

**IN PURSUIT OF CHANGE:  
LESSONS FROM THE SITE-AND-SERVICES EXPERIENCE IN NAIROBI, KENYA**

by

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by

ALTAF MULLA

Submitted to the Department of Architecture and the Department of Urban Studies and Planning on May 23, 1983, in partial fulfillment of the requirements for the Degrees of Master of Science in Architecture Studies and Master of City Planning.

**ABSTRACT**

Urbanization in Kenya is taking place at a tremendous pace. The population of Nairobi, Kenya's largest urban center, is expected to double between 1980 and 2000, and the city faces many of the typical problems experienced by other Third World metropolises. In terms of shelter alone, between thirty and forty percent of the city's inhabitants live in uncontrolled settlements, most of which lack essential services. This thesis is based upon the proposition that alternative ways and means for dealing with problems of this nature and magnitude in resource-constrained situations must be found. The concept of site-and-services is viewed as a viable alternative in this respect, and is studied as an example of planned change.

The thesis is divided into two parts. Part One presents an account of the planning and implementation of site-and-services schemes in Nairobi over a period of two decades by tracing the introduction and application of a relatively new approach to low-cost urban shelter provision, a concrete illustration is provided of the types of problems and conflicts likely to arise in similar efforts to realize planned change.

Part Two focuses on two aspects related to the process and nature of change. Alternative strategies for achieving or influencing change are discussed with reference to particular incidents in the Nairobi experience. An examination of positive attributes of change follows, and the extent to which the site-and-services concept (in theory, and as applied in Nairobi over time) lends itself to the phenomenon of planned change is explored. Some observations on the scope and prospects for planned change are offered.

Thesis Supervisor: Julian Beinart

Title: Professor of Architecture

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dedicated to:

MAMA  
PAPA  
ANHAR  
and  
LORIE

I love you all dearly

#### ACKNOWLEDGEMENTS

I would like to express my sincere appreciation to Julian Beinart, Donald Schon and John de Monchaux for their advice, support, patience and understanding.

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Chapter One: INTRODUCTION

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## THE URBAN PROBLEM IN THE THIRD WORLD

Over the last half century or so, most Third World cities have become arenas of rapid, continuous, and sometimes turbulent, change. Almost all current indicators appear to suggest that this state of affairs will prevail well into the foreseeable future. Most cities have experienced massive population growth due to a combination of high levels of migration from rural to urban areas, high birth rates and lower death rates. In 1950 approximately twenty percent of the total population in developing countries lived in urban areas. By 1975, this proportion had risen to an estimated thirty-one percent.<sup>1</sup> Between 1950 and 1975 the urban areas of developing countries absorbed some 400 million people; between 1975 and 2000, the increase is projected to be close to one billion people.<sup>2</sup> Some forty-five percent of the people in developing countries are expected to be living in cities and towns by the year 2000.<sup>3</sup> Excessive growth or *hyper-urbanization*<sup>4</sup> is most severe in large or primate cities.

Dramatic examples of this population explosion are Mexico City and Sao Paulo which each grew by over half a million people annually during the mid-1979's. Around the same time, the number of inhabitants in Djakarta and Seoul increased by over a quarter of a million.<sup>5</sup> The number of very large cities in the developing world is expanding rapidly. It is expected that the number of cities with populations of one million or more will rise from 118 in 1980 to 284 in 2000,<sup>6</sup> and that the number of people living in them will triple.<sup>7</sup> There is greater concern over cities with five million or more inhabitants (termed *super cities* by the United Nations Fund for Population Activities). In 1950 there were only two *super cities* in the developing world - Greater Buenos Aires and Shanghai - while in 2000 it is expected that forty-five such cities will exist there.<sup>8</sup> Twelve of the world's fifteen largest cities will be in developing countries by the turn of the century.<sup>9</sup> Although there has been a strong tendency to concentrate economic resources in the major metropolitan areas, employment

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opportunities have been unable to keep pace with demand and have lagged further and further behind. Meanwhile, it is estimated that an additional 600 million people will join the labor force in the Third World between 1980 and 2000.<sup>10</sup> Despite the fact that the incidence of poverty is less in urban than in rural areas, the absolute numbers of poor living in towns and cities are large.

According to World Bank estimates (1978), regional averages for the proportions of urban population with below poverty level incomes varied from as low as 18.2 percent for the North Africa, Middle East, and Southern Europe region to as high as 50.3 percent for the South Asia region.<sup>11</sup> Some of these people live in conditions of abject poverty; they are unable to meet even their most basic needs in terms of food, clothing and shelter. In most instances, the public sector has been unable to generate sufficient revenues and has paid inadequate attention to cost recovery. City authorities suffer from serious shortages of skilled

manpower and other essential resources. Most recently, urban growth and development has been affected by the climate of declining national economies and frequently unstable political environments. Under these conditions shelter provision and public service delivery systems are inadequate or non-existent. Crude estimates for the percentage of city populations living in slums or squatter settlements for sixty-six selected cities in the Third World provided a median figure of a staggering forty-three percent. These crude estimates ranged from as low as 1.5 percent (Beirut) to as high as ninety percent (Yaounde and Addis Ababa).<sup>12</sup> While urban areas are on average much better serviced than rural areas, substantial portions of urban populations in developing countries do not have access to safe water or excreta disposal. In most instances, the urban poor also have limited access to health services and educational opportunities.

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## NEED FOR CHANGE

All of the above circumstances, and more, have put a tremendous amount of stress and strain on the institutional and physical apparatus in Third World cities. There has been a gradual recognition of the inadequacies and inappropriateness of conventional wisdom and traditional schools of thought in the area of urban planning theory and practice. As a result, policy-makers, planners and designers have been forced to re-examine their existing basis for professional expertise, search for alternative approaches, and devise new ways and means for bringing about phenomenological and structural change.

The kind of change being discussed here is typified by the urban policies espoused by organizations such as the World Bank. Over the last decade, the World Bank has been one of the major financiers of so-called *new-style*<sup>13</sup> urban projects in the Third World, and an influential actor in the trafficking of ideas.

The World Bank's activities in the urban sector include the following:

- Member countries have been actively encouraged to make policy changes favoring low-cost approaches in providing shelter and essential services such as roads and water-supply systems. Authorities have been advised to tap private savings from beneficiaries wherever possible, and invest public funds in more efficient and equitable ways.
  - Assistance has been channelled towards projects specifically designed to help the poor, provide land tenure, promote cost recovery and introduce affordable design standards and procedures.
  - Increasing attention and resources are being focussed on the development of institutional capacity by improving project management, providing facilities for specialized training of project personnel, streamlining cumbersome bureaucratic procedures, making administration more effective through the use of incentive mechanisms, stiff penalties and enforceable legal controls, and pressing for greater
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coordination amongst public agencies. Due to the unconventional nature of many projects, previous experience and know-how have often been lacking. To overcome this, the World Bank has advocated an approach of systematic *learning-by-doing*.

In a World Bank staff World Working Paper, Linn (1979)<sup>14</sup> identifies what he considers to be the major policy issues facing those who are concerned with the growth of cities in the Third World. Linn also discusses policies designed to achieve increased efficiency and equity in urban development, and prescribes thirty-two *do's* and *don'ts* for decision-making in the public policy arena.<sup>15</sup>

This list covered the following areas: administration, regulation, taxation, public investment in urban infrastructure, pricing of public services, social services, small scale enterprise, and the land market. The application of these *do's* and *don'ts* would entail significant institutional change in most

cases, and a shift in approach towards technical issues.

This thesis and implementation process. The decision focuses on the issue of positive change in the planning and to select the theme of change rose out of a belief that alternative and innovative approaches which grapple effectively with the problems facing Third World cities need to be found.

A case study methodology is used in this thesis. The site-and-services approach to low-cost urban shelter and community development is used as an example of positive and innovative change. By documenting and analyzing the dynamics of a particular experience in a specific context, the intention is to shed light on how to go about planning and implementing positive change. The site-and services approach to low-cost urban shelter and community development is used here as an example of positive change: on the one hand it is viewed as the product of a shift (change) in thinking about shelter provision

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under resource-constrained conditions, and on the other hand, it is seen as a vehicle for achieving increased socio-economic benefits (change).

### THE CASE

Nairobi, Kenya, from the mid 1950's through the decade of the 1970's is the context for this study. The experience with site-and-services schemes in this city during the period mentioned is described and analyzed, and some general lessons are drawn.

A primate city, Nairobi faces many of the typical problems encountered by large Third World cities: rapidly increasing population; mushrooming squatter settlements, mounting traffic congestion and transportation problems; overburdened physical infrastructure; rising unemployment; inadequate social services; a widening of the visible gap between the rich and the poor, accompanied by political tension and social unrest. The Kenyan economy has also been

hard-hit by rising energy costs and declining world-market prices for its agricultural exports.

### OVERVIEW OF CONTENTS

The thesis consists of two distinct but related parts. Following this Introduction, Part One provides background information on the context, and then proceeds to give a detailed account of the planning and implementation of site-and-services schemes in Nairobi over a period spanning about two and a half decades, from the mid-1950's to the end of the 1970's. The development and application of the site-and-services concept is carefully traced in three successive low-cost shelter projects, all involving the Nairobi City Council (NCC) as the main planning and implementing authority.

Chapter Two begins by sketching out the nature and extent of urbanization in Kenya. Against this back-drop, a more detailed picture of Nairobi presented. The city's institutional and

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physical settings are described, and their predominant and striking features are drawn out. This chapter is designed to equip the reader with some perspective for viewing the chronological unfolding of events which follow to occupy the rest of Part One.

Chapter Three dwells on two major developments which occurred in the mid-1960's, during the first few years of Kenya's post-independence era. These two developments were: a) a visit by a United Nations mission to study Kenya's housing problems; and b) the subsequent formation of a national housing authority. The former resulted in the first formulation of comprehensive national housing policy, and set the stage for Kenya to receive large amounts of foreign assistance, financial and technical, in the field of housing/shelter. The latter set up an institution, the National Housing Corporation (NHC), with the potential to implement housing programs nationwide on a large scale. However, many observers agree that the performance of the NHC has been dismal. Some of the probable

reasons for this prevailing state of affairs are explained.

Chapter Four outlines the development of two site-and-services schemes in Nairobi during the mid- and late-1960's; Kariobangi and Mathare. These two schemes represent the earliest attempts in post-independent Kenya to change the role of public authorities from providing complete housing units to

*...sub-division of urban land and its servicing with varying combinations and levels of public utilities and community facilities for residential and commercial use.<sup>16</sup>*

The Kariobangi scheme consisted of a single standard sized lot and communal sanitary facilities throughout the whole site. No community or commercial facilities were included in this scheme. The Mathare scheme went much further than the Kariobangi scheme in what it attempted to accomplish. There were three types of lots, distinguished primarily by varying levels of services. The plans for the scheme, which was

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not fully realized, also included various community facilities and the location of small scale commercial and industrial activity. Both the Kariobangi and Mathare schemes set important what it attempted to accomplish. There were three types of lots, distinguished primarily by varying levels of services. The plans for the Mathare scheme, which was not fully realized, also included various community facilities and the location of small scale commercial and industrial activity. Both the Kariobangi and Mathare schemes set important precedents for the following generation of internationally sponsored site-and-services projects.

Chapter Five presents a detailed account of the largest single site-and-services scheme planned and implemented in Kenya to date; this is the World Bank sponsored Dandora Community Deveopment Project (DCDP) in Nairobi the inception and planning of this project spanned a four year period during which progress appears to have been achieved through a series of struggles. The account covers the completion of

Phase One of the DCDP, and ends at the detailed planning stage of Phase Two. Key episodes of this saga have been related with a view to surfacing the major issues and competing forces. Compared to the Kariobangi and Mathare schemes, the DCDP represents a quantum jump in the development and application of the site-and-services concept in the specific context of Nairobi.

Overall, the author's intention in Part One has been to provide the reader with an instructive tale of the introduction, and the subsequent evolution and application of a relatively new concept in a specific context.

Part Two examines two practical aspects of planning and implementing change: one, alternative strategies for positive intervention in the planning and implementation process; and two; the nature of the planned change itself. No attempt is made to give a full or even partial explanation for the tale told in Part One of this thesis. Rather, two typologies are used to zero in on two important aspects of change

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pertaining to process and product.

Chapter Six looks at the process and focusses on the various types of strategies which may be employed to bring about, or influence, planned change. A typology of such strategies, borrowed from the social sciences, is used as an aid for identifying and analyzing certain deliberations within the Nairobi site-and-services experience. These deliberations involve those steps taken to deliberately bring about, or influence, a state of change. The typology of strategies consists of facilitative, re-educative, persuasive and power strategies. Each type of strategy is briefly discussed together with the instances of its use in the Nairobi experience. The pros and cons of each type of strategy for planned change are explored. At the beginning of the chapter, a brief case is made in favor of change - oriented planning and implementation process. The last two sections of this chapter are commentaries on the prevailing attitudes amongst officials concerned with public housing, and the role of expatriates in the formulation of

housing policies and programs.

Chapter Seven looks at the special attributes, or characteristic features, of change (as a product) which are most likely to influence its introduction, acceptance, adoption, and application. Using a set of positive attributes of change as a yardstick, the site-and-services concept is measured in terms of its suitability for change. Accompanying this evaluation of the site-and-services concept in theory, is a parallel assessment of the concept in practice as applied in the case of Nairobi.

The final chapter of this thesis presents concluding remarks about an agenda for planned change, and some observations about the scope and prospects for such change efforts in Nairobi.

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**FOOTNOTES**

- 1 LINN, J.F., Policies for Efficient and Equitable Growth of Cities in Developing Countries, Staff Working Paper No. 342 (Washington, D.C.: The World Bank, 1979), p. 1.
  - 2 THE WORLD BANK, World Development Report 1979 (New York: Oxford University Press, 1979), p. 72.
  - 3 Ibid., p. 72.
  - 4 The Urban Edge, Vol. 6, No. 11 (Washington, D.C.: Council for International Urban Liaison, December 1982), p.3.
  - 5 THE WORLD BANK (1979), op. cit., p. 72.
  - 6 The Urban Edge, (December 1982), op. cit., p. 2.
  - 7 Ibid., p. 2.
  - 8 Ibid., p. 2.
  - 9 Ibid., p. 2.
  - 10 Ibid., p. 2
  - 11 Cited in LINN (1979), op. cit., p. 33.
  - 12 Ibid., pp. 35-36.
  - 13 THE WORLD BANK, The World Bank Annual Report 1982, (Washington, D.C.: The World Bank, 1982), p. 36.
  - 14 LINN (1979), op. cit.
  - 15 Ibid., pp. 109-114.
  - 16 THE WORLD BANK (1974) quoted in Turner, A. (editor), The Cities of the Poor: Settlement Planning in Developing Countries (New York: St. Martin's Press, 1980), p. 268.
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**PART ONE**  
**AN INSTRUCTIVE TALE . . . .**

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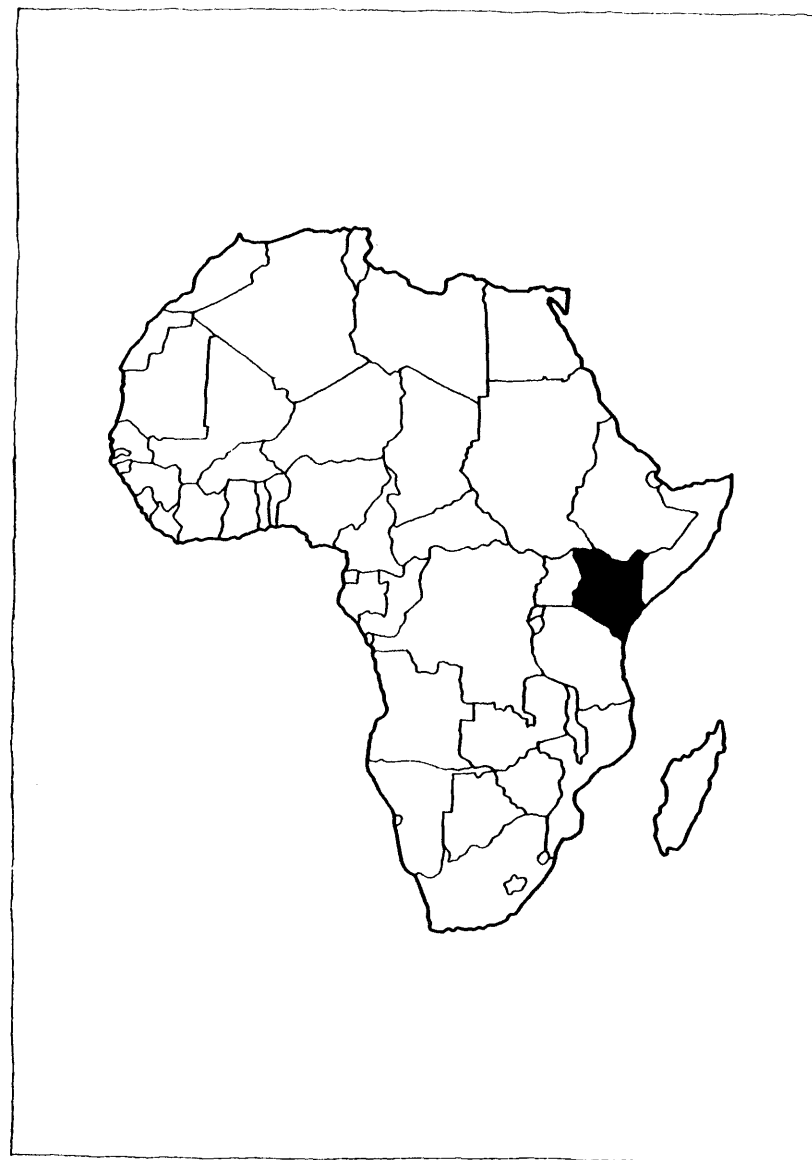
**Chapter Two: THE CONTEXT**

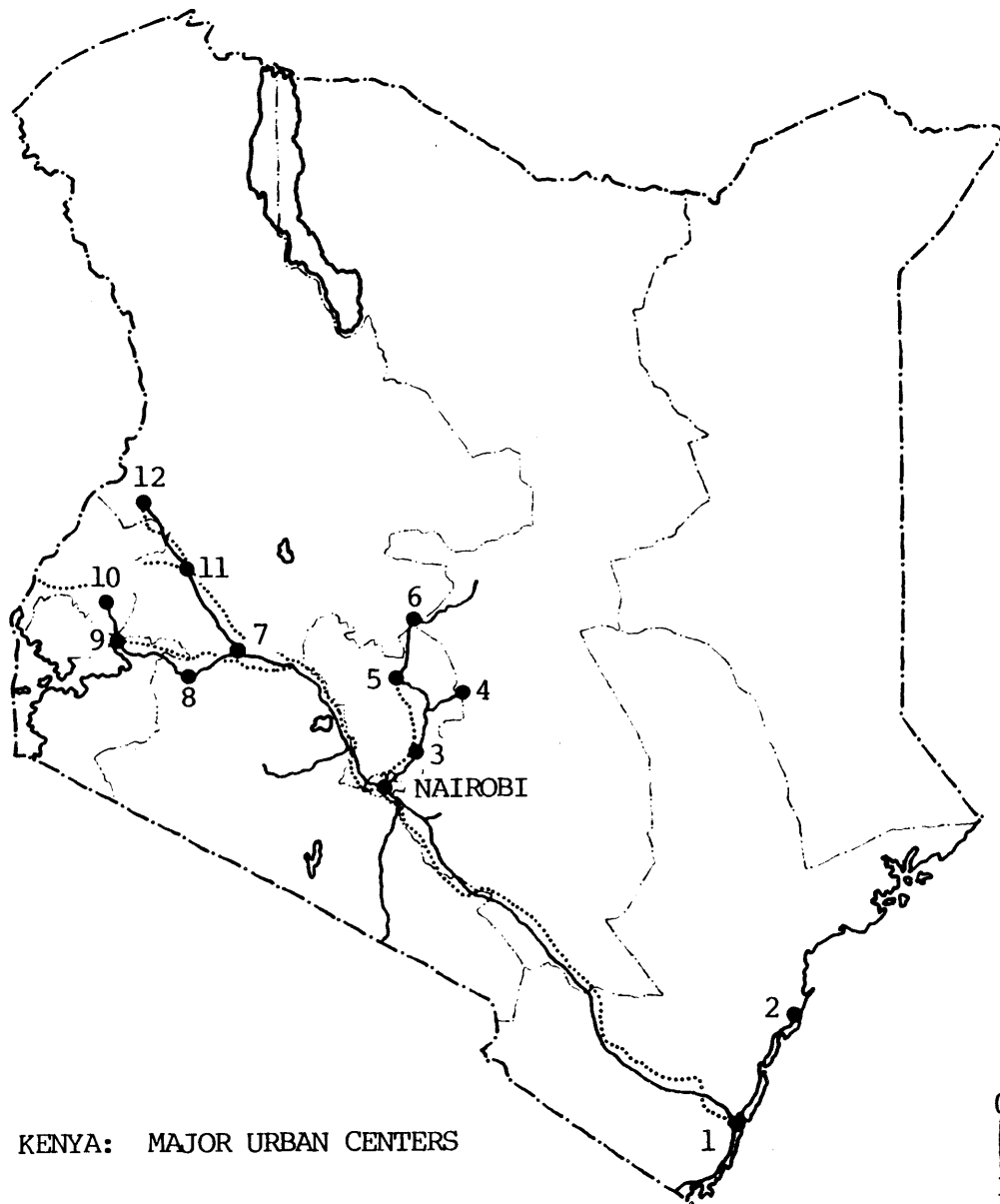
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### URBANIZATION IN KENYA

Kenya has one of the world's highest population growth rates (3.3%), and its total population is estimated to double between 1980 and 2000.<sup>1</sup> Although over eighty-five percent of Kenya's population is still rural, urbanization is proceeding at a tremendous pace.

According to census figures, Kenya's towns (settlements of 2000 inhabitants or more) increased in number from seventeen to forty-eight between 1948 and 1969, and there were sixty-eight such settlements in 1978. During the period from 1948 to 1969, the urban population grew proportionately from 5.1 percent to 9.9 percent of the total population, and in 1978 this figure rose to 14.3 percent. From 1962 to 1969 Kenya's urban population grew at an average rate of 7.1 percent per annum, more than double the annual average rate of growth of the country's overall population. In recent years urban growth rates have averaged 7.7 percent a year.



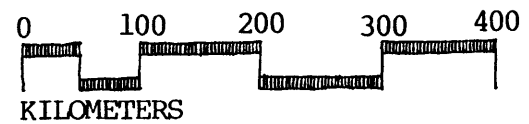


- 1 MOMBASA
- 2 MALINDI
- 3 THIKA
- 4 EMBU
- 5 NYERI
- 6 NANYUKI
- 7 NAKURU
- 8 KERICHO
- 9 KISUMU
- 10 KAKAMEGA
- 11 ELDORET
- 12 KITALE

— NATIONAL HIGHWAY  
 ..... RAILWAY  
 - · - · - PROVINCIAL BOUNDARY

● URBAN CENTERS WITH  
 10,000 OR MORE INHABITANTS,  
 c. 1978

KENYA: MAJOR URBAN CENTERS



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Planners project that the number of *urban* settlements will rise to 108 by 1983, and that by the year 2000, a staggering 8.5 million people will reside in Kenya's cities and towns.

All this puts immense stress and strain on the country's institutional apparatus and physical infrastructure. In terms of housing alone, there was an estimated shortfall of 140,000 units in urban areas in 1979. Approximately 30,000 units per year were needed to handle the increase in demand between 1979 and 1983.

Government estimates indicate that about sixty percent of all urban families earn less than the median urban income in 1979, and of the existing 440,000 urban households, only thirty percent were expected to have sufficient incomes to afford minimum cost conventional housing. Already about thirty-five percent of all urban households exist in squatter settlements or slums.

The serious shortages in housing and basic

services in the nation's rapidly growing urban settlements tell only part of the story. On the basis of aggregate statistics, Kenya's economic growth has been steady and healthy. The per capita Gross National Product (GNP) grew by an annual average of 2.2 percent between 1960 and 1978. By which time it had reached a figure of US \$330. Between 1965 and 1972, Kenya's per capita GNP grew at a average annual rate of 4.1 percent, one of the highest rates in Black Africa. But while the country's economy appeared to be steaming ahead at an impressive rate, income distribution was lagging seriously behind. A study of income distribution in sixty-eight countries, carried out for the World Bank and published in 1974, revealed that Kenya had one of the highest degrees of inequality.<sup>2</sup> One source approximates that 20.2 percent of the national income is received by the top five percent of the population, while the bottom twenty percent receive 3.9 percent; forty-three percent of the total population is said to be living under conditions of so-called absolute poverty.<sup>3</sup> In a comparative analysis of

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Kong, Madras, Mexico City and Nairobi - Nairobi was found to have the highest proportion of households unable to afford even the cheapest unit of conventionally built public housing.<sup>4</sup> The reduction of inequality, particularly in the larger urban centers where it is starkly visible, is one of the most crucial problems facing Kenya today, a problem which is more than likely to undermine the country's political stability.

However, pessimistic pronouncements about the existence of urban poverty in Kenya should be treated with caution. Collier and Lal (1980) in a recent World Bank staff working paper, suggest that urban poverty in Kenya is *limited in extent* and that *its incidence has not increased over the years*.<sup>6</sup> They estimated that given a well accepted definition for a household poverty line in Nairobi (K Shs 2,150 per annum in 1974), less than three percent of the urban population was poor in 1974. Only a very loose correlation was found between unemployment and urban poverty.

However, the average urban *poor* household was found to have 1.44 members in the labor force as compared with 1.76 for all urban households and 2.2 for non-poor households. The implication of this is that the number of dependents is higher for *poor* urban households. It should also be noted that these poor urban households are much more likely to have some of their family members still living in the rural home to whom a significant portion of the urban household income will be remitted.

Collier and Lal caution readers to treat their findings and comments as suggestive, not conclusive. More extensive and reliable data will be needed to confirm their hypotheses. But the Collier and Lal paper does serve to illustrate the notion that decision-makers must maintain a critical attitude towards assumptions, theories, data and *ideas in good currency*, particularly if their mission is to *foster change and innovation*.

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### NAIROBI'S SHELTER NEEDS

Nairobi is Kenya's capital city, and with an estimated population of some 959,000 in 1978<sup>7</sup>, remains the hub of Kenya's expanding modern sector. In 1977 Nairobi contained more than half the nation's wage-earners and close to half of its urban population.<sup>8</sup> During the mid- and late-1970's, Nairobi's population was growing by some 60,000 per year, and at least 10,000 additional dwelling units were needed annually just to meet this growth.<sup>9</sup> At the same time approximately forty percent of Nairobi's households were estimated to have a monthly income of less than K Shs 500 (US \$70 approximately)<sup>10</sup> A report published by the University of Nairobi's Housing Research and Development Unit (H.R.D.U.) in 1971 suggested that one-third of Nairobi's population lived in *uncontrolled or spontaneous housing and there are many more families who share single rooms in overcrowded public housing.*<sup>11</sup> The majority of uncontrolled settlements in Nairobi lack adequate safe water supplies and basic sanitation.<sup>12</sup>

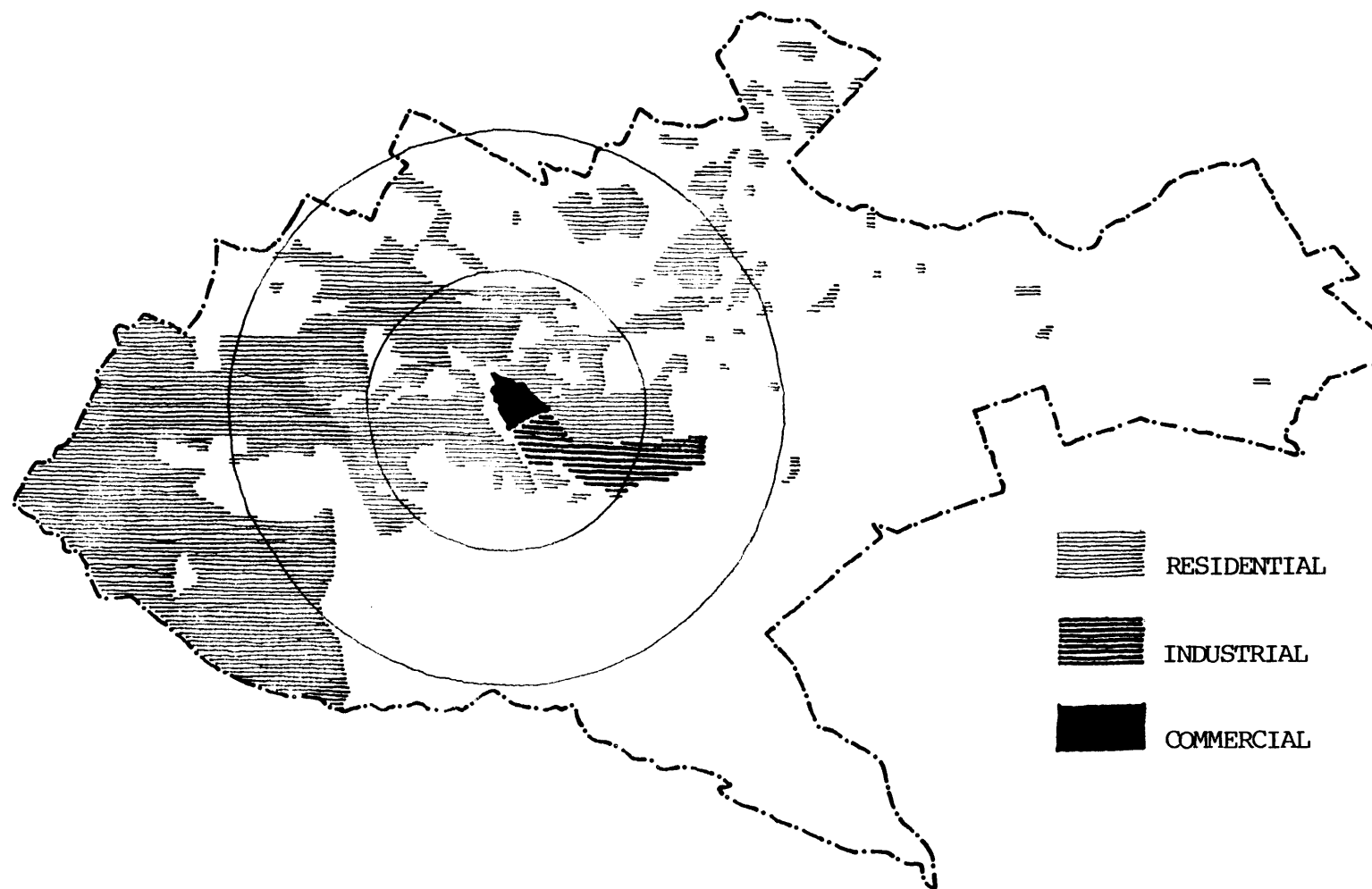
### NAIROBI'S URBAN FORM

With the coming of National Independence in 1963, Nairobi was transformed overnight from a *settler capital*<sup>13</sup> to the capital of a proud, independent African nation state. The new city administration and the national government inherited a city which had literally been built from scratch to primarily serve the interests of the colonial settlers. White supremacy, racial discrimination and segregation, isolation and control of Africans, separation of land uses by function, the impact of transportation technology (railway and automobiles) and the *Garden City* movement, *inter alia*, were all evident in Nairobi's urban form.

Particularly in residential areas, racial segregation was one of the primary goals of the colonial administration. The stratification of Nairobi's major residential areas was achieved through a combination of public policy, private agreements, cultural preferences and economic

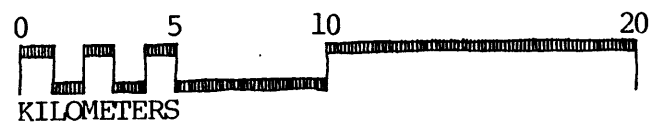
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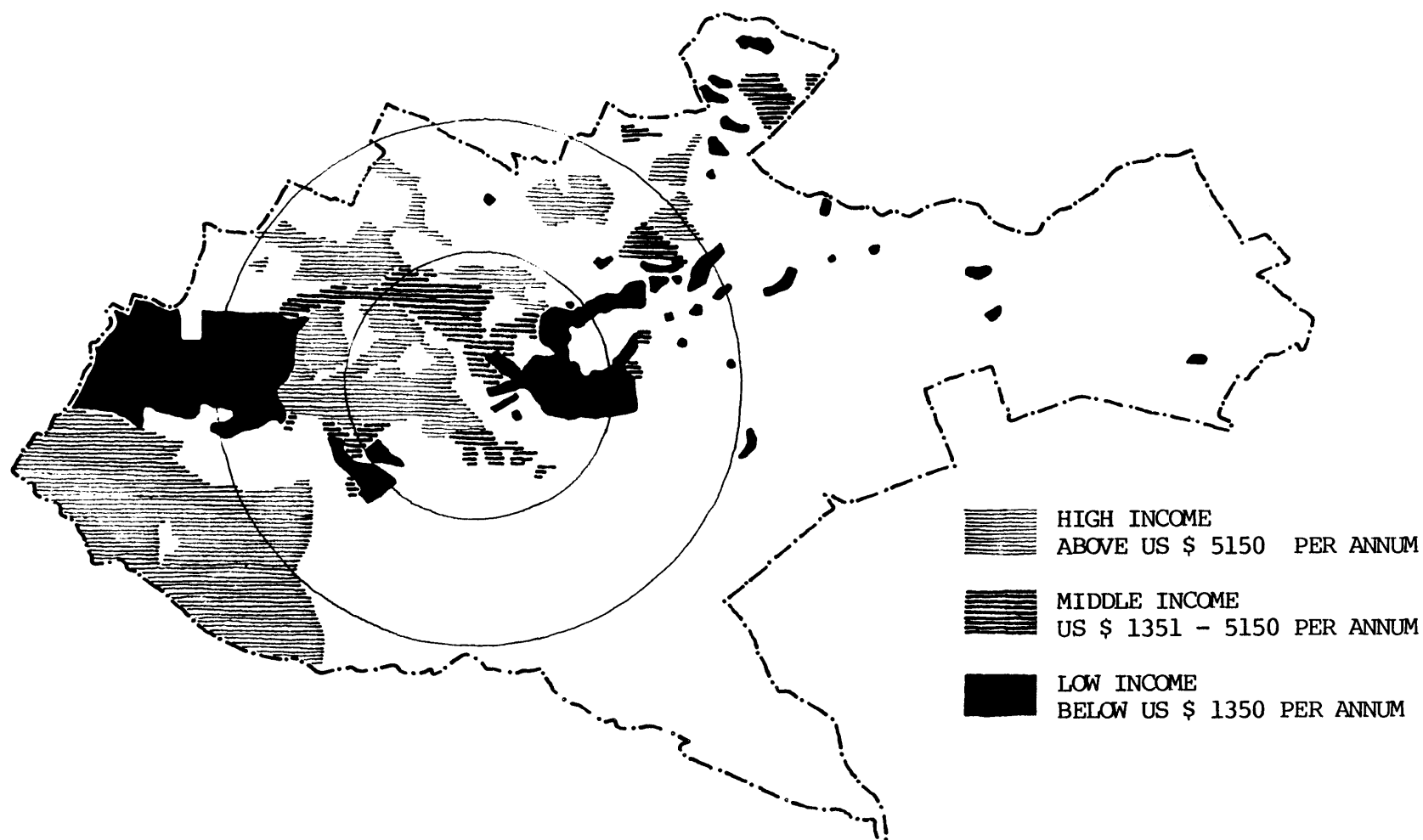




NAIROBI: URBAN LAND USE PATTERN,  
c. 1971

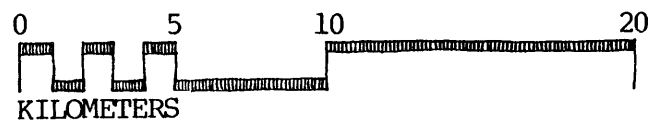
Source: GATTONI, G. and P. PATEL (1973)

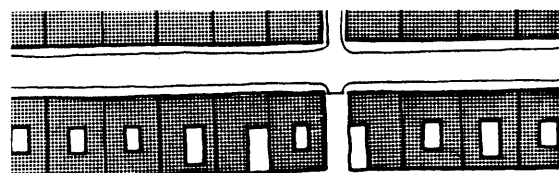




NAIROBI: URBAN INCOME PATTERN,  
c. 1971

Source: GATTONI, G. and P. PATEL (1973)





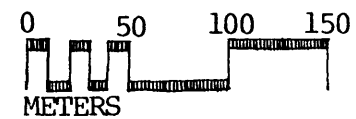
NAIROBI RIVER

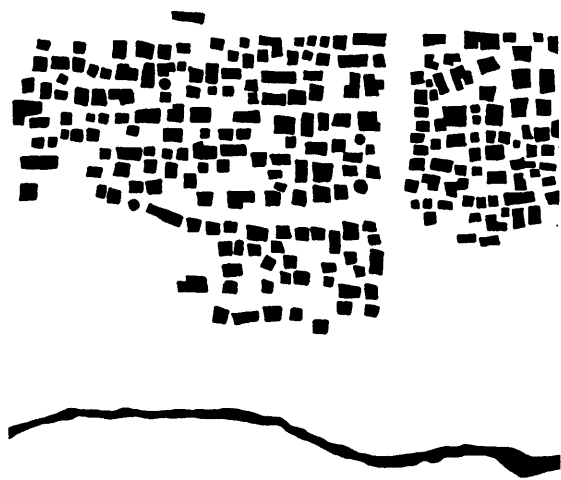


MATHARE VALLEY

EXAMPLES OF SQUATTER SETTLEMENTS IN NAIROBI, c.1972

Sources: GATTONI, G. and P. PATEL (1973), and  
SEID, A.L. (1974)





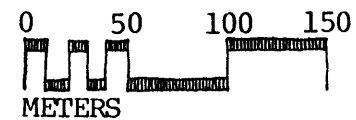
KARURA FOREST



MATHARE VALLEY

EXAMPLES OF SQUATTER SETTLEMENTS IN NAIROBI, c.1972

Sources: GATTONI, G. and P. PATEL (1973), and  
SEID, A.L. (1974)



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forces. Distinct African, Asian and European areas emerged which were characterised by sharp differences in level of services and facilities, density, income, dwelling construction and environmental quality.

