



UNIVERSITY OF NAIROBI
HOUSING RESEARCH AND DEVELOPMENT UNIT

HOUSING FOR THE LOWER INCOME GROUPS

Report on the HRDU Seminar at Nairobi
on 9th and 10th May 1977

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HOUSING FOR THE LOWER INCOME GROUPS

HRDU SEMINAR 9th and 10th May 1977

1. INTRODUCTION

1.1. Preface

The two-day seminar on housing for the lower income groups was organised by the HRDU on the occasion of its 10th anniversary.

Although during the past years the accent in public housing efforts has more and more shifted towards the lower income groups, it is a generally recognised fact that housing the part of the urban population which earn less than KShs.500 per month still faces major constraints. Therefore, the papers presented at the seminar and the ensuing discussions centred on the problems of this group.

In order to obtain the broadest possible picture, HRDU invited a large number of speakers from the Ministry of Housing and Social Services, the National Corporation, the Nairobi City Council and other Local Authorities, UNEP, NCCK, and the private sector. It may be stressed here that the papers presented and the views exposed in the discussions express the participant's personal view which do not necessarily correspond with the official view of the organisations to which the participants belong.

The HRDU printed the full texts of the presented papers and made them available to the participants and to other interested persons and institutions on request. Considering the large number of pages of the presented papers, it was felt that their collection in condensed form would be useful for future reference. The abstracts of the papers presented in this report have been prepared by the HRDU staff. It is unavoidable in an exercise of this kind that some points in the abstracts may differ slightly from the original papers. The HRDU staff offer their sincere apologies to the authors for any misinterpretation or change of accent which might have crept in inadvertently.

The condensed papers are presented in the same order and within the same framework as the Seminar, i.e. :

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1.2. Introduction

K.B. Andersen, Director Housing Research and Development Unit

The Housing Research Unit - University of Nairobi

Since 1967 the Housing Research and Development Unit has been undertaking research in the field of low-cost housing and community development. The policy of the HRDU is to explore the technical and socio-economic problems of low-cost housing and development and to produce prototype designs and guidelines for design, as well as to construct experimental buildings and housing projects. Assistance has been given to University Departments in the teaching of subjects related to low-cost housing and development.

The target population

This seminar will centre its discussions on the problems facing the part of the urban population earning below KShs. 500 per month, representing about 70% of the urban residents. This group cannot be housed at the official minimum standard which is a two roomed house with kitchen, toilet and shower (Development Plan 174/78), because such a unit today costs about KShs. 35,000 and requires a loan repayment of KShs. 400 per month. This situation leads to the building of sub-standard and illegal structures which are unhealthy and below any recognised standard.

Standards

Much discussion has taken place about defining what standards should be applied in urban housing. These discussions often centre on lowering of official standards. The question however seems more to be how to raise the actual standards under which a large part of the urban population now live. The appallingly low conditions often prevailing bear no relation to the regulations and health requirements laid down by the Government, but are governed by the law of survival and by the desire to be sheltered from the elements.

Programme of the seminar

The seminar will discuss the existing framework for low-cost housing presenting views from the Ministry of Housing and Social Services, the National Housing Corporation, the Nairobi City Council and other Local Authorities. The characteristics of the target population, the strategies - like site and service schemes, rental schemes, and site only development - will be considered. Constraints on low-cost housing development of economic nature, land availability, standards of planning and health, and the self-help process, will also get proper attention. Views of private firms engaged in planning and squatter upgrading will be heard.

Conclusion

The sheer magnitude of the problems under discussion implies a number of other factors, such as environmental problems, availability of resources, etc., but first and foremost stands the problem of providing for man a shelter and an environment which fulfills the basic human requirements.

2. FRAMEWORK

2.1. Housing for the lower income group - the Government view

A. Marshall, Chief Technical Officer, Ministry of Housing and Social Services.

Introduction

The Government has always placed a high priority on the rapid improvement of housing standards in Kenya.

Historical background

In 1953, prior to independence, the colonial government introduced a housing act which constituted a Central Housing Board charged with providing loans and grants of Government funds to Local Authorities and African District Councils.

In 1967 a new Housing Act was promulgated and the National Housing Corporation was established. The Corporation, an autonomous statutory body, has power to raise capital for housing on its own account to supplement funds it receives from the Government.

The 1964-70 Development Plan appreciated the growing magnitude of the housing problem. The cost of housing would need to be reduced substantially, and self-help housing was introduced as a means of inducing as much capital as possible from the private sector to match Government expenditure. One method of channelling private savings into housing would be the advent of the housing co-operative society.

The original 1964-70 Plan was superseded by a new one 1966-70. This plan was written after the report by two United Nations experts had become available. The 1966-70 Plan is particularly significant in that it not only reconfirmed the Government's commitment to a policy of providing adequate housing, but for the first time came out with a clear strategy on how this was to be accomplished. It categorised the main aspects of the problem, among which were rural-urban migration and the inability of a large proportion of the urban population to afford to buy or rent a satisfactory family house.

The Plan proposed the setting up of a National Housing Authority to be the instrument for developing and executing both urban and rural housing, to develop close links with non-Governmental organisations, and further to take a close interest in the development of the building industry, promotion of training and education in the technical and management skills needed, and in housing research. The Government undertook to increase its financial contribution to housing, and outlined its policy towards the different categories of housing, including low-income rural housing in settlement schemes, land consolidation and irrigation schemes. The rural communities would, however, need to continue to erect their houses by their own efforts with mainly local materials.

Low-income urban housing and slum clearance was to be tackled by providing rental and home ownership schemes to achieve a high proportion of owner-occupied houses. Admitted was that the cost of a minimal two-roomed house was beyond the affordability of the low-income earners, and therefore Site and Service schemes must form a significant part of the housing programmes in urban areas. Sites would be provided with roads, piped water, and sewerage and let to tenants to build their own houses. Further, owners would be encouraged to undertake repairs and improvements by loans advanced through the National Housing Authority.

In the 1970-74 Plan the Government's view on housing was set out in greater detail. The Plan imposed a ceiling on the cost of housing financed by development funds, viz: K£ 1200 per unit. For the rural areas provision was made for about K£ 300,000/year to advance loans to individuals to construct conventional houses, including loans for higher standards in traditional houses.

The current Plan 1974-78 has pursued the same objectives with finances increased from K£ 14 million to K£ 33 million. The Government adhered to the ceiling of K£ 1200/unit despite the fact that it is now impossible to build any form of conventional house for this figure. The Government's housing programme has become devoted to aided self-help.

Site and Service commitment

It has always been realised that the housing needs, for the poorer groups of the population could not be solved by the injection of massive amounts of finance so long as the Government could not consider any form of subsidisation. It should be mentioned that an element of subsidy is contained in the terms under which the Treasury advances funds for Housing, i.e. loans for 20 years (40 for rental schemes) at 6% per annum.

Self-help has not been developed as wholeheartedly as it might have been, and the housing problem is escalating. There is a general misconception that Site and Service schemes denote a lowering of standards, but if such schemes are carefully planned they can be transformed into housing estates comparable with any other low-cost ones. However, administrative and financial problems of executing Site and Service schemes are more difficult than in contractor built schemes.

