

**MANAGEMENT OF SEMI-PUBLIC, PRIVATE AND
PUBLIC HOUSING ESTATES IN NAIROBI**

**CASE STUDY: KENYA PIPELINE COMPANY, KENYA BREWERIES LIMITED
AND MINISTRY OF PUBLIC WORKS**

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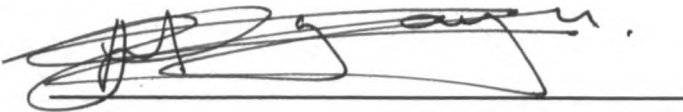
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November 1990

(ii)

DECLARATION

I, JEREMIAH NG'AYU KIONI, hereby declare that this Thesis is my original work and has not been presented for a degree in any University.

A handwritten signature in black ink, appearing to read 'Jeremiah Ng'ayu Kioni', written over a horizontal line.

Signature of Candidate

This Thesis has been submitted for examination with my approval as University Supervisor.

A handwritten signature in black ink, appearing to read 'P. M. Syagga', written over a horizontal line.

PROFESSOR P. M. SYAGGA, PhD, MISK

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ABSTRACT

This thesis is an attempt to impress on institutions owning housing estates for their employees the importance of good estate management practices not only for preservation of the already inadequate national housing stock, but also in ensuring maximum housing satisfaction to the estate dwellers. It points out the inadequacy of the current estate management practices and techniques in the use in the institutions. To achieve this the report examines the estate management practices in use in other countries as prescribed by various authors. Kenya Pipeline Company, Kenya Breweries Limited and Ministry of Public Works are the case studies chosen to enable detailed examination and better understanding of the estate management practices in use and their effects on the estate dwellers.

The case studies have been grouped together in one chapter for convenience but each one could be regarded as a chapter in its own right. The institutions portray unique problems in their day-to-day estate management. The data and information for these case studies was collected between September 1989 and February 1990, mainly through recorded information, interviews and field observation.

Information from Kenya Pipeline Company and Ministry of Public Works revealed that estate management in the institutions is disjointed and suffers from technical, managerial and low priority problems. Poor coordination between and among participants was

also evident. Procedures are constrained by bureaucracy and shortage of facilities. In the main, the results showed that, not only are the estate management functions undeveloped but also the attention given to estate management is inadequate with the result that housing estates are poorly managed to the detriment of both the employer and the employee. The study recommendations aim at assisting the institutions to establish procedures which will enable them provide satisfactory residential conditions to the estates' inhabitants.

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DEDICATION

This work is dedicated to my parents, wife, daughter and son.

CHAPTER ONE

INTRODUCTIONProblem Statement

Measured by any yardstick the world-wide housing is inadequate. There are few countries in the world where housing is not a major problem. In the industrialized countries, there is given legacy from the past obsolescence which is ubiquitous and continually growing. In the developing countries, about a third of the population is homeless and 30 to 50 percent of the urban population live in unhealthy slums or squatter settlements. The bulk of present and future demand for housing, experts generally agree, will be in cities, (Urban Edge, 1988:1). The situation is aggravated by the fact that the authorities in developing countries are unprepared for large-scale urbanization and the rural housing is largely disregarded. Overall, the rapid increase in population far outstrips the rate of production of new dwellings to an alarming degree. Wars, famine, floods and other disasters further widen the gap between the need and the fulfilment.

The causes of housing problems mainly in the urban areas in Kenya may be many but the major one is rapid population influx into these centres, which has put a burden upon the housing agencies whose capacity is insufficient to provide an adequate supply of housing. In 1983, the population of Kenya was estimated at 18.8 million people and the 1979 population census gave a natural rate

of increase of 3.8 percent, (Kenya, 1983:143). The overall population growth rate for Kenya as forecast by the World Development Report 1982, for the period 1980 - 2000 is at 4.1 percent. This is being the second highest projected such growth rate in the world after that of Zimbabwe at 4.3 percent, (Kenya, 1983:6). It is reckoned that this high population growth rate was a consequence of an increasing fertility rate and as a result of declining mortality.

Assuming a constant birth rate and a declining mortality rate, the national population has led to increased pressure on land and other natural resources. Further the dependency ratio also has increased tremendously. The resultant effect is an increased labour force which complicates the problem of unemployment; an addition to the fact that the increased population requires more resources so as to be able to meet their basic needs such as food, clothing, education, health care, water supply and housing. The rural areas can no longer sustain this surge of population and with the frittered growing number of mouths to feed, cities and towns have become the most obvious prospects for distributing the human surplus, (Abrams, 1964:1); hence the rural-urban drift. For example, there were about 2.3 million people living in 91 urban centres throughout Kenya in 1979 and the urban population was estimated to be growing at a rate of 7.6 percent during the 1969/79 period, amounting to 2.8 million people in 1983, (Kenya, 1983:145). The situation is best described by Table 1.1.

Table 1.1: Population Projections, 1971-2000

Year	Population of Kenya		Rural		Urban	
	'000'	%	'000'	%	'000'	%
1971	11671	100.00	10371	88.86	1300	11.14
1985	18973	100.00	15623	82.34	3350	17.66
2000	31209	100.00	23209	74.36	8000	25.64
Increase:						
1971 - 1985	7302	100.00	5252	71.93	2050	28.07
1985 - 2000	12236	100.00	7586	63.00	4650	38.00
Total	19538	100.00	12838	65.71	6700	34.29

Source: Ominde, 1975: Table 6

The projections suggest that the urban share of the population will have increased from 10 percent in 1969 to approximately 25 percent by the year 2000.

The 1979 population estimates showed the urban population at 2 million people, 12 percent of the total national population which was 16 million people then. Projections indicate that, if the urban population grew at a rate of 6.2 percent, it would reach 7.1 million people if the growth rate was 72 percent (Ghana, 1984:17).

However, most of the urban population is concentrated in three major centres namely: Nairobi, Mombasa and Kisumu municipalities. The remainder is spread over several smaller urban centres such as Nakuru, Thika, Eldoret, Naivasha, Nyeri and other provincial and district centres. Kingoriah (1980:35) notes that Nairobi which is the capital city alone accounts for 45 percent of the total urban population. It is located about mid-way between the three population 'core' areas which are joined together by the railway and road highways backbone that extend from the coast to Lake Victoria. Due to this excellent transport network, Nairobi has grown as a major service centre for both upcountry highland agricultural areas and as a national headquarters of Kenya. Also because of the city's historical background and development, Nairobi has grown in importance as a commercial and industrial centre for East Africa. Naturally, therefore, Nairobi has a magnetic attraction for rural migrants. Lee (1986:6) estimated that the Nairobi population may total 2.9 million people in the year 2000.

Assuming that the high population growth rate together with the rate of urbanization, give an indication of the need for housing, it is clear that the nation is faced with a rapidly worsening situation in which the gap between housing need/demand and supply is ever increasing. A Shelter Afrique² report indicates that in order to cope with the present backlog of housing, some 120,000 to 200,000 families in Nairobi alone need to be provided with decent houses. Similar figures are likely in Mombasa and Kisumu.

The second cause of housing problems in Kenya is that, unlike in the industrialized countries, Kenya is less prepared for urbanisation. This is because the demand on more limited resources for industrial development, education, health and other infrastructure expenditure limits more sharply the proportion of resources to be allocated to housing, despite its significance to human life. This could be as a result of underdeveloped and unverified policies which could result to the inferior role attributed to housing in the economic development in the country by the policy makers. It has been contended that housing has a low input/output ratio to capital. Although not verified in Kenya, it has been shown in the United States of America that it takes US \$7.00 of investment to produce US \$1.00 increase in value of additional housing services per year, while only US \$1.80 of added investment would be required in other plant to yield US \$1.00 increase in the value of steel per year (Abrams, 1964:107). This low priority in housing investment to a large extent accounts for

poor housing conditions in many developing countries in Africa, Asia and Latin America, (Syagga and Miles, 1987:107). It has also led to housing policies which are never clearly defined and may be full of contradictions, or are of a very general nature almost to the point where they say nothing, nothing at least with which even extremes of political observations could disagree.

For instance:

Our policy is to strive towards a situation where a decent house is common privilege for all our citizens, whether privately built or state-sponsored, which provides at least the basic standards of health, privacy and security. (Jorgensen, 1978:1).

or

Well planned housing of a reasonable standard when combined with essential services affords dignity, a sense of security and proper status in society for the individual. (Kenya, 1983:64).

Such policies are not enough for they do not have clear guidelines as to the roles of both public and private sectors, they may be discriminatory when they concentrate in the urban areas at the expense of rural areas, or when they concentrate on one income group at the expense of others. In some instances the policy is not clear about the housing standards to be achieved, the choice of materials and the type of design.

The third cause of inadequate provision of housing in the urban centres of Kenya is the notion that housing should always be of a high quality and durable if it is not to degenerate into a slum. (Syagga (1979:5) argues that this originates from inherited standards from Britain on layout, and zoning and housing

construction which were aimed at maintaining a city in a splendid state without reference to economic realities of the inhabitants. The housing standards which are either inherited from colonial past or imported recently at the insistence of international funding agencies are indifferent to local culture. They lack reference to local resource situation and local economy.¹ The housing and building standards are extremely rigid and static in addition to having an urban bias.

Almost all developing countries import some amount of essential materials and products ranging from as low as 5 percent to 10 percent for such countries as Greece and Mexico, through about 60 percent for Kenya and the Ivory Coast, to even beyond 60 percent for Yemen Arab Republic , (Moarenzadeh, 1982:iv).

The Economic Commission for Africa (1983:2) indicated that in some African countries, over 90 percent of the value of building materials used in the formal construction sector is accounted for by imports. In monetary terms, United Nations Industrial Development Organisation (1985:7) contends that, developing countries' net imports of building materials amounted to US \$3.3 billion in 1970; to US \$18.2 billion in 1975; to US \$29.6 billion in 1980 and to about US \$35 billion in 1982, (1985:7). More specifically the UN Commission for Africa estimated that more than 2.5 billion in foreign currency is spent annually by African countries to import building materials, (Economic Commission for Africa, 1978:10).

In all these cases building materials represented a considerable drain on scarce foreign exchange in the developing world at precisely the time when developing countries could least afford it. All this means more money would have to be spent to produce fewer units.

The fourth cause of housing problems in Kenya involves the issue of housing finance. According to Jorgensen (1977:48), housing finance as opposed to other kinds of finance is characterised by a number of traits which set it apart in the process of development. Whereas durable goods from production to final consumption are normally financed by the private sector, this is not so with housing. Here the infrastructural works are normally financed and executed by the public sector. The superstructure on the other hand, and in contrast to other goods such as schools and hospitals, are for great majority of cases, privately financed. The final product - the dwelling - is thus an uncomfortable mixture of common objectives of policy and contradictory means of resource allocation. He gives some of the traits as the following:-

- (a) The period of loan is long-term, usually more than 10 years;
- (b) The loan is secured by movable tangible assets;¹
- (c) Securing loan requires a proper registered title deed;
- (d) Repayment of the loan is normally on an amenity basis involving equal period payments covering interest and capital;
- (e) The loan arrangement selection covers the price or value of the asset to be built or purchased;

(f) The sum borrowed is large, that is, it is several times the annual income of the borrower and usually many times the annual cash yield of the asset.

These traits plus many others limits the amount of housing finance available both to the lender and the borrower, the end result being a decrease or inadequate shelter provision.

Jorgensen (1977:71) further reckons that the financial institutions which are not specifically limited to one kind of financing will naturally allocate their resources on the basis of calculations of alternative or complementary investments which take account of three main factors. The rate of return, the risk and the liquidity.

The weight of these factors will depend on prospects, source of funds and the need for a balanced portfolio. The relative share of resources allocated to housing will thus depend on how these institutions judge and can adjust to the special features of housing investments. Again some of these institutions are not equally good at all kinds of investments and quite naturally do best in those areas where they are specialised, rarely so in housing.

The above constraints point to the fact that for some time to come, meeting housing needs in Kenya will remain a goal that cannot be easily achieved and hence the necessity to maintain and modernise the existing housing stock so that they can last much longer for the future generations. To achieve this, there needs to

be established housing management concepts and techniques that would not only retain the utility of the house, but also to promote community development, social improvement and sound financial arrangements for repayment of development costs as well as maintenance of the estates.

Lack of proper care for the housing stock may contribute to bad health of the occupants. This would be contrary to public health requirements and would not only lead to unnecessary complaints and absence from work by the occupants, but also a rapid obsolescence of the building structure and its environment. A major roof leak may eventually lead to the whole of the roof timber rotting while a crack on the wall may lead to dampness spreading in the building fabric. This attitude of neglect arising from the occupants lack of appreciation of the seriousness of very minor defects in modern building could be improved more through good property management techniques. The housing occupant would be made to learn and appreciate the need for property maintenance through demonstration and manuals provided by the housing staff. This education process would of course, only succeed if there were enough trained personnel employed in housing management departments of institutions owning the estates. The personnel should be aware that the management of modern estates nowadays is less concerned with individual difficulties, although these will always play an important part in management, than in gradual encouragement of tenants to average their own affairs within the broad limits levied

down by the authorities and to realise that as rate payers they are in one sense the owners of the houses.

The absence of estate departments in certain institutions compounds the problem of estate management. This means that the importance of estate management has not been fully recognised in these institutions. The practice in the institutions have been to allocate the estate management duties as secondary duties to officers in administration of personnel who are not necessarily trained in estate management. There is therefore lack of appreciation of the importance of various estate management functions in the presentation of the housing stock. Their main concern is on reported maintenance problems and rent collection. Where credit transfer method of rent collection is adopted, this leaves maintenance as the only estate management function performed by the officers.

Other equally important if not more important, estate management functions are thus ignored. In such cases the layout and design of the estates is carried out without the valuable contributions of an estate manager. The lack of a clear, elaborate and publicly acceptable letting policy is the rule rather than the exception. Pre-occupancy education, tenancy agreements and provision of security in the estates are treated as luxuries, tenant transfers and exchanges are not allowed; tenant welfare and provision of community facilities plus their upkeep is neglected; building and inspection is never undertaken; no clear criteria is

used in selecting work execution methods, while piling up of garbage in these estates is a phenomenon.

However, there are institutions with established estate departments but which lack adequate trained personnel. In such situations, clerical officers for instance, are charged with estate management duties they do not know how best to perform. As a result the functions that ensure tenants comfort and the preservation of the housing stock are poorly performed or not performed at all for they are not known.

Undefined roles and internal coordination within the various institutional departments is common. This is more so in the case of housing management where duties in certain institutions are shared by three or more departments. In this confusion, poor performance becomes the rule rather than the exception. There is also the practice by the various institution officers to treat institutional affairs as personal matters, hence the failure to display corporate approach to their business. This is compounded by the lack of definition of the scope of work involved in certain housing management responsibilities and the absence of performance criteria that would enable various members of staff to set their standard.

In spite of changed conditions and improvements in the general standard of housing with time, the need for good management is as important as ever. Indeed the benefits derived from the building of houses with better standards of accommodation, amenities and equipment may well be lost if care is not taken to secure the best

possible standards of management and maintenance throughout the life of the house. Both landlord and tenant have their part to play and good management is a private person or a public authority.

The importance of the housing inventory, the inadequacy of current efforts to increase it and the need, therefore, for good management organization and practice, all form part of the same problem. (United Nations, 1969: vii). The publication further notes that building of housing alone does not bring about desired change and therefore, does not greatly improve living conditions of the inhabitants, unless effective management concepts and procedures which create a better living environment, are established. These concepts should promote community development, social improvement, proper maintenance and upkeep of the estates and sound financial arrangements for repaying loans and collecting carrying charges. These elements in fact constitute the core of good management practice.

Poor management of housing estates would among other things, lead to loss in housing stock through rapid decay and deterioration of the structure and its surroundings. Such a state of affairs would not only worsen the housing shortage but it also involves the loss of capital and social benefits.

There is, therefore, a need to undertake a study that should suggest in what manner the nation stock of housing provided by the public, semi-public, and private sectors should be managed not only to maintain their utility but also to preserve them as homes for future generations. This is such a study which seeks to examine

the management practices currently in use in a public institution (Ministry of Public Works), semi-public institution (Kenya Pipeline Company) and in a private institution (Kenya Breweries Limited).

The Study

The primary objective of this study is to carry out a case study assessment of the housing estate management practices undertaken by three institutions. The Ministry of Public Works, Kenya Pipeline Company and the Kenya Breweries Limited. It examines the existing housing estate practices in the institutions and identifies areas of weakness in the management. The study emphasizes the role of an estate manager right from project conception through the involvement of tenant in management to after occupancy stage.

Appreciation of the facts mentioned and the careful application of the principles and practices of estate management presented in this thesis would raise the level of performance by the estate manager. The study is not aimed at a specific group concerned with estate managers but at all those concerned with estate management. The cardinal conviction of this thesis is that the management cost can be greatly reduced through tenant participation and individual productivity level will be increased if one is well housed.

The area chosen for this study is Nairobi. This is due to the fact that Nairobi not only has the highest urban population in

Kenya but it is also the capital city, housing most of the big institutions headquarters which in turn employ more people in Nairobi than in other towns. Those institutions which house their employees as a policy have their highest housing concentration in Nairobi. Though preliminary survey indicates that Nairobi has the biggest number of houses as compared with other towns, it has the biggest share of housing problems in Kenya. Convenience to the researcher was also an influencing factor in choosing the study area.

The Ministry of Public Works is the government organ in charge of central government building hence was chosen to represent the public sector while Kenya Pipeline Company was the least bureaucratic in the semi-public sector which was vital given the research time available. The Kenya Breweries Limited is one of the oldest and biggest private companies with a policy of housing their employees in Kenya. The three institutions have housing estates in other urban towns of Kenya.

The Objectives

The study attempts:

- (a) To examine the existing housing estate management practices and identify the problems confronting the estate management operations of the institutions.
- (b) Suggest possible alternative arrangements for use in the institutions to overcome problems identified.

The Hypothesis

This study hypothesizes that:

THE MANAGEMENT OF HOUSING ESTATES IS NOT ACCORDED THE ATTENTION IT DESERVES IN THE INSTITUTIONS.

Research Methodology

The study was started in August 1989 with a review of literature related to estate management in order to have a clear understanding of what the practice entails. A look at the related works on the assessment of estate management was then done. The sources of this information was the University library, magazines and journals, and both published and unpublished materials. In the field, information was collected through administration of structural questionnaires to the officials and the tenants. Physical survey of the residential environment was conducted. Further information was obtained from across-the-table discussions by the researcher with senior officials of the institutions. The areas chosen for the study were three (3), that is, Kenya Breweries Ltd., representing the private institutions, Kenya Pipeline Ltd., representing the semi-public institutions and lastly the Ministry of Public Works representing the public institutions. These estates are all situated in Nairobi.

However, due to the large number of residential estates belonging to the institutions and the short period within which the

study was to be completed, it was not possible to visit all the occupants. The major estates from each institution were therefore selected, but making sure that employees from all income levels were included. Employees in the same income category are housed in the same estates. In order to make sure that the information obtained was a good representative of the actual situation, the researcher serialised the housing units in the selected estates.

The systematic method of sampling was used to arrive at an envisaged sample size of 50 dwelling units for each institution. A larger sample size will be required for a population with high dispersion than for a population that exhibits little variability. Though larger samples are more reliable, the costs of collecting the sample data increases with the increase in sample size. The sample size chosen tried to balance between the chances of making errors, the costs of those errors, and the costs of sampling. It should however be noted that it is quite difficult to place a monetary value on the results from the sample size chosen.

Data was analyzed with the use of a Statistical Package for Social Sciences (SPSS). To enable its easy use and for the purpose of data reduction, nine domains were identified to contribute the core of attitudinal and satisfaction variables on residential environment in this study. All the variables which have the same underlying patterns were grouped in the same index. The analysis of variance and the "F" distribution were used to compare the closeness of the means for the three institutions. The findings are represented in tabular and descriptive forms. The thesis is

organised in four chapters. Chapter one contains the limitations of the study, the objectives, hypothesis and the research methodology. The estate management practices in general are discussed in chapter two while the research findings for the three case studies are presented in chapter three. Finally, chapter four gives the conclusions and recommends solutions to problems identified in the study.

FOOTNOTES

1. Nairobi served as the resting place from Mombasa to Kisumu being the mid-way point, during the construction of the Kenya-Uganda railway line in the late 18th century and early 19th century. It is from this background that Nairobi City has developed.
2. Shelter-Afrique is the company for Habitat and Housing in Africa. It has its headquarters in Nairobi, Kenya. The document under reference is yet to be published.
3. Substantial rather than imaginary evidence in the form of real property.

CHAPTER TWO

ESTATE MANAGEMENT PRACTICESIntroduction

Property management is a cumbersome undertaking and unless the investment is a small one, most investors have to engage the services of managing agents or employ a property manager. In Kenya today, where housing investment is one of the major investments undertaken, this has become the tradition rather than the exception, unlike in the past when the services of housing managers or managing agents was not appreciated. Property owners have in time realised that there is much more to estate management than just collection of rent.

This chapter reviews literature available on the various estate management functions such as layout and design, letting, pre-occupancy education and tenancy agreement, transfer and exchange, tenants welfare, rent collection, rent arrears, maintenance and repairs, security, work extension, labour force and refuse disposal. At the onset are definitions of estate management.

Thorncroft (1965: 3) defines estate management as:

"... the direction and supervision of an interest in landed property with an aim of securing the optimum return; this need not always be financial but may be in terms of social benefit, status, prestige, political power or some other goal or group of goals".

On the other hand, Macey (1982:3) defines good management as:

"... the application of skill in coming for the property, its surroundings and amenities, and in developing a sound relationship between tenants themselves in order that the estate as well as the individual houses may give the fullest value to both the landlord and the tenant. From the landlord's point of view it is desirable that the properties should be as efficiently and economically maintained and managed as possible while from the tenant's point of view, the house should provide a home, the focal point for a full and happy life for the family set in surroundings where there are opportunities for attaining the wider goal of a full and happy community life".

Whereas the definition of Estate Management is important, the crucial point that should be noted is that the principles of estate management cannot be presented as a simple set of rules, partly because there has been inadequate research and methodological analysis of experience to formulate more than elementary generalizations and partly because an attempt at such a statement would of necessity oversimplify the complex problems inherent in estate management. Nevertheless, such principles exist, of which are obvious and not exclusive to estate management while others are not readily apparent and only emerge from careful programmes of observation and study.

This view is supported by Thorncroft (1965:4), who states that the practice of estate management can never be reduced to a mechanical process of applying the correct principles. Judgement, practical experience, and specialist knowledge are also required; but these are more effective if they operate within a framework of reliable criteria. Indeed, the main advantage in understanding the principles of estate management is that they can to some extent,

fill gaps in experience and provide the basis for tackling new and untried problems. However, the criteria is only qualified by the term reliable and not specifically defined. This chapter attempts to review the literature available on the various estate management functions carried out in Kenya and other countries.

The Management Functions

Layout and Design

The role of management starts when the development is conceived, that is in the design stage. There are a variety of responsibilities which must be undertaken prior to occupancy.

The town planner and the architect provide the setting under which the housing manager carries out his work. Their work will affect the manager's in many ways and the more enlightened the planning and the sounder the building the easier and more successful will be the work of the housing manager. This calls for consultations between the architect and the housing manager in the design of estate and houses for any client.

Macey (1982:121) maintains that the officer responsible for the maintenance and management of the estates can provide valuable information on tenants' reaction to various aspects of the design and equipment of dwelling and on maintenance difficulties or unnecessary costs likely to rise from various sources. The housing staff of all grades are a valuable source of information both on technical and sociological aspects of housing. When architectural

design in housing projects is unimaginative and non-utilitarian, the management must share the blame. However, this can only be so if the housing managers were involved in the layout and design.

