

Tackling poverty in Nairobi's informal settlements: developing an institutional strategy

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SUMMARY: *This paper describes the institutional framework that is needed to greatly increase the scale and effectiveness of government and aid agency initiatives to reduce poverty in Nairobi. The introduction outlines the scale of informal settlements within Nairobi (which now house more than half the city's population) and section II describes the economic and political conditions which allowed these settlements to grow but also to receive so little attention from governments and international agencies. Section III describes the development of an institutional strategy through which the agencies of government and international donors can work together and with the inhabitants of the informal settlements to address urban poverty, including improving housing conditions and basic service provision. Section IV summarizes the findings of the inventory of informal settlements on which this paper's recommendations are based and how it was undertaken.*

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1. Matrix Development Consultants/USAID (1993), *Nairobi's Informal Settlements - An Inventory*, Nairobi. Available from Matrix while stocks last. Free to

I. INTRODUCTION

THIS PAPER DESCRIBES current attempts to alleviate poverty in Nairobi through a process which will encourage a more efficient use of existing resources through the introduction of improved mechanisms for planning and coordination. While this process is at an early stage, the description of its evolution may be useful as what appears to be lacking in many countries is not analyses of the conditions of the poor, or definitions of urban poverty but the translation of this knowledge into workable policies and strategies with a significant impact.

The process began with the preparation of an inventory⁽¹⁾ to provide accurate information on the size, location, densities and other characteristics of informal settlements in Nairobi. This is intended as the basis for formulating policies and strategies to tackle the problems of informal settlements, which are part of the development of the City of Nairobi as a whole. The inventory is based largely upon aerial photography and interpretation carried out in 1993 and also uses socio-economic research pro-

those living in East Africa; US\$ 10 postage and packing charge to all others.

viously carried out by a number of other agencies. An annex to this paper has a summary of the inventory, including details on the methodology used in its preparation.

The key findings of the inventory are:

- in aggregate, informal settlements occupy 5.84 per cent of all the land area of Nairobi that is used for residential purposes, but they house 55 per cent of the city's population;
- the average density of informal settlements is 250 dwelling units (or 750 persons) per hectare compared to 10-30 dwelling units (or 50-180 persons) per hectare in middle and upper-income areas.

Thus, informal settlements are not isolated "pockets of poverty" which can be ignored in the planning and development of the city but are settlements where the majority of the poor (and over half the city population) reside. As such, they must be fully integrated into strategies for urban management. The process described has therefore focused on informal settlements to address poverty issues.

There is general agreement that the majority of the residents of the settlements are poor in terms of income, assets, access to resources and environmental conditions. To quote the World Bank on defining urban poverty,

"...Household incomes and expenditures per capita are adequate yardsticks for the standard of living as long as they include own production...Neither measure, however, captures such dimensions of welfare as health, life expectancy, literacy, and access to public goods or common property resources."⁽²⁾

The same report comments specifically on urban poverty,

"...Although urban incomes are generally higher (than rural areas)... poor town-dwellers may suffer more than rural households from certain aspects of poverty. The urban poor, typically housed in slums or squatter settlements, often have to contend with appalling overcrowding, bad sanitation and contaminated water...Forcible eviction, floods and landslides and chemical pollution are constant threats".⁽³⁾

2. World Bank (1990), *World Development Report 1990*, Oxford University Press for the World Bank, pages 26 and 30.

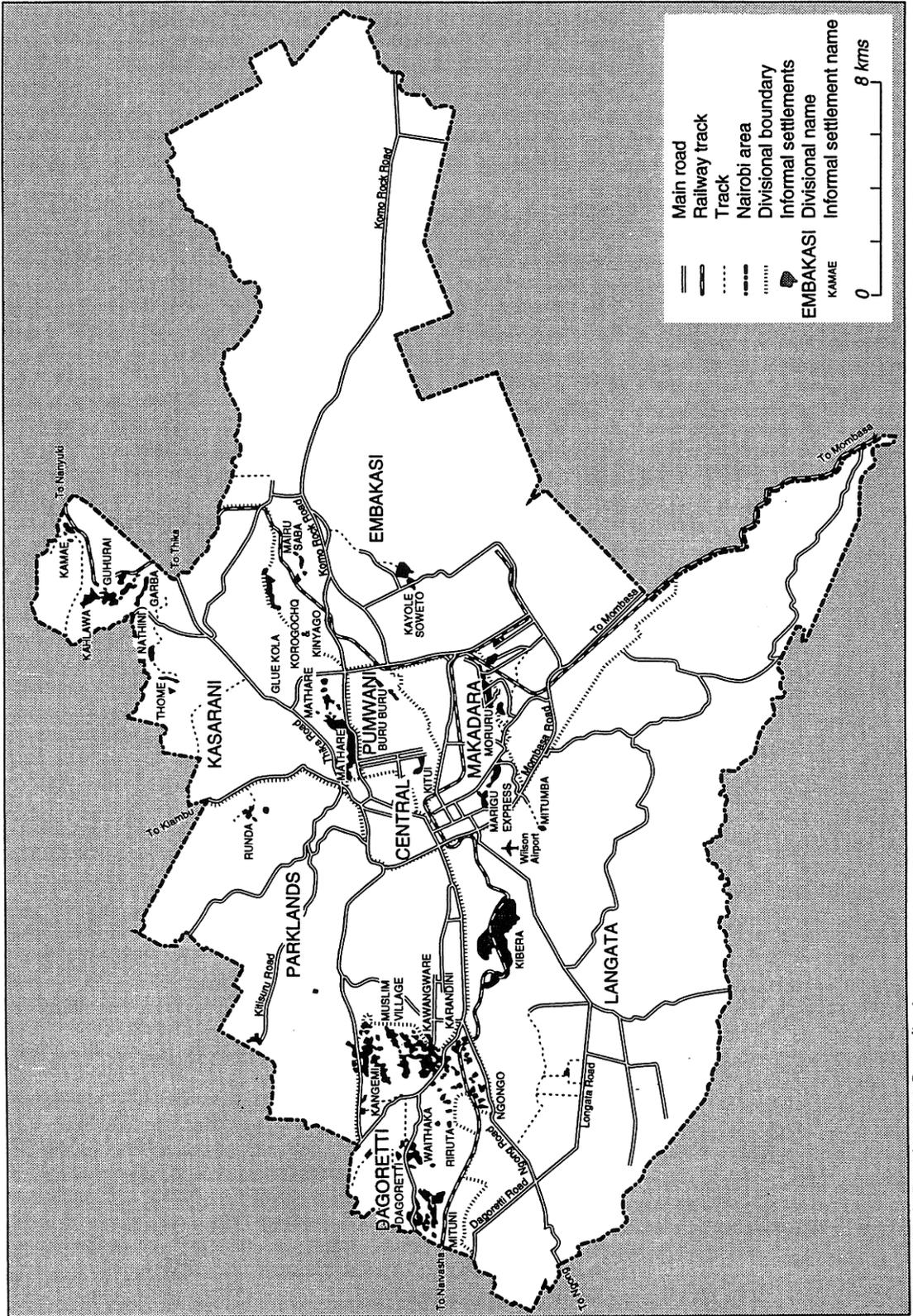
3. See reference 2.