Due to the enormity of the financial burden imposed by the housing problem, Kenya must look to outside sources for financial assistance for aiding the lowest income groups at a price they can afford. This presupposes some form of aided self-help. Self-help, on the other hand, increases employment in the informal sector thus stimulating the economy at grass roots level. It encourages home ownership and corresponds with the national spirit of Harambee.

Housing Standards

The minimum standard accepted by Government is a two-roomed house with kitchen, toilet and shower. The National Housing Corporation designs for Site and Service schemes are only for two rooms and the owner can build more for subletting. For an interim period the houses may be built of temporary materials, requiring that the house be of permanent materials before the lease can be renewed.

Sessional Paper no. 5 of 1966/67

This paper sets out the Government's view on the housing problem and how the programme for its solution should be planned and administered. The main points are as follows:

- Urban housing. At least 7,600 new housing units to be built each year.
- Rural housing. The necessity to improve the economic lot of the rural population is stressed, also as a measure to curb rural/urban migration.
- Finance for housing. The Government realises that the private sector must play its part and encourages building societies and insurance companies to participate in housing, but the private institutions have yet to extend their activities to the low-cost sector.
- Aided self-help. The National Housing Corporation would give organisational, administrative and financial assistance to Local Authorities in this respect, but lack of field staff made this difficult. It is hoped that the creation of the Site and Service Department in the NHC will improve the situation.
- Research. It was of the utmost importance to initiate and support research into building techniques and construction costs, including provision for training and education in technical and managerial skills.

The Government has given an annual grant of K£ 10,000 to the Housing Research and Development Unit of the University of Nairobi and this figure is to be increase to K£ 17,000 in 1977/78.

Conclusion

The philosophy, the methodology, and the objectives have been clearly set out to enable the planners to embark on a precise straightforward course. What has been lacking in political will and commitment to the solution of Kenya's housing problem.

2.2. Housing for the lower income groups - a challenge for the City

G.J. Njau, Chief Planning Officer, Nairobi City Council

Historical background

Early colonial attitudes towards housing of the african population were characterised by restrictive urban immigration measures which allowed only the actual labour force into towns, i.e. a majority of single males and housed in shared rooms on a bed-space basis. In addition, to Council housing other major employers (Government, Railways, etc.) provided low-cost housing.

In the late fifties the Royal Commission Report led to a change in population policy towards the stabilisation of africans in towns, emphasising the need for modest self-contained family-units (Ofafa, Jericho, Jerusalem). The influx of african population from 1948 to 1969 at the rate of 9% per year (city population: 1948 = 120,000 ; 1963 = 350,000 ; 1969 = 510,000) greatly modified the till then balanced housing and employment situation.

Development since independence

The Nairobi Urban Study Group (NUSG) estimated that in the period 1971 - 85 14,700 additional households per year are to be expected in the City (shown in Table I in the paper), a population growth which is not matched by corresponding economic growth and employment opportunities. The declining household size and higher than expected rates of female immigrants suggest even higher household numbers. The majority of these need low-cost accommodation (shown in Table II in the paper). Other important factors are the retardment of economic growth caused by the 1974 crisis, giving rise to both slow wage increases and accelerated price increases affecting building costs by 15-25% p.a. during the last years. The hope to provide the low-income groups with improved single family units is thus more difficult to maintain.

The target set in the 1964 United Nations Housing Study (Abrams, Bloomberg) of 5000 units per year has never been achieved; overcrowding, squatting, and shanty development were the inevitable results. The allocation of 3.3% of Nairobi's GDP (Gross Domestic Product) being insufficient to cater for the overwhelming demand, an increase to 7.25% would be needed. The private sector concentrated on both high cost and shanty development, whereas the demand is for acceptable low-cost housing. The Council's ambitions, faced with an unexperienced population intake, to raise housing standards by slum clearance and improvement schemes in the first post-independence years, were not matched by appropriate resources and were thus frustrated. These schemes rather led to a drop in new low-cost housing provision. New schemes, partly financed from international sources, went to higher income groups. Although many efforts were made, actual constraints and the lack of a clear low-cost housing policy resulted in an ever increasing shortfall.

Ways to solve the problems

Since 1964 attempts were made with the site and service concept (Kariobangi, Mathare, Dandora) and improvement of unauthorised housing (Dagoretti) leading to a heated discussion on acceptability of lower standards, which has not been resolved yet. The Housing Operations Study also advocated serviced plots only. The low level of Council and other public housing, due to cumbersome administrative and implementation procedures as well as limited resources, was critically viewed by the Nairobi Urban Study Groups. The therefore commissioned Housing Operations Study recommended administrative reforms to improve programming, planning, implementing and managing capacities which are to be regrouped in a new City Council Housing Unit. This should be paralleled by a reshaping of financial policies aiming at pricing of Council housing at market levels thus allowing financing of new housing from increased revenue of existing housing.

Conclusion

The need for a consistent Council housing policy, geared to available resources and based on joint and coordinated efforts of planners, administrators, and decision makers is emphasised.

2.3. Housing for the lower income groups - the Local Authority's view

D.K. Langat, Town Clerk, Kericho Town Council

Introduction

Kericho is the administrative headquarters of Kericho District in the Rift valley. In June 1973 the town was elevated to Town Council status. Town area is 64 sq.km., population 28,800, expected population growth rate 4 - 5%. The town itself has no industries, but its economy is heavily supported by the tea industry. The Council operates on a budget of Kf 114,000/year and employs a staff of 120.

Public housing

With loan funds provided by the National Housing Corporation (and its predecessor) the Council has provided different types of public housing : Tenant-purchase, Rental, and Site and Service schemes, resulting in a total of 372 unit. Two schemes are now being implemented : Site and Service scheme phase II with 255 plots and USAID Tenant-purchase scheme with 46 units.

Old schemes are generally badly planned and the tenants are pressing for improvements. Efforts to borrow money for renovation have so far not succeeded. Problems with loan defaulters do occur, and many tenants have migrated and sublet their houses.

Site and Service scheme phase I

Of 110 plots made available 50 plots have been completed or are under construction. This was the first Site and Service scheme and mistakes were made. A lot has been learnt from them leading to the following comments :

- Supervision. This was insufficient on the part of the National Housing Corporation.
- Plot sizes. The plots and the rooms were too small. The plan type should be easily extended later.
- Road access to the scheme. Main access is left to the local authority. Enormous problems have been encountered with construction and maintenance of roads
- No materials loans were available to the allottees in this scheme.
- Transfers have been numerous; people who build permanent houses scare away allottees with little money.

The Council is hopeful that the phase II scheme will be a success ; the new Guidelines and Administrative Procedure of the National Housing Corporation will certainly help the Council.

On the USAID Tenant-purchase scheme work should start soon.

Private housing

There are two Majengo villages. The ploholders have Temporary Occupation Licences. The Housing Research and Development Unit has carried out a detailed survey of the two villages and has submitted a report to the Council, who is now carrying out negotiations on the possibilities of incorporating the villages in the Site and Service scheme phase II.

Illegal low-cost houses are provided by private individuals on agricultural land outside the old town. People owning agricultural land subdivide their plots and sell them.