A graphic account of the deplorable living conditions of Africans is given by one Kenyan African writer:

*In the African locations there were poor lights in the streets. Library facilities and social halls were ill-equipped. Public lavatories were very, very dirty. Some of them did not have running water. Instead, they had hard tins like dustbins in which people "eased" themselves. There was an inescapable offensive smell when these bins were full of faeces, and especially when the municipal workers who removed them were late (as they always were). One public lavatory was used by over a thousand people.*

*In the African houses there were no lights, water supplies, or gas for cooking. The Africans used paraffin or kerosene oil lamps, charcoal fires for cooking, and water drawn in tins or emptied oil drums.*

*In each African location there was a water tap where long queues of people lined up with their tins and drums. If you wanted to cook a quick meal, it was impossible unless you had some spare water in the house.*

*Like public lavatories, one water centre served about one thousand people and was open only three times a day. You could see three or four columns of queues around one centre. Some people had to line up with their tins and drums about fifteen minutes to six in the morning. The last hour of closing the centre was seven in the evening. The water was supplied by one pipe.<sup>14</sup>*

In addition to the deplorable housing conditions, Africans generally lacked access to medical and educational facilities. An example of the complete injustice prevailing in that social system is provided by the observation that, in 1955 more than fourteen times as much was spent on a European child's education and three and on half times as much on an Asian child's education as on that of an African child.<sup>15</sup> When services or facilities were provided in African locations, they were primarily motivated by a desire to limit the

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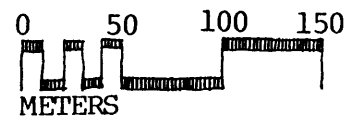
TYPICAL EUROPEAN RESIDENTIAL  
AREA - PARKLANDS

NAIROBI

Source: GATTONI, G. and P. PATEL (1973)



TYPICAL ASIAN RESIDENTIAL  
AREA - EASTLEIGH



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necessity for the *native* to frequent other parts of Nairobi. Africans were also denied access to the city's better hotels, restaurants, bars, clubs and the like. Social interaction between the different races was all but non-existent.

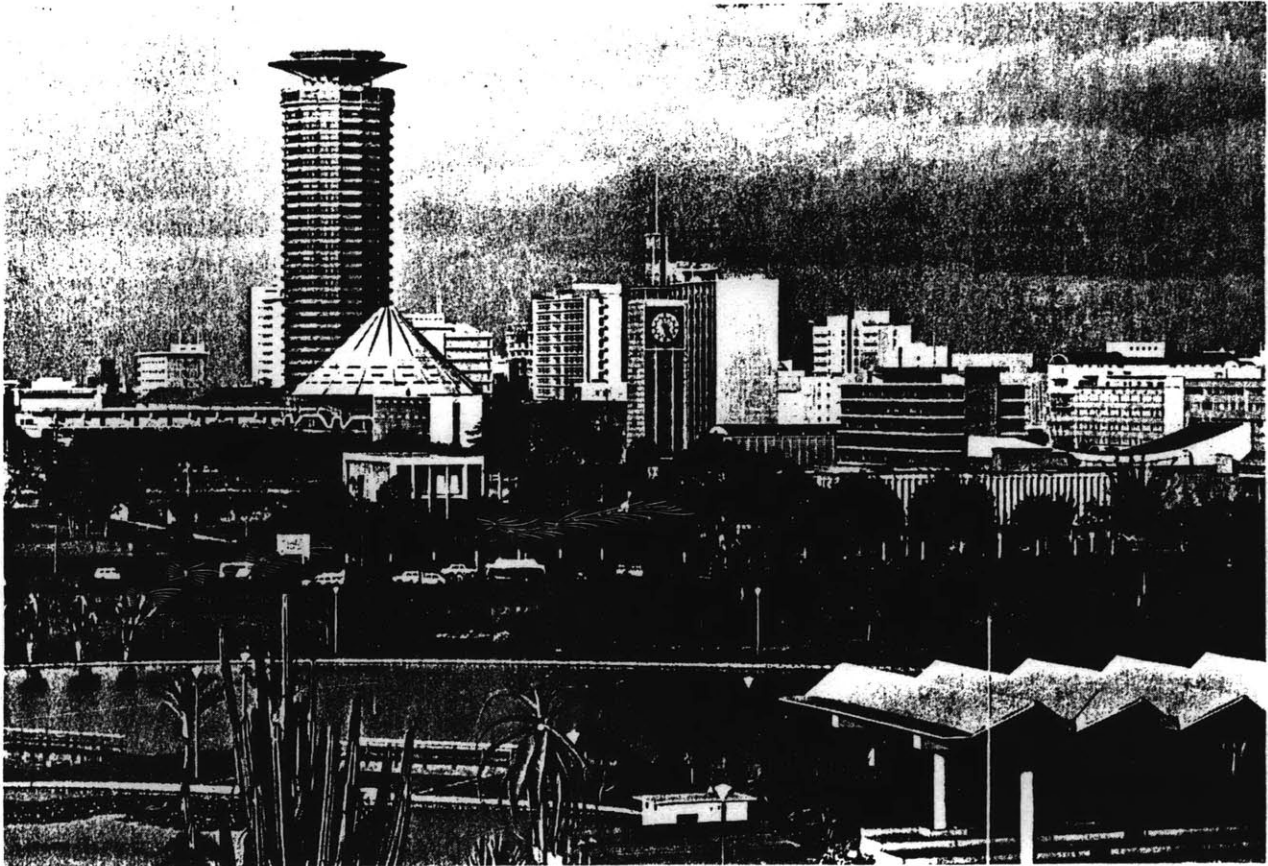
During the post-Independence era, decision-makers have exercised a policy of dualism for the purposes of shaping Nairobi's growth and development. Substantial progress has been made in terms of giving Africans increased access to housing, social services, and educational and employment opportunities. As this thesis documents, increasing attention has been given to addressing low-cost shelter needs in Nairobi, especially during the 1970's. Meanwhile, economic stratification has replaced racial stratification. Areas which were predominantly African prior to Independence have remained so, and are now the domain of the lower-income sectors of the African population. Residential areas, previously the exclusive territory of Europeans and Asians, now accommodate the growing

ranks of the African middle-class, and the African business, professional and political elite.

Official attitudes and actions have served to, both directly and indirectly, preserve and promote this type of stratification. Overall public expenditure programs have favored the interests of the advantaged over the needy. The emphasis on more expensive tenant-purchase housing schemes is a case in point.

A brand-new international airport, complete with all the latest electronic gadgetry, was built in the mid 1970's. Resources continue to be poured into catering for the needs of a growing tourist and convention industry. Housed in a luxurious new facility, the United Nations Environment Program is headquartered in Nairobi, and increasing numbers of multi-national businesses have recently set up regional bases in the city. High-rise hotels and offices have mushroomed across downtown Nairobi, and the

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DOWNTOWN NAIROBI, THE IMAGE OF A MODERN INTERNATIONAL METROPOLIS



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infrastructure has had to be upgraded. The city is viewed as one of Africa's leading metropolises, and there are many decision-makers who believe that investment in such prestige pays substantial dividends.

Residential zoning regulations pertaining to physical factors such as minimum lot size, plot ratio, maximum lot coverage, minimum dwelling standards and quality of construction, which were in effect during the colonial period, remained intact in principle and spirit for at least the first decade of Kenya's post-Independence era. According to one estimate, eighty percent of the residential land in Nairobi was occupied by twenty percent of the city's population.<sup>16</sup> Under these circumstances, as Nairobi experienced a tremendous unflux of population, the result, naturally, was that certain areas experienced overcrowding accompanied by deteriorating environmental conditions.

A study of landowning in Nairobi in 1970, done

by B.M. Kimani of the University of Nairobi, produced some interesting results.<sup>17</sup> Asian, Europeans, and businesses (predominantly under the proprietorship of Asians) owned over sixty percent of the land acreage within the city boundary.

Africans, who made up eighty-three percent of Nairobi's population according to the 1969 census, owned a mere 3.9 percent of the city's land acreage, and much of this consisted of highly fragmented parcels with a relatively lower market value. Kimani approximated the following:

- 1 acre of African-owned land for every 800 Africans;
- 1 acre of Asian-owned land for every 32 Asians;
- 1 acre of European-owned land for every 7 Europeans.

This study provided conclusive evidence of the fact that colonial land ownership patterns in

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Nairobi had not been significantly altered by the early 1970's.

Much of Nairobi's more recent, large-scale housing development has been located in the city's eastern periphery. This has come about as a result of so-called constraints on land in the other parts of the city: to the north is valuable agricultural land; to the south is the Nairobi Wildlife Reserve, a tourist attraction; and to the west are the existing middle and upper-income residential areas of varying densities.

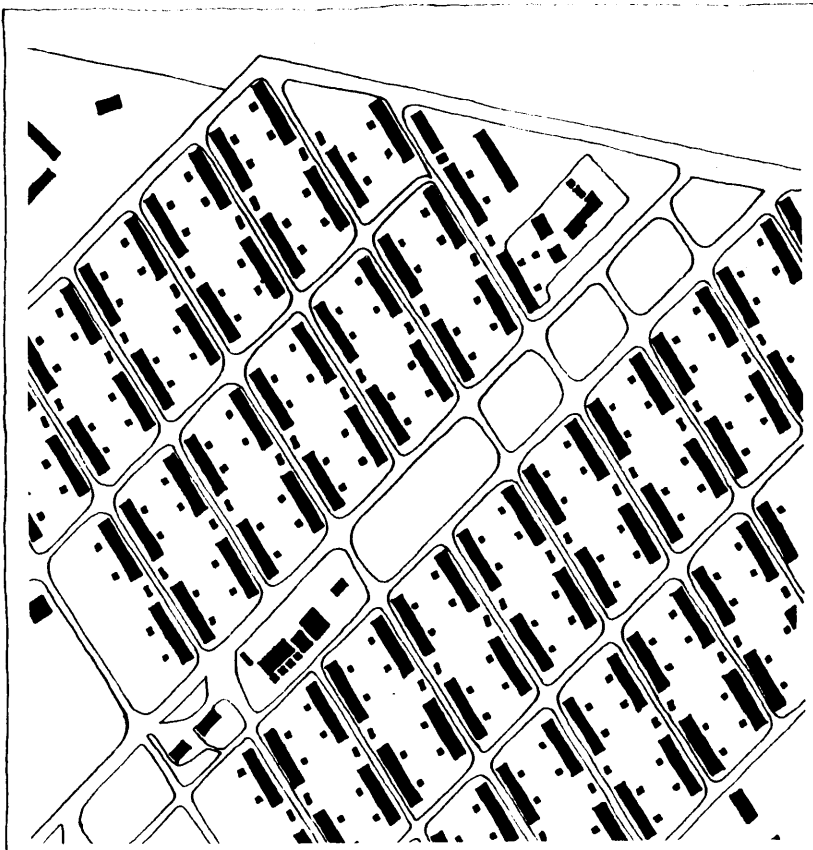
#### HOUSING FOR AFRICANS

Ironically, Nairobi's first large-scale attempt at public housing provision for Africans consisted of a rudimentary site-and-services scheme of sorts, implemented in Pumwani in 1923.<sup>18</sup> During the next four decades however, other strategies for providing African housing were employed and the site-and-services idea was

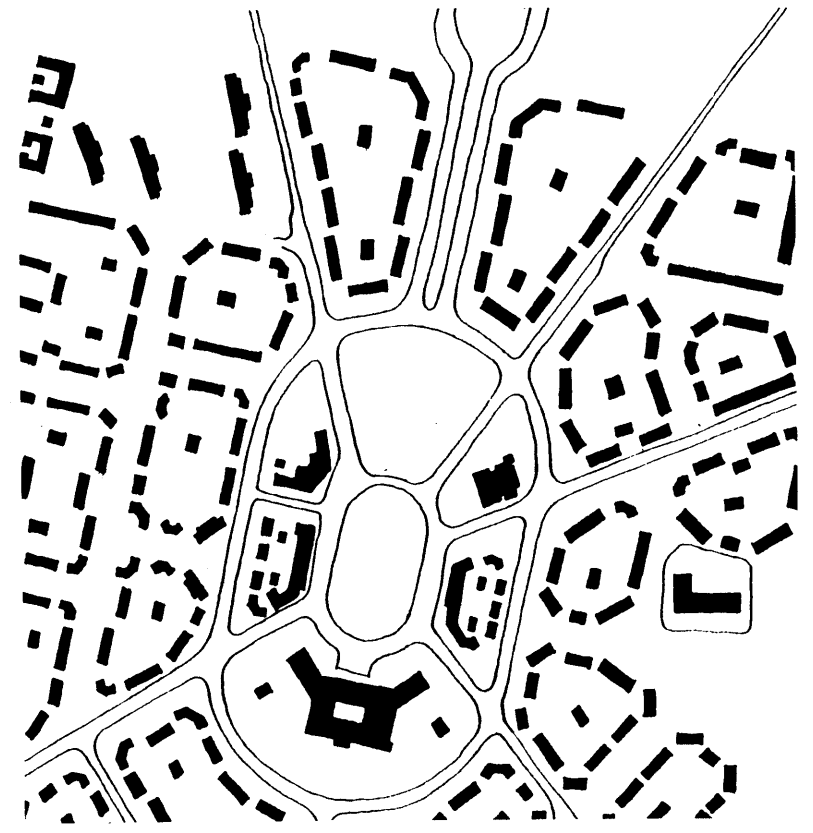
rejuvenated in the mid-fifties. The Kariobangi site-and-services scheme, the first in Nairobi's more recent history, eventually commenced in 1964.

The Nairobi Municipal Council and the East African railways administration began planning and building accomodation for their African employees in the mid-and late-1930's. Two government studies of the housing problems of Africans, carried out in 1939 and 1942,<sup>19</sup> determined the serious extent of unmet shelter needs, and post World-War II housing efforts were re-doubled. One of the outcomes was an increasing emphasis on employer-built housing for African workers. Employers resasoned that a better accomodated labor-force would be more productive.<sup>20</sup> Much of this type of housing took the shape of single storey barracks facilities based on the priciple of one *bachelor bed-space* per worker. A bed-space was defined as approximately four square meters, enabling three men to share a single room measuring 3m by 4m.<sup>21</sup>

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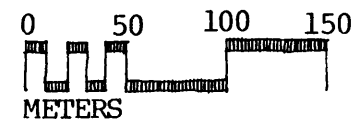
MAKONGENI ESTATE

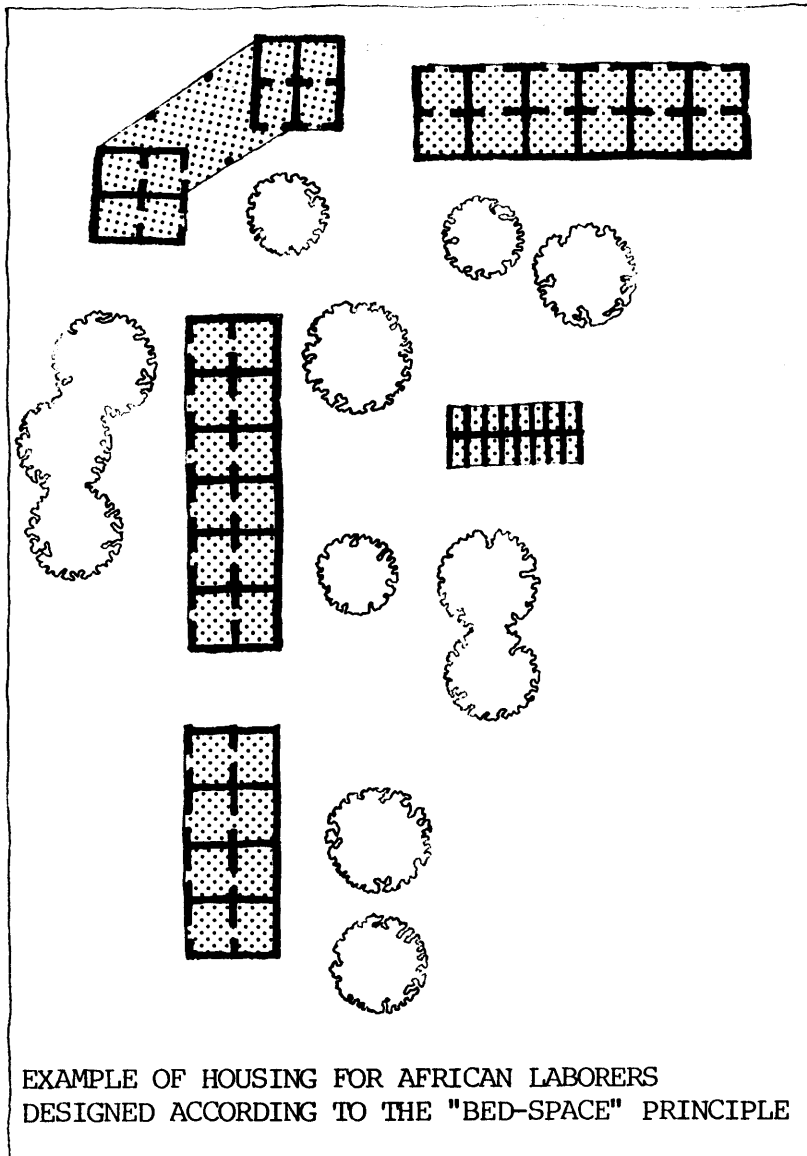


KALOENI ESTATE

HOUSING FOR AFRICAN WORKERS, BUILT c. 1951

Source: GATTONI, G. and P. PATEL (1973)



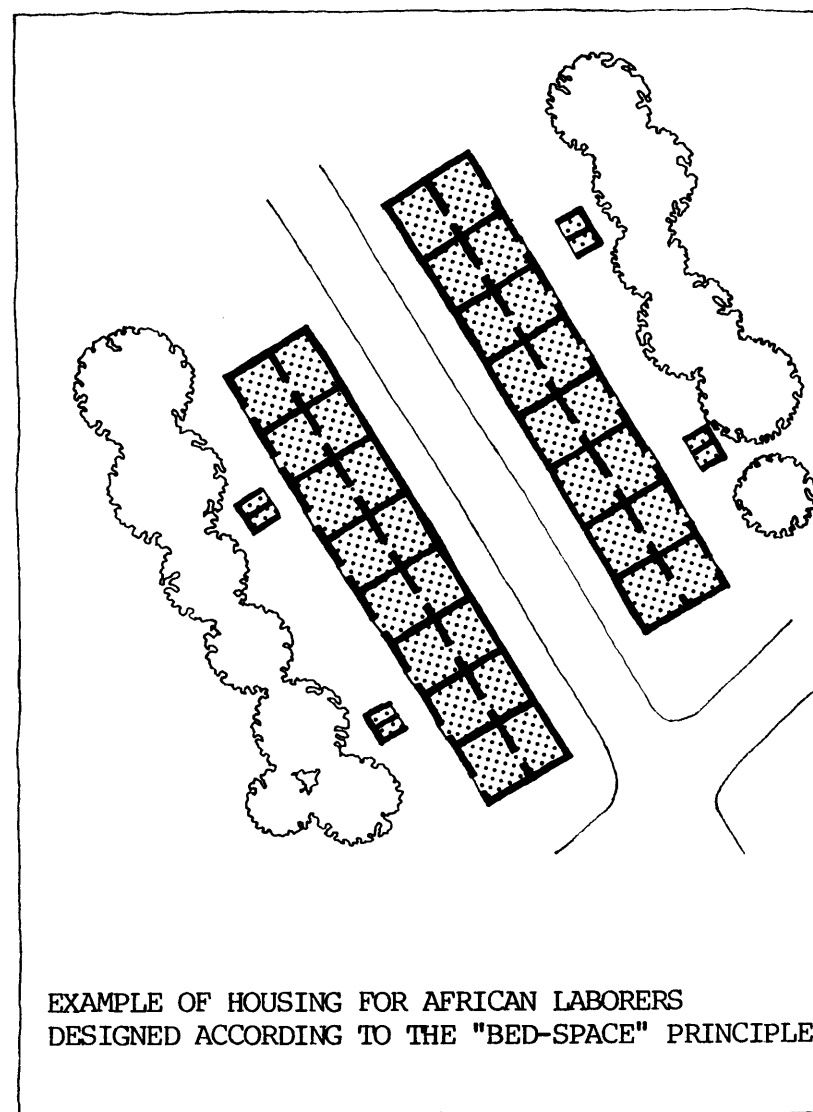


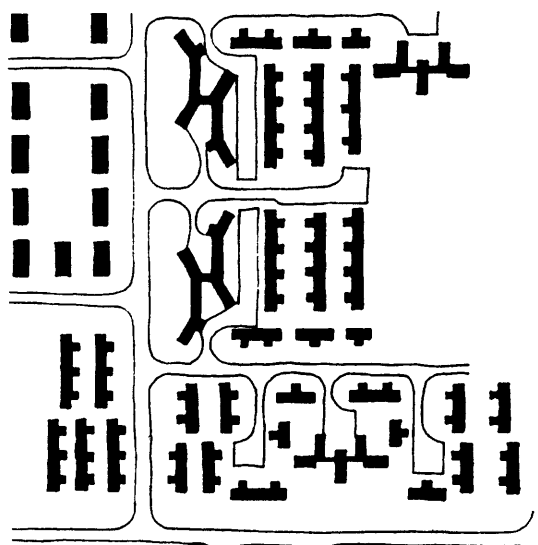
The bed-space concept was based on the belief that Africans were best-suited for rural living, and that male workers should be discouraged from bringing their families to the city. Many colonialists subscribed to the notion that urban influences had a corrupting influence on the average African.<sup>22</sup>

Around 1952, coinciding with the declaration of a State of Emergency, there was a change in the African housing policy. Realizing that the *bed-space* approach had contributed to the creation of numerous social ills, the colonial administration called for a program of more family-oriented housing. The implementation of this new housing initiative coincided with Nairobi's pre-independence population influx. The combination of rising demand, increasing scarcity of resources, and a whole government in transition, meant that this program never really gained momentum. Furthermore, the variety of walk-up apartments, and row-house, semi-detached and detached type dwelling units were all well

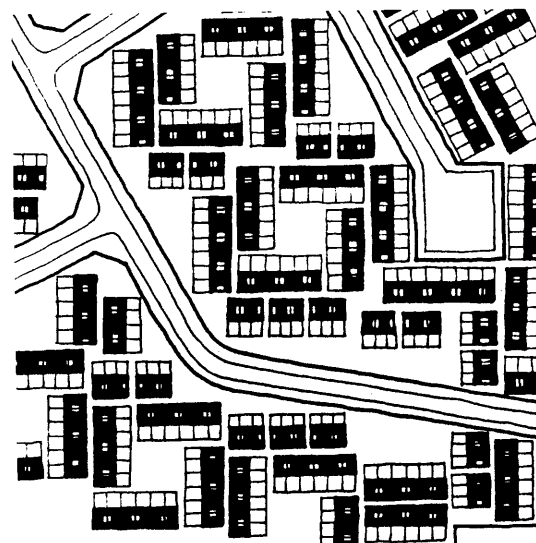
beyond affordability by the growing numbers of poor and unemployed in Nairobi. Much of the public housing built in the 1960's catered primarily to the needs of the middle-class. Consequently squatter settlements mushroomed all over the city. With President Kenyatta proclaiming that Nairobi's prestige was at stake and that he did not want the capital city to become a *shanty-town*, authorities launched a massive city-wide clean-up campaign which lasted over several months in 1970. During this effort, about 10,000 squatter dwellings were demolished, and an estimated 50,000 people - roughly ten percent of the city's total population - were left homeless.<sup>23</sup>

During the decade of the 1970's, the whole low-cost shelter question received a lot of attention and the major issues were brought into sharper focus. This thesis examines part of this progress and analyses the dynamics of the process. Thus far, in terms of numbers, the Kenyan Government's performance in the housing





PUMWANI, BUILT c. 1966



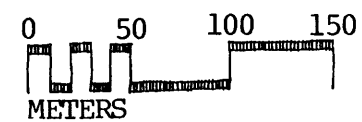
KARIOBANGI SOUTH, BUILT c. 1969

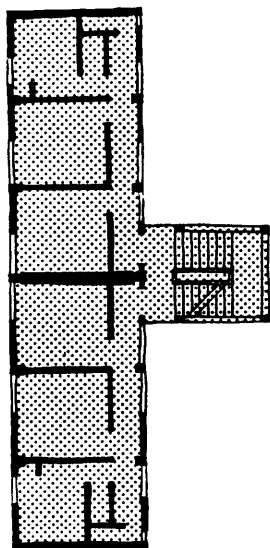


KIMATHI, BUILT c. 1970

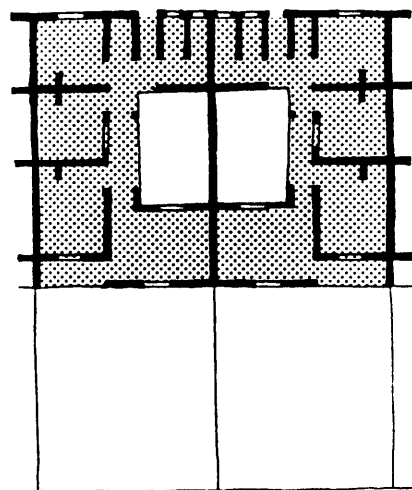
EXAMPLES OF CONVENTIONAL HOUSING ESTATES  
BUILT BY THE NAIROBI CITY COUNCIL

Sources: GATTONI, G. and P. PATEL (1973), and  
SEID, A.L. (1974)

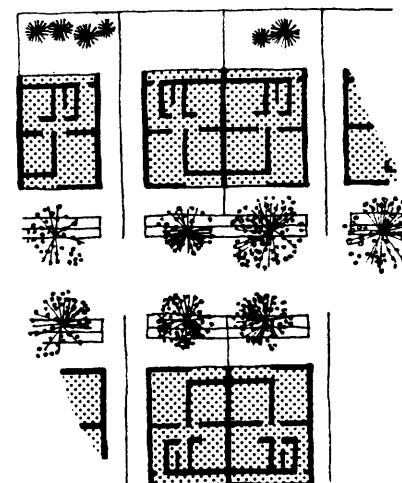




PUMWANI ESTATE



KARIOBANGI SOUTH ESTATE



KIMATHI ESTATE

TYPICAL DWELLING PLANS  
DESIGNED BY THE NAIROBI CITY COUNCIL

Sources: GATTONI, G. and P. PATEL (1973), and  
SEID, A.L. (1974)

field has been dismal. Housing production during the 1970-74 and 1974-78 Development Plan periods fell far short of targets. The 1979-1983 Development Plan stated that only eight percent of the low-cost housing units planned during the previous plan period had in fact been completed, and that on average, these cost five times the original estimate. This lack of success was partly blamed, on *excessively high and unrealistic standards for building design.*<sup>24</sup> The 1978-1983 Development Plan has much less ambitious housing targets than its predecessor, and the government has reiterated its commitment to address low-cost shelter needs:

*In urban areas, a major government programme will continue to be the development of site and service schemes. Under these schemes the government provides site development and sewerage, but the bulk of construction work is organized on an individual or self-help basis. In this way costs are kept down and the available funds are stretched as far as possible. ...Government policy continues to discourage squatter settlements in urban areas. However, it is also government policy that no*

*squatter settlements shall be demolished without providing alternative housing opportunities for the people affected.*<sup>25</sup>

The 1979-1983 Plan also called for all urban authorities to review their housing standards in order to *make them more appropriate for the settings to which they will be applied and to reduce them to the minimum consistent with the provision of low-cost housing needs at reasonable cost.*<sup>26</sup>

#### **NAIROBI'S ADMINISTRATIVE AND POLITICAL SETTING**

Nairobi's governing institutions bear a clear imprint of the colonial legacy; they are modelled after the British local authority system.<sup>27</sup> The local authority consists of an elected council formally responsible for making policy, and administrative officers whose duty it is to implement policy decisions. The mayorship is not intrinsically powerful, although through tribal and political affiliation, and patronage, a considerable amount of influence may be harnessed. The Nairobi City



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Council (NCC) is under the jurisdiction of the Ministry of Local Government whose Minister has extensive powers to control the council's activities, particularly in the area of financial and budgetary matters. Other government ministries also perform their normal functions in Nairobi. Thus as Temple (1973) notes:

*...even without considering the role of private individuals or groups in local government, we can see that there are a variety of potential lines of cleavage in a local authority organized according to the British model; between elected councillors and appointed officers, among departments, among committees and between the local authority and the national government.<sup>28</sup>*

While the British local authority model poses particular problems about the division of authority and responsibility, public administration in Kenya faces the whole host of institutional problems which plague public bureaucracies almost everywhere. For any purpose involving large-scale administration, modern nation states appear to have no option but to ultimately adopt some form of bureaucratic model

for the institution concerned. Nothing else quite seems to have the kind of capacity that public service delivery systems require in modern industrial and post-industrial societies. At the same time, however, bureaucracies seem particularly vulnerable to organizational pathology.

The essential features of Max Weber's classical model<sup>29</sup> of the modern bureaucracy are as follows. Overall, there is a clear hierarchy of positions within a stable structure of legitimate authority. Each position is defined in terms of its jurisdiction and specific duties. Duties are governed by a combination of explicit procedures, objective criteria, rules, regulations, specialized knowledge and the use of discretion by supposedly trained and experienced personnel. All the official actions of bureaucrats are recorded and preserved. Often portrayed as a machine, the model is geared for efficiency, replicability, consistency and objectivity. Control is a key feature of this model.

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Weber's model of a bureaucracy is based on several critical assumptions. The model presupposes that individual goals match organizational goals, or that, at least, the goals of individuals and organizations are reconcilable. Weber's model is also based on the assumption that the society shares a common basis for rational decision-making and a common respect for the prevailing form of legitimate authority.

The positions in a bureaucracy are designed on the basis of generic roles derived from the decomposition of a complex task. Clearly, the decomposition or breakdown could be done in a variety of analytically justifiable ways. There will always be room for debate and improvement. But bureaucratic structures once in place, are difficult to dismantle and/or change.

The limitations of Weber's classical model of the bureaucracy are widely recognized and acknowledged. Crozier (1964) diagnoses one of the main problems of bureaucracy as being the

*rigidity of task definition, task arrangements and the human relations network. The result is a lack of communication with the environment and a lack of communication among the group*<sup>30</sup> Crozier develops his critique by arguing that:

*The resulting difficulties, instead of imposing a readjustment of the model, are utilized by individuals and groups for improving their position in the power struggle within the organization.*<sup>31</sup>

In the particular context of developing countries, the classical bureaucratic model is ill-suited to the process of rapid and continuous change that is necessitated by the demand for accelerated national development. The deficiencies of the bureaucratic system create severe problems in countries where government administrative structures are the most important large-scale developmental tools. Bottlenecks and low productivity are all too frequent, and occasionally cause temporary paralysis of the system. Bureaucratic organizations are seen as being better adapted to

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problems of control rather than problems of change.<sup>32</sup> This is an important point to note, especially in the case of countries with a recent history of colonial domination and rule. Such countries have inherited bureaucratic systems from their former oppressors. These systems were usually primarily designed to subjugate the masses and maintain control over them. Independent nations have had great difficulty in replacing or transforming these systems.

Efforts to remedy institutional shortcomings and deficiencies in Kenya are constantly faced with the dilemma of choosing between centralization versus decentralization. A World Bank document sums up the general problem at a metropolitan or city level as follows:

*Creation of autonomous agencies to ensure better management of individual services while improving some operations may, in the absence of a similar strengthening of municipal administration, compound the problem of integrating policies and determining appropriate priorities of the urban center as a whole.*<sup>33</sup>

This complicated organizational design task is made even more difficult by the frequent entry of political power plays into the decision-making process.

In this administrative and political context, policy-making occurs in several ways. There are occasions when bureaucrats, rather than the political leadership, make policy. Riggs (1964) explains how under certain systemic conditions bureaucrats tend to be projected into decision-making roles:

*Effective policy formation ....requires that choices be made, among innumerable desired goals, of those which have a good prospect of being attained. This, in turn, requires that two kinds of information reach the political policy-makers. First, the political machinery - elections, party organizations, legislative procedures, interest group activity, access to public media of information and opinion, and so on - must work well enough to give the policy-makers an accurate picture of the degree to which different goals are desired by the people, and the extent to which consensus and willingness to cooperate in their achievement exists.*

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*Second, the administrative machinery must provide the policy-makers with a sufficiently reliable picture of available resources in funds, equipment, personnel and organization to make realistic determinations as to which goals can actually be turned into accomplishments, or what the practicable alternatives are.*

*Impediments in either or both of these channels of information to the policy-makers make it impossible for them to devise true policies. Unfortunately, policy-makers are not always fully aware of such impediments and they may, therefore, adopt statements and prescribe programs which turn out, on scrutiny, to be goals rather than policies, wishes and proposals rather than effective demands and laws. When this happens, the administrators have become quasi-politicians; they have to take over some of the functions of making policies.<sup>34</sup>*

Riggs emphasizes the need for politics and administration to be in equilibrium as a condition for efficiency.

The strength and importance of the bureaucracy in Kenya has been actively reinforced. In 1971,

a report published by the Ndegwa Commission strongly supported the policy-making role of the bureaucracy:

*In Kenya ....(there) is one overwhelmingly dominant political party which, experience has shown, does not itself formulate new policies; other organizations which could contribute to policy-formulation are relatively few and weak; and the dependence of the economy on government activity for ensuring rapid growth is even more marked than in industrialized societies. We therefore consider it to be not only inevitable but essential that the Civil Service should be called upon to assume even greater responsibility for managing the economy and for identifying and solving national problems.<sup>35</sup>*

However, as will be seen later, public policies without political support are generally unlikely to have a widespread or lasting effect.

Another view is that in the policy-making process, the bureaucracy is at the mercy of the powerful politicians, and that *civil servants tend to tailor their views to suit their political masters.*<sup>36</sup> Mutual suspicion,

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division and power struggles abound under such circumstances and the functioning of the bureaucracy is adversely affected.

Ethnicity usually forms the basis for most social and political organization in Kenya, and Nairobi's multi-ethnic society clearly reflects this phenomenon.<sup>37</sup> Politicians usually derive the bulk of their support from constituents who belong to the same ethnic group as themselves, and the tribal overtones of political campaigns are frequently evident. Political spoils are generally divided up on the basis of tribal membership. Ethnicity is also an important variable in determining one's advancement in business and professional circles. In most competitive situations, ethnic group membership will serve as the informal basis for the distribution of jobs, housing, and public services.

Within the African community, ethnicity, however, differentiates individuals less spatially

than in terms of social and political choices. Spatial differentiation in Nairobi is, and becoming even more so, a function of social status in general, and wealth in particular; the willingness to pay for the location and quality of accommodation. Thus, while tribal differences, divisions and loyalties remain strong, the social order has been impacted by emergent polarization along class lines. Furthermore, as Ross (1975) comments:

*Political participation in Nairobi has moved from the mass base that characterized politics in the independence struggle to a narrower, more elitist foundation in the postindependence period. The mass participation structures of electoral and party politics have been left to wither away as technical elites and powerful individuals seek to secure their hold on political office. For the most part, mass participation is seen as disruptive to the development process and as an obstacle to resolution of the problems facing the country. Many leaders argue that most people do not really understand the problems facing the country. They suggest that only a government of enlightened leaders can ensure progress. If the*

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*people are too closely involved in the decision-making process, the argument continues, they will want to spend money on relatively tangible projects schools, roads, clinics, and so on whereas only the technical elite understands that such projects must be balanced against the need for long-term development programs.*<sup>38</sup>

Maintenance of the *status quo* has thus become a top-priority item in the political elite's agenda.

Political participation in this environment is limited, and may be characterized as thus: there is a great deal of articulation of individual demands, but relatively little aggregation of such demands.<sup>39</sup>

The advantage of numbers in political expression is thereby lost. Politics in this setting is as much symbolic as it is instrumental.<sup>40</sup> Response and change are designed to be highly visible. This is done through publicity, in the mass media and by word-of-mouth. Tangible, instant or quick results are preferred wherever possible, and actions are frequently expedited

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for their political capital. Amongst politicians there is a tendency to equate progress with modernity and popular aspirations echo a similar feeling. This has led to circumstances where economic development has been pursued at substantial social cost, and in part, this attitude has fostered a situation where economic growth has taken place without a marked improvement in income redistribution.

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**FOOTNOTES**

- 1 Statistics as quoted in:
    - (a) HARDOY, J. and D. SATTERTHWAITTE, Shelter, Need and Response (New York: Wiley, 1981), pp. 155-156.
    - (b) HUDSON, S., Housing, in Build, Kenya, Journal of the Architectural Association of Kenya, June 1979, p. 30.
  - 2 CHENERY et al, quoted in STREN, R.E., Housing the Politics, and Bureaucracy in Mombasa (Berkeley, CA: Institute of International Studies, University of California, 1978), p. 226.
  - 3 KURIAN, G.T., Encyclopedia of the Third World, Vol. II (New York: Facts on File, 1982), p. 938.
  - 4 GRIMES, Jr., O.F., Housing for Low-Income Urban Families: Economics and Policy in the Developing World (Baltimore: Johns Hopkins University Press, 1976), p. 76.
  - 5 COLLIER, P. and D. LAL, Poverty and Growth in Kenya, World Bank Staff Working Paper No. 389 (Washington, D.C.: The World Bank, 1980).
  - 6 Ibid., p. 31.
  - 7 HARDOY (1981), op.cit., p. 155.
  - 8 Ibid., p. 155.
  - 9 Ibid., p. 176.
  - 10 SONI, P., On Self-Help in a Site and Services Project in Kenya, unpublished M. Arch. A.S. thesis (Cambridge, MA: Massachusetts Institute of Technology, 1980), p. 25.
  - 11 ETHERTON, D. et. al., Mathare Valley: A Case Study of Uncontrolled Settlement in Nairobi (Nairobi: Housing Research and Development Unit, University of Nairobi, 1971), p. V.
  - 12 HARDOY (1981), op. cit., p. 177.
  - 13 Term used by WERLIN, H.H., in Governing an African City: A Study of Nairobi (New York: African Publishing, 1974).
  - 14 Quoted in *ibid.*, p. 52.
  - 15 Ibid., p. 45.
  - 16 CHANA, T.S., Dwellings and Land Models: Nairobi, Kenya, unpublished M. Arch. A.S. thesis (Cambridge, MA: Massachusetts Institute of Technology, 1974), p. 3.
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- 17 Quoted in TEMPLE, F.T., Politics, Planning, and Housing Policy in Nairobi, unpublished Ph.d. thesis (Cambridge, MA: Massachusetts Institute of Technology, 1973), pp. 44-46.
- 18 HAKE, A., African Metropolis: Nairobi's Self-Help City (New York: St. Martin's Press, 1977), p. 130.
- 19 STREN, R.E. (1978), op. cit., pp. 198-199.
- 20 Ibid., p. 199.
- 21 HAKE (1977), op. cit., p. 64
- 22 WERLIN, H.H. (1974), op. cit., pp. 48-49.
- 23 STREN, R.E., Urban Policy, in BARKAN, J.D. and J.J. Okumu, Politics and Public Policy in Kenya and Tanzania (New York: Praeger Publishers, 1979), p. 186.
- 24 HARDOY (1981), op. cit., p. 176.
- 25 REPUBLIC OF KENYA, Planning for Progress: Our Fourth Development Plan, A Short Version of the Development Plan 1979-1983 (Nairobi: The Government Printer 1979), p. 60.
- 26 Quoted in HARDOY (1981), op. cit., p. 177.
- 27 TEMPLE (1973), op. cit., see Introduction and Chapter II.
- 28 Ibid., p. 15.
- 29 WEBER, M., The Theory of the Bureaucracy in Grusky, O. and G.A. Miller (editors), The Sociology of Organizations (New York: Free Press, 1970), pp. 5-23.
- 30 CROZIER, M., The Bureaucratic Phenomenon (Chicago: University of Chicago Press, 1964), p.194.
- 31 Ibid., p. 194.
- 32 HYDEN, G., R.H. JACKSON and J.J. OKUMU (editors), Development Administration: The Kenyan Experience (Nairobi: Oxford University Press, 1970).
- 33 THE WORLD BANK, Urbanization Sector Working Paper (Washington, D.C.: The World Bank, 1972), p. 49.
- 34 RIGGS, F.W., Administration in Developing Countries (Boston: Houghton Mifflin 1964), pp. 333-334.
- 35 Quoted in STREN (1978), op. cit., pp. 290-291.
- 36 HYDEN, G., Administration and Public Policy in BARKAN, J.D. and J.J. OKUMU (editors) Politics and Public Policy in Kenya and Tanzania (New York: Praeger Publishers, 1979), p. 95.
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37 ROSS, M.H., Grass Roots in an African City: Political Behavior in Nairobi (Cambridge, MA: The MIT Press, 1975), see Chapter 4.