The questions of actual provision of houses and flats together with their ancillary buildings (shops, schools, communal buildings and related open spaces), must be based on an assessment of the number of new dwellings needed. The housing manager should be in a position to make a valuable contribution on both these points. His experience of the need and preference of applicants and tenants is a useful guide to the architect on innumerable points concerning size and shape of rooms, types of equipment needed, provision of communal facilities and favourable materials from the maintenance point of view. In other words, the manager is a channel through which experience of existing estates is passed to the planner and the architect alike (Rowles, 1959:52). However, the managers in Kenya are not consulted nor are they prepared with such information.

The United Nations publication (1969:2) noted that the manager being a user and supervisor of buildings is expected to comment on such matters as where to store janitorial equipment; where to locate the sources of water for cleaning or lawn sprinkling; the location of maintenance shop and what it should contain; how to dispose off rubbish or garbage; how to incorporate safety and security features into the structure; what house layout the occupant finds undesirable and why; what noises that are disturbing the tenants and how they can be reduced, what layout of utility

lines will be easiest to service; what mechanical equipment has given the best service; and whether to use one electric and water meter or independent metre for each house. This management experience is important to good design since design extensively affects operations and the management should therefore maintain a file of design experiences. The manager's own views and those of his staff as well as those of tenants should be part of this file. In Kenya this is held in theory rather than practice since the managers are ignored by the design team or are inadequate to appreciate the importance of such information.

Rowles (1959:51) contends that at all times the manager should think in terms of long-range appearance, utility and durability, and the cost of materials and their maintenance plus the methods of construction. These thoughts should be transmitted to the architectural team. Many of the manager's responsibilities relate to estates planned and developed before he had anything to do with them, but since building is a continuous process the managers are also concerned with future development and new buildings. The design team should therefore solicit for the manager's experiences if they are to produce better drawings.

The UN (1969) further maintains that the housing manager should also contribute in the field of finance. That is adequate, proper financial planning is critical to success. Management affects each of the elements of cost by recommendations and actions based on the concepts of economy and efficiency. The manager should advice on the reasonable maximum income which can be

obtained, the minimum necessary expenditure and rent schedule which will accommodate the needs of the population segment to be housed. This publication goes further to indicate that the manager should be cognisant of the fact that there are various techniques for reducing the ultimate cost to the lessee or co-operator. These include acquiring land at minimum cost by using government-owned land, financing or low interest rates over long repayment periods, limiting or eliminating profile during the construction stage and in the operating stage, reducing taxes by abatement or exemption among others. Though the clients prefer to consult a financier for the above, the manager may be in a better position to propose but only if he has a clear understanding of the review project evaluation techniques.

Letting

Housing is for the people, of course, but for which people? When answering this question one must look into the issue of selection of tenants.

Syagga (1976:24) noted that the seriousness of housing shortage in Kenya makes the question of allocation of the few available houses to be more of a social rather than a technical problem. In public housing, assuming that all applicants can afford rent for a given house, the selection policy should stress priority for those in greatest need generally based on the findings of social research carried out. The author further points out that the important aspects to determine the level of need should include

lack of separate housing, overcrowding, condition of dwelling, place of work, ill-health, lack of separate facilities among others.

The landlord must not only ensure that a fair and wise selection is made from among the applicants whom they have a duty to house but must also see that their policy is understood by the applicants concerned. The basic principles governing the selection of tenants by any particular landlord can usually be simply stated: thus a local authority houses those in need, a government department may house their employees working in a particular area, a housing association may provide dwellings for employees of a private firm (Rowles, 1959:65).

However, such principles will generally be sufficient to determine the persons to whom accommodation must be offered, since as noted earlier there is a serious housing shortage in Kenya, and which is bound to continue for some time, of dwellings available for letting whether public or privately owned. Some more detailed policy must therefore be formulated for allocating whatever property is available and while it is the functions of the owners of the property to make these decisions, the housing manager's experience should be relied upon.

Thus, Rowles (1959:65) indicates that for those housing authorities or landlords who maintain waiting lists of those persons wishing to obtain houses or flats, the policy governing the selection of the tenants may follow two stages, that is, basis of acceptance on the waiting list and basis of selection from the

waiting list. This is further corroborated by Macey (1982:308) when he states that the tenant selection process involves three stages, that is, restriction on admission to the waiting list, selection of certain groups who will receive priority and finally the selection of certain families within each group. On admission to the waiting list factors such as residential qualification, employment qualification, financial circumstances and nature of employment are considered. The alternative would be to register all who seek accommodation on the waiting but this involves additional work of administration while raising hopes for the applicants, unjustifiably, which might stop them from looking for alternative accommodation.

Both Macey (1982:309) and Rowles (1959:67) agree that the main basis of selection from the waiting list is the applicant's level of need for accommodation. The various categories of need in which an applicant may find oneself as mentioned above are: lack of separate home, overcrowding, lack of basic facilities, involuntary separation of family, condition of dwelling, ill-health, unsuitability of location in relation to the particular family's special needs, homelessness and other factors. Some of these factors are briefly explained below.

Lack of a separate home may involve 'living in' with members of the main family and sharing meals with them or alternatively, it may only mean sharing a kitchen while some attempts is made to live separately. Again here the assumption is that rent can be afforded by the family being housed on top of the factors mentioned above.

Overcrowding or bedroom deficiency is the inadequacy of the accommodation they occupy in relation to their reasonable needs. This inadequacy may relate to the number or size of the rooms or both. This situation arises where families have grown larger than since they first occupied their present premises.

In Kenya today, the ideal occupancy rate is given as five persons for two rooms, although this does not say anything about the sexes of the persons (Kenya, 1975:466). The United States of America and the United Kingdom have a more elaborate criteria. No more than one person should occupy a room less than seventy five (75) square feet in area and no more than two persons should occupy a room measuring a hundred and ten (110) square feet in area. Under this criteria, a child under one year old does not count, but one between one and ten years is counted as half a person. Concerning sexes a married couple can share a room or two adults of the same sex but a bedroom must be provided for each child of opposite sex above ten years (Macey, 1982:315). While in an African community this age would be regarded as too early for the separation of sexes, it becomes extremely difficult to realise a situation whereby parents with a two-roomed house stay with a daughter and son both aged over sixteen.

In Britain, besides having the requisite bedroom space, a family is considered to have adequate accommodation if there is an extra bedroom for a visiting aunt and a living room for whole family (Syagga, 1976:25). He further notes that this is not an unrealistic requirement, costs permitting, for an African working

in town who for ten months out of every twelve months in a year has to accommodate one or more of his relatives.

It is possible for a family to have a separate home and enough rooms and yet be unsatisfactorily utilized because a family may have a separate home and adequate rooms and yet be unsatisfied in their utilization due to lack of facilities. They may for instance have to share the water supply and water closet with one or more families and they may not have the use of a bathroom. Such families may be better off than those lacking a separate home because they share these facilities by right inherent in their tenancy but considerable difficulty and inconvenience may still arise. The general nature of the property must thus be taken into account.

It is important to consider health in relation to existing conditions and to establish the altered housing conditions will aid recovery or lessen further deterioration before preference is awarded on these grounds. If an applicant is vacating a previously occupied house because of its poor condition and has been declared structurally unfit, this should earn him more points.

Homelessness can be defined as 'having no roof over one's head'. Though it is difficult to deal with this factor satisfactorily, it has an overriding housing need and one should be provided with shelter at once. Thus a predetermined number of houses should be set aside for housing homeless families.

In cases of service tenants, the greatest need would be deemed to rise when a factory worker who has no car is expected to be

working on shifts and at odd hours. Thus where houses are provided near the place of work, he should get priority. Other factors that can be given examples are, when a service tenancy may have to be given up on grounds of ill-health or furnished rooms vacated if a property changes hands, or a husband and wife separates with little hope of re-uniting unless other accommodation can be provided but with a real hope of doing so if their housing conditions improve.

However, if housing need was the only consideration to be taken into account in selecting tenants, a family who would suddenly find themselves in great need would immediately take precedence over others regardless of how that need has risen. Furthermore, many families might deliberately make their own conditions worse, if by so doing they could be housed more quickly. It is therefore, agreed that certain factors other than need must be taken into account when tenants are selected.

Circumstances leading to applicants present position should be thoroughly investigated with a penalty for negative behaviour and reward for positive behaviour. Some account should also be taken of the time during which a family have lived under their existing conditions and finally the length of time the family has remained in the waiting list (Rowles, 1959:71).

Macey (1982:314) has also noted that sometimes an applicant will refuse accommodation giving various reasons for example, the rent is too high; the locality is not up to amenity desired; inability to move at the time the house is offered owing to reasons such as illness in the household or that the estate is disliked for

reasons affecting social standing. The local authority should therefore have a policy as to how many offers may be made to each applicant or generally establish certain guiding principles on such cases. Lack of such principles can result in serious unfairness from the housing manager.

After all the factors to be taken into account in selecting (from the waiting list) those applicants to be offered tenancies have been decided upon, the next step involves their measurement. That is done by means of points scheme which involves the awarding to an applicant for each of the factors entitling him to preference. The total points determines the actual priority to which the applicant is entitled. The highest total number of points indicates the highest need. Each firm adopts its own mode of awarding scheme though these have created loopholes and lack of transparency.

Apart from the points system, other methods of houses allocation include tendering systems, date-order system, merit system, balloting and combined scheme. These methods are briefly discussed below.

Tendering system is mainly used in the allocation of commercial buildings but can also be used where maximum rentals are sought and where there is great demand. But when applied alone the method is not without some shortcomings in that prospective tenants may quote very high bids which they cannot sustain for long. To counteract this, the method can be supplemented with the

point system. Financial standing of the application should be established.

Date-order system involves house allocation strictly according to the date order in which applications were received. The system is simple, easily understood, easy to administer and reduces clerical work and time. However, the system is not useful where there is no backlog of housing need. Variation of this scheme is one where the an applicant with greater need is accorded a fair degree of priority with the date order arrangement. Priority may be based on factors like a tenant evicted elsewhere for reasons beyond a person's control, such as severe illness, ill-health or a social need; overcrowding criteria or sharing present accommodation or where greater need compared with other applicants is evident.² Again level of need can be determined by the application of the point system.

The merit scheme refers to a system which attempts to treat each applicant on his/her merit or the application's own merit. It involves subjective judgement of merit. In a large local authority, however, such a scheme would appear unsuitable. This is because the scheme has the fundamental drawback in that the procedures cannot be published and that consistency and impartiality are difficult to achieve and virtually impossible to demonstrate.³

Balloting involves the method whereby applications from prospective tenants are randomly selected. The method gives a fair

chance to all applicants and can be used when the list of those qualified is legend, it can also be combined with the point system.

Rowles (1959:75), however indicates that the point system can be varied by making a broad classification of the applications according to the basis of housing need previously determined, in general terms by the selecting committee. In this way applications might be divided into four or five groups and from the highest group a list of applications is compiled which considerably exceeds the number of properties to be let. The selecting committee is given full details of the individual applicants on the list. It is customary to submit to the selecting committee a written report setting out the basic facts about a family's application, the degree of overcrowding, nature of ill-health and so on, with points awarded, (where such a scheme is in operation). A verbal report at the meeting will supplement these facts. The selecting committee should not be given identify of persons whose applications are before them so as to increase the degree of impartiality.

Finally we have the combined schemes. Some authorities use a combination of schemes, for instance, the merit scheme could be used for pointing cases such as severe illness or homelessness; point system could be used in ordinary applicants while the date order scheme could be used for the applications of single people. Under this scheme the authority deals with cases of exceptional hardships outside their normal schemes.

United Nations (1969:9) is of the view that where a housing scheme is beginning it is of paramount importance that the model

adopted go beyond public criticism. Families should be selected whose behaviour will be an inspiration to others and will lead to an acceptance of the programme. Public relations are sought for both the present occupants and the general public. Selection criteria should be published and applicants treated equally and fairly. Legal and administrative income limits should be defined and applications processed rapidly and accurately. Those in greatest need should be accommodated first. Whereas the above is possible, in Kenya estate managers have an enormous responsibility due to the high levels of corruption and political patronage to a great extent adherence to the laid down house allocation procedure depend on trust on the part of the manager.

Pre-occupancy Education and Tenancy Agreement

United Nations (1969:13) states that before signing the tenancy agreement, pre-occupancy is necessary. The housing authority established rules and regulations should be discussed honestly. The tenant should be told what is expected of him and what he should expect of the landlord. He should also know his financial obligations, responsibility for maintenance of property and the need to respect the wishes of the other families who will live near them, rules of garbage disposal, wall fastenings, alterations to premises and where no animals should be kept. The prospective tenants should leave the discussion place with written information describing the exact nature of the estate. The selected tenants are required to sign a tenancy agreement

consenting to all the conditions which should be explained to them by the housing staff. When moving guidance on proper use of appliances and fittings and maintenance of certain materials for example, woodblocks, floor tiles should be given. In cases of new development, pre-occupancy education is necessary where those involved in the management and community leaders should speak, neighbours can meet and the manager and the future tenant become acquainted. A system for identifying and involving leadership in projects to benefit the projects' welfare should also be worked out before initial occupancy takes place.

The conditions of tenancy agreement and the general advice are more frequently given as separate document or in a tenants' handbook. Some local authorities send the tenants a leaflet quoting the conditions of tenancy before calling one in to hand over the keys. Macey (1982:353), says that this idea helps the landlord to show, if challenged, that tenant was aware of the conditions before deciding to accept the tenancy. Whatever method is used the conditions should be simple and concisely worded and limited to what is essential in the interests for the tenant, and equally important, other tenants to be equally affected. In Kenya, preoccupancy education is only possible through manuals and handouts, because of the varied periods of occupation, varied levels of conceptualization and varied social economic backgrounds.

Transfer and Exchanges

Macey (1982:319) states that an important part of the housing manager's task is to ensure that the best use of existing accommodation is made and that the tenants adequately accommodated, but not greatly in excess of their needs. An elastic policy with regard to transfers and exchanges is therefore desirable. Transfer has been defined as the moving of an existing tenant to the vacant accommodation in the same ownership. This may be done in the interest of the tenant or the public. On the other hand an exchange is a transaction which does not depend upon the use of any vacant accommodation but merely involves an interchange of tenancies between two or more tenants. Exchanges have a great advantage in that they enable the two parties to make a material improvement in their housing conditions without affecting the prospects of any other tenant or applicant. Macey further notes that subject to the houses being suited as regards size, rent and so on, to the needs and abilities of the parties, no restrictions replaced on exchanges and it is not essential that there should be a detailed examination of motives since there is no loss of accommodation and no effect on the general housing position.

Tenants Welfare

A good house commences with the physical provision of a house. To develop it into a social concept of a house, it requires a few more steps. This concept has to be broadened to incorporate questions of health, family feelings and emotions, type of social

contacts and relations with neighbours and other members of the society. What this means is that at a very early stage in the planning of an estate, there should be a well established environmental philosophy which will affect the physiological and mental well-being of the occupants. The work involved in realising such a concept would well be outside the scope of the strict landlord and tenant relationships to which housing management is normally related. Yet it is an inseparable part of good housing management principles that a housing authority should have within its establishment a number of staff whose work will be purely concerned with the social welfare of the tenant.

Macey (1982:431) states that a sound system of housing management will provide for attention to be given to the welfare of tenants individually and collectively. This welfare work should in no way overlap or attempt to replace the statutory welfare services but the officers responsible should work in close liaison with services and voluntary bodies providing services which may be of interest to tenants. The primary aim should be to establish a sound and friendly relationship between the landlord and the tenant so as to ensure that the value of the house and the estate is preserved and where possible enhanced.

One of the perennial preoccupation of housing managers, particularly on high density estates is the behaviour of children. This is so because the number of families with young children is high so that the disturbance and damage they cause by even normal noise and activity is sometimes considerable. Not every estate has

enough play spaces within a reasonable distance of their homes, and even where playgrounds are provided children prefer to play on the staircases, street corners and on building sites. The situation is aggravated by the number of mothers who go out to work when such children find themselves at a loss. This also happens to children after school and during holidays.

Rowles (1959:115) notes that it is usually possible to secure tenant cooperation in controlling their children if a tactful approach is applied. Other than writing letters, it is generally more effective to see the family concerned with possible consequences of charging the parents concerned. Porters can also be employed for children supervision, checking damage to the communal parts of blocks of flats, restrict unauthorised ball games and to prevent older children from monopolising play spaces intended for younger ones. An alternative is to encourage formation of boys' and girls' clubs and to make sure that adequate varied and attractive recreational facilities are provided.

Macey (1982:440) says that no reorganization of administration, no application of technical skill nor a painless way can guarantee good results in the community efforts to convert the small groups of those who form the hard core of problem families or unsatisfactory tenants into tolerably decent citizens. Such families need intensive and special treatment outside the scope of housing management. Long and patient guidance is necessary. Sometimes the parents respond and maintain the intended

improvement, in other cases they may make no real advances, though even now or in future, show that the effort was worthwhile.

Another function under the welfare of the tenants is the provision of community facilities in a community centre. Community centre exists so that neighbours can come together on an equal footing so as to enjoy social, recreative and educational activities either as members or groups following particular pursuits or in the basis of their common needs and interests as human beings living in the same locality.

According to Syagga (1976:28), a housing estate must contain community spaces open to residents of the estate, as well as the surrounding community. In Kenya, the Ministry of Culture and Social Services, Department of Social Services undertakes various programmes aimed at improving the social conditions of the people by providing them with the basic services and by helping them help themselves. These programmes include adult education, national library services, day care centres and youth development programmes. The National Council of Churches of Kenya (NCCCK) and Kanu Maendeleo ya Wanawake (women development organisation affiliated to Kenya National Union) also undertake programmes aimed at providing similar services.

What a housing authority needs to do is to show sufficient proof to these bodies that there is enough demand and facilities for certain activities to be initiated. The housing authority should not hope to provide such activities on its own. But the organisation of the activities once initiated rest with the housing

authority owning the estate, except where tenants participation is strong. (Syagga, 1976:28).

Macey (1982:472) contends that there is a strong case for the housing authority to provide a tenant's clubrooms. He further says that experience has shown beyond doubt that clubrooms play an important part in the development of a good community spirit, by providing a point of contact for social and semi-educational activities for all age groups from fifteen to one hundred years.

Another important aspect under tenants' welfare is the tenants' association. This may be because there are genuine grievances for the landlord to redress or less often its objects may be purely social. Syagga (1976:29) notes that the tenants association can form a budge of communications between the housing authority and the tenants. Their careful handling will prevent them turning militant or political.

Tenants' associations could also oversee the maintenance of common parts, for instance, stairways, corridors, lifts and surrounding open spaces. The association could also run clubrooms for all tenants during functions such as group discussions, film shows, indoor games, sports, dress making classes, theatre and so on. These are some of the functions that would otherwise have been organised by the welfare association of the housing department.

Rowles (1959:121) indicates that the housing manager may sometimes be well advised to consult tenants association about such matters as in considerate car parking, unsightly washing on balconies or rowdy behaviour of children. Not only can the

association often offer helpful suggestions, but may sometimes be successful in bringing pressure to bear on offenders. A tenant association can make invaluable contributions towards turning an estate into a community.

The measure of success achieved by an association will depend to a great extent on the support it receives. Most tenant associations would probably agree that apathy among their members is a problem coupled with a reluctance to stand for office or service on committee. In Kenya, tenants' committees are only involved in employing watchmen and arranging funerals but should be encouraged to be involved in more functions especially with the employer-provided housing estates.

Rent Collection

Rent may be defined as sum of money due from the tenant to the landlord for the occupation of land or premises owned by the latter. It is payable in accordance with the terms of the lease or agreement under which the tenant holds (Macey, 1982:371). Rowles (1959:93) agrees with Macey and indicates that rent is the sum of money paid by the tenant for the occupation of the landlord's premises or land. If it includes an amount for general rates and water charges, it is normally referred to as an inclusive rent.

Good management practice requires that the anticipated income must be on hand to take care of the management maintenance replacement and utility expenses among others. Supervising a housing development is a large scale business requiring income for

proper operations. It is for this reason that it should be emphasized to the tenants that prompt payment of rent is a prerequisite to living in a good housing environment. This is greatly aided by stressing at the initial interview the importance of prompt rent payment followed by good care and vigilance during occupancy. The tenants should be persuaded to understand that there is a direct link between management and maintenance costs and the amount of rent charged.

The actual method of rent collection varies according to local conditions and the size and nature of the office but the usual methods of collection may be summarized as follows:

- i) Estates office collection
- ii) Door to door collection
- iii) Door to door supplemented by estate office collection
- iv) Collection by post, credit transfer, bank's orders or through banking or National Giro Systems

The estate office provides facilities for rent to be paid and message about repairs and other tenancy matters to be taken into during fixed periods of the month or year. Resident superintendents are employed not only to deal with rent collection and general management work but also to control directly workmen dealing with routine repairs and decorations. It is an advantage if such offices are located near the entrance of the estate or adjoining shopping centre for this provides tenants with a choice of time for rent payment. In any calculation of cost for this

method, account must be taken of calls that will have to be made on tenants who fail to bring in their rent, calls for inspecting repairs and for investigating other tenancy affairs. However, it should be possible for more money to be taken at the same time by this method than by door-to-door collections (Rowles, 1959:96).

Door-to-door collection has an advantage of giving the landlord's representative regular contact with the tenants in the homes and an opportunity for unobtrusive supervision of the property and estates. A comprehensive door-to-door system of collection and management is probably the best combination for economy and efficiency for authorities with a large number of houses closely grouped. The housing assistant will not only gradually come to know and to be known by each family but will also deal with the simple 'welfare' work himself. He will also deal more appropriately with arrears of rent, be helpful in cases of genuine hardship but firm with regular defaulters. This system gives greater stimulation to tenants to cooperate in maintaining the good appearance of the property and are more helpful to the aged and inform who would find it difficult in paying at the office than any of the other systems (Macey, 1982:374). However, for security reasons there is an increasing tendency to modify this system to provide for tenants to pay their rents using other systems.

Thus Rowles (1959:97) indicates that, supplemented by estate office collection, such an arrangement may increase total collecting time because the majority of tenants will stick pay at

home, but tenants who are out all day will have less excuse for arrears and while such a high proportion of women are in full or in part time employment, it is difficult for a landlord to avoid the obligation of providing some alternative to a door-to-door collection. In Kenya, credit transfer method is used in institution-based houses such as government, whereas the combination of door-to-door, bankers order and rent collection by post are adapted by managing agents.

A further alternative given by Macey (1982:96) is a system of rent collection by post, credit transfer, bankers order and National Giro System. In certain types of offices, for instance, where houses are provided by employers in certain factories and industries, rents may be deducted from wages or salaries by the employer, if there is an agreement signed by the employee, for such deductions to be made. However, as long as the tenant has a choice between payment at the door, at the office or by post housing cheques, credit transfer or Giro payments, little, if any, economy in collecting costs are likely. Although time is saved on the collecting of rents, special visits to the houses may have to be arranged if contact with the tenants is to be maintained and estates properly supervised (Macey, 1986:96). In Kenya, credit transfer method is used in institution-based houses such as the government, whereas the combination of door to door, bankers order and rent collection by post are adapted by managing agents.

Rent Arrears

Credit transfer is the rent collection system, in use in the Kenya Pipeline Company, Kenya Breweries Limited and the Ministry of Public Works. The system ensures that the rent is paid on time and cases of arrears are therefore virtually eradicated. However, the method distances the landlord and tenant.