Perhaps it might be worthwhile to give consideration to the formation of housing co-operatives in every town to augment the low-cost housing stock.

Relations with Government Departments

- Acquisition of land. The procedure is extremely long and delays housing project. The Commissioner of Lands is requested to give serious consideration to this problem.
- Design and supervision of housing schemes. Most of the projects have been designed by the NHC. A need for closer supervision and the involvement of the Council in the design process is felt.
- Water supply. There is a need for coordination of water projects so that the Ministry and the Council know what the other does.
- Roads. Funds are not available when required for opening up of areas for development.
- Loan funds for housing development. Priority is given to the development of Site and Service schemes. There is also a need to develop rental schemes to cater for people who do not intend to make Kericho their permanent home. Further, rental schemes are easy to administer.

Conclusion

Special consideration is requested for the following topics:

- Upgrading of Majengos. We recommend that along with the development of Site and Service schemes, funds be made available for the upgrading of Majengo areas.
- Improvement of existing houses. We recommend that the NHC be asked to set aside a special loan fund for renovation and upgrading of existing rental houses.
- Acquisition of land for houses. We recommend that the authorities concerned be requested to look into the speeding up of the procedure for the acquisition of land required for housing.
- Planning of housing schemes. We recommend that local authorities be more involved in the planning of housing projects.

2.4. Socio-economic characteristics of low-income groups in relation to their housing demand

M. Hoek-Smit, Associate Research Fellow - H.R.D.U.

Introduction

The expansion of unauthorised urban settlements is evidence of an discrepancy between the official supply of housing and the effective housing demand of, especially, the low-income groups of the population. This paper investigates some socio-economic characteristics of tenant households in low rent areas relevant to the nature of their housing demand. The data presented are partly based on the author's own studies of low-cost housing areas in smaller towns in Kenya (approximately 10,000 inh.) and are compared with information available in the literature on larger towns and cities.

Household size and composition

The average household size in low-rent areas is about 3 pp; this is considerably smaller than the average household size for whole towns (4.5 pp.) due to the large proportion (upto 50%) of one-person households.

The majority of tenants heads of household are young (20-35 yrs.), male (70%) and they are often long-time urban residents. The great majority does not plan to bring their family from the rural areas to town. Thus, they cannot be considered as a population-in-transition.

Income

More than 80% of all tenants heads of household in low-rent areas have an income below KShs.500 per month, and 50% are below KShs.250 per month. The average household income is about KShs.330 per month. These figures are probably comparable in smaller towns and in larger urban centres.

Female heads of household are strongly over-represented in the lowest income groups: 85% had an income below KShs.200 per month, as compared to only 25% of the male. The head of household was mostly the only income earner in the household.

Employment

There is considerable variation in the type of employment within the target group.

- Income below KShs.200 per month; mostly informal business or unskilled workers in the informal sector.
- Income range KShs.200 to 300 per month; predominantly unskilled workers in the formal sector.
- Income more than KShs.300 per month; mostly skilled workers, businessmen and few professionals.

Unemployment among heads of household is very low (3%) but almost 50% is self-employed. Many carry out their occupation in or around their house. The problem of licensing these activities requires special consideration.

Spending priorities

The percentage of income spent on rent is high in the lowest income groups (upto 40%), but decreases to about 6 - 10% for the income groups around KShs.500 per month. Apparently, the quality of the rented dwelling has a low priority within the target population.

However, those people who are interested in obtaining a house in property are prepared to spend more of their income in monthly repayment for an own house, from 30% for the income group of KShs.200 - 300 to 15% for the group with an income of KShs.500 to 700.

Attitudes towards buying or renting

The majority (68%) of tenant heads of household in the survey areas preferred rental accommodation; those who are interested in buying a house would require a loan in order to be able to afford it.

The interest in buying a house is related to the level of income (mostly in the income group above KShs.300 per month) and with the type and degree of security of the head of household's employment.

Prospective house-owners prefer a house of good quality and want to leave the construction to contractors or a Government Agency rather than build it by self-help.

Conclusions

1. The predominant demand in the target group is for cheap rental accommodation. Since a large proportion of heads of household live alone, there is great demand for single room units.

Different options for a housing strategy directed to this income group:

- Rooms for subletting in site and service schemes; the high standard of services in these schemes may lead to relatively high levels of rent.
 - Improvement of slum- and squatter areas; this can be effective only if the rents can be maintained at acceptable levels.
 - Stimulation of private development of cheap rental accommodation; are approaches possible to bring these development within the legal framework?
 - Development of cheap public rental schemes; this could be economically feasible if directed towards the specific requirements of this income group.
2. Those heads of household who are interested in obtaining a house of their own are prepared to spend more on an own house than they spend on rental accommodation. There is reason to consider a more differentiated approach to offer this group feasible options; in particular a more flexible attitude towards the estimated affordability of 20% of income (used for Government loans) deserves serious consideration.

2.5. Discussions

The discussions which followed the presentation of the papers dealing with the FRAMEWORK for housing the lower income groups focussed on a number of detail aspects:

- sharing (or not) of kitchens in houses with multi-family occupancy;
- administrative difficulties to ensure that the low income group is the real beneficiary of site and service schemes;
- change of ownership (and occupancy) of serviced sites allocated under the site and service programme of the National Housing Corporation;
- selection criteria for allocation of serviced sites and creating the possibility of obtaining sites for occupants of public rental housing who are willing to vacate their rented accommodation;
- upgrading of pre-independence public rental housing;
- construction and maintenance of access roads to site and service schemes and other housing schemes;
- and
- plot size and house size (number of rooms) in NHC site and service schemes.

Further a lengthy discussion developed on the minimum standard applied by the Ministry of Housing and Social Services, which is two rooms with kitchen, toilet, and shower. This standard is not laid down in any legislation but forms part of the official policy of the Ministry. Several speakers regarded this standard as unrealistic, and hinted that the relatively low production of public low-cost dwellings during the past years is partly due to this policy.

3. STRATEGIES

3.1. Site and service schemes in Kenya

J.J. van Straaten, Site and Service Advisor, National Housing Corporation

Introduction

The public sector is no longer able to finance alone the construction of complete low-cost dwellings. A viable alternative are Site and Service schemes which provide only plots and services and which are financed from public and private sources. Existing schemes vary in respect of standard of services and degree of government financing. The Development Plan 1974-78 set as cost ceiling that the average cost per unit should not exceed K£ 530 (K.Shs. 10,600). Each plot should be provided with an ablution block and a materials loan should be available to plotheholders. Due to increases in prices of building materials, the average cost per plot for this standard now exceeds the cost ceiling.

Implementation of schemes

In order to facilitate implementation of these schemes, the National Housing Corporation decided in 1975 among other things :

- to limit contract work to provision of infrastructure and services;
- to establish a Site and Service Department which co-ordinates with Local Authorities through Field Officers, and assists plotheholders with house construction through Site Supervisors; and
- to produce guidelines for standardised administrative procedures.

