

PLANNING FOR RECREATION AND OPEN SPACE,  
EASTLANDS, NAIROBI

UNIVERSITY OF NAIROBI  
LIBRARY

BY

MRS. FRANCISCA WANJIRU MAINA (B.A. HONS. NRB)

A THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE  
DEGREE OF MASTER OF ARTS IN PLANNING.

1982.

DEPARTMENT OF URBAN AND REGIONAL PLANNING  
Faculty of Architecture, Design and Development  
P. O. Box 30197 . Tel. 27444  
UNIVERSITY OF NAIROBI.

DECLARATION

This Thesis is my Original Work and has not been presented for a degree in any other University.

*Francisca Wajira*

---

MRS. F.W. MAINA  
(Candidate)

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

*Zahir Ismail*

---

ZAHIR ISMAIL  
(Supervisor)

Abstract

This study of recreation areas has been carried out in order to determine the extent and requirements of the Nairobi and the efficient utilization of existing recreation areas. The study is concerned with providing the community with recreation facilities in the form of a walking system.

**D E D I C A T I O N**

The study area has a high population, with a high density and a high unemployment rate. The facilities provided are insufficient to cater for the needs of the population and the open spaces are relatively small. The majority of the population here is economically weak compared to the other residents of the City of Nairobi and therefore they cannot afford to purchase or use recreational facilities and types that are paid for. Therefore, the study area is located further away from the provided recreational facilities, open spaces and parks. This means that this population has limited access to recreational facilities.

**T O Y O U N G M W A N G I M A I N A**

The study area is located further away from the provided recreational facilities, open spaces and parks. This means that this population has limited access to recreational facilities.

**As a means of Inspiration.**

The study area is located further away from the provided recreational facilities, open spaces and parks. This means that this population has limited access to recreational facilities.

ABSTRACT

Most studies on recreation that have hitherto been carried out in Kenya emphasise issues relating to the needs and requirements of the tourists and the affluent section of the Kenyan society. This study is concerned with providing the economically weak local resident with recreation facilities in his residential area and thus within a walking distance.

The study area has a high population, both in terms of numbers and density. However, it is endowed with relatively few recreational amenities and open spaces. The building layouts are themselves extravagant in space consumption and the indoor spaces are relatively small. The majority of the population here is economically weak compared to the other residents of the City of Nairobi and therefore they cannot afford to partake of those recreational facilities and types that are paid for. Ironically the study area is located further away from the provided recreational facilities, open spaces and parks. This means that this population has limited access to recreation facilities.

The questionnaire, key informants, available records and personal field observations were the main data gathering tools. Three housing estates were selected for questionnaire administration to heads of households. The questionnaire was self-administered by the respondents as it was translated into Kiswahili. From the key informants and available records, factual information and policies were gathered. The data was assembled and analysed manually with the use of a simple calculator.

The main foci of the research/on the demand and provision of recreational facilities, the maintenance and management of the open spaces, and the planning standards regarding recreation.

It was found that the felt need for recreation was above average and that there was a deficiency of recreational facilities. It was also found that children participate most in recreation, but that the state of affairs provides them with no room in which to play. They are displaced to roadsides and roundabouts and exposed to traffic dangers, and displaced into unsurveilled areas (by adults) where they are subject to the differential association concept. It was observed that the very high densities in indoor spaces results in an overspill of household activities into open spaces. Furthermore, the open spaces are themselves prone to other conflict uses due to the weak management of the City Council.

This study upholds the fact that recreation is an activity characterised by choice: Choice to participate or not to, choice of where to recreate, of duration of participation etc. Thus the viability of a recreation plan depends on how far the felt needs and requirements of the client population have been taken into account. As such, the planning standards should work from the same viewpoint. The study has proposed more social halls to be built in various convenient places, and has also proposed sites for the development of outdoor recreation places to correct the existing deficiencies. It has called on the Nairobi City Council to legislate on various issues so as to strengthen the management of recreation places and open spaces, and to mobilise communities to maintain their environments in healthy states. The study has

also recommended ways to maximise the utilisation of the existing recreational facilities within the study area.

This study is particularly handy at this period in time when more housing estates are built in various urban areas. The problem of Eastlands could not have been so deep rooted if these deficiencies were corrected in the initial planning stages. Developers and Local Authorities could avoid repeating these mistakes in other towns or housing estates by planning for all amenities well in advance and if they could take note of the discussions and recommendations presented in this work.

A C K N O W L E D G E M E N T S

I owe my gratitude to the Government through the Ministry of Lands, Settlement and Physical Planning for sponsoring me to take this post-graduate course in Planning. To my supervisors Professor Subbakrishniah and Zahir Ismail for their guidance and good counselling. Particularly to Zahir Ismail who bore with me to the end.

My gratitude in a very special way goes to my husband Mr. Maina for his encouragement, assistance and patience, and to my son Mwangi who spent countless days and evenings without me at home patiently.

I wish to thank my friends and colleagues both at the Ministry and at the University for their assistance and encouragement.

Last but not least, my special thanks goes to Miss Jennifer Maina for typing this work. I know it has been a great sacrifice.

<u>TABLE OF CONTENTS</u>	<u>PAGE</u>
TITLE OF THESIS	(i)
DECLARATION	(ii)
DEDICATION	(iii)
ABSTRACT	(iv)
ACKNOWLEDGEMENT	(vi)
TABLE OF CONTENTS	(viii)
LIST OF MAPS	(xi)
LIST OF TABLES	(xiii)
LIST OF FIGURES	(xiv)
LIST OF PLATES	(xv)
CHAPTER ONE: <u>INTRODUCTION</u>	
1.1      BACKGROUND	1
1.2      DELINEATION OF STUDY AREA BOUNDARY	2
1.3      PROBLEM STATEMENT AND SIGNIFICANCE OF THE STUDY	4
1.4      REVIEW OF RELATED LITERATURE	8
1.5      CONCEPTUAL FRAMEWORK	14
1.5.1    CONCEPT DEFINITION	14
1.5.2    OTHER VARIABLES	16
1.6      OBJECTIVES OF THE STUDY	16
1.7      METHODS OF RESEARCH	17
1.7.1    DATA COLLECTION TOOLS	17
1.7.2    SAMPLING AND QUESTIONNAIRE ADMINISTRATION	19
1.7.3    ANALYSIS	20
1.8      SCOPE AND ORGANISATION OF STUDY	21
FOOTNOTES TO CHAPTER ONE	22



<b>CHAPTER TWO:</b>		<b>BACKGROUND TO THE PROBLEM OF OPEN SPACE AND</b>	
		<b><u>RECREATION IN EASTLANDS</u></b>	
2.1	THE EMERGENCE OF EASTLANDS THROUGH ZONING IN THE		24
	GROWTH OF NAIROBI CITY		
2.2	THE STATUS OF LAND		29
2.2.1	TENURE		29
2.2.2	THE PLACE OF OPEN SPACE IN THE PROVISION OF		
	COMMUNITY FACILITIES		31
2.3	POLICIES REGARDING OPEN SPACE WITHIN NAIROBI CITY		32
2.3.1	PROVISION OF OPEN SPACE		33
2.3.2	MAINTENANCE OF OPEN SPACES		33
2.3.3	MANAGEMENT OF OPEN SPACES AND RECREATION AREAS		36
2.4	CONCLUSION		37
	FOOTNOTES TO CHAPTER TWO		38
<b>CHAPTER THREE:</b>		<b><u>STUDY AREA ANALYSIS</u></b>	
3.0	INTRODUCTION		39
3.1	PHYSICAL CHARACTERISTICS		39
3.2	ENVIRONMENTAL ASSESSMENT		39
3.3	POPULATION CHARACTERISTICS		41
3.4	LAND USE PATTERN		43
3.4.1	GENERAL LAND USE PATTERN		43
3.4.2	NEIGHBOURHOOD STRUCTURES AND LAYOUT		46
3.5	OPEN SPACE AS RELATED TO POPULATION		53
3.6	RECREATION FACILITIES		56
3.7	CONCLUSION		58
	FOOTNOTES TO CHAPTER THREE		60

**CHAPTER FOUR: DATA ANALYSIS**

4.0	INTRODUCTION	61
4.1	SOCIO-ECONOMIC CHARACTERISTICS OF THE SURVEYED POPULATION	61
4.2	NEED AND DEFICIENCY OF RECREATIONAL FACILITIES	64
4.3	CHILDREN AND RECREATION	71
4.4	INDOOR RECREATION	73
4.4.1	UTILISATION OF SOCIAL HALLS	73
4.5	SOCIAL FUNCTIONS OF OPEN SPACE	75
4.5.1	OTHER USES OF OPEN SPACE	78
4.6	INFORMATION FROM CITY COUNCIL OFFICIALS	79
4.6.1	CHILDREN AND RECREATION	78
4.6.2	CITY COUNCIL STRATEGIES TO CURB LAND SHORTAGE	81
4.7	CONCLUSION	82

<b>CHAPTER FIVE:</b>	<b><u>PLANNING IMPLICATIONS, RECOMMENDATIONS AND PROPOSALS</u></b>	
5.0	INTRODUCTION	84
5.1	PLANNING IMPLICATIONS	84
5.1.1	CLIENT POPULATION	84
5.1.2	DEMAND AND PROVISION FOR OPEN SPACE AND RECREATION	85
5.1.3	INSTITUTIONAL CONSIDERATIONS	88
5.2	PROBLEM AREAS	89
5.2.1	POPULATION	89
5.2.2	ILLEGAL SUBDIVISION AND OCCUPATION OF OPEN SPACE	89
5.2.3	ESTATE LAYOUTS	90
5.3	A NOTE ON PLANNING STANDARDS	91
5.4	RECOMMENDATIONS AND PROPOSALS	93
5.4.1	STANDARDS FOR SOCIAL HALLS	93
5.4.2	REQUIRED SOCIAL HALLS	94
5.4.3	STANDARDS FOR OPEN SPACES AND REQUIRED AMOUNTS	95
5.4.4	PROPOSED SITES FOR OUTDOOR RECREATION FACILITIES	98
5.4.5	PROVISION OF OPEN SPACE AND RECREATIONAL FACILITIES	100
5.4.6	MAXIMISING UTILISATION OF RECREATIONAL FACILITIES	101
5.4.7	MAINTENANCE OF OPEN SPACES	103
5.4.8	LONG TERM PROPOSALS	104
	CONCLUSION	105
	FOOTNOTES	107
<b>CHAPTER SIX:</b>	<b><u>SUMMARY AND CONCLUSION</u></b>	108
	BIBLIOGRAPHY	111
	APPENDICES	

<u>LIST OF MAPS</u>	AFTER PAGE
1. The location of the study area within Nairobi City	3
2. Environmental Pollution	40
3. Existing Land Use	45
4. Existing Recreational Facilities	58
5. Problem Areas	89
6. Short-term proposals	100
7. Long-term proposals	105
8. ...	...
9. ...	...
10. ...	...
11. ...	...
12. ...	...
13. ...	...
14. ...	...
15. ...	...
16. ...	...
17. ...	...
18. ...	...
19. ...	...
20. ...	...

	<u>PAGE</u>
<u>LIST OF TABLES</u>	
1. Recreational land and open spaces in Nairobi as in 1962: A comparison	6
2. Major open spaces in Nairobi and proximity to Eastlands	9
3. Residential layouts	47-50
4. Residential densities	52
5. Land use in Eastlands	54
6. Categories of Open Space in Eastlands	54
7. Existing public open space as related to population	56
8. School playing fields	59
9. Household size	63
10. Indoor space consumption in Surveyed Households	64
11. Estimated Weekly attendance per activity in 8 social halls. (Lumumba, Kaloleni, Shauri Moyo, Mbotela, Eastleigh, Pumwani, Bahati, Jericho)	74
12. Social Hall utilisation levels	76
13. Future required social halls	95
14. Future land requirements for neighbourhood parks.	97-98

LIST OF FIGURES

PAGE

Figure 1 Comparison of Population Growth trends of Eastlands and Nairobi 1962 - 1979	42
Figure 2 Projected population at 3.4% increase per annum	44
Figure 3 Selected estate layouts: A comparison	51
Figure 4 Use of leisure time in Eastlands	65
Figure 5 Popularity of Recreational activities	67
Figure 6 Problems facing Adult's outdoor recreation	69
Figure 7 Problems relating to children's recreation	70

<u>LIST OF PLATES</u>	AFTER PAG
1. Open Area transformed into market	36
2. Commercial building in Open Space zone	36
3. Train passing through residential area	40
4. Garbage dumping in residential area	40
5. Industrial refuse on public land	40
6. Middle income housing estate	56
7. Low income housing estate	46
8. Makadara shopping centre	71
9. Children playing in roundabout	72
10. Children playing in street	72/73
11. (a) & (b) Wall writings by youth	71/72
12. Play area for children	77
13. Open space in Makadara	77
14. Cultivation along Nairobi river valley	78
15. Squatter settlement in public open space	78
16. Kamukunji Informal sector on Nairobi river valley	79
17. Dumping ground for old vehicles	79
18. Street preaching on public open space	79
19. Poultry in open space	79
20. Nile road Special School	80
21. Dr. Aggrey primary school	80
22. Disused Sewage plant, Eastleigh	100
23. Airfield approach space	100
24. School playground in use by neighbouring community	100
25. Nairobi river valley	100

## CHAPTER ONE

### I N T R O D U C T I O N

#### 1.1. BACKGROUND

Kenya is a rapidly urbanising country.. However, her urbanisation has not kept pace with the demands generated by such artificial environments as urban areas provide. 'Artificial' in the sense that the land use is not natural and spontaneous, that the environment has been planned and concrete structures imposed on the environment, designed to serve man. That it is an 'intended' environment, which has thus been manipulated to cater for man's needs like shelter, food and leisure. An examination of the City of Nairobi shows that there are fewer leisure amenities than the users, and that since they are few their use is regulated and restricted by means of fees and social stratification (i.e. socio-economic groupings). This imbalance is felt greatest in the poorer sections of the city, where the demand is higher than the supply and particularly so, because the more well-to-do sections of the population can afford to provide for themselves some of these amenities.

The Eastlands resident, with the exception of the residents of the newer estates (Buruburu, Kimathi etc) within Eastlands, is basically the industrial worker. There is no need to detail out the mechanised factory life, polluted air and congested environment that he spends his six days of the week in, and the crowded and poorly ventilated and lighted home he retires to



each day. It is also obvious that he/she being low-salaried or a receiver of wages has to cope with the inflation trend under stress and strain. This means that recreation to a worker is an important element in many ways; it will provide a means of relaxation for him; with relaxation he will feel invigorated, re-created and moreover some forms of recreation will fulfil the worker's sub-conscious desires by their nature. For example a competitive game like boxing and football which appeals more to the subordinated worker gives him a chance to 'prove his worth' to boost and perpetrate his ego, making him feel that after all the failures he experiences in his days, 'he is still a man' in his own way, particularly if he wins. However Eastlands does not provide the worker (in the Marxist sense) with the facilities to relax and recreate near home and at an affordable rate.

This study evaluates the recreational facilities and open space provision in Eastlands, since the beginning of these estates, examines the present situation and ends up with some future considerations.

This chapter is rather general and introductory in nature, aimed at preparing the reader to appreciate the following sections of the study.

## 1.2 DELINEATION OF THE STUDY AREA BOUNDARY

Eastlands encompasses the area that is to be found East of the Central business district and to the north of the main industrial area. This Eastern area is shown on map No.1. On

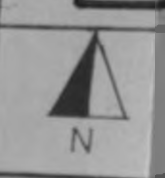
the whole the larger section of it is not built up. However, this study does not focus on the whole of the Eastern area. The study site begins about 3 kilometres to the east of the Central Business district and extends to approximately 12 kilometres to the East of the Central Business district and extends for approximately 12 kilometres East. As shown on map No I, the study area is mainly that part of Eastlands lying between: Industrial area to the South, Central Business district and Landhies road estate to the East, Nairobi river to the North and ranch lands to the west.

The main criterion used in delineating this boundary was the degree of homogeneity observed. The study area was found to be homogeneous in terms of tenure (with slight variations in the newer housing estates). Most of the land is under city council ownership. Land use was another index used to measure homogeneity; as only that part under residential land use was to be considered. As the rest of the chapters particularly chapter 2 and 3 will show, the historical development of this area is more or less the same. Squatter areas were on this basis avoided and it was found useless to include the ranching area, where the subject of this study would be irrelevant. Community organisation was another index used to measure homogeneity. Estates like Umoja, Doonholm, Kariobangi South and Dandora phase one were included in the study area as they depend on the same community facilities. In terms of community facilities - i.e. schools, hospital, dispensaries and police

# LOCATION OF STUDY AREA WITHIN NAIROBI CITY



15
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50



protection, these ~~estates~~ are considered as part of the selected study area. Thus, even on an administrative criteria, the delineation of the area as one planning unit is justified. The northern boundary is the Nairobi river which was selected as a natural boundary. However, it was considered worthless to plan for one side of the river bank only, considering the main topic of the study. It is insignificant to propose anything for half the riverine strip, therefore the river and its banks were included as part of the study area.

The study area therefore covers approximately 17.30 sq kilometres and is made of eighteen housing estates. As stated, the area is mainly used for residential land use, with other uses ancillary to residential use, though a section is zoned for industry, and public utility.

### 1.3. PROBLEM STATEMENT AND SIGNIFICANCE OF THE STUDY

The situation regarding open space and recreation in those residential areas housing low income population in Nairobi leaves a lot to be desired. Eastlands is no exception, since the majority of its population is in the low income category accommodated in housing estates built by the colonial government for African labourers. The planning of Nairobi in these initial stages was segregation<sup>based</sup> planning and nothing much was provided for the comforts of the 'native'. In fact, the architect in charge of these housing estates articulates this -

- 9 -

"The project is for houses of low rental and is to provide only the essentials of accommodation" (African Housing Project File 1948)<sup>1</sup>

In 1982, the state of land use shows that out of 2613.52 acres occupied by Eastlands, 79.61 acres was under public open space. However, it is important to note here that most of this 79.61 acres lay on either side of Nairobi river zoned as per 1948 Master plan (White et al)<sup>2</sup> as open space, and that very little land was to be found as intended open space within the estates themselves. At the same time, a comparison of the other residential areas in Nairobi shows that Eastlands was bestowed with the least public open space, apart from other suburb areas. See table No. 1 attached.

Of the little open space that there is in Eastlands, speculation of land has crept in as developers regard open space to be idle land. As will be discussed in the following chapter, correspondence and minutes from the city council files view open spaces as a burden.<sup>3</sup>

At one point, a meeting was called to dispose 'some of the council's surplus open spaces for Residential and other uses'. In another instance a debate continues as regards the responsibility of maintenance of the open spaces. The nature of correspondence between the City Council and the Ministry of Lands, Settlement and Physical Planning indicates an evasiveness on the part of the City Council on the open space issue.



	UPPER NAIROBI	EASTLEIGH & PARKLANDS	NAIROBI SOUTH	EASTLANDS	CENTRAL	INDUSTRIAL AREA
RECREATION	45.6	20.8	-	11.39	4.71	0.62
PUBLIC OPEN SPACE	166.2	168.3	-	68.22	19.7	-
PRIVATE OPEN SPACE	892.6	118.4	12.4	30.49	0.88	-
UNDEVELOPED LAND	2534	1224.7	976.4	1341.8	172.6	1550.6

(IN ACRES)

TABLE NO. I RECREATIONAL LAND AND OPEN SPACES/IN NAIROBI AS IN 1962 : COMPARISON

SOURCE: MORGAN W.T.W. NAIROBI CITY AND REGION

Open spaces and Recreation do not appeal in the cost - benefit analysis from the city council's point of view: they pay no direct rates, they are expensive to maintain, to landscape, or even to acquire, where the need to do so may arise and most of all by the fact that these facilities cannot be economically quantified on the side of their utility. With these excuses, the provision, landscaping and maintenance of open space and recreation facilities in Eastlands have been overlooked regardless of the fact that these facilities provide communal comfort and Residential area *aesthetics*.

Eastlands itself comprises about 40% of Nairobi's residential areas and houses 60.3% of Nairobi's population. This density is magnified by the fact that the built up area up to date has a mere 17% of the total Nairobi parkland. At this point it is important to note that Eastlands, though recording such a high population, is situated far from other public recreational open spaces within Nairobi. Due to the rising transportation costs, and taking into account social factors such as socio-economic stratification, 'closed' membership etc, there are hardly any Eastlands residents (particularly those in the older estates) who make use of those facilities to be found outside Eastlands. For this section of the population these facilities are a luxury in their present status, as their earnings go first to basic needs. Ironically, considering that the Eastlands residents are those

whose movement may be limited by both time and financial constraints, it is to this section of Nairobi that some of the major public recreation spaces are most distantly located. See the attached table No. 2. Note that these places are not within comfortable walking distances.

It has been argued by planners<sup>4</sup> that the age category of 39 years and under is the age whereby recreation interests are most diverse and intense. The 1979 census shows that 88% of Nairobi's population falls within this category. Consequently (as indicated), more than half of this percentage is from Eastlands, it is the duty of planners to satisfy these needs by provision of more open spaces for recreational facilities particularly in Eastlands where this is long overdue.

#### 1.4. REVIEW OF RELATED LITERATURE

Relatively little research has been done in Kenya on recreation and open space, hence the bulk of work available is from Europe. Of the few works done in Kenya regarding recreation, the emphasis is mainly aimed for the tourist's consumption rather than recreation for the local worker's consumption. This study has a bias toward the latter. Dosio (M.A. Thesis 1977)<sup>5</sup> carried out a research on recreation planning, a case study of Kisumu town and found that there was great demand for outdoor recreation, which occupied 33% of the overall weekly leisure time of the population surveyed. His sample was drawn from the resident population of



PLACE	USE	DISTANCE FROM EASTLANDS	BUS TRIPS	COMMENTS
UHURU/CENTRAL PARKS	Urban Park. Landscaped and facilitated for recreation (Boating, Swings)	Western end, 3 kilometers. Eastern end 12 kilometers	One journey.. At least Shs.2 per trip	Well maintained by Nairobi City Council. Open to all members of public. Used mostly at lunch hours and on weekends. Used for National rally meetings.
CITY PARK	Urban Park, Landscaped and facilitated for recreation. Also a plant conservatoire	7 - 16 kilometers	Two bus trips. At least Shs.2 per trip	Maintained by Nairobi City Council. Free entry to all. Personal security a risk.
JAMHURI PARK	Urban Park	12 - 21 kilometres	Two bus trips. At least Shs.2/50 per trip.	Intensively forested. Rowallan camp for scouts is located here. The park is mainly used for National functions e.g. Agricultural shows, National rallies.
KAMUKUNJI	Riverine strip zoned as open area. Currently used as open air market and small cultivated plots.	Within Eastlands. Walking distance from all sections.	None	Not landscaped. No recreational facilities provided. Minimal maintenance by Nairobi City Council.