Maintenance and Repairs

"Maintenance. A key work in any endeavour. To obtain anything is important but the maintenance of that thing is crucial... do not just build a house - keep maintaining it to ensure that it is in good shape (Sunday Nation, 5th August, 1990:10)"

Miles and Syagga (1987:6) define maintenance as 'work undertaken in order to keep, restore or improve every facility, within every part of the building, its services and surroundings to a currently acceptable standard and to sustain the utility and value of the facility. The functional role is therefore to retain the usefulness of the property within acceptance standards of a 'reasonable use' and maintenance of its appearance while the financial role of a building maintenance should contain deterioration.

It is in accordance with the definition of good management that a spirit of partnership between management, landlord and the tenant in all things and particularly in the care of the house and its environment should be encouraged. The extent to which the landlord accepts responsibility for repairs varies considerably and should always be set out carefully at the beginning of any tenancy.

Other than the ever increasing cost of repairs with which landlords are faced with, there is a growing awareness that human society depends primarily on personal responsibility rather than public control for the full and proper use of resources. Turner (1976: 39) argues that the management and maintenance of dwellings and their surroundings and therefore their longevity depend primarily on their residents and users. Where this is done, it is essential that cooperation of the tenant should be sought from the beginning and that care should be taken to ensure that the responsibility is adequately charged. To enable the achievement of the above, Syagga and Miles (1987: 16) call for the preparation of a statement of maintenance policy and procedures detailing the respective roles of owners of buildings and the participating public, the funding of each group, the minimum maintenance level and inspection procedures to ensure compliance. It may also be helpful to provide training to tenants through practical demonstrations on a model house, to help those who are motivated but lack the necessary skills.

The need for a repair normally comes to the notice of the management in one of the following ways stated below:-

- i) From the tenant or health inspector.
- ii) From the management officer as a result of routine inspection tour or by observation whilst primarily engaged on other duties.

Where the housing manager has managed to create a sense of responsibility in the tenants for the maintenance of the property

in good condition, the tenant himself will attend promptly to such repairs as are within his capacity or report the defect so that actions can be taken to prevent further deterioration of the property. It should be emphasized here that tenants can be of utmost assistance in the prompt reporting in terms of disrepair with a clear indication when access can be attained to their home by workmen. This is important now than ever before due to mechanization and computer control of rent collection linked with an expansion of credit transfer in various forms, which spells the death knell of door-to-door rent collection. However, this is only possible, if the tenants' responsibilities are clearly defined to make sure that they are understood and finally see that the tenants do not neglect these responsibilities. Persuasion is also necessary to make them understand that it is in their own interest to do so. In this way tenants will play an important part in efficient maintenance.

A point which should always be made clear to tenants at the outset of their tenancies is the extent to which the landlord will hold them responsible for the repair of wilful damage and damage caused by their negligence and for other repairs which the landlord will regard as their responsibility when the extent of the tenant's responsibility for such repairs has been determined, it is then necessary to ensure that the work is adequately carried out.⁴

The casual reports of defects should be supplemented by systematic and regular inspections of all property including the exterior and common parts by a person trained to recognise the

necessity for repairs. All properties should be inspected when they become vacant and a note made of defects that should be remedied before new tenants move into them. (Rowles, 1959: 144) However this is made difficult in Kenya given the acute shortage of housing where prospective tenants are desperate to move in.

Macey (1982: 400) states that by prompt and efficient tackling of such defects, the management will not only effect direct economies but will also make indirect savings from the tenants response in the shape of better care on their part. Where there are difficulties the maximum should be either that repair will be done promptly or the tenant will be given a sensible reason why this is not possible.

Miles and Syagga (1987: 6) indicates that the types of maintenance can be classified in many ways but three of the most useful for management purposes are as follows:-

- i) By the size and nature of the works to be executed. This is based on the amount of maintenance expenditure and the category of maintenance, for example, the maintenance of essential services.
- ii) According to the process of maintenance where we have planned preventive maintenance, planned corrective maintenance and unplanned maintenance.
- iii) According to an Expenditure Budget which itemizes cyclical maintenance and occasional maintenance.

Preventive and curative maintenance work can only be carried out economically when it is the responsibility of the lessor. Such generally concerns the communal installations in the building, the building itself and its main bearing elements. Preventive maintenance includes regular checking of the buildings communal services and mechanical installations. The frequency of checks varies with the needs of the equipment concerned. Parts out of order will be repaired. It is continuous and systematic. Its purpose is to keep the installation in working order. Preventive maintenance covers work outside the scope of preventive maintenance such as repairs to main structural elements and to central installations at fixed intervals, replacement of parts and all jobs required to keep them in working order. It is economical and helps to concentrate building and craft work and guarantees the labour force continuous employment.

A maintenance manual which provides a record document for the building with data on the materials used in its construction together with guidance on recommended maintenance procedures could form the basis of a planned maintenance scheme. Householders should also be supplied with information of a less technical character which is easily understood to enable tenants to obtain maximum results from costly equipment. These maintenance handbooks are particularly desirable when new houses are first occupied and it is also important that the technical content is the subject of close collaboration between the architectural design team and management staff. The preparation of the building manuals is a

very tedious exercise and most of the architects are not prepared to undertake the exercise.

Apart from the apportionment of tenant and landlord liabilities with respect to repairs, the main decisions affecting maintenance as part of management control relate to the standards to be upheld. If these are too high, the expenditures on repairs and improvements will be greater than necessary and so depress the financial return from the estate; if the standards are also too low, on the other hand, obsolescence and a decline in value and usefulness may result (Thorncroft, 1965:186).

The housing manager should therefore always try to use resources available for maintenance in the most economical way so as to maintain the structural safety of buildings and to provide a reasonable return on capital assets while providing an acceptable living or working environment for the occupants. This is only possible if the building had been appraised at the design stage, as stated earlier so as to determine the initial and long term maintenance costs, since maintenance should not be seen as a cinderella activity.

Miles and Syagga (1987: 85) note that a competent manager should be in a position to state where, when and how much should be spent on maintenance through such techniques as cost-in-use, discounted cash flow and cost-benefit analysis. In the private sector the level of maintenance expenditure is determined by the desire to maximise returns on a stream of property services while in the public institutions levels of maintenance may be related to

amenity maximisation rather than profit. However, not every aspect of building deterioration is capable of being improved by maintenance, as other factors can intervene such as obsolescence or neighbourhood deterioration. So the philosophy of pegging the level of maintenance expenditures to rental value may not be appropriate in all circumstances particularly in rent controlled properties, cooperative housing, service tenancies or public institutions that earn no rent.

The planning and control of finance is an important aspect of maintenance management not only for the control of maintenance but also to demonstrate that the owners are getting value for the housing and that the maintenance proposals justify the funds requested. A certain amount each year may be set aside or contributed to a repair fund in respect of each dwelling to which the housing account relates. The contributions may be of a fixed amount of each dwelling or vary between different sizes of dwellings or between properties of different construction times. Alonso (1959: 141) argues that the purposes of a repairs fund is to spread the expenditure on major times which do not occur every year, and also to build up a reserve in the early years of building to provide for the time when heavy expenditure is needed. Provision must be made also for the renewal of fittings which have an estimated life shorter than that of the building itself.

A United Nations report (1969: 63) on housing maintenance and modernisation estimates the annual maintenance expenditure in Czechoslovakia and Poland at about one-third, and about two-fifth

in France, between one-third and two-fifth in Sweden, one-third in Russia and three-quarters in the United States of America, of investments in building of new dwellings.

The same report contains research work on maintenance problems carried out in Yugoslavia which yielded the following average findings:-

- (a) in the course of the utilization life⁵ 82 percent of the house items requires maintenance;
- (b) the value of the items maintained represent 40 percent of the total investment;
- (c) of the total of the values maintained, investment maintenance accounts for 89.8 percent and current investment for 20.2 percent⁶;
- (d) of the total value of an item maintained, a building requires 46.1 percent, a flat 49.1 percent and common areas 4.8 percent;
- (e) of the total value of those items, constructional parts account for 18.8 percent, installations 43.3 percent and connections 1.5 percent.

The durability of a particular item is ascertained on the basis of the established standards and guarantees in respect of the particular type of materials used. In the same country investigations show that:-

- (a) the average durability of all items is 33.7 years;
- (b) due to the differences in durability of the items maintained the average volume of exchange ascertained is 86.9 percent of the value;
- (c) the coefficient of the cost increase for an item on exchange in relation to initial installation is 1.161.

It is on the basis of the factors governing the volume of maintenance costs for the whole of its utilizable life can be calculated using the corresponding determinative measures expressed in the following equations:

- (a) for the particular item of a house

$$TR = \frac{PT \times BZ \times 100}{V}$$

- (b) for the whole house

$$TZ = \frac{PT_i \times BZ_i \times 100}{V} = TR_1 + TR_2 + TR_3 \dots TR_{12}$$

where

TR = maintenance costs in respect of a part or a fitting of a dwelling house for the whole utilizable life of a house

PT = the value of the respective part or fitting of a dwelling house

BZ = the number of exchanges of the respective part or fitting obtained by dividing the

duration period of a house by the
duration period of the item, in question

V = the total value of a dwelling house

TZ = the total maintenance cost

The ascertained maintenance costs for a particular dwelling house represents the sum of maintenance costs for its parts and fittings.

In Kenya the Ministry of Public Works, has recommended that 2 percent of the cost of constructing a house should be set aside for maintenance and repairs. Expressed in terms of rent then no more than 25 percent of rent collectable should be spent on the same. (Syagga, 1979: 30).

Rowles (1959: 47) contends that maintenance and repair of common parts of an estate can cost considerable amount. For example, provision must be made for clearing of courtyards, stair cases, lifts and windows, on the staircases and communal rooms as well as any other public facility provided in the estate. Some of this work may be done by tenants themselves and some by the estate porters. The lighting of common parts is also an important item and the proper maintenance of lighting circuit, for the replacement of burnt out bulbs and the prompt repair of any defects. Grassed areas, suburbs and flowerbeds, hedges and any grass verges should receive regular attention. The maintenance of fences and gates and any private roads are important items of maintenance. Provision

must be made for this expenditure when fixing rents as it is generally better for the landlord to keep these items in order.

However, this is an area where the management can greatly reduce costs by properly organizing and persuading tenants participation. Weekly and fortnightly competitions can greatly encourage the tenants to maintain areas adjoining their dwelling whatever method is adopted by the management for the maintenance of common parts. What is certain is that damage leads quickly to more damage, as litter attracts more, that things such as broken fences and trampled hedges shall be promptly attended to and that unsightly corners shall be cleared before they become established as dumping grounds.

Security

Security planning begins with the perimeter of the estate to be protected. A complete inspection of the extension of the compound should be made to search for potential danger spots. The Institute of Real Estate Management (1981: 151) points out the items warranting special attention as fencing, loading docks, entrance and exits, guard services, windows, fire escapes and roofs, exterior lighting, landscaping and parking lot/garage. Positioning of security with the security office being the command of most of the estates security systems.

The British Standards Institute (1984: 14) argues that maintenance operation are sometimes used as a cover for minimal activities, contractors should be required to provide their

operations with means of identification and appropriate checks should be made. Occupants should be warned of the dangers posed by scaffolding. Security guards at the gate should record all visitors to the estate and make sure all goods getting into and out of the estate are authorized by the housing manager. This not only reduces theft but also controls subletting. Records of security measures should themselves be subjected to security or the effectiveness of the measure will be impaired. Names, home addresses and telephone numbers of key holders, details of master key systems and details of intruder alarms and other security systems should be kept strictly up to date and made proper security. (British Standards Institute, 1986: 15). The estate residents must first and foremost appreciate the importance of various security procedures which in some cases seem time wasting. This in return will encourage the security to be more strict with all visitors.

Work Execution

Macey (1982: 134) gives alternative methods of work execution as those by contract or direct labour. Direct labour organisations are set up with the object of getting work done more cheaply than by contract. However, this might not always be so because of the administrative costs involved in maintaining the direct labour department. A labour force of any size necessitates the provision of workshops, canteens and sanitary facilities for the men and adequate arrangements for safe storage of stock and equipment.

There must be an efficient system of stock keeping and the stock should be checked regularly.

Rowles (1959: 148) on the other hand, contends that in case of public authorities where the direct labour force may not be employed exclusively on housing work, there should be an arrangement as to the priority of housing repairs in relation to work required on the other property owned by the authority. There is considerable advantage with direct labour of being able to switch men from one job to another at short notice in an emergency. However, decentralization of such labour is necessary if the authority's estates are widely scattered to cut down on travelling cost and time.

Rowles (1959: 148) however, indicates that whatever method is employed for carrying out work of repair, supervision is all important. With direct labour force of any size, supervision will probably be the province of a general foreman or building superintendent who should ensure that adequate labour force is available and arrange in cooperation with the housing manager, how best to use it. This, therefore, calls for the employment of a skeleton staff in the estate management departments.

Another aid to maintaining the desired strength of the labour force is to set up a good apprentice training scheme. All building trade teams of sufficient size should carry a number of building trade apprentices. If the work of the force is confined to maintenance, the necessary extra training can probably be arranged with another department that tackles new building work. The

maintenance staff should attend organized courses to enable them to sufficiently learn other trade skills to enable them undertake their own associated work so as to avoid the need for other tradesmen to cut or make good holes or touch up paint work. Refresher courses are necessary so that the maintenance labour force keeps abreast with the technological advancement in the construction industry. Finally all work requires checking and spot checks on any maintenance work should always be carried out so that note is taken of poor and good workmanship. Any poor workmanship should be rectified immediately as this saves the management time and cost on top of reducing unnecessary number of visits to the dwelling house.

The United Nations report (1969: 18) indicates that the size and composition of the labour force required by a housing authority must depend upon the number of houses, their geographical distribution, the standard set by the responsible committees, the division of responsibilities between landlord and tenant, the amount of work placed with the contractors and many other factors. The staff requirements derive from the managements programmes' objectives and are related to size of the development. It must be recognised that in a smaller development one man must have a multiplicity of functions.

Table 2.1 illustrates a comparison between members of staff for a two-thousand housing unit development and a two-hundred housing unit development. The table shows that a housing manager could be engaged for as few units as two hundred. This is done in

recognition of his important contribution. Management assistants are required in the initial occupancy and pre-occupancy stage for tenant selection, functions relating to education, social work and home economics. The superintendent under the supervision of the manager plans what must be done, how and by whom. It is here that the planning and organization of the maintenance work is undertaken. He organizes a system of receiving and handling tenant requests for house maintenance and initiates house inspection even if not requested by the tenant. The superintendent instructs his staff on the handling of emergencies. It is under his office that all the other general hands such as cleaners, gardeners, guards, maintenance men, painters, labourers and others take their instructions. Staff members should know exactly what is expected of them, that is, the job specifications should be accurately described in writing.

Table 2.1: Comparison of staff required for a 2000-unit development and a 200-unit development

2000 unit development		200-unit development	
Employee functions/ title	No. of employees required	Employee function/title	No. of title employees required
Manager	1	Manager	1
Manager Assistants	1		
Management Assistants	4		
Receptionist/Clerk	1		
Book Keeper/ Accountant	1	Management aid/ Book keeper	1
Stenographer	1		
Typist/Clerk	1		
Superintendent	1	Superintendent	1
Assistant	2		
Superintendents			
Stenographer/Typist	1		
Stock room	1		
Head Porters	2		
Porter/Cleaners	20	Porter/Cleaner	3
Labourers (a)	2		
Security guards	5		
Painters	2		
Maintenance men	7	Maintenance men	2
Exterminator	1		
Gardener	1		
Elevator mechanic (b)	1		
Total	60	Total	8

(a) Seasonal as needed; (b) If there are elevators

Source: United Nations, 1969: 19

Building Records

Much of the guidance regarding the need for records, their preparations, use and content is common to both buildings and their engineering services. They should form part of the archives associated with a building and it is important that they should be kept. Good records can save owners and occupiers unnecessary expenses and reduce potential hazards in exploration work when faults arise. By giving information regarding hidden details of construction, they can help to avoid seemingly innocent actions which may adversely affect the performance of the building (British Standards Institute, 1986: 8).

Macey (1982: 468) says that because of the pressure of work and often lack of foresight, insufficient attention is paid to the establishment and maintenance of adequate property records and to the easy accessibility to those members of staff who need to refer to them frequently. The result is that certain operations take longer than they should and sometimes mistakes occur because decisions have been taken on the basis of the out-of-date records or even of faculty recollections.

Macey adds that records can fall into four classes, that is, visual records which includes architect's drawings and photographs. There are both historical and help to settle disputed points. Secondly there are the cartographic records which include maps and plan for purposes of locating details. Thirdly are written or printed records which include technical descriptions of materials, methods of construction or installations used. Finally are the

statistical information which includes the site areas and its costs, development cost financing details, and types of dwellings provided.

Refuse Disposal

Great care should be taken at the planning stage to ensure that hoppers, chutes, refuse chambers, individual dust bins, dustbins in the estate's compound, the garchey or any other collection system in use, are designed to the appropriate standards and are not located so as to cause a nuisance or annoyance to both the people in the estate and those collecting the garbage for disposal.

If there are to be receptacles in the yard or 'dust bins enclosures' their sitting calls for the utmost care. The positions proposed must be studied in relation to the entrances to the blocks and the exits from the yard and the probability that much of the rubbish will be carried and deposited as the carrier is on one's way out of the estate. This ensures that all containers are in use (Macey, 1982: 125).

Another important consideration in the design is the rate at which the local authority empties the bins. If the accumulation rate is higher than the emptying rate then the collection points should be sited further from the houses to avoid bad smells from the accumulated garbage. Alternatively, the management should consider supplementing the local authority effort of emptying the bins.

Fire

A fierce fire swept through fire houses destroying property worth hundreds of thousands shillings and rendered several families homeless ... lack of water hampered the fire-fighting as it had to be fetched from neighbouring houses (Kenya Times, May 17th 1985: 5)

Two children were burnt to death when fire razed at a house at Huruma Estate in Nairobi (Kenya Times, May 18th 1989: 3)

These are day-to-day newspaper headlines in Nairobi and other urban areas where precious life and property is daily destroyed by fire. Despite claims to the contrary no building is fire-proof. The Institute of Real Estate Management (1981: 165) contends that the threat of fire exists in every building and is special concern to people in more than one-storey buildings. Although in reality fire is a rare occurrence, everyone who works or occupies a building must be prepared to act quickly in an emergency. Nzioki (1990: 15) maintains that it is an established fact that many of the fires that results in loss of life or severe injury could have been prevented if people had known how to protect themselves in a fire. Fire control programmes should be reviewed with the tenants and employees regularly so that new comers become familiar with it. At the very least, all inhabitants must know the location and use of fire exits. The manager's chief responsibility in a fire control program is to establish a relationship of full cooperation with the local department.

Permanently installed fire system consists of minimally, a fire house and pump system, carbon dioxide, dry systems and sprinklers while portable supplies include fire extinguishers,

flashlights and lanterns, insulated clothing, hearty tools and any other supplies considered necessary. These can be stored on a cart for immediate use, easy and quick movement. Regular inspection of all fire fighting equipment will ensure that items are ready and functioning at all times.

The British Standards Institute (1982: 12) pins the maintenance works as the origin of a significant number of fires. Methods of work that introduce possible fire hazards, such as the use of bottled gas, should be avoided, otherwise appropriate safety precautions should be taken. In all cases extinguishers of appropriate type should be provided at the point of work. The institution also notes that the records should contain all information relating to fire. More effort should however be laid on the importance of acquiring some knowledge on prevention and fighting of fire. This is a difficult task given the general apathy by tenants on these issues.

Insurance

The property or estate manager must function to some degree as risk manager. He has the responsibility to his client to identify the risks inherent in owning real estate and suggest ways in which they may be reduced to the minimal objectives. Risks can be dealt with through prevention which is not always possible or economical, self-insurance which is usually not feasible or approach which involves transferring the risks of the disastrous events. Hence the managers must be familiar with the type of insurance coverage

available and be able to explain to their clients the amount and kinds of insurance advisable for specific situations.

The institution of Real Estate Management (1981: 260) divides the risk that can be insured against fire into two general categories: Property loss and liability loss. Adequate insurance against property loss is the first requirement. This principally involves insurance against the risk of fire. The institution further argues that although not appropriate for all types of property, specific hazards insurance should be considered whenever these coverage are essential to protecting the investment. This covers flood, earthquake, sprinkler leakage, water damage, glass and boiler and machinery risks. Finally when insuring against property loss the manager should consider the rental property operation coverage. This requires the manager to be familiar with the policies pertaining to fire arts, accounts receivable, valuable papers or rental value insurance.

Under the liability insurance the Institute of the Real Estate Management (1981: 266) note that the very existence of rental estate are the maintenance responsibilities attached to it. Subject to the property owner to the risk of third-party chains. Property damage on liability insurance is also essential. Others include general insurance, theft insurance and fidelity bonds and motor vehicle insurance. However, properties in Kenya are only insured against fire being the only insurance policy they are aware of.

Organisation Structure

Organisation is the process of building a framework to achieve goals (Kithinji, 1987: 57), Koontz (1984: 230) states that the result of organising is an organisation which has been variously defined as "a formalised intentional structure of roles or position". Austen (1984) defines organisation as the division of work among people whose efforts must be coordinated to achieve specific objectives. On the other hand, Walker (1984: 17) defines organization structure as the relationships of the members of the organisation and hence influences their responses to the demands placed on them. It is the mechanism through which management directs, coordinates and controls the business.

The organisational structure, whether of a private or public institution determines the line of authority as the right and power to act usually following down from the top to the lower levels as to achieve desired objectives. In most activities the authority and responsibility are greater at the top and diminish at each successive lower level of management. Estate management may follow the same authority in order to be effective and to achieve the desired goal or group of goals.

There are certain basic principles without which a given structure will have deficiencies in carrying out management. The first one is unity of command principle which requires that no one member in an organisation should report to more than one supervisor on any single function. Secondly there is a chain of command principle which stipulates that there should be clear line of

authority from the highest to the lowest executive. Thirdly there is the control principle. This gives a limit of the number of subordinates that one supervisor should be in control of. Fourth principle is the exceptional principle emphasizing that the routine duties and responsibilities should be handled by lower level managers. Finally there is the decentralized principle which is closely related to delegation. This is the process of pushing decision-making to the lower levels of an organisation. It is important however, to decide what duties and functions should be centralized and what quantity and extent will be in central control. Decentralization is feasible where speed of making decisions is required and subordinate executive have reasonable amount of skills and competence.

Along these principles there is need for good patterns of organisation. If the pattern of organisation is ill-designed, if it is a makeshift arrangement, then the management is rendered difficult and therefore ineffective. If on the other hand, it is logical, clear cut and streamlined to meet the present day requirements then the first requirement of sound management have been achieved.⁷

Brech (1959: 20) says that the principle functions performed by the manager in an organisation are planning and execution both involving utilization of resources to achieve fixed goals or targets. The resources are money, materials and people. Functions of planning and execution are achieved through the following sequence of events: forecasting, planning, organising, commanding,

coordinating and controlling. Brech (1959: 12) contends that these processes are inseparable, related and depend on one another. The central link of all these is coordination. The manager should be trained in planning, organising, motivating, coordinating and controlling the work of the other people. As he cannot do all this alone he has to concern himself more with initiating activity and making final decisions and coordinations.

The Management of Public Estates

Apart from their ownership public estates have little in common. They vary in size, character, management, organization and to a surprising degree in policy objectives. Neither is the extent of public control the same for all of them. However political control is less pronounced in the quasi-public estates where ultimate authority rests upon a coalition of public and private interests.