38 Ibid., pp. 126-127.

39 Ibid., p. 124.

40 Ibid., p. 124.

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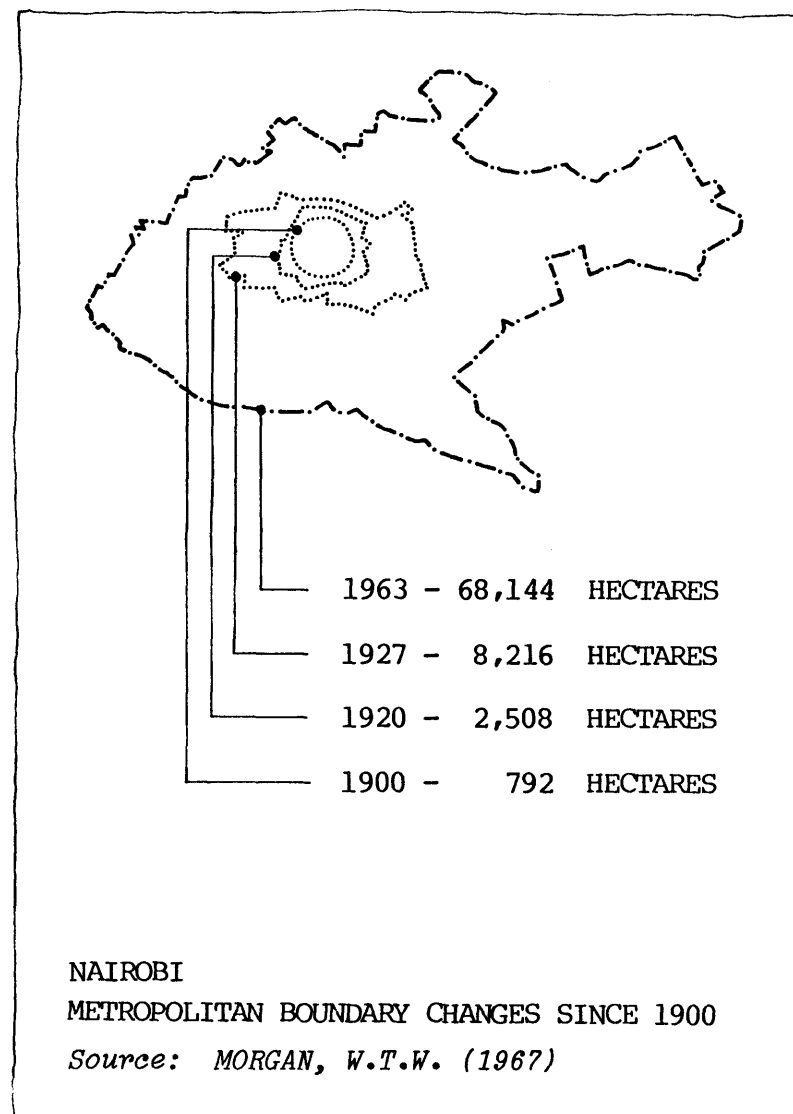
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**Chapter Three: TWO MAJOR DEVELOPMENTS**

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### THE BLOOMBERG - ABRAMS MISSION

The numbers of Nairobi's African population began to swell rapidly in the years immediately prior to Independence in 1963. Job-seekers migrated to the city in search of employment, and families arrived to live with their wage-earning heads of households. Furthermore, in 1963 the new independent city administration under its first African Mayor, Charles Rubia, decided to expand the city boundaries. The expansion was designed to ensure adequate land for the city's future residential and commercial development, as well as to absorb the peri-urban and dormitory areas occupied by people depending on the city for employment. This expansion meant that the area covered by the NCC grew from 8,216 hectares to 68,144 hectares; over an eightfold increase. The NCC had its hands full with the business of the political transition and by 1963, the city's housing program had come to a virtual standstill. Meanwhile, from 1960 onwards, Nairobi's increasing numbers of poor



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Africans without accommodation began to build unauthorized shelters on a grand scale. Illegal settlements comprising of flimsy shanties constructed out of discarded materials began to appear in various parts of the city. Faced with these immense challenges, the Kenyan Government called for assistance.

In 1964, Kenya was visited by two experts, Dr. L.N. Bloomberg and Dr. C. Abrams, appointed under the United Nations Program of Technical Assistance. Their mission was:

*to conduct a study of short-and long-term housing needs and to make recommendations to the Government of Kenya on housing policies within the framework of social and economic development planning.*<sup>1</sup>

The two experts spent several months reviewing assembled data on housing and urbanization in Kenya, visiting urban centers across the country and interviewing various officials in government ministries, provincial administrations and local authorities. In total, Bloomberg and Abrams had

discussions with seventy-five government officials, including Kenya's Prime Minister, Jomo Kenyatta. Bloomberg and Abrams submitted their report in late 1964, and after considering it, the Kenyan Government adopted it. The report was published in Nairobi in mid-1965.

In its treatment of both the institutional and technical aspects of housing programs the report was comprehensive. The report reviewed the following aspects: demographic characteristics; housing quality; current housing operations and the work of various public housing agencies; housing finance; and building materials. On the basis of an assessment of housing need and demand, a set of housing goals were formulated. Bloomberg and Abrams analysed the role of housing in the economy and discussed both internal and external sources of housing finance. The report concluded with a series of recommendations for a national housing program. While many of the mission's findings indicated a very grave situation, the report attempted to

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strike a note of cautious optimism about future prospects for housing in Kenya. In Nairobi, it was found that forty-four percent of African households lived in employer-supplied housing. Much of the housing for Africans was of a comparatively low quality, dwellings were small, and there was severe overcrowding. The assembled data revealed that in Nairobi fifty-two percent of the rooms occupied by Africans accommodated three or more persons. A substantial portion of the African population lived in dwellings which lacked sanitary facilities. It was estimated that the average size of an African household would grow from 4.3 persons to 4.8 person, and that in order to satisfy the housing needs of African households from 1962 through 1970, 26,300 additional dwelling units would be required at the rate of over 3,000 units per year. The report noted that the majority of African urban households had low incomes and did not have the ability to make the required monthly payments for conventional housing; affordability was a very severe

constraint. Amongst its numerous recommendations, the Bloomberg-Abrams report included the following:<sup>2</sup>

- The establishment, in the Ministry of Health and Housing, of a National Housing Authority which would supersede the existing Central Housing Board;
  - the establishment of a permanent cabinet committee on housing with the Minister of Health and Housing as chairman, and at least the following Ministers as members: Finance and Economic Planning; Local Government and Regional Affairs; Commerce and Industry; Works, Communications and Power; Labor and Social Services, and Lands and Settlement;
  - maximum participation of Local Authorities in the implementation of a housing program;
  - immediate recruitment of a U.N.-sponsored housing economist;
  - making a concerted effort to obtain large sums of external aid;
  - undertaking a comprehensive manpower training program;
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- gearing programs to meet operating expenses, ensuring repayment of obligations and holding necessary government appropriations to a minimum;
  - adoption of a flexible housing program incorporating site-and-services schemes, and upgrading projects;
  - the establishment of a mortgage finance institution which should make intensive efforts to attract private savings;
  - research into low-cost building materials and construction techniques.

The report strongly emphasized the desirability of a decentralized housing program. It mentioned that:

*Experience has consistently demonstrated that success of a housing programme is a direct function of the closeness of operations to the people for whom it is intended.*<sup>3</sup>

The report also observed that at the time of the of the mission there was only one qualified African architect in the whole of Kenya,<sup>4</sup> and

that this situation had to be remedied as soon as possible. Stren (1978) suggests that perhaps the most significant single recommendation made by the mission was the establishment of a national housing authority within a new Ministry of Housing.<sup>5</sup> The new authority, it was recommended, should have more power and financial resources than the existing Central Housing Board. The task of the new authority was to both coordinate and initiate development by local authorities.

The inclusion of Charles Abrams in the U.N. mission to Kenya is noteworthy. Just prior to visiting Kenya, Abrams had published his seminal book, Man's Struggle for Shelter in an Urbanizing World.<sup>6</sup> In the field of urbanization and housing in developing countries, he was widely known and well regarded. He had already served on similar U.N. missions to Ghana, Turkey, the Philipines, Pakistan, Nigeria, Ireland, Jamaica, Japan, Singapore and Bolivia. He had also been on assignments to Venezuela, Barbados, Puerto Rico, Jamaica and Colombia. It

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would not be incorrect to assert that Charles Abrams had become a highly respected veteran in this business, and that government officials tended to listen to his advice with an attentive ear.

The Kenyan Government acted upon many of the major suggestions of the Bloomberg - Abrams report. Following a major cabinet reorganization in May 1966, President Jomo Kenyatta created a new Ministry of Housing and appointed a new minister. When the National Development Plan was revised in 1966, an expanded housing program was given high priority. Plans for the creation of a National Housing Corporation were set in motion, and substantial funds were budgeted for its use in the 1966/70 Plan period. Seven categories of housing were specified in the Plan, and although priorities were not made explicit, the presentation in the Plan emphasized low-income and owner-occupied schemes.<sup>7</sup>

The government's housing policy was elaborated

in Sessional Paper No. 5 of 1966/67. This paper stated the need for housing with greater urgency: *The Government accepts that the housing situation in the main towns has now reached a critical stage and that urgent measures must be taken to solve it.*<sup>8</sup> A Housing (Amendment) Bill setting up the National Housing Corporation (NHC) was brought before Parliament in June 1967. Another recommendation of the Bloomberg - Abrams report was the establishment of a mortgage finance institution. The government incorporated the Housing Finance Company of Kenya (H.F.C.K.) in 1965 to provide mortgage finance to assist eligible individuals with the construction of new homes or the purchase of already existing units.

#### **THE NATIONAL HOUSING CORPORATION**

The Housing Act of 1953 was appropriately amended and on July 4, 1967 the Central Housing Board was transformed into the National Housing Corporation (NHC). Parliament desired that the

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NHC should make a qualitative break with the past and that it should *have a new image in playing a role which is in keeping with the spirit of the new, independent Kenya.*<sup>9</sup> The new image and role were shaped in a number of ways which are described below.

The most important new power of the NHC was its ability to undertake housing construction on its own, without working through a local authority. This power was given teeth by the allocation of substantial funds to the corporation by the government. The membership of the NHC's executive board was increased to be more responsive to political representation. The new board consisted of Members of Parliament, prominent members of the public and senior civil servants. An American-educated African was appointed General Manager in 1965 and he strove to create an organization with an active, dynamic, and modern image. According to Stren (1978):

*The more public and political composition of the NHC undoubtedly increased both its "visibility" throughout the country and*

*the degree to which it represented African middle-class interests.*<sup>10</sup>

The Development Plan 1970-1974 recognized that *an imperative need to accelerate the creation of inexpensive urban housing for the low income groups.*<sup>11</sup> The Plan stated that *...because four-fifths of the urban demand is for dwellings costing under K Shs 24,000, it has been decided that all Government lending through NHC will be for projects designed to produce houses at that figure or below.*<sup>12</sup> The NHC was thus to be the main government agency responsible for low-cost housing. However, as Stren (1978) notes:

*...even by the government's own calculations, this was hardly much of a concession to the "low income groups" because only 17 percent of the urban population could afford a house costing more than K Shs 24,000. As a gesture to the very lowest income groups, the plan specified that 33 percent of the NHC funds allocated would have to spend on sites-and-services schemes rather than on conventional housing.*<sup>13</sup>

The 1970-1974 Plan allocated K Shs 253.8 million



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to the NHC. The NHC's allocation in the Development Plan 1974-1978 was K Shs 508.8 million, almost double the amount allocated during the previous Plan period. During the 1974-1978 Plan period the NHC was expected to ensure the production of 68,000 additional housing units throughout the country. As in the previous Plan period, all NHC funds were earmarked for the construction of units costing not more than K Shs 24,000. In addition, the proportion of funds to be spend on site-and-services was increased to 61 percent of the NHC's budget.<sup>14</sup> During the 1974-1978 Plan period, the Government also determined a minimum standard for dwelling units constructed in urban areas. According to the Permanent Secretary in the Ministry of Housing and Social Services (MOHSS):

*The Government considers the minimum requirement for a decent home to be home to be a habitable two roomed house constructed of permanent materials with a separate kitchen and basic sanitary facilities such as toilet and shower compartment.*<sup>15</sup>

The MOHSS had conducted an Urban Housing Needs Study in 1973 which revealed that 89 percent of the urban population could not afford a house consisting K Shs 24,000, assuming that a family spent twenty percent of its income on housing. This same study had found that certain income groups did, in fact, spend up to 40 percent of their income on housing.<sup>16</sup> Between 1973 and 1975, the construction cost of residential buildings rose by as much as 55 percent and the minimum cost of a site-and-service plot jumped from K Shs 6,000 to K Shs 9,000.<sup>17</sup> Realizing that increasing emphasis would have to be placed on site-and-services if there was to be any hope of meeting the demand for affordable shelter, the Government engaged Dr. Robert Merrill, an international housing consultant, in 1975. Merrill's task was to recommend organizational machinery which would enable the NHC to better carry out its responsibilities *vis-a-vis* sites-and-services schemes as spelt out in the Development Plans. After spending a month with the NHC, Merrill submitted a detailed report.

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On the basis of this report the NHC compiled a manual for local authorities entitled Site and Service Schemes: Guidelines for an Administrative Procedure. This set of guidelines for a standardised administrative procedure covered items such as the following: loans and repayments; building standards; house types; density and lot sizes; advertisement of the scheme; application and allocation procedures; lot occupation agreements; tenure arrangements; provision of technical assistance to allottees; materials loans; project management, and so on.

The guidelines have been described as a *very useful*<sup>18</sup> document, both for NHC staff as well as the local Authorities, and since then, have been used in the implementation of several pilot slum upgrading projects. Furthermore, the NHC established a site-and-services department within its organizational structure. Through field officers and site supervisors, the NHC began providing assistance to Local Authorities and project beneficiaries.

Prior to the Merrill report, the only major study of site-and-services had been carried out by the H.R.D.U. in 1971 in response to a request made by the NHC.<sup>19</sup> The results of the study were to be used for developing prototypes and standards for the planning and implementation of the large number of schemes programmed for the 1974-1978 Development Plan, Period. Sample surveys were done in twelve existing and planned schemes all over Kenya. The problems experienced by these twelve schemes were high-lighted, and recommendations were made on how to overcome these problems. Included in the set of forty-seven recommendations were the following:

- Dwellings in site-and-services schemes be required to comply only with the Grade II Building By-laws (amongst other things, Grade II meant that structures could be constructed of mud and timber, and pit latrines could be used).
  - Local authorities be given maximum freedom to determine dwelling and plot sizes according to demand;
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- Plots should be allocated only to people who can document their ability to develop, and who in the local authority's opinion will remain owner-occupiers;
  - Individuals unable to afford development should be served by the principle of allocation by the room where a plot would be allocated to a group with some common bond;
  - Type-dwellings be designed in consultation with the future residents whenever possible;
  - Absentees landlordism be made illegal;
  - Further research should be carried to quantify the term *ability to develop* which is commonly used as a criterion for allocation.

#### PERFORMANCE OF GOVERNMENT POLICIES & PROGRAMS

During the 1970-1974 Development Plan period, the NHC was allocated K Shs 84.67 million which was to be spent on a site-and-services shemes. In acutal fact, the NHC spent only K Shs 12.78 million on site-and-service schemes, and

completed 3,830 units at an average cost of K Shs 3337 per unit.<sup>20</sup>

During the same period, the NHC spent K Shs 267.8 million on conventional housing projects. The NHC completed 8,941 conventional housing units at an average cost of K Shs 29,952 per unit, well above the ceiling of K Shs 24,000 per unit as specified in the Development Plan.<sup>21</sup> For K Shs 267.8 million, close to 67,000 site-and-services units could have completed at an average cost of K Shs 4,000 per unit.

Overall, the 1970-1974 Plan had a planned output of 50,000 housing units to satisfy an estimated urban housing demand of 10,000 units per annum. The actual housing output was more in the region of 25,000 units.<sup>22</sup>

The 1974-1978 Development Plan set a target for the completion of 60,000 site-and-services units at an estimated cost of K Shs 420 million. By

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the end of 1977, a mere 3,195 site-and-service units had been completed at an average cost of approximately K Shs 17,500 per unit. While the planned output for the plan period was 69,000 units, the actual output was a dismal 9,000 units at a cost of K Shs 380 million.<sup>23</sup>

Between 1973 and 1977, the total public urban housing expenditure was K Shs 340.54 million. Of this amount K. Shs 30.48 million was spent on site-and-services schemes, a paltry 0.06 per cent. The H.R.D.U. has rightly characterized this type of expenditure as a *drop in the ocean*.<sup>24</sup> In an evaluation of stress in Kenya, the H.R.D.U states that

*the success of the program is, to a great extent, determined by the volume of the available financial resources. The site-and-service program should.....be placed on a higher priority.....in the overall economic and financial planning.*<sup>26</sup>

By most accounts, the performance of the Kenya Government in general, and the NHC in particular, in the area of low-cost shelter provi-

sion, has been poor. In recent years, however, there appear to be some signs that the NHC seems to have better recognized its responsibility to the urban poor, although its performance in terms of output is still grossly insufficient. The NHC's general manager feels that political opposition is to blame. As he puts it:

*Politicians, both at local and national levels, are anxious to see their constituents housed in modern buildings constructed to a reasonably high standard; and in many urban areas there is opposition in principle to the concentration of housing development in Site and Service Schemes. This opposition must be overcome to enable the (Site and Service Scheme) Programme to be satisfactoritly completed. So, some means must be sought to reconcile the views between what is politically and socially desirable on the one hand and, on the other, what is economically possible.*

Some internal factors which may help to account for the NHC's dismal performance, lie in the corporation's self-image. The Kenyan Parliament was, at least in the NHC's earliest days, responsible for creating and fostering this

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image.<sup>28</sup> The NHC's first African General Manager, appointed in 1965, was *instrumental in creating an image of an active, dynamic, and modern organization* according to one observer.<sup>29</sup> Some indication of this individual's leadership and impact on the organization's activities may be inferred from the following incident. In 1967, when the NHC was still formally its colonial predecessor, the Central Housing Board, the organization's Chief Architect is quoted as having made the following statement at a housing conference:

*Most towns have back areas which can be used for sites and services schemes where they will at least be hidden from the sight of the majority of the population.*<sup>30</sup>

That a senior official saw fit to make pejorative remarks in public about site-and-service schemes is, perhaps, indicative of prevailing attitudes. The NHC's desire to project a modern corporate image was also evident in its decision to build a new ten-storey office

building in a prestigious area of downtown Nairobi. Only part of this building was to be used for accommodating the NHC. The architect chosen to design the building had an acknowledged penchant for the spectacular and the expensive. Completed in 1977, the building was a reinforced concrete and glass architectural *tour-de-force* with elaborate and costly finishes and fittings.

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## FOOTNOTES

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- 3 Ibid., p. 37.
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- 8 Quoted in ibid., p. 218.
- 9 Quoted in ibid., p. 2318.
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- 11 KENYA, Development Plan, 1970-1974 (Nairobi: Government Printer, 1969), p. 507.
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- 15 MATHEKA, G.M., Kenya's Housing Policy in Build Kenya, Journal of the Architectural Association of Kenya, December 1976, p. 12.
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- 18 CHANA, T.S., P. HOULBERG, J. HAGGER, G.J. de KRUIFF and A. RWOMIRE, Evaluation of the Site and Services Programme in Kenya (Nairobi: Housing Research and Development Unit, University of Nairobi 1979), p. 19.
- 19 HOULBERG, P., N.O. JORGENSEN and R. STEELE, Site and Service Schemes: Analysis and Report (Nairobi: Housing Research and Development Unit, University of Nairobi, 1971).
- 20 STREN, R.E., Urban Policy in BARKAN, J.D. and J.J. Okumu (editors), Politics and Public Policy in Kenya and Tauzauia (New York: Praeger Publishers, 1979), p. 182.
- 21 Ibid., p. 182.

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- 23 CHANA et al (1979), op. cit., p. 38.
- 24 Ibid., p. 4.
- 25 Ibid., p. 33.
- 26 Ibid., p. 4.
- 27 Quoted in STREN (1979), op. cit., p. 184.
- 28 STREN (1978), op. cit., p. 218.
- 29 Ibid., p. 219.
- 30 Quoted in BEARDMORE, R.M., Sites and Services: A Strategy for Kenyan Urban Development, unpublished M.C.P. thesis (Cambridge, MA: Massachusetts Institute of Technology, 1978), p. 41.
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**Chapter Four: THE KARIOBANGI AND MATHARE  
SCHEMES: SETTING PRECEDENTS**

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## THE KARIOBANGI SITE-AND-SERVICES SCHEME

The Kariobangi site-and-services scheme was Nairobi's first post-Independence experiment with the site-and-services concept. Begun in 1964, soon after Kenya formally achieved independence on December 12, 1963, the scheme had been originally conceived over a decade ago. The impetus to implement the Kariobangi scheme was renewed by the need to relocate squatters who had been displaced from various areas close to the city center by the new African authorities. A press release publicizing the scheme stated the following:

*Offers of sites in Kariobangi will be made to the present owners of illegal dwellings and those whose unfinished houses have been demolished....*

*The ministers wish to emphasize...it is an opportunity for the poorer people to acquire land and services at a very low price. It is not designed for absentee landlords and care must be taken to see that there is non-profiteering...*

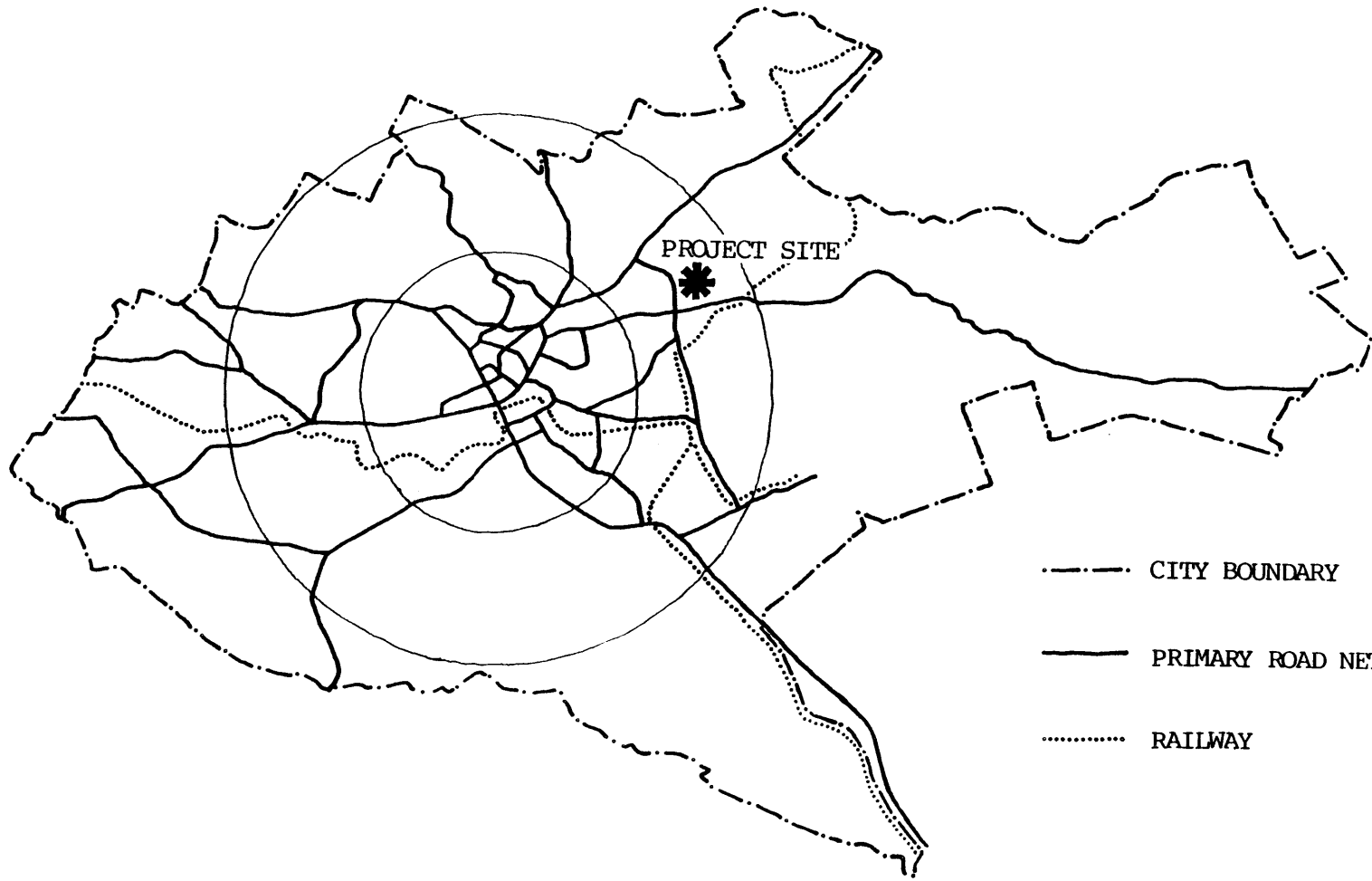
*Those who go into the scheme will be permitted to have lodgers in their*

*houses, but not more than two rooms may be used for this purpose.<sup>1</sup>*

The project was located in the city's eastern periphery, eight kilometers from downtown. Planned and designed by the NCC's City Engineer's Department, the scheme consisted of a total of 723 lots. Every single lot had the same area -167 m<sup>2</sup> -and dimensions -12.2 m by 13.7 m. Groups of four lots shared a contractor-built sanitary facility consisting of toilets, water outlets and wash-slabs. These sanitary facilities were constructed at the intersections of lot boundaries.

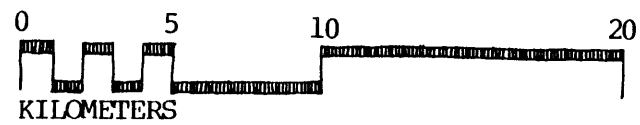
The land parcel used for the Kariobangi scheme was given as a free grant by the Kenyan Government on a ninety-nine years lease. Financing for 500 lots was provided by the Central Housing Board (later superseded by the NHC), with the remaining 223 plots financed by NCC funds.<sup>2</sup> Plot allocation was the responsibility of the Valuation Section in the NCC's Town Clerk's Department. Allottees were selected from a

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- CITY BOUNDARY
- PRIMARY ROAD NETWORK
- ..... RAILWAY

LOCATION OF THE KARIOBANGI  
SITE-AND-SERVICES SCHEME



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waiting-list comprised mainly of squatters. The duration of the leasehold varied according to the following conditions:

- ten years if the dwelling was constructed in temporary materials;
- fifty years if the dwelling was constructed, or reconstructed in permanent materials.<sup>3</sup>

Dwelling construction, to be undertaken by the allottees, was subject to the following regulations:<sup>4</sup>

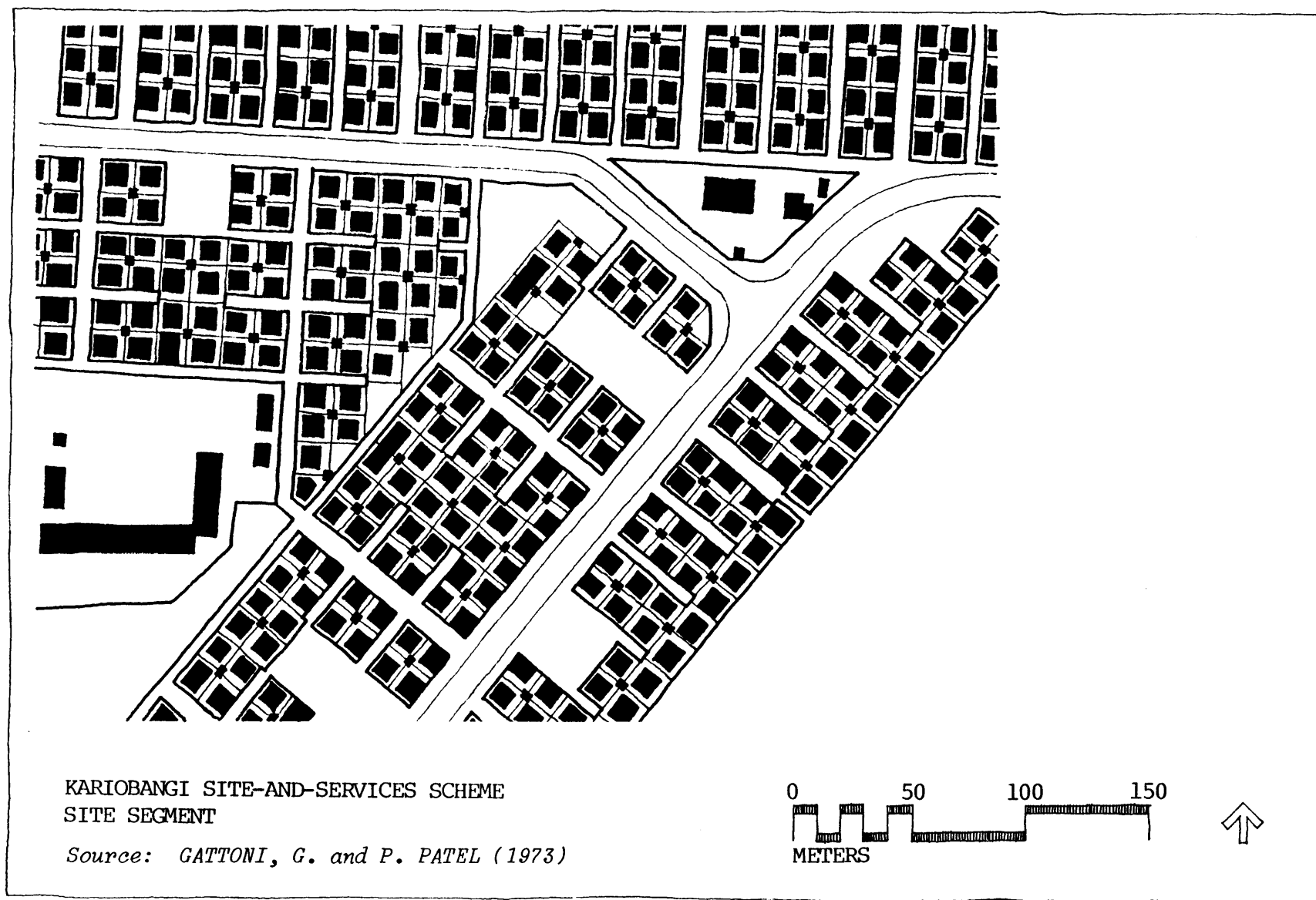
- (1) Completion of temporary structure within six weeks from allocation, extended time limit applied for permanent structures;
- (2) The houses were to be used as private dwellings, the lot holders being allowed to have maximum of two lodgers in the house;
- (3) Lotholders were to be responsible for legal fees, etcetra, in case of lease extension;
- (4) No buildings were to be erected within three meters of lot boundaries;
- (5) Plinth areas were not to exceed fifty square meters;

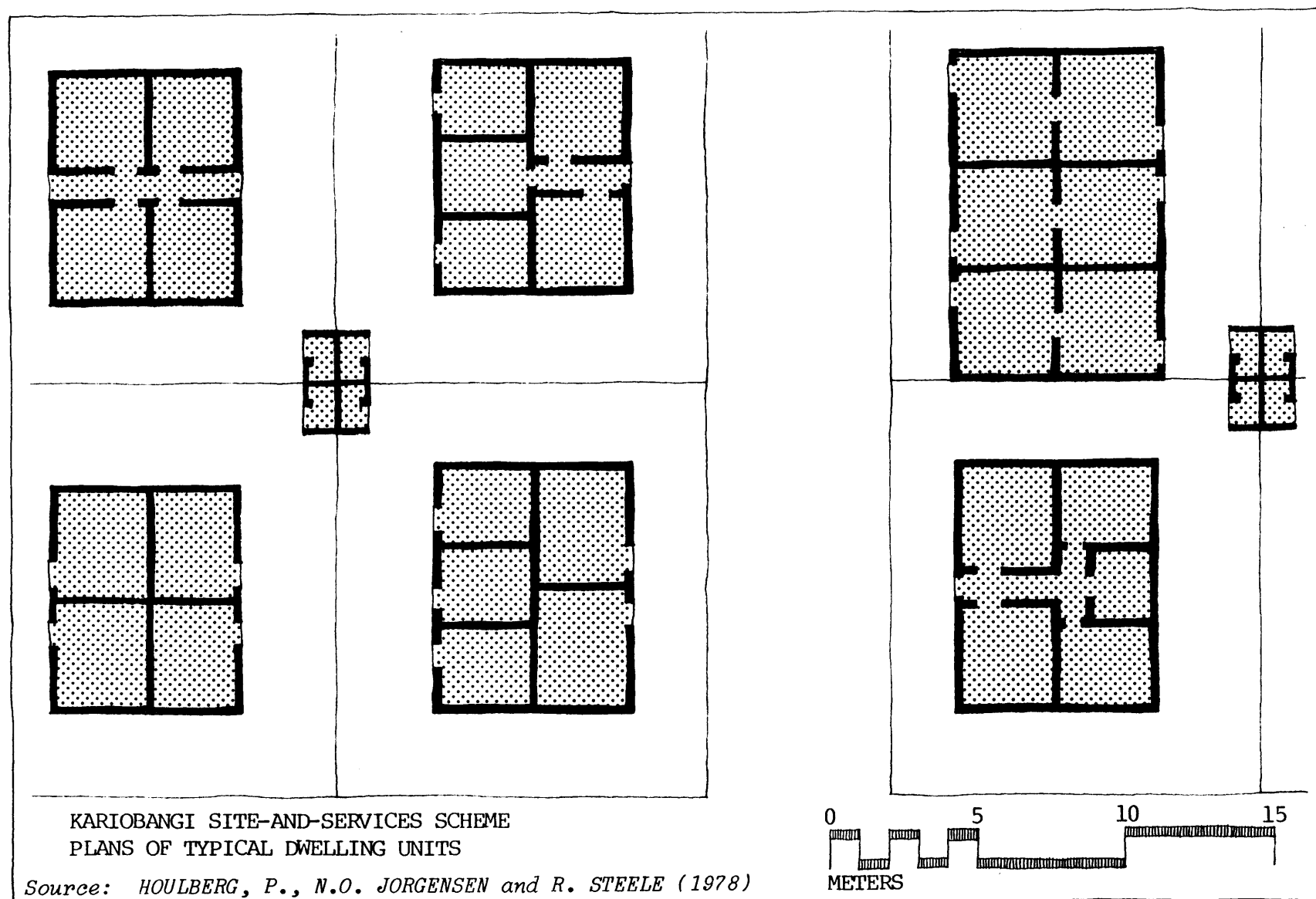
- (6) The choice of building materials was open, but roofs were to be of noncombustible materials approved by the City Engineer, and construction materials should not include paper, cardboard, string or the like.

Some allottees obtained construction loans from the NCC. In such instances type plans from the NCC were used as the basis for the design of the dwelling and the building works was regularly supervised by the City Engineer's Department. Some of the allottees organized themselves into building cooperatives. These cooperatives purchased their own materials and hired artisans to build their houses. In some instances allottees also participated in the actual construction work. Much less frequently were the dwellings constructed entirely on a self-help basis.

The majority of dwellings consist of four to six rooms and the construction is comprised of a timber frame, mud walls, a sheet-metal roof and

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cement floors. All lots are served by paved pedestrian walkways, inaccessible to vehicles in most cases, and vehicular traffic is confined to the single, paved, loop road running through the scheme. A waterborne sewer system serves the scheme, storm water is drained through open surface channels, and street lighting is provided.

The Kariobangi project was first conceived in 1954. The Working Party on Illegal Squatting suggested Kariobangi as an appropriate location for a site-and-services project which would help alleviate Nairobi's squatting problems. This suggestion was made in the immediate aftermath of the most turbulent period of Kenya's colonial era. Since 1945 there had been a build-up of the nationalist movement in Nairobi and the *Mau Mau* struggle for Independence led by the Kikuyu tribe, had intensified. The rapidly increasing outbreaks of violence prompted the colonial administration to declare a State of Emergency in October 1952, and Nairobi became a *military headquarters of the imperial presence*.<sup>5</sup> The

diffusion of tension by the indoctrination and control of the African urban population became top-priority items on the colonial agenda. Unplanned squatter settlements were perceived as the major *trouble spots* and the thinking at that time was that resettlement of the squatters into planned housing areas would make the situation much more manageable.

Physical determinism appears to have been a prevalent notion amongst colonial planners. Evidence of the belief that orderly physical environments bred orderly citizens is provided by the following excerpt from an editorial published in a leading Nairobi newspaper in February 1953:

*The theories of the experts have to be related to the facts, and the facts are simply these: that there is no better breeding ground for crime, no better forum on which real and imaginary grievances can be ventilated and enlarged, than an overcrowded hovel of "bed spaces" dimly lit by a flickering oil tin light, with nothing to do in the early hours of the evening after work but grumble.*<sup>6</sup>

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Public officials in independent Kenya appear to hold not dissimilar views about physical determination in residential environments. Sweeping associations continue to be made between the visual chaos of flimsy shanties constructed from scrap materials and disorderly social conduct. Nairobi's squatter settlements are viewed by many as pools of vice and crime. Schon (1980) points out the undeniable influence that the perceptions or images of problem contexts have on problem-definition, and evaluation of project impact.<sup>7</sup> In this light, the official reaction to the eventual outcome of the Kariobangi scheme, discussed below, is instructive. The upshot is that a more flexible attitude must be maintained with regard to the definition of the planning context and the response to the results of intervention.

In terms of *controllability* the isolated location of the Kariobangi site made it a logical choice. The site was relatively far from those residential areas of the city inhabited primarily by Europeans. *Controllabi-*

*lity* may also have been a criterion in the design of the site layout, apart from the need to have an economical services network. Blocks of lots laid out uniformly on both sides of the loop access road made the work of police patrols easier by facilitating surveillance. Chana (1975) suggests that the scheme's layout is modelled along the lines of a labor camp or military barracks.<sup>8</sup> The Kariobangi scheme's decided lack of sensitivity towards user needs, life-styles and capabilities may be partially explained by the fact that it was planned and designed in the years prior to Kenya's independence, at a time when the NCC's City Engineer's Department contained, few if any, African professionals. There was no one who could adequately advocate user interests in the design decision-making.