TABLE NO: 2 continued

PLACE	USE	DISTANCE FROM EASTLANDS	BUS TRIPS	COMMENTS
JEVANJEE GARDENS	District Park. Landscaped but not facilitated for active recreation. Buffer park.	2 - 13 Kilometres	One. At least 2shs. per trip	Maintained by Nairobi City Council. Open to all members of public. Maximum utilisation during lunch hours and weekends.
ARBORETUM	Urban Park, facilitated for active recreation. A conservator of plant species.	5 - 17 Kilometres	2 bus journeys to this park. Total of at least 3Shs. per trip.	Inaccessible to non-car owners. Minimal number of buses go up that way. Personal security inside is a risk.
KARURA & NGONG ROAD FORESTS	Forest Conservation areas	12 - 21 Kilometres	2 bus rides. Totalling Shs.4 per trip	Almost inaccessible to Eastlands on account of distance.
CITY STADIUM	Urban Games ground	On site	One from the Eastern end	Entry and use is reserved
NGONG RACE COURSE	Horse racing	14 - 23 Kilometres	2 bus trips minimum Shs.4 a trip to the area	Entry regulated by fees Participation dictated by social class.
NATIONAL MUSEUM SNAKE PARK AND AVIARY	African Heritage Conservation	5 - 14 Kilometres	1 - 2 buses Shs.3 per trip	Entry on payment of fees.

Kisumu town. In this study it was found that the distribution of planned recreation places was unfair judging from their proximity to residential areas. It calls for an interdisciplinary approach to recreation studies.

In an article on 'Importance of Open Space in the Urban Pattern', Tankel 5.11<sup>6</sup> sees four functions of open spaces, which he describes as productive, ornamental, protective, recreational. The article maintains that open space is not a question of 'how much', but of 'where' and particularly 'where' in relation to development, that is, buildings and the people in them.

The above observation has been raised with regard to recreation by Veal A J (1974) Environmental Perception and Recreation<sup>7</sup> who notes that recreation participation at any one time is the result of choices influenced by personal factors, facility factors and others which are less tangible. He goes on to lament that open spaces are often planned on the basis of standards - i.e. so many acres per so many people, whereas the criterion should not be the amount of open space but its role and function in relation to the requirements of the local population.

This study took the approach of user - oriented facility planning and hence the questionnaire for the determination of need of open space and recreation.

In Sahnoune et al's 'Play Spaces or Play Places? Structuring space for unstructured activity.'<sup>8</sup> the same approach is evident. The following is a quote to that effect.

"The executive purpose of design is to provide places not to define spaces, and in order to do this the designer must understand and take account of the subjective character of the problem". Pg 1

Holme and Massie in Children's Play: a study of needs opportunities<sup>9</sup>, found that children's play respond to their environment: In new planned medium density pedestrian segregated environment, the play tends to be individual, passive and home oriented. In old overcrowded low-income housing and traffic congested streets, children play away from home and in groups. Their play was more active and noisy. At this point it is to be observed that logically due to cramped and congested housing (indoors) mothers may prefer their children to play outside, and when this happens, Clinnard's theory<sup>10</sup> may be proved right and as Holme and Massie argue, Vandalism and other forms of delinquent behaviour ensue. This is so because the away-from-home situation inevitably puts some children over the influence of others, and being in crowded, dangerous streets the children must learn to make decisions for themselves and in the process they develop mature social attitudes at an early age.

This observation indicates that children's needs should be central to open space and recreation planning. Ishmael G. (quoted in Sahnoune op cit) presents a theoretical model of children's play relating the age of the child and the intellectual and environmental skills, in terms of spatial

ability. Briefly, the model maintains that there are three spatial zones corresponding to children's ages.<sup>7</sup> Zone A is occupied by children from 3-6 years. At this age the child will play from the doorstep to the street play space, up to 100 metres from home. In zone B, the child who is now from 7-12 years old will venture into the neighbourhood playground and other areas up to 200 metres from home. At the age of 12 and over, the child enters another play zone where he ventures up to 300 metres away from home alone. He may be attracted to the District Park and will also venture to play there. This theory is child-psychology based and is much like Piaget's theory of child development, which discusses the hierarchical expansion of intellect and environment manipulation. The theory has not taken into account barriers to the sequence of zones like traffic, estate layout and organisation, spontaneity of play etc.

The importance of recreation in human life has been high-lighted by a number of planners (Anderson K., Basset, etc) Holme and Massie (op cit) show that play relieves tensions and provides emotional outlet. They see play as a vital role in child socialisation as part of a learning process and as a source of satisfaction of achievement and self-realisation which may otherwise be frustrated. Ledermann, playgrounds and Recreation Spaces (1959)<sup>11</sup> argues that insufficient play results in poor imagination, nervousness and irritability of children and waste of spare time and craving for entertainment/aggressiveness and rowdyism in many teenagers. In the planning profession,

\* The zones appear in concentric circles

recreation is recognised in its importance and hence its inclusion in the major land uses planned for in urban areas.

Duhl The human measure: Man and Family in Megalopolis 1970<sup>12</sup> looks at urban space in a new dimension, much like Castell in The Urban Question (1977).<sup>13</sup> He argues that our use/space reflects the value of the part of our society empowered to make decisions, where some exploit these opportunities for personal benefit, or impose on minorities a way of life that is incompatible with their values and interests. He sees utilisation of space not merely as a function of the user's function of structure and design but also as a function of the user's perception of his life, values, needs and customary patterns of behaviour, therefore to some people open spaces means freedom while to others they are sources of fear and insecurity.

The latter argument comes close to Herbert's analysis of 'Social Deviance in the City' in his book Social Areas in Cities (1978)<sup>14</sup> where he argues that open spaces that are unclaimed may attract crimes. He says that the stronger the territorial control of the local society, the more completely will non-social and criminal behaviour be confined to spaces where there is no surveillance. The point that deviant behaviour chooses to locate or operate in power-vacua spaces, introduces the management dimension of open spaces, not just community territoriality.

This then puts the challenge that after recognising the need for open spaces and recreational facilities, and

after designing them in consideration of the user variables, there is still an aspect that has to be considered, that is ensuring they are not dysfunctional to the communities for which they were intended: That they do not pose as negative externalities.

### 1.5. CONCEPTUAL FRAMEWORK

The effort of providing open spaces and recreational facilities in residential areas needs no detailed justification. As has been pinpointed earlier, urban areas in this study are regarded as artificial environments and must be made to satisfy man's physiological and psychological needs. This study is to a large extent an evaluation study. The title 'Planning for ....' carries within it the connotation of re-viewing, evaluating, re-planning in order to improve the environment in question. It should therefore be expected that this study does not dwell on testing hypothesis, even though a few are considered, but rather it is a practical exercise expected to make proposals on the basis of practical evaluation, in the final analysis. Recreation planning anticipates and determines the scale and character of recreation demands, relates this to available resources and ensures proper allocation of resources.

The key concepts in this study are Recreation and Open Space defined as follows:-

#### 1.5.1 CONCEPT DEFINITION

##### (i) RECREATION

Broadly defined, this means any pursuit engaged in during leisure time. In this study, recreation will be

understood to mean freely chosen pursuits. In the same light, recreational space will include both indoor and outdoor space for passive and/or active enjoyments, e.g. games. This study focuses mainly on outdoor recreation. Recreational facilities will be taken to mean any developments on the land or in buildings, and/or any object, availed with the intention of encouraging or facilitating recreation.

(ii) OPEN SPACES

In broad definition, and according to Sahnoune et al space is an abstract concept, a quantitative and locational measure, implying emptiness. They prefer the usage of the term 'places' instead of 'spaces' to infer reality, to give them subjective identity, and to locate them. However, in this study, the term open spaces is maintained to refer to the land left vacant and not developed within and around housing estates, left for aesthetic reasons, to break the monotony of the concrete structures and to be used for recreational purposes. The study considers three categories of open spaces.

(a) Private Open Spaces: which constitute patios and back-yards as is to be found in high and mid income estates e.g. Kimathi, Buruburu etc in the study area.

(b) Communal Open Spaces: These are spaces open for the use of particular neighbourhoods, especially those whose houses are adjacent to that space. Unlike the private open space, they are not completely screened off. Examples are Bahati, Kaloleni, Mbotela.

(c) Public Open Spaces: The all - man's space, the



typical example here is the street, and the Nairobi river valley, particularly Kamukunji area in the study area.

The term open spaces will refer generally to the three categories mentioned, and where any distinct category will be referred to, it will be with the intention of differentiating the functions and the degree of territoriality imparted to that particular category.

#### 1.5.2 OTHER VARIABLES

(i) TERRITORIALITY - Refers to a social area, spatially analysed. It is observed that open spaces are socially and functionally claimed. An example is where a group of teenagers may consider an area theirs for use, exclusively, and will therefore bar other groups from using that particular area. Another example is privately owned housing where territoriality is exercised at an individual level, and defended through institutionalised rights to repel trespassers.

(ii) LANDSCAPING: Refers to improvement of open spaces for aesthetic reasons i.e to enhance the beauty of open spaces, and of the general environment, either by planting trees, flowers, grass or by introducing some artificial structures to produce some kind of aesthetic effect.

Other variables that may need definition will be defined in the course of the report.

#### 1.6. OBJECTIVES OF THE STUDY

The study focuses mainly on the following:-

(a) To find out the existing recreational facilities

and open spaces, and to determine their deficiencies and need within Eastlands.

(b) To determine the positive social functions of open spaces within residential areas.

(c) To enhance the aesthetic quality of residential areas as highlighted by open spaces.

(d) To lead to recommendations in terms of re-planning and policy reviews and possibly set standards for the planning of future estates in Nairobi and other Kenyan towns which may follow the growth trend of Nairobi.

(e) The overall objective is to propose a plan of Eastlands residential area which may correct the layout deficiencies incurred in the initial planning.

In considering no: 15 (b), the following guidelines were expected to be considered in the study process.

(i) The relationship between deficient/adequate open spaces and recreational facilities (considered alongside indoor amounts of space and building or plot coverages) and juvenile delinquency.

(ii) The relationship between lack of or deficiency in open space and recreational facilities and vehicular/pedestrian traffic accidents particularly with regard to juveniles.

## 1.7 METHODS OF RESEARCH

### 1.7.1 DATA COLLECTION TOOLS

The following research tools were employed in the study:-

#### (i) The Questionnaire

This was designed for a household survey to

(a) Determine the need/deficiency of open space

or in more specific terms to determine the attitude of Eastlands residents toward provision of more or re-planning of open spaces and recreational facilities.

- (b) Determine where and how people used their leisure time other than in a recreational open space and whether this is a last resort usually,
- (c) Seek the general attitude regarding the positive social functions of open spaces.
- (d) Find out the usage of recreational facilities outside Eastlands by residents of Eastlands.

(ii) KEY INFORMANTS

These were found to be a useful source of information for the specialised information that was required. The senior planners in the city council of Nairobi, Planning Department, Physical Planners from the Ministry of Lands, Settlement and Physical Planning were consulted. Estate officers, Welfare Officers and two community leaders were interviewed. Officers from the City Education Department and School Headmasters were also consulted.

(ii) AVAILABLE RECORDS

The City Council archives and registry was the main source of this data. The files available provided information on the growth and development of Eastlands and the policies regarding open space. Other records were in the form of annual reports, vital statistics and charts from various City Council Departments.

iv) PERSONAL FIELD OBSERVATION

Inevitable as it may seem, this was found highly useful, especially for selection of photographic scenes related to the study. Plates have been included as recorded observations.

1.7.2 SAMPLING AND QUESTIONNAIRE ADMINISTRATION

Three estates were selected for detailed study on the basis that they were old estates dating back to the 1940's. The houses are old and dilapidated. They are all on city council land but have different layout patterns. These estates are Kaloleni, Bahati and Makadara whose total population according to the 1979 census report is 27,211 distributed over an area of 3 kilometres square. It was felt that 10% of the total study area's population (166,627 people) was too large to be interviewed within the research time allocated. 10% of the total population of the three selected estates comes to over 1,000 people which was still very large. It was thus found feasible to use 1.8% of the three estates which gave a sample of 500 respondents. This was obtained from the estates in equal portions.

The questionnaires were self-administered by the respondents, since the aim was to interview heads of households who could not be contacted during the day, as they were at work. To control for ambiguity and misinterpretation of questions, the questionnaire was translated into Kiswahili so that it reads in both

English and Kiswahili. The houses are all numbered, except Makadara and thus a sampling frame was easily determined. Samples were picked fandumly but systematically with an interval of four houses between samples.

The main problem encountered was in retrieving the completed questionnaires where in some instance several visits had to be made fruitlessly. Eventually about 28 questionnaires were lost (including 11 refusals and half-way responses).

Interviews with public officials were unstructured to allow for opinions and the freedom to open up issues that might not have been considered. This was found very useful as it resulted in a mudball (snowball) sampling - where the officials referred the researcher to a next official etc. The only instance when a questionnaire was prepared was with the Welfare Officer who insisted on being served with one. This was drafted and presented to him.

### 1.7.3. ANALYSIS

On the questionnaire data, the unit of analysis is the head of the household, or his wife, therefore - adults. However, as recreation and open spaces are used by all sections of the population, focus has been placed on children of school going age.

The data collected was grouped and analysed manually, with the use of a simple calculator.

## 1.8 SCOPE AND ORGANISATION OF STUDY

The study takes an appraisal approach, reviewing the historical beginnings of the problem area, the existing situation and ends up with proposals and recommendations.

Being an academic exercise, the study is limited to a write-up rather than expand it up to an implementation stage.

The report appears in six chapters, the first of which has been introductory. The second chapter deals with the historical background, growth and development of Eastlands residential areas, since this will give the roots of the problem being studied.

It shows the pre-independence situation, tenure-ship and land use pattern, and links the present situation with the past. Policies regarding open space and recreation are discussed here as well. Chapter three analyses the study area in terms of factual characteristics, i.e. Population characteristics, land use, densities and existing facilities. This is intended as a preparation for appreciating the analysis and as a basis of making recommendations. Chapter four presents the field findings. Chapter five reviews the planning implications generated by the preceding information. It also presents proposals and recommendations while chapter six draws the study to conclusions.

The write-up is accompanied by maps, diagrams and photographs, found relevant to the study.

FOOT NOTES TO CHAPTER ONE

1. Nairobi City Council, African Housing Project file  
correspondence 3rd December, 1948
2. White et al, Nairobi Master Plan for a colonial  
capital 1948
3. Nairobi City Council, General file 14/6/8 on Open  
spaces
4. Nairobi City Council, Unpublished report on Open  
Spaces 1981
5. Dosio J.G., RECREATION PLANNING: A CASE STUDY OF  
KISUMU MUNICIPALITY 1977 M.A. THESIS
6. Tankel S.B., 'Importance of Open Space in the Urban  
Pattern' printed in CITIES AND SPACE: THE FUTURE  
USE OF URBAN LAND JOHN HOPKINS PRESS 1970 LONDON
7. Veal A.J. ENVIRONMENTAL PERCEPTION AND RECREATION  
1974 University of Birmingham.
8. Sahnouné et al, 'Play spaces or play places?  
Structuring space for unstructured activity' printed  
in PLANNING OUTLOOK VOL 23
9. Holme and Massie, CHILDREN'S PLAY: A STUDY OF NEEDS  
AND OPPORTUNITIES Michael Joseph ltd., 1970 LONDON
10. Clinnard M.B., SOCIOLOGY OF DEVIANT BEHAVIOUR Holt,  
Rhineholt and Winston. 1974. U.S.A
11. Ledermann T., PLAYGROUND AND RECREATIONAL SPACES  
The Architectural' Press ltd., 1959 LONDON
12. Duhl L., 'The human measure: Man and Family in  
Megalopolis' printed in CITIES AND SPACE: THE

12 FUTURE USE OF URBAN LAND.

JOHN HOPKINS PRESS. 1970 LONDON

13 Castel, THE URBAN QUESTION

14 Herbert et al, (eds) SOCIAL AREAS IN CITIES

John Wiley & Sons. 1978. NEW YORK.

Until 1919, Natal had no African residential areas... and erected no African residential quarters. The new Town Council took over... but no African residential areas, since the Africans with his



CHAPTER TWO

BACKGROUND TO THE PROBLEM OF OPEN SPACE AND RECREATION  
IN EASTLANDS

---

2.1 The Emergence of Eastlands Through Zoning in the  
Growth of Nairobi City:

Nairobi is essentially a colonial town from the point of view of its origin and growth. Emig and Ismail<sup>1</sup> have traced the city's origin and growth and have identified a dual and segregated pattern of growth and settlement. The spatial organisation of the city, particularly the residential areas show a marked duality. The western Residential areas are located on the higher grounds in terms of altitude, well drained both in terms of slopes and the red-soils found in the area. This is a low density residential area where one house to one to two acres is common, and has plenty of vegetation cover. With these attributes it was the home of the Europeans in Nairobi and still remains the home of the remaining white men, contains the homes of diplomats and the wealthy Asian and African groups. The central part of the city is primarily the business district, while East of this area is a low lying land, poorly drained and with scanty vegetation cover. This Eastern area was zoned for African settlement and has today remained the home of the poorer classes of Nairobi.

Until 1919, Nairobi defined no African locations and erected no African residential quarters. The new Town Council took upon itself the task of laying out an African residential area, since the African with his

many squatter villages was becoming a nuisance to the European community. Parker<sup>2</sup> records that the African had to be segregated on the basis of '..... health and Aesthetics to those who may have to live in proximity to them ....' She goes further to narrate how the African Residential area found itself in Eastlands, bearing in mind that the better environments were reserved for Europeans.

"..... The matter of a location was under almost constant discussion during 1911 and 1912 and in September of the latter year, it was decided that it should be lying on both sides of Nairobi stream and partly occupied by the medical reserve. This area was capable of easy extension north and south by encroachment on the municipal dumping ground to the extent altogether of at least 150 hectares was all crown land, except for small cemeteries. ....requiring practically no drainage or road construction for access ....."

Note that the african was to be located where there were offensive land uses such as dumping and other fringe land uses like cemeteries. The provision of residences began in stages, moving first through the provision of a purely bachelor settlement, built in permanent materials to house 2,300 men at Kariakor. This had no social amenities apart from a common recreational room. The next phase was the erection of 'native' villages within the town. There was

a public house, shops, child welfare clinic, nursery school, dispensary but no social hall was provided for the 3,000 people expected to take up residence there. Mbotela and Bahati estates are typically these settlements. The third phase was the construction of semi-detached cottages in the form of a garden city. Grass plots separate all the houses. Shops and a Child Welfare Clinic were provided. A social hall and public house was planned but not provided. The houses varied in shape but were designed for one family/<sup>each</sup> These houses would in total accommodate 3,000 people. Ziwani, Starehe, Shauri Moyo are those estates falling within this phase.

These 'improvements' were the results of experiments carried on to achieve sufficiently cheaply constructed houses within the pocket of African wage earners. Kaloleni, which was formerly the government Makongeni Scheme (handed over to the municipality later) was the next phase. It is made of a settlement of semi-detached cottages, radiating from its civic centre which includes a social hall, public house, refreshment room, shops, child welfare clinic and gardens. This was followed by the one storey flats of Ofafa - Jericho, Lumumba and Maringo, as well as Jerusalem.

At this point in history however, the aim of constructing these residential areas, as has been voiced by an architect charged with the responsibilities of construction, was only to provide the essentials of accommodation<sup>3</sup> and consequently little attention was paid to the other amenities including recreational facilities, compared to the European

and Asian residential areas. Emig and Ismail (op cit) argue that zoning has been used by the European population to allocate for themselves the most benefiting developments in the city. In total agreement with this observation, for example let us consider the following extracts quoted from the Master Plan for a Colonial Capital<sup>4</sup>.

Section 43 of the Municipal Corporation ordinance, which was in use then, stipulates:

" The council may with the approval of the governor lay out on lands under its control such locations for its natives as may be deemed desirable; and erect suitable buildings thereon for the occupation of natives, and may with such approval compel all natives, residing in the municipality ..... to reside within such locations."

Domestic employees are exempt from this compulsion. The planning team (Master Plan 1948) reacted thus:

"It will be seen that the act is permissive. In South Africa, a municipality must house all Africans not accommodated by their employers .... (and that is why) ..... they do (in Kenya) at present live in various settlements outside boundaries of the municipality and in the Asian quarters ....."

Thus it is evident that zoning was the tool used to segregate Africans and to deny them the access and right to amenities and resources. It was particularly used to force Africans to make way for Europeans. Notice that the present location of Eastlands is in close

proximity to the Industrial area, with all its noises and fumes and vibrations, with the justification that since they were poor they had to be within a walking distance to their places of work. Residential densities and layout were zoned differentially, with the African quarters containing 12-16 houses per acre while the Europeans' sections carried 1 or 2 house per acre.

This duality persists today of course, since the planning authorities in the post-independence period have taken an incremental planning approach. The planning document in use - the metropolitan growth strategy does not deviate in any way from the colonial planners. After the colonial housing estates, other high density residential estates have been added to Eastlands without much provision of parkland, open spaces or recreational facilities. The situation is such that, compared to the older estates, the newer estates (built in the 1970's) have less of those facilities than the old estates. For example, on the average, the older estates (Makongeni, Bahati, Kaloleni etc) have 2730 persons per hectare of neighbourhood open space while the newer estates have 3588 people per hectare of the same. No recreation facilities have been offered to the new estates through public funds. To be more specific, there is no estate among Buruburu, Umoja, Doonholm, Kariobangi South, Outer Ring, Uhuru, Harambee that has a social hall or even a welfare office. The situation has been worsened by the policy of industrial decentralisation. The area between Umoja estate, Kariobangi South and Dandora,

the area between Makadara and Rabai road, and the area between Shauri Moyo Market, Jogoo road and Landhies estate have been put to industrial use. This has of course consumed the few portions of open spaces that existed.

The neighbourhood concept which was the initial planning concept used for Eastlands has not been fulfilled. The section on policies for provision and management of open space and recreation facilities present details to show that, no improvements have been made by the current planners, <sup>in</sup> the newer estates, on the performance of the older estates. No lessons appear to have been learnt. (Refer to section 2.3)

## 2.2 THE STATUS OF LAND

In the analysis of open areas, a review of the status of land is important, since land is the primary resource whose use and organisation is under consideration.

### 2.2.1 TENURE

Land in Eastlands is owned by the Kenya Government, the Nairobi City Council, Kenya Railways, Kenya Posts and Telecommunications and single private entrepreneurs. All land apart from the government land is held on lease, a maximum of which is 99 years from the relevant date of grant. This area, as is true of all other land in Nairobi is managed through the City Council, the Commissioner of Lands, the Physical Planning Department through a number of Acts and Ordinances, the most widely used being

the Land Control Act, the Land Planning Act 1968, the Town Planning Ordinance, and the municipalities Act. The land under City Council 'Ownership' was granted to the council by the Kenya Government for a term of 99 years (since various dates around the 1950<sup>B</sup>), on which the City Council either built houses and let to individual tenants (e.g. Bahati, Shauri Moyo, Kaloleni, Jericho and Mbotela), or allocated to individuals for site and service schemes, e.g. Makadara, and Umoja estates on concessional basis until after 1/7/75 when interest payments were instituted. Alternatively, the City Council built tenant purchase houses for example Uhuru Estate and Harambee at subsidised costs prior to 1/7/75 when the Commissioner of Lands, lifted the subsidies on future tenant purchase schemes.