The first distinction in the management of public estates is between those that are responsible to central organs of the government and those that are controlled by the semi-public bodies. The former have land interests throughout the country and are often obliged to decentralise control through regional and area offices; the latter, on the other hand constitute of a number of autonomous bodies with interests in specific areas mainly urban centres. The second line of division between public estates, which is employed to form manageable estates follows chiefly the areas of function; each public service of quasi-public services, uses the property

assets allocated to it to carry out its function, in the same way as other business enterprises. Though the government owns land in the country it is not uncommon to find very large or too small estate units which do not ensure efficient management. However, for both the public and private sectors the cardinal issue is the functional needs of each unit rather than the management of public estates.

As far as estate management is concerned, the principal features that distinguish the different public estates are the major policy objectives of the functions to which they are committed. They vary between three main objectives:-

- i) the provision of a direct public service;
- ii) the provision of an indirect social service;
- iii) the provision of a commercial return for the public exchequer (Thorncroft, 1959: 350).

This contrasts the private estate whose chief aim is usually maximum profitable return. Those providing the direct public service include all public property in direct use for public purposes such as defence, education or health. Indirect social services include public housing estates with subsidised rents. Commercially managed estates serve the public as a whole by earning an income which goes to meet the cost of public expenditure.

Public and Private Estates

Though it is not the ownership but the management of estates which is significant, it is possible to point out three important

matters where the difference between public and private estate ownership is reflected on the basis of management.

The first is the size of the estate unit. While it is true that there are public and private estates of almost every size public estates have the advantage of being able to expand where there are managerial, economic and social advantages in doing so through the power of compulsory acquisition.

Secondly, both public and private estates aim at deriving the maximum use and benefit from their property assets but whereas the private owner measures his gain in terms of profitability, the public estate manager sets his sights on a schedule of properties which may change from time to time and times may not differ much from the aims of a private estate owner. Thirdly, there are differences between the organisation of public and private with the former being subjected to a lot of political control.

Thorncroft (1965: 367) argues that most of the managerial problems encountered on public estates are no different from those on private estates. He further maintains that whatever the physical, legal or economic structure, the policy objectives or the organisation, the functions of management to forecast, to plan, to direct, to coordinate and to control remain the same. There are a number of exceptions, however and even when the problems are similar, the approach is often different. The principle problems arise from the estate management functions as discussed in earlier sections of this chapter, some of which are nature of new

accommodation; priorities of applicants for letting; rent; estate supervision; maximum use of accommodation and maintenance.

In conclusion, it is important to note that, the foundation of good, effective and successful management is a sound organisation structure which ensures the unity of command and a clear definition of duties and responsibilities for every position established in the organisation. An understanding of this and the estate management functions as discussed in this chapter will ensure the comfortable and the residential environment for the residents.

Summary

The conceptual framework under which the KBL and KPC and MoPW estate management practices were studied centres around the various estate management concepts and activities discussed above. In layout and design concept it was noted that the manager's experience is important to good design since designs extensively affects operations and therefore there is need to maintain a file of design experiences. The views of the manager, his staff and tenants should form part of this file.

The serious shortage of housing in Kenya, it was noted, makes letting or selection of tenants a critical issue. Selection policy should therefore be based on priority for those in greatest need, of houses whether publicly or privately-owned. The selection policy adopted should be beyond public criticism.

Pre-occupancy education is important because it ensures that prospective tenant is fully aware of his obligations and those of the landlord. The tenancy agreement should be discussed with the tenant before it is signed.

Flexibility in the management of the housing estates is also desirable to ensure the best use of existing accommodation. The physical provision of a house is not enough. The health, family feelings and emotions, type of social contents and relations with neighbours and other members of the society are equally important. This requires a staff who is purely concerned with the social welfare of the tenant.

The rent collection method adopted should be acceptable to both tenant and landlord and does not have to be a generalised policy. Again the physical provision of a house is not enough. It has to be maintained to ensure that it is tenable. A comprehensive maintenance programme should be devised at the onset and adhered to during the life of the building. Methods of work execution should also be as economical as possible. Direct labour is preferred for large estates. Proper building records greatly contribute to economies of scale.

Vandalism or cases of theft in an estate greatly degrade the status of an estate and demoralises the estate residents. It is important that the management is very aware of the security risk inherent in an estate and adequate precautions devised.

Knowledge on prevention of fire both by the management and the tenants is paramount. This should go hand in hand with the knowledge of the various necessary insurance policies.

Finally, a well designed organisation structure is desirable. A coordinated organisation makes management easier and effective and in essence fulfils the first requirement of a sound estate management.

The aspects above have been grouped into nine domain or indices which form the estate management ideals under which the field research findings have been analyzed and evaluated in the subsequent chapter. Against each one of the indices the terms strongly dissatisfied, dissatisfied, undecided, satisfied, strongly satisfied have been used to show satisfaction levels.

FOOTNOTES

1. This is the person to whom lease is granted or a joint owner.
2. Lecture notes on tenants selection methods for land economics students, University of Nairobi, 1987, by S.E.Kituuka.
3. Ibid.
4. The information was obtained from the Building Research Establishment Paper of 1974.
5. The utilizable life of a building has been ascertained to be one hundred years.
6. Current maintenance refers to all major medium repairs of dwelling houses and especially the maintenance repair and expenditure of fundamental elements and fittings of houses while investment maintenance consists of minor repairs to house plus minor expenses in direct connection with the use of the house.
7. Lecture notes on management for housing administration and building management students, University of Nairobi, 1988, by S.E. Kituuka.

CHAPTER III
RESEARCH FINDINGS

Introduction

This chapter is presented in two sections. The first section deals with the method of data analysis where the grouping of variables forming indices is discussed. The second section dwells on findings which is further sub-divided into two subsections for each institution. Subsection one introduces the case study (institution) while subsection two gives detailed research findings.

Methods of Data Analysis

Data was analyzed using the Statistical Package for Social Sciences (SPSS). To enable the easy use of the SPSS and for the purpose of data reduction, nine domains were identified to constitute the core of attitudinal and satisfaction variables on residential environment in this study. All variables which have been defined at having the same underlying pattern were grouped together to construct an index.

The nine domains or indices identified to cover various aspects of estate management and under which the level of residential satisfaction was sought in this study are discussed below.

a) Satisfaction with dwelling unit.

This aspect groups issues on the quality of shelter, or dwelling units. Included in this were variables on satisfaction with various aspects of dwelling unit such as: the size and number of rooms, kitchen and cooking areas, laundry and washing areas, bathroom and toilet, and satisfaction with brightness or natural sunlight inside the unit, and ventilation of the house.

b) Satisfaction with house allocation procedures.

The second aspect identified was related to the house allocation procedures. Under this the variables with the same underlying patterns include the system used for the allocation of houses, exchange and transfers, housing agreement conditions, the amount of rent forfeited and period taken on the waiting list.

c) Satisfaction with the public facilities.

The third aspect concerns issues related to public facilities. variables which have been identified to have the same underlying pattern include:

- satisfaction with recreational facilities,
- children playgrounds,
- public parking space both for vehicles and bicycles,
- satisfaction with safety and security system,
- fire protection system and their maintenance,

- garbage collection, and
- libraries

d) Satisfaction with location aspects.

The fourth underlying aspect among the satisfaction variables in this study is related to quality or convenience of location. Variables identified as having the same pattern were those related either directly or indirectly to the locational aspects of the housing estate. Thus, included are such variables as satisfaction with distance to work, the distance to school, accessibility of a public telephone service as well as variables such as satisfaction with electricity supply, street light at night, the water supply system, accessibility to shops and markets, mode and convince of public transportation, and distance to health clinic.

e) Satisfaction with neighbours.

This index represents the respondent's attitude towards and satisfaction with their neighbours. variables which have been identified to have the same underlying pattern are found in such questions as those asking whether the respondent thinks his/her neighbours are friendly, helpful, can be trusted or whether he or she thinks they have similar interests, a similar social - economic status, a similar occupation, and a similar educational background.

f) Satisfaction with environmental conditions

The sixth aspect concerns issues related to the quality of environmental conditions. Included in this aspect are satisfaction variables on environment such as: noise from neighbours and from near by places including factories and traffic from highways, smoke and odours, cleanliness of the estate, privacy, roads and walkways, the drainage and water supply systems.

g) Speed and level of maintenance.

This index represents the respondents attitude towards the maintenance work carried out in his dwelling unit. Included in this aspect are satisfaction variables on the maintenance procedure such as the location of the maintenance office, the bureaucracy before work is done, the quality of the maintenance work and speed of response by the maintenance team.

h) Tenants welfare.

The eight aspects concern issues related to the general welfare of the tenants. Indicative variables of satisfaction on this index include the existence of voluntary associations in the estate: the services provided by the associations, the appointment or election of officials, clubrooms and the maintenance of the facilities provided.

i) Conditions of the dwelling unit.

Finally the ninth index was identified as the conditions of the dwelling unit. This aspect groups issues on the state of shelter or dwelling unit. This involved the examination of several components of the building such as: whether the wall has cracks, white deposits, the state of the paint and plaster and if it is damp, whether the roof is leaking, timber rotting or sagging and spreading, whether the ceiling has dirty marks, is sagging or has come off; on windows -any timber rotting, metal rusting or broken panes. Other components included under this index are floors, sanitary fittings, electric fittings and locks.

An index value with possible values ranging from 0.001 to 5.000 and in percentage from 0.1 percent to 100 percent is the average score of the values in each index. The index score ranges are presented in Table 3:1.

Table 3:1 Ranges used in measuring the indices.

Response	Ranges	
		Percentage
Strongly Dissatisfied	0.001 to 1.000	0.1 to 20
Dissatisfied	1.001 to 2.000	2.01 to 40
Undecided	2.001 to 3.000	40.1 to 60
Satisfied	3.001 to 4.000	60.1 to 80
Strongly satisfied	4.001 to 5.000	80.1 to 100

Source: Compiled by the Author

The above measure is applied to all the indices except the ninth index under which the condition of the building structure is discussed. The tables drawn here attempt to show the percentage incidence of structural defects on various components of the building structure. The percentages presented in the tables on the condition of the building structure are out of the total number of dwelling units visited during the survey. This is done for each case study that is Kenya Pipeline Company, Kenya Breweries Limited and the Ministry of Public Works in that order.

After the construction of all the indices separately, there is an attempt to compute the final index score to measure the overall quality of the current residential situation for each case study before a combined one for all. The final index score is the

unweighted average score of the eight indices, that is satisfaction indices on dwelling unit, neighbour's house allocation procedure, public facilities, environmental conditions, estate maintenance and tenants welfare.

Marquis de Laplace (1820) noted that in order to recognize the best of the treatments in use in the healing of a Malady, it is sufficient to test each of them on an equal number of patients making all the conditions exactly similar, (Lapin 1982:525). It is for this reason that the study then embarks on the statistical application, the analysis of variance to illustrate the salient aspects of the quality of the residential neighbourhood. By the employment of 'F' distribution, this procedure achieves its goals by comparing sample variance, that is, analysis of variance uses sample data to compare several treatments to determine if they achieve different results.

The desired sample size for the study was 150 dwelling units with an equal distribution of 50 dwelling units per each case study. Systematic method of sampling was adopted for each case study so as to arrive at the 50 dwelling units. For every question the respondent had the option of either indicating strong dissatisfaction, dissatisfaction, indecision, satisfaction or strong satisfaction.

CASE STUDY NO.1

THE KENYA PIPELINE COMPANYa) Introduction

The Kenya Pipeline Company is a wholly owned Kenya Government Company incorporated on 25th September 1973. However, like many other corporations in Kenya, it is run on commercial basis/lines with a clear motive of profit making. This is the reason why it is categorised in the semi-public sector in this study. In 1978, the pipeline was commissioned for pumping refined products from the Kenya Petroleum Refinery in Mombasa to a Terminal in the Industrial Area of Nairobi with branch to Embakasi terminal Airport. The Company does not own any products but received a tariff based fee from the pumping of the products.

The pipeline to Nairobi is four hundred and fifty (450)KM and rises to about one thousand and six hundred and fifty (1,650) metres in Nairobi with the highest point of about one thousand seven hundred (1,700) metres near the four hundred (400)KM point from Mombasa. Intermediate pump stations are provided at three locations, Pump Station (P.S.) 3 at Maungu, PS 5 at Mtito Andei and PS 7 at Sultan Hamud, equally spaced between two ends of the line. Provisions have been made for a further four booster Pumping Stations to be built at a later date if product demand requires it. These future stations PS 2 at Samburu, Manyani PS 6 at Kibwezi and PS 8 at Ulu are located at the half way points between the existing stations. The pumped products are received at the terminals. The

main terminal (PS 10) is located in Nairobi Industrial Area and forms the end of pipeline. The second receiving terminal (PS 9) is Embakasi terminal adjacent to Nairobi International Airport. The Embakasi terminal is about seven km up-stream of the Nairobi terminal and is simply a take-off point on the main pipeline.

The four pump stations PS1, PS3, PS5 and PS7 are all essentially identical with the exception of PS1 which has additional equipment associated with being the first pumping station on the line. Each of the three intermediate pump stations is operated remotely from Nairobi Terminal, but each has a local control station which is manned. PS1 in addition to the required pumping machinery also houses offices and workshop facilities to support the maintenance of the pipeline.

The future pumping stations PS2, 4, 6 and 8 are simply fenced and guarded compounds with a 50 metre run of the main pipeline above ground. Each station also has a small thermoelectric generator and half tonne fixed gas cylinder for powering the cathodic protection station.

Most of these intermediate pump stations, both operational and future stations, are situated in small market centres and some in totally remote areas. Out of necessity, therefore, the company had to provide suitable houses for the personnel manning all these stations.

At pump station one (PS1) which is located adjacent to the Kenya petroleum refinery at Mombasa, about four (4) KM from the East African Coast, the company has a housing estate with 100

houses for the staff working at that station. At the intermediate operational pump stations that is 3, 5 and 7 each has 15 houses for the station workers and plans are under way to increase this number. Each of these houses has 3 bedrooms, a sitting room and dining room, kitchen, toilet and a bathroom. They are also fully furnished. The company has also provided social halls and canteens at PS1, PS5 and PS7 for its workers.

At the future stations, that is PS2, PS4, PS6 and PS8 there are four houses at each station for guards who ensure safety of the pipe and other equipments fixed at these points for future development.

The company policy on housing is to provide housing at every post. It is in line with the policy that the company put up a housing estate along Outering Road, that is the Kenya Pipeline Embakasi Housing Estate comprising of 292 houses of different sizes for the company staff working at Nairobi Terminal (PS10), Embakasi Terminal (PS9) and those working in the head office. Nairobi area constitutes more than half the company employees. The company also acquired a 20 acre piece of land along Limuru Road for the construction of staff houses which comprise for three houses for the top company management.

The Embakasi housing estate is also provided with playing grounds, a social hall and a canteen. The play grounds and sporting facilities for those in the intermediate pump stations are situated between PS5 and PS7 which is half way point from each end. In Eldoret the company has a piece of land measuring 20 acres for

its future oil depot. There are also houses for people manning this depot. The company head offices are housed in National Bank Building along Harambee Avenue in Nairobi. Table 3:2 shows the distribution of houses around and managed by the company.

Table 3:2 Buildings Owned by Kenya Pipeline Company

Station	Stores	Dwellings Units	Machine Rooms	Canteen	Clinic
PS1 Mombasa	3	100	3	1	1
PS2 Samburu	-	4	-	-	-
PS3 Maungu	1	15	2	1	-
PS4 Manyani	-	4	-	-	-
PS5 Mtito Andei 1		15	2	1	-
PS6 Kibwezi	-	4	-	-	-
PS7 S. Hamud	1	15	2	1	-
PS8 Ulu	-	4	-	-	-
PS9 Embakasi	-	4	1	-	-
PS10 Nairobi	3	292	3	1	1

Source: Compiled by author.

b) Research Findings

The estate chosen for this case study is Kenya Pipeline Housing Estate situated at Embakasi to the eastern side of the city of Nairobi which has two hundred and ninety two (292) housing units. This is the major housing estate of the company. The estate comprises of bungalows for the high income employees, maisonettes for the middle income employees and flats for the low income employees. There are forty four (44) bungalows, fifty six (56) maisonettes, while the flats consist of one hundred and ninety two (192) units. Systematic method of sampling was adopted so as to arrive at the envisaged sample size of 50 dwelling units from 1 to 292, starting with the bungalows, then maisonettes and lastly the flats. The respondents were selected on the 6th unit basis. This ensured that the respondents came from the three categories of houses. The bungalows and maisonettes have 3 bedrooms each, a kitchen, toilet, bathroom, dinning room and a sitting room, however, the sizes of the bungalows being more spacious. The flats consist of two bedroomed units (which are smaller than those in the maisonettes), a kitchen, toilet, bathroom and dining cum sitting room.

The sampled dwelling units were also used for obtaining information required to fill in the record of observation. This information was supplemented by interviewing the institution's overall management. Out of the 50 questionnaires allocated to the housing estate, three (3) had unreliable information as the

respondents were relief officers from stations outside Nairobi. Hence the research findings presented in this case study represent information obtained from 47 questionnaires.

The findings are presented in eight subsections as mentioned earlier. Tables are used in each subsection which are aided by use of descriptive presentation. A final index B computed which aggregates all the eight indices for purposes of comparison.

i) Dwelling Unit

Table 3:3 shows the score of each variable comprising the dwelling unit index.

Table 3:3 Satisfaction Index on Dwelling Unit

Variable	Index Score (Percentage)					Mean Score
	Strongly dissatisfied	Dissatisfied	Undecided	Satisfied	Strongly Satisfied	
Size and No. of rooms	0	2.6	0	73.7	23.7	4.184
Kitchen/cooking area	0	2.6	0	68.4	28.9	4.237
Laundry and Washing	7.9	36.8	8.2	44.7	2.6	2.974
Bathroom and toilet	5.5	10.5	5.8	63.2	15.2	3.737
House Ventilation	2.8	15.8	2.8	57.9	21.2	3.789
Natural brightness	2.7	2.6	0	68.4	23.9	4.000
Total Mean	3.3	11.8	2.8	62.7	19.4	3.820

Source: Data based on field sample of 47 respondents.

Interpolation:

$$\frac{3.820 - 3.001}{4.000 - 3.001} \times 19.9 = 16.30 + 60 = 76.3\%$$

From table 3:3 the percentage distribution on the respondents score for this index indicates that most respondents were quite satisfied with their dwelling units as the mean score of the index was 3.820 which through interpretation gives 76.3 percent. Over 80 percent of the respondents were satisfied while only about 15 percent were dissatisfied.

The large measure of satisfaction by the dwellers points to the fact that most of their dwelling requirements are being met adequately by the present design of the dwelling units. The houses are spacious with the smallest being the dinning room, a kitchen, bathroom and a toilet. These good results were obtained because, not only does the company have a clear housing policy for its employees but also made sure they had an experienced and senior officer in-charge of the company housing estate, in the design team. The officer was able to contribute and influence the design team as to the housing design desired for the company employees. In addition, some employees were previously living in rather poor quality estates in the city as indicated by their income levels.

However, the laundry and washing areas were some areas of obvious dissatisfaction and especially by those occupying the maisonettes and bungalows who felt that they were too mush in the open. They were inadequate for those occupying the flats.

ii) House Allocation Procedure

Information provided by the estate manager indicated that the Kenya Pipeline Company adopted a mixed development approach for its housing estate where low middle and high income earners are housed in flats, maisonettes and bungalows respectively in the same estate. Hence the house allocation procedure is based on the job grade. The agreement conditions include the paying of electricity and water bills keeping one stair case and compound clean, no subletting, should forfeit all house allowance, the immediate reporting of any defects noticed and that the occupant should vacate the house within three days of employment termination. The management has however overlooked the importance of pre-occupancy education.

Table 3:4 Satisfaction Index Score on House Allocation Procedure

Variable	Index Score (Percentage)					Mean Score
	Strongly dissa-tisfied	Dissa-tisfied	Unde-cided	Satis-fied	Strongly Satisfied	
Allocation Policy	5.3	15.8	13.2	52.3	13.2	3.526
Agreement condition	15.8	21.1	15.8	34.2	13.2	3.079
Total Mean	10.5	18.4	14.5	43.3	13.2	3.302

Source: Compiled by Author from a field sample of 47 respondents

Interpolation:

$$\frac{3.3025 - 3.001}{4.000 - 3.001} \times 19.9 = 6.0 + 60 = 60\%$$

An examination of the percentage distribution of the respondents scores for the satisfaction index on allocation procedure, in table 3:4 indicates that most of the index was 3.302 which is equivalent to 66 percent. Over 56 percent were satisfied while about 29 percent were dissatisfied with 14.5 percent uncertain.

Though the mean score for this index indicates that there was satisfaction with the house allocation, it should be noted that this does not compare favourably with the satisfaction index on dwelling unit, that is 3.820 or 76.3 percent for the former as compared with 3.302 or 66 percent for the latter. The relatively low level of satisfaction is explained by an erroneous allocation procedure which was being rectified during the time of data collection. This was a situation whereby low income employees were occupying houses meant for middle income employees and vice versa. Some respondents (9.1 percent) felt that the allocation procedure should be based on family sizes, that is large families should get big houses, while small families get small houses, instead of the current procedure which is based on income levels.

However, the study realised that more than 50 percent of the respondents are not aware of the housing agreement conditions since there is no pre-occupancy education by the estate management officers. For instance, the author witnessed cases where respondents washed their clothing on stair case while others lit their charcoal burners on the same.

1111 Public Facilities

Table 3:5 shows the population distribution of the respondents score on public facilities index. The facilities considered under this index are only those provided by the company for the employees residing in the estate.

Table 3:5 Satisfaction Index on Public Facilities

Variable	Index Score (Percentage)					Mean Score
	Strongly dissa- tistified	Dissa- tistified	Unde- cided	Satis- fied	Strongly Satisfied	
Maintenance of Facilities	5.3	18.4	28.9	34.9	1.9	2.947
Children Playgrounds	23.7	7.9	52.6	7.9	7.9	2.237
General Playgrounds	15.8	5.3	60.5	18.4	0	2.263
Parking Space	0	0	0	76.3	23.7	4.237
Security Systems	2.6	5.3	18.4	50.0	23.7	3.737
Fire Protection	26.3	13.2	39.5	18.4	2.6	2.316
Garbage Collection	10.5	2.6	34.2	36.8	15.3	3.132
Libraries	44.7	15.8	31.6	5.3	2.6	1.895
Total Mean	16.1	8.6	33.2	30.9	10.5	2.845

Source: Compiled by Author from field survey.

Interpolation:

$$\frac{2.845 - 2.001}{3.000 - 2.001} \times 19.9 = 16.8 + 40 = 56.8\%$$

The distribution, on average, indicates that most of the respondents were neither satisfied nor dissatisfied with the public

facilities currently being provided by the company as indicated by the index mean score of 2.845 which is equivalent to 56.8 percent after interpolation. This group of respondents who expressed their dissatisfaction accounted for 24.7 percent of the sampled households; 33.2 percent uncertain and 41.4 percent for the satisfied.

Other than the over generous parking space whose mean score was 4.237, a good security system ensured by hired guards at the gate and a stone fencing all around the estate, and lighting along the fence, other public facilities were inadequate in several ways. Children's playgrounds and libraries are not provided at all. This was an omission by the design team. The general playgrounds, other than being inadequate, are poorly maintained with overgrown grass and broken basketball rings. About three quarters 71.1 percent of the respondents were dissatisfied with the fire protection facilities. The Nairobi City Commission fire fighting equipment is situated more than ten (10) KM away. The estate has no horse reels and fire extinguishes are not provided. About half (52.6) percent said they were dissatisfied with garbage collection. This is because collection is done once a week by the City Commission and at times once in a fortnight. Garbage accumulation is therefore inevitable. The management maintained that garbage collection and protection against fire are the responsibilities of City Commission.

iv] The Locational Aspects

The locational aspects discussed in table 3:6 are those that should be taken into account during the site and design stages.