Although the NCC had implemented a site-and-services scheme as early as 1923, the Kariobangi scheme represented the first such project attempted in Nairobi's recent history. The idea of site-and-services grew out of a comprehensive

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reappraisal of African urban housing policy in Kenya. Faced with decreasing funds and an increased movement of labor to towns the colonial government had been forced to reassess the financial basis for providing new African housing estates. Ernest Vasey, a Nairobi Alderman, was asked to study the problem and according to Stren (1972), the Vasey Report in 1950 *marks a milestone in official thinking*.<sup>9</sup> Vasey proposed that, while subsidies would be necessary in the short-run, the government should encourage African-owned housing instead of only rental schemes. Having concluded that continued heavy public subsidization was financially impossible, and that employer-built schemes could only be a marginal expedient, he outlined the practical steps necessary to implement large scale African-owned development.<sup>10</sup>

Vasey suggested that in every urban center, the Lands Department should set aside an area for African housing sizes of plots in such schemes should be 12.2m by 15.2m, and Africans who were granted land by the government should be allowed

a forty year lease. If after forty years the land was not needed for other uses, the lease could be extended another twenty-five years. Land rents should be minimal and property maintenance was to be the occupier's responsibility, although special public health regulations would be applied. To enable Africans to build their own houses, loans and the supply of sub-sidized building materials were urged. Where it was necessary to allow building in temporary materials, a permanent concrete plinth should be required. At the end of ten years, occupants were required to have completed the construction of a dwelling in permanent materials. Wherever appropriate, economic rents had to be paid for the duration of the lease.<sup>11</sup>

Two main objections were raised to this policy of promoting extensive African-built housing. There was concern that such residential areas would pose a serious public health hazard.<sup>12</sup> This objection was hardly a surprise. Issues of public health were a constant preoccupation of many British colonial administrators. Arguments

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based on public health issues were frequently marshalled to make a case for racial segregation of residential areas. Colonial Medical Officers advocated strict adherence to standards governing density, open space, ventilation, sanitation and the like. Arguments over so-called public health aspects continue to hinder the planning and implementation of almost every low-cost shelter project in Nairobi to this day. The other objection to the Vasey report concerned long-range physical planning objectives.<sup>13</sup> Reservations were expressed about the ability to enforce land use controls in such large scale African residential areas. As such, these areas could become major obstacles in the establishment of efficient patterns of urban growth and development in the future. These objections, the struggle for Independence and the ensuing political transition pushed housing lower in the list of priorities for the colonial administration, and the Kariobangi project was shelved until the latter half of the 1960's.

In 1971, the University of Nairobi's Housing Research and Development Unit (H.R.D.U.) published an evaluation of twelve site-and-services schemes from all over Kenya. The Kariobangi scheme was included in the H.R.D.U. survey,<sup>14</sup> and some of their findings are presented below.

The main characteristics of the scheme were found to be its high density (700 persons per hectare), high percentage of absentee landlords (94%), high appreciation on buildings, high turnover on renters and its unpopularity with the tenants. Most dwellings were rented out by the room and the prevalent dwelling types were mere conglomerates of single rooms. According to the researchers, most of the houses *have no chance or possibility ever to develop into family dwellings*<sup>15</sup> since all circulation was external. Sanitary facilities were shared by several households and frequently, they were dirty. Kariobangi was relatively isolated from jobs or markets and forty-five percent of those sampled said that their place of work was located more

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than six miles away. Public transportation costs were prohibitive for the low-income residents.<sup>16</sup>

The NCC's City Engineer indicated that the major difficulties with the scheme were the following:

- cases where ownership was in dispute;
- frequent transfers of property;
- suspension and enforcement of the terms and conditions of allocation.<sup>17</sup>

According to the City Engineer:

*The scheme was intended to solve the squatter problem. The plot holders have since been selling these lots to more well-off people. Therefore the purpose of the scheme would appear to have been defeated.*<sup>18</sup>

The City Engineer proposed that in future, sale or transfer of plots, once allocated, should be strictly forbidden.

However, J.R. Harris, a housing economist, claims that the Kariobangi scheme should not be termed a failure:

*The "socially deserving" were assisted. In effect, the city council gave them a gift of money equal to the difference between the market price of the land and the nominal allocation charge. Some of these people used this gift to obtain better housing than they would otherwise have had. Others found that they had other uses that seemed more pressing to them than Kariobangi standard housing.*<sup>19</sup>

The City Engineer's remarks appeared to be representative of the official perception of the Kariobangi scheme. Temple (1973) suggests that the scheme was considered an experiment which proved to be a failure, and that this experience contributed significantly to the negative attitudes towards site-and-services schemes then held by most African decision-makers in Nairobi.<sup>20</sup> Chana (1975) labels the Kariobangi scheme as *a symbol of colonialism rejected by African political leaders.*<sup>21</sup>

#### **THE MATHARE VALLEY REDEVELOPMENT SCHEME**

Mathare Valley is Nairobi's largest and most notorious squatter settlement. Located some

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five kilometers east of the city's central business district, the settlement stretches for about five kilometers along the valley created by the Gitathuru and Mathare Rivers, and covers an area of approximately 500 acres. This squatter area presently accomodates well over 100,000 inhabitants, roughly ten percent of Nairobi's current population.

The first record of squatters in the Valley dates as far back as 1921.<sup>22</sup> In the 1950's the Valley became a stronghold of the nationalist movement and the Mau Mau uprising. During the State of Emergency declared by the colonial administration, the 150 or so shanties which existed there in 1954 were bulldozed, and most of the inhabitants were put into detention.<sup>23</sup> However, after the Emergency was lifted, large numbers of squatters located once again in the Valley. One of the first acts of the new independent government in 1963 was to try to clear the area.<sup>24</sup> The government announced its intention and gave the squatters one week to vacate the area. Considerable oppostion was

immediately aroused. Many of the squatters were ex-freedom fighters and ex-detainees, and they had enough political influence to prevent the demolition. Since then, Mathare Valley has become a haven for squatters.

Over the years various attempts have been made to control and/or improve environmental conditions in the Valley. In 1969 a Pilot Improvement Scheme was initiated, supposedly at the specific request of President Jomo Kenyatta. As Werlin (1974) notes: *...the President's word is generally enough to get things started in Kenya.*<sup>25</sup> The reasons behind his request can only be speculated about. Some observers were of the opinion that the President, who passed Mathare Valley frequently on his way to and from his farm at Gatundu, was concerned about removing the blight. Others felt that he owed a personal and political debt to the many ex-freedom fighters, mostly members of the same tribe as Kenyatta, who lived in the Valley. Werlin (1974) suggests that imminent elections may also have prompted this decision

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particularly since the Valley was a stronghold of the ruling party, the Kenya African National Union (K.A.N.U.).<sup>26</sup>

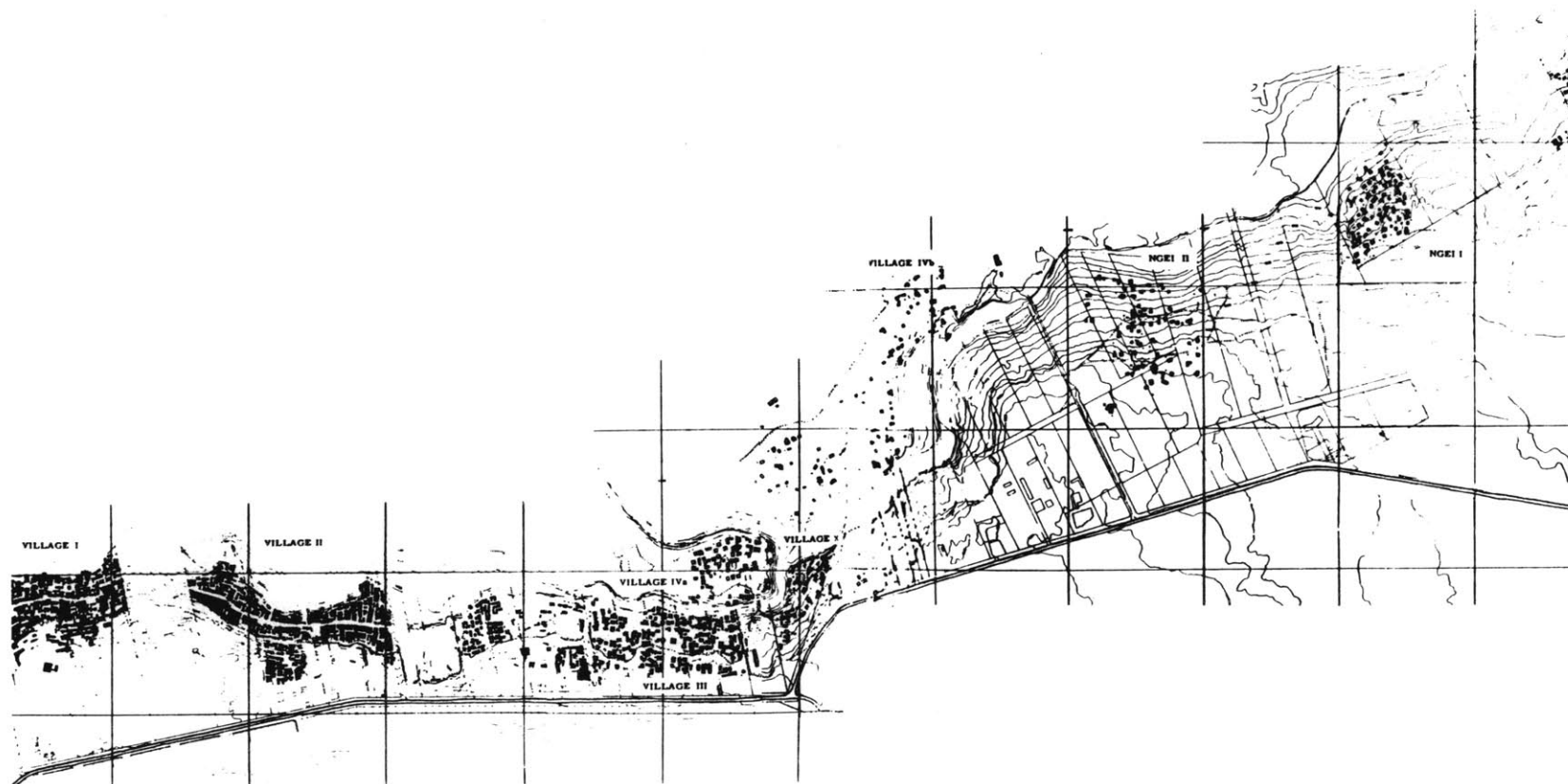
Volunteer organizations such as the National Christian Council of Kenya (N.C.C.K.) were assisting the squatters and setting up self-help local officials. Amidst all the activity, the absence of government participation was conspicuous. Furthermore, the Member of Parliament whose constituency included Mathare was an influential politician who advocated the squatters' interests with vigor.

In June 1969, the then Minister for Housing, visited Mathare Valley. Accompanying him was a high-powered group: Nairobi's District Commissioner; the Commissioner of Squatters; Nairobi's Mayor; and various officers and councillors from the NCC.<sup>27</sup> At the traditional open-air rally the Minister announced that the Ministry of Housing would set aside K Shs 2,000,000 for improvement of housing in the area, and promised that all the people in

Mathare Valley would get free lots and building materials.<sup>28</sup> Some weeks previously, the Permanent Secretary in the Ministry of Housing had mentioned the possibility of building timber houses in the Valley.<sup>29</sup>

Reaction to the Minister's announcement was predictable. The population of Mathare Valley more than doubled during a sixteen-month period during 1969-1971, and the Valley's character was *altered drastically and dramatically*.<sup>30</sup> Around the same time, housing companies, comprised of Mathare residents as well as outsiders, built a substantial amount of cheap illegal dwellings which were then rented out by the room at relatively high rates. The demand for inexpensive accommodation had increased tremendously as a result of massive demolition of squatter dwellings in other parts of Nairobi during several months in 1970. Members of housing companies pooled resources, and collectively purchased the land and developed the housing. Property values in the Valley skyrocketed.

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MATHARE VALLEY, c. 1970

Source: *ETHERTON, D. et al (1971)*

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Eventually, the Valley's residents discovered that the K Shs 2,000,000 which the Minister had spoken about was not forthcoming.<sup>31</sup> This unfortunate development undermined the credibility of government officials and alienated the Valley's residents. The incident seriously damaged the basis for future cooperation between the residents and the authorities. Creating false hopes, particularly among the disadvantaged, can be counter-productive, as this example serves to illustrate. For public authorities to regain the confidence of the disadvantaged and the poor is a long and difficult task.

There were, however, positive developments in other quarters. In November 1969, Nairobi's City Engineer advised the Town Planning Committee that building by-law requirements and land use zoning policy should be:

*revised in such a manner as to facilitate a proper development to enable Council to exercise a greater degree of control than has been possible in the coast. The capital investment in the Valley was*

*considerable, and a programme of improvability should be commenced.*<sup>32</sup>

Also in June 1969, the Ministry of Housing requested the H.R.D.U. to carry out a survey of the physical aspects of the squatter villages. Meanwhile, the NCC and the Ministry of Cooperatives and Social Services had already embarked on social surveys in various parts of the Valley. A detailed report of the results of the H.R.D.U. survey was published in August 1971.<sup>33</sup> This report contained a set of concrete proposals for upgrading the squatter villages, and suggested a set of administrative guidelines for the implementation process.<sup>34</sup> The results of the survey documented the tremendous initiative and effort displayed by the poor in helping themselves. Sympathetic to their predicament, the report also attempted to advocate some of the interests of the squatters. The H.R.D.U. report called on the authorities to assist, rather than obstruct, the efforts of the poor to house themselves, and argued that the burden on the public sector would be thereby lessened.

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Meanwhile, in January 1970, a proposal was drafted with the aim of seeking overseas aid for implementing the so-called *improvability* projects with the people of Mathare Valley, and Kaburini, a smaller squatter settlement in another part of Nairobi. This was to be a joint operation involving the Kenyan Government, the NCC and the N.C.C.K.<sup>35</sup> The strategy which was adopted was a combination of upgrading and site-and-services. To the established squatter or *illegal* areas of the Valley the authorities were to provide a water supply system, a sewer system, garbage collection services and basic street lighting, and vehicle access roads would be improved. In late 1970, the NCC allocated K Shs 4,390,000 for the improvements to the existing villages in Mathare Valley.<sup>36</sup> A little later, in early 1971, the NCC allocated a further K Shs 36,000,000 for a two-year program to provide 900 new dwellings and 1,650 site-and-services lots on 115 acres of vacant land in the Valley's eastern portion.<sup>37</sup>

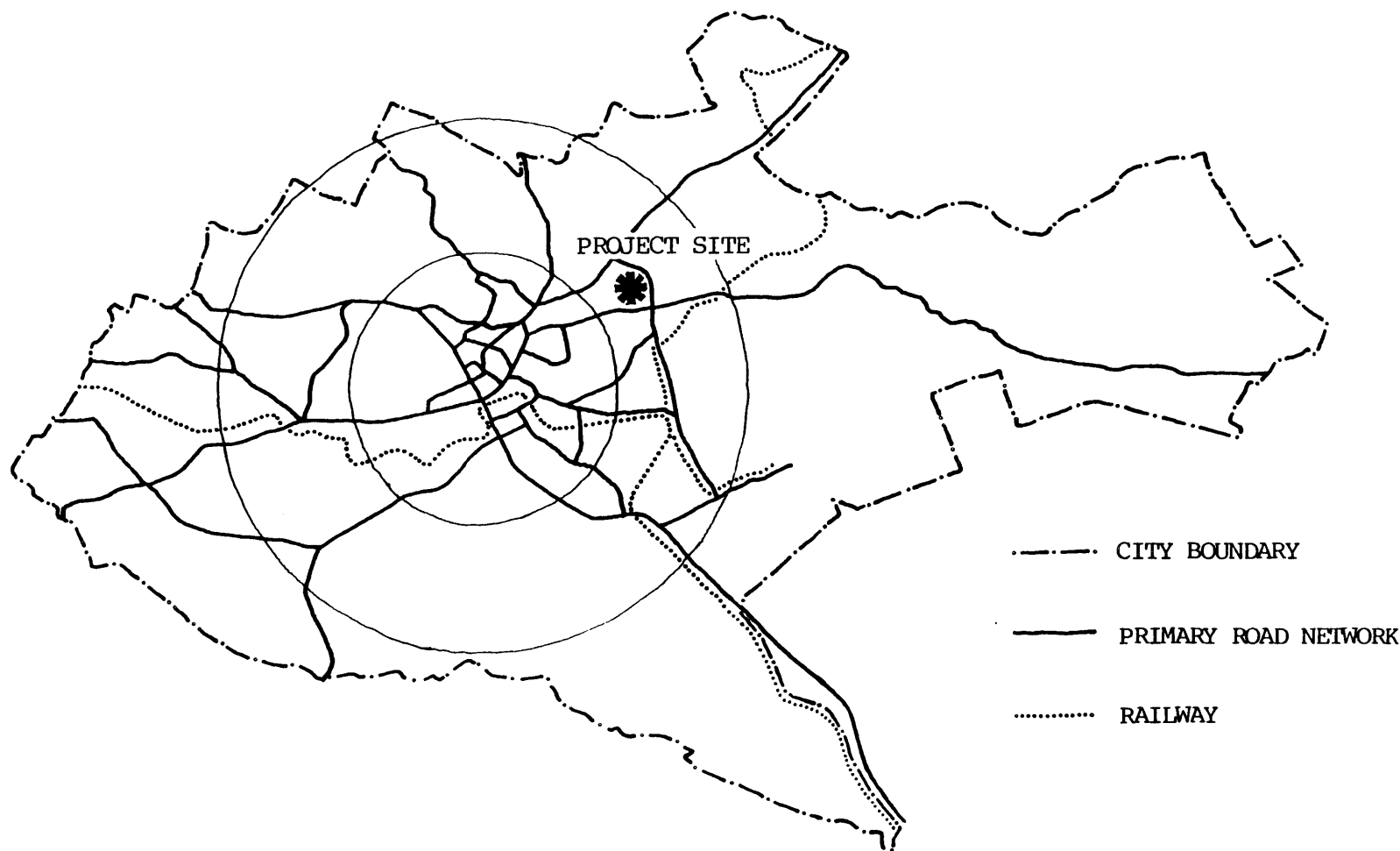
During the first half of 1971, unforeseen

circumstances helped to speed up implementation of the upgrading component of the program. Cases of cholera were reported elsewhere in Kenya, and officials feared the outbreak of an epidemic in Nairobi. Mathare Valley was considered to be particularly vulnerable due to the unsanitary conditions prevailing there.<sup>38</sup>

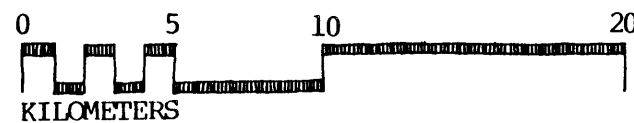
A World Health Organization team visited Mathare Valley in March 1971<sup>39</sup> and recommended that a crash immunization and improvement program be launched. The NCC moved immediately; the laying of a trunk sewer was begun, water pipes were extended and connections facilitated, and an improved access road was bulldozed through the squatter village closest to the adjacent planned residential area. A Kenyan daily newspaper summed up the event:

*Good luck came to Mathare Valley with the outbreak of cholera in some parts of the country. The City Council of Nairobi decided, as a precautionary measure against possible spread of disease to improve the standard of accomodation in the area and provide certain services which had not been intended for the valley.*<sup>40</sup>

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LOCATION OF THE MATHARE REDEVELOPMENT SCHEME





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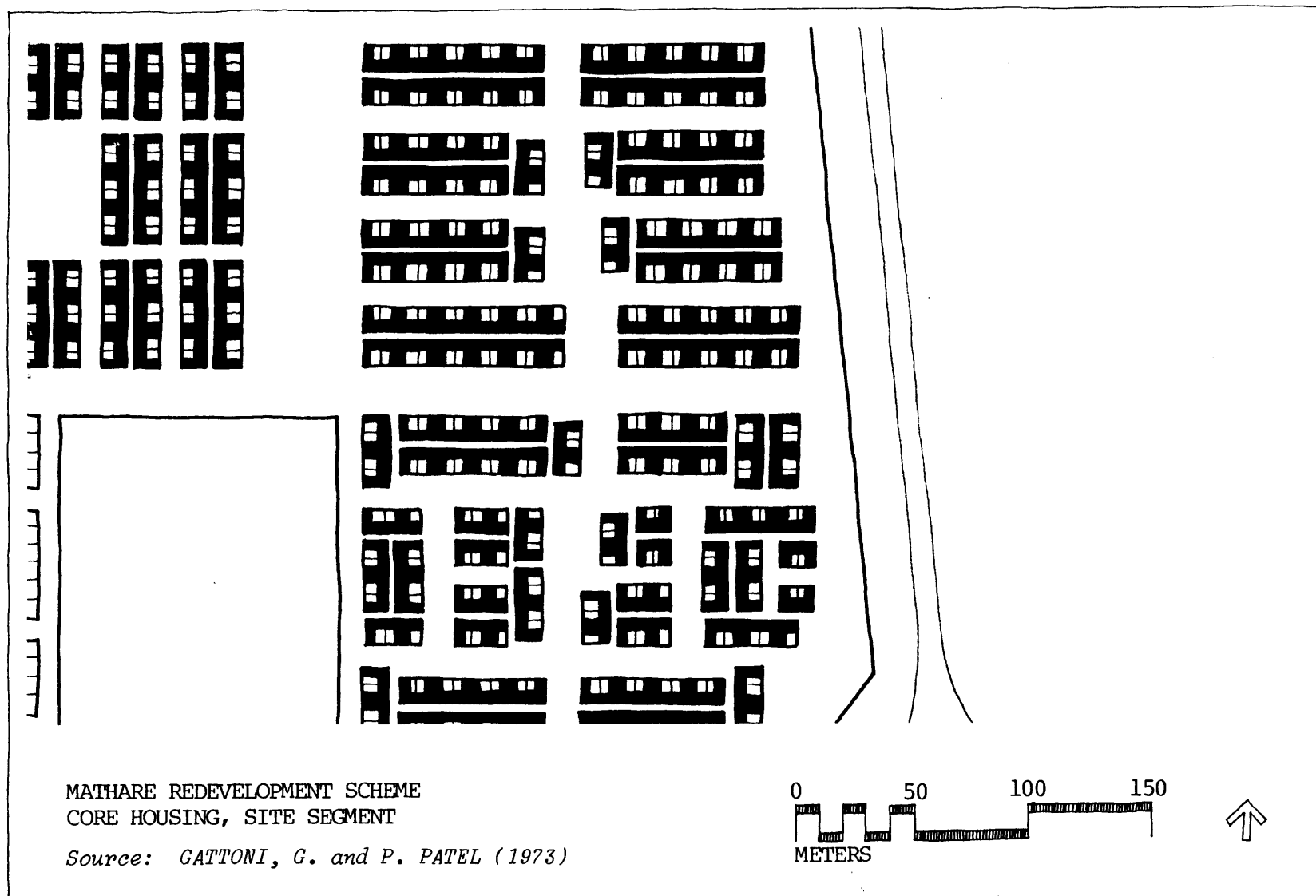
By July 1971, the NCC had committed a total of K Shs 1,000,000 to continued improvements in Mathare Valley.<sup>41</sup> Efforts were also being made to establish schools and community facilities. The N.C.C.K. in conjunction with the Kenya Industrial Estates (a government funded industrial promotion agency) had also begun a project to establish small-scale enterprises in the Valley.<sup>42</sup>

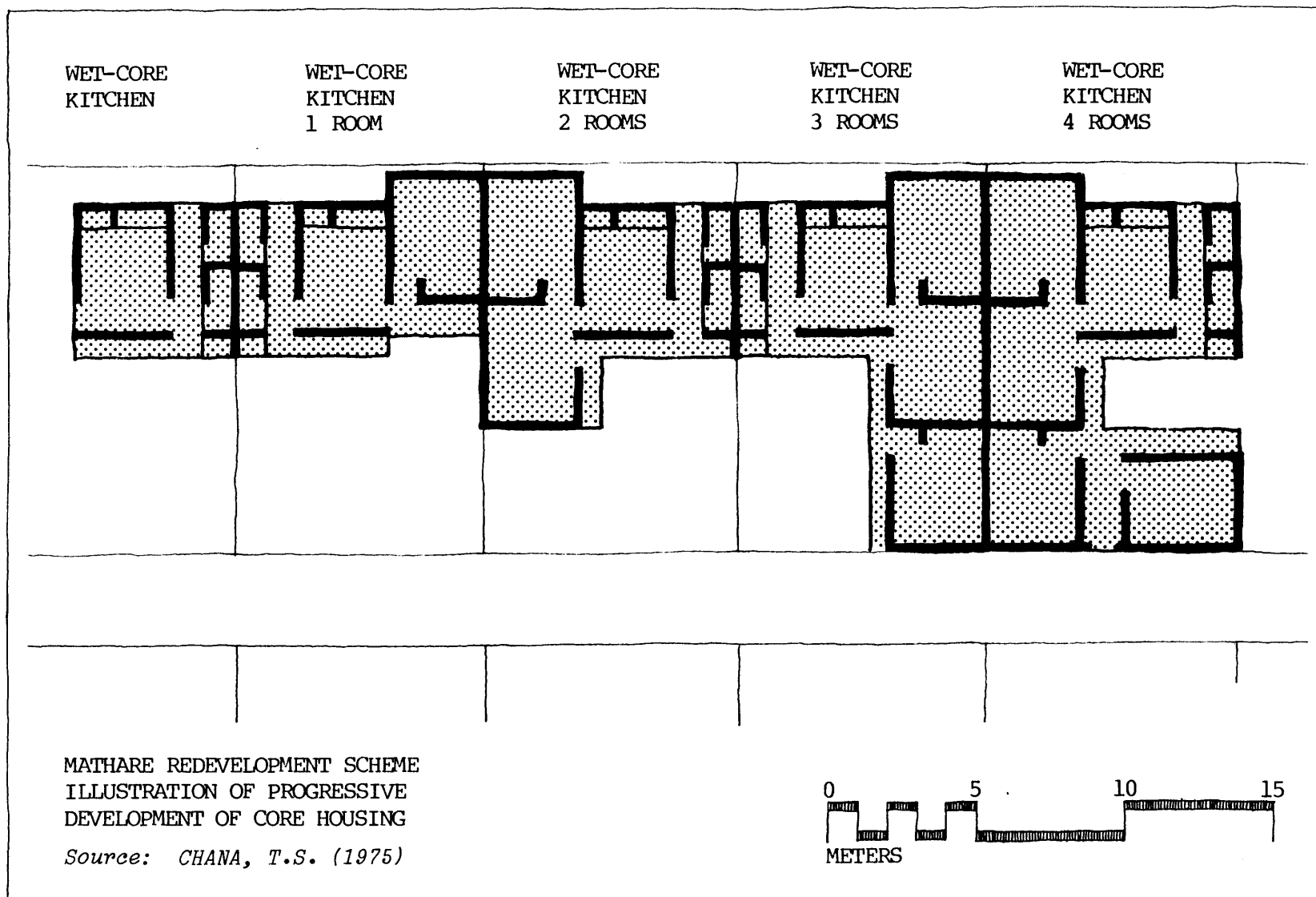
While all this was happening, the NCC's City Engineer's Department was ploughing ahead with the planning and design of the proposed development for the vacant land in the Valley. Referred to as the Mathare Redevelopment Scheme, the project basically consisted of core housing, individually serviced sites, and sites with communal sanitary facilities.<sup>43</sup> The core-housing was originally designed to include a sanitary core, a kitchen, and one room. Each unit was designed for convenient expansion. The idea was that the allottees would themselves build additional rooms according to their individual needs, means, preferences and time

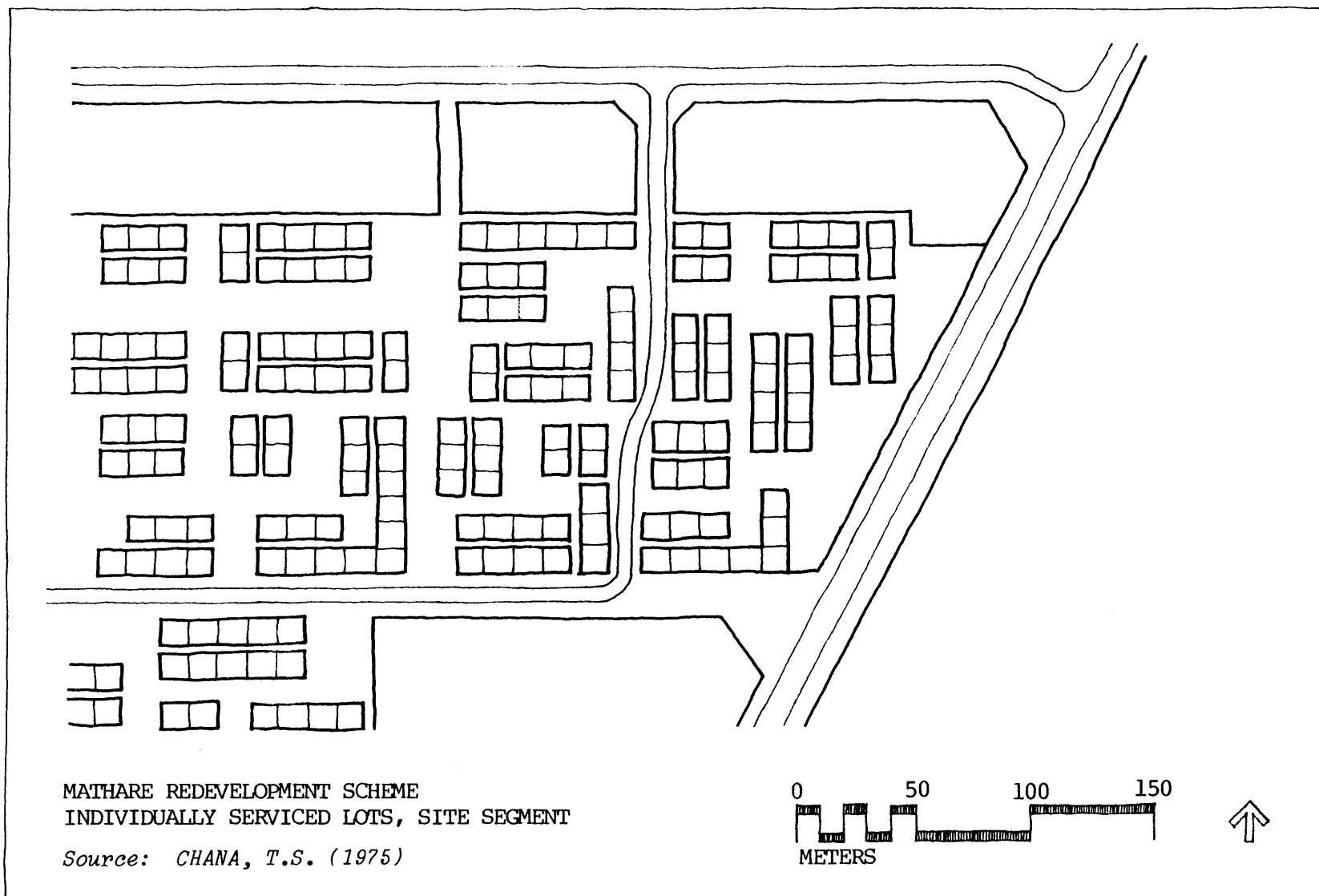
schedules. Affordability was a prime consideration and the initial purchase price of a core house was significantly lower than for a complete conventional dwelling. Councillors, however, opposed the idea of the NNC building *incomplete* dwellings, and insisted on costly revisions which eventually doubled the original target price. The designers were asked to make changes such as increasing the floor areas and heights of rooms, adding ceiling finishes, and enlargening lot sizes. These houses were finally sold for K Shs 20,000 each on a tenant-purchase basis.<sup>44</sup>

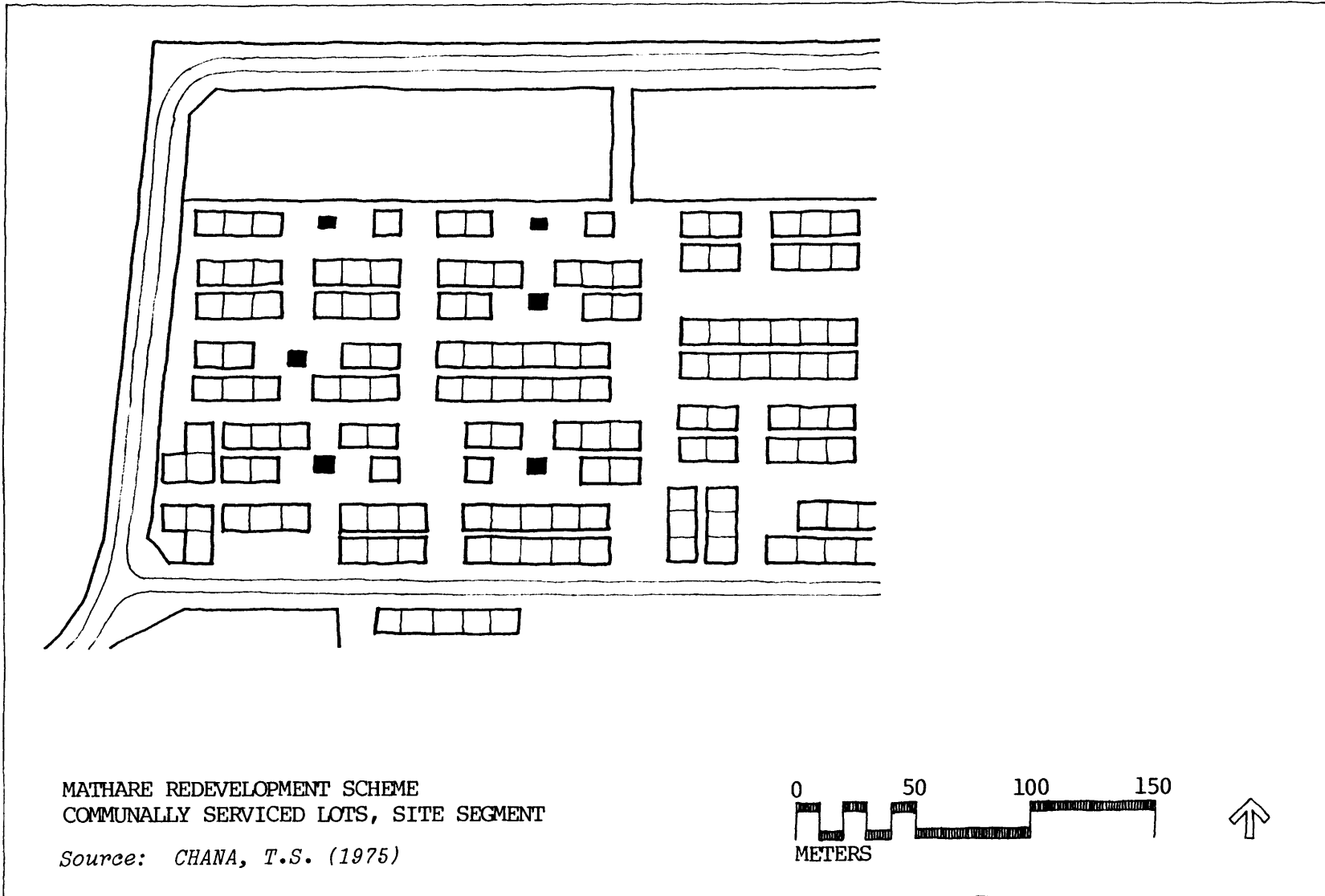
The individually serviced lots each have a contractor-built sanitary core with a toilet, shower and wash-slab located in the rear corner of the plot. Piped water supply and waterborne sewer system serve each lot. The cost of each of these lots was less than one-fifth the cost of each core housing unit. In the communally serviced area, groups of twenty lots share a sanitary facility containing six showers and six toilets. All the serviced lots measure 12.6m by

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10.0m and all the core housing lots measure 7.5m by 11.2m. In both cases the site layout is such that lots are in back-to-back rows with service alleys in between. Provision was made for vehicular access to each lot.

The NCC officers preparing these schemes faced a constant uphill battle in trying to get their proposals approved. But the worst was yet to come. In February 1972 the work on site was brought to a sudden halt. The NCC was instructed by the Ministry of Local Government to cease further construction of housing and infrastructure; at a point when nearly K Shs 2,000,000 had already been spent on development in Mathare Valley.<sup>45</sup> Again, the reasons behind this move were never fully explained. Temple (1975) suggests that:

*A major precipitating factor behind this decision appears to have been dissatisfaction with the houses in the tenant purchase scheme.... the way in which the houses are situated gives them an appearance of high density....*<sup>46</sup>

One can only surmise that since the scheme appears to have been initiated at President Kenyatta's suggestion, he felt personally responsible and was thus unwilling to support any outcome which was less than satisfactory according to his personal judgement.