II. THE NAIROBI CONTEXT

a. Background Information

NAIROBI, ONCE ADVERTISED as the "Green City in the Sun," has experienced a rapid increase in its physical size and in its population since it became a settlement in 1901. In common with other cities in Africa the most rapid growth came after independence in 1963 when the population was 350,000. The total population of the city is still a matter of doubt and while the official 1989 census figure was 1.35 million and it is now

Map 1: Informal Settlements in Nairobi



Source: Matrix Development Consultants

4. Revised building bye-laws were gazetted by the government in July 1995 along with the establishment of a Review Board to regularly update the bye-laws as necessary. For the bye-laws to become operational local authorities must adopt them, a process which requires re-education of officials. The revised bye-laws are performance related giving scope for the use of non-traditional materials.

probably just over two million. However, there is rapid growth outside the boundary in peri-urban areas which have a direct impact on the city. Physical expansion has been the result of the extension of metropolitan area boundaries, notably in 1963 when the area was increased from 83 to 690 square kilometres. Population expansion in the past was largely due to rural-urban migration, but natural increase is now the most important factor.

The supply of housing that is affordable to lower-income groups and built to even minimum standards⁽⁴⁾ has not matched the rapid growth of the population. Most households have incomes too low to allow them to afford housing built to Grade 1 building bye-laws and, for some very low-income households, for housing built to Grade 2 bye-laws. Consequently, many urban dwellers are housed in informal settlements which have been constructed using temporary materials such as timber off-cuts, mud and wattle. Urban services, if they are provided at all, are extremely basic with earth roads and paths, earth drains, communal water points and shared pit latrines.

The land occupied by the settlements is either public or private, depending upon location, and the "owners" of the structures normally have a legal or quasi-legal status which has enabled them to build. On public land they have temporary occupation licences obtained from the Local Authority, or verbal permission or a letter from the Chief (an administrative post). On private land the landowner has normally given permission to build and collects rent. The majority of the informal settlements are therefore not composed of "squatters" in the sense that they have invaded the land or occupied it without the owner's consent as is common in Latin America and Asia. It is also noticeable that the trend in new settlements is for owner-occupation combined with sub-letting, rather than the "traditional" absentee landlordism which was previously the dominant pattern.

Most of the informal settlements were established after independence. From independence in 1963 up until the late 1970s, official policy was to demolish informal settlements in Nairobi and other urban centres. Subsequently, there was a trend towards tacit acceptance of informal settlements. Informal settlements grew rapidly and the authorities adopted a more permissive approach, generally not undertaking demolitions. However, a major departure from this trend occurred in 1990 when two large settlements, Muoroto and Kibagare, were razed by the city authorities. It is estimated by the National Council of Churches of Kenya that approximately 30,000 people were displaced by these demolitions.

Despite these recent demolitions, the official response to informal settlements and shelter demand has followed a trend common to many countries with an initial phase of demolitions followed by attempts to provide shelter through sites and services projects and similar approaches financed by international agencies. These projects have had very little effect as they met only a small fraction of demand and low-income beneficiaries were usually bought out as there was a shortage of housing for middle-income groups.

b. The Political Context

The political context to informal settlements in Nairobi is important in shaping the growth of the city and the living conditions of the residents. Kenya was at one time thought to be a model market economy in Africa, but the economy has been declining for several years. The major negative influences on the Kenyan economy have been largely external: debt, an overall decline in commodity prices (tea/coffee) and now an emerging international trading system heavily weighted in favour of the major trading blocks of NAFTA, the European Union and Japan. However, the political system also bears much responsibility for the decline. Kenya was a one-party state until 1992 and was (and is) governed by politicians used more to "sharing the cake than baking it". A system of patronage contributed to the decline of the economy and interacted with frustrations felt by many that there was no alternative outlet for political expression.

In common with other African countries, loyalty to family, clan and tribe is stronger than to the nation state or to a concept of public service represented by national and local government. Thus, many councillors elected to Nairobi City Council were primarily interested in their own rather than the general welfare. In 1983, the government abolished the Nairobi City Council and replaced it with commissioners nominated by the Ministry of Local Government. The city continued to decline steadily in terms of services to residents.

In 1992, the decision was taken to return to multi-party politics in Kenya, a decision reluctantly taken by the government under pressure from international donors and increasing internal opposition. Local authority elections were held at the same time as national elections in December 1993 and while KANU retained power nationally (the opposition having split) opposition parties gained power in Nairobi.⁵ At present the councillors in the City Council are split along both inter- and intra-party lines which has reduced its potential effectiveness. One response to this situation is to explore how urban management structures and practices can adapt to change and extend beyond the traditional model of local government inherited from colonial times.

With the greater degree of openness, one initiative was taken to improve management of the city. The "Nairobi City Convention", held in July 1993, had particular importance in that, for the first time, all citizens were invited to give their views on how the city should develop and be managed. The result was a plan, "Actions Towards a Better Nairobi", which proposes actions under four main headings; Space and Physical Environment, Public Utilities, the Social Sector and Administrative Legal and Political Issues. The plan is comprehensive, covering much more than informal settlements but does relate to the existing structure of urban management rather than exploring new dimensions. The plan has never been implemented, partly because of the divisions within the City Council.