Table 3:6 Satisfaction Index on Locational Aspects of the Estate.

Variable	Index Score (Percentage)					Mean Score
	Strongly dissatisfied	Dissatisfied	Undecided	Satisfied	Strongly Satisfied	
Distance to work	7.9	5.3	44.7	39.5	2.6	2.842
Distance to school	36.8	21.1	26.3	13.2	2.6	2.184
Shop/market accessibility	5.3	5.3	42.1	39.5	7.9	1.263
Public transport	2.6	55.3	26.3	2.6	13.2	1.974
Public telephone	81.6	2.6	13.2	2.6	0	1.263
Street lighting	5.3	0	23.7	65.8	5.3	3.421
Water supply system	28.9	2.6	44.7	23.7	0	2.211
Distance to clinic	2.6	44.7	26.3	7.9	18.4	2.132
Total Mean	21.3	17.1	30.9	24.2	6.3	2.381

Source: Compiled by author from field data

Interpolation:

$$\frac{2.381 - 2.001}{3.00 - 2.001} \times 19.9 = 7.6. + 40 = 47.6\%$$

Table 3:6 shows the mean score of the satisfaction index on locational aspects of the estates as 2.381, equivalent to 47.6 percent. This shows that most respondents were indifferent to the locational aspects. About 38 percent were dissatisfied, 30 percent

undecided and another 30.7 percent satisfied with the location aspects of the estates.

The Kenya Pipeline Company housing estate was not provided with a school within its compound. Nursery school going children and those in lower primary must be accompanied by an adult when going and leaving school where the nearest is about four (4) Km away. The nearest health centre is about five (5) KM at the company industrial area terminal. No medical care is available by the company within the estate. Though the distance is not very long, relatively, when one is going to work, it certainly is when urgent medical attention is required in the estate. The management indicated that the government could not allocate the company land to accommodate these facilities nor in area nearer the facilities. Water is solely supplied by the Nairobi City Commission but shortages are frequently experienced. Low population density in the area generally has resulted to inadequate public transport while there are no public telephone booths provided.

However, there is adequate street lighting within the estate as indicated by the positive response of 65.8 percent of the local respondents. The distance to work and accessibility to shops and markets were areas of indifference. The estate is provided with a shop and butchery which are privately run, but the respondents felt that the prices charged for the commodities were too high. The combination of the scores resulted to the high level of indifference by the dwellers on the location aspects of the estate.

v] Satisfaction with Neighbours

Examination of the proportional, distribution of this satisfaction index indicates that most respondents in the sample were quite satisfied with their neighbours as the mean score of the index was 3.579 which is equivalent to 71.5 percent. About three-quarters (73.6 percent) of the total percentage were dissatisfied.

The main reason for satisfaction was the cooperativeness of the neighbours as respondents while 10 percent of the occupants said that they had no business with their neighbours.

This state of satisfaction can be attributed to the company's house allocation policy which is based on the employees income levels. It ensures that employees with similar social-economic status, occupation and in most cases similar occupational backgrounds occupy the same block of flats or houses. The neighbourliness satisfaction is also enhanced by the fact that all the estate occupants are employees of the same company (Kenya Pipeline Company). However, though healthy neighbourliness should be emphasized in good estate management the underlying factor in choosing this location policy was classification based on incomes and not to enhance good neighbourliness.

vi] Environmental Conditions

Table 3:7 groups the elements that an estate manager should address himself to in order to ensure a quiet comfortable and healthy stay in an estate.

Table 3:7 Satisfaction index on environmental conditions

Variable	Index Score (Percentage)					Mean Score
	Strongly dissatisfied	Dissatisfied	Undecided	Satisfied	Strongly Satisfied	
Amount of noise	7.9	31.6	7.9	50.0	2.6	3.079
Smokes and odours	2.6	31.6	7.9	47.4	10.5	3.316
Estates cleanliness	2.6	18.4	2.6	68.4	7.9	3.605
Roads and walkways	0	5.3	0	76.3	18.4	4.079
Drainage system	0	5.3	5.3	73.7	15.8	4.000
Privacy in the house	2.6	13.2	0	55.3	28.9	3.947
Total Mean	2.6	17.6	3.9	61.8	14.0	3.671

Source: Data based on field sample of 47 respondents.

Interpolation:

$$\frac{3.671 - 3.001}{4.000 - 3.001} \times 19.9 = 13.3 + 60 = 73.3\%$$

Similar to the satisfaction index on neighbours, there was a large group of the sampled households who were satisfied with the environmental conditions. The mean score of the index was 3.671 which is equivalent to 73.3 percent. Out of the 47 respondents more

than three-quarters (75.8 percent) were satisfied while 20.2 percent were dissatisfied with only 3.9 percent undecided.

Since there are no children's playground in the estate, 63.2 percent of the respondents attributed the amount of noise in the estate to children playing near the houses, along the roads and in the parking space. About 31.6 percent of the respondents attributed the amount of noise in the estate to the aircraft at the Jomo Kenyatta International Airport which is about two (2) KM away from the estate. Smokes and odours in the estate was partly attributed to garbage accumulation (36.8 percent of the respondents) and partly to industrial effluent from the industrial area nearby (36.8 percent of the respondents). On the other hand, roads, walkways, drainage and privacy in the house recorded high levels of satisfaction and this can be attributed to good design work by the design team.

vii] Maintenance

Although the company is responsible for the internal and external maintenance of the houses, usually, there are no house inspections carried out, neither is there a programmed maintenance policy for the houses. The maintenance work only arises when reported by the house occupants. Table 3:8 shows percentage distribution of the respondents score on the procedure/speed and quality of maintenance work.

Table 3:8 Satisfaction Index on Maintenance

Variable	Index Score (Percentage)					Mean Score
	Strongly dissatisfied	Dissatisfied	Undecided	Satisfied	Strongly Satisfied	
Procedure/speed	7.9	21.1	47.4	21.1	2.6	2.632
Quality of maintenance	2.6	13.2	44.7	34.2	5.3	2.947
Total Mean	5.3	17.1	46.0	27.6	4.0	2.789

Source: Data based on field sample of 47 respondents.

Interpolation

$$\frac{2.789 - 2.001}{3.000 - 2.001} \times 19.9 = 15.7 + 40 = 55.7\%$$

The mean score for this index was 2.789 whose percentage is equivalent to 55.7 percent. This indicates a great measure of indifference. About 31 percent of the respondents were satisfied while another 20.4 percent showed dissatisfaction. This implies that the majority of the respondents (46.0 percent) were indifferent.

The level of indifference on maintenance index is relative. This is because some of the residents in the company's housing estate moved from worse estates where maintenance was absolutely absent. They were therefore hesitant on whether to condemn or commend the procedure and quality of maintenance work of the company. However 52.6 percent of the respondents maintained that the speed of the maintenance was too slow and the quality poor.

The slow speed of maintenance is caused by the lengthy procedure adopted by the company. After a defect has been reported, maintenance work must be sanctioned by the head office. Since there is no labour directly available for the maintenance of the estate the speed of the work is indirectly done by workloads of the other departments under which the maintenance men fall. The maintenance men are not answerable to the estate officer supervising them and in most cases consider maintenance work in the estate as extra duties. This results to poor maintenance work.

viii] Occupants Welfare

The mean score for this index is 1.632 which is equivalent to 32.6 percent. This measure indicates that most of the respondents were dissatisfied with issues related to their welfare. Out of 47 respondents 67.1 percent were dissatisfied with attention given to their welfare, while 26.3 percent were satisfied. Another 6.6 percent were indifferent.

Fifty percent of the respondents were not aware of the existence of any voluntary welfare association in the estate. The other 50 percent maintained that there were voluntary associations in the estate. The company is not involved in any way with the welfare of the estate dwellers. The clubrooms or recreational hall provided in the estate has virtually no facilities in it. Other organising inter-stations sporting competitions on volleyball, football and darts. The management has completely ignored this

aspect. Voluntary associations in the estate are formed during funeral arrangements and they do not involve everybody in the estate. Officials of such an association are normally those very close to the aggrieved.

Over three-quarters (76.3 percent) of the respondents expressed the need for a permanent voluntary association where officials should be elected by the estate dwellers. They felt that the welfare voluntary association should be responsible for the social duties, estate cleanliness, settling disputes in the estate and presenting complains to the management and negotiating for the occupants. The company or estate management should aid the occupants in the formation of a welfare voluntary association. This not only gives a sense of belonging to the occupant but also eases the work of an estate officer. In addition the company should approach public welfare associations for services which in most cases are freely available, for instance, the Ministry of Culture and Social Services which have employed welfare officers to serve the public.

ix] Condition of Building Structure

Table 3:9 shows the incidence of defects in the 47 out of 50 sampled housing units of the Kenya Pipeline Embakasi Housing Estate.

Table 3:9 Incidence of Defects

Building Component	Defects in Percentages of observed Total	
	Yes	No
Walls	28.8	71.2
Roofs	20.2	79.8
Ceilings	14.9	85.1
Windows and Doors	19.3	80.7
Floors	20.2	79.8
Sanitary Fittings	77.6	22.4
Electric Fittings	18.5	81.5
Locks and Lashes	10.5	89.5
Total Mean	26.2	73.8

Source: Compiled by author.

As mentioned earlier the company has no laid down maintenance policy and defects are responded to only when reported by the occupants. Table 3:9 indicates low incidents of defects taken to avoid their accumulation as this will result to inflated maintenance expenditure. The sanitary fittings recorded the highest incidence of defects, 77.6 percent. Although there were

cases of leaking pipes the major problem was the inadequate drainage system.

The drainage system provided for the flats does not adequately serve the occupants because the diameter is small. This leads to frequent breakages of the wet closets. The company is considering contracting the work of fixing an external drainage system to supplement the originally provided. Wall defects marked second highest (28.8 percent). Some of the defects were partly due to misuse for instance, use of charcoal burners for cooking was a common practice. Children also make the walls dirty by bouncing dirty balls against them due to lack of playgrounds. It is under the same circumstances that window panes are broken. Poor workmanship during construction is evident in the incidence of roof leakage. About 20.2 percent of the houses visited had roof defects where poor laying of the clay tiles has led to leakages.

The author of this study also realised that the residents have little knowledge on the proper use of the provided facilities. Unfortunately little help is provided by those in-charge of the estate. This was the major cause of electric fittings defects and peeling off of the P.V.C. floor tiles.

Final Index

The final index groups all the eight satisfaction indices together to enable an easy comparison and the derivation of a mean

score showing the overall residential satisfaction by the company estate residents.

Table 3:10 Final Index Score to Measure Overall Residential Satisfaction

Variable	Index Score (Percentage)					Mean Score
	Strongly dissatisfied	Dissatisfied	Undecided	Satisfied	Strongly Satisfied	
Dwelling unit	3.3	11.8	2.8	62.7	19.4	3.820
House allocation procedure	10.5	18.4	14.5	43.3	13.2	3.302
Public facilities	16.1	8.6	33.2	30.9	10.5	2.845
Estate locational	21.3	17.1	30.9	24.4	6.3	2.381
Neighbours	5.3	15.8	5.3	63.2	10.5	3.579
Environmental conditions	2.6	17.6	3.9	61.8	14.0	3.671
Maintenance	5.3	17.1	46.0	27.6	4.0	2.789
Occupational welfare	9.2	57.9	6.6	21.0	5.3	1.632
Total Mean	9.2	20.6	17.9	41.9	10.4	3.002

Source: Compiled by author.

Interpolation:

$$\frac{3.002 - 3.001}{4.000 - 3.001} \times 19.9 = 0.02 + 60 = 60.02\%$$

Table 3:10 indicates that on average most respondents in the sample were satisfied with the current residential conditions in the Kenya Pipeline housing estate. The mean score of the index was 3.002 equivalent to 60.02 percent. Slightly over half (52.3 percent) the respondents were satisfied. On the other hand 29.8

percent were dissatisfied with only 17.9 percent showing indifference.

The relatively low level of satisfaction can be attributed to lack of an estate management department in the company. Rather the management of the housing estate has been left in the hands of the company's personnel officers. However, satisfaction level rather than dissatisfaction level was recorded mainly due to two factors. One, most of the respondents had unsatisfactory residential experience in their previous poor living environment. Second, there was a realisation among the residents that their income levels condemn them to live in the rather poor quality estates at the fringes of the City. The housing estate is relatively new (constructed in 1984), thus most of the facilities are still functioning and have not called for major maintenance works; thus partly contributes to the level of satisfaction among the residents.

The problem of ensuring proper housing management arises not only in older housing quarters but also on newly built housing estates. Lack of adequate solutions to these problems on new housing estates may result in a waste of capital investment in them and in return the houses prematurely turn into slums with all the economic and social implications of such development. It is for these reasons that the Kenya Pipeline Company should urgently revisit its estates management policy.

CASE STUDY 2

KENYA BREWERIES LIMITEDa) Introduction

It is curious to note that the first two breweries in East Africa were established not by brewers but by farmers. At the end of the first world war three brothers Hurst, Charles and George arrived in Kenya for a hunting safari. They liked the land so much that they bought a farm in Kitale area. To them Kenya was a growing country but still the only beer obtainable had to travel 9.655 KM. In conjunction with H.A. Dowding, who was connected with Edure Malt Extract Company, brewery equipment was bought from England. This was done after they had examined possible sites on the outskirts of Nairobi. Ruaraka was chosen because there was a permanent stream that could supply water to the brewery. The plant arrived, was installed and the company named as Kenya Breweries Limited was formally registered on 8th December 1922.

At their first official meeting on 6th March 1923, Charles Hurst was appointed the Managing Director, George Hurst and H.A. Dowding as Assistant director, H. Hector Money as acting secretary and Mr. Spurier was hired as the brewer. Later Mr. J.C. Aronson joined the company as a director in place of George Hurst who was killed by an elephant and whose memory, the products of the breweries were named "Tusker" (Rodwell, 1973:3). In 1943, thirteen (13) acres of additional land at Ruaraka were purchased and the

company also bought its first building in Nairobi for office accommodation and storage.

On 29th July 1970, the President of Kenya, the late Mzee Jomo Kenyatta laid a foundation stone for the company's headquarters at Ruaraka and launched a multi-million pound five-year expansion programme (Rodwell, 1973:16). Kenya Breweries brews and distributes almost all the beer sold in Kenya. The company has breweries located in Nairobi, Mombasa and Kisumu.

The economy of Kenya benefits materially from the activities of the Kenya Breweries Limited through substantial purchase of raw materials and manufacturing items, salaries and wages and most important of all huge contributions to state revenue through excise duties, income tax, corporation and other revenues.

Apart from high salaries, the company also recognizes the importance of housing as a basic human need and as a means of enhancing the productivity of its employees. In 1976, the then Managing Director of the company Mr. K.S.N. Matiba in a seminar on Housing Administration said that,

we have housed our employees not out of necessity, but because it makes sound business sense in that it assists production when an employee is not worried over the welfare of his family.

The company's housing policy has enabled it to provide housing for most of its workers. The bulk of the brewery staff is housed at Ruaraka in stone built flats or houses. The company owns a total of 1,081 houses scattered all over the country, of this number only nineteen (19) houses are leased. Nairobi has the highest

percentage of the houses (88.5 percent), which also houses the company head officers and the major brewery. The distribution of the company's houses/estates is shown on the Table 3:11.

Table 3:11 Distribution of Kenya Breweries Houses

Location	Estate	No. of Units
Nairobi	Tusker Village	578
	Allsopps	232
	Ziwani	42
	Shauri Moyo	44
	Makadara	15
	Offsite	46
Mombasa		62
Kisumu		57
Mau Narok		3
Nakuru		2
Total		1,081

Source: Data from estate department records.

b) Research Findings

The estates chosen for this case study were Tusker Villages. Allsopps, Ziwani and Shauri Moyo. Tusker Village and Allsopps housing estates are situated along the Nairobi - Thika Highway to the Northern side of the city of Nairobi. These estates are located close to the company's head offices and the major brewery at Ruaraka. On the other hand, Ziwani and Shauri Moyo housing

estates are situated in the eastern side of Nairobi. These estates were chosen to ensure that all employees of the company at all levels of income were therefore selected. Ziwani and Shauri Moyo estates allowed for responses from employees residing outside the company's premises.

Fifty housing units were sampled to represent all the estates. This was achieved by the use of the systematic method of sampling which entailed the orderly numbering of the units from 1 to 901 in the order of estates outlined above. The actual selection of the respondents was done on the 18th unit basis. The sampled dwelling units were also used for obtaining information required to fill in the record of observation. This information was supplemented by interviewing the institution's overall management. Information analyzed for this case study was obtained from 38 respondents. It was extremely difficult to obtain reliable information from the company employees as most of them are members of the workers union which does not allow them to give any information to people other than the union officials. The officials were also very uncooperative.

Both percentage and descriptive analysis have been used for data presentation in this case study. For each table an interpolation is done to give equivalent of the mean percentage.

Dwelling Unit

Table 3:12 shows the score of each variable comprising the dwelling unit.

Table 3:12 Satisfaction Index on Dwelling Unit

Variable	Index Score (Percentage)					Mean Score
	Strongly dissatisfied	Dissatisfied	Undecided	Satisfied	Strongly Satisfied	
Size and No. of rooms	27.2	36.4	0	36.4	0	2.455
Kitchen/cooking area	18.2	27.3	9.1	36.4	9.1	2.318
Laundry and Washing	18.2	9.1	9.1	54.5	9.1	3.091
Bathroom and toilet	9.1	18.2	18.2	18.2	27.3	3.455
House Ventilation	9.1	27.3	9.1	27.3	27.3	3.364
Natural brightness	0	9.1	18.2	45.5	27.3	3.636
Total Mean	13.3	21.2	10.6	37.9	16.7	3.053

Source: Compiled by author from data based on field sample of 38 respondents.

Interpolation:

$$\frac{3.053 - 3.001}{4.000 - 3.001} \times 19.9 = 1.0 + 60 = 61.0\%$$

The percentage distribution of the respondents score for this index as contained in Table 3:12 indicates that most respondents in the sample were satisfied with their dwelling units as the mean score of the index was 3.053 equivalent to 61.0 percent. Only half (54.6 percent) of the sampled households accounted for those satisfied, 34.8 percent dissatisfied while only 10.6 percent indifferent to their dwelling units.

The houses provided by the company ranges from one room to four roomed houses with a few five roomed houses preserved for the management staff. Though the index score indicates satisfaction, it should be noted that 56.6 percent of the respondents maintained that the size and number of rooms were inadequate; 63.6 percent disliked the communal approach to cooking facilities, laundry and washing areas, bathrooms and toilet. The respondents could not indicate dissatisfaction, with their dwelling units, because their estates are adjacent to even poorer residential units such as Mathare, Kariobangi and Majengo slums, hence their judgement was substantially influenced by the standard of living in these residential areas. The housing manager was fully involved in the design stages and maintain that the units are adequate for the company's low income earners.

ii) House Allocation Procedure

The estates department of Kenya Breweries Limited maintains a waiting list which is unrestricted to all unionisable employees. The point system is the method adopted by the department for houses allocation among the unionisable employees. Other employees cases are treated separately by a special committee called the way and means committee. Special preference is given to those with medical problems.

Before the adoption of the points system for house allocation, the company houses were entrusted with the head brewer, who was

solely in-charge of allocation of houses. Special preference was given to shift workers as the company transport system was inefficient. After complaints from other employees and the improvement of the company transport system, it was decided that every employee had a right to company housing and this called for the change of the house allocation policy. The new policy involved assigning various departmental heads to a number of houses. The departmental head in turn decided who among the department's employees deserved housing most. This led to corruption in the allocation of houses and complaints from employees again were responded to by a change of the policy to the current point system in use.

The point system involves the identification of factors which fulfilled or met enables the applicant to score points. The total points determines who is given priority in the house allocation priority. The factors considered are such as length of time one has served in the company, marital status, number of children under 18 years and the salary scale. These factors are reviewed annually.

Applications for house transfers are normally from smaller to bigger houses and from the estates outside (the major brewery and office) Ruaraka to Tusker and Allsopps housing estates. The points system of the applicants for house allocation is also used in ranking the applicants for house transfers.

Table 3:13 shows the percentage score on house allocation index as recorded from 38 respondents.

Table 3:13 Satisfaction Index of House Allocation Procedure

Variable	Index Score (Percentage)					Mean Score
	Strongly dissatisfied	Dissatisfied	Undecided	Satisfied	Strongly Satisfied	
Procedure/Policy	0	9.1	36.4	27.3	27.3	3.445
Agreement condition	9.1	9.1	36.4	36.4	9.1	2.432
Total Mean	4.5	9.1	36.4	31.8	18.2	2.943

Source: Compiled by Author.

Interpolation:

$$\frac{2.943 - 2.001}{3.000 - 2.001} \times 19.9 = 18.8 + 40 = 58.8\%$$

An examination of the percentage distribution of the respondents scores for the satisfaction index on house allocation procedure, contained in Table 3:13 indicates that most respondents were neither satisfied nor dissatisfied, as the mean score of the index was 2.943 equivalent to 58.8 percent.

The house allocation policy clearly understood by occupant contributed to the positive response where more than half (54.6 percent) did not want a change in the policy. However, some employees preferred a policy which would allow for automatic qualification to bigger houses after a given period of time.

Though most of the respondents were not aware of the housing policy agreement due to lack of preoccupancy education, the procedure used to arrive at the amount of money forfeited when one is housed by the company was clearly understood but disliked. Previously, the employees were paying the company house rent ranging from Kshs. 26.50 for a single room with a communal bathroom and toilet but with no kitchen, to Kshs. 200 for a three bedroomed houses, and hence were left with part of the house allowance. Currently the employees forfeit all their house allowance irrespective of the house type and size. On top of this the company valued the benefits given to each housed employee at Kshs. 1,600. Thus when the Pay As You Earn (P.A.Y.E.) deductions are being calculated the gross pay includes basic salary, house allowance, company housing benefits and over time pay, if any. This means that the employee loses a high percentage of his salary when housed by the company than just his allowance through the check system.

This new policy of forfeiting one's whole house allowance and part of the salary has raised complaints from the employees such that they are demanding a change of the housing policy so that the type of house allocated is equivalent to the amount of house allowance. Many employees are also refusing to be housed by the company leading to cancellation of their names from the waiting list and therefore the loss of some points for being in the waiting list every year.

iii) Public Facilities

Table 3:14 shows the percentage distribution of the respondents score on public facilities index. The facilities considered under this index are only those provided by the company for the employees residing in their estates.

The mean score of satisfaction with public facilities as contained in table 3:14 is 3.511 which indicates that most respondents were quite satisfied with the provision and state of public facilities. Well over two thirds (69.3 percent) of the respondents showed satisfaction with the public facilities, a quarter (25 percent) of the respondents were dissatisfied while another 5.7 percent were uncertain.

The Kenya Breweries Limited has provided the estate residents with plenty of playgrounds. They have two football grounds, three volleyball courts, a netball court, two basketball courts, two table tennis courts, a boxing gymnasium among other indoors games like darts, table tennis and badminton. Their sporting club/teams rate highly in the country. There is also simple playgrounds for children with facilities which enable children to play imaginative games.