Land was granted to the City Council under special conditions, among them:-

- (i) That no further buildings shall be erected until plans showing the position of the buildings and system of drainage for disposing of sewage and effluence on the land shall have been approved in writing by the Commissioner of Lands. Such plans shall provide for a density of occupation to be approved by the Commissioner of Lands.
- (ii) That the grantee shall not subdivide the land except in accordance with the plans to be approved in writing by the Commissioner of Lands.
- (iii) That the grantee shall not transfer, charge sublet or part with the possession of the land or any part thereof or any building thereon except with the

prior approval in writing of the Government.

- (iv) The grantee shall at his own expense construct all roads, and drains and sewers serving or adjoining the land.

These covenants have been constantly broken.

The important point arising here is that as stipulated by these conditions, the City Council has the responsibility of developing and managing those estates falling within - its tenure, which broadly speaking is virtually all the land except: Makongeni and Landhies estates which are railway estates. Kenya Posts and Telecommunications housing estates, Buruburu and Doonholm housing estates. This state of affairs therefore means that landscaping, provision of open space and recreation within the study area is largely a City Council responsibility.

Apart from a civil servants housing, the government does not have direct say over land. The Kenya Railways and the Kenya Posts and Telecommunications are the next lessees on whom responsibility to provide open spaces within the housing estates they own lie.

#### 2.2.2. THE PLACE OF OPEN SPACE IN PROVISION OF COMMUNITY FACILITIES

Sorrounded by more economically viable alternatives, the history of open space in Nairobi as a whole and particularly residential area open spaces has been highly susceptible to under utilisation. Open spaces have at times been regarded as idle spaces. In 1965, when Kariokor housing estate was under way, the Parks Superintendent put a strong case to the



city Engineer that £3,170 provided for the Parks layout was meagre but his appeal was quashed.

In 1972, the Chief Valuer (Nairobi City Council) called a meeting to discuss 'Disposal of some of the Council's surplus open spaces for residential or other uses' (General File on Open Spaces). However, through pressure from the City Planning Department the agenda was defeated in consideration of the future open space and recreation needs.

In mid 1973, the City Council raised an issue of who was to maintain open spaces. The tug of war was that responsibility was either on the developer or on the city council. Despite the intervention of the Minister for Lands, Settlement and Physical Planning, and the National Environment Secretariat, the issue was still unresolved by early March 1982 the time when the file was last reviewed.

These examples show that the city council views open spaces as a burden on them, particularly if no economic returns are generated by them. Consequently, the available spaces have been put to a number of offensive uses ranging from refuse dumping to bush squatting. Thus the members of the public capitalise on the neglected (in terms of maintenance) open spaces, details of which are presented in chapter three.

### 2.3 POLICIES REGARDING OPEN SPACE WITHIN N.C.C.

Policies regarding open space appear unsteady as indicated by data from the City Hall registry<sup>5</sup> and some planning officials who were interviewed. As yet no one straight forward policy has been unanimously accepted and

legalised within the City Council relating to open spaces management

### 2.3.1 PROVISION OF OPEN SPACE

The existing requirement from developers before plan approval by the City Planning Department is that developers surrender 10% of the total land to be developed, free of cost for public purpose - recreation included. This has been implemented on an ad hoc basis without consideration whether the land is adequate or not. Instances from the File on open spaces (op cit) show that 20 - 3% of the land to be developed may have been required for public purposes than the 10%. Moreover, this regulation has not been legalised through the planning Act, leaving loopholes for developers. The Chief Valuer's Report<sup>6</sup> confirmed field observations that usually the plots unsuitable for building because of shape or access have been left for open space due to lack of an alternative user and not necessarily because of the intention to provide open space.

The Nairobi River Valley has been shown in the 1948 Master Plan (op cit) as one of the linear open spaces within the River Valleys in the city. The valley is within the City Council's tenureship as is its landscaping and maintenance responsibility.

### 2.3.2 MAINTENANCE OF OPEN SPACES

Prior to mid 1973, the Nairobi City Council required developers to pay an arbitrary lump sum amount, for maintenance of the newly created open spaces in perpetuity. However, when the City Council felt the financial burden of landscaping, it was resolved that 'the responsibility

to develop open spaces rested entirely on the developer, and an opportunity was offered to developers to transfer open spaces to the City Council after special arrangements'. This is a rather ambiguous resolution which gives opportunities to avoid landscaping by developers, because by "Special arrangements", the range of which are unspecified in the quoted minutes, a developer can transfer his 10% of land without having it landscaped. However, for those developers who may not make special arrangements, the following conditions apply:-

- 1) All open spaces be grassed and planted as necessary before handing over to the council for maintenance.
- 2) All plantings to be carried out to the council's specifications and standards before handing over.

Moreover, the landscaping specifications avoid important issues to guide the developers, for example types of grass, shrubs or trees suitable and acceptable to what types of soils and residential densities. The following are some of the landscaping regulations:-

- i) Plant proper variety of grass on all road verges and open spaces. (Note that the proper variety remains unspecified)
- ii) Plant a minimum of fifty (50) trees in one hectare of open spaces. (Note that as stated earlier on, these open spaces are not consolidated to one such large piece, they are left as corner spaces which did not form viable building units for the developers.

Thus this specification is not likely to be implemented)

- iii) Plant one tree for every unit comprising three bedrooms and over either on the road verge or within the plot itself.
- iv) Plant one tree for every two units comprising less than three (3) bedrooms either on the road verge or within the plot itself.
- v) Plant a shrub where no trees can be planted due to unfavourable local characteristics.
- vi) Plant trees not less than 6 feet in height to avoid dying or stunted growth.
- vii) Do not plant Mugumo trees (Fig trees) on the road verges.
- viii) Do not plant blue gum trees in housing estates.

In the final analysis, the City Council is responsible for the up-keep of open spaces, especially those intended for recreation, and particularly Communal and Public Open Spaces. The neglected nature of these spaces and places show that the City Council has not been able to maintain these well enough and as observed by the City Planning Department, "Admittedly, the council so often plagued by financial problems to the extent that, some times directly or indirectly, the developers are discouraged from providing neighbourhood parks as a means of avoiding the maintenance issue ..... " (unpublished report on open spaces - op cit)

It is no wonder therefore that, these neighbourhood spaces appear unkempt, harbour rodents and are put to offensive uses.

\* In accordance with CAP. 265 The Local Government Act Section 145, Sub sections (h) and (o)

2.3.5. MANAGEMENT OF OPEN SPACES AND RECREATION AREAS

Management of Open Spaces and recreation areas is entrusted to a Parks Superintendent who has a team of supporting staff. He channels his requests through a general purposes committee. In the study area, Public indoor recreation is offered through social halls which are managed at the estates level by welfare officers and estate officers.

It has already been noted in the preceding sections that the maintenance of open spaces is not adequately effected, considering the general council's attitude mentioned earlier. In view of the fact that the Parks' Superintendent and the welfare officers are ordinary members of a bureaucracy without a final say, management of open spaces is also inefficient. In 1981, there was a wave of illegal subdivision of open spaces, Kimathi, Bahati and Uhuru estates and even City Park were affected. At this point it is interesting to note that the weakness of the management system is highlighted by the residents of the affected estates. The residents wrote to complain to the City Council authorities that open spaces were turned over to commercial use, which they objected to. The response to the correspondence was rather harsh although the intention of the complaint was to safeguard communal comfort.

In early June, 1982 the President of Kenya himself had to intervene when a school's play space was subdivided for residential development, in Uhuru estate.

It is therefore clear that the open spaces are tempting to property - hungry individuals who use their political

OPEN SPACE SUBDIVISION AND DEVELOPMENT FOR OTHER USES

PLATE NO 1



This area was originally intended as an open area for recreation to serve Jericho estate. A market has now been built.

PLATE NO 2



Commercial building in an open space zone. Uhuru estate.  
Note the children playing in the gutter

influence to acquire these places. It appears therefore, that the public open space has little or no protection. The two open spaces developed for recreation in the study area (Kaloleni, and Kamukunji playgrounds), were transferred to the City Council's Education Department for use by the adjacent primary schools. These were formerly held by the Parks Superintendent. All this is evidence of deprivation of open spaces and recreation from the public which the management system is unable to control.

Mr. Chana<sup>8</sup> once observed that for successful planning, the people themselves have got to have a good civic sense. In complete agreement with this observation, it should be noted that it is only the users of a given facility who can effectively maintain the same in usable shape. However, let it not pass unmentioned that when it comes to public goods, there has to be an independent management system, in order to ensure effectivity.

#### 2.4 CONCLUSION

From the afore-going, it has been established that the Nairobi City Council is weak in its policy stipulation, maintenance and general management of open spaces within the study area and Nairobi as a whole. Thus to a certain extent, it can be safely concluded that the weak management system of open spaces may have served to perpetrate misuse of available open spaces from selfish and apathetic residents. Thus the City Council of Nairobi will have to set an exemplary management and maintenance standard if any policy regarding open space and recreation is to be successful.

FOOTNOTES TO CHAPTER TWO

- 1 EMIG S. & ISMAIL Z., NOTES ON THE URBAN PLANNING  
NAIROBI Copenhagen. 1980
- 2 PARKER M., POLITICAL AND SOCIAL ASPECT OF DEVELOPMENT  
OF MUNICIPAL GOVERNMENT IN KENYA  
P.H.D. THESIS 1949
- 3 NAIROBI CITY COUNCIL, AFRICAN HOUSING PROJECT FILE  
(op cit)
- 4 WHITE et al (op cit)
5. NAIROBI CITY COUNCIL, GENERAL FILE ON OPEN SPACES  
(op cit)
6. NAIROBI CITY COUNCIL, CHIEF VALUER'S REPORT  
23/9/65
- 7 NAIROBI CITY COUNCIL, MINUTE NO: 15  
GENERAL PURPOSES COMMITTEE  
REPORT NOVEMBER 1976
- 8 CHANA T.S., IN AN INTERVIEW REPORT PUBLISHED IN  
DAILY NATION, FRIDAY AUGUST 7, 1981



## CHAPTER THREE

### STUDY AREA ANALYSIS

#### 3.0 INTRODUCTION

The evaluation of recreation and open space should be done in the context of the target population and residential area characteristics. The preceding chapters have dealt more with the problem of open space and recreation in Eastlands per se. This chapter gives the characteristics of the study area.

#### 3.1. PHYSICAL CHARACTERISTICS

Compared to other parts of the city, Eastlands is generally a dry area, low lying and flat, and apart from Nairobi river, has no other outstanding physical features. Geographers who have studied Nairobi<sup>1</sup> identify Eastlands as one of the six ecological zones of Nairobi based on the climatic/vegetative criteria. The area has scanty vegetation cover in the nature of scrubs, grass and bush. The area is characterised by black cotton soil at the surface up to at least one metre in depth, in some places, beneath which is weathered lava. Owing to the flat topography and black cotton soils, the drainage is quite poor.

#### 3.2 ENVIRONMENTAL ASSESSMENT

Eastlands is the poorest zone in Nairobi both in term of ecology and environmental quality. A study by Dr. Meffert shows that the largest heat island in Nairobi is within the Eastlands, precisely just above Pumwani Maternity Hospital. The flat nature of the area coupled with the scantiness in vegetation cover contributes to the fact that

Eastlands is hotter than the rest of Nairobi.

Apart from the heat, other factors lowering the quality of the environment, (pollutants) have been observed.

(i) Fumes, smokes and smells from industrial activities coming from the main industrial area which is located to the south of the study area. The other industries located within the study area, especially the steel industry have the same effect.

(ii) Foul smells coming from the sewage treatment works at Kariobangi @ which is situated on the windward side of the area, and also from Nairobi river in the dry season.

(iii) Noises and vibrations from the air craft landing base in Eastleigh and from trains on the railway line to Nanyuki.

(iv) Dusts and vibrations from quarrying in Dandora

(v) Dumping on neighbourhood open spaces and quarry infills thus impinging on the health and aesthetic quality of the area.

(vi) Nairobi river which is used for waste-water discharges, and whose banks are not maintained. The river becomes clogged and has an almost stagnant flow, in the hot season. Coupled with the fact that the river flows in almost flat and hot area, there is considerable water loss through evaporation. Consequently, it becomes a breeding ground for mosquitoes, and a source of foul smells. Thus its presence is disadvantageous in the area. Refer to map No. 2

ENVIRONMENTAL POLLUTION

PLATE NO: 3



Noise and vibrations. Note the train in the background and the industrial area buildings next to the residential area. Notice that the layout does not define the ownership of the open spaces.

PLATE NO 4



Shauri Moyo. Notice the rubbish heap in the foreground and the laundry on the grass

PLATE NO: 5



Industrial refuse dumping on open space. Notice the steel industry in the background which pollutes the air with its smoke.



PLANNING FOR RECREATION & OPEN SPACE : EASTLANDS

- ENVIRONMENTAL POLLUTION KEY**
- FOUL SMELLS
  - GROUND VIBRATIONS
  - INDUSTRIAL EFFLUENCE
  - NOISE
  - VEHICLE JUNKYARD
  - 
  - 
  - 
  - STUDY AREA BOUNDARY
  - RAILWAY
  - MAJOR ROAD
  - MINOR ROAD

SCALE 1:20,000  
 5 CM REP 1 KM



MAHA P W DEPARTMENT OF  
 URBAN AND REGIONAL PLANING  
 -1981-82-

map  
 no. 2

3.3. POPULATION CHARACTERISTICS

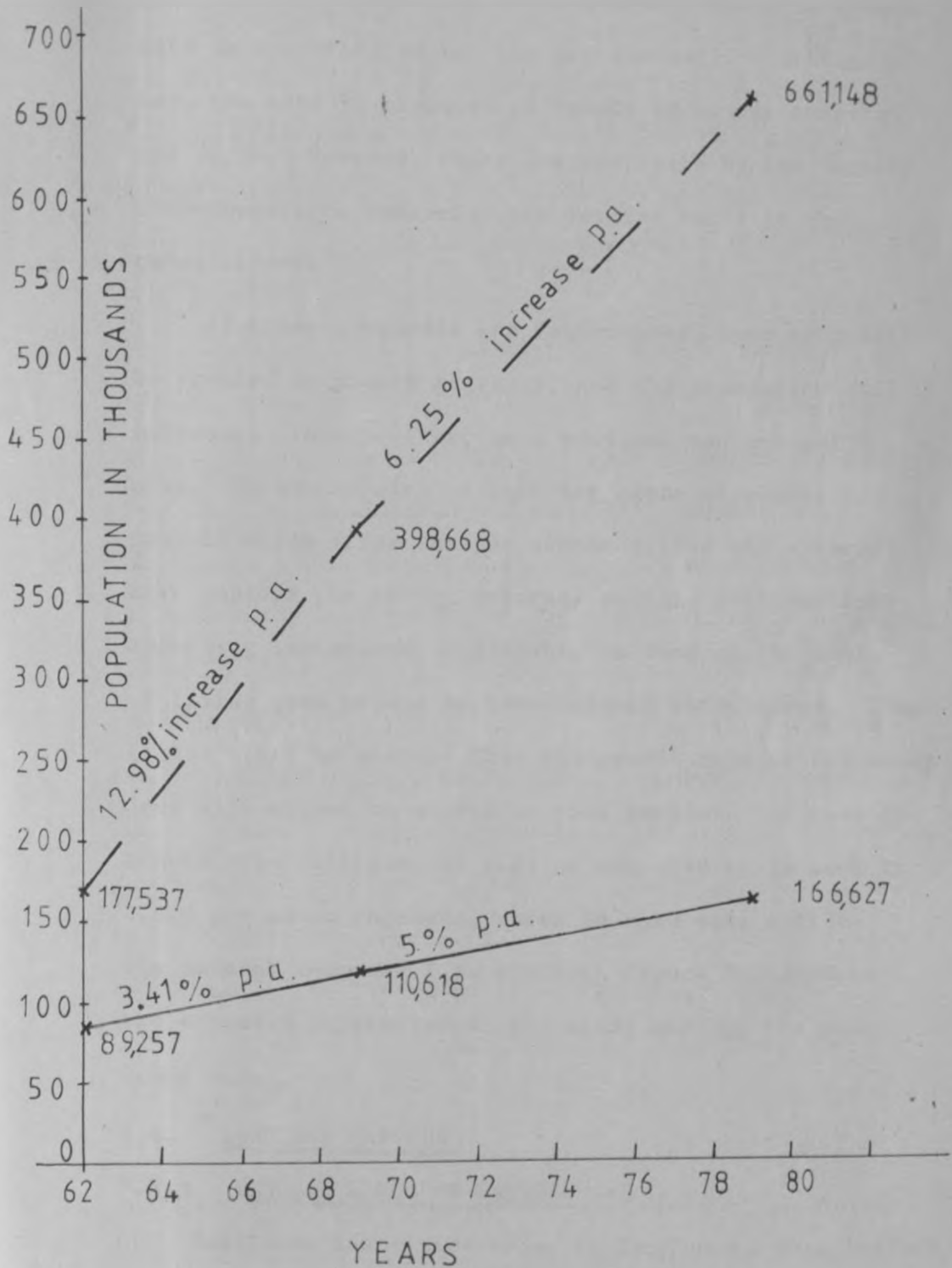
The study area recorded a population of 166,627 people according to the 1979 census. It has been stated earlier that the area in question is confined to that section of Eastlands shown on map No. 1 and therefore this figure is not of the whole of the Eastern section of Nairobi.

An analysis of the population figures from the central Bureau of Statistics<sup>3</sup> shows that the study area is largely populated by the category of people falling between ages 15 and 49. This category constitutes 50% of the entire population. 37% of the population falls between 0-14 years of age. It may thus be concluded that the study area is largely populated by an active population. This is the section that has the greatest desire and need for recreation. A population pyramid would be ideal to express the structure of the population. However, the 1962 and 1979 census reports present figures in inconsistent age ranges, such that it is impossible to present effective population pyramids.

As figure no 1 shows, Eastlands has a lower growth rate than Nairobi City in total. This can be explained by the fact that the squatter areas which are growing in other parts of Nairobi absorb the incoming migrants. Note that between 1969 and 1979, the growth rate of Eastlands has increased from the 3.4% (1962-69) to 5% per annum. This happened because of the building



FIGURE 1      COMPARISON OF POPULATION  
GROWTH TRENDS OF EASTLANDS  
AND NAIROBI 1962 — 1979



———— Growth trend of Eastlands  
 - - - - - Growth trend of Nairobi

boom when the number of estates in the study area doubled. However, the building boom has subsided and this growth rate is not expected to rise any further. Migration into the area is expected to reduce if no new estates are built. However, there are proposals by the Nairobi City Council to redevelop the estates built in the colonial era.<sup>4</sup>

If these proposals are implemented, more room will be created to absorb migrants, and the population will increase. This however, is a proposal and not yet a plan. The mushrooming of squatter areas elsewhere in Nairobi which offer cheaper accommodation and alternative employments in the informal sector, will continue absorbing immigrants to Nairobi, as long as the cost of living goes up and as unemployment rates rises. Thus it can still be assumed that the growth rate of the study area will either be static or will decline. In case the growth rate declines, it will be expected to go back to 3.4.% per annum increase, which in this case will be the natural increase i.e. births. Figure No. 2 shows the expected population of the study area by the year 2,000 A.D.

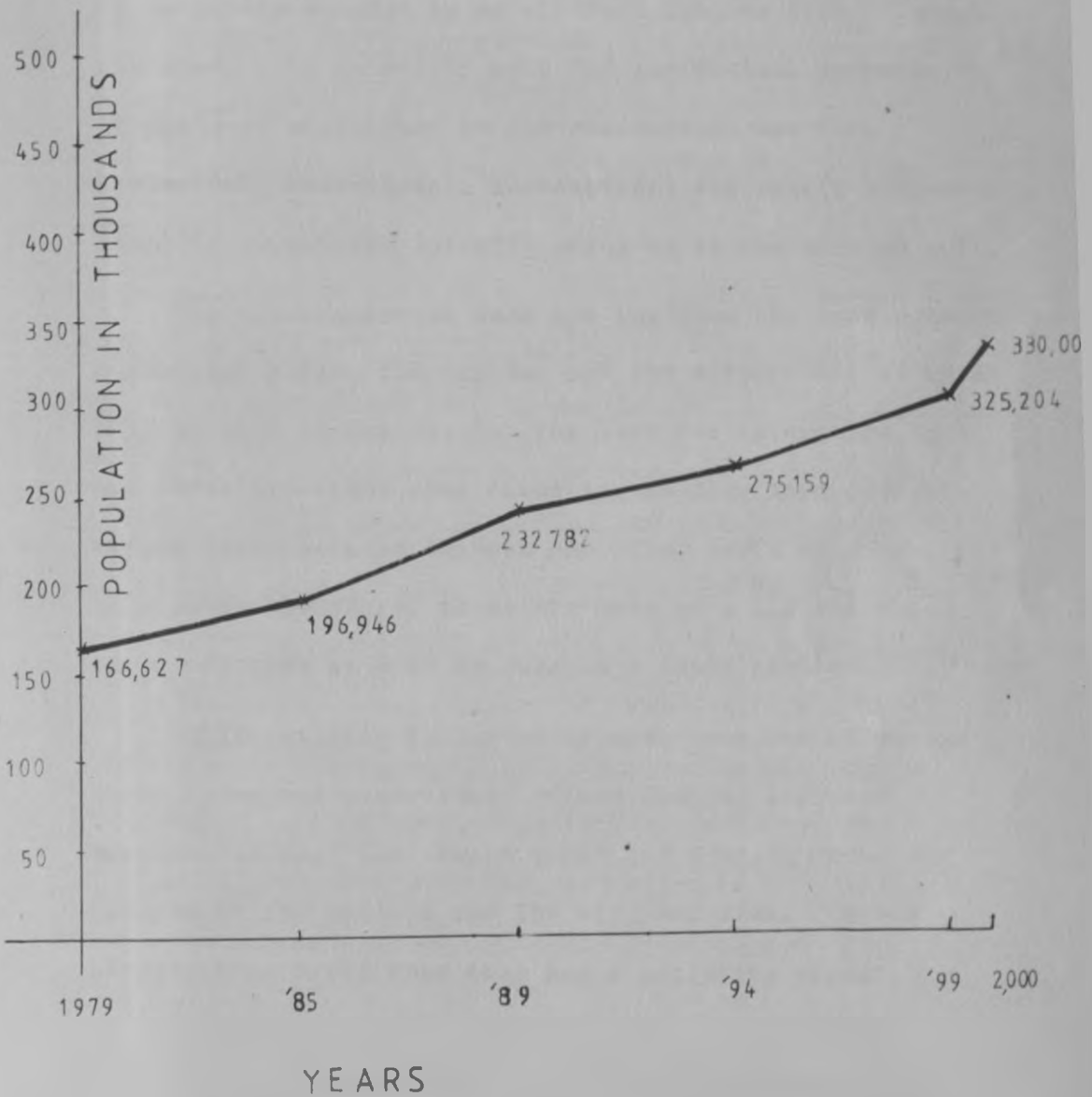
### 3.4. LAND USE PATTERN

#### 3.4.1 GENERAL LAND USE PATTERN

Eastlands has a wide range of land uses, that include all urban land uses as recognised by the classification system in Kenya. However, this is with reference to the