Various other factors also contributed to the scheme's lack of overall success. As both Temple (1973) and Werlin (1974) note, most of the impetus came from expatriates working in official or voluntary capacities.<sup>47</sup> The wholehearted support of the powerful African bureaucrats and politicians was lacking, and quite probably, was not sought or mobilized in the first instance. Bureaucratic and administrative malaise appears to have dogged the scheme throughout its duration. Councillors and senior officers were unable to develop consistent policies. Technical personnel therefore often worked without proper guidelines or instructions, and were subjected to frequent and unexpected changes. Communication and coordination and coordination both between the various NCC departments, and City Hall, site super-

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visors, the Central Government, and the private sector was incredibly slow, if not non-existent. One expatriate in the NCC observed that *there would appear to be above 50 people with powers of delay and approximately half this number with powers of veto.*<sup>48</sup> Another participant, an expatriate social worker with the N.C.C.K., expressed the following opinion: *A clear designation of leadership was never made, and no one was delegated the task of creating a common ground of factual information among participants.*<sup>49</sup> According to another expatriate planner, the biggest problem for the resident staff of the NCC's Department of Housing and Social Services was the attitude of the department's leadership, which apparently displayed a *singular disinterest in the project and throughout was politically less than courageous, preferring to avoid making controversial decisions whenever possible.*<sup>50</sup>

Despite the various setbacks and ever-mounting problems, Mathare Valley has continued to grow and function as a habitat for a large propor-

tion of Nairobi's poorest inhabitants. A revised version of the Redevelopment Scheme was included as part of the implementation package for the World Bank's Second Urban Project in Kenya, and scheduled to commence in 1978. This latest development plan is more refined and comprehensive than its predecessor. Notable aspects of this plan include the following:

- Households displaced from the upgrading areas will be resettled in the nearby site-and-services location. No dwellings will be demolished until alternative lots for the displaced households are ready.
  - Lots small enough to be affordable by the poorest are emphasized.
  - Minimum standards of construction have been lowered.
  - An integrated walkway system connected to an open space spine along the Mathare River will be developed.
  - Throughout the implementation process the Valley's present residents, political leaders and local social agencies and groups will be frequently informed and consulted. This
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participation and cooperation effort will be the task of the Community Development Section of the NCC's newly formed Housing Development Department.<sup>51</sup>

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## FOOTNOTES

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- 1 Quoted in TEMPLE, F.T., Policies, Planning, and Housing Policy in Nairobi, unpublished Phd. thesis (Cambridge, MA: Massachusetts Institute of Technology, 1973), p. 318.
  - 2 HOULBERG, P., N.O. JORGENSEN and R. STEELE, Site and Service Schemes: Analysis and Report (Nairobi: Housing Research and Development Unit, University of Nairobi, 1978), p. 24.
  - 3 Ibid., p. 25.
  - 4 Ibid., p. 25.
  - 5 HAKE, A., African Metropolis: Nairobi's Self-help City (New York: St. Martin's Press, 1977), p. 60.
  - 6 Quoted in STREN, R.E., Housing the Urban Poor in Africa: Policy, Politics, and Bureaucracy in Mombasa (Berkeley: Institute of International Studies, University of California, 1978), p. 208.
  - 7 SCHON, D.A., "Framing and Reframing the Problems of Cities", in MORLEY, D., S. PROUDFOOT and T. BURNS (editors), Making Cities Work: The Dynamics of Urban Innovation (Boulder, CO: Westview Press, 1980), pp. 31-65.
  - 8 CHANA, T.S., Site and Services Housing Projects in Kenya, unpublished M.C.P. thesis (Cambridge, MA: M.I.T., 1975), p. 171.
  - 9 STREN, R., "The Evolution of Housing Policy in Kenya" in HUTTON. J. (editor), Urban Challenge in East Africa (Nairobi: East African Publishing House, 1972), p. 68.
  - 10 Ibid., p. 71.
  - 11 Ibid., p. 71.
  - 12 Ibid., p. 69
  - 13 Ibid., p. 69.
  - 14 HOULBERG et al (1978) op. cit., pp. 22-30.
  - 15 Ibid., p. 30.
  - 16 TEMPLE (1973), op. cit., p. 319.
  - 17 HOULBERG et al (1978), op. cit., p. 25.
  - 18 Ibid., p. 25.
  - 19 HARRIS, J.R., "A Housing Policy for Nairobi", in HUTTON (1972), op. cit., p. 47.
  - 20 TEMPLE (1973), op. cit., p. 317.
  - 21 CHANA (1975), op. cit. p. 171
  - 22 ETHERTON, D., N.O. JORGENSEN and R. STEELE, Mathare Valley: A Case Study of Uncontrolled Settlement in Nairobi (Nairobi: Housing Research and Development Unit, University of Nairobi, 1971), p. 10.
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- 23 Ibid., p. 10.
- 24 Ibid., p. 10
- 25 WERLIN, H.H., Governing an African City: A Study of Nairobi (New York: Africana Publishing Company, 1974), p. 235.
- 26 Ibid., p. 235.
- 27 Ibid., p. 236.
- 28 Ibid., p. 236.
- 29 HAKE (1977), op. cit., p. 168.
- 30 TEMPLE (1973), op. cit., p. 268.
- 31 WERLIN (1974), op. cit.- p. 236.
- 32 Quoted in HAKE (1977), op. cit., p. 168.
- 33 ETHERTON et al (1971), op. cit.
- 34 Ibid., pp. 70-80.
- 35 HAKE, A. (1977), op. cit., p. 168.
- 36 Ibid., p. 169.
- 37 WERLIN, H.H. (1974), op. cit., p. 236.
- 38 HAKE, A. (1977), op. cit., p. 169.
- 39 TEMPLE (1973), op. cit., p. 280.
- 40 Quoted in *ibid.*, p. 279.
- 41 ETHERTON (1971), op. cit., p. 68.
- 42 Ibid., p. 68.
- 43 See CHANA, T.S., Site and Services Housing Projects in Kenya, unpublished M.C.F. thesis (Cambridge: Massachusetts Institute of Technology, 1975), pp. 157-169. Also see GATTONI, G. and P. PATEL, Residential Land Utilization, Case Study: Nairobi Kenya, unpublished M. Arch. A.S. thesis (Cambridge: Massachusetts Institute of Technology, 1973), pp. 90-97.
- 44 TEMPLE, F.T. (1973), op. cit., p. 231.
- 45 WERLIN, H.H. (1974), op. cit., p. 237.
- 46 TEMPLE, F.T. (1973), op. cit., p. 282.
- 47 Ibid., p. 283, and WERLIN, H.H. (1974), op. cit., p. 241.
- 48 Quoted in WERLIN, H.H. (1974), op. cit., p. 223.
- 49 Quoted *ibid.*, p. 237.
- 50 Quoted *ibid.*, pp. 237-238.
- 51 The Urban Edge, Vol. 4, No 1 (Washington, D.C.: Council for International Urban Liason, January 1980), pp. 4-5.
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**Chapter Five: THE DANDORA COMMUNITY DEVELOPMENT  
PROJECT: THE STATE OF THE ART**

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## A MODEL PROJECT

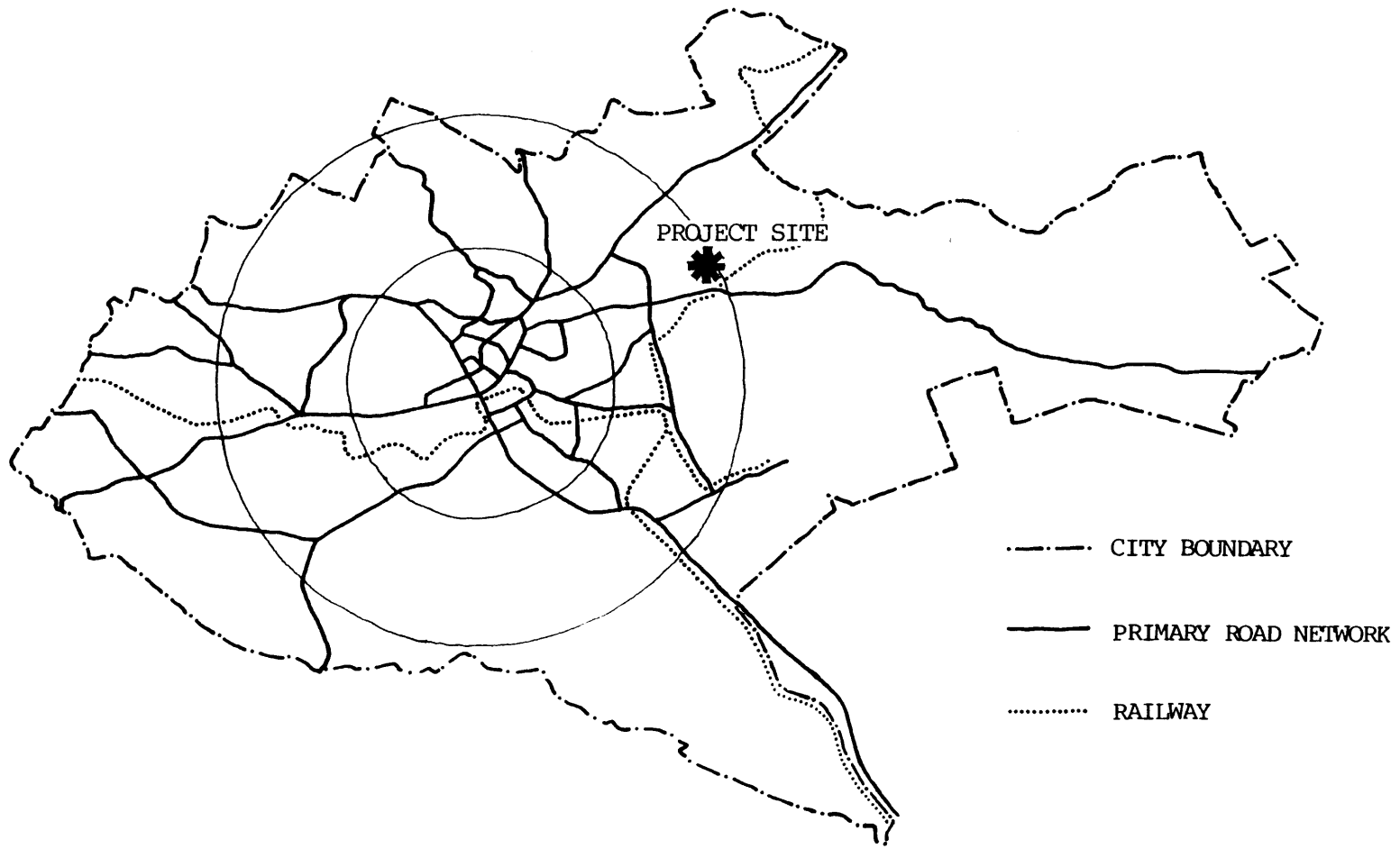
The Dandora Community Development Project (DCDP) in Nairobi is Kenya's first large-scale attempt to plan, program, design and implement a low-cost solution to the urban shelter problem. A multiphased site-and-services scheme, the DCDP consists of 6,000 lots and related community facilities, and is expected to ultimately accommodate anywhere in the region of 60,000 - 100,000 residents. The DCDP is being financed by the Government of Kenya and the World Bank (made up of the international Bank for Reconstruction and Development - IBRD - and the International Development Association - IDA), and the implementation is being handled by the Nairobi City Council, with the assistance of various professional consultants. Phase one of the DCDP - approximately 1,000 lots - made up the so-called First Urban Project in Kenya, the first in a series of urban projects in Nairobi and other urban centers to be taken undertaken with considerable support and involvement by the

World Bank. The First Urban Project was intended to be a *model* for future large-scale urban residential developments in Kenya. As such, the project hoped to break a lot of new ground and incorporate a substantial amount of *learning-by-doing*.

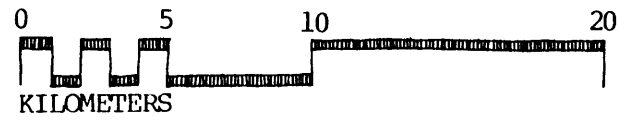
The DCDP site is located approximately eleven kilometers northeast of downtown Nairobi on a large tract of previously vacant land. As originally planned, some of the lots were to be affordable by households earning as little as K Shs. 280 (US \$37) per month.

Construction work on the project commenced in October 1975. Phase One of the DCDP was completed, and 1029 lots were formally handed over to the first batch of allottees in November 1976. After considerable delays and rises in costs, construction of the on-site infrastructure for Phase two began in April 1978. A more or less detailed account of the DCDP *story* up to this point is presented below.

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LOCATION OF THE DANDORA COMMUNITY  
DEVELOPMENT PROJECT



## PROJECT INCEPTION

The needs of the DCPD were planted with the establishment of the Nairobi Urban Study Group (NUSG) in November 1970. The study, conceived initially as a response to the need for a strategy to develop Nairobi's metropolitan infrastructure, quickly turned into a full-scale comprehensive planning exercises funded in part by the United Nations Development Program. International agencies such as the World Bank, the Commonwealth Development Corporation and the United States Agency for International Development had already provided funds for several NCC projects. Faced with growing fiscal pressures the NCC

*....hoped that a comprehensive urban development plan, prepared primarily by a team of international experts, would be useful in attracting even more international assistance to finance projects in Nairobi.<sup>1</sup>*

The primary aims of the study were expressed as follows:

- (i) To develop a preferred structure for the future city and to establish policies and strategies which would guide further development.*
- (ii) To prepare a Development Plan covering the period 1974-1979 which would in essence be the capital works programme for this period. The plan would assist financiers and others involved in the development process and would be submitted to International Agencies for review and evaluation.<sup>2</sup>*

The NUSG was to *devise a preferred strategy for the long term (say year 2000) physical growth of the greater urban area and prepare urban structure plans for the medium term (1979 and 1985).*<sup>3</sup> The study program also stipulated that *draft policies for the encouragement and control of growth in the economy, employment, transportation, social activity and so on<sup>4</sup>* would be developed.

The NUSG consisted of about fifteen professionals - mostly expatriates - a few Kenyan trainees and a small group of support staff. Team members were drawn from a variety of sources including:

the Town Planning Section, Nairobi City Council; the British consult consultants, Colin Buchanan and Partners; technical assistance personnel provided by the United Nations Development Program; researchers from the Institute of Development Studies, University of Nairobi; social workers from the National Christian Council of Kenya. Various other foreigners who were carrying out academic research worked with the NUSG as unpaid research associates, with somewhat unfortunate results in some cases. with American Peace Corps volunteers also worked with the study group. Areas of expertise or interest included transportation and land use planning, economics and sociology. A budget of K Shs 4.6 million was allocated and the work was scheduled to run from November 1970 until March 1973. The extension of the study and the recruitment of additional technical assistance personnel increased the ultimate cost to well over K Shs 5 million.<sup>5</sup>

At about the same time, the World Bank was reconsidering its policy on providing develop-

ment assistance for urban sector projects. The World Bank realized that:

*In its early years, limited resources, emphasis on projects of high priority in terms of output, and on strong borrowing organizations (strong both administratively and financially), restricted the types of the Bank's urban-oriented projects.<sup>6</sup>*

Recognizing the scale and intensity of current urban problems in developing countries, the World Bank *decided to supplement its activities in individual sectors with a more direct focus on problems of urbanization<sup>7</sup>* The World Bank's objectives in the urban sector included the following:

- (a) *to demonstrate low-cost technical solutions for shelter, infrastructure, and transport which were affordable to the urban population and could be progressively improved over time;*
- (b) *to demonstrate that it was possible to provide services for the urban poor on a non-subsidized basis;*
- (c) *to demonstrate the feasibility of comprehensive "urban" planning and investment programming procedures*

- suitable for rapidly changing urban conditions;*  
(d) *to demonstrate the replicability of the above solutions.*<sup>8</sup>

The World Bank's new approach to urban problems was formally presented in the Urbanization Sector Working Paper published in June 1972.<sup>9</sup> Housing was one of the main areas in the Bank's proposed program of activities. Emphasis in this area was going to be placed on *site and services* and *similar projects to provide urbanized land on which the occupants can build their own dwellings using self-help methods.*<sup>10</sup> The Bank's opinion was that:

*...for most developing countries, the harnessing of the self-help and savings potential provides the only realistic possibility for substantial alleviation of housing conditions.*<sup>11</sup>

Poverty alleviation and instruction building were to be major long-term goals, and apparently the World Bank anticipated that at the outset *initial individual projects would achieve only limited results.*<sup>12</sup>

As a result of this new thinking, the IBRD's Special Projects Department was looking for promising opportunities to finance urban development efforts. The IBRD has already funded the extension of Nairobi's water-supply system, and reconnaissance missions had visited the city in 1969 and 1971 to explore the possibility of a suitable project. The desire on the part of the Government of Kenya and the NCC to attract foreign capital, and the World Bank's willingness to supply it under appropriate lending conditions, led to the two parties signing an agreement in March 1971.

Under this agreement the NCC made a formal commitment to emphasize the goals of economic equity, as well as growth, in its metropolitan development strategy and planning proposals. Programs and projects were to incorporate income redistribution in favor of low-income groups as a prime objective. The NCC also agreed to prepare a pre-feasibility for a comprehensive urbanization project. This project was to involve the provision of serviced sites for



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residential use by low-income occupants, related community facilities, commercial and industrial opportunities and squatter upgrading. The work on the pre-feasibility project was to be done in parallel with the Nairobi Urban Study, and fit well into the city's proposed framework for future metropolitan development.

The Nairobi Urban Study, however, proved to be a disappointment, at least in its earlier stages. Both Temple (1973)<sup>13</sup> and Werlin (1974)<sup>14</sup> point out various problems and deficiencies with both the Group's composition, organization and leadership, and the study's methodology. Temple goes so far as to comment that the study *was so ineptly organized, and its methodology was so inappropriate for planning in a rapidly changing city in a developing country, that its failure was inevitable.*<sup>15</sup> One of the participants in the study, an American Peace-Corps volunteer, expressed the following opinion:

*... expatriates speak one language, politicians and administrators another. The gulf between the two is immense.*<sup>16</sup>

The bewildering variety of participants in the study also proved to be a serious handicap. Group consensus on the study's goals and objectives was lacking and control. This entirely unsatisfactory state of affairs prompted the NCC's expatriate Deputy City Engineer to initiate the preparation of an interim urbanization project, a proposal that would hopefully have a better chance of implementation in the not too-distant future. By focusing on a concrete project proposal with clearer, more modest objectives, it is likely that the Deputy City Engineer hoped to reduce the amount of debate and conjecture.

Working with staff from the City Engineer's Department, and students from the University of Nairobi, he put together a draft report calling for the development of a community for 60,000 people to be located on one of several possible sites in what was designated the city's Eastern Extension Area. In 1971, a physical development plan

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had been developed for this area by a firm of local consultants, Menezes and Partners, in collaboration with the NCC.<sup>17</sup> Drawing on information from this physical development plan, and the socio-economic data compiled by the Nairobi Urban Study, the Deputy City Engineer proposed a project that would:

*...bring together the necessary components of employment, shelter and the community action-linked by communication and utility service systems.*<sup>18</sup>

A target population of households with a monthly income of less than K Shs 500 was defined, and the goals of this project were specified as follows:

- (a) *to provide access to land and security of tenure on a long term basis (10,000 plots) primarily for residential use, with supporting community facilities including schools and clinics,*
- (b) *to control speculation and profit-making at the expense of the low-income sector,*
- (c) *to stimulate employment opportunity and industrial activities in the organization of local residents*

- associations as for credit, purchasing, equipment, training of special skills, management, legal assistance and marketing outlets,*
- (d) *to provide a framework within which residents can develop their own lots by promoting the organization of local resident associations to administer the development of housing units and utility networks,*
- (e) *to provide communications and utilities channels which will stimulate transportation routes, and investment in residential, industrial and commercial activities, both within and near new communities.*<sup>19</sup>

To achieve these goals, the following program was proposed:

- (a) *acquisition and preparation of 10,000 lots to serve as sites for 20,000 rooms (10,000 housing units of two rooms each), to accommodate an estimated two-income population of at least 60,000,*
- (b) *formation of a financial institution specializing in loans, for materials and equipment, to the builder-leasee providing incremental's investment housing on these lots. This institution could also construct some of the dwelling units itself*

- and rent them to qualified occupiers and,
- (c) provision of manufacturing facilities - both plant and equipment in case of the larger facilities.<sup>20</sup>

A set of institutional arrangements were suggested for the housing component of the project:

- (a) All services other than those pertaining to the preparation of the plots will be provided by the NCC as part of its regular responsibilities and will not be charged to the project. This means that the costs of health facilities, circumferential roads (other than those needed for the direct implementation of the project), educational and social facilities will be borne by the NCC budget and only partly covered by charges and taxes paid by the inhabitants of the 10,000 plots,
- (b) the built form, while circumscribed by the nature of materials and equipment provided, will be left to the discretion of the builder-leasee, subject to regulations pertaining to safety and sanitation. Design and production assistance will be necessary to ensure sound investment by the individual,
- (c) The financial institution will be a quasi-private body with powers of eviction, transfer of title, loan moratoria and renewal. The financial institution will procure building materials equipment necessary to construct the housing unit. It will then make loans -in kind in the form of materials and possibly equipment (at an interest calculated to cover its administrative expenses) to the builder-leasee. These loans will be repaid over a period of up to 25 years. The financial institution will also act as agent for the NCC for purposes of collecting the plot rent. This will facilitate payment by the builder-leasee and reduction of administrative expenses,
- (d) The tied loans will be granted in amounts sufficient to enable the construction of a two room dwelling on the plot. The builder-leasee will construct the housing unit, perhaps in cooperation with other such individual's local resident associations. At least one of the rooms built will be occupied by the builder-leasee, while one of the rooms could be rented to another qualified occupant. The responsibilities for payment of the loan and for payment for water, sewerage and refuse disposal and other chargeable services will rest with the builder-leasee.<sup>21</sup>

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The City Engineer's Department, in collaboration with the other previously mentioned participants, completed the report, entitled Interim Urbanization Projects: A Preliminary Proposal, (IUP) in February 1972. Despite considerable resistance along the way to the idea of a large concentration of low-income dwellers, the IUP proposal was adopted by the Ministry of Local Government for onward transmission in late-1972 to the IBRD in Washington, D.C. The IUP proposal was approved by the IBRD which then gave the go-ahead to the NCC for the preparation of a detailed project feasibility study.

**THE UNIVERSITY OF NAIROBI- MASSACHUSETTS  
INSTITUTE OF TECHNOLOGY TEAM'S  
PROPOSAL**

Meanwhile a rather significant event related to the DCDP occurred outside the NCC in mid-1972. From June through August an academic exchange program took place in Nairobi involving graduate students and faculty from the Department of Architecture at the University of Nairobi (U of

N), and the Urban Settlement Design Program at the Massachusetts Institute of Technology (M.I.T.) The focus of the exchange program was low-cost shelter workshop in Nairobi, and the work included extensive studies of low-income dwelling environments and the preparation of a schematic proposal for a large low-cost shelter project. Members of the exchange program were aware of the NCC's efforts and intentions at the time, and liaised closely with personnel in the City Engineer's Department. Out of this interaction came the U of N - M.I.T. team's decision to select the site that was eventually chosen to be the actual location for the DCDP as the one for their academic endeavors.

The U of N - M.I.T. team was led by the eminent John Turner and the dynamic Horacio Caminos. At the time, both were leading advocates of self-help shelter programs and had acted as consultants to the IBRD. Their previous efforts had focussed mainly on Latin America.

The final design of the DCDP is remarkable for

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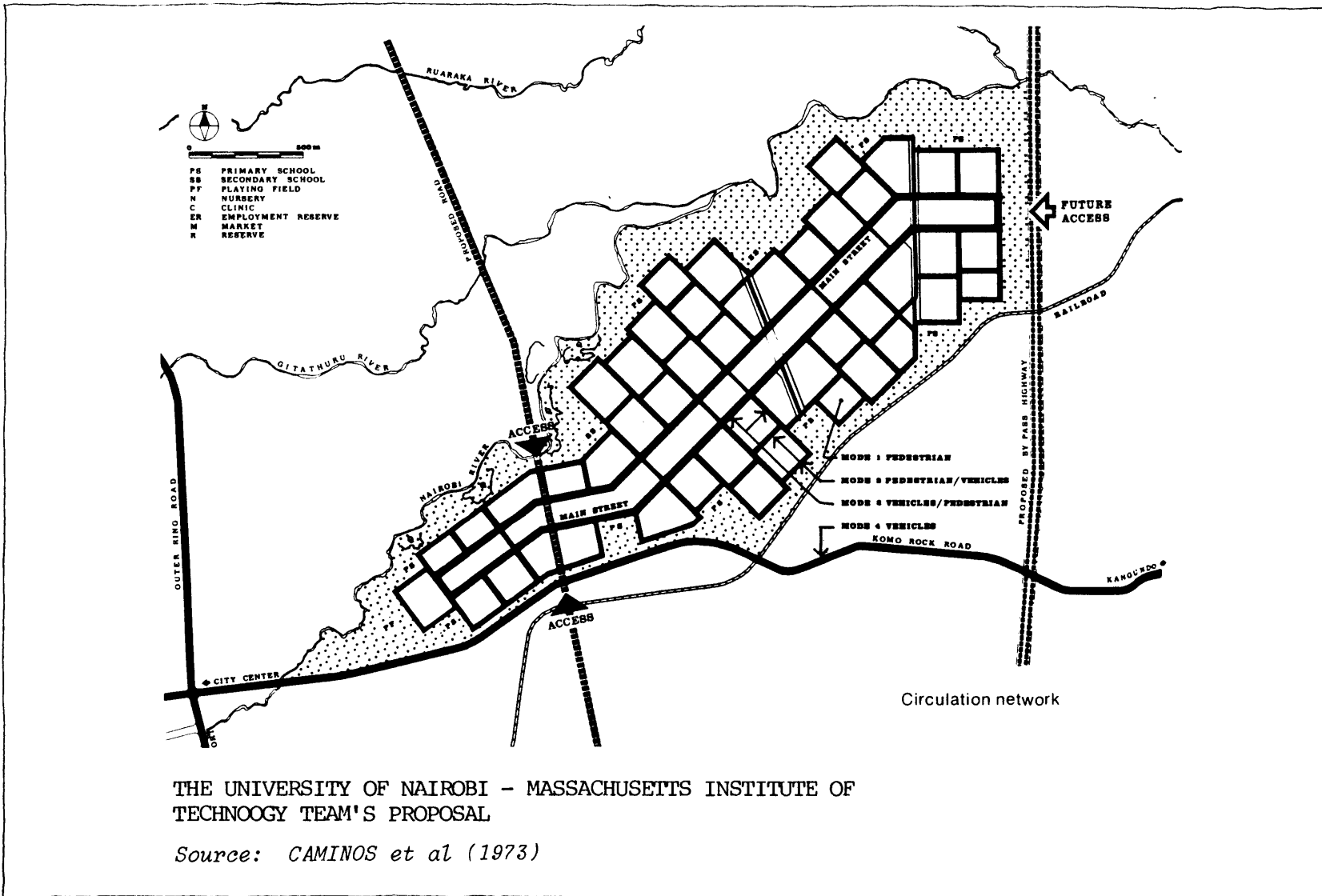
both its similarities to, and its differences from the earlier preliminary proposal prepared by the U of N - M.I.T. team.<sup>22</sup> The similarities lie in the overall site structure plan, especially the central spine concept, while the dwelling layouts bear almost no resemblance. Presented below are the important and distinctive features of the U of N - M.I.T. team's proposal.

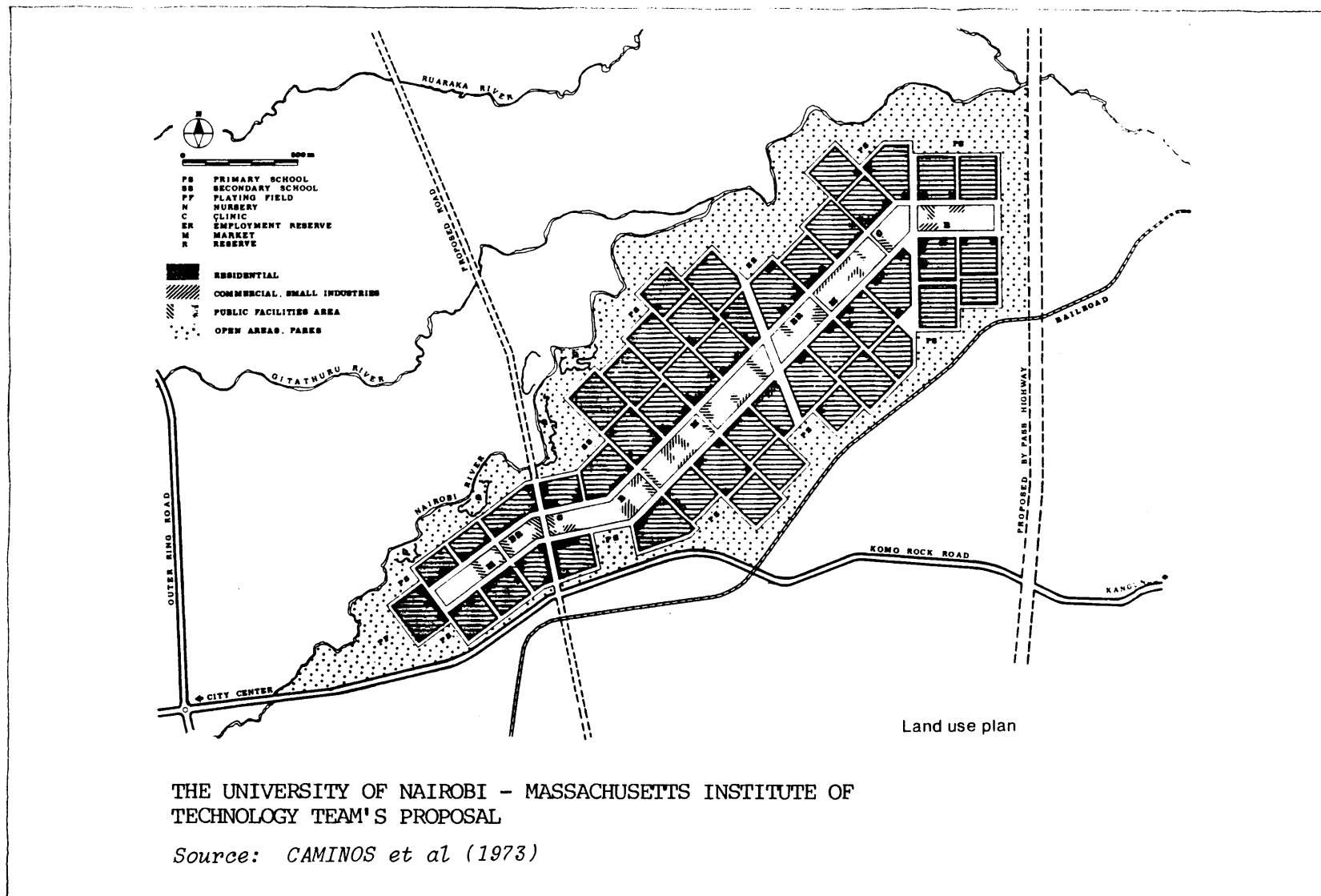
To begin with, the project was envisaged not as one single consolidated development, but as a multi-phased development which integrated both public and private sector programs. The financing for the initial development was to come from public as well as private sources. Initial development was located in the area of the site that had the most direct access from existing roads, convenient pedestrian access to public transportation, and which allowed the utilization of existing infrastructure and services-commercial areas, industries, schools and so on - of adjacent communities. The site layout was structured such that it allowed for a

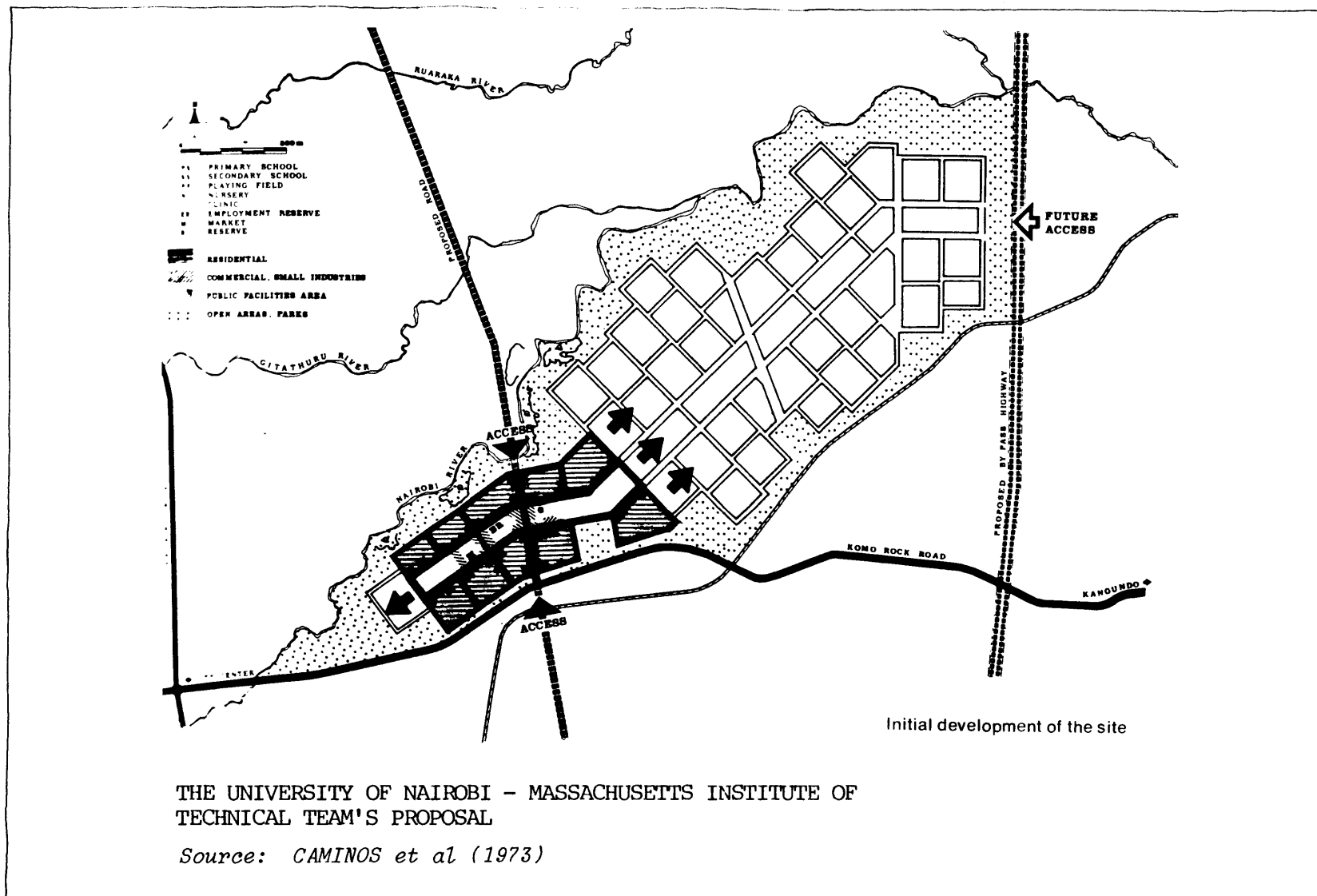
natural progressive by accretion of the different land uses, circulation and infrastructure. This made for compact rather than scattered development, and at any stage a balance was maintained between the different land uses and the development of the circulation system.

The land use plan allocated the project site area in the following proportions: 10 percent for circulation; 10 percent for commercial activities; 45 percent for residential use; and the remaining 35 percent for social facilities and amenities such as schools, playgrounds, religious centers, community centers, recreation areas and a hospital. The commercial and major community facilities were located in a central spine running along the length of site with residential areas abutting both sides of the spine. A hierarchical circulation network established a primary ordering whole development. The residential area was subdivided into blocks, lots and clusters. Gross densities of between 200 and 400 persons per hectare were planned

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for. Within the concept of blocks, lots and units, five different types of housing was provided: (1) individually serviced lots; (2) core shell dwelling units; (3) tenements with communal services; (4) commercial facilities with integrated residential units; and (5) clusters of serviced lots. Tenure options were predominantly rental and long term leases. Subletting of rooms was anticipated in all the various housing types. When fully developed, the authors of this proposal estimated a saturation population of 120,000 inhabitants.

All along, the NCC was kept informed of the academic group's work and formal presentations were made to NCC officials concerned with housing.

#### **PROJECT PREPARATION**

Project preparation began in earnest in January 1973. In response to an IBRD request the NCC formed a Housing Task Force (HTF) to undertake

the work. With technical personnel seconded from other NCC sections, the HTF had an expatriate director for the first six-months of its duration. This arrangement proved unsatisfactory; Senior Officers in the NCC, both expatriate and local, were upset at the abrupt arrival of a project leader with limited knowledge of the project context. The senior officers felt that they possessed the appropriate level of expertise and relevant experience to do a good job on their own. Resentment set in; the Technical Director was ineffective, and little progress was made during his short stay.

While the director's departure solved the immediate problem, it also meant that the HTF was without an overall leader. This problem was without an overall leader. This problem by the fact that all the technical personnel in the HTF worked on the project on a part-time basis, on top of their routine departmental tasks and participation in the on-going Nairobi Urban Study. The lack of sufficient numbers of qualified staff was a problem shared by the

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whole of the NCC. Amidst all these not altogether unfamiliar difficulties the HTF made about preserving Nairobi's image as a modern international metropolis. The ruling elite had expressed concern over the deliberate creation of *urban eysores* and criticized standards which were perceived as a carryover from the colonial days and which were *not in accordance with African dignity*.<sup>23</sup> Walking this kind of tightrope was to become part of the regular activity for those involved in the project on a day-to-day basis.

#### **DISPUTE OVER APPROPRIATE STANDARDS: ACT ONE**

Debates, controversies, conflicts, delays, and increased costs had plagued both the Kariobangi and Mathare schemes. The DCDP was to be no exception; the whole issue of the appropriateness of planning and design standards versus increased implementation costs and affordability has significantly hindered the progress of the DCDP throughout its duration. Beardmore (1978) has described the conflict within the NCC over

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the issue of standard of infrastructure as *one of the most crucial issues of Dandora*.<sup>24</sup> The Dandora episode of this endless saga first began during the writing of the Draft Project Report in later part of 1973 and the first half of 1974. At this time, two major issues involving standards emerged. One concerned the extent to which the DCDP should cater for private automobile ownership. The other involved the preferred waterbourne sewerage system with individual connections to each plot at costs affordable to the target income group. These two issues were of concern to two different interest groups. The motivations of these two groups were illustrative of this type of situation, and indicative of the basis on which battle lines tended to be drawn.

The problem of waterborne sewage was of concern primarily to the technical specialists. The warring camps consisted of the engineers in the NCC's Housing Task Force who were designing the system and those in the NCC's Water and Sewage Department who would have to operate it. At a

much later stage the Municipal Medical Officer of Health joined this fray. The main bone of contention was: how much could the design of the system deviate from standard NCC practice in an effort to save money without creating additional maintenance problems? A tradeoff had to be made between lower development costs and higher maintenance costs.