Security in the estate is provided by the company security guards 24 hours. Garbage collection has been privatised and collection is done twice a week. The Nairobi City Commission however has not been barred from collecting the garbage. Though

Table 3:14 Satisfaction Index on Public Facilities

Variable	Index Score (Percentage)					Mean Score
	Strongly dissatisfied	Dissatisfied	Undecided	Satisfied	Strongly Satisfied	
Maintenance of Facilities	0	9.1	18.2	45.5	27.3	3.727
Children Playgrounds	18.2	9.1	9.1	34.5	9.1	3.273
General Playgrounds	0	27.3	9.1	54.5	9.1	3.182
Parking Space	9.1	9.1	0	54.5	27.3	3.818
Safety/Security system	9.1	0	0	54.5	36.4	4.091
Fire Protection	0	18.2	9.1	45.5	27.3	3.818
Garage Collection	0	9.1	0	63.6	27.3	4.091
Libraries	45.5	36.4	0	18.2	0	2.091
Total Mean	10.2	14.8	5.7	48.9	0	3.511

Source: Data based on a field sample of 38 respondents.

Interpolation:

$$\frac{3.511 - 3.001}{4.000 - 3.001} \times 19.9 = 10.2 + 60 = 70.2\%$$

there are hose-reels for fire fighting, there are fire extinguishers at the ratio of one to three and buckets full of sand at strategic points in the estate. These factors must have contributed to the great measure of satisfaction with the public facilities.

However 36.4 percent of the respondents said that a library should be provided and children facilities improved. Another 54.4 percent indicated the need to diversify the sporting activities to

include games that require less energy such as "cylia" cards, and scrabble. About 40.3 percent expressed the need to increase the fire fighting equipment facilities and carry out fire drills to increase awareness among the estate dwellers.

iv] Locational Aspects

Table 3:14 discusses the locational factors that must be observed during the inception of the development. If ignored at early stage of the project development, they can greatly affect the quality of the living conditions.

Table 3:15 Satisfaction Index on Locational Aspects of the Estate

Variable	Index Score (Percentage)					Mean Score
	Strongly dissatisfied	Dissatisfied	Undecided	Satisfied	Strongly Satisfied	
Distance to work	9.1	9.1	0	63.6	18.2	3.727
Distance to school	0	36.4	27.3	18.2	18.2	2.909
Shop/market accessibility	0	45.5	18.2	27.3	9.1	3.000
Public transport	0	27.3	18.2	45.5	9.1	3.364
Public telephone	0	9.1	18.2	63.6	9.1	3.727
Street lighting	9.1	18.2	0	63.6	9.1	3.455
Water supply system	0	0	0	63.6	36.4	4.364
Distance to clinic	0	9.1	18.2	54.5	18.2	3.818
Total Mean	2.3	19.3	12.5	50.0	15.9	3.545

Source: Compiled by author from field data.

Interpolation:

$$\frac{3.545 - 3.001}{4.000 - 3.001} \times 19.9 = 10.8 + 60 = 70.8$$

Similar to the satisfaction index on public facilities, there were a large group of the sampled households who were quite satisfied with the location aspects of the estates. The mean score of the index was 3.545 which is equivalent to 70.8 percent as shown in table 3:15. Out of 38 respondents only 21.3 percent were dissatisfied while 65.9 percent were satisfied. Another 12.5 percent were indifferent to the estates locational aspects.

The bulk of the Kenya Breweries houses are located at Ruaraka that is in Tusker Village and Allsopps estates. These estates are in the same compound with the company's main industrial plant. Thus distance to work for the employees is minimal. The company has a health centre in the same compound, a nursery school, shops and market stalls. The company offers transport to those employees living outside Tusker Village and Allsopps estates to and from their places of work and also to children going to school outside the Ruaraka complex. Public transport along Nairobi - Thika Highway which serves these two estates is adequate. There is also adequate public transport to the other breweries estates that is Ziwani and Shauri Moyo. Public telephone booths are adequate and well positioned. In Ruaraka, there are two water supply systems, the Nairobi City Commission water supply system and the Kenya Breweries water supply system from a borehole drilled within the compound. There are no cases of water shortages. These factors explain the high satisfaction level on locational aspects of the Kenya Breweries housing estates by the employees.

However, the school facilities require some improvement, hence 54.5 percent of the respondents expressed the need for the company to build a primary school within the compound. Though shops and markets are easily accessible, they are not adequately stocked and some commodities have to be purchased from town which is about 5 KM away. The health facilities also need to be extended to employees outside Ruaraka complex incase of emergencies when one is off duty.

v] Satisfaction with Neighbours

Examination of proportional distribution of the satisfaction index indicates that most respondents in the sample were quite satisfied as the mean score of the index was 3.182 whose percentage equivalent is 63.7. None of the respondents was strongly dissatisfied, 27.3 percent were dissatisfied as compared to 63.7 percent who were satisfied.

The company house allocation policy of point system means that occupation, social economic status and the urgency of ones housing needs does not play a major role in qualifying for a company house. This results to families of different sizes and behaviour in the neighbourhood. Hence, the system enables people to stay in the same neighbourhood for a long period, because there are very few opportunities for a transfer, which allows for mutual understanding. The estate elders also help to settle disputes between neighbours and this encourages cooperation.

vi] Environment Conditions

Issues of air pollution are discussed under the environmental index. A well designed house can degenerate at a high rate if the factors discussed in table 3:16 are ignored.

Table 3:16 Satisfaction Index on Environmental Conditions

Variable	Index Score (Percentage)					Mean Score
	Strongly dissa-tisfied	Dissa-tisfied	Unde-cided	Satis-fied	Strongly Satisfied	
Amount of noise	0	9.1	9.1	72.9	9.1	3.545
Smokes and odours	0	6.3	72.7	18.2	2.8	3.275
Estates cleanliness	0	18.2	0	54.5	27.3	3.090
Roads and walkways	0	0	9.1	81.8	9.1	3.727
Drainage system	9.1	0	0	81.8	9.1	3.818
Privacy in the house	18.2	18.2	27.3	27.3	9.1	2.236
Total Mean	4.6	8.6	19.7	65.1	11.0	3.418

Source: Compiled by author from filed data.

Interpolation:

$$\frac{3.418 - 3.001}{4.000 - 3.001} \times 19.9 = 8.3 + 60 = 68.3\%$$

Table 3:16 shows the percentage distribution of the respondents score on environmental condition index whose mean is 3.418. The message relayed by this score is that most respondents were quite satisfied with the environmental conditions of their estate/houses.

Noise from children playing were a major concern in Ziwani and Shauri Moyo estates due to high population density in these areas. However 63.6 percent of the respondents were satisfied with the level of quietness in their estates. Other areas of great satisfaction included estate cleanliness and good drainage system falling under the estates department and well designed roads and walkways.

Since the bulk of the Kenya Breweries houses are situated at Ruaraka, in the same compound as the industrial plant, smoke and odours are a constant environmental problem to the estate residents. As mentioned in another section of this study, the company houses range from a single room without a kitchen to five bedroomed houses, hence there is lack of privacy for families occupying one room, that is in the case of a couple with children over ten years and at times of opposite sex. The sharing of distant toilets, bathroom, cooking and washing areas deny residents any form of reasonable privacy, as indicated by 61.1 percent of the respondents who were uncomfortable with one room accommodation.

vii] Maintenance

In every Kenya Breweries housing estate, there is a maintenance office headed by a maintenance officer. The maintenance officer has the authority to carry out minor repairs and replacements of, for instance bulbs, locks, windows planes and broken taps or leaking pipes in the estate without first reporting

to the housing managers office. The officer does this with the maintenance men assigned to him by the department foremen. This ensures that maintenance or defects are attended to promptly once reported by the occupants and good quality maintenance work is done. House inspections are done every time a house is being vacated and before subsequent occupation. The company also operates a maintenance schedule for all its estates.

Table 3:17 shows the percentage score on maintenance index as recorded from 38 respondents.

Table 3:17 Satisfaction Index on Maintenance

Variable	Index Score (Percentage)					Mean Score
	Strongly dissatisfied	Dissatisfied	Undecided	Satisfied	Strongly Satisfied	
Procedure/speed	0	18.2	27.3	54.5	0	3.091
Quality of maintenance	0	9.2	18.2	63.6	9.1	3.455
Total Mean	0	13.1	22.7	59.1	4.6	3.273

Source: Data based on field sample of 47 respondents.

Interpolation

$$\frac{3.273 - 3.001}{4.000 - 3.001} \times 19.9 = 5.4 + 60 = 65.4\%$$

As portrayed in table 3:17, the mean score for this index was 3.273 with a percentage equivalence of 65.4 percent. This indicates a great measure of satisfaction. The table shows that

none of the respondents was strongly dissatisfied, while only 131 were dissatisfied, 63.7 percent were satisfied and 22.7 were indifferent with the maintenance work.

Delays are experienced if the item required for the maintenance work is out of stock. This is because if the item is not in the general store, the foreman must request the housing manager for it, who in turn requests the company's purchasing department to place an order for it. This process can take more than two weeks. The estate department can however purchase the item if the maintenance work is urgent.

Another problem involves specialized maintenance work. The company offers soft furniture to the management staff and their maintenance is the responsibility of the estate department. However, the department lacks adequate skilled labour to maintain the furniture. This results to frequent failure of the furniture thus not offering maximum utility to the user. These issues need to be addressed if the satisfaction level of the maintenance index is to be raised.

viii] Tenants Welfare

The mean score for this index was 1.764. This is equivalent to 35.2 percent. This measure indicates that most of the respondents were dissatisfied with issues related to welfare. However, none was strongly dissatisfied with the attention given to their welfare, 36.4 percent were dissatisfied with a similar

percent being neither satisfied nor dissatisfied. Another 27.3 percent were satisfied.

Through the welfare department of the company the employees have been offered a lot of sporting activities as mentioned earlier. There is a social hall at Tusker and Allsopps estates, equipped with a television set and indoor games. In the estates there are voluntary associations comprising of selected officials referred to as the village elders. The associations are called village committees and among other things they settle disputes in the estates, they report of any general complaints from the estate dwellers to the estate department, check on estate cleanness, organise or get involved in the social gatherings plus other social responsibilities.

However irrespective of all the above the level of satisfaction remained quite low because the welfare services do not reach all the company employees. The sporting activities require energetic people who can compete with other public sporting activities and members of the sporting teams need not be employees of the company. Many of the respondents had a chance to enjoy these sporting services provided by the company. Further the residents of the company's estates at Ziwani and Shauri Moyo do not enjoy the same welfare services as those in Tusker Village and Allsopps estates. At the time of data collection for this study, the management had decided to stop financing a number of the sporting clubs which had received a lot of dissent from the employees. The author also realised that majority of the

respondents (81.8) percent) expressed a need of an association that not only offered competitive sporting activities but which should also be involved in other social and economic activities such as counselling, drama theatre, religious and other cultural involvements, dealing with all age groups for the community's healthy growth and coexistence.

ix] Condition of Building Structure

Table 3:18 shows the incidence of defects in the 38 out of 50 sampled housing units of Kenya Breweries estates.

Table 3:18 Incidence of Defects

Building Components	Defects in Percentage of Total observed	
	Yes	No
Walls	34.8	65.2
Roofs	6.1	93.9
Ceilings	24.3	75.7
Windows and Doors	33.4	66.6
Floors	45.4	54.6
Sanitary Fittings	31.9	68.1
Electric Fittings	22.7	77.3
<u>Locks and Lashes</u>	<u>13.7</u>	<u>86.3</u>
<u>Total mean</u>	<u>26.5</u>	<u>73.5</u>

Source: Compiled by author.

As mentioned earlier, the Kenya Breweries estate department has a maintenance schedule for every estate which is strictly adhered to. The estate maintenance officers ensures regular house inspection and prompt response to any defects reported by the occupants. However, there is need for improvement on certain components such as floors, sanitary fittings, walls, windows and doors whose incidence of defects were well over a third of the house visited as indicated in table 3:18. Out of the 38 dwelling units visited during the survey, 45.4 percent had defective floors which either looked dirty or were rented due to normal wear and tear. Frequent cleaning and complete re-screeding in some cases is necessary.

The walls need repainting while the window and door frames are due for replacement. The defects in the sanitary fitting (31.9 percent) are due to the intensive use since most of them are communally used.

The company's estates department draws an annual budget for estate maintenance which include maintenance of depots all over the country. The researcher learnt that the maintenance budget has been reduced and priority is usually given to depot maintenance. If this trend continues the incidence of defects will increase in the housing estates.

Final Index

The final index groups satisfaction indices to enable an easy comparison and derivation of a mean score showing the overall residential satisfaction by the company estate dwellers.

Table 3:19 Final Index Score to Measure Overall Residential Satisfaction

Variable	Index Score (Percentage)					Mean Score
	Strongly dissatisfied	Dissatisfied	Undecided	Satisfied	Strongly Satisfied	
Dwelling unit	13.6	21.2	10.6	37.9	16.7	3.053
House allocation procedure	4.5	9.1	36.4	31.8	18.2	2.944
Public facilities	10.2	14.8	5.7	48.9	10.5	2.845
Estate locational	2.3	9.3	12.5	50.0	6.3	2.381
Neighbours	0	27.3	9.1	54.5	10.5	3.579
Environmental state	4.6	8.6	19.7	56.1	11.0	3.418
Maintenance	0	13.1	22.7	59.1	4.6	2.273
Occupational welfare	0	36.4	31.8	27.3	4.5	1.764
Total Mean	4.4	18.7	18.6	45.7	12.6	3.086

Source: Compiled by author.

Interpolation:

$$\frac{3.086 - 3.001}{4.000 - 3.001} \times 19.9 = 1.7 + 60 = 61.7$$

Most of the respondents from the Kenya Breweries housing estates were satisfied with the residential environment offered by the company. This is indicated by the final index mean score of

3.086 which is an equivalent of 61.7 percent. The table further indicates that 58.3 percent of the respondents were satisfied, 23.7 percent were dissatisfied and only 18.6 percent were indifferent.

An independent estate department with clearly defined roles has enabled the company to offer housing conditions that are satisfactory to the residents. The company's establishment on estate management is adequately manned and is the sole executor of the company's estate management policies and also the advisor of the company on the same. Further, the company has a clear housing maintenance programme, a housing fund controlled by the estate manager, laid down house allocation procedure which is strictly adhered to, maintenance officer in every estate, provision for house transfers and exchanges, direct labour for estate maintenance, a good water supply system and company transport system. The garbage collection system which has been privatised has proved a success. There is a clinic in the compound, a nursery school and good public facilities. These factors resulting from effective and good estate management principles has resulted to residents, satisfaction with the housing conditions provided by the company.

However, the estate department must lay more emphasis on the management of the one and two roomed units than in the bigger houses. This is because the wear and tear, the density and intensity of use is greater due to the relatively larger families occupying them. Secondly the level of satisfaction can still be improved if the management clearly explains to the tenants that

there is a direct link between management and maintenance costs and the amount of rent charged by the company. Finally, there is need to separate the management of company's depots and that of the housing estates to avoid one overshadowing the other.

CASE STUDY 3

MINISTRY OF PUBLIC WORKSa) Introduction

The Ministry of Public Works (MoPW) is the Ministry entrusted with the provision of public buildings in Kenya. The department charged with this responsibility in the Ministry is the Building Department. The government defines the role of the building department to include the responsibility for implementing and maintaining the government buildings programme. (Kenya, 1983:130). It is responsible for the design, construction, supervision and subsequent maintenance of all government buildings within the country in addition to supervising sea works protection facilities and electrification of public buildings. The Building Department has evolved to include the following organization structure and functions as per the Building Organizations and Operations Manual.

- a) Architectural Design
- b) Quantity Surveying and Contracts
- c) Building Services Design
- d) Structural Engineering Design
- e) Buildings Maintenance
- f) Forward Planning
- g) Research Development
- h) General Administration
- i) The Kenya Building Centre

Briefly as contained in the Building Organizations and Operations Manual, the functions of the various branches within the Building Department include:-

- 1] Architectural Branch: -
To design and administer the construction of development projects and recurrent works, and to provide architectural services.
- 2] Quantities and Contracts Branch:-
To measure and prepare tender documents for tender;
to administer the acceptance of development and recurrent works contracts;
to provide quantity surveying services related to such contracts.
- 3] Building Services Branch:-
To design
- 4] Structural Branch:-
To provide structural and Civil Engineering designs and specifications for government buildings/residential houses, including drainage and sewage disposal facilities. It is the same branch which deals with supervision of sea works protection facilities.
- 5] Building Maintenance and Housing Branch:-
This branch co-ordinates and implements the maintenance work all permanent Government buildings which are registered with the Ministry. In addition it deals with the leasing of

private owned building/houses for use by consequent maintenance of the same per the lease agreement.

6) Forward Planning:-

Assists in planning, maintaining and implementing of the annual works programme by checking the tropical and financial progress of the jobs carried out in the Department and providing feed-back information to the Ministry for management purposes.

7) Research Development:-

It reviews building user feed-back with a view to continuous improvement of design and construction methods with particular reference to the use of local materials and the minimization of construction costs.

8) General Administration:-

Assists in the control and organization of the department in the Head Office and Provincial/District Officers throughout the country.

9) Kenya Building Centre:-

Provides information to public on matters pertaining to the construction industry including a library of technical publications and providing a graphic arts and report printing services.

The above provides the resources available to the government for the design, construction, supervision and subsequent maintenance of all its buildings within the country. The

management of the government housing estates, though not clearly stated, falls under the Building Maintenance and housing branch. However, the building and housing branch only deals with the leasing of private owned building/houses for the use by government ministries and the selection of house occupants. The Housing Department of the Ministry of Lands and Housing is the one in-charge of inception and implementation of all government housing estates while the Ministry of Finance performs the function of rent collection for all government housing estates through credit transfer system.

Residential houses (both institutional and pool housing) owned and leased by the central government within Nairobi are 10,028 units of various kinds. The management of these units is under the care of Ministry of Public Works. However pool housing under the Ministry of Public Works and owned by the central government are much less as evident in table 3.20 below.

b) Research Findings

The estates chosen for this case study are Bahati/Shauri Moyo representing 42.3 percent of houses in low grade, Rubia representing 74.7 percent of those in middle grade and Kileleshwa Kilimani representing 87.9 percent of those in high grade. Bahati/Shauri Moyo estates is situated along Jogoo Road to eastern side of the city of Nairobi, Rubia estates is located to the southern side of Nairobi, off Langata Road, while

Table 3:20 Category of Existing Government Pool Housing Estates.

Category	Location	No.	Subtotal	% of total
High Grade	Parklands	7	58	3.05
	Kileleshwa	51		
Middle Grade	Jogoo Road	60		
	Ngara	6		
	South	30		
	Rubia	284	380	19.96
Low Grade	Bahati/Shauri			
	Moyo	620		
	Jogoo Road	210		
	Jamaa Estate	105		
	Starehe Pumwani	456		
	Park Road	75		
Total		1904	1904	100.00

Source: Compiled from Ministry of Public Works records

Kileleshwa/Kilimani is located to the Western side of the city. The choice of the three estates ensured responses from government employees at all levels of income and therefore occupying various sizes of dwelling units. A sample size of 50 respondents was envisaged for this case study. To enable the adoption of

systematic method of sampling the houses were numbered from 1 to 955 in the order outlined above.

Actual selection was done on 19th units basis. The information analysed in this case was obtained from 46 questionnaires. The remaining 4 questionnaires had information that was not useful for the study.

The findings are presented in tables and in descriptive form. These presentation methods are applied to each sub-sector together or separately. The final table for the case study aggregates all eight indices to help in the drawing of conclusions.

i) Dwelling Unit

Table 3:21 groups the variables comparing the dwelling unit index to enable the derivation of a mean score. The table shows the percentage distribution of the respondents score on dwelling units whose mean is 2.343 equivalent to 46.8 percent. This indicates that most respondents were neither dissatisfied nor satisfied with the dwelling units. The group of respondents who expressed dissatisfaction accounted for 35.2 percent while those who showed satisfaction accounted for 29 percent. Another 35.7 percent were uncertain.

Table 3:21 Satisfaction Index on the Dwelling Unit

Variable	Index Score (Percentage)					Mean Score
	Strongly dissatisfied	Dissatisfied	Undecided	Satisfied	Strongly Satisfied	
Size and No. of rooms	45.9	2.9	14.3	28.6	8.6	2.514
Kitchen/cooking area	42.9	2.9	22.9	25.7	5.7	2.400
Laundry and Washing	34.3	2.9	48.6	8.6	5.7	1.886
Bathroom and toilet	54.3	0	11.4	25.7	8.6	2.229
House Ventilation	5.7	8.6	60.0	20.0	5.7	2.714
Natural brightness	2.9	8.6	57.1	22.9	8.6	2.314
Total Mean	30.9	4.3	35.7	21.9	7.1	2.342

Source: Compiled by author from data based on field sample of 46 respondents

Interpolation:

$$\frac{2.342 - 2.001}{3.000 - 2.001} \times 19.9 = 6.8 + 40 = 46.8\%$$

Again just like in the case of Kenya Breweries Limited the government through the Ministry of Public Works provides houses ranging from one room, with a detached toilet and bathroom and without a kitchen, to four roomed houses. The common complaint from most of the respondents (60.2 percent) was that the size and number of rooms are inadequate. The detached toilet and bathrooms and the absence of kitchen was another area of discontent among those occupying the low grade houses. The occupants of middle grade houses complained of the design and size of the laundry and washing areas. They have the sitting room before getting to the wash lines. Over 60 percent of the respondents expressed

dissatisfaction with the amount a natural brightness in their units. This can be attributed to the house orientation, room sizes and the overgrown hedges in certain estates.

However, due to the high demand for housing, exemplified by the long waiting list at the Ministry's housing section, the lengthy procedure before allocation of a government house, the amount of government house allowance and the going market rents for similar residential conditions/environment, the respondents were compelled to appreciate their relatively privileged position. These factors greatly influenced the great measure of indifference expressed by the respondents on their dwelling units.

(ii) Allocation Procedure

The house allocation or selection procedure adopted by the Ministry of Public Works housing section is the point system, similar to that used by the Kenya Breweries Limited. The waiting list is arranged according to job grades. The factors considered when ranking the applicants are, marital status, period of service, number of children the applicant has and the job grade. The waiting list is not reviewed at all and an applicant can remain in the waiting list for as long as he is in the service without ever getting a house. The housing agreement stipulates that the housed employee forfeit all the house allowance irrespective of size and type of unit, and pays economic rent which varies with the house grade, that the employee should immediately vacate the house after

termination of service, payment of electricity and water bills by the employee and reporting of any breakages to the housing officer. The management does not endeavour to offer pre-occupancy education.

Table 3:22 Satisfaction Index Score on House Allocation Procedure

Variable	Index Score (Percentage)					Mean Score
	Strongly dissatisfied	Dissatisfied	Undecided	Satisfied	Strongly Satisfied	
Allocation Policy	45.7	37.1	2.9	14.3	0	1.892
Agreement condition	0	28.6	42.8	25.7	2.9	1.936
Total Mean	22.8	32.8	22.8	20.0	1.5	1.914

Source: Compiled by Author from a field sample of 46 respondents

Interpolation:

$$\frac{1.914 - 1.001}{2.000 - 1.001} \times 19.9 = 18.1 + 20 = 38.1\%$$

An examination of the percentage distribution of the respondents score for the satisfaction index on allocation procedures indicates that most respondents were dissatisfied with the house allocation policy with the mean score of the index at 1.914 which is an equivalent of 38.1 percent. Table 3:22 further indicates that 21.5 percent of the respondents were satisfied with the allocation policy as opposed to 55.6 percent who expressed dissatisfaction while 22.8 percent were indifferent. Though the policy of selection is supposedly based on the point system, this is rarely practised. For instance, applicants have to identify a

vacant house, inform the housing officer, arrange with the previous occupant to secretly hand over the keys. One has to always bribe for this arrangement to be formalised.