5. All but one of Nairobi's eight national Members of Parliament are from opposition parties.

c. Perceptions and Activities of Agencies Supporting Projects in Informal Settlements

The preparation of the inventory of informal settlements was the first step in the process of developing policies and strategies for informal settlements in Nairobi. The publication of the inventory was followed by the initiation of a "policy dialogue" starting with presentations to:

- Nairobi City Council (mayor, councillors and chief officers)
- key donor agencies
- major NGOs

These presentations were followed by separate consultations with some of the participants in the presentations and other agencies to:

- discuss perceptions of the causes of the creation and expansion of informal settlements;
- establish the aims and objectives of existing and planned projects, programmes and coordination arrangements;
- establish whether there is a need and desire for greater information exchange and coordination on policies, strategies and activities.

There are numerous organizations⁽⁶⁾ working in the informal settlements (many more than the 80 listed in the inventory) ranging from relatively large NGOs (both international and national) to small community based organizations such as savings clubs, churches and cooperatives. Community based organizations (CBOs) are frequently beneficiaries of support from donor agencies/NGOs as they are seen as directly representing groups of residents and providing an organizational basis for community participation/management. Some bilateral and multilateral donors such as the United Nations Children's Fund (UNICEF) and the UN Fund for Population Activities (UNFPA) are also providing support to CBOs - in the case of UNFPA through the Nairobi City Council.

Most of these agencies have a clear focus on urban poverty in their programmes and projects. However, projects and programmes to tackle poverty in the settlements vary in their activities and, to some extent, explicitly or implicitly, in their assessment both of the causes of poverty and of appropriate responses. Many organizations are directly addressing the symptoms of poverty by providing services. These include education (especially nursery and primary education), shelter, and a range of health services including immunization, health education, family planning and nutrition. This involvement has extended to public (environmental) health measures such as improvement of sanitation, water supply, drainage and refuse disposal. Many agencies support the development of economic enterprises, particularly small-scale business, including the provision of credit, technical advice and basic infrastructure.

Another strand of intervention is represented by organizations

6. This paper classifies international multilateral and bilateral donors as "major" donors. NGOs can be both international (in terms of funding and authority) or national. Some international NGOs have larger programmes than major donors. Major donors and NGOs are referred to together as "agencies". Community based organizations (CBOs) are local and rooted in local communities.

which perceive empowerment, the development of democracy, accessing networks and information (including legal rights) and other related concepts as fundamental to making a real impact on poverty. They stress mutual self-help, community organization and the development of local democracy as levers to achieving lasting impacts at the local level.

The two strands intertwine as, while some organizations restrict their activities to direct support (viewed by some as simply being palliative), others see direct support as an entry point to stimulate empowerment. So, while their programmes can focus, for example, on family planning or on improving drainage they also have a community mobilization objective. Of course, community mobilization is also seen as a means of delivering services more effectively and the two are therefore mutually reinforcing.

A concern of many agencies is that of project "sustainability",⁽⁷⁾ that is, the ability of projects and programmes to continue after external support is discontinued. A number of projects do seem to rely on a subsidy for their continuation and replication. This can be counter-productive when, for example, shelter is provided at significantly below market cost - an approach which has failed in Kenya.

For most agencies, the scale and scope of their intervention is limited. While assessments are often made of the causes of poverty and possible solutions, these interventions are frequently confined to pilot projects which are rarely replicated or extended. If solutions to poverty are to be found, then ways must be found to scale up responses and develop an institutional framework which will enable key actors having a stake in the future of informal settlements and of the city as a whole to participate fully in the development of strategies which are fully rooted in economic and political realities.

d. Land

There is a common perception among those involved in the dialogue that land management (allocation, tenure and use) is fundamental to solving the problems of informal settlements. The land situation is complex. In some settlements, such as Kangemi, Kawangware and Githurai, there is individual freehold tenure. In these settlements landowners have more incentive to invest and to work jointly with others to improve services. In these "private" settlements the proportion of absentee landlords is much less than in those on public land. Nevertheless, it is reported that it is difficult to initiate community action, partly because there is an expectation that the City Council and government should provide all services (despite evidence to the contrary) and partly because of a lack of community identity. However, the Nairobi Slums Development Project (located in the City Council) has managed to mobilize the community in two settlements with technical support from Nairobi City Council, e.g. in digging drainage ditches to alleviate flooding.

The majority of informal settlements are on public land, either held directly by central government or vested on leasehold

7. Editors' note: This should not be confused with ecological sustainability. The terms "sustainable development" and "sustainability" are used in many contexts to mean different things. The general debate about "sustainable development" or "sustainability" usually (but not always) uses "sustainable" in the sense of ecologically sustainable whilst international agencies generally use the term to refer to whether the benefits from projects will continue, after the donor's support finishes.

to the City Council and/or public corporations. These settlements normally have higher densities and worse conditions, sometimes much worse, than the "private" ones. Land has been allocated by officials to individuals in a number of ways. Structures consist of barrack-type blocks of individual rooms almost entirely let to tenants with absentee landlords. Another process is when chiefs allocate a plot either verbally or with a letter. None of these processes accords with the provisions of Kenyan land law but they have been practised with little challenge. Such a system of allocation, informal but officially sanctioned, provides benefits to some officials and underpins a system of patronage.

The present system has many negative aspects. Profits accrue largely to absentee landlords, haphazard layouts prevent the introduction of services, and densities seriously endanger health. It must be remembered however that these settlements do provide cheap accommodation which people can afford - something which the formal sector, be it public or private, has been unable to achieve. One consequence of upgrading shelter, infrastructure and services is that rents are increased, forcing out those who are unable to pay.

Clearly, land tenure and land management are fundamental to the future of low-income groups, as land is a basic resource without which low-income households are unable to mobilize other resources. For example, land tenure enables income to be generated through small enterprises, with land acting as a security for credit, and by constructing rooms for rental. In a programme being implemented by the National Housing Cooperative Union small loans for housing rehabilitation, where beneficiaries own the land either individually or jointly, have significantly increased the security and income of the poor.

With a well-managed system, informal settlements would not exist. They would be regularized and formally integrated into the physical and economic framework of the city. The above only scratches the surface of the complex issues involved. Objectives of a better managed and more equitable land system to benefit the poor **and** urban development in general include:

- a tenure system which ensures that residents directly benefit, perhaps with a mix of ownership and rental (many prefer to rent);
- official standards for shelter and infrastructure which safeguard public health but which are also affordable.;
- a tenure system(s) which reduces chances of "gentrification" (e.g. through the Community Land Trust concept now being introduced in Voi, Coast Province);⁽⁸⁾
- a tenure system which will encourage business investment;
- rapid allocation of land to be developed in public/private partnership so as to provide shelter in significant quantity and reduce rents. (It has also been suggested that land is provided as part of a debt swap arrangement);
- balanced development of middle and low-income housing to prevent downward pressure on low-income housing by middle-income groups;

8. The Community Land Trust has recently been introduced in Kenya. Land allocated to former squatters is jointly held in trust, the residents own the houses individually. Thus land speculation is prevented.

