La Crise Urbaine: A Challenge to Geographers. Ottawa: University of Ottawa Press.
- Roberge, R. (1985). National Urbanization Strategies and Urban Poverty in Brazil: An Analysis of Variations in the Urban Hierarchy. Ottawa: IIDC, University of Ottawa.
- Rostow, W. W. (1960). The Stages of Economic Growth: A Non-Communist Manifesto, Cambridge, University Press.
- Runney, S. (1979). "The Future Price of Houses, Mortgage Market Conditions and Returns to Home Ownership", American Economic Review, 71, pp. 323-333.
- Samuelson, P.A. (1954). "The Pure Theory of Public Expenditures", Journal of Political Economy, 64, pp. 416-24.
- Samuelson, P.A. (1955). "Diagrammatic Exposition of a Theory of Public Expenditure", Review of Economics and Statistics 37, pp. 350-56.
- Schaller, H. (1962). (ed). Public Expenditure Decisions in the Urban Community. Washington: Resources for the Future.
- Schatz, S. (1977). Nigerian Capitalism. Englewood, Calif: University of California Press.
- Schwab, R. (1981). "Inflation Expectations and the Demand for Housing", American Economic Review, 72, pp. 143-153.
- Seers, D. (1969). "The Meaning of Development", International Development Review, 2.

- Seers, D. (1981). First Things First: Meeting the Basic Needs of the People of Nigeria. Addis Ababa: International Labour Office (ILO).
- Seers, D. (1972). "What Are We Trying to Measure?" The Journal of Development Studies, 8, pp. 77-98.
- Shatzl, E. (1973). Industrialization in Nigeria: A Spatial Analysis, Ibadan: University of Ibadan.
- Simmons, A. and Vlassoff, C. (1982). "Industrialization and Urbanization in Colombia", in, Peek, P. and Standing, G. (eds.), State Policies and Migration. London, Croom Helm Ltd.
- Sjaastand, L. (1962). "The Costs and Returns of Human Migration" Journal of Political Economy, 70:5, pp. 80-93.
- Smith, L. (1981). "Canadian Housing Policy in the Seventies", Land Economics, 57:3, pp. 338-58.
- Speare, A. (1974). "Residential Satisfaction as an Intervening Variable in Residential Mobility", Demography, 11, pp. 173-188.
- Stamp, L.D. (1948). The Land of Britain: Its Use and Misuse. London: Longmans.
- Stark, O. (1975). "Utility, Technological Change, Surplus and Risk: The Micro-Economics of Rural-to-Urban Migration", Ph.D. Thesis. Sussex: Sussex University.
- Stevens, C. (1982). Nigeria: Economic Prospects to 1985. London: Economic Intelligence Unit Ltd.
- Stohr, W. and Taylor, F. (1981). Development from Above or Below? Toronto: John Wiley and Sons, pp.1-304.
- Stone, J. and Rowe, D. (1957). "The Market Demand for Durable Goods", Econometrica, 25, pp. 1-304.
- Straszheim, M. (1975). An Econometric Analysis of Urban Housing Market. Washington, D.C.: The National Bureau of Economic Research (NBER).
- Streeten, P. (1979). "From Growth to Basic Needs", Finance and Development, (Sept), pp.28-31.
- Streeten, P. and Burki, S.J. (1978). "Basic Needs: Some Issues", World Development, 6, pp. 411-21.

- Streeton, P. and Hicks, N. (1979). "Indicators of Development: The Search for a Basic Needs Yardstick", World Development 7:6, pp. 567-580.
- Swan, P. (1979). The Practice of People's Participation: Seven Asian Experiences in Housing the Poor. Bangkok: Asian Institute of Technology.
- Thurow, L. (1970). Investment in Human Capital. California: Wadsworth Press.
- Tiebout, C.M., (1956) "A Pure Theory of Local Expenditures", Journal of Political Economy, 64, pp. 416-24.
- Timms, D. (1971). The Urban Mosaic: Toward A Theory of Residential Differentiation. Cambridge: Cambridge University Press.
- Tims, W. et al. (1974). Nigeria: Options for Long-Term Development, (World Bank), London: John Hopkins University Press.
- Titmus, R.M. (1974). Social Policy. London: George Allen & Urwin.
- Todaro, M. (1969). "A Model of Labour Migration and Urban Unemployment in Less Developed Countries". American Economic Review, March, 59, pp. 138-147.
- Todaro, M. and Harris, J. (1970). "Migration, Unemployment and Development: A Two-Sector Analysis" American Economic Review, March, 126-142.
- Tullock, G. (1976). Towards a Mathematics of Politics. Ann Arbor: University of Michigan.
- Turin, D. (1969). The Construction Industry: Its Economic Significance and Its Role in Development. London: University of London Environment Research Group.
- Turner, F. (1976). Housing by People: Towards Autonomy in Building Environments. London, England: Muriel Boyrs.
- Turner, F. and Fichter, R. (ed). Freedom to Build: Dweller Control of the Housing Process. New York: MacMillan Press.
- United Nations. (1984). United Nations Statistical Yearbook. New York: United Nations Press.