The HTF designers, for the sake of economy, had grouped together the four wet-cores for each two pairs of back-to-back lots. The designers proposed locating main sewers in way-leaves on private property. This solution resulted in significant cost savings, K Shs 1700 (US \$204) per lot, as compared to the conventional layout which positioned mains under the streets and used long branches to make separate individual connections. A similar solution was proposed for the water supply system, and this resulted in savings of K Shs 320 (US \$39) per lot. The disadvantage with the cost saving proposal was that the short branch mains passed under the units which had concrete floor slabs. This

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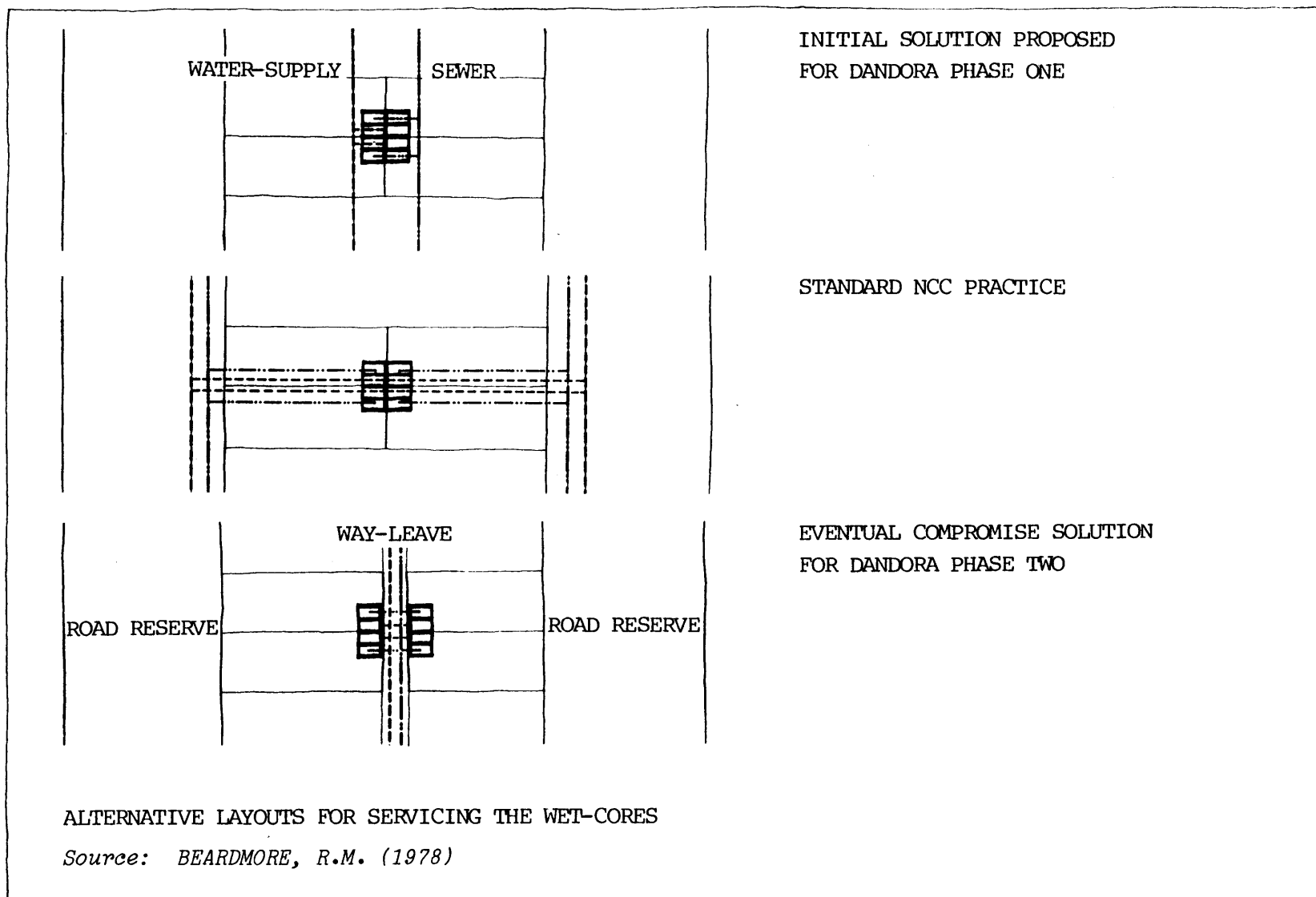
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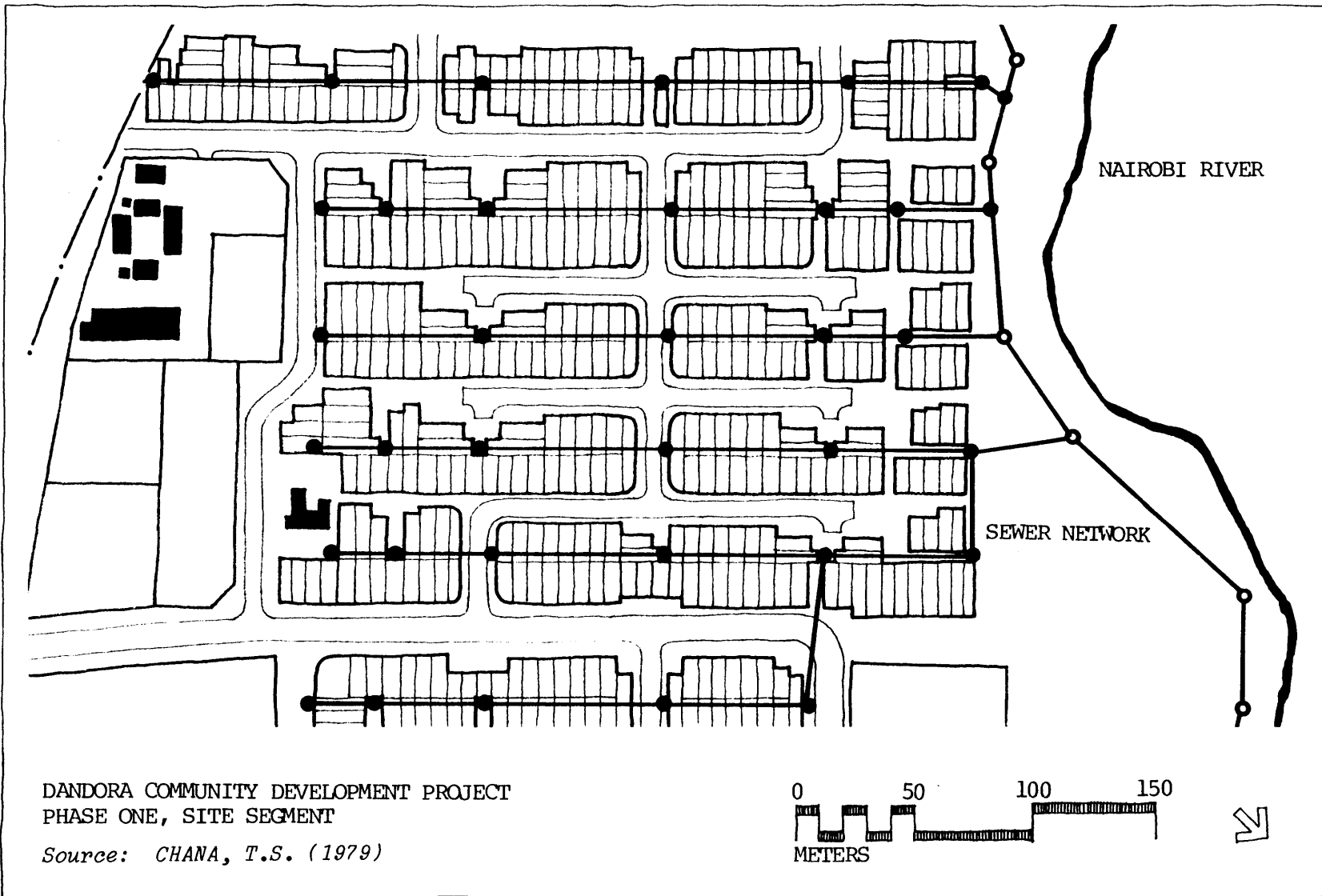
meant that repairwork in the future could potentially be messy, more time-consuming and costly. The Water and Sewage Department also argued that the proposed sewerage layout resulted in manholes and inspection chambers being located deep inside private property, and that this did not facilitate convenient maintenance of the system. The then Town Clerk, a strong supporter of the DCDP, intervened to break this deadlock by favoring the HTF proposal. The Town Clerk's intervention was necessitated by the need to complete the Draft Report on schedule for onward transmission and eventual submission to the World Bank. However, this was only the ending of the first act of what was to be a much longer drama.

The problem of accommodating automobiles in Dandora, was, as Beardmore (1978) suggests, of *interest to a broader constituency.*<sup>25</sup> Automobiles in Kenya are very expensive items, and the private car is thus a prized possession and a prestigious status symbol, apart from being a very convenient and comfortable means of

transportation in a city where public means of transportation generally leave a lot to be desired. Cars were symbols of modernity and such symbols have considerable social and political value in Kenya. Councillors argued that every plot holder would aspire to automobile ownership and that each should be directly accessible by car and large enough to allow for on-site parking. The technicians who argued against adopting this standard built their case on the statistical data compiled by the NUSG which indicated that the probability of a household in the target income owning a car was very low, about 3.6 percent. While all data in Nairobi's context should be treated with caution, and questioned on the basis of common sense and experience, it should be noted that transportation was an area of emphasis in the Nairobi Urban Study. Using the NUSG figure of 3.6 percent, and assuming three families per lot, a maximum of 110 cars per 1000 lots is indicated. The councillors were calling for a project layout which could accommodate nine times this maximum number. However, it was difficult

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to argue, on purely technical grounds, against the notion of rising expectations amongst Nairobi's low-income groups, and the principle of one car per lot was finally accepted.

#### **PROJECT DETAILS AND IMPLEMENTATION**

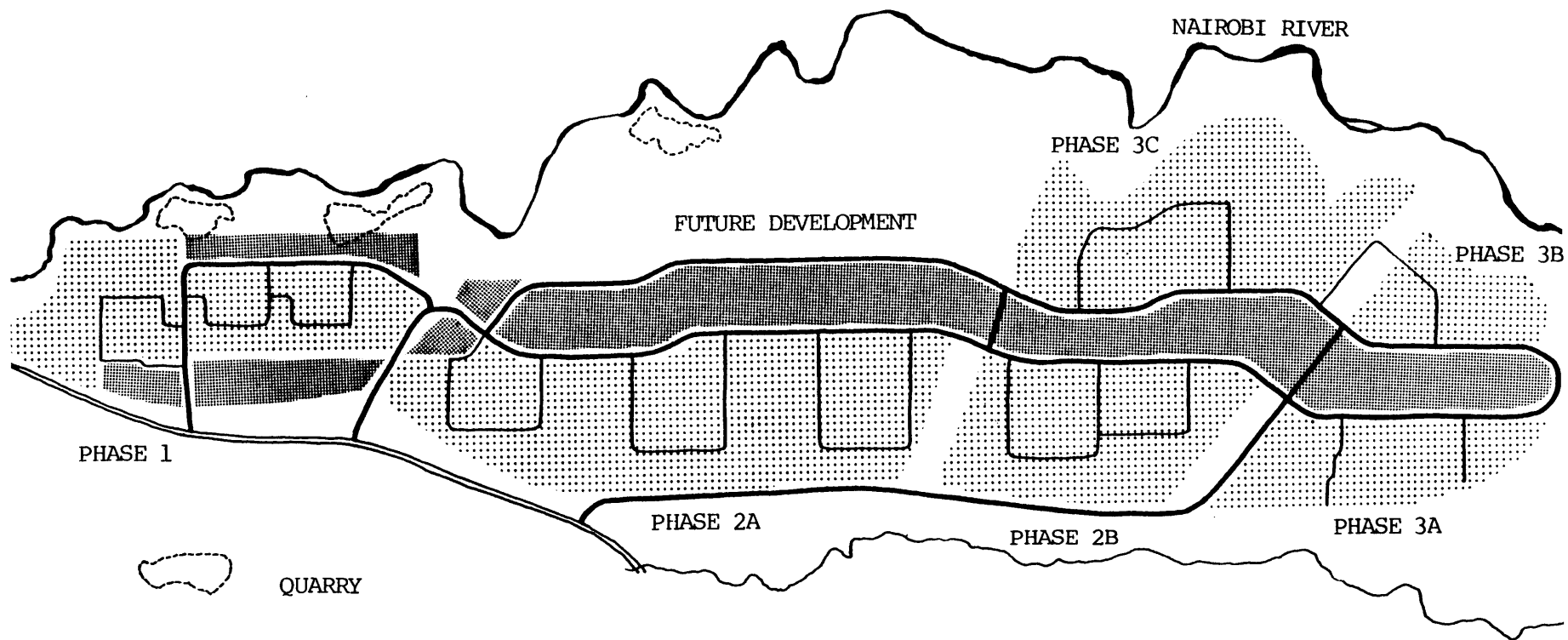
Nonetheless, a Draft Project Report was completed by October 1973 and submitted to the IBRD for discussion. The development concept for the project was based on site-and-services principle, and a specific site had been selected from amongst those proposed in the IUP proposal site selection criteria had included the availability of a large parcel of vacant land and reasonable proximity to both existing and planned employment opportunities for the project's intended low-income beneficiaries. The site selected was located in Dandora, some eleven kilometers north-east of the Nairobi city-center.

A structure plan which defined the size and location of land uses was presented. The site's

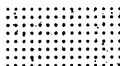
elongated shape suggested a central spine containing commercial, industrial and institutional uses, to which residential neighborhood units were attached.

Conventional physical planning attitudes such as segregation of land uses were singularly evident; and this may have been done deliberately to minimize opposition. In other respects however, the projects's physical design represented a significant departure from previous practice. The phasing program allowed for progressive growth and development whereby infrastructure and public facilities were constructed as and when the need arose, thereby reducing the opportunity cost of premature investment. Lot layouts, sizes and dimensions attempted to use land more efficiently, and minimize the cost of services by reducing the length of sewer, water-supply and road networks. Infrastructure standards were also lower than usual. Controversy erupted over this particular issue and the project's designers became embroiled in a prolonged and costly dispute with regulators and other officials. This dispute is

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QUARRY



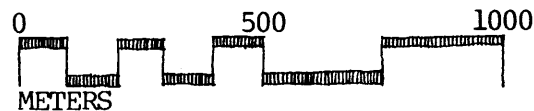
RESIDENTIAL



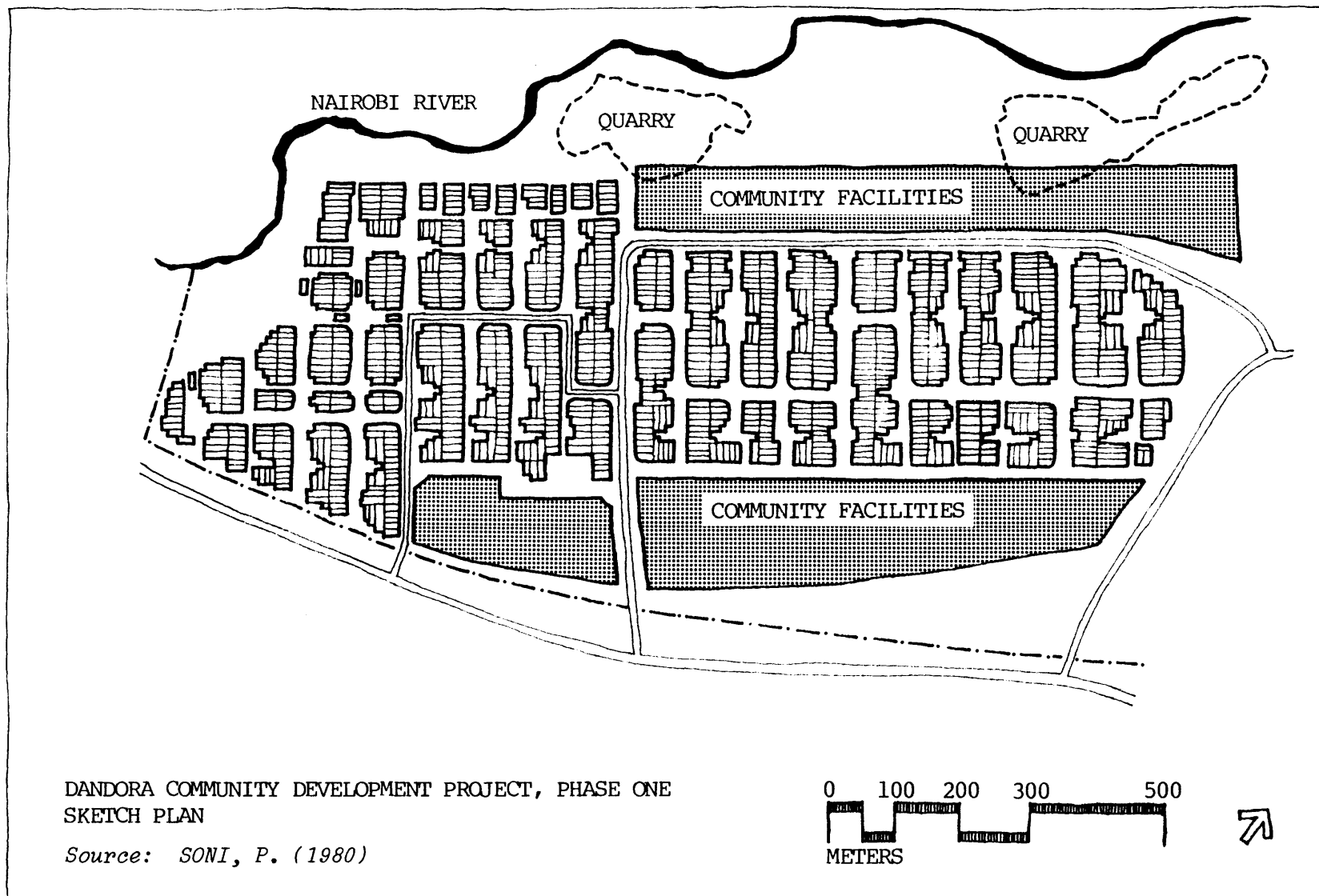
INSTITUTIONAL/COMMERCIAL

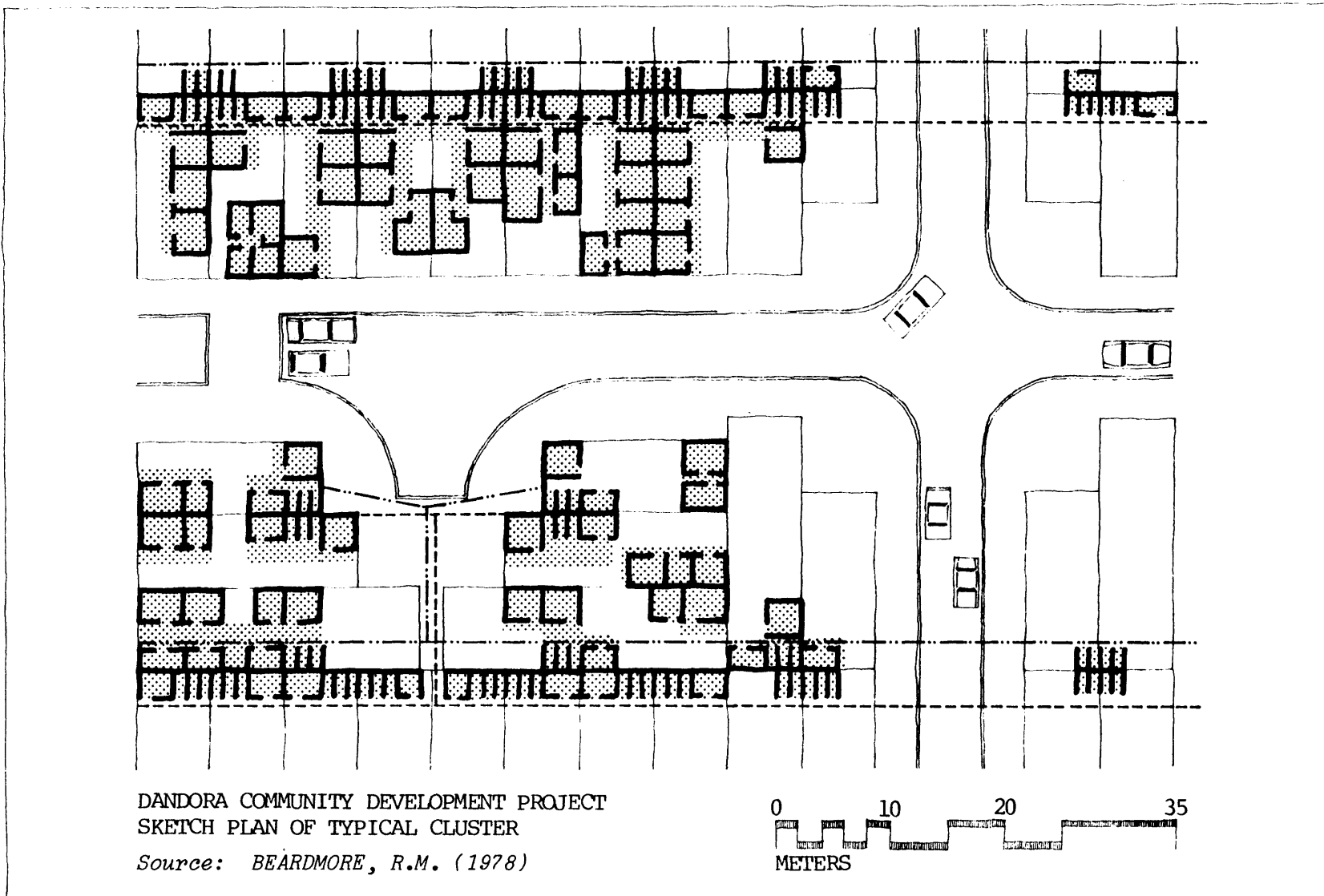
DANDORA COMMUNITY DEVELOPMENT PROJECT  
SKETCH PLAN OF LAND USE AND PHASING

Source: BEARDMORE, R.M. (1978)









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described in greater detail below. The Draft Report also contained proposals for lot allocation procedures, loan management, legal occupation controls and community development functions. Based on the overall scheme at this stage of development, a preliminary financial plan was drawn up.

Beardmore (1978) suggests that by this time, the goals and objectives of the DCDP had begun to shift in a number of subtle and significant ways. His comments include the following:

*The project had started the slow but perceptible process of conversion from a comprehensive community development project to a peri-urban housing estate. This shift can be explained in part by the physical planning bias of the Housing Task Force which caused their terms of reference to be expressed in terms of the provision of shelter, not jobs. The ambiguity surrounding the goals of the Task Force is illustrated by the fact that it was sometimes called an Urbanization Task Force.*

*Notwithstanding this confusion, it was evident that the housing objective was*

*beginning to dominate the urbanization objective of the project.<sup>26</sup>*

The Draft Report was incomplete in two major areas. A detailed site-layout has been precluded as a result of the dispute over infrastructure standards, namely car-parking and sewers. In addition, the HTF and NCC had been unable to agree upon the organizational structure for an implementing agency. The IBRD waited until March 1974 and then, out of sheer frustration, threatened to cancel the whole venture if there was any further delay. While the IBRD was carrying out its final project appraisal, the NCC approved the overall content of the DCDP and the specific layout for Phase One. The project area was designated as an urban zone governed by the Grade II Building By-laws<sup>27</sup> which permitted standards of construction lower than under Grade I By-laws which govern most of Nairobi. On May 6, 1975 loan and credit agreements were signed by representatives from the IBRD, the International Development Association (IDA), the Government of Kenya, and the NCC. A staggering forty-nine months had

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lapsed since the IBRD had first indicated its interest in financing an urbanization project in Nairobi in March 1971. Since then the lead time for the second and third generation of World Bank-sponsored urban projects has been substantially reduced. It must be said that while the NCC was none too-swift in its deliberations, the IBRD was also breaking new ground with its lending policies for urban projects, and, as previously noted, had consciously adopted an approach of *learning-by-doing*. As a result the project cycle was slower than usual. The major components of the DCDP, as per the 1975 plan included:

- Serviced Lots:

The project was to provide 6000 lots in four different sizes (100m<sup>2</sup>, 120m<sup>2</sup>, 140m<sup>2</sup> and 160m<sup>2</sup>) with three alternative services options (discussed in detail later). Upon construction of an approved dwelling allottees would be entitled to a fifty-year lease. The site layout allowed for an estimated density of 320 persons per hectare spread out over thirty-two lots per hectare. This density was not a typical of

lapsed since the IBRD had first indicated its interest in financing an urbanization project in Nairobi in March 1971. Since then the lead time Nairobi's more densely populated planned public housing areas. Vehicular access to each lot resulted in twenty-three percent of the total acreage in Phase One being devoted to roads.

- Materials Loans:

Estimated to be sufficient for the procurement of materials for the construction of one or two rooms depending on the lot option, the loans were to be lent at an 8.5 percent interest rate. Repayment would be spread out over twenty to thirty years with a five-year grace period in the case of lots with a minimal level of contractor-built services. A flexible computerized system would greatly facilitate accounting.

- Community Facilities:

A variety of community facilities and amenities were planned for including: religious centers; health clinics; community centers; primary and secondary schools; neighborhood shopping areas and a major

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shopping center; markets; post office; police station; fire station; parks and open-spaces; and a sports center.

- Monitoring

A comprehensive multidisciplinary monitoring and evaluation study was to be carried out on a continuous basis as soon as project implementation commenced.

By June of 1974 the project preparation had been wrapped up. The IBRD was satisfied with the final site plan and the establishment of a project implementation unit was under way. As a result of its leverage on the DCDP the IBRD was also able to negotiate a longer-term program to address the institutional deficiencies and shortcomings which existed within government bodies responsible for public sector shelter provision. This program included: a review of municipal finance in Kenya; improvement of the NCC's organizational ability to implement an effective housing program; a study of squatter upgrading with an eventual city-wide proposal for Nairobi. To implement the DCDP, the NCC established the

Dandora Project Department (DPD) in May 1975, and on-site construction work began in October of the same year. (The DPD is discussed in more detail later.) A last minute design change was made in the wet-core units. More costly, prefabricated concrete wall panels were to be used instead of the traditional concrete block wall construction. It turned out that Phase One was only one-third the size required to justify the cost of setting up the site factory used to produce these panels.<sup>28</sup> Various unexpected technical problems also dogged the fabrication and installation of this relatively untried system.

Menezes and Partners, a local architecture and planning firm which had developed a sound reputation in the field of housing, were appointed overall consultants for the implementation of the DCDP. The firm's founder, Braz Menezes, was destined to leave the firm in the late-1970's to join the staff of the IBRD's Urban Projects Department. In the mid-1970's the firm became Mutiso-Menezes International

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due to the arrival of a new partner, David Mutiso, a noteworthy individual in Kenya's architecture profession. Mutiso was Kenya's first qualified African architect who had also been the first African to occupy the position of Chief Architect in the Ministry of Works, a position he held for about a decade before entering private practice. Mutiso-Menezes International grew rapidly to become the largest such firm in Kenya with a cadre of international staff drawn from associated firms in Britain, Denmark and Canada.

#### **LOT ALLOCATION**

The lot allocation process began in March 1976 with the approval by the Dandora Steering Committee of the application forms designed by the DPD's Community Development Section. Information which applicants were required to furnish in these forms included: personal details; preference of lot type; compliance with various selection criteria and any relevant supporting evidence; prior participation in any

community organization; and knowledge of building construction. These forms were then offered for sale to the public at K Shs 20 each. There is some evidence to suggest that, initially at least, the project was not adequately advertised, and sales of the application forms were low.<sup>29</sup> An advertising campaign, primarily in the mass printed media, was launched to publicise the DCDP. However, Soni (1980) in his interviews with some of the occupants of Phase One of the DCDP learned that many allottees had come to know about the project either through sheer accident, or had obtained the information second- or third-hand. Those who lacked formal education could not comprehend the written advertisements. Many allottees did not get a clear idea of the project and its aims until they made further detailed inquiries at City Hall. Even then, most of them apparently did not get the correct picture about the plots and dwellings. Not all the allottees understood the meaning of *self-help*, their own role in the construction of the dwellings, and the various forms and limits of assistance provided by the

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DPD.<sup>31</sup>

By the time applications closed on June 30, 1976, from the total of 20,948 forms which had been sold, 16,018 were completed and returned to the DPD. The next two months, July and August, were spent on processing the applications. Students from the University of Nairobi were hired on a temporary basis to assist the staff of the DPD's Community Development Section in interviewing prospective applicants in order to verify the information contained in the submitted applications. In order to be eligible for selection, applicants had to meet all of the following criteria:

- (a) *The total income at the time of application of the tenant and such members of his family as will live with him on his plot was between K Shs 280 and K Shs 500 per month for Option A plots and K Shs 450 and K Shs 650 per month for Option B plots.*
- (b) *The prospective tenant had lived in Nairobi for at least two years immediately prior to his application for a plot and did not own any residential*

*property in Nairobi.*

- (c) *The tenant's family (spouse, if any, or children) did at the time of application, and would, upon allocation of a plot, reside with the tenant.*
- (d) *Prospective tenants would pay NCC the appropriate fees for sewerage and water connection and a deposit of K Shs 400 within sixty days of notification that they have been allocated a plot.<sup>32</sup>*

Applications were disqualified if they were incomplete, illegible, duplicates of earlier submissions, not accompanied by supporting documents showing proof of income, or not submitted on the official forms. Thus, of the 16,018 applications which were submitted, only 9,308 finally qualified to bid for the 6,000 plots.

The actual allocation procedure stirred up controversy. A computer-based random selection system was used. The NCC offered some resistance to this idea at first, but the weight of overwhelming logic prevailed. Councillors resisted this procedure probably because, as

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Beardmore (1978) suggests: "*The more common manual systems of balloting were easier to tamper with.*"<sup>33</sup> Problems over the allocation of lots had occurred previously with the both Kariobangi and Mathare schemes. In both these instances, councillors had been anxious to determine who would get lots.<sup>34</sup>

The process of selecting applicants for sites-and-services project presents some administrative problems. Selection criteria must be carefully considered and be consistent with the policy goals and program objectives. Time pressure and resource constraints (both financial and manpower) dictate that for verification purposes, the selection criteria be limited to a few key items. Matters are further complicated by the fact that amongst the urban poor there are many who, for one reason or another, do not possess the required documents. Interviewing each applicant, or a random sample, appears to be the most reliable method for screening applicants at present.

On September 24, 1976, the computerized balloting system was used to allocate 5,670 plots. The successful applicants were selected at random from the lists for plot Options A and B. Formal offers in writing were made to the successful applicants were placed in random order on a waiting-list. The successful applicants were given six weeks to accept the offer and make a down payment of K Shs 400 (US \$48) together with a water connection fee of K Shs 150 (US \$18). To familiarize allottees with the nature and requirements of the project, the DPD's Community Development Section held orientation meetings during this six week period. All but fifty-five allottees accepted the offer of a serviced lot in the DCDP. Lots which were not accepted were re-offered to applicants whose names were on the waiting-list. Each allottee was provided with keys for the *wet core*, and a set of house type design drawings and specifications which were intended to provide guidelines and information for dwelling construction. Allottees were also required to sign a lease agreement which included a variety of

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stipulations: Dwellings were to be built to minimum standards, as specified by the DPD, within eighteen months of signing the lease. Entire dwellings could not be sublet and allottees were required to inform the DPD of the identities of their tenants. Lots could not be transferred to other private parties for the first five years of the lease. Within this time lots could, however, be handed back to DPD which would compensate the allottee for all improvements.

#### **DISPUTE OVER APPROPRIATE STANDARDS:**

##### **ACT TWO:**

In May 1976, eight months after the construction of Phase One had commenced, the DPD received negative comments from the NCC about the DCDP's overall planning and infrastructural layout. The Medical Officer of Health, in a memo to the Town Clerk, listed fifteen items of planning and design which he claimed did not comply with normally accepted standards of practice, the requirements of the Public Health Act, or the

Grade II Building By-Laws. Acknowledging that it was too late to do anything at this point about Phase One, his list of criticisms included the following:

2. *The layout of the whole scheme lacks essential amenities and is bad in principle. For example, no open spaces or recreation gardens are provided for and the whole area will be a mass of buildings reminiscent of overcrowded camps. The only open spaces provided for are mainly secondary murrum roads, which are themselves a danger to health because of dust from speeding motor vehicles....*

3. *Dwellings, latrines, baths and kitchens are planned on a back to back fashion, making it impossible for efficient through or cross ventilation (contrary to By-law 14 of Grade II by-laws of the Building Code). If the purpose of this scheme is to substitute for slums and shanties, thus improving peoples' health, the scheme as constructed or envisaged will defeat that purpose. Such a compact mass of buildings with hardly any space for circulation of air and back to back dwellings will be the source of air borne, infectious diseases. Vermin infestations will easily spread to whole blocks from a focus and will be very difficult to deal with [his emphasis]....*

6. *The general principle of providing means of inspection at all points of change of direction,*

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*junctions and change of levels of drainage is not complied with Rule 35 of the Public Health (Drainage and Latrine Rules) [sic].....*

*13. There is no indication of water storage facilities for other purposes. The water supply will be totally inadequate for showers, kitchens, washing of clothes, etc. Should water pressure go faulty, the whole village will be denied of water supply. This will lead to indiscriminate defecation in the yards, and dysentries, typhoid and fly nuisance will be the order of the day."*<sup>35</sup>

The Medical Officer of Health was of the opinion that the dwellings were *unsuitable and unfit*, and would encourage *air-borne, insect-borne diarrhea and other enteric diseases, social stress diseases.*<sup>36</sup> Apart from being dangerous to the health of residents, he felt that the scheme was generally unsuitable for the city; it was viewed as a potential breeding ground for *crime and other public vices.*<sup>37</sup> In this last respect he was beginning to sound suspiciously like some of his colonial predecessors.

This debate on standards delayed the formal approval of Phase One by the NCC. As a result,

even though allottees had been given possession of their plots, the DPD could not issue the standard house plans which the allottees were required to use in constructing their dwellings. The DPD could also not go ahead with building demonstration houses on seventeen lots as had been planned. These demonstration houses were delayed for so long that they were never built at all. After about six months of discussion, on January 20, 1977, the plans for Phase One were reluctantly approved on the grounds that it was too late to make the called-for changes.

Meanwhile, since November 1976, allottees had only been allowed to construct temporary dwellings. By March 1977 nearly two hundred Option A plots with the minimum wet-core had been occupied and allottees had constructed make-shift shelters. These shelters were used variously to accommodate the plot's occupants together with their personal possessions, and to store some of the more valuable building materials. Many members of the Council were alarmed by proliferation of these hastily and

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cheaply built shelters which were reminiscent of those found in Nairobi's squatter settlements. They feared that Dandora was turning into a planned slum. A fresh controversy erupted as plot holders were ordered to demolish all such *illegal* structures by the end of March 1977.

This latest wave of resistance had been triggered by the dramatic resignation of, first, the Mayor who is the daughter of President Kenyatta, and then, the Town Clerk, a competent administrator and one of the DCDP's staunchest supporters. These two important resignations were an indication of things to come. During 1977, political intervention in the DCDP increased, and this state of affairs, amongst other things, resulted in the resignation of five of the DPD's senior personnel who all left between December 1977 and April 1978. The positions which were vacated were: Project Manager; Deputy Project Manager; the Project Architect Planner; the Project Architect; and the Head of the Community Development Section. This meant that as the implementation of Phase

Two drew closer, the DPD had lost most of its experienced leadership. In the debate over appropriate infrastructure standards the position taken by the DPD was later described as follows:

*The plans for Phase 1 were prepared in accordance with the Grade II By-laws requirements and in some cases, eg. the provision for the sewerage was given at a higher level than stipulated since it was based upon a water-borne system rather than pit-latrines.<sup>38</sup>*

Plans for Phase Two had been drawn by using the same planning and design standards as Phase One. When these plans were submitted to the NCC for approval they were rejected. The comments on the submission called for about eleven major changes to be incorporated in a revised scheme. It was estimated that to accommodate these changes would cost an additional K Shs 1.38 million.<sup>39</sup> This amounted to some K Shs 520 (US \$662) per lot. The Monitoring and Evaluation Study Report (MEDIS One) of April 1977 made the following recommendation:

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*Since the Dandora Project is designated a Grade II By-law zone, and standards employed exceed Grade II By-law standards, and further, since there appear to be no health or technical problems with design, work on Phase II ought to recommence immediately. Attempting to renegotiate loan agreements with IDA/IBRD and to redesign Phase II infrastructure, layout and house plans, as proposed.... can only lead to further delays of unforeseeable duration.<sup>40</sup>*

Four months of discussion ensued before a compromise solution was agreed upon in April 1977. The negotiation and bargaining had involved NCC officers DPD technicians, councillors, officials from the central government, and representatives from the World Bank. Location of the sewer mains was changed to provide for a three meter wayleave between back-to-back lots. This necessitated modification of the wet-core from a single four-unit module to two two-unit modules, and resulted in an estimated K Shs 190,000 (US \$456,000) in additional construction costs and design fees.<sup>41</sup> These additional costs, however,

were not to be recoverable from the lot owners.<sup>42</sup>

Finally, the amended plans for Phase Two were approved by the NCC, and construction of the on-site services began in April 1978. The debate over standards had caused a delay of about a year in the construction stage resulting in increased costs due to inflation and price escalation. Lot allottees were also adversely affected since they could not occupy their lots as initially anticipated.

It was originally planned that water mains would also pass through the wayleave. However, this ran into problems at a later date. According to the Monitoring and Evaluation Study Report (MEDIS Five) of March 1979, the NCC's Water and Sewage Department claimed that the wayleave was too narrow to accommodate both sewer and water mains. In addition, it was claimed that placing water and sewer mains together presented a health hazard in the event of leaks and possible contamination of the water supply.

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Eventually it was agreed to locate water mains on the street side of lots. Bringing water pipes through the length of the lots to the wet cores entailed extra costs which were to be borne by the allottees in increased lot charges.

Similar problems and delays were experienced in the design and implementation of the related community facilities such as a primary school, a health center, a market and shops. In all instances the NCC was loathe to adopt design standards lower than those which had been used previously for similar facilities located elsewhere in the city.

Persistence and persuasion do appear to have yielded positive results ultimately. Even if these results have differed somewhat from the original intention, they nonetheless represent substantial progress. The following excerpt, based on a World Bank appraisal of the DCDP, strikes a note of cautious optimism with reference to official attitudes towards efforts to achieve greater economy:

*While officials have often maintained a rigid position regarding standards, some have gradually come to recognize the benefits of flexibility. In Kenya I the Nairobi City Council (NCC) eventually agreed to accept a low-cost primary school specially designed for the project. Because local acceptance was so widespread, NCC has now adopted the design as its standard prototype for primary schools throughout the city.<sup>43</sup>*

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- 37 Quoted in *ibid.*, p. 83.
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**PART TWO  
ASPECTS OF CHANGE . . . .**



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**Chapter Six: STRATEGIES FOR PLANNED CHANGE**

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## ORIENTATION TOWARDS CHANGE

This chapter focuses on the issue of change in the planning and implementation process. More specifically, it examines various types of strategies which may be employed to achieve a variety of change-oriented goals. The analytical framework used in this chapter to probe the site-and-services experience in Nairobi, is drawn largely from the work of Zaltman and Duncan (1977)<sup>1</sup> which represents a consolidation of a whole body of earlier work in the area of social change and technical innovation.

The discussion is premised upon the normative assumption that a change-oriented process is more effective in Third World cities than one which is not; that such a process will be better able to respond to the special, and perhaps unique, set of circumstances and characteristics of each planning context, and therefore, a change-oriented planning and implementation process will have a better chance of arriving at a successful outcome. Underlying this line of

reasoning is the belief in the concept of strategic flexibility whereby resources are deployed in a manner which allows output to be maintained in the face of changing circumstances. A change-oriented process is viewed as being particularly appropriate to the rapidly growing, politically turbulent, resource-constrained cities of the Third World. Some of the distinguishing features of change-oriented planning and implementation processes are outlined below.

One of the hallmarks of a change-oriented process is an effective learning mechanism. Indeed, this aspect of the process may be the most important one in the long-term. A learning mechanism is necessitated by the fact that very often planners and decision-makers are faced with situations where: there is a lack of sufficient and reliable data; the present state of knowledge and the state-of-the-art are limited and inadequate; prior experience is non-existent, or inappropriate, or sometimes a decided handicap; the unanticipated often

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occurs; and there is a pressing need to experiment and innovate. Learning mechanisms and the various implications and consequences thereof, have been explored at length by various authors, prominent among them being: Argyris and Schon (1978); Friedman (1973); and Schon (1971).<sup>2</sup>

Apart from pointing out the need for such mechanisms, these authors dwell on ways and means (variously in organizational, individual, social and technical realms) of sensing, collecting and processing data, utilising information to shape or influence action, monitoring the results and so on into the feedback loop.