Characteristics of schemes

- Target population: Urban households with an income between KShs. 300 and KShs. 1200 per month.
- Loan : KShs. 14,000 per plotheholder, repayable in 20 years at an interest rate of 6½%. About 45% of the loan to be used for construction of infrastructure and services, 50% for materials loan, and 5% for insurance, administration and technical assistance.
- Standard of services : Separate connection to water mains and sewerage for each plot; graded roads and storm water drainage.
- Materials : The Local Government (Grade II Building) By-Laws apply. Semi-permanent and temporary materials are allowed for the initial lease period.
- Type plans : The NHC designed owner-lodger house type plans of up to 6 rooms. Subletting is expected.
- Plotsize / density : Standard plots are 12.5 x 23.5 metres. Plot coverage up to 50%. Maximum net population density is 400 persons per hectare.
- Selection of applicant : Eligibility criteria are advertised in the press. Plot allocation through public balloting.
- House construction : At least 2 rooms, W.C., shower, and kitchen to be constructed within 15 months after plot allocation.
- Security of tenure : Leasehold of 33 years. Site and Service agreement.
- Repayment of loan : On the basis of a capital cost of KShs. 14,000 the monthly repayment is about KShs. 150 (including loan charges, maintenance, insurance, land rent, administration, bad debts, and rates). This monthly repayment would necessitate a minimum income of KShs. 750 per month (20% of income on housing). Since most plot holders are expected to obtain additional income from subletting, also plotheholders with incomes of KShs. 300 per month will be able to afford plots. Moratorium on loan repayment of 15 months.
- Project implementation : Started in 1976.
- Delays in project preparation : Major factors which have caused delays are :
 - a. availability of land,
 - b. allocation of suitable land, and
 - c. obtaining approvals.
- Assistance to plotheholders : Type of assistance envisaged :
 - a. NHC Building supervisors and Clerk of Works will assist and instruct plotheholders;
 - b. Councils are to build demonstration houses;
 - c. blockmaking machines are to be made available; and
 - d. suppliers are to set up site stores for materials and components.

3.2. Strategies for housing the lower income groups in the Dandora Community Development Project, Nairobi

I.G. Wanjohi, Dandora Project Manager, and
T.S. Chana, Project Architect Planner

Introduction

The Dandora Community Development Project is an example of a large scale attempt by the Nairobi City Council, assisted by the Kenya Government, to programme, plan, and implement a low-cost housing solution for households earning as low as K.Shs. 280 per month. The project is expected to provide 6,000 serviced plots in 4 years, and is intended to be the first in a series of site and service schemes in major urban centres.

Presently the acceptable standards cost too much for the majority of the urban population, and about one third of the urban residents live in unauthorised and unserviced areas. A general resistance to relax the rules of Building Code and Public Health Act has been experienced, based on the fear that lowering of these standards would result in health hazards and unhygienic settlements.

Objectives

- a. To prepare and service 6,000 plots of 100 - 160 sq.m. with water, sewerage, road connections, street lighting, and refuse collection;
- b. to give loans (to a total of K£ 1.5 million) for building materials;
- c. to construct community facilities : schools, health centres, and markets;
- d. to construct trunk access roads to the site;
- e. to ensure appropriate selection of applicants.

The Dandora Community Development Department (DCDD), which is responsible for the above tasks, is organised in four sections : Manager's section, Technical section, Financial section, and Community Development section. DCDD is accountable to the Dandora Community Development Project Committee of which the Nairobi Town Clerk is the secretary and which is composed of representatives of the Ministries of Finance and Planning, Local Government, Housing and Social Services, and the Provincial Commissioner of Nairobi.

The above objectives have been closely followed during the execution of Phase I, for which the preparatory work was handled by the City Council's Task Force. Construction started in October 1976.

Phase II, comprising 4,971 plots, is designed by a local firm and will start by end 1977. The project will be monitored and evaluated by another local firm. The project is jointly financed by the Kenya Government (K£ 4.82 million) and IBRD (K£ 3.72 million).*

Technical aspects

The plans for Phase I were based on the Grade II By-laws but including sewerage. The plans were accepted by the joint meeting of the Works and Planning committee and the DCDPC **) in January 1977, based on the acceptance that it was "too late to make amendments". Phase II was approved after a compromise which meant that it would be K£ 190,000 more expensive to build.

Community Development aspects

16,018 applications were received of which 5,384 qualified for type A and 3,924 for type B.

Main criteria for rejection were :

- income below K.Shs. 280 per month
- income above K.Shs. 650 per month
- already having residential property in Nairobi
- less than 2 years residency in Nairobi
- not head of family, and family not living in Nairobi.
- Further grounds for rejection were : lack of supporting documents, more than one form submitted, forms incomplete, and application not on official form.

*) IBRD = International Bank for Reconstruction and Development
**) DCDPC = Dandora Community Development Project Committee

15 plots, adjacent to the DCDD offices, were allocated for building materials sales. By mid March 1977 352 plots were occupied, 602 were unoccupied. The majority of type A plots had temporary shelters, costing about K.Shs. 150 - 350 per room.

Strategies adopted to deal with community development :

- to publicise the project
- to solicit and process applications for the plots
- to orient and train allottees prior to occupation of the plots
- to work with the families during the housing consolidation phase
- to assist in developing institutions, building groups and other programmes
- together with the finance and technical section to operate and administer loans
- together with UNEP, UNICEF, EEC, and NCCK to develop projects to enhance the quality of life.

Administrative aspects

The major administrative activities are :

- to co-ordinate the operation of the four sections.
- to formulate all major policies and programmes
- to prepare progress reports to the DCDPC
- to prepare quarterly reports to the IBRD
- to resolve dispute with contractors and consultants and to assist plot allottees in legal matters
- to prepare legal documents and tender documents for phase II
- to ensure overall execution of the project

Conclusions

There is a lack of defined goals, objectives, and strategies for housing the urban poor. Important questions are :

- should a family earning K.Shs. 300 per month and below have acceptable shelter of their own?
- what are the alternatives : subsidy or low standards?

Meanwhile the challenge to meet the basic needs of low income groups through realistic strategies remains a national concern.

3.3. Rental housing

B.N. Gituiku, Dep. Director of Social Services, Nairobi City Council

Affordability

If it is agreed that a tenant should spend no more than 25% of his income on rent, then it follows that a household earning KShs.500 per month should pay no more than KShs. 125 rent.

Rental houses in Nairobi

Nairobi City Council has 11,409 rental units in the rent brackets upto KShs.125 per month. In 3 estates (about 1000 units) rental units consist of one room only. Their rents are low, varying between KShs. 32 and 49, and demand for them is great. The units in other estates contain at least 2 rooms. The house plans in these estates sometimes allow for subletting on a 1-room basis.

Other low-cost estates

Pumwani (1923) and Makadara (1954) are early examples of plot-only development. Kariobangi (1964) and Mathare Valley Redevelopment (1971) are the first site and service schemes in Nairobi.

The low cost estates were all constructed before Independence. Nairobi City Council started to improve their standard of services after 1963 by tarmacking of roads, converting bucket latrines into waterborn sanitation, installing street lights, and by planting trees.

Administration of housing

A "pooled rented housing account" is operated by the City Council. All rents from low and high cost estates, old and new ones, are pooled together and costs for repair and maintenance of all estates are met from this account. An element of cross-subsidisation between estates is thus introduced. Economic rents, not market

rents, are calculated so as to cover repairs and maintenance of particular estates plus a contribution to the overall income and expenditure of all housing units on a pooled basis.