The allocation of house is riddled by corruption as was noted by one of the officers. This is particularly evidenced by copy typist occupying middle and high grade category of houses meant for senior officers. Other than corruption within the allocation or selection system there is also undue influence from the senior civil servants on house allocation. This is the reason why well over half of the respondents (77.1 percent) said they had to corrupt or bribe those in the allocation system in order to be allocated a house.

The researcher also realised that most of the respondents were ignorant of the housing agreement. This is because there was no preoccupancy education by the housing officers, which actually is impossible when the system is so corrupt. However, the respondents expressed satisfaction with the amount of money deducted from their salaries after house occupation.

iii] Public Facilities

Table 3:23 shows the percentage distribution of respondents score on public facilities as provided by the Ministry of Public Works.

Table 3:23 Satisfaction Index on Public Facilities

Variable	Index Score (Percentage)					Mean Score
	Strongly dissatisfied	Dissatisfied	Undecided	Satisfied	Strongly Satisfied	
Maintenance of Facilities	37.1	48.6	2.9	8.6	2.9	1.914
Children Playgrounds	28.6	57.1	2.9	8.6	2.9	2.000
General Playgrounds	34.3	54.3	2.9	5.7	2.9	1.886
Parking Space	22.9	62.9	5.7	5.7	2.9	1.857
Safety/Security Systems	17.1	62.9	2.9	11.4	5.8	2.171
Fire Protection	28.6	45.7	11.4	5.7	8.6	1.971
Garage Collection	42.9	42.9	2.9	8.6	2.9	1.800
Libraries	34.3	57.2	2.9	2.9	2.9	1.771
Total Mean	30.7	54.0	4.3	7.1	3.9	1.921

Source: Compiled by Author from field survey.

Interpolation:

$$\frac{1.921 - 1.001}{2.000 - 1.001} \times 19.9 = 18.30 + 20 = 38.3\%$$

Similar to the satisfaction index on house allocation procedure most of the sampled respondents were dissatisfied with the index at 1.921 which is equivalent to 38.3 percent. As contained in table 3:23, 84.7 percent of the respondents showed dissatisfaction, 4.3 percent were indifferent while 11 percent expressed satisfaction.

The Ministry of Public Works pays very little attention to the provision and subsequent maintenance of public facilities. Over 80 percent of the sampled respondents maintained that no playgrounds are provided. The dissatisfaction with the maintenance of any such

facilities. Safety and security functions in the estates, fire protection and libraries have been completely neglected. Heaps of stinking garbage is common sight in the estates while parking space is only provided to middle and high grade houses but not adequately. It is the neglect of these functions by officers in-charge of the estates that has contributed to the measure of dissatisfaction expressed by the respondents on public facilities. The management quoted lack of funds as the major constraint.

iv) Locational aspects

The locational aspects discussed in table 3.24 are those that should be considered by the design team during the project inception stage.

Examination of the proportional distribution of the satisfaction index on location aspects of the estates indicates that a large portion of the sampled households were neither satisfied nor dissatisfied with the locational aspects of the estates with the mean score of the index at 2.751 equivalent to 54.9 percent. Thus the group that was uncertain accounted for 43.2 percent. About 14 percent were satisfied.

Table 3:24 Satisfaction Index on Locational Aspects of the Estate

Variable	Index Score (Percentage)					Mean Score
	Strongly dissatisfied	Dissatisfied	Undecided	Satisfied	Strongly Satisfied	
Distance to work	8.6	2.9	11.4	74.3	2.9	3.514
Distance to school	5.7	8.7	11.4	68.6	5.7	3.571
Shop/market accessibility	14.3	2.9	65.7	14.3	2.9	2.371
Public transport	14.3	2.9	20.0	62.9	2.9	3.200
Public telephone	11.4	2.9	60.0	22.9	2.9	2.371
Street lighting	5.7	2.9	57.1	31.4	8.6	2.514
Water supply system	11.4	2.9	62.9	14.3	8.6	2.514
Distance to clinic	17.1	5.8	57.1	17.1	2.9	2.229
Total Mean	11.0	3.8	43.2	38.2	3.8	2.814

Source: Compiled by author from field data.

Interpolation:

$$\frac{2.814 - 2.001}{3.000 - 2.001} \times 19.9 = 16.2 + 40 = 56.2\%$$

Most of the government housing estates are the oldest in the city with some of them having been inherited from the colonial government, hence they are located close to the city centre. Schools and health centres had been constructed within these estates by the Nairobi City Council. Shops and Markets are also quite accessible from these estates. However, this is not the case with the estates built in the late 1970s and early 1980s such as Rubia and Kileleshwa. Pool estates lack adequate street lighting and experience water shortages. The common denominates for both old and new estates is the traffic jam experienced during rush

hours. Public telephone booths are inadequate, rarely function and are targets of vandalism.

The indifference measure on locational aspects can be contributed to the prime location of schools and the nearness of the estates to ones place of work. Apart from the traffic jams, public transportation is adequate to most of these estates. There is also the realisation that their incomes would condemn them into estates further away the city.

vi] Satisfaction with neighbours

The percentage distribution of the satisfaction index on neighbours indicates that most respondents in the sample were quite satisfied as the mean score of the index was 3.629 and equivalent of 72.5 percent. The respondents who expressed satisfaction accounted for 62.9 percent as opposed to 17.1 percent who were strongly satisfied.

Most respondents avoided talking negatively about their neighbours and others expressed satisfaction because their neighbours did not get involved with their affairs, while some did not even know who their neighbours were in the estate. There is limited mobility among civil servants in terms of transfer to other stations of work and this is even more difficult if the employee is housed. Thus, employees living in an estate can remain neighbours for long periods enough to understand and respect the wishes of their neighbours. These issues have contributed to high level of

satisfaction on this index and further more allocation of houses by the management is done on four levels, that is low grade, middle grade, high grade and super scale. This ensures that people in the same socio-economic status, occupation designation, similar education background and interest are located in the same estate.

vi] Environmental Conditions

Table 3:25 contains aspects which must be considered to check on environmental degradation of an estate.

Table 3:25 Satisfaction Index on Environmental Conditions

Variable	Index Score (Percentage)					Mean Score
	Strongly dissatisfied	Dissatisfied	Undecided	Satisfied	Strongly Satisfied	
Amount of noise	2.9	5.7	48.6	37.1	5.8	2.123
Smokes and odours	8.6	2.9	62.9	20.0	5.8	2.215
Estates cleanliness	34.3	8.6	45.7	5.7	5.7	1.243
Roads and walkways	5.7	11.5	57.1	20.0	5.7	2.543
Drainage system	8.6	8.6	45.7	25.7	11.4	1.458
Privacy in the house	45.7	5.8	17.1	22.9	8.6	1.686
Total Mean	17.6	7.2	46.1	21.9	7.2	1.878

Source: Compiled by author from field data.

Interpolation:

$$\frac{1.878 - 1.001}{2.000 - 1.001} \times 19.9 = 17.4 + 20 = 37.5\%$$

Unlike with the satisfaction indices on house allocation procedure and public facilities, most of the sampled respondents were undecided to the current quality of environmental conditions as indicated by mean score of the index at 1.878 which is equivalent to 37.5 percent. Over 46 percent were uncertain, 29.1 percent were dissatisfied.

As mentioned earlier the estate dwellers are not provided with playgrounds or are poorly maintained where provided. The children thus play along the roads and too near the houses causing destruction to property and making a lot of noise. The compounds and their hedges are poorly maintained since there is no staff in charge of estate cleaning from the Ministry. The Nairobi City Council does not collect garbage as frequently as is necessary. The drainage system get broken during the rainy season because the compounds have litter all over. The low grade estate also lack privacy because of the number and size of rooms compared to the size of the family. In some middle and high grade house lack of privacy can be attributed to design of house layout and the sound absorption capacity of the materials used. These factors explain the measure of dissatisfaction by the respondents for the index.

The Ministry of Public Works is in charge for the internal and external maintenance of the dwelling units. The maintenance officers at the depots are supposed to collect materials from the supplies section of the Ministry to carry out any maintenance work arising in any estate which falls under the depot using the

maintenance staff under him. Table 3:26 shows the responses on maintenance received from the housed civil servants.

Table 3:26 Satisfaction Index on Maintenance

Variable	Index Score (Percentage)					Mean Score
	Strongly dissatisfied	Dissatisfied	Undecided	Satisfied	Strongly Satisfied	
Procedure/speed	25.7	60.0	5.8	5.7	2.9	1.914
Quality of maintenance	22.9	62.9	5.8	5.7	2.9	1.943
Total Mean	24.3	61.4	5.8	5.7	2.9	1.928

Source: Compiled by author.

Interpolation:

$$\frac{1.928 - 1.001}{2.000 - 1.001} \times 19.9 = 18.4 + 20 = 38.4\%$$

The mean score for the index on maintenance was 1.928 equivalent to 38.4 percent. This indicates that most respondents were dissatisfied with the speed/procedure and standard of maintenance work. Well over four fifths (85.7) percent were dissatisfied while only 8.6 percent were satisfied with speed and quality of maintenance work, Another 5.8 percent were uncertain.

The question of maintenance work on government houses now summed up by an officer in Building Maintenance and Housing branch of the Ministry when interviewed by the researcher, thus "there is no maintenance done, ... no money is allocated and there are no materials in the stores. If an occupant requires maintenance work

he should buy the materials necessary, the Ministry will offer the labour".

Most of the respondents were not aware that there are maintenance officers at each depot while others preferred to deal with head office straight. The depot maintenance officers are not informed when a house is vacated or occupied hence have no proper records of the occupants of estates under them, It is therefore not surprising that most of the respondents are dissatisfied with the index on maintenance. This can be traced back to the poor housing allocation practices.

viii) Occupants Welfare

The mean score for this index was 0.443 an equivalent of 8.8 percent. This indicates that most of the respondents were strongly dissatisfied with the welfare services available. Over half of the respondents (54.3 percent) were strongly dissatisfied, 39.9 percent were dissatisfied, 2.9 percent were satisfied and another 2 percent were indifferent with the welfare services. The only form of welfare grouping was where the residents contribute money and hire a security guard. However, this is not very popular as some of the residents are not cooperative. An officer in the employer offers nothing in form of welfare services.

ix) Condition of building structure

Table 3:27 shows the incidence of defects in the 46 out of 50 sampled housing units in the Ministry of Public Works.

Table 3:27 Incidence of Defects

Building Component	Defects in Percentages of Total observed	
	Yes	No
Walls	65.7	34.3
Roofs	29.5	70.5
Ceilings	45.7	54.3
Windows and Doors	51.5	48.5
Floors	51.4	48.6
Sanitary Fittings	69.3	30.7
Electric Fittings	58.3	41.7
Locks and Lashes	54.0	46.0
Total Mean	59.2	40.8

Source: Compiled by author from field data.

The Ministry of Public Works have no planned preventive programme on maintenance. There are no house inspections carried

out and maintenance work is only done if defect is reported by the occupants. This has resulted to an accumulation of building defects reflected by the high percentage level of components with defects averaging 59.2 percent.

The walls are constructed of stone and require internal and external decorations which is the responsibility of the Ministry. None of the houses visited during the survey had been redecorated since the construction of the estate. Thus in many of the houses walls are dirty, plaster is peeling off and there is blustering of paint. Of the houses visited 42.4 percent had stained paint, 31.8 percent had peeled plaster and 27.2 percent had white deposits on the walls which is evidence of efflorescence.

Roofs had the lowest incidence of defects 29.5 percent, some of which included broken tiles leading to leakage and rotting of the timber truss. Roof defects may lead to defective ceilings. In this case study, defects on ceilings were high (45.7 percent) than those on roofs. Of the houses with ceilings 18.4 percent had parts of the ceilings missing or perforated.

The bathrooms and toilets had the highest incidence of defects on sanitary fittings which were reported in 69.3 percent of the houses visited during the field surveys, where the fittings were either broken or not functioning at all. Other defects were reported with malfunctioning water taps, house drainage systems, broken window panes, rotting timber framed doors, loose hedges and missing doors. Half of the houses (51.4 percent) visited had dirty or dented floors due to normal wear and tear. The housing

management indicated that undertaking and maintenance was impossible since funding was always inadequate by 98 percent of the actual need. Other factors that compound the situation are lack of adequate and skilled manpower, rigid bureaucratic procedures and lack of transport.

x) Final index

The final index groups satisfaction indices to enable compound and derivation of the mean score sharing the overall residential satisfaction by the housed civil servants.

The examination of the proportional distribution of respondents scores on the final index contained in table 3:28 indicates that, on average, most respondents were dissatisfied with the current residential situation as offered by the Ministry of Public Works with the mean score of the index equivalent to 41.9 percent. The group of households that expressed dissatisfaction with the current residential conditions constituted 41.0 percent of the total sample households. Slightly over a quarter (26.3 percent) were satisfied while 32.5 percent were indifferent. There is indeed room for improvement if we adopt the view that at least a degree of satisfaction has to be expressed to conclude that the housing estates provide an adequate living environment.

Table 3:28 Final Index Score to Measure Overall Residential Satisfaction

Variable	Index Score (Percentage)					Mean Score
	Strongly dissatisfied	Dissatisfied	Undecided	Satisfied	Strongly Satisfied	
Dwelling unit	30.9	4.3	35.7	21.9	7.1	2.342
House allocation procedure	22.8	30.8	22.8	20.0	1.5	1.914
Public facilities	30.7	54.0	4.3	7.1	3.9	1.921
Locational Aspects	11.0	3.8	43.2	38.2	3.8	2.751
Neighbours	0	17.1	14.3	62.9	2.9	3.629
Environmental State	17.6	7.2	46.1	21.9	7.2	1.878
Maintenance	24.3	61.4	5.8	5.7	2.9	1.928
Occupant's welfare	54.3	39.9	2.9	0	2.9	0.443
Total Mean	24.0	32.5	17.0	22.3	4.0	2.100

Source: Derived from the eight satisfaction indices.

Interpolation:

$$\frac{2.100 - 2.001}{3.000 - 2.001} \times 19.9 = 1.9 + 40 = 41.9\%$$

The dissatisfaction expressed by the respondents maybe attributed to the inadequacy of the building maintenance housing section in the Ministry of Public Works which has led to the deterioration of government housing estates. The department is not represented in the design teams and its functions had been reduced to maintenance and selection of applicants which, as evidenced in the earlier discussion are poorly executed. There is no pre-

occupancy education by the housing section and new occupants are not informed of the use of facilities in the houses. Although there is a laid down selection procedure it is not adhered to and corruption is clearly evident with several officers on transfer to other provinces retaining the government houses in Nairobi. Cases of subletting or letting the whole houses go easily undetected. After allocation of the house the housing section does not ensure that the occupant forfeits the required amount of money. Thus the government loses money in form of rent, which would otherwise have been used for maintenance.

As mentioned earlier, maintenance work is only carried out when a defect is reported by the occupant. However lack of planned, preventive programme means that there is an accumulation of maintenance work in the estates and this increases the amount of money needed for rectification. The houses therefore deteriorate at a higher rate than when preventive maintenance programme is planned. Lack of inspections on the houses means that minor defects are not repaired until they are major and more expensive.

The housing branch has completely neglected the occupant's welfare, does not allow for transfers and exchanges and do not liaise with the welfare institutions to provide adequate services to government estates.

Combined Index

Table 3:29 groups together the three final indices means scores to enable a comparison of the overall residential satisfaction for the three institutions.

Table 3:29 A Comparison of Indices Between Kenya Pipeline Company and Kenya Breweries Limited with the Ministry of Public Works

Satisfaction index	<u>Mean score</u>		Subtotal Mean Score for K.P.C + K.B.L.	Mean Score M.O.P.W.	Total Mean Score for Three
	K.P.C Institutions	K.B.L			
Dwelling unit	3.820	3.053	3.436	2.342	3.072
Allocation procedure	3.302	2.944	3.123	1.914	2.720
Public facilities	2.845	3.511	3.178	1.921	2.759
Locational Aspects	2.381	3.545	2.963	2.751	2.892
Neighbours	3.579	3.182	3.380	3.629	3.463
Environmental State	3.671	3.418	3.544	1.878	2.989
Maintenance	2.789	3.273	3.031	1.928	2.663
Occupant's welfare	1.600	1.764	1.682	0.443	1.269
Total Mean	2.998	3.086	3.042	2.100	2.728

Source: Compiled by author from the final indices.

A glance at table 3:29 reveals that there is a remarkable difference between the residential environment offered by the Kenya Pipeline Company and Kenya Breweries Limited on one hand and Ministry of Public Works on the other. While the housed employees

of Kenya Pipeline Company and Kenya Breweries Limited were satisfied with their residential conditions. The Civil servants were indifferent to the current quality of their residential conditions, as indicated by their means as 3.042 (60.8 percent), and 2.100 (41.9 percent) respectively. Thus state of affairs can be attributed to a number of reasons.

One, other than inadequate skilled manpower, the functions of estates management in the M.O.P.W. have been inadequately defined. Allocation and maintenance of the houses are the only estate management functions included in the definition of duties and responsibilities falling under the Building Maintenance and Housing Branch. Rent collection is done by Ministry of Finance while the project inception and implementation is done by the department of Housing in the Ministry of Lands and Housing. Other functions such as garbage collection, water supply and fire protection are carried out by Nairobi City Commission. The functions and omission of others (welfare, playgrounds) greatly contribute to the low satisfaction level. On the other hand, K.P.C and K.B.L has a well established and staffed estate department with clearly and comprehensively defined functions. Though K.P.C. lack an estate department there is a senior officer trained in estate management who is in charge of the company's housing estates.

Second, the Building Maintenance and Housing branch of the M.O.P.W. is charged not only with the management of housing estate but also all government office buildings. This enormously increases the branch management work while their funding has

continued to decrease over years. An officer in the housing branch noted that they are currently being underfunded by 98 percent. The estates department of K.B.L. has the responsibility of managing both the housing estates and company depots whose expenditure is under the same fund. However, the company finance policy is clear on both areas and money is always availed for their management. On the other hand the management of the K.P.C. properties other than the housing estates are the responsibility of the technical department.

Finally, whereas defects are promptly dealt with in K.B.L. and K.P.C. housing estates, long delays in M.O.P.W. are the rule rather than the exception. In some cases reported defects remain unattended. This is due to the unnecessary bureaucratic procedures, inadequate finance for purchase of materials, unreliable transport systems, general laxity among the officers and lack of awareness on the part of the occupants on exactly what to do when they are in difficulties with their dwelling conditions.

Taking different components mean of residential environment into consideration, it is evident from table 3:29 that the welfare of the dwellers was the lowest on average (1.269 or 45.3 percent) with the M.O.P.W. recording the lowest at 0.443 (8.8 percent). Whereas there is virtually no attention given to the welfare of M.O.P.W. house occupants, the welfare facilities offered to those residing in K.P.C. and K.B.C. are inadequate. There are no voluntary welfare associations in K.P.C. and M.O.P.W. The K.P.L. welfare associations are not very effective as they are only active

in funeral arrangements. None of the housing management departments has helped the welfare associations to liaise with the Ministry of Culture and Social Service for the benefit of their estate residents. No cultural festivals or sporting activities for people of all age groups.

On the other hand the mean on satisfaction with neighbours was the highest (3.463 or 69.2 percent) with the M.O.P.W. recording the highest at 3.629 (72.5 percent). This high level of satisfaction can be attributed to the fact that the employer is the same, the occupants have a similar social-economic status, a similar occupation background or designation, similar education background and similar interests to some extent and the long periods of staying as neighbours especially for the case of M.O.P.W.

The mean score of the dwelling unit was 3.072 (4.4 percent) with the K.P.C. recording the highest at 3.820 (76.3 percent). This relatively high level of satisfaction can be attributed to the two factors. The first is the realization among the cost than more than what the employer is charging. Secondly their previous living conditions were worse. Ample room space was another factor for the case of K.P.C.

The overall index measured on average 7.728 (54.4 percent) which is just above the hypothetical midpoint of 2.500 on the scale. This indicate indifference to the current quality of residential environment. The dwelling units and neighbours were acceptable to the respondents while they were uncertain about house allocation procedure, public facilities, estates locational aspects

environmental conditions and maintenance policy and procedure. The occupants welfare are perceived as clearly unsatisfactory.

It is for this reason that the hypothesis, that is, the current estate management practices in use in the institutions are not adequate to ensure residential satisfaction among the dwellers, is accepted only for the case of MoPW. However, it should be noted that KBL and KPC satisfaction levels on residential conditions exceed the uncertainty range by very small margins, that is 0.086 (1.7 percent) and 0.002 (0.02 percent) respectively. Hence they should also improve their estate management practices and techniques to raise the satisfaction level on residential conditions.

Among the poor management services in most estates are garbage collection, estates cleanliness, residents welfare, maintenance, handling of vacant premises, public telephone and libraries which are completely non-existent. The next section compares the variability of the overall means for K.P.C., K.B.L. and M.O.P.W.

Analysis of Variance

In this section the study attempts to compare the means obtained for the three institutions or case studies through the application of analysis of variance and employment of the 'F' distribution.

[a] Calculations of sum of squares

i] Treatment sum of squares (SST)

$$SST = r \sum (X_j - \bar{X})^2$$

$$SST = 8 (0.154 + 0.095 + 0.489)$$

$$SST = \underline{5.904}$$

ii] Total sum of squares (Total SS)

$$\text{Total SS} = \sum (ij - \bar{X})^2$$

$$\text{Total SS} = 3.542 + 4.638 + 9.559$$

$$\text{Total SS} = \underline{17.739}$$

iii] Blocks of sum of squares (SSB)

$$SSB = C \sum (X_{ij} - \bar{X})^2$$

$$SSB = 3(0.142 + 0.011 + 0.004 + 0.047 + 0.413 + 0.144 + 0.039 + 2.002).$$

$$SSB = \underline{8.556}$$

iv] Error sum of squares (SSE)

$$SSE = \text{Total SS} - SST - SSB$$

$$SSE = 17.739 - 5.904 - 8.556$$

$$SSE = \underline{3.279}$$

b) Calculation of mean squares

i] Treatments of mean squares (MST)

$$MST = \frac{SST}{C-1} = \frac{5.904}{3-1} = \underline{2.952}$$

C-1

3-1

ii] Error mean squares (MSE)

$$\text{MSE} = \frac{\text{SSE}}{(r-1)(c-1)} = \frac{3.279}{(8-1)(3-1)} = \underline{0.234}$$

iii] Block mean squares (MSB)

$$\text{MSB} = \frac{\text{SSB}}{r-1} = \frac{8.556}{8-1} = \underline{1.222}$$

c] Testing the null Hypothesis (H_0) using F statistic.

$$H_0 : U_1 = U_2 = U_3$$

$$F = \frac{\text{MST}}{\text{MSE}} = \frac{2.952}{0.234} = \underline{12.61}$$

With the degree of freedom being 2 for the numerator and 14 for the denominator the critical value of $F_{0.01} = 6.51$. The computed value of $F + 2.78$ falls in the rejection region indicating that the residential satisfaction means of all the three institutions, that is, K.P.C., K.B.L. and M.O.P.W. are equal. On the other hand the satisfaction means of K.B.L. and K.P.C. are not significantly different as the computed value of $F_{0.05} = 4.60$. Thus the M.O.P.W can use both of K.B.L. and K.P.C. as the models in order to improve the management of their housing estates which in turn will raise the satisfaction mean of the residential conditions.

CHAPTER IV

CONCLUSION AND RECOMMENDATIONS

This chapter contains the theme of the study, a summary of the estate management functions which have been reviewed, the main findings of the study in the light of which the hypothesis is examined and finally the recommendations of the study.

The housed employees of K.B.L, K.P.C. and M.O.P.W. are the subjects of this study. The hypothesis is that the current estate management practices in use in the institutions are not adequate to ensure residential satisfaction among the dwellers. The central theme of the study that estate management is not given the attention it deserves in these institutions.