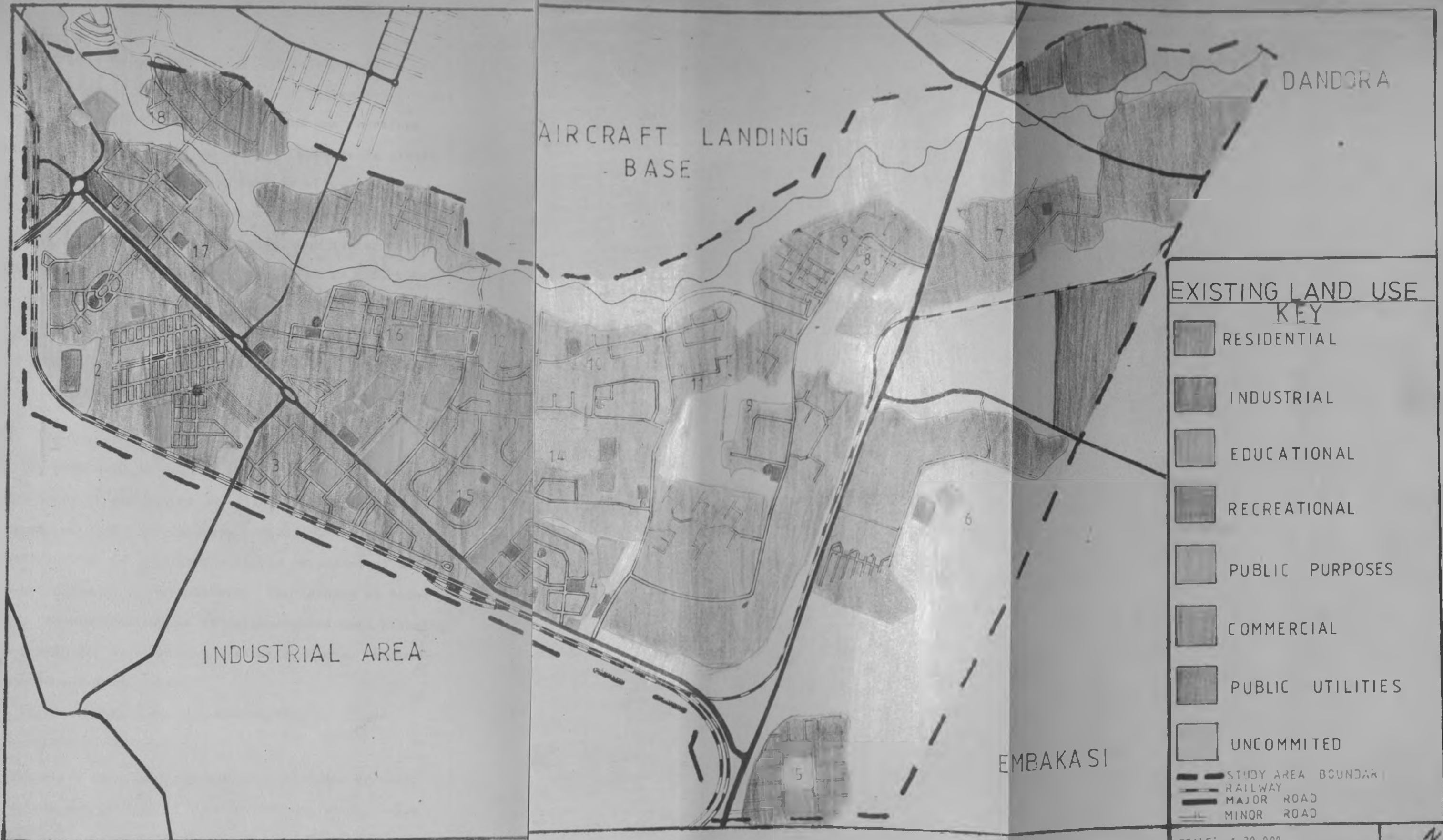
FIGURE 2  
PROJECTED POPULATION AT 3.4%  
INCREASE P.A.



existing situation rather than the zoned land use pattern. The area has been zoned primarily for residential use and light industry. To the south it is bounded by the industrial zone and the railway line and to the north it is partly bounded by an aircraft landing base. Though the study area is mainly used for residential purposes, it has uses auxiliary to the residential use i.e. Commercial, Educational, Recreational and public purposes. There is industrial activity going on in the area as well.

The transportation land use includes the road network, pedestrian walks, the railway and the airport all of which will be seen in map no. 3. The last two categories do not serve the study area directly, as they form communication links between Nairobi and other parts of Kenya. In a sense therefore, these are more of a liability to the study area as will be seen in a later section.

Public utility in the study area consists of sewage works, overhead powerlines, refuse dumping tips and telephone lines. The sewage works and dumping areas are located to the eastern and the windward side. It has already been noted that this has a polluting effect to the residential area located to the western side. The location of these land uses can be explained by the fact that within Nairobi in general and particularly in the study area, the present location was comparatively less committed in terms of development and tenure during the site selection. The topography of Nairobi City can



AIRCRAFT LANDING  
BASE









DANDORA


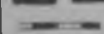


INDUSTRIAL AREA

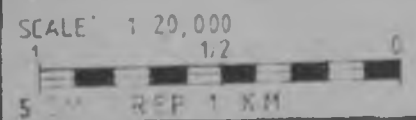
EMBAKASI

EXISTING LAND USE

KEY

-  RESIDENTIAL
-  INDUSTRIAL
-  EDUCATIONAL
-  RECREATIONAL
-  PUBLIC PURPOSES
-  COMMERCIAL
-  PUBLIC UTILITIES
-  UNCOMMITTED

-  STUDY AREA BOUNDARY
-  RAILWAY
-  MAJOR ROAD
-  MINOR ROAD



PLANNING FOR RECREATION & OPEN SPACE : EASTLANDS

MAINA F.W. DEPARTMENT OF  
URBAN AND REGIONAL PLANNING  
-NIPED 1981/82

map  
no.3

be seen as another determinant of the location of the sewage plant. The area in question is lower in altitude than the rest of the city and was therefore more practical in terms of location of the sewage plant. This reduced the sewage pumping cost by allowing it to flow by gravity to the treatment plant from the rest of the city. As for the refuse dumping, the number of disused quarries have attracted dumping in an effort to have these quarries filled.

For the purposes of this study, residential land use is the centre of interest since its analysis has a direct relationship with open spaces.

#### 3.4.2. NEIGHBOURHOOD STRUCTURES & LAYOUT

The study area is made up of different housing estates whose neighbourhood analysis can best be achieved by discussing each individually. However, the street patterns are mainly grid-iron with the exception of Kaloleni which has a radial street pattern. The layouts of these estates show an inclination to neighbourhood unit planning, particularly the newer estates - Kimathi, Uhuru, Buruburu, Umoja and Kariobangi South.

Table No. 3 describes the estates in detail. Figure 3 corresponds to this table.

The study area is congested both in terms of units per hectare and in terms of room occupancy rates. Refer to table no. 4 <sup>on</sup> estate densities and note that the occupancy rates are higher. The Kenyan standards within the National Housing Corporation <sup>5</sup> policy stipulates that no more than

ESTATE	STREET PATTERN	BUILDING LAYOUT	TENURE	COMMENTS
1. KALOLENI	Radial Star shaped stems from the civic centre.	Garden city influence semi-detached cottages and flats. No physical demarcation of individual housing spaces. No pedestrian paths set aside. No parking lots. W.C. attached to main house. Community facilities central in location.	Nairobi City <sup>Council</sup> for low rental.	Layout does not offer privacy. There are no physical territories marked such that people can walk behind other's bedrooms. Homogeneity in appearance, colour, shapes and size
2. MAKONGENI	Grid iron	Row buildings and blocks of one storey flats. Communal open space.	Railway housing for employees	Housing units consist of one room each.
3. MBOTELA	Grid iron	Garden city influence. Block housing constituting four & six room units consecutively. Blocks facing each other to make an enclosed rectangular, communal open space, Few flats.	Blocks are N.C.C. rental units. Flats owned by individuals.	
4. MAKADARA	Grid iron with crescents.	L shaped blocks similar to Asian tenements, i.e. with sheltered central communal space. Houses built back to back forming narrow alleys with open drains. Row Housing.	Individual lessees and N.C.C. for rental.	Mixture of permanent and semi-permanent materials. Heterogeneous environment of new brightly coloured structures and old dilapidated structures.



5. ESTATE	STREET PATTERN	BUILDING LAYOUT	TENURE	COMMENTS
DOONHOLM	Grid iron	Detached cottages with private open spaces	For mortgage by private developers	Incomplete housing estate since community facilities not provided. Depends on the adjacent estates for these.
6. UMOJA	Hexagonal grid, with roads at the periphery and controlled access.	Influence of the neighbourhood concept. Semi-detached housing units. Private open spaces provided.	City Council site and service scheme, for tenant purchase.	
7. KARIOBANGI SOUTH	Central Spine with access to individual and group units	Garden City and neighbourhood unit concepts influence. Flats, semi-detached maisonettes and detached cottages. Plenty of communal open space, private open space offered in maisonettes.	City Council site and service schemes, for tenant purchase.	Estate dissected by main road breaking the feeling of the estate as one unit.
8. OUTER RING ROAD ESTATE	Grid iron, Main road dissects the estates into two. Access to individual plots.	Semi-detached cottages and maisonettes. Self-sufficient neighbourhood in terms of community facilities. Private and public open space in plenty.	N.C.C. rental scheme	
9. BURU BURU	Grid iron. Central spine with access to clusters of housing units and central area Parking within all neighbourhoods. Access to individual plots.	Semi-detached maisonettes, organised into courts..Radburn layout (i.e. pedestrian and vehicular traffic disaggregated Private compounds. Front and backyard open spaces. Neighbourhood concept influences. "A newtown" Few landscaped open spaces.	Commonwealth Development Corporation for mortgage	

ESTATE	STREET PATTERN	BUILDING LAYOUT	TENURE	COMMENTS
10. BURU BURU N.C.C.	As above	As above. Highrise intended as a means of breaking monotony of estate	N.C.C. Rental scheme.	
11. HARAMBEE	Grid iron with vehicular access to individual plots and group parking.	Detached cottages. Fore-courts and backyards provide private open space. Communal open spaces also provided. Linear arrangement of structures back to back.	Tenant purchase scheme.	
12. UHURU	Grid iron access to group parking lots.	Semi-detached houses. Private open spaces and communal Open Spaces provided. Structures arranged to enclose communal open space.	N.C.C. tenant purchase scheme.	Location of main shopping facilities not functionally located. Heavy carriage road dissecting the estate.
13. KIMATHI	SAME AS HARAMBEE ESTATE			
14. JERUSALEM	Grid iron. Main road runs peripheral to estate. Vehicular and pedestrian access to single blocks.	One storey flats in linear array. Plenty of open spaces within layout.	N.C.C. rental.	
15. JERICHO) 16. OFAFA )	SAME AS JERUSALEM			

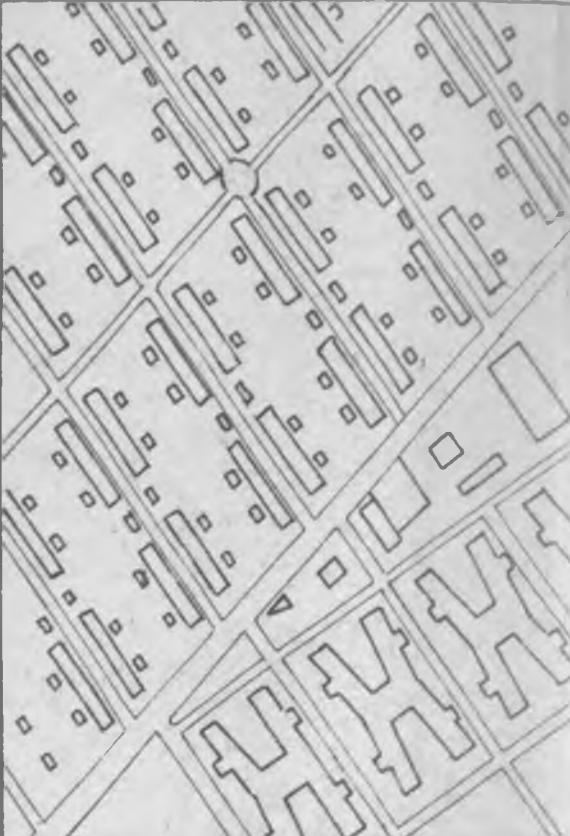
ESTATE	STREET PATTERN	BUILDING LAYOUT	TENURE	COMMENTS
17. BAHATI	Grid iron with vehicular access to communal lots	Long, single storey blocks, divided into single rooms arranged in rectangular positions therefore providing a screened communal rectangular space. Washing and toilet facilities, communal, detached from main houses.	City Council for rental.	As for Kaloleni, territorial claim to immediate open spaces is not physically facilitated. Low level of privacy.
18. SHAURI MOYO	Grid iron Radiating from shopping centre Leading to group parking No pedestrian walks set apart.	Garden city influence. Single storey blocks designed in the muslim manner i.e. Central Hallway with one room at the end. Cluster arrangement of blocks.	City Council for rental purposes	As above
19. GOROFANI	AS JERICHO, OFAFA AND JERUSALEM.			



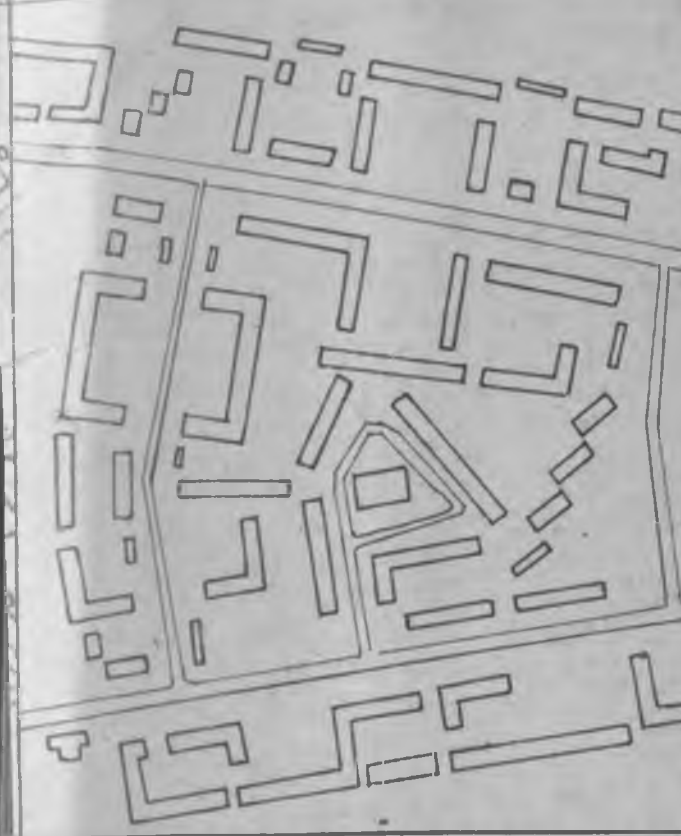
KALOLENI 1:2500



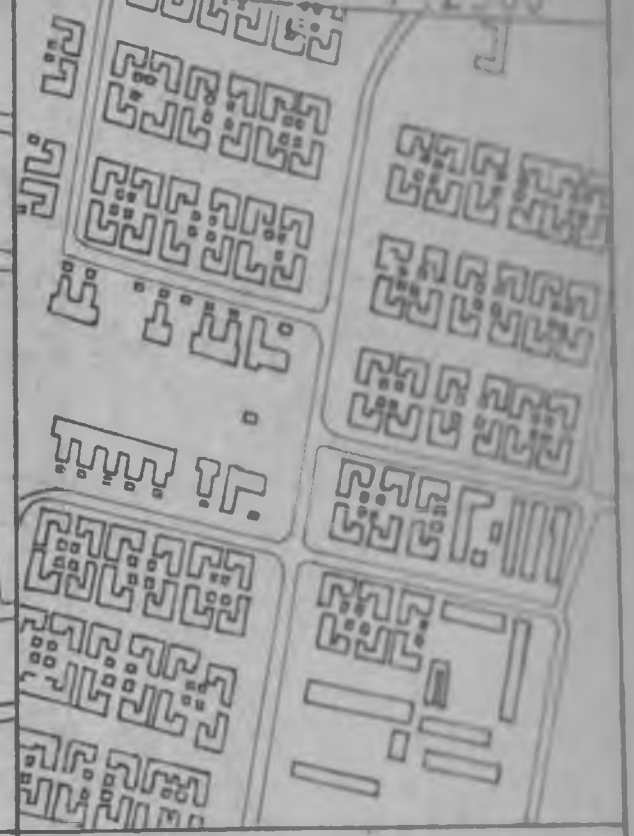
MAKONGENI 1:2500



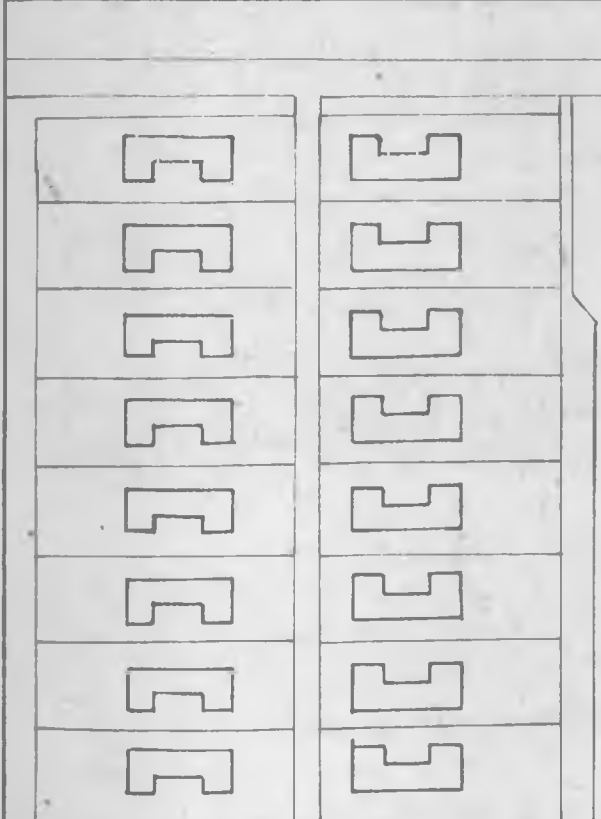
MBOTELA 1:2500



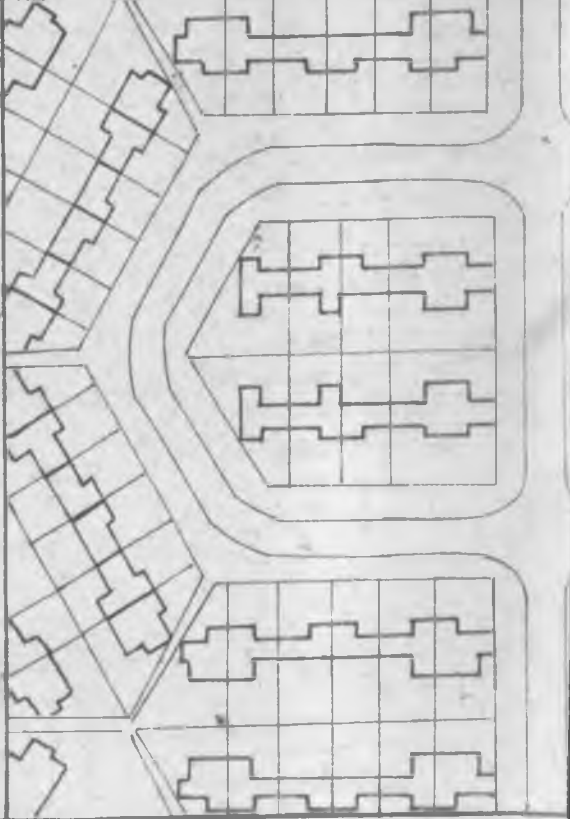
MAKADARA 1:2500



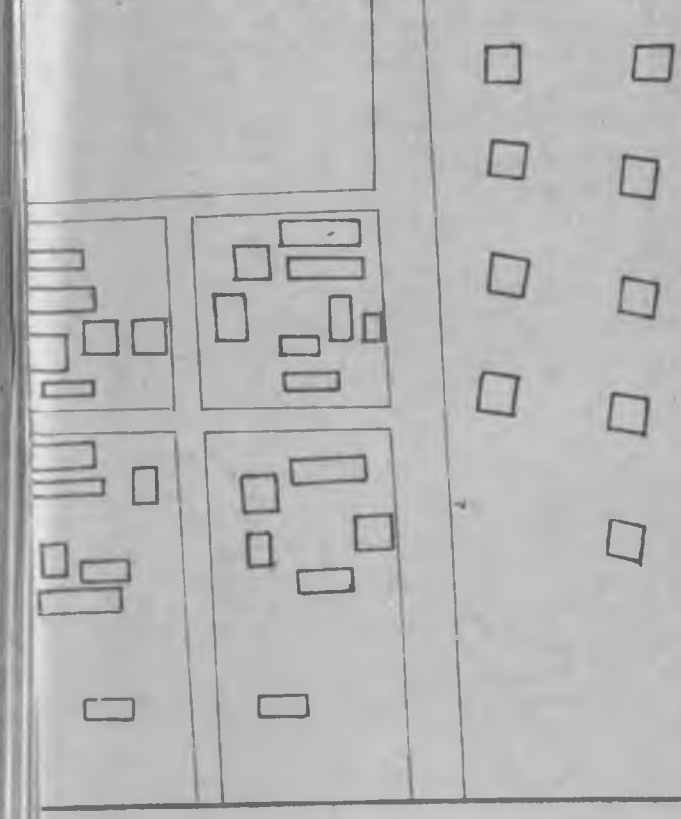
DOONHOLM 1:1000



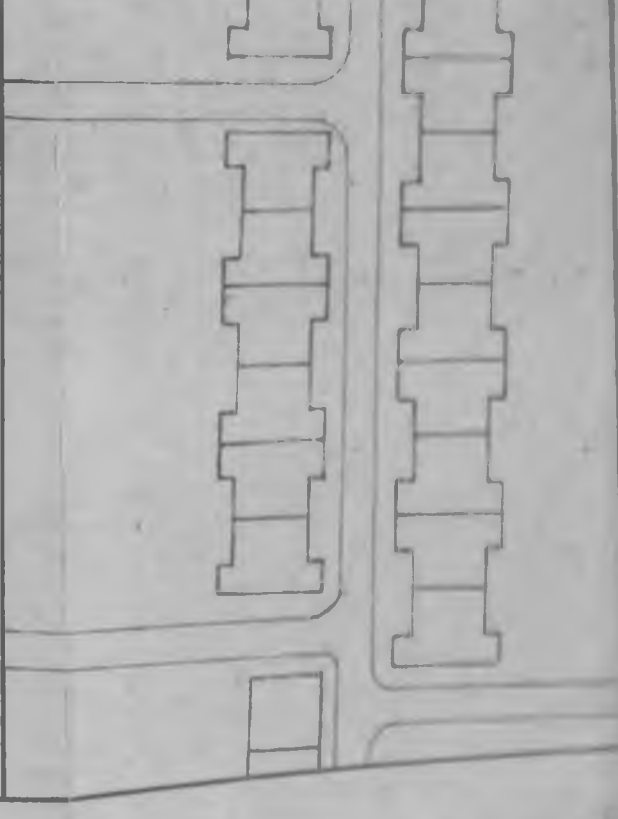
UMOJA 1:1000



KARIOBANGI SOUTH 1:2500



OUTER RING RD. 1:5000



ESTATE	NO. OF UNITS	AVERAGE NUMBER OF ROOMS PER UNIT	AVERAGE OCCUPANCY RATE (PEOPLE PER ROOM)	UNIT DENSITY (HA.)	TOTAL AREA (HA.)
KALOLENI	673	2	4	15	43.75
MAISHA/MAKONGENI**	4151	1	4	94	43.75
MBOTELA	934	2	7	18 (some storeyed)	50
MAKADARA	826	2	4	16	50
DOONHOLM*	368	4	1.5	8	43.75
UMOJA*	2924	2	3	23	125
KARIOBANGI SOUTH*	1316	3	2	19	33.3
OUTER RING*	360	3	2	28	12.5
BURU BURU*	3657	4	2	18	200
UHURU	1416	2	3	56	25
HARAMBEE	247	2	3	39	6.25
KIMATHI*	343	3	2	27	12.5
JERUSALEM*	500	2	3.0	40 (1 storey)	6.25
JERICHO	3004	2	3.8	26.7 (1 storey)	56.25
MARINGO	1400	1	4.5	28	25
BAHATI	2396	1	4.5	56	42.5
SHAURI MOYO*	1939	1	4	23	82.5
GOROFANI (South Pumwani)	942	1	5	19	25

See corresponding notes on page 53

two people should occupy a room less than 80ft<sup>2</sup>. Fifty per cent of the structures in the study area are between 10' x 12' a room and 14' x 9' yet the average occupancy rate is 4 people per room.