- United Nations. (1984). World Housing Survey 1974. No. E.75.18, New York: U.N. Publishers.
- United Nations. (1982). Demographic Indicators of Countries: Population of Nigeria, 1950-2025. New York: U.N. Publishers.
- United Nations. (1980). "Upgrading of Urban Slum and Squatter Areas", Mexico City: Report of the Executive Director.
- United Nations. (1976). Housing Policy Guidelines for Developing Countries. New York: United Nations Press.
- United Nations. (1976). Report of Habitat: U.N. Conference on Human Settlements, A/Conf/70/15. Vancouver: U.N. Publishers.
- United Nations Centre for Human Settlements (UNCHS). (1981). The Residential Circumstances of the Poor in Developing Countries. New York: Praeger Publishers.
- United Nations Economic and Social Council, (1973). World Housing Survey Report of the Secretary-General. New York: United Nations.
- United States Agency for International Development (USAID). (1976). Conference on Housing in Asia: National Shelter and Urban Strategies. Seoul, Korea, Oct. 28-31.
- United States Bureau of Land Management. (1962). Public Lands Bibliography. Washington: Government Printing Office.
- United States Bureau of Census, (1967). Measuring the Quality of Housing, An Appraisal of Census Statistics and Methods. Washington: Working Paper No.25.
- University of Ibadan, (1969). Conference on National Reconstruction and Development in Nigeria. Ibadan: University of Ibadan Press.
- Usoro, E. (1974). The Nigerian Oil Palm Industry. Ibadan: Ibadan University Press.
- Uyanga, J. (1982). Towards A Nigerian National Urban Policy. Ibadan: University of Ibadan Press.
- Walizer, M.H. and Wienir, P.L. (1978). Research Methods and Analysis. New York: Harper and Row Publishers.
- Wallace, T. (1981). "The Challenge for Food: Nigeria's Approach to Agriculture 1975-80", Canadian Journal of African Studies, 15:2, pp. 239-258.

- Ward, P. (1982). Self-Help Housing: A Critique. London: Mansell Publ.
- Watson, G. and McGraw, D. (1980). Statistical Inquiry. New York: John Wiley & Sons.
- Wegelin, E. (1978). Urban Low-Income Housing and Development. Boston: Nijhoff Social Sciences.
- Weintraub, S. (ed). (1977). Modern Economic Thought. Oxford: Basil Blackwell.
- Weiss, Y. (1978). "Capital Gains, Discrimination and the Choice Between Renting and Owning a House", Journal of Public Economics, 10, pp. 45-55.
- Wellar, B.S., et al. (1968). Comments on the Definition and Measurement of Housing Quality. Research Report No.46. Evanston, Illinois: Department of Geography, Northwestern University.
- Wellar, B.S. (1969). "A Program for Selection and Acquisition of Housing-Environment Data". Doctoral Dissertation: Evanston, Illinois: Department of Geography, Northwestern University.
- Wellar, B.S. and Graff, T. (1972). Introduction and Selected Bibliography on the Quality of Housing and its Environment, Council of Planning Librarians, Monticello, Illinois.
- Wellar, B.S. (1975). Housing For the Future: Questions And Areas For Action, Discussion Paper, B.75.8. Ottawa: Ministry of State for Urban Affairs.
- Wellar, B.S. (1981). Directions in Economic Development. (Book review) in, The Annals of Regional Science, 25, pp. 101-104.
- Wellar, B.S. (1982). "Urban Impact Assessment in Public Policy Processes: The Canadian Record, 1968-1982", The Canadian Journal of Regional Science, 5:1, pp. 39-65.
- Wellar, B.S. (1984a). "Information for Decision-making by Rural Public Authorities", in, Local Leadership and Rural Development. Washington: USDA, Extension Services and Economic Research Service.

- Wellar, B.S. (1984b). "National Urban Policy in the Coming Decades: Structural and Functional Adjustment to Settlement Systems by Dirigisme, Accommodation or Laissez-Faire?", Second World Regional Science Conference. Rotterdam, Netherlands: Economic Institute, Erasmus University.
- Wellar, B.S. (1986). "The Need For And Nature of A Policy Context For Rural Planning in The Coming Decades", Los Angeles: Annual Conference of the American Planning Association (APA), April 6-9.
- Weicher, J. (1980). Housing: Federal Policies and Programs. Washington, D.C.: American Institute for Public Policy.
- Weinard, H. (1973). "Some Spatial Aspects of Economic Development in Nigeria", The Journal of Developing Areas, 7, pp. 247-264.
- Wexler, M. (1979). The Assessment of Environmental Quality in New Residential Development. Montreal: INRS.
- Williamson, J. (1965). "Regional Inequality and the Process of National Development, A Description of Patterns", Economic Development and Cultural Change, 13, pp. 3-45.
- Wingo, L. (1961). "An Economic Model of the Utilization of Urban Land for Residential Purposes" in, Papers and Proceedings of the Regional Science Association, 7.
- World Bank (1974). Sites and Services Projects. Washington, DC: World Bank.
- World Bank (1975). Housing: Sector Policy Proper. Washington, DC: World Bank.
- Yeates, M.H. and Garner, B.J. (1971). The North American City. New York: Harper and Row Publishers.
- Yeh, H. (1979). Housing Asia's Millions: Problems, Policies and Prospects for Low-Cost Housing in South-East Asia. Ottawa: The International Development Research Centre (IDRC).
- Yeung, Y. (ed). (1983). A Place to Live: More Effective Low-Cost Housing in Asia. Ottawa: IDRC-209e.
- Zartman, I. W. (1983). The Political Economy of Nigeria. London: Praeger Publishers.