Constraints

The Government's directive (of 1966) that a house should contain at least 2 rooms, kitchen, W.C., and shower made it impossible for the Council to construct any cheap houses. Therefore the concept of site and service schemes was proposed in 1972 in order to reduce the cost of labour in house construction.

Overcrowding and illegal subletting do occur in Council's housing estates. These practices are caused by a shortage of cheap (Council) housing and the need to share the burden of rent paying (and by the extended family system).

3.4. Village layout schemes in Mombasa

S.O. Kiaye, Asst. Planning Officer, Municipal Council of Mombasa

History

This form of housing development was initiated in 1927. Most of Mombasa urban land being then in private ownership, landlords were authorised to submit subdivisional plans of often large plots to minimum plot sizes of 40 x 41 ft. After approval by the Council single plots were rented out on an annually renewable leasehold-basis to small developers who then erected traditional Swahili-type structures, mostly consisting of 4 rooms, kitchen, and pit latrine (typical plan shown in the paper). Thus the land, although subdivided, remained in single ownership, and special by-laws were made (see chapter 136 of 1948 by-laws) to suit this type of development. These by-laws were both simple to administer and kept minimum requirements at a level affordable to low-income groups.

Later developments

A new form was a repooling scheme (Changamwe 1957) where individual plot owners agreed to pool their land so that proper layout planning and services could be provided. This scheme, being the first on Mombasa mainland, set a new standard of 0.2 acre (800 sq.m.) as minimum plot size. Plot owners were entitled to 75% of their initial land, the remainder being set aside for services. Whereas the 1948 by-laws had allowed temporary structures only if set 50 ft (15 m.) apart, this rule was waived where proper layout was ensured by Council officers, and fees for this were paid.

However, since approval and control procedures were lengthy, also uncontrolled development of this kind took place at a rapid pace. In 1968 a Housing Survey found that 76% of Mombasa housing was of this type, and noted the lack of proper planning and guidance as well as enforcement of laws. Quit-notice were issued to all owners of unauthorised structures, but due to lack of alternative housing provision action was delayed.

Present situation

Awaiting the acquisition of public land for site and service schemes, the village layout procedures were furtheron applied, first returning to the 50 ft. clause again, and then, by the end of 1969, under newly formulated minimum requirements (full text in paper). This led to another flow of applications exceeding again the Council's handling capacities, so that applications had to be temporarily suspended until they were finally suspended by a Commissioner of Lands' directive in 1974. A table in the paper shows the great number of applications from 1969 to 1976 for temporary houses out of which 90% fall under the village layout system.

This stresses the fact that this type of housing is still the major supply for lower income groups in Mombasa. In the author's opinion nothing is wrong with Swahili-type housing, except the lack of appropriate services. Main advantages are the simplicity of procedures and the comparatively small need for technical planning capacities which are in chronically short supply.

Conclusion

Considering the 5.5% per annum population increase and the non-existence of public housing supply for low-income groups in Mombasa (only 100 units were built in this category since 1957) a continuation of banning village layout schemes can only result in more unauthorised slum developments.

3.5. Discussions

In the discussions following the presentation of papers dealing with STRATEGIES, the popularity of cheap rental housing was underlined. Surveys carried out by the HRDU also indicate a preference for rented accommodation of the lowest income groups. Due to the small average household size of this group, the demand is mainly for small units. Shortage of public rental housing leads to sub-letting per room and re-letting of Council housing at multiples of the official rent.

Doubt was expressed whether people earning as little as KShs. 280 per month could really construct a dwelling in a site and service scheme. For the Dandora project, where this figure is used as minimum income in the selection criteria, the question was answered positively as the materials loan provided covers the cost of materials for one room.

The percentage of the income which people spend on rent (and what they should, could, or prefer to spend) was discussed. Surveys show that within the low income group a far larger proportion of the lower incomes is spent on rent than is the case with higher incomes in this group. People with relatively higher incomes do not intend to move to where they have better facilities at higher rent because they prefer to spend the money in other ways.

4. CONSTRAINTS

4.1. Economic aspects of housing for the lower income groups

N.O. Jorgenson, Chief of Human Settlements Section, Div.III, UNEP

The three main economic aspects of housing are Cost, Value and Finance.

Cost

Due to the present cost of housing, the prevailing income distribution, and existing finance mechanism, the great majority of the urban population cannot afford a house. If cost and income were the only factors of affordability the situation would be very difficult as to increase income is as difficult as to reduce prices. However, cost and price are not identical, and conversion of capital inputs to labour inputs, and hired labour to self-help are some obvious cost reduction techniques.

Value

Value is another factor of affordability. The fact that the value of housing, especially for the lower income groups, is also reflected in improved social conditions often induces the public sector to subsidise housing. The present practice is to subsidise house construction; the author would prefer to give subsidies to people rather than to houses to avoid that subsidies reach the wrong group.

The value of a house to the individual comprises more than the equivalent of its cost. It includes expectations as to capital gains, income from subletting, and use for business purposes.

Even thousands of poor people acquire some form of housing, be it in the form of a shack in a squatter area. The involvement of the public sector should concentrate on those aspects which the individual cannot cope with, so funds otherwise used for subsidies should be used for better planning, infrastructure, administration, research and training.

Finance

As, both in rich and poor countries, most families cannot pay the total cost of its dwelling out of past savings, finance becomes another component of affordability.

Terms under which finance (loan money) is available are often non-affordable for the lower income groups. In most cases the house itself serves as collateral and must therefore be of a certain acceptable standard with a clear title, thus ruling out the majority of self-help builders. Moreover, the age of the borrower often determines the maturing of the loan, i.e. the older the shorter. This results in high repayments for older borrowers who have the least prospect of increased income. The rigid repayment system with either fixed or declining monthly payments does not take into account that some incomes may rise in time.

Reducing the cost of finance could be more effective than reducing construction cost. One percentage point of change in interest of a loan of say KShs. 50,000 over a 25 year period represents KShs. 12,500 or 25% of the total; cutting construction cost by the same proportion would require an enormous effort !

However, level of interest rates is the least of the problems of affordable housing finance. The most common causes of "default before the event" are income level, security of collateral, and the amount of the down-payment.

In some countries, including Kenya, the public sector has avoided some of these problems by building houses of acceptable standards which are then rented out, thus combining the profitable activity of construction with the less profitable activity of public housing finance. However, most schemes built by the public sector are more expensive than those undertaken by private developers thus leading to hidden subsidies.

So-called tenant-purchase schemes undertaken by the public sector are examples of allocating 100% finance, the house being "rented" until the loan is paid off completely. Administrative snags could be avoided by selling the houses with the same kind of finance as soon as they are allocated.

Informal sector developments

The foregoing refers to houses of approved standards and with a clear title. For lower grade development another kind of finance machinery is needed.

The answer that comes to mind is the co-operative (savings-and-credit union or housing co-operative) which could have access to additional funds from the Co-operative Bank or from the National Housing Corporation. Even if the lender holds no title, the property with its rent potential still serves as security. Cases of default could be dealt with within the co-operative.