NOTES TO TABLE NO. 4

1. Columns 1 & 2 have been obtained from the following sources: (i) Paper on 'Authorised Nairobi City Council Housing Development' City Planning Section.  
(iii) VALUATION REPORTS NAIROBI CITY COUNCIL
2. Columns 3 - 5 calculated independently. Areas have been computed from map of study area.
3. Estates marked thus\* do not form census units, therefore their population figures were difficult to obtain. The occupancy rate was calculated using the household size, assumed as 6, based on findings.
4. Estates marked thus\*\* Data was not available on the number of housing units. These were computed from population figures by conversion of H/H densities into units, based on the household size. Assumption; 2 families share one unit.

The land has been intensively used. 903 hectares have been committed to housing and 526 hectares committed to transportation leaving the remaining 301 hectares as open space. However these 301 hectares have been put to agricultural use by the residents of Eastlands. The following table explains the existing land use.

TABLE NO: 5 LAND USE IN EASTLANDS

LAND USE	HECTARES	% TO TOTAL LAND
BUILT UP AREA	903	53
OPEN SPACES	301	17
TRANSPORTATION	526	30
TOTALS .....	1730	100

The built up area refers to residential, Educational Commercial and Industrial uses which for the purposes of viewing open space as one unit were grouped together. Transportation includes both the existing road network, pedestrian walks, the railway and their reserves. The open spaces may be viewed better through a further breakdown. See the table below:-

TABLE NO: 6 CATEGORIES OF OPEN SPACE IN EASTLANDS

CATEGORY	HECTARE	% OF TOTAL OPEN SPAC
Recreational open space	20.15	6.64
Neighbourhood open spaces	53.24	17.6
Unbuilt areas but committed to development	98.6	32.7
Riverine open space	17.5	5.8
Marshy site between Umoja and Kariobangi South	75	24.9
Airfield approach space	12	3.98
Site between Doonholm and Umoja estate sterilised for development by high voltage lines	20	6.64
Old Sewage Plant	4	1.32
TOTAL .....	301	100

### 3.5 OPEN SPACE AS RELATED TO POPULATION

From the preceding sections of this chapter, Eastlands has been depicted as a densely populated area. One planning approach is to consider provided facilities vis a vis the expected catchment population, compare it to set standards and make observations from that view. In considering the open space and population ratio, the study area has been divided into two: The estates built during pre-independence days and those built after independence. This distinction has been made on the basis of the following:-

- (i) Certain planning standards with a direct effect on open space amounts, location and status (i.e. public or private) were applied to the post independence housing estates while none were applied to the pre-independence ones.
- (ii) Having been built at different time periods, and with different construction material, the estates' expected economic lives may easily be grouped into two phases, on which grounds some proposals may<sup>not</sup> be generalised.

Nine housing estates have been randomly selected from the two categories. The attached table indicates the existing population and the distribution of the available public open space among it. On the average, the nine estates give a ratio of 9716 people per hectare of open space. As is evident from the table, there are too many users per one hectare of open space. The Nairobi City Council Planning Unit proposes 1.2 hectares of open space per 1,000 people.<sup>6</sup> By this proposal only a few estates meet the required standards at face value. However, on deeper

examination, no estate reaches this standard apart from Doonholm housing estate. It should be taken in to account that indoor densities are high and that indoor spaces are on the average, small. It therefore is evident that the usage of outdoor space is inevitably high and varied.

TABLE NO: 7 EXISTING PUBLIC OPEN SPACE AS RELATED TO POPULATION

ESTATE	EXISTING AMOUNT OF OPEN SPACE	EXISTING POPULATION	PERSONS PER HA (To the nearest) Ratio
Buruburu	11.28 ha	21942	1945
Kimathi	0.7 "	2058	2940
Uhuru	2.14 "	23813	111128
Cuter Ring	0.6 "	2160	3600
Dooholm	3.5 "	2208	630
Harambee	0.85 "	16257	19126
Bahati	2.05 "	10670	5205
Kaloleni	7.05 "	5120	726
Mbotela	0.92 "	14073	15297
Makongeni	7.00 "	16606	2372

### 3.6 RECREATION FACILITIES

The study area has both indoor and outdoor recreation facilities. Indoor public recreation facilities are to a large extent commercialised. There is the Suncity Cinema Eastlands Cinema, Bars in all shopping centres which offer dances and other forms of passive recreation. Social Halls



PLATE NO: 6



Middle - income housing estate, Harambee Estate. Notice the screened patio and backyard (private open space). Notice the under-utilisation of the foot path and the landscaping.

PLATE NO: 7



Low income housing estate. Ofafa Jericho. Notice the communal open space and the multiple use of it. Excessive use of the space and the footpath is easily noticeable

offer a wide range of passive and active recreation.

(Details are presented in chapter four and Appendix 2)

There is one swimming pool in Shauri Moyo Young Men Christian Association hostel.

Outdoor recreational facilities are provided in form of 5 playing fields, which have minimal landscaping and few games facilities installed. The Nairobi City Stadium is to be found in the study area. This is a facility open to all city residents / and gives no special concessions to the residents of Eastlands where the stadium is located. The five playing fields are located in the older estates. Makongeni estate has a playing field of 2.25 hectares, Ofafa Maringo has two fields of 0.75 hectares each. In Makadara there is one of 2 hectares while Jericho estate has a field of 0.75 hectares.

There are three secondary schools in the study area and twenty six primary schools. Playgrounds for individual schools have been provided in the same single unit where the classrooms are located. There are 28950 primary school children and 1010 secondary school students attending their respective schools within the study area, according to the annual report of N.C.C. Education Department 1981. However, the data available does not cover all the primary schools, with regard to sizes of playing fields in different schools. Table No. 8 shows the playing field sizes in various schools in the study area as related to the population.

Although the table shows a high density in the use of playing fields, it must be noted that all pupils do not use their respective field simultaneously apart from break times



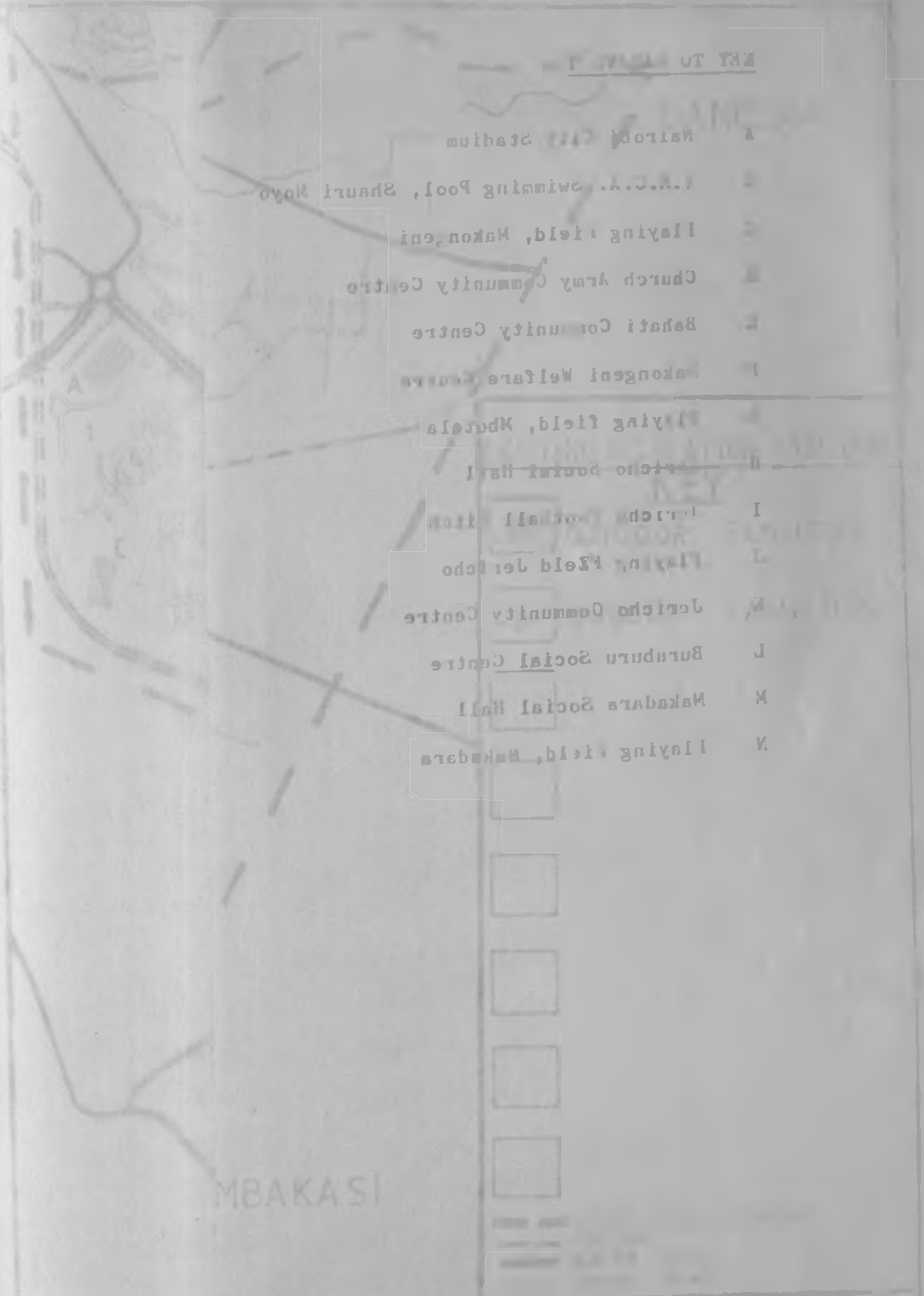
when the whole school is out of class. Evening games sessions are usually attended by the whole school, although this depends on individual games masters/mistresses. In ascertaining whether the existing provision of school playgrounds is adequate it has been found necessary to take note of City Council officials and headmasters.

This will be dealt with in the chapter on findings. Map No. 4 shows the existing recreational facilities in the study area.

### 3.7. CONCLUSION:

In the light of the afore-mentioned facts, it may be concluded that the study area leaves a lot to be desired. The earlier layout patterns have proved to be dysfunctional, by impinging on personal privacy, (see Kaloleni table no. 3 and corresponding figure 3). The newer estates have introduced physical demarcation of open spaces therefore bringing in the aspect of individual ownership. This has encouraged illegal construction of additional living quarters in the study area, meaning that it is now impossible to assess the exact amount of open space accurately, among other things.

The area is a high density one in terms of units per hectare (outdoor space coverage) and occupancy rates. Household activities are therefore carried on outside the houses. The displacement of living patterns means that any considerations in terms of improving the situation regarding open spaces must be made hand in hand with the transformation of the housing units themselves.



MBAKASI

PLAN-ANDS

KEY TO PLAN

A Makongeni Welfare Centre  
 B Bahati Community Centre  
 C Church Army Community Centre  
 D Playing field, Makongeni  
 E F.R.C.A. Swimming Pool, Shauri Moyo  
 F Makongeni City Stadium

G Playing field, Mbatela  
 H Jericho Social Hall  
 I Jericho Social Club  
 J Playing field Jericho  
 K Jericho Community Centre  
 L Buruburu Social Centre  
 M Makabara Social Hall  
 N Playing field, Makabara




KEY TO MAP NO 4

- A Nairobi City Stadium
- B Y.M.C.A. Swimming Pool, Shauri Moyo
- C Playing Field, Makongeni
- D Church Army Community Centre
- E Bahati Community Centre
- F Makongeni Welfare Centre
- G Playing field, Mbotela
- H Jericho Social Hall
- I Jericho Football Pitch
- J Playing Field Jericho
- K Jericho Community Centre
- L Buruburu Social Centre
- M Makadara Social Hall
- N Playing Field, Makadara
















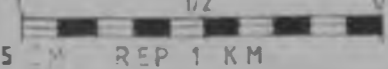
PLAN-AND



EXISTING RECREATION FACILITIES

**KEY**

-  OUTDOOR FACILITIES
-  INDOOR FACILITIES
- 
- 
- 
- 
- 
- 
- 
-  STUDY AREA BOUNDARY
-  RAILWAY
-  MAJOR ROAD
-  MINOR ROAD

SCALE: 1:20,000  
  
 5 CM REP 1 KM

MAINA F.W. DEPARTMENT OF URBAN AND REGIONAL PLANNING 1981/82

map no. 4

PLANNING FOR RECREATION & OPEN SPACE : EASTLANDS

The study area has a simple range of recreational facilities in general. This together with the open spaces which are not landscaped gives the area a monotonous appearance, compared to other parts of the city.

TABLE NO. 8

SCHOOL PLAYING FIELDS

SCHOOL	SIZE OF PLAYING FIELD	TOTAL ENROLLMENT	PUPILS PER ACRE OF OPEN SPACE
Our Lady of Mercy Primary	3 ha.	1050	350 pupils per ha
Heshima Road Pri.	0.5 ha.	1450	2900 " "
Marurani "	0.2.5 ha.	1050	2100 " "
Makongeni "	0.2.5 "	1050	2100 " "
St. Annes "	1 "	1400	1400 " "
St Paul's "	0.5 "	1400	2800 " "
Canon Apollo "	0.2.5	700	2800 " "
Jogoo Road "	0.5 "	1100	2200 " "
St. Michaels "	1 "	1150	1150 " "
Nile Road "	1 "	258	258 " "
Martin Luther "	1.5 "	1050	1050 " "
Dr. Livingstone"	2 "	1400	700 " "
Huruma High School	1.5 "	144	96 " "
Aquinas " "	1.25 "	413	330 " "
Jericho " "	1.25 "	453	362 " "
Buruburu Primary	3.00 "	1050	350 " "

INTRODUCTION

FOOTNOTES TO CHAPTER 3

The survey was carried out from October to December

- 1 Morgan, NAIROBI CITY AND REGION 1967
- 2 Meffert 'Heat Islands in Nairobi' 1981\*
- 3 Central Bureau of Statistics. Census Report 1962/69/79
- 4 Muthembwa, 'Bahati Estate, Redevelopment Proposals'
- 5 Malombe J., HOUSING FINANCE AGENCIES IN NAIROBI 1981
- 6 Nairobi City Council, Unpublished Report on Open Spaces 1981

## CHAPTER FOUR

### D A T A   A N A L Y S I S

#### 4.0 INTRODUCTION:

The survey was carried out from October to December 1981. Data obtained through this survey was codified and analysed manually. The intention of the questionnaire was to determine the felt need and/or deficiency of open space and recreational facilities as articulated by the population in Eastlands. Through this questionnaire, socio-economic characteristics of the sample were gathered. Details regarding the sampling and questionnaire administration have been presented in the first chapter of this report. The questionnaire is included in this report as an appendix.

As has been detailed out in the first chapter, other methods of data collection were employed. The contents of this chapter reflect findings arrived at by using all these methods. Where a specific finding was obtained through one research method, this has been clearly stated.

#### 4.1 SOCIO - ECONOMIC CHARACTERISTICS OF SURVEYED POPULATION

The results of the survey show that Eastlands is currently populated by a large section of young people who are heads of households. 47.9% of the population fall in the age category of 18 to 40, while 36.6% are between 11 to 50 years. Only 15% of the population is above 50 years.

The population is predominantly Christian as shown by the percentage. 94% are Christians, 3% are Muslims and 3% adhere to African tradition religions.



The level of education is low, as 50% of the population have only received primary level education and 8.5% have never received school education. In Kenya, the level of education, to a large extent influences the level of income. Consequently, the area is predominantly a low income one. 80% of the population earn below 1,500/= a month. 63.7% of the population is in formal wage employment, while 36.3% are in the informal sector, running their own small businesses. In an economist's perspective, this latter category displays latent unemployment, since they have not been absorbed in the formal sector. A true picture of unemployment in the surveyed population has not been presented. This limitation has been brought about by the following reason. The survey site consists of rental housing, individually or shared. Moreover, the survey concentrated on heads of households who are the main bread winners, thereby ignoring other household members who may have been unemployed. However, the statistics show that the level of income is low.

According to the Central Bureau of Statistics, the average household size is 6 members. This figure was adopted for this study. Compared to this figure, the population surveyed was found to have large households.

A self-explanatory table follows.



TABLE NO: 9

HOUSEHOLD SIZE

Size of Household	Percentage to the total
Under six member	22.5
Six members	8.5
Over six member	68.9

N = 46

On the average, the housing estates consist of two roomed housing units. The sizes of these units have already been discussed in chapter three. Considering that the number of families with more than six members form the majority in the study area, and the fact that indoor space provision is on the average 14' by 9', there is a high indoor space congestion. The questionnaire used asked the respondents to assess their own housing in terms of indoor, space coverage. This meant the extent to which the rooms were occupied by household objects and items, e.g. furniture. This gave the respondent a chance to display his attitude regarding the indoor space status in his own house. The following table shows the respondents' assessment of their own indoor spaces as consumed by household items.




TABLE NO: 10 INDOOR SPACE CONSUMPTION IN SURVEYED HOUSEHOLDS

Indoor Spaces	Per centage to the total
Bare (less than ¼ consumed)	9.3
Average (about ½ consumed)	39.5
Congested (more than ½ consumed)	51.2
T O T A L .....	100

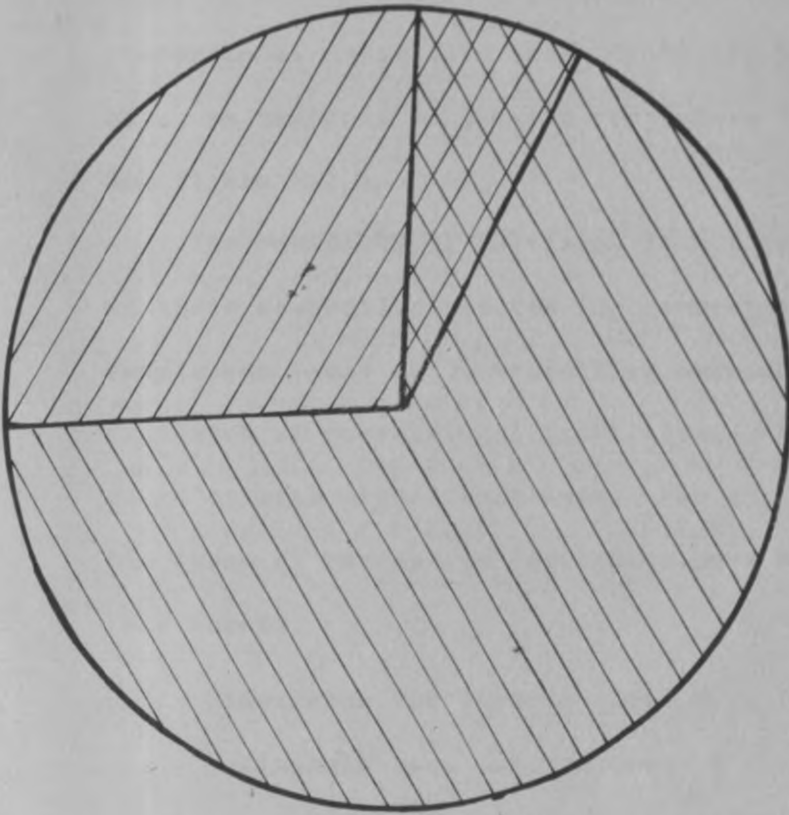
From the above table, it is evident that half the number of households utilise their indoor spaces/the /to maximum. Considering the high occupancy rates mentioned in the previous chapter, it can therefore be concluded that the study area's population lives in a congested situation.

#### 4.2 NEED AND DEFICIENCY OF RECREATIONAL FACILITIES

The survey revealed that there is a high percentage of recreation pursuants in Eastlands, Responses fro the question of how free time is spent indicate that the majority of people (66%) spend their free time in recreational pursuits. See figure No.4 overleaf. In the diagram, note that alcohol drinking has been treated as a neutral activity. This is because a previous study by the author, has shown that drinking may be recreational pursuit, and/or a manifestation of psychological disorders. (Wanjiru F.M. B.A. Dissertation 1979). Note from the same diagram that non-recreational pursuits take only a small section, indicating that few people do not engage in recreation in their free time.