A number of estate management functions have been examined. They are lay-out and design, tenants selection, pre-occupancy education and tenants' agreements, transfer and exchange, tenants' welfare, maintenance and repairs, security, work execution, building records, refuse disposal, rent collection, rent arrears, fire insurance and organisation structure.

The management experience should be transmitted to the design team for it is important for good and economical estate layout and design. When a housing programme is beginning it is of paramount importance that the tenants' selection model adopted should be beyond public criticism as the function is important to the whole programme. The selected tenants should then be educated on the proper use of facilities provided, conditions of tenancy and their

responsibilities. An elastic policy with regard to transfer and exchange ensures that the best use is made of existing accommodation. At a very early stage in the planning of an estate, there should be a well established environment philosophy that will affect the physiological and mental well-being of the occupants. A sound maintenance programme, adequate and trained labour force, economical work execution methods, up to date building records and most important adequate financing are mandatory in any attempt to curb house deterioration. Tenants involvement can greatly reduce the maintenance cost and hence the overall management costs.

Conclusions

If the functions of estate management are performed effectively in the institutions, it is expected that the estates will be: clean, secure, provided with the necessary public facilities, well maintained, have adequate fire fighting equipment with the tenants being involved in the management of their estate and have existing and active tenants welfare associations. This in turn ensure an overall satisfaction residential environment.

This research, however, found out that the overall residential condition in the institutions housing estates is not satisfactory. The combined index mean score is 2.728 (54.4 percent) which falls in the indifference range on the scale. The absence of an estate department in the case of K.P.C., the combining of depot and housing estate management in K.B.L and the narrow definition of

estate management functions, inadequate financing and staffing of the Building and Housing Branch and combining the management of office and housing estates in the M.O.P.W. greatly reduced the effectiveness of the estate management practices in the institutions housing estates.

The house allocation procedure in the three institutions is clearly defined but not strictly adhered to in M.O.P.W. However, the lack of pre-occupancy education in the institutions has resulted to poor understanding of the housing agreement conditions which in turn leads to misuse and negligence of the facilities provided.

Maintenance work in K.B.C. is carried out by the estate department's skilled maintenance men in adherence to a well defined and financed maintenance programme. In contrast, the M.O.P.W. maintenance work is marred by poor financing, inadequate personnel and lengthy bureaucratic procedures, while in K.P.C there is neither a clear cut maintenance procedure nor a maintenance programme. This explains the poor quality of workmanship and low speed of work execution.

Residents in K.P.C. housing estate complained of noise from nearby airport while those in the M.O.P.W. estates spoke of noise from children playing within the estates. Smells from blocked drainage, heaps of uncollected garbage are common in M.O.P.W. housing estates while K.B.L. dwellers complained of smells from the factory within the compound.

In K.B.L., transportation is provided for the employees and their school going children. The company has also supplemented the Nairobi City Commission's efforts in garbage collection and provision of water in Tusker and Allsopps housing estates. In K.P.C. and M.O.P.W. the residents use public transport and rely on Nairobi City Commission for the provision of the services.

None of the institutions recognizes the importance of tenants welfare associations and the reduction in management cost which can be achieved by the encouragement of tenants participation in the management. This function and that of house insurance are areas not attended to. Another common factor to the residents of all the institutions was realization that their house allowances would condemn them into estates whose residential conditions are worse.

From the conclusions, the hypothesis that the current estate management practices in use in the institutions are not adequate to ensure residential satisfaction among the dwellers is accepted.

Recommendations

In the earlier discussions of the thesis, various ways were suggested, though not explicitly of solving the estate management problems identified. The following are the main recommendations of the study.

The establishment of estate department is paramount. This increases the effectiveness and efficiency of estate management. The tenants know where and who to consult when they have a problem.

The managers alike are able to concentrate on estate management without distraction arising from other responsibilities. Further the department should have clearly and comprehensively defined roles and functions.

The department should maintain a housing fund. This ensures that maintenance problems are handled as they arise. Delays in the execution of maintenance work results in high expenditures. The house allowances forfeited by the tenants should be part of the housing fund. If it exceeds the maintenance budget the surplus can be used for the provision for further housing. The department of Housing in the Ministry of Lands and Housing should be moved to the M.O.P.W. and assume the management of government housing estates while the Building and Housing Branch of the M.O.P.W. should be responsible for the management of government office buildings. In K.B.L. the management functions of the depots and housing estates should be clearly distinguished.

The institutions should strive to employ qualified personnel. This ensures that the estates are managed professionally and the tenants are handled in an encouraging manner. The training should however involve all cadres of the management including those at the front line who rank lowest in the organizations.

Other than the management manual for the housing units there should be a standard operation procedure. Manuals clearly spelling out the procedure to be followed in reporting of defects, duration within which they should be rectified, and frequency of house inspection among others. It is not enough to have elaborate house

allocation policies. Strict adherence to the policy is just as important.

Malpractices in housing allocation such as those observed in M.O.P.W. result in dissatisfaction both to those who benefit and those who do not. These policies should also consider the job grade as well as the size and composition of the family in relation to the space available. This was major complaint from the K.B.L. employees.

Prior to occupancy a schedule of conditions of the dwelling unit should be prepared. This should be counter signed by the new tenant. This, to great extent will instill a sense of responsibility to the tenant which ensures reasonable care for the facilities provided. The tenant should be made aware that the schedule will be used as a check out on vacating the house. The policy should consider the job grade as well as the size and composition of the family in relation to the spaces available.

A thorough understanding of the housing agreement conditions and proper care and use of facilities provided is necessary. This is only possible through pre-occupancy education which involves casual visits by the housing staff even after occupancy. The tenants obligations should be clearly explained at this stage. They should be encouraged to report defects promptly and educated on the maintenance procedures among other practices.

The estate departments in the institutions should have within it's establishment a number of staff whose work will be purely concerned with the social welfare of the tenant where they address

themselves, to questions of health, family feelings and emotions, type of social contrasts and relation with the neighbours and other members of the society and provision of community facilities. These officers should work in close liaison with bodies providing such services. Careful handling of tenants associations can greatly reduce the management cost through tenant participation in the manning of the estates. A spirit of partnership between tenants and landlord and between tenants themselves should be cultivated through the associations.

The estate departments of the M.O.P.W. and K.P.C. should consider supplementing the Nairobi City Commission efforts in provision of clean water and the collection of garbage. The City Commission on its part should licence the drilling of boreholes with minimum bottlenecks. It should also view the privatisation of garbage collection as a way of supplementing its efforts on the same.

Other than the improvement of fire fighting facilities in the institutions' housing estates, a comprehensive insurance policy is necessary. While fire insurance is viewed as the most important, other insurance policy covers such as consequential loss, public liability, plate glass insurance and burglary insurance should never be overlooked. Frequent inspections to detect possible sources of fire should be made.

While it is widely held that the estate managers should be incorporated in the design teams, their contribution in the team will be inadequate without proper records of experiences

accumulated from the management of existing estates. Such records are important as they highlight inadequacies, of certain architectural layouts and building plans as well as their strong points. This implies the overall residential environment for the future tenants. It also ensures a reduction of management cost of such estates.

There is a need to introduce computers in the estate departments. This will not only increase efficiency but will go a long way in reducing the management cost.

Finally, it is recommended that similar research should be carried out on estates which are designed according to the owners specifications vis-avis the commercial estates.

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APPENDIXQUESTIONNAIRE FOR THE MANAGEMENT

1. As a Housing Manager, When does your role begin - before occupying or just after occupying?

If before occupying please state areas of participation.

2. Do you have a Housing Department . Section in the institutions
- Yes/No

If Yes, (i) how is the department/section organized?

(ii) Indicate the total number of the following staff:-

- a] Housing Manager
- b] Assistant Housing Manager(s)
- c] Management Assistant(s)
- d] Superintendent of Estates
- e] Assistant Superintendent of Estates
- f] Stenographer
- g] Book-Keeper Accountant
- h] Typist Clerk
- i] Maintenance men
 - Carpenters
 - Plumbers
 - Electricians
 - Glaziers
 - Masons
 - Painters

- j] Stockroom clerk
- k] Caretaker
- l] Gardeners
- m] Cleaners
- n] Security
- o] Seasonal Labours

3. Do you have any training programme for the staff of housing department? Yes/No

4. What is the proposed future staff expansion related to housing work in the next 5 years?

<u>Function</u>	<u>Department</u>	<u>Number</u>
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5. How do you assess need for housing accommodation?

i] Keeping a waiting list Yes/No

ii] Number of employees Yes/No

6. If the institution keeps a waiting lists, state what factors qualify an applicant to be entered on the list.

i] Waiting list is unrestricted for all Yes/No

ii] " " " based on working period Yes/No

iii] Other specify

7. Do you keep a separate list for each housing estate? Yes/No

8. If No, how do you ensure that an applicant is wait listed for the correct accommodation?

9. How regularly is the waiting list revised?

10. Which of the following procedures does the institution use in allocating the available accommodation to applicants on the waiting list?
- i] Selection is made by officers in accordance with some laid down policy Yes/No
 - ii] Selection is made by secret balloting Yes/No
 - iii] Selection based on point system Yes/No
 - iv] Selection based on first come first served basis Yes/No
 - v] Others specify
11. Why haven't you provided housing to all your employee?
12. When do the successful applicants sign lease agreements?
13. State circumstances under which transfer and exchanges are allowed:-
- i] No transfer/exchange is allowed Yes/No
 - ii] Transfer allowed where institutions want to make better use of the house Yes/No
 - iii] Exchange allowed where both employees will benefit Yes/No
14. Is the maintenance and repair work done through direct or indirect labour?
15. What is an occupant expected to do in case of a defect or damage in his unit?
16. How long do repairs take to be carried after reporting?
17. Does the institution keep a maintenance and repair schedule for housing?

- 18. What have been the major maintenance problem in the estates?
- 19. What would you consider as remedy to reduce the maintenance problems in your housing estate?
- 20. Who ensures that the premises are maintained in the manner required by the Regulations Acts?
- 21. State what items of work are included under maintenance and repairs?
 - i] Surface water drainage Yes/No
 - ii] Road tarmacadamizing Yes/No
 - iii] Redecoration and replacement of internal and external broken parts of building Yes/No
 - iv] Others specify Yes/No
- 22. State the balances in the maintenance and repairs account in the following years?
 - 1985
 - 1986
 - 1987
 - 1988
 - 1989
- 23. If the balance was a deficit, what was the reason?
- 24. Does the institution have a separate fund for housing?
Yes/No
If No. give reasons.....
- 25. What is the basis of rental calculation for the institution housing units?

26. How does the method of calculation accommodate the ever increasing management and maintenance costs over the life of the estates?
27. What items does the institution include under the welfare services?
28. How are they provided?
29. Do you have any voluntary association in your estates?
Yes/No
30. If Yes, do their activities have anything to do with the welfare services provided by the institutions? Yes/No
31. a] If No, do you think there is nay need for the residents to form themselves into committees or association
Yes/No
- b] What purpose do you think the committee or association would serve?
- i] to act as a bridge of communication between the would management and the residents Yes/No
- ii] to check on the cleanliness of the communal places and to stop children from dirtying the walls
Yes/No
- iii] to run social and cultural activities such as canteens, sports, firms shows etc. Yes/No

32. State the amount of house allowance forfeited, amount spent on maintenance repairs and insurance and other expenses since 1985

Year	Hse allowance forfeited	Amt for repairs	Amt for insurance	Other Expenses
------	-------------------------	-----------------	-------------------	----------------

1985

1986

1987

1988

1989

33. Are there any complaints regarding the management work?

Yes/No

If Yes, specify.....

34. Highlight the major problems you experience in your work

35. What general comment would you like to make with regard to Estate Management?

QUESTIONNAIRE FOR THE TENANT

1. Name of Tenant
2. Size of Family
3. Occupation Income
4. Name of Estate House No.
5. Amount of House Allowance forfeited
6. How long have you lived here
7. No. of rooms occupied with/without kitchen/toilet/bath
8. What is your feeling on the quality of shelter provided in terms of:-

a] The size and number of rooms:-

- 1] Strongly dissatisfied
- 2] Dissatisfied
- 3] Undecided
- 4] Satisfied
- 5] Strongly satisfied

Please give reason(s) for your answer.

b] Kitchen and cooking areas:-

- 1] Strongly dissatisfied
- 2] Dissatisfied
- 3] Undecided
- 4] Satisfied
- 5] Strongly satisfied

Please give reason(s) for your answer.

c] Laundry and washing areas:-

- 1] Strongly dissatisfied
- 2] Dissatisfied
- 3] Undecided
- 4] Satisfied
- 5] Strongly satisfied

Please give reason(s) for your answer.

d] Bathroom and toilet:-

- 1] Strongly dissatisfied
- 2] Dissatisfied
- 3] Undecided
- 4] Satisfied
- 5] Strongly satisfied

Please give reason(s) for your answer.

e] House ventilation:-

- 1] Strongly dissatisfied
- 2] Dissatisfied
- 3] Undecided
- 4] Satisfied
- 5] Strongly satisfied

Please give reason(s) for your answer.

f] Brightness or natural sunlight inside the unit:-

- 1] Strongly dissatisfied
- 2] Dissatisfied
- 3] Undecided

4] Satisfied

5] Strongly satisfied

Please give reason(s) for your answer.

9. a] What is your stand on the house allocation procedure?

1]. Strongly dissatisfied

2] Dissatisfied

3] Undecided

4] Satisfied

5] Strongly satisfied

b] What do you think should be changed in this procedure?

1] Strongly dissatisfied

2] Dissatisfied

3] Undecided

4] Satisfied

5] Strongly satisfied

10. What is your feeling about the housing agreement conditions from your employer?

1] Strongly dissatisfied

2] Dissatisfied

3] Undecided

4] Satisfied

5] Strongly satisfied

Give your comments:-

11. Indicate your stand on the provision and maintenance of the following public facilities:-

a] Recreational facilities:-

- 1] Strongly dissatisfied
- 2] Dissatisfied
- 3] Undecided
- 4] Satisfied
- 5] Strongly satisfied

Please give your comments

b] Children's playgrounds:-

- 1] Strongly dissatisfied
- 2] Dissatisfied
- 3] Undecided
- 4] Satisfied
- 5] Strongly satisfied

Give reason(s) for your answer.

c] Playgrounds:-

- 1] Strongly dissatisfied
- 2] Dissatisfied
- 3] Undecided
- 4] Satisfied
- 5] Strongly satisfied

Why do you feel so?

d] Public parking areas:-

- 1] Strongly dissatisfied
- 2] Dissatisfied

- 3] Undecided
- 4] Satisfied
- 5] Strongly satisfied

Please give your comments:

e] Safety and security systems:-

- 1] Strongly dissatisfied
- 2] Dissatisfied
- 3] Undecided
- 4] Satisfied
- 5] Strongly satisfied

How do you think it can be improved?

f] Fire protection:-

- 1] Strongly dissatisfied
- 2] Dissatisfied
- 3] Undecided
- 4] Satisfied
- 5] Strongly satisfied

Please give your comments for your answer.....

g] Garbage collection:-

- 1] Strongly dissatisfied
- 2] Dissatisfied
- 3] Undecided
- 4] Satisfied
- 5] Strongly satisfied

How do you think it can be improved?.....

h) Libraries:-

- 1] Strongly dissatisfied
- 2] Dissatisfied
- 3] Undecided
- 4]. Satisfied
- 5] Strongly satisfied

Why do you feel so?

12. What else would you like provided for public use?

13. What is your general feeling about the following factors:-

a) Distance to work:-

- 1] Strongly dissatisfied
- 2] Dissatisfied
- 3] Undecided
- 4] Satisfied
- 5] Strongly satisfied

Reasons your answer

b) Distance to school:-

- 1] Strongly dissatisfied
- 2] Dissatisfied
- 3] Undecided
- 4] Satisfied
- 5] Strongly satisfied

Reasons for your answer

c) Accessibility for your answer/feelings:-

- 1] Strongly dissatisfied
- 2] Dissatisfied

- 3] Undecided
- 4] Satisfied
- 5] Strongly satisfied

Give comments for your answer/feelings

d] Mode and convenience of public transportation:-

- 1] Strongly dissatisfied
- 2] Dissatisfied
- 3] Undecided
- 4] Satisfied
- 5] Strongly satisfied

Why do you feel so?

e] Availability of public telephone services

- 1] Strongly dissatisfied
- 2] Dissatisfied
- 3] Undecided
- 4] Satisfied
- 5] Strongly satisfied

What do you think can be done to improve the services?

f] Street lighting at night:-

- 1] Strongly dissatisfied
- 2] Dissatisfied
- 3] Undecided
- 4] Satisfied
- 5] Strongly satisfied

Why do you feel so?

g] The water supply system:-

- 1] Strongly dissatisfied
- 2] Dissatisfied
- 3] Undecided
- 4] Satisfied
- 5] Strongly satisfied

Reasons for your answer'

h] Distance to health clinic:-

- 1] Strongly dissatisfied
- 2] Dissatisfied
- 3] Undecided
- 4] Satisfied
- 5] Strongly satisfied

Please give your comments:

14. What is your satisfaction level on your neighbours?

- 1] Strongly dissatisfied
- 2] Dissatisfied
- 3] Undecided
- 4] Satisfied
- 5] Strongly satisfied

Please give your comments:

15. What is the general feeling about the following environment factors:-

a] Amount of noise:-

- 1] Strongly dissatisfied
- 2] Dissatisfied

- 3] Undecided
- 4] Satisfied
- 5] Strongly satisfied

Give your comments:

b] Amount of smokes and odours:-

- 1] Strongly dissatisfied
- 2] Dissatisfied
- 3] Undecided
- 4] Satisfied
- 5] Strongly satisfied

Give your comments:

c] Cleanliness of the Estate:-

- 1] Strongly dissatisfied
- 2] Dissatisfied
- 3] Undecided
- 4] Satisfied
- 5] Strongly satisfied

How do you think it can be improved

d] Roads and walkways:-

- 1] Strongly dissatisfied
- 2] Dissatisfied
- 3] Undecided
- 4] Satisfied
- 5] Strongly satisfied

Why do you think so?

e] Drainage:-

- 1] Strongly dissatisfied
- 2] Dissatisfied
- 3] Undecided
- 4] Satisfied
- 5] Strongly satisfied

Give reason(s) for your answer

f] Privacy in your house:-

- 1] Strongly dissatisfied
- 2] Dissatisfied
- 3] Undecided
- 4] Satisfied
- 5] Strongly satisfied

Please give your comments:

16. Please state the condition of the following items in your house

- a] Walls-
- i] Have cracks
 - ii] Have appearances of white deposits
 - iii] Have stained paint
 - iv] Plaster is peeling off
 - v] Looks damp
 - vi] No repainting since occupying the house
- b] Roofs
- i] Is leaking
 - ii] Is timber rotting
 - iii] Is sagging and spreading

- c] Ceilings
 - i] Have dirty marks
 - ii] Is sagging
 - iii] Has come off
- d] Windows and doors:-
 - i] Wood is rotting
 - ii] Metal is rusting
 - iii] Has come off
- e] Floors
 - i] Is cracking
 - ii] Is scratched/indented
 - iii] Is looking dirty
- f] Sanitary fittings
 - i] Broken WC (toilet) pane
 - ii] Broken baths/shower
 - iii] Cisterns not flushing
 - iv] Taps leaking
- g] Electric fittings:
 - i] Switches broken
 - ii] Sockets not working
 - iii] Bulbs not replaced
 - iv] Water heaters not working
- h] Locks:-
 - i] Have been broken
 - ii] Have been stolen.

17. What is your feeling about the following issues:-

- a] Procedure and speed of maintenance:-
 - 1] Strongly dissatisfied
 - 2] Dissatisfied

- 3] Undecided
- 4] Satisfied
- 5] Strongly satisfied

How do you think the situation can be improved?

b] The standard or quality of maintenance and repair work done:-

- 1] Strongly dissatisfied
- 2] Dissatisfied
- 3] Undecided
- 4] Satisfied
- 5] Strongly satisfied

Why do you feel so?

18. Are there any voluntary association in your estate Yes/No

i] If Yes, what is your feeling about:-

a] The services provided:-

- 1] Strongly dissatisfied
- 2] Dissatisfied
- 3] Undecided
- 4] Satisfied
- 5] Strongly satisfied

Why do you feel so?

b] The appointment in election of the officials:-

- 1] Strongly dissatisfied
- 2] Dissatisfied
- 3] Undecided

4] Satisfied

5] Strongly satisfied

Give reasons for your answer

ii] If no, do you think there is need for one?

Yes/No

iii] What duties do you think the voluntary association should perform?

RECORD OF OBSERVATIONS

1. Name of Estate
2. Location of Estate
3. Year of construction
4. No. of units
 - i] 1 roomed units
 - ii] 2 roomed units
 - iii] 3 roomed units
 - iv] 4 roomed units
5. Cost of construction per unit/whole estate.....
6. Sources of funds for the development.
7. What infrastructure is provided in the estate?
 - 1] Mains water/borehole
 - 2] Main sewer/septic/cesspit
 - 3] Main electricity/generator
 - 4] Refuse collection in dustbins/rubbish pits
 - 5] Tarmacadam/murram roads

8. What community facilities are provided?
- 1] Shopping centres
 - 2] Community Centres/Social Hall/Library
 - 3] Health clinics
 - 4] Play grounds
 - 5] Bus routes
9. What building materials were used?
- 1] Walls
 - 2] Roofs
 - 3] Windows
 - 4] Floors finishes
 - 5] Doors
 - 6] Staircase
10. What is the condition of the
- | | |
|-----------------------|----------------|
| 1] Building structure | Good/Fair/Poor |
| 2] Estate | Good/Fair/Poor |
| 3] Decoration | Good/Fair/Poor |
| 4] Grounds | Good/Fair/Poor |
| 5] Other (specify) | Good/Fair/Poor |
11. How regularly has the estate been painted both externally and internally?

12. When were the above works last executed in the estate since 1985.

Years	Item	No. of cases
-------	------	--------------

1985-1989	Roof	
1985-1989	Walls	
1985-1989	WC's	
1985-1989	Doors	
1985-1989	Windows	
1985-1989	Floors	
1985-1989	Electricity fault	
1985-1989	Water pipes and taps	

14. What do you consider to be the major cause of maintenance and repair work executed in the estate?

1] Building materials used (specify)	Yes/No
2] Poor workmanship (specify)	Yes/No
3] Age of building	Yes/No
4] Misuse	Yes/No
5] Climate	Yes/No
6] Normal wear and tear on account of age	Yes/No
7] Neglect	Yes/No
8] Vandalism	Yes/No
9] Management	Yes/No

15. Please state the condition of the following items in your house

- a] Walls-
- i] Have cracks
 - ii] Have appearances of white deposits
 - iii] Have stained paint
 - iv] Plaster is peeling off
 - v] Looks damp
 - vi] No repainting since occupying the house
- b] Roofs
- i] Is leaking
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 - iii] Is sagging and spreading
- c] Ceilings
- i] Have dirty marks
 - ii] Is sagging
 - iii] Has come off
- d] Windows and doors:-
- i] Wood is rotting
 - ii] Metal is rusting
 - iii] Has come off
- e] Floors
- i] Is cracking
 - ii] Is scratched/indented
 - iii] Is looking dirty
- f] Sanitary fittings
- i] Broken WC (toilet) pane
 - ii] Broken baths/shower
 - iii] Cisterns not flushing
 - iv] Taps leaking

g] Electric fittings:

- i] Switches broken
- ii] Sockets not working
- iii] Bulbs not replaced
- iv] Water heaters not working

h] Locks:-

- i] Have been broken
- ii] Have been stolen.