- extension of basic urban services to low-income settlements;
- provision of affordable credit to enable households to renovate and expand shelter and purchase land.

III. DEVELOPING AN INSTITUTIONAL STRATEGY

a. Existing Coordination Arrangements

THERE EXIST COORDINATION mechanisms between organizations which are based on common interests, normally by sector. For example, in the health sector the Nairobi Slums Development Project coordinates the Mother and Child Health and Family Planning Meeting which convenes quarterly. In the shelter sector an NGO, Shelter Forum, acts as a coordinator at the national level. A looser group is the Campaign Against Forced Evictions (CAFE). There is also a network of NGOs in the legal sector which meets monthly. There is also an inter-ministerial Project Promotion Committee connected to the GTZ⁽⁹⁾ supported Small Towns Project (which does not include Nairobi).

In general, while there are some coordinating mechanisms (and more informal contacts), coordination is relatively weak. There are perhaps four possible reasons for this:

- there is not necessarily a commonality of interest between institutions which are addressing similar problems. They may have differing analyses of the problem, of the appropriate responses, and/or have differing political bases whether they are international, national or local institutions;
- many international agencies have agendas set by their international headquarters which limits their ability to be flexible. They also have differing programme cycles to which they are committed;
- coordination is time-consuming and uses scarce resources;
- there is a desire to coordinate but the process needs stimulation and leadership which is lacking at the moment.

In general, organizations are positive in principle about coordination and would like mechanisms to be created or strengthened although a minority of organizations may not wish to coordinate at all. There are perhaps three levels of coordination:

- exchange of information on activities (avoiding duplication);
- coordination of policies and strategies (leading to joint strategies);
- coordination of action (perhaps leading to joint programmes).

In terms of tackling key issues there is general agreement among agencies that a coordinated approach will produce better results than organizations working in isolation or through relatively weak networks. However, experience of efforts to improve coordination to date have not had impressive results. This suggests that the development of coordination should proceed

9. GTZ is the German Federal Government's aid agency responsible for technical cooperation.

on an incremental basis with the full participation of interested actors.

b. Development of a Strategy

Following the dialogue with key actors, the next step in the process was to formulate a strategy which would more effectively use the combined resources available and develop an institutional framework in which these resources could be deployed. The following has therefore been proposed and will be developed in the coming months. The objectives of the initiative are:

- the reduction of poverty
- increasing the productivity of low-income groups
- increasing economic efficiency and competitiveness of the city
- ensuring environmental sustainability

Action needs to be taken at the level of communities (acknowledging that the urban sense of community is far weaker than the rural) so that essential services can be provided. It is also necessary to provide communities with organizational tools to enable them to take increasing responsibility in organizing services, whether it be shelter, education, health or other basic services. These tools must include ways of negotiating with those who control resources such as the Administration, the City Council and landlords. Coordination of these small-scale community initiatives will help to increase their effectiveness.

Action must also be taken at the level of the city. Communities cannot provide themselves with all services; this must be done through the city, and it is indeed mandated to provide a range of these services. Changes are needed in policy and practice at the city level (through the City Council) and at the level of central government. Policy changes will not come about simply by preparing policy papers unless the political system is predisposed to take some of the initiatives required, as in the example already given of land. As stressed earlier, urban management practices must change to respond to a major client, the poor majority. At a minimum, and with the participation of communities, clean and readily available water could be provided, electricity made available for small businesses and space created for social facilities. Of course, given the history and performance of Nairobi City Council, there is some scepticism about expecting it to take a leading role. In West Africa, it has been argued that indigenous organizations can take on a much more effective role than municipalities which were introduced under colonialism which have shallow roots.¹⁰ These indigenous structures do not exist in Nairobi or other urban areas in Kenya in any strength, but there is evidence of a growth in residents' associations. Nevertheless, an institutional framework does need the flexibility to involve all actors. Attempts at the municipal and national levels to formulate policies and strategies have been spasmodic and lacked follow-through, primarily due to a lack of political will. For example, work has been underway for

10. Mabogunje, Akin L. (1992), *Perspective on Urban Land and Urban Management Policies in Sub-Saharan Africa*, World Bank Technical Paper No. 196, Washington DC.

at least 15 years to revise building codes for urban areas so that more affordable shelter and services can be built (See note 4).

Policy change and consequent strategy development and action will result only through a process of negotiation between actors - through the resolution of conflicts over resource use. At the moment there is a policy vacuum concerning informal settlements at both the municipal and national levels. The current initiative focuses on enhancing the effectiveness of institutions in tackling the problem of informal settlements by establishing an improved framework for management. These institutions include the City Council, central government, donor agencies, NGOs and CBOs. This requires formidable vision and considerable political will. The alternatives are almost too frightening to contemplate: the inevitable increase in density in settlements that are already very dense, the growth of more informal settlements, deepening poverty, increasing disease and social dislocation resulting in unemployment and increased crime.

There is already a wide range of initiatives taking place in Nairobi's informal settlements, as noted above. They range from "palliatives" to attempts to undertake more far-reaching objectives. While there is no measure of the resources allocated by supporting agencies they are very small compared to the size of the problem. However, it is not only the scale of resources required to make an impact which is important - it is also the organization of these resources and the management framework in which they are deployed.

c. Creation of a Data Base

At the moment information is not organized in a way that facilitates a comprehensive understanding of informal settlements with physical, economic, social and legal components. There is an obvious requirement for more information on informal settlements, building upon the inventory. This would give a clear base of accurate data for analysis, planning and decision-making. One reason for the lack of action to date is a lack of understanding about the realities of the situation.

First, data is required on existing services in informal settlements, i.e., the location, alignment and condition of roads, footpaths, drainage, water and sewerage. Land use and land tenure data is also required. The existing maps prepared for the inventory could be digitalized and converted into a permanent cartographic data base which could easily be upgraded, thus providing a geographic information system for the city which, in time, could become a land information system, enabling land use and land transfer to be managed effectively.