Among the types of recreation cited in the survey, indoor recreational activities appear to be the most popular,

FIGURE 4.  
USE OF LEISURE TIME IN EASTLANDS



KEY



RECREATION



NON-RECREATIONAL PURSUITS



DRINKING

compared to outdoor recreational activities. On the outdoor recreational activities, it was found that the majority of recreational pursuants prefer active outdoor recreational activities e.g. football, volleyball etc., as compared to passive recreation e.g. Ajua\*

See figure No: 5

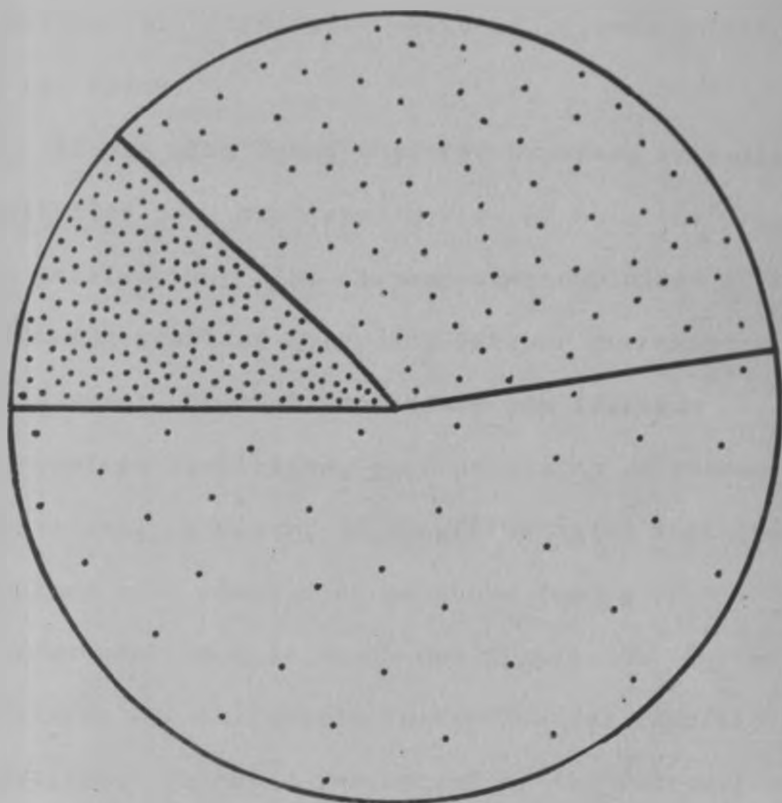
The residents of Eastlands do not rely entirely on their respective estates for recreation. 34% of the sample was found to be travelling outside their estates in search of recreational facilities. Those who travel go to estates within Eastlands. For analytical purposes, the types of recreation facilities have been grouped into three:

- (i) Playfields for various games e.g. football, netball volleyball etc. It was found that 58.3% of those who travel to seek recreation from other housing estates, were interested in playfields for different outdoor games.
- (ii) Public indoor games facilities with entry fee charged at minimal rate, or no entry fee. It was found that 33.4% of those who travel to seek recreation from outside their/respective estates were interested in these types of facilities.
- iii) Commercialised recreation, for example film shows, and dances 8.3% of those who travelled outside did so in search of commercialised recreation.

The survey reveals that there is a felt need among the respondents for the provision of more recreational

\*Ajua is a Luo traditional game similar to marbles

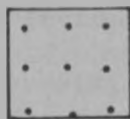
FIGURE 5  
POPULARITY OF RECREATIONAL  
ACTIVITIES IN EASTLANDS



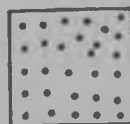
KEY



INDOOR RECREATION



ACTIVE OUTDOOR RECREATION



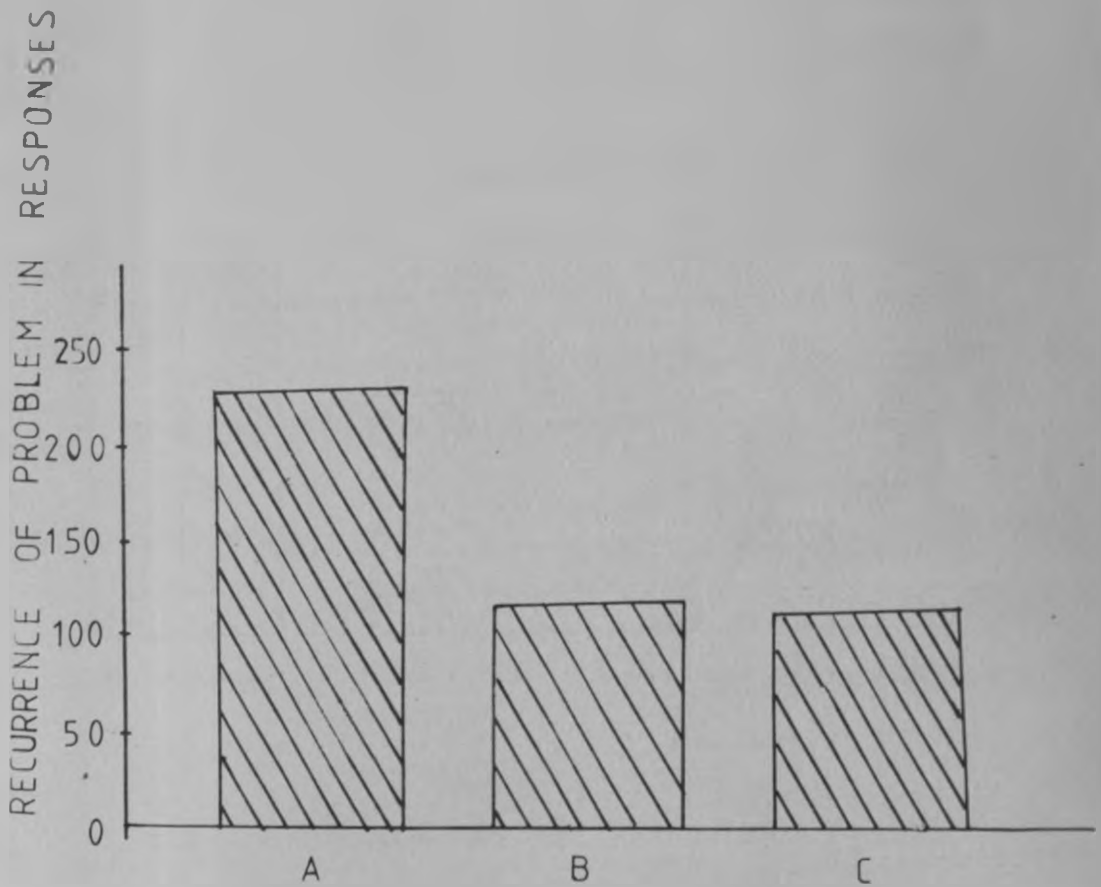
PASSIVE OUTDOOR RECREATION

facilities in their respective residential areas. 78.8% of the surveyed population expressed a need for recreational facilities; while 18.2% were undecided on the issue.

It was also found that the existing recreational facilities pose problems in view of both the provision and utilisation. The respondents complained of the following problems regarding outdoor recreational facilities: Recreational space was limited, lack of required facilities, poor provision of recreational activities. However, it should be noted that these problems were identified as those facing adults' recreational facilities. See figure No. 7 The provision for children's recreation was reportedly deficient. Parental assessment of the recreational facilities provided for their children highlighted the following shortcomings: recreational space was said to be limited in terms of amount, play areas were not equipped with facilities for play, and there were hardly any play areas (apart from school playing fields) set aside for children's play. This state of affairs facilitates competition for open space with other users. Parents also complained of lack of lighting at night and a poor range of indoor games facilities for children. See figure No: 6

The afore-going discussion shows that the felt need for recreation is above average. It is also clear that there is shortage of recreational facilities and open space. There is need for provision of more, and

FIGURE 6      PROBLEMS FACING  
ADULTS' OUTDOOR RECREATION

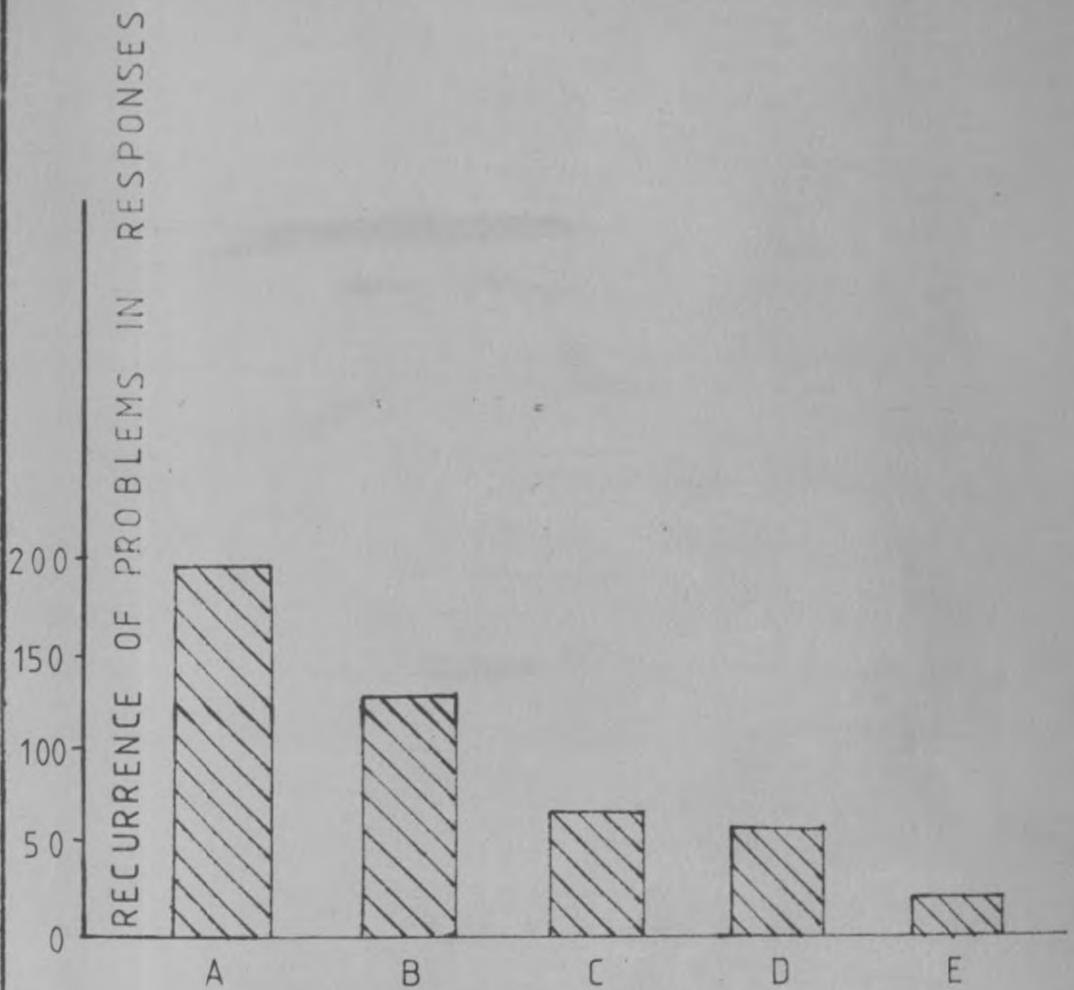


KEY

- A      LIMITED SPACE  
B      •LOW PARTICIPATION  
C      POOR OR NO FACILITIES



FIGURE 7      PROBLEMS RELATING  
TO CHILDREN'S RECREATION.



KEY

- A      LACK OF SPECIFIC PLAY AREAS
- B      LACK OF OUTDOOR GAMES FACILITIES
- C      LIMITED SPACE
- D      CONFLICT IN USE OF OPEN SPACE
- E      LACK OF STREET LIGHTING.

improvement of the already existing facilities. Actual devotion of free time to recreation has been found to be high as shown by figure 4 and hence the effective demand for recreation is high. Dosio (op cit) refers to different levels of demand, namely, effective demand Latent demand, potential demand and induced demand, of recreation. Latent demand refers to demand that is not realised, either, because there is a lack of knowledge as to the existence of such facilities, or because of the lack of those facilities demand. In the same light, it was found that latent demand was high in the study area. 62.5% of the population surveyed were not aware of the range of recreational facilities within the estates. To confirm these findings, actual field observations identified idle crowds and individuals on non-working days particularly Sunday afternoons. See plate No: 8

#### 4.3 CHILDREN AND RECREATION

The survey shows that children are the most interested in recreation. No child was reported to stay indoors on normal days. (apart from infants, toddlers and of course the sick) in the period after school (3.20) p.m.) and before dark. 68% of the respondents said that their children stayed away from the house for more than two hours after arriving home from school. 24% households said that their children stayed outside the house between one to two hours, while the rest of the children were said to stay for intermittent periods inside the house

LATENT DEMAND FOR RECREATION

PLATE NO 8



Makadara Shopping Centre on a Sunday Afternoon. Notice the idleness common to all in the photograph. The beer halls were well occupied/

PLATE NO 11(a)



... wall writings by youth. Note that these are Recreation Clubs. See details of Analysis in text.

rushing outside for unspecified time periods.

An assessment of parents' opinions as to such recreational engagements of children showed that to a large extent, it was not the parents' free choice that the children are outside in such durations, since 55% expressed their dislike of the matter.

The survey further revealed that these children were in areas where parental or adult surveillance was lacking. Children from only 2.7% households played continuously outside the house within earshot. The other children 72.5% households were scattered over fields, streets and other unknown areas (to parents) From the background information available, of the existing recreational facilities, it is almost certain that these children are left to their own plays and devices.

Field observations confirmed the data as on weekends and school holidays large numbers of children are seen playing outside, on road reserves, on roundabouts within Jogoo road and on vacant plots of land. See plates No; 9 and No: 10

When asked why they chose the roundabouts amid the danger of the traffic, the response was that these were the most convenient areas for them. This was because, either the adults chased them away from the neighbourhood because of noise, or because those places were being used for drying laundry. Thus it is clear that there is a competition in the use of open spaces,

EVIDENCE OF SHORTAGE OF PLAYGROUNDS

PLATE NO 9



Children playing on a Jogoo road roundabout. Makongeni Estate is on the background. Notice that the soil in middle of the roundabout is showing. This indicates that the area is frequented by children.

PLATE NO 10



Children playing in street. Bahal Estate

Plate 11(b)

Wall writings. Mbotela Estate



and the children, being the weaker physically and socially are displaced to play amid the traffice

The amount of wall writings on the houses in Eastlands may be a further indication of the inadequate provision of play space and lack of play-stimulating facilities or environments. Imaginary recreation clubs and sports clubs popular in the mass media have their names boldly written on these walls. This should be an indication of psychological yearning for such facilities within their own residential areas. See plate No 11 (a & b)

#### 4.4. INDOOR RECREATION

Indoor recreation in Eastlands, is mainly offered through social halls and community centres. These offer the residents multiple indoor games, film shows, concerts, dances etc. The full list can be seen in table No. 11 Eastlands and Suncity cinemas show films on commercial basis. A mobile cinema Unit operates in Eastlands twice a month and the shows are free. Bars and beerhalls make for absorption of much leisure time and Church halls are also used by the youth for drama, boxing, dances and parties.

##### 4.4.1. UTILISATION OF SOCIAL HALLS

It was found that men are the most frequent users of Social halls as compared to women.

As analysis of a variety of eighteen recreation activities offered in social halls indicates that the effective (realised) demand is highest with regard



- 74 -  
TABLE NO: 11

Estimated weekly attendance per activity in eight Social Halls  
(Lumumba, Kaloleni, Shauri Moyo, Mbotela, Eastleigh, Pumwani,  
Bahati and Jericho)

Activity	Total Average Weekly attendance	% attendance of the total adult population	Minimum No. required to make a team	Remarks
Badminton	620	0.6%	2	-
Billiards	920	0.95	3	-
Table Tennis	240	0.2	3	-
Table Tennis	360	0.3	3	-
Football	1671	1.7	22	-
Cinema Shows	2910	3	unspecified	-
Disco dances	450	0.46	unspecified	-
Parties	350	0.36	unspecified	-
Playing Cards	270	0.2	2	Only found in Kaloleni Social Hall
Chess	175	0.18	2	-
Table Tennis	350	0.36	2	-
Table Tennis	350	0.36	2	-
Go-Go	70	0.07	2	Only found in Kaloleni
Volley Ball	350	0.36	8	-
Television	4150	4.3	unspecified	-
Party building	65	0.67	2	Only found in Pumwani Social Hall
Table Tennis	140	0.145	unspecified	Only found in Bahati
Miscellaneous Floor Games	950	0.98	2 for most games	-

\*Note that the total adult population is 96,256 according to the 1979 Census.

Source: Senior Welfare Officer Eastlands.  
(with Personal modifications)

to television viewing and film shows. See table No. 44 and note that the highest attendance is within the mentioned activities.

Social halls are most active at night. This can be explained by the fact that the bulk of the population is out at work during the day. Only an insignificant number of children attend social halls, mainly for television viewing. All other indoor games are utilised by adults. In the analysis of social halls utilisation, only the adult population has been considered. An analysis of recreation participants in the eight social halls in the study area, taking into account carrying capacities shows that only one social hall was over-utilised. See table No: 12 and note that most social halls are under-utilised. An important reason to explain this under-utilisation is that there is insecurity in walking at night since most estates are not lighted. Therefore, only those living very close to the social halls will venture to visit them.

#### 4.5 SOCIAL FUNCTIONS OF OPEN SPACE

Through personal field observations the following functions of open spaces were identified.

##### i) Recreation:

Children made the most use of open spaces for recreational purposes. This shows that children are expressing a need for play spaces which they can use. Adults used neighbourhood open spaces for passive

SOCIAL HALL UTILISATION LEVELS

LOCATION OF SOCIAL HALL	CARRYING CAPACITY PER DAY	AVERAGE DAILY ATTENDANCE	ADULT POPULATION OF ESTATE IN WHICH LOCATED	REMARKS
OFafa MARIngo	1300 PERSONS	561	9,828	Underutilised
JERICHO LUNUMBA	750 "	227	9,545	"
MBOTELA	900 "	285	10,323	"
KALOLENI	1050 "	1022	3,805	"
BAHATI	900 "	408	8,494	"
SHAURI MOYO	140 "	334	14,211	Overutilised
PUMWANI	1300 "	230	11,110	Underutilised
EASTLEIGH	1300 "	742	39,248	"

Source: Interviews with City Council field officers.

recreation such as relaxation, Ajua, draughts, cards etc. Plate No:12 shows children playing in an open space.

ii) Socialisation:

Open spaces were found to facilitate the socialisation of children, through playing in groups. Children meeting and playing in these open spaces had a chance to be with 'other' people, which is an important preparation for their adult life. See plate No.10 and 11. Note that the children in the plates are from both sexes and from various ages, particularly the toddlers sitting in plate No; 5 To the toddler as is to the rest, this play environment is a learning environment.

iii) Extension of the household activities outside the main house:

It has already been noted earlier that there is general indoor congestion in Eastlands. This has led the inhabitants of the area to perform some of their household activities outside the house. Activities such as cooking, dish washing, food preparation and child feeding were performed outside the main house. (Laundry work has been excluded from this list as there are water points designed for this activity throughout Eastlands). It was therefore found that open spaces surrounding the houses and particularly around the main doorsteps were functionally considered as part of the main houses, in view of the functions assigned to these spaces.

PLATE NO 12



Play Area for Children. Jericho Lumumba. Note the monotony because of lack of varied facilities. The ball is the main equipment here while others find pleasure in tree climbing. See tree in middle of plate.

PLATE NO: 13



Open Space. Makadara. Notice the size of the unkempt grass leaving children to recreate on a stone culvert above a gutter since the grass is inaccessible

4.5.1 OTHER USES OF OPEN SPACES:

Through personal field observation, it was found that open spaces were put to various uses. They were used as vegetable gardens. The riverine open space, from Shauri Moyo area, eastwards to the boundary of the study area is under cultivation. Harambee, Uhuru estate, Buruburu phase one, Outer-ring road, Umoja and Kariobangi South estates have cultivated open spaces. The railway reserve between Buruburu estate and Dandora is also extensively cultivated.

The open space between the river and the Airforce base has been made use of by squatters who have settled there. See plate No. 15

Open spaces with road frontages and corner spaces within residential areas were used for informal sector economic activities. The section between Shauri Moyo, extending westwards to the study area boundary, on both sides of Nairobi river - is the largest open air market in the study area. This section is locally known as Gikomba or Kamukunji. See plate No. 16

It was found that public open spaces may pose to be dysfunctional. In the newer estates within the study area, open spaces were used as dumping areas. To a lesser extent in the older estates, the same pollutant use of open spaces was observed. Alongside dumping, people were found to relieve themselves of their biological calls in open spaces. This was mostly

PLATE NO. 14



Cultivation along Nairobi river valley

PLATE NO. 15



Squatter settlement in public open space. Eastleigh Section 3  
facing Nairobi river



in spaces which contained shrubs or structures which could conceal such users. A case in point is Jericho bus terminus. Here, no toilet facility for the bus drivers and conductors has been provided. A small concrete structure which was once used as bus-ticket office still stands. This has been used for the above mentioned biological purposes, as it provides concealment. The resultant pollution (stench and ugly appearance) is easily noticeable.

As plate No. 17 shows, the study area has been used as a junkyard for cars. This is not in keeping with residential area's aesthetics as it has a pollutant effect.

It should not pass unmentioned that these multiple uses of open space use up already deficient open spaces of the study area, thus making the shortage of open spaces more critical as time goes by.

#### 4.6 INFORMATION FROM CITY COUNCIL OFFICIALS

The information from City Council officials that will be noted here was obtained through informal interviews and discussions in the course of field data collection. Other information of a more official nature, i.e. reports and statistics have been incorporated elsewhere in this study.

##### 4.6.1. CHILDREN AND RECREATION

Children spend the largest part of daytime in schools, when the schools are in session. It was thus found necessary to examine how recreation was catered for in schools. Provision for recreation both in terms of land and facilities was found to be extremely poor.



Kamukunji open air market. Informal sector on Nairobi river valley. Area between Shauri Moyo and Gorofani.



Koma Rock road. Dumping ground for cars (Junkyard)  
Notice the untidy appearance

OTHER USES OF OPEN SPACE

PLATE NO 18



Street preaching on a Sunday Afternoon. Ilarambec Estate

PLATE NO 19



Poultry raised by being let loose on the open space.  
Bahati Estate

The general opinion maintained that there was recreational land shortage in the existing twenty six primary schools. This has been discussed at length in the preceding chapter. No school had installed recreation facilities apart from net ball, valley ball and foot ball pitches, in the study area.

The importance of play has been recognised in institutions. The Ministry of Education allows a total of 55 minutes each day per child, as playtime in primary schools. The curriculum for secondary schools allows 30 minutes each day for recreation. Music classes are for the purposes of this study considered as part of recreation, owing to its relaxing effect. No criteria was found to be the basis for the playtime sessions, except for the explanation that teachers in primary schools were expected to teach ten lessons of their main subjects per week. Children in Nile Road Special School which has three categories of abnormalities, i.e. mentally retarded, physically disabled and multiple abnormalities were exposed to the same curriculum as the normal children. A physical survey of the school revealed that these abnormal children have not been provided with especially facilitated grounds for their play-time. There is one football pitch used by the combined primary and secondary school with an enrolment of 258 students. The school authorities confirmed that owing to the increase in the number of students that has arisen due to the introduction of the secondary school section, there is need for more recreation facilities

PLATE NO: 20



Nile Road Special School. Notice how rough the ground is and the lack of other facilities to stimulate recreation, yet the need to play is still there.

PLATE NO: 21



Dr. Aggrey Primary School. Another school that represents poorly equipped schools, recreation.

in this school. It was also evident that some of these children required some special kits to play, particularly clutches and artificial limbs. These were supplied by donors and were by then in short supply for those who needed them in that school.

#### 4.6.2 CITY COUNCIL STRATEGIES TO CURB LAND SHORTAGE

The area of school compounds was found to be insufficient for school expansion and provision of outdoor play areas. To solve this problem, the City Council had turned into vertical development/expansion both in schools and housing estates. However, there was no apparent effort identified as trying to solve the problem of shortage of play-space and play facilities within residential areas.

School playgrounds were made accessible for use by adjacent communities and sport communities. This was, however, only possible on prior arrangements with the relevant headmasters, through the City Council's Education department's approval.