Income redistribution measures, or in other words, targetting of public resources to achieve the maximum effect in the service of poverty alleviation, is seen by many as an essential item in the agenda of change-oriented planning efforts in the Third World. As Tym (1980) suggests:

*The mere definition of a target group may well itself spell a divergence from current policies which may not be specific to groups, at least defined*

*in this way. Such a definition presupposes that the projects that are to be provided will be for a specific sector of the population and that their incomes and the extent that they could contribute towards the cost of the project should be a determinant of the project itself.*<sup>3</sup>

The hardships faced by the urban poor are attributed, in part, to the lack of sufficient access to urban facilities and services. Tym suggests that any attempt to lessen the hardships suffered by the urban poor must grapple with the inefficiencies and inequities in the financial mechanisms for providing urban facilities and services.<sup>4</sup> Precisely such a scheme is presented by Linn (1979) in a World Bank Staff Working Paper.<sup>5</sup> While this paper concentrates on issues of economic policy for urban growth and development, it treats the areas of public investment, pricing, taxation and regulation as instruments for influencing the shape of the urban form. Particular attention is paid to the configuration of transportation networks, pattern of land uses,

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distribution of services, and the character of housing development.

Based on a political perspective of events in the Third World, planners are criticized for inadvertently serving the *status quo*. To quote Stamp (1980):

*the aims of... planners...can be eclipsed by the decisions of Third World leaders.... The problem is exacerbated by the language used by the planners and its failure to deal with the analysis and treatment of political and economic realities...neutral language can be coopted by government bureaucrats and used as a political tool. Often plans are formulated with little intention of implementation.*<sup>6</sup>

An increasingly important planning consideration in Third World urban contexts is cost recovery. The public sector's general inability to generate sufficient funds through the overall public revenue system means that effective cost recovery mechanisms provide one of the few alternative ways of being able to finance large scale urban development projects on a recurring basis. Given the ever increasing demand for

basic urban facilities and service, wholesale subsidization is simply beyond possibility. Cross-subsidization, however may be feasible in limited instances.

Recent planning efforts have also attempted to break up large-scale projects into smaller, discrete pieces. The resulting flexibility is advantageous in several ways:

- implementation may be conveniently phased;
  - the amount of capital tied up in a project at any one time is reduced, thereby decreasing carrying costs;
  - the experience from earlier stages of the project may be used to improve the design successive stages;
  - major changes may be made to individual pieces without necessarily altering or jeopardizing the whole;
  - implementation efforts and the deployment of scarce resources may be better synchronized.
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From the preceding discussion it is evident that in attempting to implement change, various forms of resistance may well be encountered. As long as any party (individual or group) has the perception that the proposed change is not to its best interest(s), then there is the potential for resistance from that quarter. Given that such opponents have the means to actively resist in some form, this potential will be manifested at the first opportune moment. Proponents of change must therefore strive to anticipate such resistance, and be prepared to handle the consequences, or attempt to preempt such action.

Possible grounds for resistance are many and varied: cultural; social; economic; political; psychological; organizational; ecological, to name a few of the more common ones.<sup>7</sup> However, efforts to achieve change may not only be thwarted by active opposition to the proposals. Resistance may result from the sheer inability to participate in the change action on the part of the target or *client* population. In such

cases, assuming the presence of an initial willingness to participate, the planner's task will be to provide the target population with the minimum capacity necessary to take advantage of the planned change.

Within the framework of an overall planning and implementation process various types of strategies may be employed for the purposes of achieving a variety of change-oriented goals and objectives. This chapter presents a typology of strategies for planned change and uses it as a framework for discussing and analyzing the various discernable strategies employed during the course of the site-and-services experience in Nairobi. Each instance drawn from this experience has been selected on the basis of its perceived potential for bringing about, or influencing, planned change. In some instances this potential has been fully or partially realized, while in other instances a direct impact has not been evident from the emerging pattern of events. Some strategies have succeeded and others have not.

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The typology is as follows:

- facilitative strategies;
- reeducative strategies;
- persuasive strategies;
- power strategies.

The criteria used to differentiate between the numerous strategies included the following:

- degree of control over ultimate outcome;
- technique utilized;
- operating time-frame;
- degree and type of planned change;
- nature and extent of resistance to proposed change.

Following this discussion of strategies for planned change, the last two sections of this chapter are commentaries on two related aspects: prevailing attitudes amongst officials concerned with public housing; and the role of expatriates in the formulation of housing policies and programs.

#### **FACILITATIVE STRATEGIES**

Facilitative strategies are those strategies

which provide external assistance to increase the capacity and capability of the client to carry out planned change. Assistance may be provided in any form deemed beneficial for any aspect of the planning and implementation process. The site-and services concept is itself, by definition, an example of a facilitative strategy. By furnishing allottees with demarcated lots and varying packages of services, loans and technical assistance, the public sector facilitates the building of dwellings by the private sector.

Resource-constrained situations demand facilitative strategies which allow public resources to be used to maximum advantage in priority areas and which thereby stimulate the mobilization of private resources. More generally, there are those who argue that the basic rationale behind the planning of the physical environment is to facilitate economic growth and development while balancing it with social concerns.<sup>10</sup>

Safier (1972) advocates the following approach

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towards urban planning in the Third World context:

*The whole weight of progressive professional work today lies in the direction of minimizing the magnitude of resources required to provide for a growing urban population without the wealth to provide for itself, or add to existing scarce funds and skills.<sup>11</sup>*

Arguably, if this type of approach is to be widely adopted and sustained on a long-term degree of socio-political disruption, then facilitative strategies will be important instruments for change.

An example of a facilitative strategy is the United Nations -sponsored Bloomberg-Abrams mission to Kenya in 1964. This mission, and the subsequent report, were significant in a number of ways. In the first instance, the very act of calling in two eminent experts in the field of housing indicated, on the part of the Kenyan Government, an awareness of the problem and an acknowledgment of the need to address. Secondly, the effort allowed those concerned to

take stock of the country's housing situation by compiling and reviewing data, and identifying both the quantitative and qualitative aspects of the shelter problem. Thirdly, a comprehensive housing policy package was outlined which established priorities, and a set of goals and objectives for the short- and long-term. Fourthly, a lengthy list of recommendations were made which included specifications for an improved institutional apparatus to facilitate housing operations on a bigger scale. And fifthly, the mission set the stage for an important relationship between Kenya and the international development assistance community. Without securing substantial amounts of foreign aid, the prospects for the implementation of a large-scale housing program in Kenya were bleak. Armed with the comprehensive housing policy package, and with institutional changes under way, the Kenyan Government was in a favorable position to request financial and technical assistance.

As an example, in 1973, Kenya was concurrently

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negotiating loans for housing programs from the Commonwealth Development Corporation (CDC), United States Agency of International Development (USAID) and the World Bank (IBRD/IDA). During the 1970's, much of Nairobi's large-scale public sector housing development was built with foreign financing of one sort or another. The Bloomberg-Abrams report put Kenya's housing program on track and it is amazing how valid many of the recommendations contained in this report have remained over time. Bloomberg and Abrams offered their advice without building false hopes:

*It is clear from the foregoing that in a country such as Kenya, and in most other countries as well, meeting housing needs is a goal that cannot practically be achieved. A realistic approach to the housing problem is to set an intermediate target by indentifying the quantity of dwellings that the country can build annually within its resources.<sup>12</sup>*

The overall policy approach which they advocated in 1964 remains valid to this day:

*Whatever the size of the programme eventually decided upon, it will have to be an austerity programme, austere in standards and in outlays per dwelling unit. Only the most pressing needs can be met and devices must be sought which will meet maximum needs with minimum outlays. The real issue is not little or no housing, but how to meet the pressures of housing need without hindering and if possible, by stimulating the economy as a whole.<sup>13</sup>*

The Bloomberg-Abrams report appears to be the first major housing document in Kenya's post-Independence era which called for the development of site-and-services projects in urban areas. Site-and-services project, the report argued, presented the only feasible planned development alternative to squatter settlements as the government had neither the means to provide subsidised mass housing nor the ability to adequately control illegal settlement. In other words, the report was suggesting that the only way to control squatting was by drastically increasing the supply of serviced urban land affordable by the poor. The report recommended that increased



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attention be given to the following considerations: site location; administrative latitude; technical assistance to beneficiaries; creation of employment opportunities within projects; use of temporary building materials; and a materials loan program. Bloomberg and Abrams noted that while self-help was a necessary technique for a certain number of families in urban areas, it was not necessarily a panacea for the entire housing problem.

Thus, although the report supported the site-and-services concept as a legitimate solution to the urban housing problem, it cautioned against expecting too much. Various additional socio-economic benefits derived from site-and-services project were also pointed out. And while the Bloomberg-Abrams report went a long way towards surfacing major issues in Kenya's housing policy and outlined a program framework, it did not go far enough. With all the advantages of hindsight, it is now possible to propose that the United Nations sponsored mission would have been considerably more effective had

the two experts stayed on in Kenya for some time to oversee implementation of their recommendations. By putting a specific program firmly in place they would have achieved a demonstration effect and created some momentum. Almost a decade later when the World Bank was setting up its Kenya Urban Project One housing program it adopted a strategy which incorporated a substantial institution-building component after this had been identified as a major area of deficiency.

Much of the work carried out by the DPD's Community Development Section, (CDS), was of a facilitative nature. In the first instance, during the DCDP's application period, the CDS's task was to facilitate the entry of legitimate low-income households into the pool of applicants. This meant that the target population had to be reached and informed about the DCDP, what participation in this project entailed - especially in terms of financial obligations - the criteria for eligibility, and any other relevant information. The goal was to help

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disadvantaged households make informed choices about their possible future commitments.

Later on in the project, the CDS was charged with the responsibility of helping to organize self-help building groups amongst the allottees. Success in this respect appears to have been limited for various reasons. Despite apparently sensitive site planning and active programs to foster communal activities, the level of social interaction in the DCDP has remained relatively low. Clusters consisting of lots grouped around a cul-de-sac were used partly in an attempt to promote social interaction, but Chana (1979) reports that in very cases have households within a single cluster successfully banded together to form self-help building groups.<sup>14</sup> The implication is that while spatial and institutional factors are very important, the primary impetus for communal activities is not provided by them. This implication would appear to be consistent with Ross's observations that social networks are determined by ethnicity and social class more than by neighborhood.<sup>15</sup>

Consequentially, this casts doubt on the viability of any form of community organization or citizen participation which is done purely on a spatial basis. Communal self-help projects will probably only work so long as the participants receive that clear, tangible, and assured benefits result from such efforts. It would also appear that the most successful group efforts are those in which individual households are responsible for working on a piece of the task in which they have a direct, personal stake.

Some of the lessons to be learnt about facilitative strategies for change from the above experiences are as follows: For facilitative strategies to succeed, there must be a recognition of the need for external assistance and an awareness of the possible availability of such assistance. The target population or *client* must be willing to request and accept this assistance which must match their perceived needs and personal resources. To the extent that facilitative strategies achieve change by

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enhancing the positive aspects of existing circumstances, such strategies probably display greatest sensitivity to the context.

#### REEDUCATIVE STRATEGIES

Reeducative strategies call for the objective presentation of facts, and the use of reasonable logic, to provide rational justification for a change. This strategy relies on the target population or *client* to learn for themselves, and be sufficiently impressed by the obvious merit and advantage of a certain course of action on the basis of the compiled evidence.<sup>16</sup> A frequently encountered example of a reeducative is the following: carrying out a survey and presenting the results together with an analysis, conclusions and recommendations to the *client* or target population. Usually, the motive behind a survey is, initially, to provide a factual or empirical basis for a particular policy choice, and later, to evaluate the impact and effectiveness of the program or project.

The Survey of Temporary Structures carried out in 1970 under the joint auspices of the NUSG and the N.C.C.K. provided some particularly cutting results. This survey, which sampled squatters from temporary or illegal settlements in several parts of Nairobi, revealed that improved housing standards were not regarded as a high priority by most respondents. Squatter families in the sample listed their priorities in the following order:

- Essential:
1. Food
  2. Current standard of shelter on this location
  3. School fees (for those with children of school age)
  4. Clothes
- Desirable:
5. Money to buy land
  7. Money to extend business
  8. Money to build another room (possibly for rental)
  9. Money to rent or buy a better house or room to live in
  10. Improved transport to job<sup>17</sup>
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The 1970 H.R.D.U. survey of site-and-services schemes in urban centers across Kenya provided a broad and substantive information base for formulating and refining approaches to the various aspects of site-and-services schemes. This survey sought to inform decision-makers about the pros and cons of such projects, and provide guidelines for future schemes in terms of standards, regulations and administrative procedures. It is not clear whether this survey report received sufficient official attention upon submission. In retrospect, the conclusions and recommendations based on the results of the survey foresaw many of the difficulties which would arise later in larger schemes. Amongst the changes called for by this report were:

- relaxation of planning and building standards in order to achieve greater affordability;
- allowance of dwelling constructed in timber;
- avoidance of communal services wherever possible;
- provision of waterborne sanitation and piped water per lot whenever practicable;
- provision of street-lighting in all schemes;

- organizing of the poorest allottees into building cooperatives;
- outlawing of absentee-landlordship;
- design of dwelling type plans which facilitated flexible and incremental development, and which provided greater privacy and convenient sub-letting of some rooms;
- provision of road maintenance and garbage collection by local authorities in exchange for user fees.<sup>18</sup>

According to the authors of this report, the major finding of the survey was that: *The basic unit in existing site and service schemes is the room not the dwelling.*<sup>19</sup> Survey respondents were also asked to state their main complaint about their living circumstances and the following ranking, beginning with the most often-voiced complaint, was obtained:

1. condition of toilets
  2. high rents
  3. lack of road lighting
  4. distance to shopping
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5. distance to work
6. dirt and rubbish
7. rats
8. condition of roads
9. lack of space
10. lack of electricity
11. poor transport
12. bad landlords
13. lack of security
14. external access to toilets
15. poor water-supply
16. lack of social hall<sup>20</sup>

This list indicated possible areas for improvement in future schemes.

In 1978-1979 the H.R.D.U. carried out a comprehensive evaluation of the overall site-and-services program in Kenya.<sup>21</sup> The main task was to compare the achievements in this field with the planned objectives as spelt out in the five-year national development plans, identify the specific problem areas, and make concrete and constructive proposals for improved program per-

formance. The evaluation concentrated on questions of policy formulation and program definition including:

- degree to which site-and-services schemes had been accepted by both public officials, politicians, and project beneficiaries;
- availability of finances, qualified manpower and suitable land as and when required during the project planning and implementation stages;
- definition of the target population;
- ability of allottees to comply with minimum building standards;
- forms of assistance extended to allottees;
- prevention of illegal lot transfers;
- mechanism for eviction;
- application procedure and selection of allottees;
- incidence of undeveloped lots;
- ability to control sub-letting

The Monitoring and Evaluation Study of Phase One of the DCDP is another example of a reeducative strategy. Valuable insight into the details of



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the implementation and consolidation stages has been provided by the continuous data gathering, information processing and feedback process. The additional insight has been used to revise and refine the later phases of the DCDP. The Urban Edge commends the *careful monitoring* in Phase One of the DCDP by Senga, Ndeti, and Associates, independent consultants to the IBRD, and by the H.R.D.U.<sup>22</sup> A multi-disciplinary team closely monitored the activities of both officials and allottees during the consolidation of Phase One between 1977 and 1979. Periodically, the team produced detailed reports. Apart from providing a painstaking account of the process as it unfolded, these reports, indirectly, also voiced some allottee concerns, and thus fulfilled an advocacy role. Some of the recommendations made by the monitoring groups have been incorporated in later phases of the DCDP, and in site-and-services schemes elsewhere in Kenya. These recommendations included:

- encouraging greater use of local materials;
- better maintenance of public infrastructure by

- the relevant authorities
- more timely provision of community facilities;
- elimination of publicly-built sanitary cores on individual lots;
- more on-site police protection to prevent robberies and violence.

In its efforts to convince the Kenyan authorities of the effectiveness of site-and-services schemes, the IBRD used what may be termed a reeducative strategy. A team of Kenyan officials were encouraged to visit a World-Bank - sponsored site-and-services scheme in Lusaka, Zambia - a context not altogether dissimilar from Nairobi's - and take a first-hand look.<sup>24</sup> The visit did indeed take place, and appears to have elicited a favorable response, as events thereafter indicate. The IBRD used a reeducative strategy to get Kenya's policy-makers to address the institutional problems associated with long-term solutions to Kenya's rapid urban growth. In order to consummate the loan agreement for the DCDP the IBRD insisted that studies be carried out in the areas of municipal

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finance, squatter upgrading, and the project preparation and management capabilities of housing agencies within local authorities as the NHC.

For reeducative strategies to be effective, the *client* or target population must be receptive to the information provided. Furthermore this information must be in form which may be communicated and comprehended without great difficulty. In general, reeducative strategies are likely to be time consuming, and unlikely to produce quick, dramatic results. The effect of reeducative strategies will usually be more pronounced in the longer-term. Reeducative strategies, if successful, will transform attitudes, but may not necessarily alter behavior. This type of strategy appeals to the element of reason within the *client* or target population and counts on rational responses and the use of good judgement. An important spin-off of reeducative strategies may be the discovery and development of new ways and means.

#### PERSUASIVE STRATEGIES

Persuasive strategies rely on the deliberate and specific use of factors such as: overwhelming logic; a compelling idea or image; a successful experiment; a shining example; a convincing argument or theory; peer group pressure; political or financial gain; or the the weight of expert opinion, to influence the *client* or target population to adopt a particular form of change, or take a certain alternative course of action.<sup>25</sup>

The prolonged controversy over appropriate standards of infrastructure between the DCDP designers and the NCC's Medical Officer of Health (MOH) is a conspicuous example of circumstances where persuasive strategies were employed. On the one hand, the DCDP designers argued that the lowered standards allowed for increased economy and greater affordability without jeopardizing the overall functioning of the services system and endangering the health of the public. The MOH, on the other hand,

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contended that the lowered standards created potentially unhygienic conditions which would pose a serious public health hazard. The NCC's Water and Sewage Department also participated in this raging debate and maintained that the lowered standards made for inconvenient and costly maintenance.

Although many observers of this episode have tended to side with the project designers, it must be said that the MOH did have reasonable justification for lodging his complaints. He could point to the poor hygienic conditions prevailing in some of Nairobi's lower-income housing estates, admittedly, often in situations where sanitary facilities were shared by more than one household. Others have echoed concerns similar to those expressed by the MOH. In 1975 the H.R.D.U. carried out a detailed survey of a low-income neighborhood in Masaku, a town located about fifth kilometers south-east of Nairobi. The survey covered Socio-economic, technical and environmental health aspects. With specific reference to sanitary facilities

in the low-income settlement, Hoek-Smit (1976) suggests that the provision of better facilities in itself is not sufficient to guarantee an improvement of the health condition of a community; a proper control and understanding of the usage of the facilities is equally essential.<sup>26</sup>

In a paper presented in 1976 on Kenya's Housing Policy, the Permanent Secretary in the Ministry of Housing and Social Services remarked about the need to educate low-income occupants about the appropriate utilization of kitchen and sanitary facilities.<sup>27</sup>

The above two instances strongly suggest that the MOH had sufficient grounds for concern. He was not unjustified in anticipating problems with the DCDP's sanitary facilities, and calling for higher standards made sense from his perspective. All this goes to show just how debateable this issue of appropriateness of standards

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was, and that its resolution posed a tricky problem. Both opposing camps had reasonably strong cases to support their respective position. The deadlock was broken by the intervention of the Town Clerk who used his position to rule in favor of the DCDP designers. However, when the detailed design of Phase Two of the DCDP was under way, and a new Town Clerk was in office, the same debate was raised again. Expensive delays resulted while lengthy negotiations took place between officials to the NCC, Central Government bureaucrats, and representatives of the IBRD. Ultimately, a costly compromise solution was worked out.

This episode illustrates several problems inherent in the use of persuasive strategies. When two or more parties resort to the use of alternative persuasive strategies, there is considerable potential for serious deadlock. Persuasive strategies may have a tendency to precipitate adversarial relationships: situations

involving the use of such strategies are likely to deteriorate into action-reaction phenomena, particularly if the parties involved perceive that they stand to lose or gain considerably in terms of personal or political prestige as a result of the eventual outcome.

Another example of the use of competing persuasive strategies is provided by the dispute over the standards for provision of car-parking and direct vehicular access to each lot. While the DCDP designers presented a technical argument based on inconclusive data, the opposing councillors expressed their position in stronger political terms, and were thus able to secure the upper hand.

When a deadlock does occur, some mechanism to break it must be available as a last resort if the decision-making process is to continue functioning. Constructive intervention under such circumstances may

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take the form of mediation, arbitration or the issuance of an executive order by the powers that be. The choice of intervention will be indicated by the perceived degree of willingness (or lack thereof) to negotiate, and the constraints imposed by the expenditure of time, money and political capital.

As is now apparent, persuasive strategies rapidly emerge in situations involving competition or conflict. The DCDP experience also illustrates the classic weakness of the rational-technical school of planning in its ability to resolve conflicts of opinion over so-called technical matters. A considerable body of planning literature now exists - for example, Kaufmann (1978)<sup>28</sup> Stretton (1978)<sup>29</sup> and Friedman (1971)<sup>30</sup> - which recognizes the socio-political basis for decision-making. Planning is seen as being concerned with the distribution of losses and gains. Suggestions are being made for alternative frameworks for socio-political

consensus-building which involve more participatory institutional structures, mechanisms for negotiation and bargaining, and the formation of common interest-based cooperative networks.<sup>31</sup>

Persuasive strategies provide a viable option for overcoming resistance in the short-term. Well-prepared persuasive strategies may be quite effective when specific issues are the focus of planned change.

#### **POWER STRATEGIES**

Power strategies involve the use of legitimate authority, threats or the use of force to compel a *client* or target population to comply with, or adopt, the called for change.<sup>32</sup>

A glaring example of the use of a power strategy is provided by President Jomo Kenyatta's apparent order to begin work immediately on the Mathare Redevelopment Scheme in 1969. In a similar manner, work

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on the scheme was abruptly stopped in 1972.

The World Bank also used a power strategy of sorts to hasten completion of the final pieces of the project preparation for Dandora: it threatened to cease its involvement and withdraw all of its valuable financial support. Since the World Bank was in a strong bargaining position at the time, both the Kenyan Government and the NCC jumped. Clearly the line between persuasive and power strategies can be a very fine one at times, particularly where participants may have somewhat different perceptions of actions taken by one or the other.

The danger with forcing change is that it may be difficult to reverse in the event that later this proves necessary. Obviously, power strategies will have to be employed, given that the power is available, when there is no other way to overcome resistance and action is necessitated by circumstances. Where competing interests occupy unequal positions in a social, economic or political hierarchy, there is a

greater likelihood of power plays occurring. Power strategies naturally require sources of power, or power bases. Major change may be achieved relatively quickly through the use of power strategies and there is the possibility of using the element of surprise to advantage. The unanticipated use of a power move will likely catch potential resistance off guard.

#### **ATTITUDES AMONGST PUBLIC OFFICIALS**

When Kenya formally attained National Independence in December 1963, the country entered a whole new social, economic and political era. African needs and aspirations which had been neglected during the colonial period had to be catered to rapidly and visibly. The new government had to make a demonstrable qualitative and quantitative break with the colonial past. Symbols of freedom, progress and modernity which represented independent Kenya had tremendous significance as manifestations of social and political achievement. All public edifices, to the extent that they were cultural artifacts,

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had to be acceptable in the new context.

It was in this type of socio-political climate with the accompanying attitudes on the part of public officials, that the concept of site-and-services had to be adopted, developed and implemented as a valid solution to the needs of the urban poor. The colonial administration's record of practice in the area of housing for Africans was poor at best. In this regard, official attitudes had been generally uncaring, sometimes inhuman, and occasionally paternalistic. Africans were treated literally as a disease against which housing and planning policy was used to practice preventive medicine. Needless to say, African officials and politicians were anxious to distance themselves from such policies and practices. Decision-makers were loathe to support any policy or program which could be constructed as resembling colonial practices in the area of low-income housing. Time and time again opinions were forcefully made to the effect that the authorities must not be responsible for the

further creation of *planned slums*.

In his Annual Report of 1970, the then Director of the NCC's Department of Housing and Social services wrote the following:

*What the engineers considered to be good designs based on sensitive planning and reasonable financial disciplines, was often questioned deferred in committees, and otherwise delayed. As representatives of the people, they must be satisfied that what they are offering to the public is what is wanted.*<sup>33</sup>

An example of the types of criticisms voiced by councillors is contained in the following excerpt from the 1969-70 Minutes of the social Services and Housing Committee:

*A member informed the committee that the layout plan of certain City Council houses did not provide maximum conveniences to the tenants and suggested that in future, officers should consider housing layout plans which would offer maximum conveniences for the occupiers...*

*A member of the committee reported that the tenant-purchase houses at Uhuru and Kariobangi Estates were too close together*

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*and each house should have been built on its own plot. Consequently, these houses did not provide maximum conveniences to the occupiers.*

*The City Engineer reported that the layout and designs of these houses were in accordance with designs approved by this committee. The prices charged to the purchasers were most reasonable and if the houses were constructed on separate plots the price would have been considerably higher.<sup>34</sup>*

One of the most influential critics of Kenya's low-cost shelter programs was none other than the President himself. The President's strongest statement on this issue was made in July 1972 during the opening of a pilot low-cost housing scheme. What he saw appears to have provoked him considerably. The following account was contained in a local newspaper:

*President Kenyatta warned at the weekend he will sack any of his Ministers who continue to treat Kenyans as the colonialists did by building them native-type houses not suitable for human habitation. He said all those charged with the responsibility of building houses for Wananchi, especially in towns, must*

*ensure that the houses built are suitable for a family to live in.*

*Mzee Kenyatta recalled that in the olden days Africans were provided with poor quality houses known as 'native houses' not fit for human beings to occupy. The houses were not adequate to accommodate families and lacked such amenities as water, sanitation or light.*

*'I will sack any of my Ministers who continues to treat Wananchi of independent Kenya in this manner,' the President said.*

*Saying that the time has gone when the people of Kenya should be treated in such a manner, Mzee Kenyatta also said that his Government would vigorously engage itself in clearing slums throughout the country.<sup>35</sup>*

Some months previous to this event, a meeting of high-level government decision-makers had resolved that the site-and-services approach was unsuitable for Kenya's cities.<sup>36</sup> This resolution was made despite the fact that Kenya's Development Plan, 1970-1974 clearly stipulated that site-and-services schemes were to be a significant

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*part of the housing program in urban areas.*<sup>37</sup> This position was later quietly reversed so as not to jeopardize large amounts of development assistance from the World Bank and other similar aid sources.

The reaction against site-and-services schemes, particularly the visual appearance of such schemes, seems to stem from perceptions and values conditioned by the colonial heritage as well as the privileged circumstances of Kenya's African ruling elite. During the colonial era, the residential environments and lifestyle of the European population were the absolute envy of the other races. The residential areas reserved exclusively for Europeans occupied the best land in terms of natural features and amenities. Such areas were characterized by their low densities and spacious, well-constructed bungalow-type dwellings with separate servants' quarters amidst large lots which had generous planting and manicured lawns. There can be no denying the long-term influence of this type of

residential environment on the desires and preferences of future residents. Furthermore, most of today's delive in such surroundings, as do most of the well-meaning technicians working on low-cost shelter programs. This raises another tricky and delicate socio-political issue. Even those in positions of authority and responsibility who realise the impracticality of advocating higher residential standards, feel reluctant to display much enthusiasm for low-cost shelter programs such as site-and-services and squatter slum upgrading. Amidst the overall situation where the gap between the rich and the poor in cities is increasingly visible, there is the fear of being labelled a purveyor of double standards. And if housing opportunities and squalid living conditions are viewed in a wider context of socio-economic inequities, then, as Kenya's Minister for Housing warned in August 1972, *housing problems can create 'a dangerous political situation' especially where some people have big houses while others have none.*<sup>38</sup>

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The element of risk is frequently present in ventures involving technical and institutional change, and the minimization of risk is usually a concern at the forefront in the minds of public officials, and others in positions with high degrees of responsibility and accountability. Such persons generally display a tendency towards financial and political conservatism.

Risk is a measure of the degree of uncertainty involved in achieving the change, and the penalty for failure. Uncertainty depends on, amongst other things, the following factors: complexity of the task in hand; previous experience and track record; quality and quantity of relevant information; scale of operation; interests of participants; and prevailing official attitudes. The more safety-valves and fail-safe mechanisms which can be built into a change system, particularly an experimental one, the more secure and willing proponents, supporters and the target population are likely to be. The relative ease with which

the effects of an innovation may be reversed, erased, or discontinued will impact the degree of risk attached to change proposals.

From the account presented, it is quite clear that the DCDP involved considerable financial and political risks. The Kariobangi and Mathare had not set positive precedents, and favorable attitudes towards site-and-services were not likely to be immediately forthcoming. In the final analysis, the promise of World Bank financing appears to have carried the day.

As originally planned the size and content of the DCDP was enough to virtually constitute a satellite town in relation to Nairobi. Nothing similar to this venture had been previously implemented by the authorities in Nairobi. The large scale and dimensions of the project, along with all the accompanying bureaucratic and political factors did nothing to soothe the anxieties of those likely to be responsible for the decision-making.

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In this respect, the breaking down of the project into phases, and the particular staging sequence chosen, did much to allay the fears of those concerned with the project. This, in fact, was a crucial aspect of the planning and project design. The capital outlay for each separate phase of the project was held to a minimum. The site layout facilitated incremental growth, and the infrastructural network could be expanded and developed in synchrony with demand. This allowed for fluidity in the decision-making process and the commitment of resources. It also meant that mid-course corrections were much more feasible, and that if the project was discontinued for any extraordinary reason, at least what had been started could probably be completed, thereby not resulting in a totally wasted effort.

#### **THE ROLE OF EXPATRIATES**

Given the dynamics of Nairobi's political and administrative environments, it is hardly surprising that expatriates functioning in both

official and unofficial capacities appear to be at the forefront of attempts to introduce and implement low-cost ideas about urban shelter. The various detailed accounts of housing activities in the public sector - Beardmore (1978)<sup>39</sup>, Stren (1978)<sup>40</sup>, Werlin (1974)<sup>41</sup>, Temple (1973)<sup>42</sup> - all contain examples of such instances.

Most such expatriates are relatively secure in the knowledge that they are in Kenya only on a temporary basis. They realize that there is considerably less risk of their own future careers being jeopardized when running counter to prevailing local official attitudes, than would be the case for Kenyans who have to spend their whole lives living and working in that context, and who, therefore, must tread the waters of officialdom with much greater caution and conservatism.

Included in Temple's study of the structure and dynamics of the Nairobi City Council is the following passage which deals with the above - mentioned issues:

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*For a variety of reasons, much of the initiative in the City Council for low-cost housing has come from expatriate officers. Given the prevailing attitudes described above, it is obvious to most African officers who want to get ahead that advocacy of low-cost housing is not the best channel for upward mobility. Those Africans who are interested in fostering low-cost housing tend to adopt a low profile, being somewhat reluctant to push very hard or very visibly. Furthermore, many of the Council's African staff share the prevalent attitudes about housing and, therefore, have little inclination to promote inexpensive housing.<sup>43</sup>*

As Temple goes on to say, many of the expatriates in Kenya are of a particular breed or social mould. Young, idealistic and energetic, they were motivated by typical Western liberal concerns for the poor and filled with reformist attitudes. Such attitudes were especially visible amongst those who had experienced the socio-political dynamism and liberalization in the United States of America during the decade of the 1960's. Thus, enthusiasm about low-cost housing programs was pervasive amongst such expatriate staff in the NCC and elsewhere.

These well-intentioned *missionaries* who believed that theirs was the *only road to salvation* were insensitive to the needs of a proud, young, and deprived nation, hungry for all the fruits of independence and progress.

Expatriate staff, arguably, were a mixed blessing. Many were working on unfamiliar cultural and administrative terrain, and spent half the duration of their contracted stay just *learning the ropes* as it were. High turnover of personnel robbed planning and implementation efforts of much needed continuity. Levels of competence, support, commitment and enthusiasm remained in constant flux. Poor leadership exacerbated the problems, and frequent policy or program changes made leadership of technical groups none too easy.

Expatriate staff were often at a disadvantage when communicating with their African counterparts and decision-makers who were not unjustifiably suspicious of overly zealous foreigners.

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The utter contempt and countless abuses which had been directed at Africans by the British colonial administration were still relatively fresh in African memories.

Expatriates may also not have been aware of the trade-offs involved in their policy choice. Recently, one observer expressed skepticism regarding the ability of outside planners to perceive the factors important to decision-makers within Third World governments:

*The main problem is that as outsiders, they do not understand the decision-making process in the countries they are advising; they usually think that things are worse than they [actually] are; and they plan according to their conception of the problem. The fact that...[they]...don't see the local decision-makers' rationale, doesn't mean that it doesn't exist. There is certainly no such thing as the rational plan.<sup>44</sup>*

There are those amongst the development assistance community who believe that their appropriate role is to provide *technical aid*. The language, and the avowed aim of this aid, is

politically neutral. The effect of this so-called *technical aid*, in many cases, has been to place yet another tool in the hands of the elite that widens the gap between the rich and the poor.<sup>45</sup> Stamp (1980) argues that:

*To ignore politics is to take a political stance - a stance in support of the status quo - and almost everywhere in the Third World this means favoring the established elites above the needs and aspirations of ordinary people.<sup>46</sup>*

Thus, in every instance where planning is redistributive and seriously attempts to address the issue of overwhelming inequality, planners must be willing to take, and pursue, a political stance. Having said this, the extreme difficulty involved with such action has to be acknowledged, and it must be noted that there will be occasions where political action may prove to be counter-productive, particularly in the shorter-term.

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**Chapter Seven: ATTRIBUTES OF CHANGE**

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### **SITE-AND-SERVICES AS CHANGE**

This thesis predicates that site-and-services represents change in two ways: a) it is an addition to the stock of housing options available in Nairobi; and b) site-and-services schemes are important vehicles for achieving socio-economic and political change. A set of special attributes are believed to be important for the substance of change and this chapter explores those attributes in the specific case of site-and-services schemes in Nairobi. These special attributes have to do with the ability to introduce, communicate, comprehend, accept, adopt, utilize, modify, improve and sustain the change. The list of attributes used here is based upon the work of Zaltman and Duncan (1977)<sup>1</sup>, Zaltman, Duncan and Holbeck (1973)<sup>2</sup> and Rogers (1962)<sup>3</sup>. The list is as follows:

- Costs and Benefits;
- Efficiency;
- Complexity;
- Complementarity;
- Divisibility;

- Propensity for Further Development;
- Communicability.

Each item in this list is discussed separately in this chapter. Following this discussion is a commentary on attitudes amongst public officials and the role of expatriates in the planning process in Nairobi.

### **COSTS AND BENEFITS**

When public programs must compete for scarce resources, costs and benefits are primary concerns. For the purposes of this discussion the financial and social aspects of costs and benefits will be analysed separately.

#### **Financial:**

Financial cost considerations played a central role in encouraging the application of the site-and-services concept in Nairobi. As far as the British colonial administration was concerned, site-and-services provided a way of minimising public expenditure on housing for

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Africans. For the independent African government, site-and-services has allowed for the more scarce public resources for facilitating urban growth and development.

Financial cost is obviously one of the most important attributes of any change proposal. Measurable and manipulable, financial cost is the primary yardstick used for making choices in the public policy arena. The Kenyan Government, despite its declaration that the minimum requirement for a *decent home* was to be a *habitable two-roomed house constructed of permanent materials with a separate kitchen and basic sanitary facilities such as toilet and shower compartment*,<sup>4</sup> realized that *only a few could afford a complete house at the minimum official standard of two-rooms*.<sup>5</sup> As early as 1967, the Minister of Housing and Social Services pointed out that:

*The ideal house, in which we would all like to live or to build for the people of this country, will tend usually to be much more expensive than we or they can actually afford.*<sup>6</sup>

As the population grew, housing costs also escalated, and living conditions deteriorated. Amidst these developments the Government's switch in emphasis from building complete houses to some form of aided self-help strategy was inevitable. By mid-1970, local cost data in favor of site-and-services schemes was overwhelming. According to figures for units completed by the NHC between 1969 and 1975, the average cost of a site-and-services unit was approximately K Shs 4,000 as compared to about K Shs 32,000 for a conventional NHC housing unit.<sup>7</sup> At this rate for every one conventional unit, eight site-and-services units could have been provided. In Phase One of the DCDP, the actual cost per unit upon completion in 1976, ran from K Shs 8,838 for the smallest, least expensive option to K Shs 17,259 for the largest lots with contractor-built wet-cores.<sup>8</sup>

Many officials in the housing field also share the view that:

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*...a self-help participant can build his house far more cheaply than any public agency could. He also knows what standard he can afford at a certain stage.*<sup>9</sup>

However, preliminary data for the DCDP does not fully support the view that self-help is significantly cheaper.<sup>10</sup> In addition, sample surveys revealed that only twenty-two percent of the labor component in Phase One of the DCDP was of a self-help nature.<sup>11</sup> This suggests that the participation of allottees in the actual construction of the dwellings is an aspect that needs reexamination. In his detailed study of self-help in the DCDP, Soni (1980) comes to the conclusion that:

*Rarely does the allottee participate in the actual construction*<sup>12</sup>

and that the subcontract form of self-help, where the allottee assembles a construction team to carry out the bulk of the construction work, is prevalent. One of the likely explanations is that for the majority of allottees in Phase One of the DCDP, the savings anticipated from

owner-building cannot have been substantial or significant. However, there is the additional factor of the dwelling construction having to match required standards as a condition for obtaining a building loan. Soni (1980) argues that many allottees do not possess the skills to construct a dwelling that is of an *acceptable* official standard.<sup>13</sup>

According to the DCDP Monitoring and Evaluation Study *slightly more than one person from every four plots*<sup>14</sup> is employed within the project in small businesses and in households. Furthermore, the study discovered that *one allottee in every ten allottee-occupied plots (i.e. 1/2 of the total) is self-employed in Dandora.*<sup>15</sup>

Ironically, a factor contributing to this state of affairs may be the fact that the project site is somewhat isolated and located on the urban periphery. The nearest off-site facilities for obtaining everyday goods and services are not within close or convenient proximity, and thus the demand for on-site supply of such consumer goods and services is created. In some ways,

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the DCDP's relative isolation has fostered a type of self-sufficiency, particularly since the project's population provides a sizeable market.

While, the relatively low per-unit cost of site-and-services schemes means increased affordability, it also allows for a fixed public expenditure to be distributed over a much greater number of households. Limited resources are thereby utilized in a more equitable manner. Increased economy coupled with effective cost-recovery will facilitate replicability.

Cost recovery appears to have been one of the DCDP's success stories. A report published in 1979 which summarized the World Bank's experiences with four substantially completed urban shelter projects in the Eastern Africa region, noted that Kenya had been an exception in terms of not having major problems with cost recovery.<sup>16</sup> One of the main reasons why cost recovery in the DCDP has been so successful is because allottees have sub-let rooms, and in some cases whole units (which is illegal), to

obtain additional income. The monitoring team suggests that about half of the allottees in Phase One of the DCDP increased their incomes by more than fifty percent by subletting rooms.<sup>17</sup> The H.R.D.U. takes a somewhat dim view of this type of practice by stating that it is *indisputable* that the site-and-services program is creating a *landlord class* amongst the allottees.<sup>18</sup>

Social:

Much of the criticism levelled against site-and-services schemes may be grouped under this attribute of the so-called change. The most vociferous critics of the site-and-services concept tend to be those who are of liberal, left-wing, or a radical ideological persuasion, and who thus identify the concept with all the ills, inequities and injustices (social, economic and political), of the capitalist system. A recent broad-ranging critique of self-help housing is presented by a number of well-known authors in Self-Help Housing: A Critique.<sup>19</sup> Site-and-services schemes are

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alleged to exacerbate socio-economic differences and divisions by concentrating the urban poor in ghettos. Frequently, such ghettos are located on urban peripheries, as is the case with the DCDP and the Kariobangi scheme. In the hands of ruling elites in Third World countries, site-and-services is seen as a tool for placating, or manipulating, the poor without bringing them into the mainstream of the national or urban economy. Predictably, such critics call for a radical transformation of the political economy.