The inventory listed some 80 organizations active in the informal settlements but there are many more which have not been listed. Therefore, there is also a need to record the activities being undertaken by:

- Nairobi City Council
- central government

- international NGOs
- national NGOs
- community based organizations
- multilateral and bilateral donors

Information would be gathered on their objectives, activities (sectoral and geographic), budgets and other pertinent data. The process would be interactive in that these organizations would learn more about each other's activities as information is gathered and shared. This would help avoid duplication, would stimulate communication and initiate coordination when and where it is seen to be useful.

The implication of developing a database is that there should be a permanent institutional capacity to maintain and update the information so that is available to all who wish to use it. (Some NGOs are considering ways in which information centres can be opened in informal settlements for the use of residents organizations and individual residents).

d. Improved Coordination

The City Council, central government and many donors, NGOs and CBOs are already involved in informal settlements in a diverse number of ways, sometimes mutually supportive, at other times seemingly in conflict. Some coordination mechanisms are in place, although relatively weak, and some coordination strategy initiatives are planned. Nevertheless, there is a need to significantly intensify and broaden these initiatives.

Concerned institutions have comparative advantages which should be explored more fully in terms of their contributions to informal settlement activities. It has been proposed that agencies working (or wishing to work) in informal settlements should move towards developing a more coordinated approach, closely linked to the existing institutional framework and in particular closely linked to the City Council. The achievements of the Sustainable Cities Project in Dar es Salaam (supported by the UN Development Programme and the UN Centre for Human Settlements/Habitat) has useful lessons on how coordination and involvement of "stakeholders" can lead to the development of clear strategies and rapid investment from international and local sources.

Poverty in informal settlements can be addressed with greater success if there is:

- sufficient political will and commitment from the City Council and central government;
- coordination among donor agencies;
- coordination between donor agencies, the City Council, central government and the NGO sector;
- introduction of appropriate management processes to enhance the capacities of the City Council and other actors.

e. Development of a Process

It has been proposed that a process be initiated involving all actors on a participatory basis to further the formulation of policies, strategies and action plans for informal settlements. This will be **issue** based, using and developing the capacities of existing institutions. It would be part of a coherent management approach which would:

- institutionalize a participatory approach to the development of informal settlements and to Nairobi as a whole;
- develop a structure to enable interest groups to develop agreed strategies;
- develop confidence in the city by donors and external and internal investors;
- attract investment;
- provide a model for replication and adaptation in other urban centres in Kenya;
- build capacity in the City Council and in the wider system of urban management.

IV. A SUMMARY OF THE INVENTORY OF INFORMAL SETTLEMENTS

a. Background

THE OBJECTIVE OF the inventory is to provide accurate information on the location and characteristics of informal settlements in Nairobi. It is intended as a basis for formulating policies and strategies for the City of Nairobi and, in particular, for informal settlements. It is based largely upon aerial photography and interpretation carried out in 1993, thus providing up-to-date information on the size, location and densities of informal settlements. The inventory also uses socio-economic research previously carried out by a number of other agencies. It is intended that the inventory be used by a number of organizations including:

- Nairobi City Council
- central government
- non-governmental organizations
- community based organizations
- donor and lending agencies

b. Organization of the Inventory

The inventory has an overview which summarizes the main findings and an inventory for each division. The settlements have been grouped into seven sections corresponding to the administrative divisions within the boundary of Nairobi City Council.

For each division the inventory presents the following information:

- location and history
- population
- housing conditions
- infrastructure
- economic activities of residents
- social facilities and community organizations

The final section consists of maps showing the location of all informal settlements in Nairobi on a scale of 1:50,000 and maps of five typical settlements in Nairobi on a scale of 1:10,000 showing public amenities, roads, footpaths and drainage. These settlements are Kibera, Mukuru-Kaiyaba (industrial area), Kariobangi-Korogocho, Soweto and Kawangware-Kangemi. Box 1 describes what is meant by the term "informal settlement" and its main characteristics.

Box 1: The Definition of "Informal Settlements"

The term "informal" is an attempt to encapsulate the characteristics of such settlements, found in many urban areas worldwide. However, there are some attributes of Kenyan informal settlements which are distinctive. For the purposes of the inventory the term "informal settlement" refers to an urban area which has the following characteristics:

"Owners" of structures have either a quasi-legal right of occupation or no rights at all.

Structures (houses) are constructed largely of temporary materials and do not conform to minimum standards.

The majority of structures are let on a room-by-room basis and the majority of households occupy a single room or part of a room.

Densities are high, typically 250 units per hectare compared to 25 per hectare in middle-income areas and to 15 per hectare in high-income areas.

Physical layouts are relatively haphazard making it difficult to introduce roads, pathways, drainage, water and sanitation.

The majority of the inhabitants have low or very low incomes.

Urban services such as water and sanitation are non-existent or minimal.

Morbidity and mortality rates caused by diseases stemming from environmental conditions are significantly higher than in other areas of the city (owing to poor sanitation, lack of potable water, poor drainage, uncollected refuse and overcrowding).

Not all settlements exhibit all of these characteristics or to the same degree but the above broadly characterizes informal settlements in Nairobi.

c. Population

The population of informal settlements has grown rapidly with the growth of Nairobi (Table 1).

Table 1: The Growth in Population, Population Density and Land Area of Nairobi, 1954-89

| Year | Total number of inhabitants | Annual average growth rate between censuses (%) | Land area (square kilometres) | Population density (persons per square kilometre) |
|------|-----------------------------|---|-------------------------------|---|
| 1954 | 118,976 | | 83 | 1,433 |
| 1963 | 350,000 | 7.5 | 680 | 515 |
| 1969 | 509,286 | 6.5 | 680 | 745 |
| 1979 | 827,775 | 5.0 | 680 | 1,210 |
| 1989 | 1,346,000* | 4.8 | 680 | 1,911 |

* Estimate

SOURCE: Census Data - Government of Kenya.

Despite reservations on the accuracy of the census data, there has been, nevertheless, a steady increase in the overall population of Nairobi with an average rate of growth of over 5 per cent. It is generally felt that the city's population is now well over 1.5 million.