It was also noted that the city council had a policy of interdependence regarding recreational facilities in schools. Schools with particular facilities, such as swimming pools, were expected to share those facilities with other city council school. It is also possible to arrange transport from one school X to take pupils of school Y to use a recreation facility in school Z.

#### 4.7 CONCLUSION

From the afore-going discussion it has been established that the study area is populated by low income population. For the most part the residents live in crowded indoor spaces, thus necessitating utilisation of the immediate outdoor space for household activities.

It has also been established that the provided open spaces do not entirely lie idle. A variety of uses have been assigned to these spaces, which means that practically, there are few remaining open spaces as they have been consumed by these other uses. A case in point is the agricultural and commercial uses, which are of a permanent character, which are carried out along the whole of Nairobi river valley section of the study area. These uses have deprived the rest of the study area's communities of the use of a total of about 17.5 hectares of the riverine open space for recreational purposes. The area is now only accessible to the owners of the gardens and of the stalls in the open air market.

It has also been established that there is a deficiency of recreational facilities for all ages of expected users, and that there is a felt need for provision of more recreational facilities and improvement of the existing ones. It has been indicated that lack of specific play areas is conducive to juvenile delinquency, by virtue of the unsurveilled areas where these children are forced into.





CHAPTER FIVE

PLANNING IMPLICATIONS, RECOMMENDATIONS AND PROPOSALS

5.0 INTRODUCTION:

In the preceding chapters the facts regarding recreation and open space have been presented. In this chapter, the implications of the facts presented are discussed. The chapter also reviews the problems anticipated in this plan. It also contains recommendations and proposals found feasible in relieving those deficiencies revealed in the course of the research.

5.1 PLANNING IMPLICATIONS:

5.1.1 CLIENT POPULATION

Having established that the client population is economically weak, it is important to note that the question of affordability, in terms of recreation facilities that may be provided arises. This implies that the type of recreation likely to be appreciated is that which is provided free or at minimal charges.

Section 4.2 of this work states that 34% of the surveyed population travels outside their respective estates in search of recreational facilities. On close examination, a percentage of 34 indicates very low mobility. It is implicit that the factors affecting mobility to other recreational places are among others, distance and travel costs, knowing well that other recreational facilities exist elsewhere. As such, the provision of recreational facilities on site is inescapable.

It has been established in section 2.3.3. that the client population is already apathetic with regard to open space usage. It was implied that the open spaces under cultivation and the squatter shanties are signs that the population is struggling to make a living out of those unclaimed open spaces existing in the study area. This may lead the planner to a dilemma, when one is faced with the task of motivating an already apathetic population to realise and internalise the importance of open spaces, and their functions, and to appreciate residential area aesthetics. The dilemma arises particularly because one has to convince them out of the 'economic and therefore practical' use of these idle spaces i.e. agriculture and illegal construction. One has also to contend with the issue of encouraging agricultural use of open spaces, because after all, agriculture will halt pollutant uses like bush squatting and dumping. Thus in planning for recreation and open space in Eastlands, one faces a problem of planning ideals vis a vis the client's articulated needs.

#### 5.1.2 DEMAND AND PROVISION FOR OPEN SPACE AND RECREATION

The structure of the study area's population implies that demand for recreation and open space is high. It has been argued<sup>1</sup> that recreation interests are at their most diverse and intense at the ages between 15 - 39 years, which forms a large section of the client population. This suggests that planning considerations should incorporate wide varieties of recreational offers to meet the varied

interests of the expected users.

The revelation that 68% of the households indicated that their children stayed outdoors and away from parental surveillance, together with the observation that children are displaced to play in roundabouts implies the necessity for children's specific play areas. Provision of such facilities should be centrally located to absorb large numbers of users. They should be sheltered from vehicular traffic.

The provision of recreational facilities is concerned with the question of location. Location here not only refers to centrality for catchment purposes but also implies physical accessibility. A major reason for the under-utilisation of most social halls in the study area is the insecurity of walking at night, since the roads and walk ways are not lighted. This implies that the planning of one facility may have a multiplier repercussion in that it may require the provision of another facility.

At the level of implementation, provision for recreational facilities may mean going further than the allocation of recreational sites or the erection of social halls into the provision of complementary facilities like street lights. It has been established, for instance, that the Nile Road Special School for the mentally and physical handicapped requires not only

more space for recreation but also special facilities, special care of the playgrounds and special kits for some pupils. This shows that the implementation of recreation planning in its totality will enhance consideration of facilities complementary to recreation.

### 5.1.3. INSTITUTIONAL CONSIDERATIONS

Duhl (Op cit) argues that the use of space reflects that part of society empowered to make decisions. In the same token, the deficiencies in the maintenance and management of open space and recreational facilities in the study area imply a weak institutional framework. Precisely, the shortcomings regarding open space and recreational facilities reflect the lack of clear and firm policy.

Consider for example, the stipulation that developers must show on their plans the land they intend to surrender for public purposes, which should comprise 10% of the total land to be developed. No criteria is given to explain the given percentage. It should be noted that fixed stipulations may not necessarily be practical because of the following reasons:-

- 1) The ten per cent may end up being inadequate for the required public purposes. Depending on the residential area being developed, it may be necessary to have 10, 20, 30, and 40% of the land for community facilities.

ii) The 10% land surrendered may comprise of many scattered pieces of land which may not be usable for the intended purpose, by its very nature. It could be pieces of land that cannot be developed or road frontages and corner pieces found uneconomical to develop.

A policy's strength is measured by the legal backing it commands, among other things. Section 2.3 of this work indicates that city council resolutions regarding open space have no legal backing. It is implicit that that is why they cannot be implemented in their finality. This in effect means that their revision is long overdue. It is also implicit that the planning of open space and recreation in this area will not be effective if a policy regarding the following is not articulated.

- i) Provision of open spaces; amounts to be surrendered and minimum size of land parcels if the required percentage is not to be surrendered in a consolidated state.
- ii) The landscaping and maintenance of open spaces.
- iii) A system of controlling the usage of existing open spaces.

The absence of public recreational facilities in the newer estate implies that there is little or no co-ordination between the private residential developers, the city council and the resident community. The tendency is that the developers sell the houses and depart from the community scene. The city council, which is already burdened with other welfare programmes hardly intervenes.

The under-utilisation of social halls in the older estates can also be explained by the same disinterest from the city council. For any public amenity, community organisation is very vital in ensuring its proper utilisation and maintenance. The agency assigned with the task of motivating and organising recreation by the City Council, is the welfare officer, who is also charged with the many other jobs of a social worker. In effect, recreation, which understandably comes secondary to other basic needs is neglected. Such being the situation, a need to emphasise between the developer, City Council and resident communities, co-ordination in the provision and utilisation of such community facilities, is implied.

## 5.2 PROBLEM AREAS

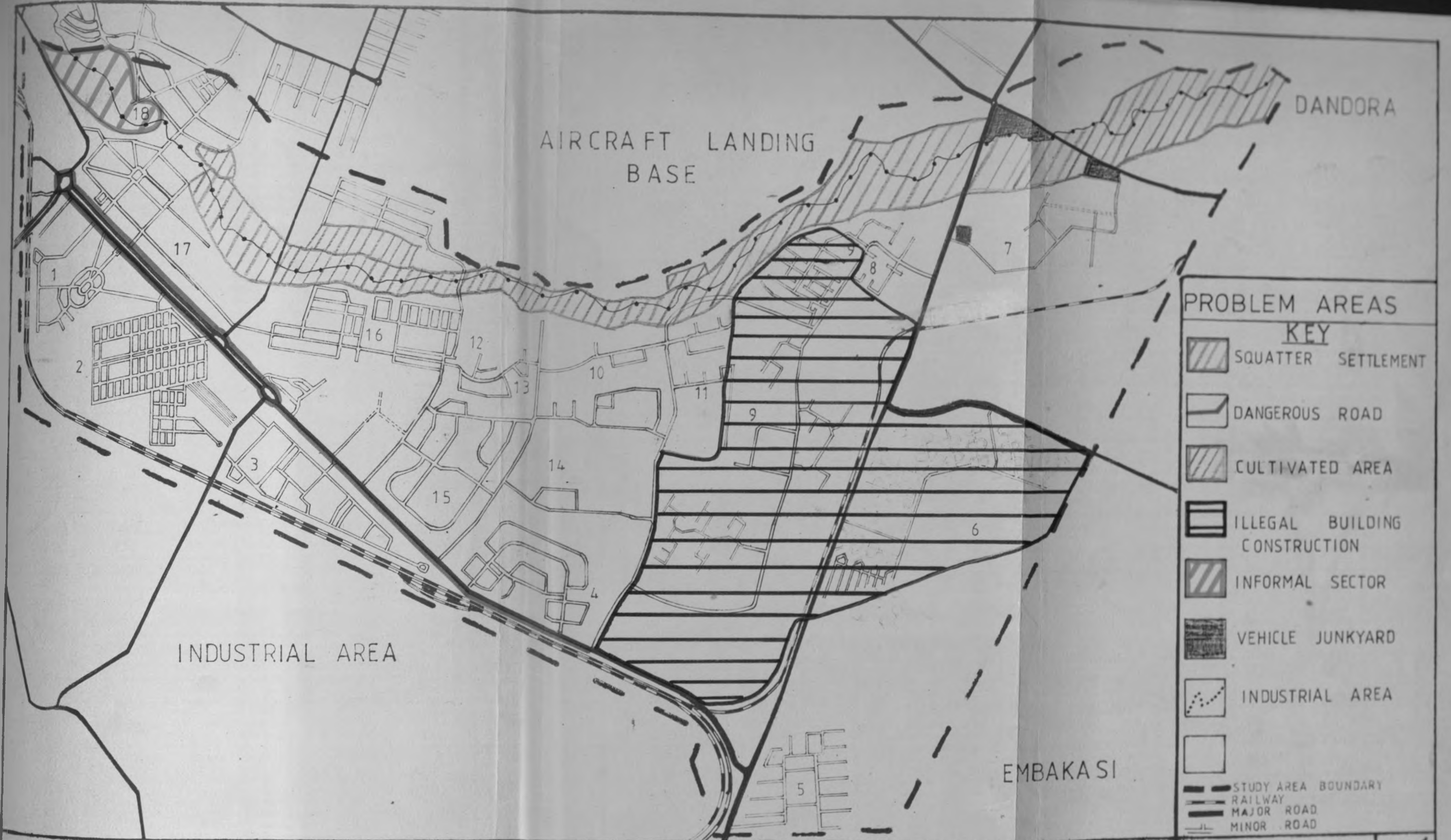
### 5.2.1. POPULATION

One of the functions of open space is to promote the aesthetic character of the surrounding areas. Where an open space has facilitated environmental pollution by way of bush squatting, garbage dumping, junk yards and effluence discharging, this is considered a problem area. Chapter three has detailed information on this area. The polluted spaces as shown by map No.5 on problem areas have been identified as areas posing planning problems since they are being polluted on a recurrent basis.

### 5.2.2. ILLEGAL SUBDIVISION AND OCCUPATION OF OPEN SPACE

This is to be found in almost every housing estate in the study area. Having felt the pressure of the





PLANNING FOR RECREATION & OPEN SPACE : EASTLANDS

SCALE: 1:20,000  
 1/2  
 0  
 5 R.P. 1 KM

MAINA F.W. DEPARTMENT OF  
 URBAN AND REGIONAL PLANNING  
 -NIPS 1981/82

map  
 no. 5

inadequate indoor space tenants have put up illegal house extensions on open spaces. Others have extended rooms solely for letting. The estates that are mostly affected are the tenant purchase schemes - Buru buru Umoja and Kariobangi South, which can construct houses under the guise of concrete wall construction. This and other subdivided public lands, (including the squatter areas) are problem areas in need of urgent intervention as the existing small amounts of open space are threatening to dwindle further.

### 5.2.3. ESTATE LAYOUTS

Open space cannot adequately be dealt with independently from housing layouts. The estates built prior to independence have been laid out in a disfunctional manner. This is so with regard to the housing structures themselves and with the road network. Notice as per chapter three of this work that most older estates of the study area, have toilets and washing facilities separate from the main houses. Originally, these estates were provided with bucket latrines, but in the post-independence period, communal water-borne toilets replaced the bucket latrines. Consequently, plenty of open space has been wasted within the estates in trying to accommodate separate toilets, bathrooms and water facilities. The horizontal array of block of houses particularly in Bahati, Nbotela, Kaloleni and Shauri Moyo have the same shortcomings.

The road network in the study area poses dangers to the pedestrians and particularly to the children. Jogoo road is a heavy carriage way passing through the central part of the study area. It dissects the residential areas that share the same amenities such that all those living to the south of this road have to cross the road for most community facilities. Moreover, the pedestrian crossing is only minimally controlled, i.e. by the Zebra Crossing. The fact that the housing layout do not define any playing areas for children and the central locations (to children from either sides) of the roundabout on Jogoo Road explains why the children are attracted to play on roundabouts. This of course is highly dangerous to the children. Considering that the organisation of space for its efficient use is an important strategy in planning for open space, Jogoo Road is more of a liability to Eastlands. Being a three lane road on either side up to about halfway inside Eastlands and with three roundabouts it consumes considerable space. It could also be argued that despite its location, it was not intended to serve Eastlands, but was meant to connect the old Airport to the centre of the city.

### 5.3 A NOTE ON PLANNING STANDARDS

The traditional approach to planning, i.e. by means of pre-set standards - x facilities for y

population may be questionable in recreation planning. Recreation is highly characterised by choice: choice of recreation type, choice of place in which to recreate, choice in participation, of duration in participation etc. As such the question of what size of population warrants the building of a social hall may only be valid for the convenience of the providing agency but not necessarily fulfilling the requirement of the client population, capacity of social hall and the expected utilisation levels is tested only when the users of that social hall come in. Social and cultural differences as well as the range of recreation offered may prove to be realistic guide lines in planning for recreation, than pre-set standards.

As regards open space provision, the standards stipulating x hectares of open space for y population is also unrealistic from the users' point of view. However, Argyle<sup>2</sup> has shown that the spatial behaviour of human beings in varied and complex with reference to physical proximity and territorial behaviour. It is therefore difficult to ascertain how much space an individual should be allowed. To the planner, therefore, standards are an essential starting point, especially in a case like the above. Much as a planner would like to plan with the people, it inevitably becomes important to adopt standards that reconcile the various constraints and problems facing the implementation of the plan, regardless of the client's wishes. For example in this case there already exists a constraint in land

availability, and a restriction of space per x population is therefore implied.

It is from the point of view of the latter that standards have been adopted in this study, and they will be expected to function as planning guidelines rather than yardsticks to measure adequacies or inadequacies of the given facilities.

#### 5.4 RECOMMENDATIONS AND PROPOSALS

##### 5.4.1. STANDARDS FOR SOCIAL HALLS

The city Planning Department proposes one social hall for a total population of 20,000 and limits itself to catchment. It is recommended that in future standards should stipulate capacities of social halls based on expected utilisation levels.

It has been established that the major shortcoming in the question of social halls is under-utilisation of the existing ones rather than catchment. As such it is recommended that the proposed standard by the City Planning Department continues to operate. That means for every 20,000 people a social hall to be built on a site of 0.6 ha. In qualifying this standard further in order to present ideal capacities, Kaloleni Social Hall has been considered as a guiding factor. The reasons for doing so are that this is the hall that is averagely utilised in the study area, (refer to table No. 12) since 58.4% of the population around it utilise it. From the field work, it was found that 66% of the study area's population showed active interest in recreation,



which means that half the population would be expected to use the social halls. Considering these two points, it is logical that the carrying capacity of a social hall be equal to half the size of the adult population of the area to be served. (The reason for considering adults only has been mentioned earlier in 4.4.1.) By this standard the social hall will be equipped to cater for the average population at the minimum.

#### 5.4.2 REQUIRED SOCIAL HALLS

Granted the afore - said standards, then the study area currently requires eight Social Halls, and is therefore short of one. This has been arrived at by analysing the study area in totality. However, by analysing the area on an estate basis, it is evident that Buruburu, Uhuru and Umoja estates should be provided with social halls each. The following are recommendations concerning social halls as at 1982.

- a) Shauri Moyo Social Hall should be expanded or shifted to larger quarters so as to accommodate 900 persons.
- b) Uhuru estate be provided with a social hall with a capacity of approximately 5,000 persons.
- c) Umoja estate be provided with a social hall with a capacity of approximately 4,000 persons.
- d) Considering the large area and density of Buruburu (refer to table No. 5) it is necessary to have two social halls with capacities of 5,000 persons each.

These social halls will be so located as to serve maximum people. As shown on Map No. 6 one hall will be sited

centrally to serve Buruburu estate phase one, phase 2 and outer - ring road estate. The other Social Hall will be built to serve Buruburu phases three, four and five, the rental scheme and Harambee estate. Uhuru estate Social Hall will cater for Kimathi estate as well.

Using the standards given (5.3) the future required social halls in Eastlands have been calculated. The calculations are based on population projections at 3.4% increase.

It is recommended that two social halls should be built every five years, The land required will be obtained in the process redevelopment of the older housing estates. The following table shows the total No. of social halls required in future:

TABLE NO 13 FUTURE REQUIRED SOCIAL HALLS

YEAR A.D.	1984	1988	1994	1999	2000
Total Halls required	10	12	14	16	16
Total land required	6ha	7.2ha	8.4ha	8.6ha	9.6ha

NB) The figures of hall and land requirement includes the halls and land already available, only the difference will have to be met.

#### 5.4.3 STANDARDS FOR OPEN SPACES AND REQUIRED AMOUNTS

The types of open space found in the study area have been mentioned in the first chapter of this work. It is



recommended that the existing public open spaces be organised, together with land from sources to be mentioned later, into neighbourhood parks. Most planning authorities plan open spaces using the neighbourhood park as the smallest single organised unit of public open space. The City Planning Department recommends a neighbourhood park for a catchment of 20000 people. By this standard, the study area requires 3 neighbourhood parks. However, this study recommends five neighbourhood parks because three other parks have already been identified for the area, as shown on Map No. 6.

From the field findings, 40% of the sample articulated a demand for outdoor recreational space. Generalised to the total, then  $\frac{40}{100} \times 166627$  people, which is 66,651

require outdoor recreational space provision. In calculating the amount of space per a thousand users, let us assume that a normal person requires 100 sq yds of open space to recreate outdoors. Then

$$\frac{66651 \times 100}{1000} = 1377 \text{ acres}$$

$$\text{Acres per 1,000 population} = \frac{1377 \times 1000}{166,627} = 8.26$$

Or 3.3. hectares per 1000 people

Therefore, according to the 1979 census ideally Eastlands should have been  $\frac{166627 \times 3.3}{1000}$  ha

which is 549.8 hectares.

Noting that at present there is only a total of 301 hectares of open space, a deficiency of 248.8 hectares

exist currently. Keeping in mind that plan is faced with a land constraint, the provision of 3.3 hectares per 1000 people is extravagant. The National Playing Fields association of Britain recommends 1.1. hectares per 1,000 people. This, considering that the present impression of Eastlands is rather dense, is too little to correct the park land deficiency that already exists. A more average figure of 2 hectares per 1000 population is therefore recommended, but, since school playgrounds exists in the area, the Nairobi City Council's alternative of 1.2 hectares per 1000 people as mentioned <sup>in</sup> section 3.5. (page 55) should be adopted where a school playground exists in the neighbourhood.

This is more of a long term nature, since the space for accommodating these parks will be squeezed out of the redevelopment of the estates. Essentially then, two alternatives are recommended for the provision of neighbourhood parks. The following tables indicate the total future land requirements for neighbourhood parks.

TALBES 14 a & b FUTURE LAND REQUIREMENTS FOR NEIGHBOURHOOD PARKS

(a) ALTERNATIVE 1 Based on projected population increase 3.4% p.a. Provision at 2 hectares per 1,000 people.

YEAR	1984	1989	1994	1999	2000AL
TOTAL HECTARES REQUIRED	393.8	465.5	550	650	660

Note: This alternative is recommended if neighbourhoods will not be allowed to make use of school playgrounds by the authorities concerned.

b) ALTERNATIVE 2 - Based on projected population increase at 3.4% p.a. Provision at 1.2. hectares per thousand people.

YEAR	1984	1989	1994	1999	2000 AD
TOTAL HECTARES REQUIRED	236	279	330	390	396

Note: This alternative is recommended if neighbourhoods are allowed access to school playgrounds by authorities concerned.

#### 5.4.4. PROPOSED SITES FOR OUTDOOR RECREATION FACILITIES

In addition to the five neighbourhood parks recommended in 5.4.3 for the study area, the sites indicated hereafter are recommended for landscaping and conversion into various recreation places:

i) Site between Umoja and Doonholm estates

This site is approximately 20 hectares. It is privately owned and is currently used for cultivation. The site is not suitable for any other development because of the high voltage overhead powerlines passing through it. By the standards recommended in this study 20 hectares can accommodate 16,667 people, which shows that the said site can absorb a huge population catchment. It

is therefore recommended that this land be developed and landscaped as a district park, in consideration of its centrality in terms of its location. It could well be expected to absorb residents of Kimathi, Harambee, Uhuru, Jericho, Makadara, Ofafa, Umoja, Doonhom and Kariobangi South. Properly landscaped, this area would not only provide recreational facilities but would also promote the aesthetic quality of the surrounding environment.

ii) Nairobi River Valley

This valley should be landscaped as an urban park. This means that the landscaping does not affect the 17.5 hectares within the study area, but the entire 29 hectares along the whole valley. This will provide a green belt in Nairobi, it will serve as a conservatoire and will automatically halt river bank cultivation, thus making the valley accessible to the public and controlling soil erosion. Needless to say this will also promote the environmental quality.

iii) Site of Old Sewage Plant, Eastleigh Section 3

The land here is approximately 4 hectares and belong to the City Council. The sewage plant has long been closed down as all sewage works have been transferred to Kariobangi and Dandora. Being next to the Nairobi river valley, it forms an ideal spot for recreation extension. The site is recommended for a public swimming pool since it is in a central position to serve the residents of Kimathi, Bahati, Makongeni, Shauri Moyo, Pumwani, California, Biafra and Eastleigh estates. Considering

the cost of maintaining a swimming pool, it is recommended that the pool is operated on a small fee by the city council. This will also earn the city council some revenue.

iv) Site between Pumwani estate and the Moi Air Base  
(The airfield approach space)

This site is approximately twelve hectares, and is under the ownership of the Kenya Government. It is currently used for cultivation by various individuals. The site is sterilised for further development by the fact that it should be kept clear of buildings to avoid coming in the way of planes. Considering the land scarcity in the study area, and the fact that this site will be permanently idle, it is recommended that this public land be put to economical use. Developing it as an neighbourhood playground with emphasis on open field recreation like football pitches, tracks, swings and flower beds will meet the recreation needs of Pumwani, California, Biafra and Eastleigh while at the same time maintaining the site free from obstructive development.