As the proportion of income poor people are willing to spend on housing is considerably higher than the generally assumed 20-25%, the latter percentage should not be used as a basis for determining rents or repayments. Also the potential future income from subletting should be taken into account, leading to repayment schedules starting at a low level and later increasing.

The assumption that a poor man cannot afford to take a loan for a decent house is disproved by the fact that the rent paid for rented quarters would, if converted to repayment on a loan, pay for better accommodation than that occupied. To attract sufficient funds for loan capital should not be difficult as current earnings on low cost housing are considerably higher than on high cost housing.

Many allottees in site-and-service schemes would prefer to have their houses completed by a contractor provided it could be financed. Extra funds required carry a higher risk but could be at a higher interest rate and for smaller amounts and shorter maturity. Availability of such loans (also for squatter-upgrading and other improvements) could bridge the gap between cost and rent propensity, between the need and the demand for housing funds, and between the need for capital formation and the actual present savings in a developing country.

The possibility to acquire a loan is a strong incentive for saving, has inherent economic and social advantages which tend to redistribute incomes, and thus contributes to a changing society.

4.2. Low-cost land for housing - towards an urban land reform

S.S. Yahya, Property Development Manager, Kenya Breweries Ltd

Land tenure system versus indigenous attitudes

Considering the fact that low-income housing is often provided on high-cost land, a reform of the urban land tenure system is advocated which is more geared to indigenous styles of living and decision making. These are characterised by the attitude to concentrate on one's own plot (to be protected against intruders and officials), and the will to get the maximum benefit out of the plot by satisfying existing demand (subletting, crop-growing). The latter is often in opposition to established municipal by-laws, planning regulations, and rent restriction legislation.

These attitudes are nevertheless economically viable and justified, and they enhance the carrying capacity of the land. African landowners clearly prefer a freehold tenure system or long leases as next preference.

Dewesternisation of urban land tenure

In order to suit these patterns, "dewesternisation" of the urban land tenure system is called for. This should include a separation of land and building titles under a sort of licencing system, the model of which is the swahili type land tenure system (see 3.4 Kiaye) where land belongs to large landlords (individuals, companies, co-operatives, government or community organisations), and the houses are erected by land tenants, protected by an eviction control act (see Eviction of Tenants Control Act, Mombasa, 1943).

Scarcity of land

The scarcity of land for housing development is mainly caused by cumbersome planning and administrative procedures. Several years are often consumed by co-ordinating a large number of planners, engineers, lawyers, financiers, and administrators involved. Less, not more, co-ordination is advocated, which should be decentralised and located with the responsible community. The creation of free zones in the land use of selected areas is proposed, which could be entirely self-administering.

Land needs

Existing urban land in Kenya is estimated to be in the order of 13,000 ha. needing an expansion of 500-700 ha per year to cater for the ever increasing demand. The gap between low-income and high-income land consumption is excessive; the ratio between highest and lowest densities being as much as 300:1 in extreme cases. A reconsideration of these circumstances is urgently required for a correct assessment of future land needs.

The recycling process in land uses should be recorded in an input-output matrix which could give a more precise idea of actual land-use flows.

In conclusion the need is stressed to view the land needs for low-income housing in the context of the general urban land use and market, which should be more stabilised.

4.3. Design standards and code enforcement in low cost housing

G. Licence, Development Controller, Nairobi City Council

STANDARDS

Impact of design standards on development

Design standards, originally formulated as minimum requirements, at present often form a barrier to development in the low cost housing field. Also legislative planning and controls are not geared towards site and service and upgrading projects. What is required is a review, but not a lowering, of the standards.

Revival of the dormant Standing Committee on Building By-laws in the Ministry of Local Government is recommended, whereas its brief and composition should be widened to cover the complete field of planning, construction, and maintenance of low cost houses.

Within the Nairobi City Council's organisation the inter-departmental Capital Works Programme, the Housing Operations Study, and the Corporate Planning Team are encouraging initiatives which might lead to reconsideration of needs, goals, targets, as well as standards.

The Grade II By-laws

The Grade II By-laws contain many anomalies and anachronisms. They relate almost totally to building materials and construction methods and are silent on most aspects of planning and public health. Discretionary powers of interpretation are limited, and due to fear of future infrastructural maintenance costs, the tendency prevails to enforce higher standard alternatives. Most important is that these by-laws were framed with rural situations in mind and thus many typically urban aspects are virtually ignored (e.g. privacy, security, subletting, public open spaces, community facilities, car parking, road hierarchies and construction standards, surface water drainage, efficiency of layout, fire control and health control). Planning and building high-density housing schemes satisfying by-law standards which do not envisage sewerage provision in an impossible task.

Orders of standards

The four main sources from which standards are derived also determine the freedom, or the lack of it, of their interpretation.

The lowest order of standards are based on practice (experience) and have no backing of Council approval or Government laws. They are left to the discretion of the officers and are based on their skill, their experience, and sometimes on their whim.

The next order are Council policies, recommended by the officers and endorsed by the Council. Such policies can be useful tools, but can be tampered with for political reason.

Third in the hierarchy come the By-laws drafted by the Local Authority. Standards based on by-laws are backed by the full force of the law, but they are often flexible, whereas amending them is a complicated and slow process.

Lastly there is the Building Code 1968 which allows virtually no latitude in interpretation. Where technical staff are few and poorly qualified this is defensible. However, as more trained planning staff emerge, planning laws should be gradually amended to encourage more localised decision taking, thus also allowing more meaningful compromises between developers and officers.

Standards - conclusion

Concluding, it can be argued that design standards are outdated and should be reviewed. When concentrating on the policies and objectives of the standards, rather than on details, and by persuading developers that realistic standards are imposed for their own benefit, Local Authorities will begin to play the positive role in low cost housing that they have so far failed to do.

ENFORCEMENT

Present situation

Studies of the Nairobi City Council suggest that of about 10,000 dwellings built every year in the City, about 80% are not submitted for planning approval, and would most certainly fail to satisfy the set standards. Draconian measures, like occasional bulldozing of offensive slums, and firm political will are not sufficient to stem unauthorised development, nor do they lead to rehousing the low income sector.

Aim of law enforcement

Law enforcement should have a positive aim, be part of a planning proposal, and should also have the support of the general public.

Present enforcement policies do not work because:

- they are generally out of date;
- they are frequently elitist in attitude;
- they are unsympathetic to the aspirations of the wananchi; and
- they lack teeth.

Suggestions for improved enforcement

Some steps are suggested to improve the situation.

First the problem should be defined by varifying the estimates (80% unauthorised development) by an annual airphoto mosaic of the city. Thus new development could be pinpointed and where necessary selective demolition can be decided upon. Guidelined for emergency infrastructural investment in hitherto uncommitted areas (where future squatting can be expected) should be prepared. As soon as squatting starts a small multi-disciplinary team should prepare a plan for the area and advise on the minimum enforcement necessary to ensure that what started as a haphazard collection of shelters has a chance to develop into a properly serviced neighbourhood.