The population growth in the informal settlements over the same period is more difficult to estimate as no comprehensive attempts at population estimates had been made until the late 1980s and even these estimates had a wide margin of error, mainly owing to limited access to appropriate tools. The inventory provides the most accurate estimate of total population of informal settlements to date. It is based on recent (January 1993) aerial photography which was used to estimate the number of structures and rooms in each settlement.

The population densities were calculated using average household size and density per room data from previous studies and also using ground verification through field visits to five selected settlements. The data is given in the inventory for each division and settlement. The aerial photography methodology is described in more detail below. The estimated population and area of informal settlements by division is given in Table 2.

This constitutes 1.51 per cent of the total area of Nairobi. Accounting for the fact that 75 per cent of Nairobi land area is used for non-residential purposes (the game park, recreation, infrastructure, industry, commerce, agriculture) the following conclusion is reached: **In the aggregate, informal settlements occupy 5.84 per cent of all the land area of Nairobi that is used for residential purposes, but they house 55 per cent of the city's population.**

The average density in informal settlements is 250 dwelling units per hectare/750 persons per hectare; the average densities in middle and upper-income areas are 10-30 dwelling units per hectare/50-180 persons per hectare.

Table 2: The Population in Informal Settlements by Division

| Administration division | Population | Area covered by informal settlements (Hectares) |
|-------------------------|----------------|---|
| Makadara | 102,480 | 85 |
| Langata (Kibera) | 251,040 | 229 |
| Kasarani | 158,115 | 227 |
| Dagoretti | 186,250 | 373 |
| Embakasi | 31,890 | 73 |
| Pumwani | 11,890 | 14 |
| Parklands | 7,326 | 24 |
| Total | 748,991 | 1,025 |

d. Economic Survival

Income Levels: Determination of income is difficult in informal settlements as has been experienced by many surveys in Nairobi and in other urban centres worldwide. Most of the residents are engaged in informal sector activities which do not always generate a regular income. When asked to state income and expenditure, respondents in these areas almost always give higher figures for household expenditure than for their declared income. Income is also commonly understated as people do not want officials to know their true earnings.

A review of income data contained in various existing surveys in Nairobi indicates that the majority of households in informal settlements have a monthly income of less than K.Shs. 2,000 per month.⁽¹¹⁾ This amount is far below the estimated median household income for Nairobi as a whole in 1991 of K.Shs. 3,000 per month.⁽¹²⁾ In 1990, it was estimated by the international NGO ActionAid that the minimum expenditure required to feed and house a family of five was K.Shs. 980. It will have increased considerably since then, with steep rises in the prices of basic necessities. It should be noted that the effect of rapid devaluation in 1993 combined with inflation has influenced income data, and cash incomes have increased. At the same time, there seems little doubt that real incomes have declined.

Income Generation: It is worth making a distinction between informal **settlements** (defined above) and the informal/small-scale business sector. The latter refers to informal **economic** activities which are undertaken in various locations, including within informal settlements.

There is no general agreement on a definition of the small-scale business sector. The word "small-scale" refers to the number of employees and the scale of the economic activity and is often preferred to "informal" which refers to the fact that some, but by no means all, of these enterprises operate without licences and do not conform to other regulations. Also, there is

11. Kibua, T. N. (1990), Socio-Economic and Demographic Conditions of the Slum Population in Nairobi, University of Nairobi.

12. Bosire Ogero (1992), Extensive Survey of Nairobi for the UNCHS/World Bank Housing Indicators Programme.

great diversity within the sector: a vegetable hawker has different needs and constraints from those of a welder. There is a recognition that the principal characteristics of the sector are as follows:

- there are few barriers to entry, as capital and skill requirements are low;
- most entrepreneurs learn through informal apprenticeships in the sector and few have received vocational training;
- most entrepreneurs have limited access to formal credit and capital needs are met informally from family and friends, informal money lenders and to some extent transfers from rural areas;
- the sector generally operates outside official rules and regulations and entrepreneurs therefore largely avoid taxes, licence fees and requirements to conform to standards. On the other hand they lack security, especially regarding tenure to land.

Formal employment is still a significant source of employment but informal self-employment is growing at a more rapid rate. Informal self-employment in Nairobi grew by 27.7 per cent annually between 1980 and 1984 whereas formal wage employment grew by 18 per cent annually during the same period. It is now estimated that informal self-employment is growing at 40-60 per cent annually.⁽¹³⁾ By 1990, it was estimated that 110,347 people were engaged in some sort of informal sector activity.⁽¹⁴⁾

Informal retailing, otherwise referred to as hawking, is an important source of income in Nairobi. Most of the participants trade in perishable goods, i.e. vegetables and fruit as well as sweets, cigarettes, charcoal, cooked food, fish, meat and soft drinks. Hawking is largely a response to a harsh urban socio-economic environment. Many of the participants are household heads with no other source of employment, formal or informal. One study⁽¹⁵⁾ found that over half of the hawkers are under 32 years old and another 30 per cent are aged between 33 and 40. Over half are married women. Hawking, therefore, plays a central economic role in a significant number of households in Nairobi. In general, this sub-sector operates on a subsistence basis.

The informal "productive" sub-sector, often known as *jua kali*, plays a significant economic role in the city. It is involved in manufacturing, repair and providing services. Trades include welders, metal workers, mechanics, carpenters and construction workers. The *jua kali* generate significant value-added and provide goods and services both to residents of informal settlements and to residents of "formal" housing areas. For example, construction workers who began by building housing in informal settlements have graduated to providing construction services to all housing areas. Again, many vehicle owners go to *jua kali* mechanics based in informal settlements. There are, therefore, economic linkages between informal settlements and other areas in Nairobi and between small businesses in informal settlements and formal business and commerce.

13. National Development Plan 1989-93. The rate of the growth of the informal sector has not been well documented. The *Economic Survey* (Government of Kenya) estimated 13.6 per cent in 1990.

14. The *Economic Survey* 1991 estimates that the number of persons in the informal sector grew from 75,279 in 1987 to 110,347 in 1990 (page 46).

15. Mitullah, Winnie (1990), *Hawking as a Survival Strategy for the Urban Poor in Nairobi*, Ford Foundation, Nairobi. See also Mitullah, Winnie (1991), "Hawking as a survival strategy for the urban poor in Nairobi: the case of women", *Environment and Urbanization* Vol. 3, No. 2, October, pages 13-22.