Although, as the years pass and gradual consolidation of development takes place, during the planning stage insufficient importance is given to the fact that: the activities carried out by the poor, or the jobs held by them, are often quite closely linked to the activities of the 'modern' sector.<sup>20</sup>

Adverse impacts due to their peripheral location appear to have been minimal in both the DCDP and the Kariobangi scheme. Observations made by Soni (1980) during Phase One of the DCDP

suggested that the socio-economic changes experienced by allottees were of three basic kinds.<sup>21</sup>

- One group experienced an improvement in economic status as a result of the additional household income derived from subletting.
  - A second group experienced increased economic hardship accompanied by social and domestic stress. The plight of this relatively small, and presumably poorer, group of households, was reflected in their failure to meet their various financial obligations on a regular (mostly monthly) basis. Other difficult circumstance were evident amongst such families: children's school attendance was affected; nutrition was poor; and dwellings were generally of a poorer quality and often less well-maintained. To allottees facing such problems, the temptation to sell their lots for a lump sum was naturally very great. However, the lease agreement signed by all allottees prevented them from selling their lots to willing buyers within the first five years of occupancy. Evidence from sample
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surveys suggests that between seven to ten percent of the lots in Phase One had been illegally transferred by mid - 1978.<sup>22</sup> Some officials were predictably disturbed by this occurrence, but political considerations and intervention by influential figures have made evictions unlikely.

- A third group of allottees comprised those households who experienced little or no change in their socio-economic status.

A tendency for household size to vary according to economic circumstances was observed.<sup>23</sup> economic prospects improve household size seems to increase. With the advent of hardship the number of household members seems to decline. A possible explanation, consistent with traditional African cultural norms, is that the benefits of upward mobility are shared with members of the extended family.

Included amongst the various notions about the social benefits of self-help is that it stimulates the development of community

organizations which will then have beneficial effects on the future development of the project. In the DCDP participants were encouraged to form building groups based on traditional norms of Africa mutual help. While surveys found that only sixteen percent of the allottees in Phase One participated in such groups, for unemployed or self-employed women such groups were especially useful.<sup>24</sup>

These groups were based on a system whereby each member was required to make a small monthly contribution to a group fund, from which members could then draw upon in rotation for purposes of completing their dwellings. The Director of the NCC's Housing Development Department (of which the DPD was the forerunner) reported that with technical assistance from project staff members of such groups were able to build more rapidly than other allottees thereby also fostering community cohesion and spirit.<sup>25</sup>

When the H.H.D.U. surveyed the Kariobangi

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scheme in 1969, it came across a building cooperative which had constructed twenty-two dwellings. The cooperative had used a type plan from the NCC, purchased and transported its own materials, hired artisans to do the actual building, and achieved an average erection time of two months per dwelling. Quite remarkably, this cooperative had managed to obtain a loan from the NCC, as well the services of an engineer who supervised the work by making weekly site-visits.<sup>26</sup>

### **EFFICIENCY**

This attribute is primarily a measure of the effectiveness with which resources, usually scarce, have been used.

Site-and-services allows a much larger proportion of the public funds available for urban development to be spent on infrastructure than would be the case with more expensive conventional public housing projects. Therefore, greater economies-of-scale can be achieved by

installing urban infrastructure over larger areas. Unfortunately, in Phase One of the DCDP such cost savings were eroded by delays in implementation.

Since for each component of a site-and-services scheme there are a variety of alternative options, theoretically this allows for the creation of shelter packages which can be tailored to the specific needs and means of the target population.

By providing the relatively disadvantaged with the opportunity of investing in a secure and inflation-proof commodity, site-and-services has been able to mobilize private savings. Apart from the *sweat equity* provided by underutilized labor, the proportion of private funds invested in housing far exceeds the amount of public funds. There is conflicting evidence about whether in the DCDP many allottees receive money from their rural kin, which is then invested in the construction of dwellings.<sup>27</sup>

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Generally, when labor-intensive methods and techniques are employed in housing production, employment creation has been found to be a significant economic benefit.<sup>28</sup> The multiplier effect due to economic activity in the housing and construction sector has also been found to be relatively high.<sup>29</sup> For Phase One in the DCDP, the available data in this area is inconclusive, although, on the basis of visual observation, it can be said that in the construction of dwellings by allottees, the use of capital-intensive methods has been virtually non-existent.

#### **COMPLEXITY**

This attribute concerns the degree to which the change is made up of complicated or interrelated parts.

Planning, programming, designing and implementing a site-and-services schemes is a complex task. This aspect may be simply illustrated by listing the major components and sub-components

of a typical scheme<sup>30</sup>:

- (1) Physical:
  - site location
  - land uses (institutional, commercial, industrial, residential, recreational, public vs. private)
  - densities
  - lot sizes
  - infrastructure (water-supply, sewerage, roads, walkways, storm-water drainage, electricity, street lighting, refuse collection, etc.)
  - level of services provided on the lot (contractor-built wet-core, individual connections available to lots, communal sanitary facilities)
- (2) Economic:
  - capital investment
  - recurring costs
  - affordability
  - financing options
  - rate of return
  - cross-subsidies
  - income-generating activities (formal and

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informal sectors)

- opportunity costs

(3) Administrative Legal:

- cost recovery

- tenure arrangements building standards  
and their enforcement

- technical assistance

- administration of loans

- project publicity

- lot allocation

- monitoring and evaluation

- control of sub-letting, absentee  
landlords and illegal transfers of  
titles

(4) Social:

- social facilities (schools, health  
centers, places of worship, recreation  
facilities)

- community development assistance  
(nutrition, child-care, preventive  
health-care, adult-literacy classes,  
organizing self-help building groups,  
setting-up craft industries, etc.)

The above list is by no means complete; it is

merely suggestive of the many and varied components, each of which requires special consideration. Delivery needs to be appropriately timed and coordinated, not an easy task considering the number of separate public agencies which are likely to be involved. All things considered, the DCDP appears to have done remarkably well in light of its obvious complexity.

#### COMPLEMENTARITY

This attribute concerns the ability of the change to interact positively, perhaps even synergistically, with the other components of a larger system. While the intrinsic value of the proposed change may or may not be high, it may nonetheless be profitably deployed to fill in a critical gap in an assemblage or process.

Increasingly, site-and-services are being programmed in conjunction with squatter area upgrading projects. This has been found to be a more balanced low-cost shelter strategy; while

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site-and-services schemes provide a means for increasing the housing stock, upgrading projects preserve and improve the existing housing stock. Furthermore, upgrading inevitably leads to a certain percentage (commonly twenty to twenty-five percent) of households being displaced due to dwellings being demolished in order to make room for the installation of the basic infrastructure consisting of access roads, sewers and water supply lines. The inclusion of social facilities may entail the similar displacement of more households. This spillover of households from upgrading projects may be conveniently relocated in site-and-services schemes, preferably in comparable locations. Thus, upgrading projects take some of the pressure off site-and-services schemes, which in turn facilitate the former's implementation.

The complementarity between site-and-services schemes and upgrading projects has been recognized in Kenya. In the World Bank's Second Urban Project, currently well under way, plans call for the upgrading of one dwelling unit for

every six serviced lots. An interesting example is in Mathare Valley where an upgrading project and a site-and-services scheme will be implemented adjacent to each other.

#### **DIVISIBILITY**

Divisibility is defined as the degree to which change may be tried on a limited basis. It is argued that if the proposed change can be subdivided into smaller pieces which can be individually tested and implemented if need be, then achievement of change-oriented goals and objectives will be better facilitated. While several marginal changes may be easier to achieve than a single major change, under certain circumstances a big, bold proposal may captivate peoples' imagination and attract wide support. This is a matter of judgement.

The advantage of trying the proposed change on a limited basis are that: a) the risk are considerably reduced; and b) a pilot project may help to iron out the kinks in the system. Clearly,

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it is possible to plan, design and implement a site-and-services scheme on a limited basis, in that a relatively small number of serviced lots may be provided. The disadvantage here is that the cost savings due to economies-of-scale will probably not be that significant. This depends on what the minimum threshold number of units is in order to start achieving significant economies-of-scale.

Site-and-services schemes are also *divisible* in the sense that they consist of *essential* components and *variable* components.<sup>31</sup> Essential components are the lots for building, water supply, waste-disposal and access ways. Street lighting is also increasingly being considered as an essential component. Variable components are provision of: social services and facilities (schools, health clinics, community centers, police posts, recreation areas and the like); facilities for various types of economic activities which generate incomes and provide employment opportunities; technical assistance to project beneficiaries; and credit facilities

in the form of cash, or materials, or both. Therefore, while schemes must include the essential components, there is room to manoeuvre with the variable components.

This *divisibility* is well illustrated in the site-and-services experience in Nairobi. While the Kariobangi scheme provided only the *essential* components, each of the two successive schemes tried to incorporate more by way of the *variable* components. The DCDP now represents the state-of-the-art in this combination of essential and variable components.

#### **PROPENSITY FOR FURTHER DEVELOPMENT**

This attribute governs the ability of the change to be refined, elaborated and modified over time.

The site-and-services concept has proven to be remarkably amenable to development on the basis of experience accumulated over time. Each successive site-and-services scheme in Nairobi

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has contained a wider mix of options and services, and an improved administrative set-up. Measures have been taken to consciously avoid the mistakes committed in previous schemes, as well as to cope with new problems which surfaced.

The Kariobangi scheme of one standard sized, almost square, lot with each group of four lots sharing a communal sanitary facility. A uniform grid layout was used and about sixty percent of the total land area was taken up by circulation, including unbuilt portions of private lots. Inappropriately designed dwellings, high densities and serious overcrowding created deplorable living conditions. With virtually whole households somehow living in a single room, this generates a tremendous dependence on the outdoor space immediately adjacent to dwelling units. During fine weather much of the day-to-day household activities such as cooking, washing clothes and chatting with neighbors take place outdoors. However, the site layout has prevented the effective privatization of such *left-over* space with the result that it is

inadequately maintained and inconvenient to use. The larger public open spaces throughout the scheme are not utilized and have become *waste-lands*. Seid (1974) discusses this aspect of public housing projects in Nairobi at considerable length, and presents data from numerous case studies.<sup>32</sup>

The Mathare Redevelopment Scheme which, like the Kariobangi scheme, was planned, designed and implemented by the NCC, attempted to solve some of the problems encountered with the earlier project. This time two standard lot sizes (83 m<sup>2</sup> and 126 m<sup>2</sup>) were used. These lot sizes were substantially smaller than the one at Kariobangi. Although the land use proportions were similar to Kariobangi's, there were some significant differences. A much lower density was planned for; 260 persons per hectare at Mathare versus 600 persons per hectare at Kariobangi. Unlike the latter where a very limited number of lots had direct access by automobile, provision was made in Mathare for all lots to have individual automobile access.

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Another major difference in Mathare was the number of lot options of which there were three: lots with communal services; lots with individual services; and lots with contractor-built cores consisting of two rooms, a kitchen and sanitary facilities. The original Mathare plan also called for much more in the way of community facilities - schools, health clinics, community centers, places of worship and a police post - and for the first time, the inclusion of commercial and industrial uses to generate on-site employment opportunities.

In the realm of site-and-services schemes, the DCDP represents a quantum jump in terms of technical and institutional development. The positive impact of Phase One of the DCDP may be gauged in a number of alternative ways.

Experience now indicates that *many poor urban households can build their own housing to acceptable standards, pay pack loans and meet mortgage payments.*<sup>33</sup> The DCDP has progressed better and faster than similar ones in other parts of the world according to one source<sup>34</sup>;

the rate of defaulting has been minimal; and the majority of plot owners appear to be relatively satisfied. A citywide program is now aiming to provide at least 9,600 serviced lots by the end of 1983.<sup>35</sup>

Amongst the DCDP's greatest advances were the following: (1) A wider mix of lot options: While the earlier schemes concentrated on providing one standard-sized lot, at Dandora a variety of plot sizes were available, together with alternative levels of on-site services and loan packages. About ninety-five percent of the lots were of three basic types:

- Option A which was available in three different sizes - 100 m<sup>2</sup>, 120 m<sup>2</sup>, and 140 m<sup>2</sup>. Each lot had a wet-core consisting of a toilet, shower and outdoor washing slab.
  - Option B which was also available in three different sizes - 100m<sup>2</sup>, 120m<sup>2</sup> and 140m<sup>2</sup>. In addition to the wet-core outlined in Option A, each lot was provided with a contractor-built kitchen and store.
  - Option C was available in only one plot size -
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160 m<sup>2</sup>. Each lot had a contractor-built wet-core, store, kitchen and one room. Overall, 30 percent of the lots were 100 m<sup>2</sup>; 35 percent were 120 m<sup>2</sup>; 30 percent were 140 m<sup>2</sup>; and 5 percent were 160 m<sup>2</sup>.

The Technical Section of the DPD prepared some sixteen alternative house type plans which were available to allottees. The plans varied in terms of: number of rooms (three to nine); number of storeys (one or two); and some layouts were specifically designed to make for convenient subletting. All plans attempted to take the notion of progressive development into account by allowing for construction on an incremental room-by-room basis. Most of the lots 1038 lots in Phase One were of one standard width - 6.3 meters, almost a bare minimum. This was done in order to reduce the length of infrastructure (roads, water supply and sewer mains, street lighting) per unit, and thereby keep costs low. With lot coverage generally around fifty percent, very little open space remains on the lot, and officials connected with the

project feel that the smaller plots are cramped. Phase Two of the DCDP was planned to have about 2000 plots with bigger width in a range of plot sizes. As one project official commented:

*The flaw in planning [Phase One] was the idea that poorer people can't pay more for bigger plots, but by subletting most families are making around K Shs 200 a month per room so they can afford to pay more.<sup>36</sup>*

In addition, bigger lots in a wider range of sizes would better facilitate the sale of some plots at market value. The profits from these sales could then be used to cross-subsidize the less costly options. Costs in Phase Two were to be further lowered by eliminating the contractor-built wet cores. Instead, allottees would be provided with additional loan funds to build their own wet-cores.

## (2) Construction Loans

The DCDP recognized the need to provide project beneficiaries with credit facilities. Loans were administered by the DPD's Financial Section. The loans were estimated to cover the

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LOT AREA:  
100 m sq

WIDTH:  
6.3 m

LENGTH:  
15.75 m



3 ROOMS

LOT AREA:  
120 m sq

WIDTH:  
6.3 m

LENGTH:  
18.81 m



4 ROOMS

LOT AREA:  
140 m sq

WIDTH:  
6.3 m

LENGTH:  
22.05 m



4 ROOMS

LOT AREAS:  
160-240 m sq

WIDTHS:  
6.3 - 7.35 m

LENGTHS:  
24.15 - 34.2 m

DANDORA COMMUNITY DEVELOPMENT PROJECT  
TYPICAL LOT DEVELOPMENT ALTERNATIVES  
(DARK PORTION DESIGNATES COMPLETE WET-CORE)

Source: SONI, P. (1980)



3 ROOMS



4 ROOMS



3 ROOMS



3-4 ROOMS



3 ROOMS



4 ROOMS



4 ROOMS



4 ROOMS



4 ROOMS



5 ROOMS

SECOND  
FLOOR

FIRST  
FLOOR



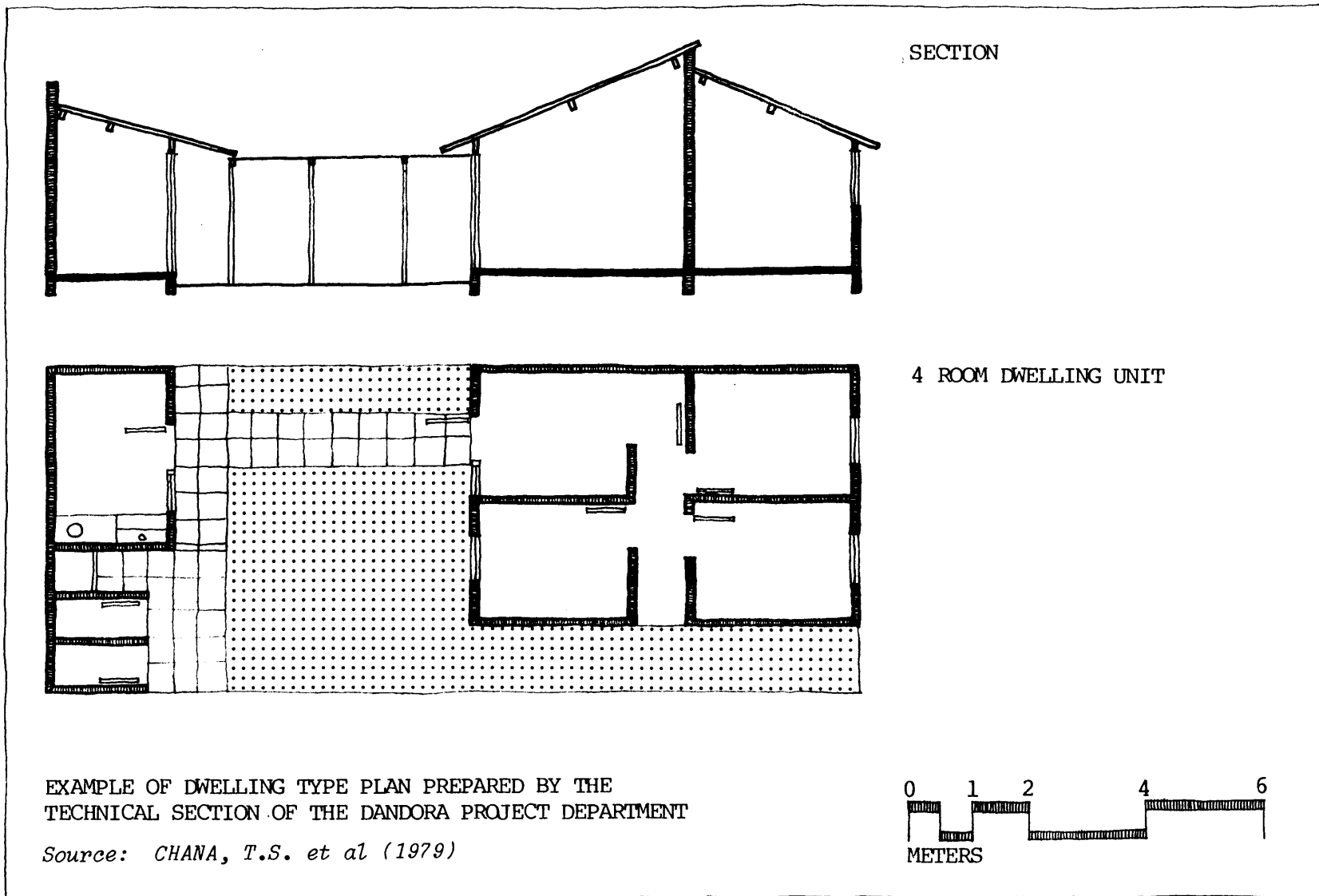
6 ROOMS

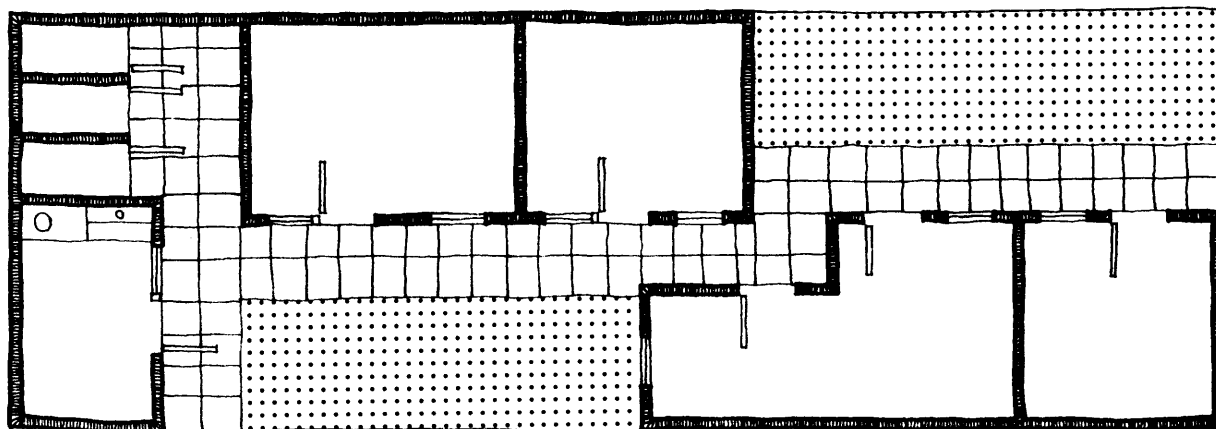


5 ROOMS

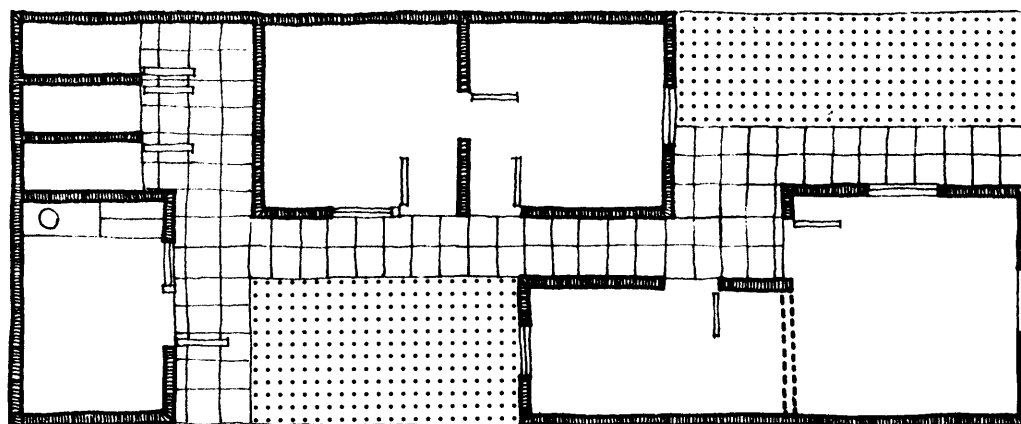


6 ROOMS





4 ROOM DWELLING UNIT



3 - 4 ROOM DWELLING UNIT

EXAMPLES OF DWELLING TYPE PLANS PREPARED BY THE  
TECHNICAL SECTION OF THE DANDORA PROJECT DEPARTMENT

Source: CHANA, T.S. et al (1979)





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costs of materials sufficient to construct two rooms. The loans were released in installments upon completion of each distinct phase of the dwelling construction. At no point was the total loan to exceed the security provided by the allottee's deposit against the mortgage (K Shs 400) plus the assessed value of materials in that portion of the dwelling already constructed.

Contrary to expectations, most households hired small contractors, artisans and laborers to build major parts of their dwellings. This was because either the allottees did not possess the skills needed to build a house to the required standard, or they did not have the time to devote to construction. Thus, a shift from materials loans to construction loans has resulted.

(3) More Appropriate Community Facilities:

The plans for the DCDP called for the construction primary schools, medical dispensaries, community centers, and markets and workshops.

Once again delays were experienced due to debates over the appropriateness of lowered standards. The NCC rejected the design for a simple, functional, low-cost health center, and called for a *higher standard* facility. Construction eventually commenced on a redesigned facility, but the World Bank refused to fund it because it did not conform to the original project specifications. A low-cost primary school specially designed for the DCDP was reluctantly accepted by the NCC.

(4) Assisting Community Development:

The DPD's Community Development Section was responsible for facilitating participation and group organization. Its activities encompassed the following:

- publicising the project to the low-income population;
  - processing application;
  - providing orientation and training to allottees prior to lot occupation;
  - providing technical assistance during construction;
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- helping to organize community groups for various purposes;
  - working with organizations such as UNEP, UNICEF and the N.C.C.K. to design and implement social programs to enhance the overall quality of life in the DCDP - for example, programs in nutrition, child-care and small-scale enterprises for women's groups.

The amount of various types of assistance and advice available to allottees in site-and-services schemes has grown steadily over the years, and project authorities deserve to be commended for their efforts. Room for improvement remains however, as post-occupancy studies carried out in the DCDP show.

One study found that the most popular form of dwelling construction in the DCDP was where the allottee subcontracted out the various building tasks to artisans and laborers<sup>37</sup>. The allottee's own role was to supervise the work, purchase materials and manage the financial situation.<sup>38</sup>

It was found that allottees were not well-

equipped to handle this role.<sup>39</sup> Allottees lacked the following:

- information on the type of materials to purchase, where to purchase them, prices, and arrangements for delivery of goods;
- the ability to draw up contractual agreements with artisans and the awareness of how to enforce these agreements;
- familiarity with the approvals procedures;
- the ability to keep financial records and manage funds (illiteracy was a factor here);
- foresight in terms of being able to plan the construction.

Soni (1980) suggests the inclusion of a technical information center disseminating information in simple and understandable language.<sup>40</sup> Legal advice on matters related to contractual agreements could also be usefully dispensed. The implication is that all of this would lead to significant savings in time, effort and money.

(5) Project Administration:

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In 1975, the NCC formally established the Dandora Community Development Department (or Dandora Project Department - DPD in short) which was charged with the administrative responsibility for the project's implementation. To oversee the work of the DPD, a Project Committee was formed. This committee, made up of representatives from various ministries, (Finance and Economic Planning; Local Government; Housing and Social Services) the NHC and the Nairobi Provincial Administration, was chaired the NCC's Town Clerk. This high-level committee it was hoped would be an effective policy-making and coordinating mechanism.

The DPD was made up of four sections: Managerial; Technical; Financial; and Community Development. Personnel for these sections were drawn from a variety of disciplines, including: engineering; architecture and planning; quantity surveying; law; accounting; and sociology. Importantly, all the sections were grouped together and housed in on-site offices. This enabled the DPD to very closely monitor the

project's implementation, and communication between the various project unit sections was convenient. Even more significant was the fact that the DPD's unimposing offices located on-site were very much more accessible to the allottees, than would have been the case if the DPD had been housed in bewildering City Hall, eleven kilometers away in the city-center. Allottees were thus much more able to take advantage of the assistance offered by the DPD. Some personal observations also suggest that the DPD played a significant role as an indirect advocate of the interests of the low-income allottees.

A small, tightly-knit, well staffed project unit with clear authority and responsibility, the DPD appears to have been a successful example of institutional decentralization. At the same time, it is conceivable that this effective semi-autonomous project unit attracted envy from other quarters within the NCC. If indeed this was so, then it is also conceivable that such quarters also moved to frustrate the DPD's acti-

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vities when such opportunities presented themselves. Clearly the high-level project committee was set up partly to intervene under precisely these types of circumstances. However, evidence that this committee used its potential clout is hard to find.

In 1977, the DPD was merged with the newly formed Housing Development Department in the NCC to implement a city-wide low-cost shelter program. The DPD had originally been created within the framework of a longer-term institution-building effort, and both the NCC and the World Bank were anxious to repeat the overall success with Phase One of the DCPD on a wider basis. By merging the DPD with HDD, it was hoped that the experience and expertise accumulated at Dandora could be effectively tapped and utilized to maximum advantage. The departure of some of the senior technicians directly involved in Phase One of the DCDP obviously did not help in achieving this aim.

(6) Appropriate Standards:

By virtue of its scale, importance and overall visibility within officialdom in Nairobi, the DCDP had the effect of crystallizing and surfacing the long-overdue need to revise planning and building standards.

Confrontations between regulators and designers, and costly delays in implementation dramatically illustrated the seriousness of the problem, and helped to precipitate a decision to attempt to remedy the unfortunate situation. With funding from the World Bank, Kenya became one of the first Third World countries to commission a low-cost housing by-law study in an effort to update its existing regulations and streamline the time-consuming and cumbersome administrative procedures involved in obtaining official approval for housing and community development. The study which commenced in 1979 framed the issue of appropriateness, of building regulations as follows:

*The most important aspect of relating building regulations to the needs of the population is how such regulations are presented, how they are interpreted, and*

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*what degree of innovation, experimentation, and flexibility is to be permitted.*<sup>41</sup>

Performance specifications supported by illustrative *deemed to satisfy* solutions were emphasized in the legislation proposed by this study which also called for frequent reviews of regulations, followed by modifications where necessary. The proposed regulations attempted to address the problems of technical feasibility for low-income residents, affordability, efficient utilization of local resources and consistency with national development goals.

#### **COMMUNICABILITY**

When change is first introduced in a specific context, it has to be accompanied by a concerted effort to publicise, describe and explain it. Word-of-mouth, social and political forums, the printed and electronic media, scale models, demonstrations, shows and performances, examples, both formal and informal channels, must all be used in multiple fashion to reach

the target population. Effective communication of the proposed change is crucial, for in the final analysis it is the perception of the proposal held by the intended audience that will ultimately affect the outcome. In this respect, the communication process is aided if the source of information is perceived as being legitimate and credible. Involving the users in formulating the change proposals may help to achieve this aim. Time and cost permitting, a successful demonstration may be convincing, while also allowing the *client* or target population to draw their own conclusions. When selecting similar examples to point at, contextual differences should be carefully considered.

Change produces a complex web of tangible and intangible results, both intended and unintended. Where results are intangible, communication difficulties may arise. Especially where the change is closely intertwined with a larger existing system, it is important to isolate the benefits resulting from

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change in order to convince the audience of the value of the proposal. To the extent that this is important, change should be designed and presented in a manner that makes the unfamiliar less threatening, and the banal more intriguing; it is important for the change to attract and the attention of the target population. Communication will be facilitated if the cultural determinants of a specific context were taken into account during the shaping of the proposed change. Many imaginative proposals have been ignored or dropped because of their cultural insensitivity.

Due to the tremendous unmet demand for residential accommodation in Nairobi, any low-cost shelter program is almost certain to elicit a wide response. However, in the case of site-and-services schemes there appear to have been some difficulties. In the DCDP it is questionable whether the low-income applicants fully appreciated the real meaning of self-help and their own role in the construction and consolidation of their own dwellings. Furthermore,

potential applicants who were poor and illiterate were unable to understand the project announcements in the printed media. Information received second- and third- hand appears to have been garbled with the result that serious misunderstandings took place. Some applicants were incredulous because they were under the impression that the K Shs 20 fee for obtaining the application forms was all that was required for them to acquire a dwelling.<sup>42</sup> Others were discouraged by the NCC's track record in the field of housing which strongly suggested that the beneficiaries of public projects were usually not the poor or the truly needy, but the middle-class and wealthy. Instances like the numerous false starts experienced with the redevelopment program in Mathare Valley, the widespread demolition of squatter settlements, and the frequent official pronouncements condemning structures constructed out of discarded materials, did little to instill confidence in the poor and needy about the NCC's intentions to provide assistance to those who needed it most.

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**Chapter Eight: CONCLUDING REMARKS**

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**PLANNED CHANGE: SCOPE AND PROSPECT**

A plausible scenario of Nairobi in the year 2000 is submitted by Hake (1977) in the final chapter of his book, African Metropolis: Nairobi's Self-Help City:

*What sort of society will Nairobi be by the year 2000? A city of some four million people will be surrounded by an extended and increasingly blurred rural-urban belt. there will be a growing number of families living together in the urban area: most of these will live in houses built by self-help, with a minority in Council-owned or 'modern' housing. While improvements in the standards of social amenity will be noticeable in some areas, nevertheless the failure adequately to reduce the rate of population growth will ensure that migration to the city will outpace the provision of minimal infrastructure unless radical steps are taken and policies changed. A net population growth of 5% in the city would mean an additional 200,000 people each year.*

*Probably some 1,200,000 will be earning income to support themselves or a family in Nairobi. If the modern economy continues along present trends, the formal sector of employment might be projected to provide at the most 500,000 jobs.<sup>1</sup>*

On the basis of his analysis of the so-called *self-help* city, Hake argues that those who exist in the informal sector display a tremendous capacity to help themselves against all odds, and suggests that this capacity must be viewed positively and assisted with public resources. With the objective of *establishing viable alternative approaches*, Hake calls for the planning and implementation of *small but imaginative pilot projects creating groups for people with a new and wider vision.*<sup>2</sup>

The British colonial model of government which relied heavily on control is considered inappropriate for the circumstances now prevailing in Kenya. Wherever possible and practical, the *stick* must be discarded in favor of the *carrot*; less emphasis should be placed on preventive measures and more on incentive mechanisms (for example, a system of decreasing installments as a reward for those project beneficiaries who make their payments regularly and promptly). Administrative control must also become more flexible (for example, the *deemed*

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*to satisfy* solutions for building construction suggested in the previous chapter) and more responsive to local conditions. And for all this to work successfully, the target population must be kept well-informed, involved and re-educated when necessary. To prevent excessive or abusive change, the political process must function as an effective form for demand-making, and as a system of checks and balances. A healthy political process is also vital for longer-term social stability.

This thesis does not advocate change for merely the sake of change. It does, however, call for ideas whose time has come, and suggests that a more critical or questioning attitude should be adopted towards conventional wisdom and accepted practice.

Change proposals are more likely to succeed if they are demonstrably *doable*, and evolutionary rather than revolutionary. Short strides may be preferable to long leaps. Modest proposals leading to gradual improvements would appear to

be more sustainable over time. While big, bold ideas may fire the imagination, the greater expenditure in terms of time, effort, money, and the accompanying institutional adjustment may preclude such occurrences on a frequent basis. In such cases, external assistance from change agents such as the World Bank plays a useful role. Change which augments will generally have wider appeal than change which seeks to restrict. Appeal is an important aspect to consider, particularly if there is to be hope of shifting a greater proportion of urbanization over to the private sector (for example, there is increasing discussion now about encouraging private housing markets to work more effectively).

Change efforts must mount aggressive media campaigns to inform, educate and draw widespread support. For example, in Lusaka, Zambia, proponents of slum upgrading conducted a successful lobbying effort through the local printed media, and were able to overcome initial opposition from official quarters. Furthermore, once the

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government agreed to undertake slum upgrading (with considerable support from the World Bank), understanding, support and enthusiasm amongst the intended beneficiaries was systematically built up. Films, slide-shows and theatrical performances were all used to communicate project-related messages, invite participation, and stimulate discussion.

This thesis has attempted to demonstrate the conceptual and practical utility of change-oriented planning and implementation. Agendas for positive change in Third World cities must include the following items:

- identification of the intended beneficiaries and their capacity to absorb assistance;
- careful targeting of appropriate public resources;
- creation of linkages between public and sector resources to promote greater efficiency and equity;
- setting of goals and objectives which not only match needs, but the available ways and

means as well;

- establishment of priorities.

Such agendas for change must also recognize that usually the urban poor ascribe to norms which are short-term, individual and material rather than longer-term, collective and idealistic.

Site-and-services schemes are presented here not as a panacea for the problem of low-cost shelter provision in urban areas. Such schemes however, appear to possess many advantages and under the prevailing circumstances in many Third World cities, site-and services schemes show considerable scope and promise for realizing environmental as well as socio-economic change.

Apart from the several site-and-services schemes which have been implemented, there are other developments in Nairobi which signal a move in the direction of planned change. In Kawangware, one of Nairobi's larger unplanned settlements with an estimated population of 30,000 inhabitants, an ambitious so-called Human Development Project has been under way since 1975. Launched

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by the Institute of Cultural Affairs, a Chicago-based non-profit organization under the auspices of the Catholic Church, the project involves a variety of activities including: upgrading of dwellings, neighborhood stores and the local market; improving garbage collection; setting up craft cooperatives; and urban farming. ICA volunteers have started kindergartens, adult education classes, and a small community library. A public health program is also under way. Similar programs are being implemented by the National Christian Council of Kenya (N.C.C.K) in other low-income areas around Nairobi.

Nairobi's transportation is steadily worsening. Existing problems include the heavy financial burden of importing fuel, high road accident rates, lack of adequate pedestrian facilities, inadequate public transport, traffic congestion on major roads and serious bottlenecks at peak-hours around access points to the central business district and the industrial area. A comprehensive strategy for making better use of

existing transportation facilities has been formulated. The proposed strategy ; includes the following:

- a system of exclusive rights-of-way for buses and minibuses along heavily travelled routes;
- control of vehicular flows through widespread use of electronic traffic signals;
- development of more footpaths, walkways, pedestrian malls and footbridges;
- increased car parking fees in the downtown area;
- staggering of working hours between the commercial and industrial areas, different starting times for public schools, and longer opening hours for stores;
- stricter driving tests and vehicular inspection, a safe driving campaign, and the establishment of a special police accident investigation unit.

According to a 1979 survey<sup>3</sup>, privately owned and operated minibuses (locally referred to as *matutus*) carried an estimated 66,500 passengers daily. Despite their usefulness, there is a

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drastic need to regulate these vehicles for numerous reasons to do with road and passenger safety. In order not to discourage *matatu* operators, a program of tighter enforcement of regulations is being coupled with an assistance program which makes low-cost vehicle repair, insurance and credit facilities available to such operators. This is a good example of the mixing of control and incentive discussed earlier in this chapter.

Both the tale of transportation in Nairobi and the Kawangware story are illustrations of attempts to realize planned change, and like site-and-services schemes, embody many of the ideas pursued in this thesis. Perhaps the most important aspect of all these examples is a fundamental shift in perception from looking at the situation as a problem to viewing it as an opportunity for creative intervention. This difference in perception or attitudes, tends to generate different approaches. Schon (1980) sums it up as follows:

*Problem setting matters. The ways in which we set urban problems determine both the kinds of purposes and values which we seek to realize, and the directions in which we seek solutions. Contrary to the problem-solving perspective, problems are not given....<sup>4</sup>*

What this thesis has suggested is a pragmatic direction for seeking solutions which systematically takes into account the key aspects of the realities and specificities of a particular situation. To quote Schon (1980) again:

*We must immerse ourselves in the concrete particularity of the situations in order to gain access to many different combinations of features and relations that open up new possibilities....<sup>5</sup>*

This thesis has attempted to demonstrate how clear thinking about planned change may enable *immersion* and open up new possibilities for environmental intervention in Third World cities.

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## FOOTNOTES

- 1 HAKE, A., African Metropolis: Nairobi's Self-Help City (New York: St. Martin's Press, 1977), p. 250.
  - 2 Ibid., p. 251.
  - 3 Cited in The Urban Edge, Vol. 4, No. 2 (Washington, D.C.: The Council for International Urban Liaison, February 1980), p. 3.
  - 4 SCHON, D.A., "Framing and Reframing the Problems of Cities" in MORLEY, D., S. PROUDFOOT and T. BURNS, Making Cities Work: The Dynamics of Urban Innovation (London: Croom Helm, 1981), p. 51.
  - 5 Ibid., p. 57.
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