Provision of an adequate road network is fundamental, not only for access of traffic but also for water and sewerage wayleaves in future. Prohibition of incursion into these reserved areas can and must gain public support. The emphasis of enforcement is thus shifted from detailed building and health aspects to longer term planning and community development issues. Enforcement should be accompanied by positive measures such as local centres where proposals are prominently displayed and explained, as already done in Dagoretti with fair success.

Conclusion

Design standards and Code enforcement are two fields linked through the common aim of controlling development. There is more scope for positive action on the standards than on enforcement. Improvements in enforcing policies first require more positive planning policies for low cost housing development. Such positive planning will only be possible when standards specifically designed for high density low cost housing have been worked out.

4.4. Health aspects of habitable dwellings for low-income groups

Dr. W.N. Mugo, Medical Officer Of Health, Nairobi City Council

Factors affecting health conditions

Disease or the absence of disease, can be traced to the concurrence of a variety of factors such as human, physical, biological, and socio-economic factors.

- Human factors include inherent and acquired characteristics of the individual person, determining susceptibility to specific diseases; age- and sex-group differences (e.g. typical childhood diseases like measles); customs with regard to food handling, personal and general health and nutrition status.
- Physical factors include climatic conditions; geological factors (e.g. soil structure, water table levels, existence of minerals) and type of fuel; and geographical factors.
- Biological factors include plants animals, bacteria, and viruses. They determine the availability of nutritious food. On the other hand some animals and insects can be agents for transmission of disease.
- Socio-economic factors include population densities and distribution; technical and economic development; and social organisation.

Habitable dwellings

Where high population densities exist, the chance of spreading infectious diseases is much greater than in areas with a dispersed population. Therefore specific efforts must be made in densely inhabited towns to safeguard clean/safe water and milk supplies, and to take care of garbage and sewage disposal. Squatter and slum areas are characterised by insufficient or total lack of such community health services.

The rapid population growth of Nairobi during the last 15 years has not been matched by a high rate of construction of adequate and habitable dwellings and community services. This resulted in illegal subdivisions of dwellings and overcrowding in areas like Eastleigh, and squatter settlements like Mathare Valley. Overcrowding encourages temporary and chronic respiratory diseases (e.g. bronchitis and tuberculosis).

It should be realised that low-cost housing should not result in low health standards. "The urban poor.....need more protection from adverse environmental and stressful conditions than the well-educated, well-to-do citizens who are better fed, better housed, and enjoying good salaries and high standard of living".

Health standards

If health standards are not given sufficient regard now, a high price will be paid later in financial and manpower resources and in personal suffering in the new low-cost housing estates. "The law governing standards for dwelling houses is very reasonable and has only stipulated minimum health and social requirements and not lavish imported standards."

Conclusion

Provision of habitable dwellings will result in better personal and community health, savings on the public health budget on drugs, and will result in a more productive, stable, contented nation, which has a lower rate of alcoholism and crime.

APPENDIX I

Extracts from the Medical Officer of Health's reports on health standards for low cost houses recently put up in Nairobi.

Reference is made to the following aspects :

- lack of open space
- murrum roads
- back-to-back-dwellings
- through- and cross-ventilation
- sewage system, means of inspection of drainage system, rodding eyes, waste pipes from kitchens, quality of construction work of drainage and sewerage system.
- water storage facilities
- provision of sleeping in kitchens
- multiple occupancy of plots
- communal and shopping facilities

APPENDIX IITown Clerk's observations

The Town Clerk advises that the temporary structures erected by allottees of plots in the Dandora Community Development Project (a site and service scheme) be demolished within one month. Although these are called site offices (to store building materials), they are in fact also used for residential purposes.

(Note : Later it was decided that these temporary site offices would be allowed for a period of 18 months. Plotholders have the legal obligation to build their first 2 rooms within that period).

4.5. Rehabilitation programmes - the NCCK's experience

Mrs. W. Chiuri, Coordinator Urban Development Programme, NCCK

Origin

Kaburini, a squatter settlement in the centre of Nairobi, burnt down in the first part of 1969. As a temporary measure, 300 families were moved to Karura Forest, about 8 miles from the City centre.

Resettlement scheme

On the initiative of the National Christian Council of Kenya (NCCK) a joint plan of action was agreed upon in July 1970 between Nairobi City Council and the NCCK. The City Council would reserve 300 plots in a site and service schemes near Mathare Valley for ex-Kaburini people, and would spend K£ 10,000 on redevelopment of two neighbouring squatter villages, whereas NCCK would raise K£ 23,000. The NCCK funds would cover the salaries of social and technical staff of the scheme for a two year period and would also be used for house loans for the squatter villages and ex-Kaburini residents. Technical aspects would be implemented by the City Council, whereas the NCCK would look after the social aspects of the scheme, i.e. to organise ex-Kaburini people into building groups.

Implementation of the scheme

House design was such that the house could be built in phases. City Council initially allowed the use of murram blocks.

After several houses were built, City Council objected to the house plans in use. As a result all house construction lay still for two years, until Council had approved an alternative plan. By then murram blocks were no longer approved as building material.

The extended period of waiting and undecision had many unfortunate effects. Frustration and suspicion of authority increased, building materials were lying unused on plots resulting in theft and losses of return on investment, plots were sold, building groups disintegrated and leadership could not develop satisfactorily.

In 1975 City Council moved all ex-Kaburini residents to their plots in the site and service scheme and allowed them to build temporary structures. This measure eliminated the need to travel to and from the scheme for building purposes.

NCCK's involvement in the project

At present the NCCK's involvement in the project is as follows :

- The NCCK administers its loans through legally registered groups only (Cooperatives and self-help groups registered as companies).
- The loan agreement is made between NCCK and each individual person, with the group guaranteeing repayment.
- The NCCK project co-ordinator scrutinises all receipts issued against the purchase of building materials once a house is completed. If satisfied the NCCK releases an equivalent amount of money to the group's bank account.
- The NCCK loan (KShs. 7,500) is to be used for materials only. The group will pay all labour charges.
- Loan repayment is KShs. 100 per month as soon as the house owner starts living on his plot and rents out one room.

Main difficulties encountered

The NCCK has worked so far with 4 groups varying between 25 and 75 members to each. The problems encountered are :

- lack of capable and reliable leadership in the groups
- insufficient control and influence of group members over their leaders.
- inaccurate keeping of accounts
- suspicions of mismanagement of funds
- actual mismanagement of funds, and
- slowing down of group members' contributions to the group's general funds.

4.6. Discussions

A question on public housing administration led to further discussion on subsidies for housing. Although in the paper on economic aspects subsidies to people rather than to house construction was argued, it was now pointed out that such a policy would require population registration and full knowledge of income levels and income and family changes.

On the subject of self-help groups a question revealed that not more than one co-operative society can be officially registered for similar activities in one location. This limits the organisation of self-help activities in registered co-operatives, and leaves only the option to register the other self-help groups as companies.

A large part of the discussions centred on the use of temporary materials and temporary lowering of standards in the initial stages of site and service schemes. Strong reluctance was expressed by the authorities to allow this in dense urban site and service schemes.

5. INPUT OF THE PRIVATE SECTOR

5.1. New housing projects

D. Mutiso, Principal, Mutiso, Menezes International

Objective of site and service schemes

The objective of site and service schemes is to minimise Government expenditure and maximise the input from individuals who create their own houses and their own institutions, not building just houses, but creating a new way of urban life.