16. Kenya Rural Enterprise Programme (K-REP) (1991), Kibera's Small Enterprise Sector, Baseline Survey Report.

17. Material gathered by Matrix Development Consultants for the *Jua Kali Enterprise Development Proposal* made by GoK to the World Bank, 1993.

18. The poor invariably pay more per unit of water consumed because they buy it from a water kiosk and pay between 30-70 cents for a 20-litre container whereas those with water meters pay only about 17 cents per 20 litres.

19. UNICEF, (1992), *Children in Especially Difficult Circumstances*, Nairobi; and P Ondiege and P Syagga (1989) Metropolitan Household Survey for UNICEF.

The settlement of Kibera, for example, has a small business sector with over 7,300 enterprises; a third of all households have a small business. The main categories of small enterprise in Kibera are manufacturing, construction, commerce, transport, rental property and personal services. Just under 70 per cent are involved in petty retailing of food, fuel and water.⁽¹⁶⁾

Overall, there are an estimated 40,000 small businesses in Nairobi, most of them located in informal settlements.⁽¹⁷⁾ There is no doubting the significance of the sector in terms of providing employment at low capital cost and in generating an economic output which contributes to the economy of Nairobi as a whole.

Female headed households almost always earn less than their male counterparts. This disparity can be explained by the fact that males have a better chance of obtaining employment as unskilled labourers, construction workers, watchmen, etc. Women are also constrained by the fact that they have to take care of young children and are, therefore, confined to income-generating activities that can be carried out close to the home, usually vegetable-selling and petty commodity trade.

Children contribute to family income in almost all of Nairobi's low-income housing areas according to the Metropolitan Housing Survey. The report indicates that the highest contribution per child was K.Shs. 1,298 and this was at Kawangware. Nairobi's average child income stood at K.Shs. 409. Children are employed in petty trade and hawking, waste recycling (as scavengers), shoe-shine stands and newspaper-vending, among others.

e. Basic Urban Services

Informal settlements in Nairobi are characterized by a lack of basic urban services. The level of services and the state of the living environment differ slightly from settlement to settlement, depending on the age of the settlement, the type of land tenure, geographical location, the vibrancy of the informal sector and access to wage employment. Settlements on private land are on the whole less crowded, have better houses and cleaner environments.

Water Supply: The major problem in informal settlements is the unavailability, inadequacy and unreliability of water supply systems. In a number of larger settlements, the Nairobi City Council provides stand pipes. These are metered and franchised to kiosks operated either by private individuals or, in some instances, by community based organizations. Water vendors, who deliver by wheelbarrow, normally retail water at three or more times the tariff charged by the council.⁽¹⁸⁾

In informal settlements, 11.7 per cent of the plots have water available directly to the plot. The majority of the population (85.6 per cent) obtains its water from kiosks.⁽¹⁹⁾ The other main sources of water are roof catchment, boreholes and river water. The MHS found that 80 per cent of households complained of water shortages and pipes often running dry.

According to the basic needs survey carried out in 1992 by the Kenya Consumers Organization in Mathare, Kawangware, Soweto and Kibera, 74.7 per cent of the people purchase water from vendors while 20.5 per cent have access to water through communal piping. There are more piped private sources in Kibera than in Mathare.

In Kibera, the Kenya Water for Health Organization (KWAHO) has assisted in the development of at least 14 public water kiosks supplied by elevated galvanized steel tanks with a capacity of about nine cubic metres. These are connected to the main Nairobi system through a meter and the kiosks are run by women's water committees.

Sanitation: Sanitation is grossly inadequate in the majority of informal settlements. It was estimated by the Metropolitan Household Survey that 94 per cent of the population of informal settlements do not have access to adequate sanitation. Only a minority of the dwellings have toilets, for example 60 per cent of the households in Kibera and Korogocho have no direct access to a toilet. They usually share a pit latrine with approximately 50 other people.⁽²⁰⁾

20. Kibua (see note 11).

Pit latrines are the major method of excreta disposal as there are virtually no water-borne sewerage systems in informal settlements. Water-borne sewerage requires adequate supplies of piped water which is not available in informal settlements. It also requires considerable investment in physical infrastructure - pipes, pumping stations, sedimentation ponds, etc. As the majority of residents are low-income there is insufficient capacity to pay for such investments. Moreover, the dense physical layouts of the settlements and the "temporary" nature of structures have also precluded the introduction of water-borne sanitation. While in many urban areas in Africa well-designed and constructed pit-latrines are highly suitable, in Nairobi, because of high densities, they pose a considerable health hazard in many settlements.

Many settlements have no provision for baths or showers. The KCO study in 1992 found that 95.4 per cent of the population in informal settlements have "doubtful sanitation facilities". A large number of households in the same survey had no bathing facilities (37.8 per cent). In Mukuru, 85 per cent of the population do not have access to showers and baths; in Korogocho the figure is 65 per cent, in Kawangware 55 per cent and in Kibera, 54 per cent. Where there are pit latrines, people also use them as bathing facilities.

One example of an attempt to tackle sanitation problems has been that of community efforts supported by KWAHO, an NGO which has assisted in the provision of V.I.P latrines, usually built and used by the immediate community. KWAHO has also been assisting with management and support for latrine evacuation in Kibera.

Drainage: In the majority of areas drainage is very poor and there is frequently no provision at all, leading to pools of stagnant water. Where drainage is present, it is largely in the form

of open earth drains. These are frequently choked with refuse. One area in Korogocho has had cement lined drains installed through assistance from the Undugu Society, but even these are often blocked by garbage.

Garbage collection: For some years, the Nairobi City Council has been unable to provide regular garbage collection to all areas of the city. Recently, high-income groups have tended to make private arrangements for garbage collection. In the informal settlements, the City Council does not collect garbage on a regular basis and limits collection to clearing large piles of refuse when they become a health hazard. Even this is not undertaken regularly. Areas in most settlements are littered with refuse and are contaminated with rotting waste with the attendant health risks.

f. The Environment of Informal Settlements: Implications for Health

As described above, informal settlements are generally characterized by inadequate services, poor housing conditions and overcrowding. This leads to high morbidity and infant mortality rates, caused principally by diarrhoea and respiratory diseases. Disease also reduces productivity and shortens the life-span of the residents.