Change in outlook

The change in looking at housing which developed over the last 10 to 15 years requires a new way of looking at the problems at all levels. There seems to be a choice between leaving things as they are getting worse progressively, and spreading Government resources as thin as possible. A scheme could be developed by subdividing the land and providing services only, and then leaving everything else to the builder applying only marginal regulations. For example that no building may be erected within 3 metres of the plot boundary. The mere members we have to deal with in terms of control make effective control in detail impossible.

The Dandora scheme

The Dandora scheme seems to lie in between schemes elsewhere in size of plot and density. Plot sizes are : Dandora 120 m², Botswana 350 m², Zambia 325 m², Tanzania 250 m², West Indies 90 m², Manilla 60 m², Madras 90 m², Madras 90 m², Columbia 75 m². In Dandora the plot size necessitates prediction, design, and control of what will go on the plot. This also makes it necessary to exercise rigid control. The officers must be highly qualified and competent. Management, control, and maintenance are important.

It is worth mentioning that in Zambia a scheme was left after completion because of lack of management resources at city level. The city could not manage the scheme after it was handed over by the international consultants.

Changes after allocation

In Nairobi a further problem seems to be that in spite of all precautionary measures, the allottees change after allocations. Even in many rental schemes in Nairobi, the people living in the houses are not the ones registered in the books of the Council. Why then be so horrified about subletting?

Taking this into account and realising the entrepreneurial streak that runs through everybody, why not say : auction off a block of plots and leave the development from hereon to the private sector. This might lead to a faster development and perhaps even better than when the plots are allocated on the basis of need. Naturally this attitude is not acceptable to the World Bank or other donor agencies; it is not respectable internationally.

Temporary shelters

A worrying thing is the extraordinary reaction to temporary shelter. Let us ensure that a minimum control of land-use is enforced and that there is control of public health and fire. There remains a problem of image. In Zambia a scheme was developed which reached at a certain stage a place where it was visible from major roads. People were horrified and said : sorry, we cannot have it. They said : visitors cannot see the sewers underneath, they cannot see the waterpipes or the plot subdivisions; all they see is another squatter settlement like the one we have put money into to get rid of it. There is, however, nothing wrong with temporary shelter except that it looks like the thing it is supposed to replace.

Building of sanitary unit

The question also arises : how important is it to build the structures around toilet, kitchen, and bath, and not a shelter to live in? The structures for these items seem to be easier to build in terms of regulations and they could be built of the lightest materials. If we take into account the cost of infrastructure for Phases 2 and 3 (of the Dandora Project) and average it over the 2,700 plots, it comes to exactly K£ 350 per plot, leaving K£ 350 being the cost of the structures mentioned above. Should we then not provide the double amount of infrastructure and forget about the built structures?.....But, of course, land is scarce.

Planning and building control

A scheme the size of Dandora could justify exemption from town planning and building controls. This is done in England with the new towns by designating an area within which a freeing of controls is allowed for a limited period. If done in the case of Dandora, after a period the problem of maintaining the scheme would arise. But the Bank could set aside a sum to pay for the cost of future maintenance caused by initial reduction of standards.

5.2. Upgrading of housing schemes

J.G. Waweru - Principal: Waweru and Associates

Definition of Upgrading:

"The creation of improved physical, social and economic conditions in substandard housing areas, through the provision of basic infrastructure services and community facilities with minimum disruption or demolition of existing structural and social fabric".

Apart from the above mentioned aspects, the security of tenure is important:

- to give confidence to the inhabitants to improve their house
- to raise a loan to carry out such improvements.

The Kenya Government Development Plan 1974-78, states the following objectives: To ensure that (a) no additional unauthorized housing settlements are erected, (b) slums are removed when alternative housing has been found, and (c) substandard housing is improved.

The World Bank currently finances a study on sub-standard and squatter settlements in Kenya.

Stages of Upgrading:

- I. Selection of upgrading areas; on the basis of the following criteria:
 1. Scale, or size; should be large enough to be economically viable to support the amenities provided.
 2. Level of infrastructure, priority should be given to settlements, most deficient in basic services.
 3. Topographic conditions should allow economic servicing and installation of infrastructure.
 4. Housing conditions: must allow for upgrading.
 5. There should preferably be possibilities to settle overspill population nearby.

- II. After selection is made, a socio-economic survey of the area should be mounted, followed by a technical field survey.

- III. Then the design of upgrading can start, of which the main aspects are:
 1. Physical Aspects:

<u>Services:</u>	top priority to water and sewage facilities
<u>Access:</u>	necessary for buses, fire engines, ambulances, refuse collection trucks. Individual car access or road frontage to each plot could be postponed to a later stage.
<u>Community Facilities:</u>	schools, health centres shops and playfield must be provided.

Upgrading of Houses:

usually left to the owner. A detailed technical survey which gives each house a rating of durability could be the basis of upgrading advice to the owner, as well as to the height of financial support to be obtained by him (depended on the ability of the owner to repay).

Constraints:

- non-availability or short supply for services
- need for modification or relaxation of planning standards
- land availability and topography of the land
- adaption adjustment of the road and path lay-out to existing structures and activity nodes.
- overspill population should preferably be resettled nearby.
- building by-laws should be reviewed and modified.

2. Social Aspects of Upgrading

Characteristics of sub-standard and squatter housing areas are: the low-level of education, crime, instability and high rates of mobility. Upgrading should be geared towards elimination of these problems:- by educating the people how to use existing facilities, such as schools, health centres,

- by briefing the inhabitants and the leaders about the intentions and positive aspects of upgrading,
- by giving financial and technical assistance to the formation of cottage industries.

Constraint: to ensure that rents charged after upgrading are affordable by present inhabitants.

3. Economic Aspects:

The requirement of international financiers and recipient agencies is that no direct subsidy on housing in general is given and that all investments in a scheme must be recouped. Since inhabitants of these areas have low-incomes, possibilities of cross-subsidisation have to be considered. Allocation of funds to improvement of existing structures seem to yield the same benefit (in economic terms) as increasing the supply by building more houses.

Constraints:

- the discrepancy between the wishes of the population to live near places of work, market and transport facilities and the possible alternative use of the land for high cost housing, industry etc.
- the problem for the houseowners to secure enough funds for the improvement of their houses.

5.3. Discussions

During the discussions on UPGRADING it was stressed that the aim of the exercise is that conditions are improved for the entire population (both houseowners and tenants) of the area to be upgraded. Although minor increases in rent level are acceptable, the affordability of the tenants should not be exceeded. The risk of public investment in upgrading schemes leading to eventual over-charging to tenants was highlighted, and several solutions were proposed, partly based on experience with similar schemes in other countries.

When discussing the health authorities' objections to some high density urban site and service schemes, the result of the comparative health study carried out by the HRDU (with the Community Health Department of the University of Nairobi) in a fairly new low-cost housing scheme and an adjacent Majengo area in Machakos were mentioned. The need for further comparative studies of this kind was stressed, and the hope was expressed that such research might produce the data necessary for revision of official standards.

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