The health of those living in informal settlements in Embakasi and Kasarani are, in addition, affected by industrial pollution. These settlements are seriously polluted by effluent and fumes from the neighbouring industrial area. Pollution control is difficult to deal with because residents are ignorant about the effects of pollution and of their rights as residents. The attitude of the industries is that the people should not be there in the first place. (It is worth noting that some of these people were "officially" relocated to these settlements after their previous settlements were demolished by the authorities).

Residential environmental conditions in most of the low-income areas have deteriorated to the extent that they can be considered hazardous to health. The most common dwelling unit is one-roomed and accommodates an average household of four to five persons.

Kitchen locations and cooking fuels also have implications for health. Most households use paraffin and/or charcoal. On average:

- 94 per cent of the population use paraffin and/or charcoal, with the greater number using paraffin only,
- 16 per cent use charcoal only.⁽²¹⁾

The implications for respiratory health, the risk of fires and environmental degradation are therefore quite serious.

It is clear that there is a link between poverty, morbidity and mortality. The urban poor, especially children, suffer from periodic infections, chronic diseases and parasitic infestations. Studies indicate that in the high and very high density areas of

21. Kenya Consumers Organisation (1992), *Basic Needs of the Urban Poor, Basic Survey of Nairobi City*.

22. Njama, (1988) *Urban Nutrition Baseline Study*, UNICEF Nairobi.

Kibera, Mukuru, Soweto and Lunga Lunga the diarrhoea episode rate is between 3.5-4.5 per child per annum. The high incidence of diarrhoea is caused mainly by poor sanitation and poor water supply. Other studies have shown that 52 per cent of the children in Nairobi's informal settlements are stunted.⁽²²⁾

g. The Use of Aerial Photography and Mapping to enhance Data Collection

The research methodology used in compiling the inventory was a combination of literature review and aerial photography. The aerial photographs were used in the preparation of various maps and in computing the populations of the various settlements.

After conducting a thorough literature review of informal settlements in Nairobi it became clear that no systematic and consistent information existed on the number of informal settlements, their sizes, exact locations and estimated populations. It was therefore decided to undertake aerial photography of all the settlements. The Department of Resource Surveys and Remote Sensing of the Ministry of Planning and Natural Development was retained to assist in the exercise.

Methodology: As no accurate up-to-date information on, or maps showing the actual location of, Nairobi's informal settlements existed, it was decided to fly over the whole city. A rough sketch of the known informal settlements and the administrative divisions in which they occur was prepared as a guide to assist in the planning of the flight lines. This was based on information obtained from the literature and on discussions with City Council officials.

The flying was done in January 1993 and the photographs that covered informal settlements were identified and printed. An index map was also prepared to assist in photo interpretation and mapping. The aerial photos produced were on a scale of 1:10,000. This scale was selected taking into account the nature of the settlements and the type of equipment available.

Photo Interpretation and Mapping: As the photos to be interpreted are on a scale of 1:10,000, the minimum delineation area is taken as 5mm x 2.5mm or 10mm x 1.25mm, which represents 1,250 square metres on the ground. The photographs were first scanned, and classified necessary base maps were prepared.

While maintaining the minimum delineation unit, the interpretation of the photographs was done with a mirror stereoscope. Photo-image characteristics such as tone, pattern, texture and stereo heights were used in differentiation of features. Informal settlements were delineated into overlays placed on the photographs. Where necessary, unidentified public facilities such as schools and health centres were marked for field check. The interpretation on the overlays was finally transferred onto the relevant base maps using a kargle reflecting projector.

The following types of maps were then produced for the study:

- a map of Nairobi on a scale of 1:50,000, showing all the informal settlements, administrative divisions, and major transport network;
- maps of each of the five largest settlements on a scale of 1:10,000, showing public amenities, roads, footpaths, drainage, etc. The settlements which constitute a representative mix (location on public and private land) are as follows:
 - Kibera
 - Mukuru/Kaiyaba (industrial area)
 - Kariobangi/Korogocho
 - Soweto
 - Kawangware/Kangemi

Population Estimates: One of the major objectives of conducting aerial photography was to provide a basis for estimating the population of informal settlements in Nairobi. The 1:10,000 scale of photographs available has its own limitations and difficulties in the micro-level study of residential environment, especially informal settlements. For example, accurate counting of residential dwelling units is difficult.

The following methodology was therefore used to estimate the population of the settlements:

1. The area of each informal settlement in Nairobi was computed in hectares. This was done using a digital planimeter.
2. Measurements of various lengths and widths of randomly selected structures within each of the five representative settlements mentioned above were made on the photographs using a magnifying glass and a ruler. The same were then identified on the ground through a field check and the number of dwelling units counted. The average number of units (rooms) per length and width of the structures per locality was established.
3. Using the field measurement information, a template covering one hectare on the photograph was used as a sampling point and the number of dwelling units within the area estimated using the averages established in (2) above. The number of sample points analyzed for each of the five settlements varied depending on the size of the settlement but covered at least 40 per cent of each settlement area. The average number from the samples was then used to calculate the average number of dwelling units per hectare for each of the five settlements.
4. Having established the number of dwelling units per hectare for the five settlements above, it was then possible to estimate the densities (dwelling units per hectare) of each of the other settlements by extrapolating the figures from the most comparable settlement among the five. Such comparison was guided by several criteria, for example; age of settlement, land tenure (private or public land) as well as prior field knowledge of the settlement.
5. The next step was to estimate the average number of persons per dwelling unit in each of the informal settlements. This was done by use of existing literature coupled with field verification.

6. Having estimated the area in hectares, dwellings per hectare and persons per dwelling unit for each settlement, it was then possible to estimate the total population for each settlement and then the total population resident in informal settlements in Nairobi.

The inventory was presented in three different fora to city authorities (mayor, councillors and chief officers), multi and bilateral donor agencies and the main shelter sector NGOs. (A policy dialogue on informal settlements involving all of these groups as well as relevant government departments is already in process).

V. POSTSCRIPT

THE ABOVE ARTICLE was originally written in July 1994. Since then interest in urban poverty has increased and, at the time of writing this postscript (July 1995), two bilateral agencies, in the UK and the Netherlands, have supported the formulation of poverty programmes of support, and the UN Centre for Human Settlements (Habitat) is working with government to develop an urban initiative with a strong focus on informal settlements. All these initiatives have utilized the inventory of informal settlements and the process initiated by the policy dialogue, and place a strong emphasis on coordination and institutional aspects.