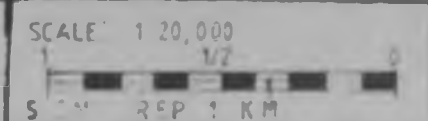
5.4.5 PROVISION OF OPEN SPACE AND RECREATIONAL FACILITIES

With reference to the discussion in 5.1.3 of this study, it is recommended that the City Council should legislate to clarify the ambiguities in the land planning Act with regard to the free surrender of land for recreation purposes. This will clear the arbitrary surrenders currently in force. It is also recommended that the city council formulate a policy whereby developers will/charged /be





PLANNING FOR RECREATION & OPEN SPACE : EASTLANDS



MAINA F.W. DEPARTMENT OF  
URBAN AND REGIONAL PLANNING  
-NINTS 1981/82

map  
no. 6



Disused Sewage Plant, Eastleigh Section 3 proposed site for swimming pool.



Airfield Approach Space, proposed site for neighbourhood playground.



PLATE NO 24



A primary school playground in use by neighbouring communities. Recommended strategy for maximising utilisation of recreational facilities.

PLATE NO: 25



Nairobi river valley. Proposed urban park.

with the task of initiating community organisation at the onset of the residential development, by providing a communal facility e.g. a social hall for the expected residents.

It has been observed that human beings learn from past mistakes. Consequently it is prudent in the planning of other towns and housing estates to provide well in advance for land required for recreation purposes.

#### 5.4.6 MAXIMISING UTILISATION OF RECREATIONAL ACTIVITIES

The provision of more recreation facilities without attempting to ensure maximum utilisation of the existing ones or to heighten the interest and participation of the client population is a mere wastage of resources. In order to encourage higher levels of utilisation of the existing and proposed facilities, and especially with reference to the discussion in 5.1.3 of this work it is recommended that the city council intervene in organising the communities. This can be done by introducing recreational assistants to Eastlands as part of the council's welfare programmes. The recreation assistant would be responsible for motivating and organising recreation. Such organisation will put an end to the monopoly of some types of recreation in particular social halls, or monopoly of certain groups and will thus encourage more participation. These recreation assistants would also organise communities to ensure that their own neighbourhoods remain unpolluted. The same is recommended for all other housing estates with social halls. In Eastlands, since the

transportation system is efficient and reliable, two such officers will be adequate to serve the entire area.

School playgrounds lie idle during weekends, public holidays and school holidays, particularly schools where the neighbouring communities are denied access to them. It is recommended that such grounds be made accessible to neighbouring communities by arrangements with the head teachers concerned. This will re-direct those children who fill the streets and roundabouts when schools are not in session, to play in schools' playgrounds. Moreover, it is a strategy of tackling the existing land constraint, as mentioned in 5.4.3.

In view of the fact that the client population is economically weak, it would be wise to ensure free access to public recreation facilities within the study area, although where it is absolutely necessary as in the case of <sup>a</sup> hired film, a dance, the proposed swimming pool, minimal entry fees should be charged. In the same token, the hiring of Social Halls by individuals to be used on commercial basis should be strongly discouraged.

Complementary facilities should be provided particularly street lighting to encourage the use of social hall at night. This is also the responsibility of the city council and it will help ensure greater commitment to recreation. This study upholds the strategies employed by the city council to solve problems of land scarcity and recreational

facility shortage as mentioned in 4.6.2. of this report. It is also recommended that children be discouraged from playing in roundabouts. The roundabouts should be heavily planted with thorny creeping plants, for example bourgainvillea and made to intertwine and cover the entire surface of the roundabout. This will not only keep the children away from the roundabout but will promote the aesthetic quality of the area. Since the plant recommended is a creeper, it will easily be trimmed and will not obstruct motorists.

#### 5.4.7 MAINTENANCE OF OPEN SPACE

In the second chapter of this work it was shown that the issue of open space maintenance is unpleasant to the city council particularly because of the cost involved. However, since the council is the agent responsible for cleansing the city (Eastlands included) it is only prudent that it takes upon itself the task of maintaining open spaces as well. To help <sup>meet</sup> the costs, it is recommended that a standing but minimal charge be posted in water bills headed 'cleansing'. To halt the deteriorating nature of open spaces, the following actions are recommended.

- i) Bushes and scrubs that facilitate bush squatting should be cleared and/or maintained at low heights.
- ii) All unclaimed and unused concrete structures especially the old bus-ticket offices should be demolished. Public toilets should be installed at, or near all bus terminuses to avoid environmental pollution.

- iii) Garbage collection should be more frequent so as to discourage dumping on open spaces.
- iv) All illegal use of open space should be nipped at the bud, since once started, squatters and the informal sector to the mushroom swiftly and pose problems not only/open space but of a welfare nature to the city council and to the government.
- v) Communities should be mobilised to manage and maintain their own neighbourhood open spaces as healthy environments.
- vi) The city council should legislate against the discharging of all industrial effluence into Nairobi river (and all rivers within its jurisdiction) and restrict on such discharges, unless effluence is first treated then discharged.

#### 5.4.8 LONG TERM PROPOSALS

It has hitherto been indicated that the layout of development on space may be more important to its efficient use than the size of that space. In this light, the following strategies are proposed to lead to a more efficient utilisation of the space available.

##### i) RELOCATION OF JOGOO ROAD

Section 5.2.3 indicates how this road is detrimental to the study area, i.e. as a source of traffic noise and fumes and as a danger to pedestrians. It is therefore proposed that this road be relocated to run parallel, and next to the railway line, so that they both lie in between the industrial area and the residential area. By so doing

vehicular/pedestrian accidents will be reduced and the residential area will be more homogeneous. The space will be easily organised in such a way to be located centrally for use by various estates.

ii) REDEVELOPMENT OF THE OLDEST HOUSING ESTATES

(Kaloleni, Bahati, Shauri Moyo, Mbotela)

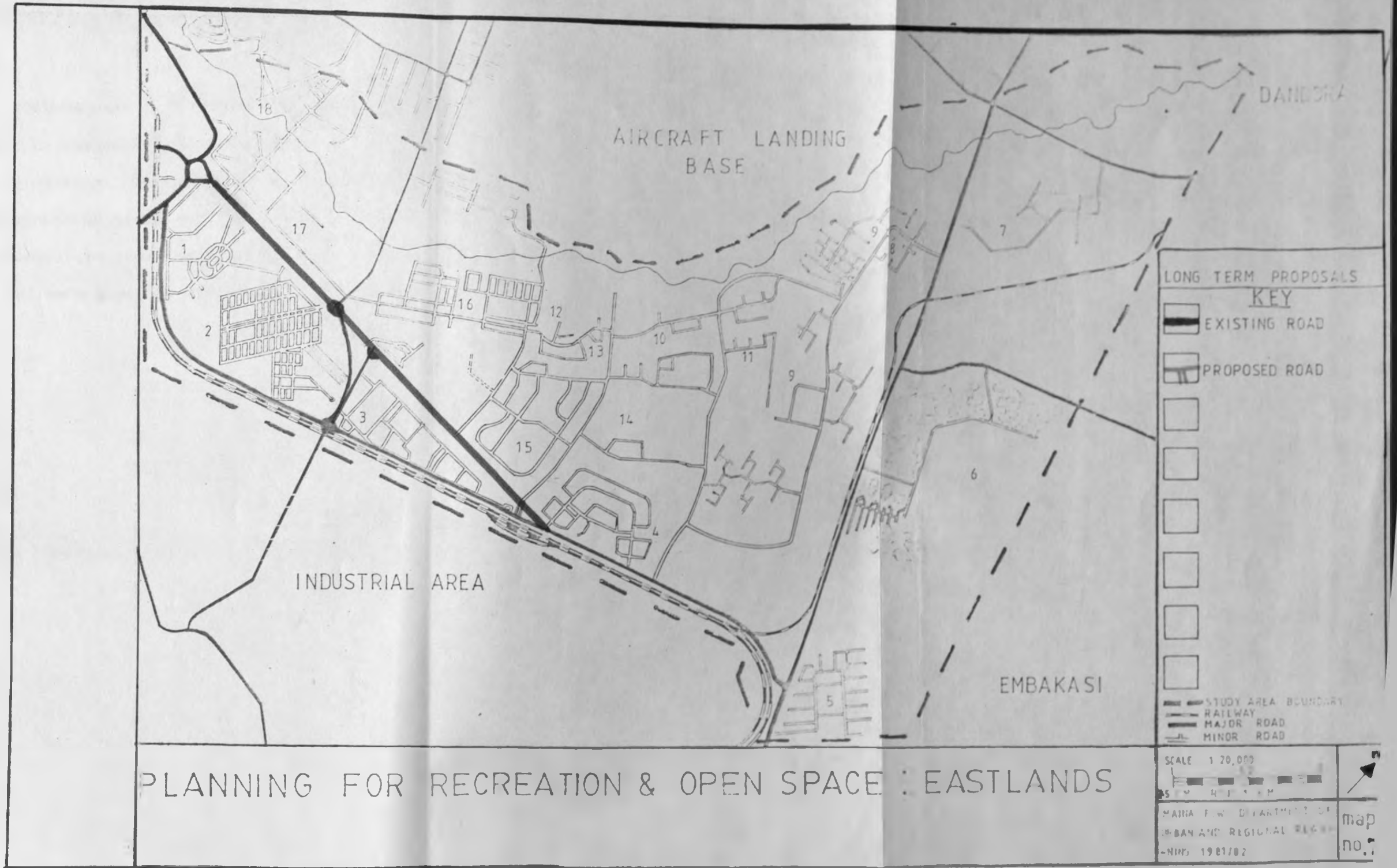
As noted in the first chapter, one-third of the expected economic life of these estates have ran out. Moreover, the historical context in which they were built is far behind and thus their redevelopment is long overdue. The proposed development will save space by vertical expansion. The storeyed buildings will incorporate sanitary facilities within them in order to ensure a more efficient organisation of space. The rooms will be built to the National Housing Corporation's standard and will therefore be bigger to curtail the extension of household activities into the open space.

5.5. CONCLUSION

From this chapter, it is clear that the implementation of any plan depends on various agencies. This particular plan depends on the city council, the estate developer, and the client himself. The chapter has spelt out their different roles in the plan implementation.

The range of recommendations and proposals given indicates that the plan is never implemented in a vacuum or independent of other phenomena. One action





PLANNING FOR RECREATION & OPEN SPACE : EASTLANDS

LONG TERM PROPOSALS

KEY

-  EXISTING ROAD
-  PROPOSED ROAD
- 
- 
- 
- 
- 
- 
- 
-  STUDY AREA BOUNDARY
-  RAILWAY
-  MAJOR ROAD
-  MINOR ROAD

SCALE 1:20,000



MAINA F.W. DEPARTMENT OF  
URBAN AND REGIONAL PLANNING  
-NOV. 1981/82



map  
no. 7



has a multiplier effect, as in the case of the lack of street lights and the under-utilisation of social halls.

It is also obvious that plan implementation is not an overnight phenomenon as certain changes have to come in gradually. It is hoped that the discussion, the recommendations and proposals presented will contribute positively in planning for recreation and open space in Eastlands.

county planning. London Architectural  
Press 1948

FOOTNOTES TO CHAPTER FIVE

THIS STUDY HAS RECEIVED SUBSTANTIAL CONTRIBUTIONS  
AND YOUR REPORT ON RECREATION FROM A SUBCOMMITTEE CHAIRMAN  
OF THE [redacted] IT HAS BEEN STATED THAT THE [redacted] HAS RECORDED  
WITH YOU

FOOTNOTES TO CHAPTER FIVE

1. NAIROBI CITY COUNCIL, PLANNING DEPARTMENT, REPORT ON RECREATION AND OPEN SPACES FOR NAIROBI, 1981
2. ARGYLE M. BODILY COMMUNICATION, LONDON 1976

3. WRIGHT H.M. THE PLANNERS NOTEBOOK  
A compendium of information on town and county planning. London Architectural Press 1948

THESE REFERENCES HAVE BEEN PROVIDED FOR YOUR INFORMATION  
AND YOUR REPORT ON RECREATION FROM A SUBCOMMITTEE CHAIRMAN  
OF THE [redacted] IT HAS BEEN STATED THAT THE [redacted] HAS RECORDED  
WITH YOU

THESE REFERENCES HAVE BEEN PROVIDED FOR YOUR INFORMATION  
AND YOUR REPORT ON RECREATION FROM A SUBCOMMITTEE CHAIRMAN  
OF THE [redacted] IT HAS BEEN STATED THAT THE [redacted] HAS RECORDED  
WITH YOU

THESE REFERENCES HAVE BEEN PROVIDED FOR YOUR INFORMATION  
AND YOUR REPORT ON RECREATION FROM A SUBCOMMITTEE CHAIRMAN  
OF THE [redacted] IT HAS BEEN STATED THAT THE [redacted] HAS RECORDED  
WITH YOU

CHAPTER SIX

SUMMARY AND CONCLUSIONS:

This study has assessed recreational facilities and open spaces in Eastlands from a user-oriented point of view. It has been shown that Eastlands was bestowed with poor recreational facilities from its initial planning and building. The area, densely populated has an extravagant layout in terms of space coverage. The layout did not cater for neighbourhood open spaces or for communal comforts. The main objective in building these estates was to provide accommodation and nothing much beyond that.

It has also been established that the few open spaces and recreational facilities that were provided have been affected by the weak management system on the part of the city council. These open/have been subject to subdivision, pollution and have been assigned other illegal uses. In effect these recreational facilities are dwindling and the demand is increasing.

These shortcomings have perpetrated the duality which characterised early Nairobi i.e. the Western 'Upper Class' residential areas being bestowed with more of these facilities and attractively landscaped surroundings and the eastern low class area which is on the opposite extreme.

The study maintains that this state of affairs is not only aesthetically disadvantageous but also that lack of play areas, interalia is conducive to juvenile delinquency and that such an area is prone to vehicular/ juvenile accidents.

In the circumstances, it has been recommended that

that the following measures be employed to correct the situation:-

- (i) Recreation planning be user oriented, therefore, the felt need and requirements of the client population is paramount to pre-set planning standards.
- (ii) All future standards for providing social halls should stipulate capacities of these halls based on expected utilisation levels.
- (iii) In Eastlands, there should be one hall for every 20,000 people and the carrying capacity of that hall should be half the size of the adult population of the area to be served.
- (iv) In neighbourhoods with school playgrounds, the standard of 1.2 hectares per 1000 people should apply, in the provision of open space.
- (v) The management of open spaces should be strengthened through legislations by the city council, and through mobilisation of neighbourhoods to maintain their spaces in healthy conditions.
- (vi) The existing recreational facilities should be maximised in terms of utilisation.
- (vii) Various sites, as shown in chapter five have been proposed for the development of recreational places to correct the existing deficiencies.

The study has presented recommendations on short term and long term basis, the implementation of which would contribute to correcting the deficiencies already noted. However, this study has been more of an evaluation type of study rather than a complete plan and as such its implementation is not anticipated in the short term.

The proposals and recommendations presented in this study should be adopted for all other towns or housing estates in planning for recreation and open spaces. Rather than correct mistakes and deficiencies, it is important to set aside, recreational/and open spaces, the funds and other necessary resources to realise such plans well in advance.

aces

- 1. ...
- 2. ...
- 3. ...
- 4. ...
- 5. ...
- 6. ...
- 7. ...
- 8. ...
- 9. ...
- 10. ...
- 11. ...
- 12. ...
- 13. ...
- 14. ...
- 15. ...
- 16. ...
- 17. ...
- 18. ...
- 19. ...
- 20. ...
- 21. ...
- 22. ...
- 23. ...
- 24. ...
- 25. ...
- 26. ...
- 27. ...
- 28. ...
- 29. ...
- 30. ...
- 31. ...
- 32. ...
- 33. ...
- 34. ...
- 35. ...
- 36. ...
- 37. ...
- 38. ...
- 39. ...
- 40. ...
- 41. ...
- 42. ...
- 43. ...
- 44. ...
- 45. ...
- 46. ...
- 47. ...
- 48. ...
- 49. ...
- 50. ...

1. Argyle M. Bodily Communication, London 1976
2. Castell M. The Urban Question, a Marxist Approach  
A. Sheridan 1977, London.
3. Central Bureau of Statistics, Ministry of Economic  
Planning, 1962, 1969, 1979, Census Reports, Nairobi Area
4. Clinnard M.B., Sociology of Deviant Behaviour,  
Holt, Rhinehart and Winston, 1974, London
5. Daily Nation, Friday August 7, 1981
6. Daily Nation, Wednesday February, 10, 1982
7. Dosio J.G. Recreation Planning: A Case Study of  
Kisumu Municipality. M.A. Thesis submitted  
to Department of Urban and Regional Planning,  
University of Nairobi 1977
8. Duhl, L. "The human measure: Man and Family in  
Megalopolis." Printed in Cities and Space: The  
Future Use of Urban Land. John Hopkins Press, 1970  
London.
9. Emig S. & Ismail Z. Notes on the Urban Planning of  
Nairobi Copenhagen 1980
10. Gattoni G., & Patel P. Residential Land Utilisation  
Case. Case Study Nairobi, Kenya  
Cambridge 1973
11. Government of Kenya, Laws of Kenya Cap. 265, Cap 303  
Government Printer's, Nairobi
12. Herbert et al (eds) Social Areas in Cities  
John Wiley & Sons, 1978 New York
13. Holme and Massie, Children's Play: A Study of Needs and  
Opportunities. Michael Joseph Ltd. 1970. London
14. Ittelson et al An Introduction to Environmental  
Psychology. Holt, Rinehart & Winston  
incorporation 1974 U.S.A.

15. Jephcott, P. Time of Ones Own. Leisure and Young People  
Oliver & Boyd Ltd. 1967 London
16. Kingorlah G.K. Policy Impacts on Urban Land Use  
Patterns in Nairobi, Kenya P.H.D.  
Thesis submitted to Indiana State  
University. 1980
17. Ledermann T. Playgrounds and Recreational Spaces  
The Architectural Press Ltd. 1959 London
18. Lynch K. Site Planning  
M.I.T. Press U.S.A. 1971
19. Malombe J. Housing Finance Agencies in Nairobi  
Unpublished M.A. Thesis. University of  
Nairobi, 1981
20. Meffert, "Heat Islands in Nairobi" Paper prepared for  
Public lecture. University of Nairobi, 1981
21. Menezes et al, Development Strategy for Part of the  
City of Nairobi. Report 1 Printing  
Services Ltd. 1971, Nairobi
22. Menezes et al, Planning Strategy for the Development  
of Action Area One West of Outer Ring  
Road, Nairobi  
Report No.2 Printing Services Ltd.  
1971 Nairobi
23. Milton R.L. "Planning for Outdoor Recreation Systems"  
A conference on Wildland Recreation.  
Feb. - March, 1977. University of Alberta
24. Morgan W.T.W. Nairobi City and Region Oxford  
University Press Nairobi, 1967
25. Muthembwa, "Bahati Estate Redevelopment Proposals".  
Report to Chief Planner Nairobi City  
Council



26. Mutiso, Menezes et al, Buruburu A Social Survey  
May, 1978
27. Nairobi City Council, Minute No. 15 in General Purposes Committee Report. November, 1976
28. Nairobi City Council, Chief Valuers Report 23/9/65  
N.C.C. File 14/6/38 on Land Policy
29. Nairobi City Council, Notes on Land Use Standards  
Nairobi Urban Study Group, July, 1978
30. Nairobi City Council "Report on Authorised City Council Housing Development as of November, 1978
31. Nairobi City Council, General File on Open Spaces  
14/6/8
32. Nairobi City Council, African Housing Project File
33. Nairobi City Council, File No.6/6/43 Uhuru Estate
34. Nairobi City Council, Unpublished Report on Open Spaces 1981
35. Nairobi City Council, Annual Report of the City Education Department 1980
36. Nairobi City Council, Valuation Reports
37. Nairobi Urban Study Group, Metropolitan Growth Strategy Vols. 1&2 Nairobi City Council 1973
38. Newman P. & Hogan T. "A Review of Urban Density Models: Toward Resolution of the conflict between the populace and the planner." In Human Ecology an Interdisciplinary Journal Vol. 9 No. 3 1981 September, 1981

39. Parker M. Political and Social Aspect of Development of Municipal Government in Kenya  
PHD Thesis 1949
40. Reinar T.A., The Place of the Ideal Community in Urban Planning University of Pennsylvania Press, Philadelphia 1963.
41. Reekie R.F., Background to Environmental Planning Edward Arnold Ltd. 1975. London
42. Sahnoune et al, "Play spaces or play places? Structuring spaces for unstructured activity" Printed in Planning Outlook Vol. 23
43. Tankel S.B., "Importance of Open Space in Urban pattern" Printed in Cities and Space: The Future Use of Urban Land John Hopkins Press 1970 London
44. Van Zwanenberg & King A., An Economic History of Kenya and Uganda 1800-1970 Mc Millan Press Ltd., 1975
45. Veblen T., The Theory of the Leisure Class George Allen & Union Ltd., 1970 London
46. Wanjiru F.M. Alcoholism and the Individual: His Integration in Society B.A. Dissertation, Department of Sociology, University of Nairobi, 1979
47. White et al, Nairobi Master Plan for a Colonial Capital His Majestys stationery office 1948
48. Wright H.M. The Planners Notebook: A Compendium of Information on Town and County Planning London Architectural Press 1948

UNIVERSITY OF NAIROBI

DEPARTMENT OF URBAN AND REGIONAL PLANNING

HOUSEHOLD QUESTIONNAIRE FOR DETERMINATION OF OPEN SPACE AND RECREATION NEEDS:

NAME OF ESTATE: ..... RESPONDENT NO: .....

ADDRESS: .....

SOCIO-ECONOMIC CHARACTERISTICS (HALI YA JAMII)

AGE (Una miaka mingapi tangu kuzaliwa - UMRI)

- 1. 18 - 40
- 2. 41 - 50
- 3. OVER 50

RELIGION (U mfuasi wa dini ipi)

- 1. CHRISTIAN (KIKRISTU)
- 2. MUSLIM (KIISLAMU)
- 3. AFRICAN TRADITIONAL (KIENYEJI)
- 4. OTHER. (SPECIFY) (Ingine yeyote - eleza jina yake)

SEX

- 1. MALE (MUME)
- 2. FEMALE (MKE)

EDUCATION (UMESOMA MPAKA DARASA LIPI)

- 1. NONE (SIJASOMA)
- 2. PRIMARY (SHULE YA MSINGI)
- 3. K.C.E. (FOURTH FORM) (KIDATO CHA NNE)
- 4. FORM SIX K.A.C.E. (KIDATO CHA SITA)
- 5. UNIVERSITY (CHUO KIKUU)

5. SOURCE OF INCOME (UNAJIPATIAJE FEDHA)

- 1. EMPLOYED (UMEAJIRIWA KAZI)
- 2. SELF-EMPLOYED (UNABIASHARA YA MWENYEWWE)
- 3. OTHER (SPECIFY) (NJIA ZINGINE - ELEZA)

If an outdoor game then,

Do you play any game (e.g. mpira, mbio

6. INCOME EARNED PER MONTH (SHILLINGS) (MAPATO YA FEDHA KWA MWEZI) MMOJA NI SHILLINGI NGAPI:

- 1. UNDER 500 (YASIOZIDI 500)
- 2. 500 - 999
- 3. 1000 - 1500
- 4. OVER 1500 (ZAIDI YA ELFU MOJA NA MIA TANO)

1.  
2.

If games are cited

If yes, (a) which

(b) Do you

7. TIME LIVED IN ESTATE (UMEISHI NDANI YA MTA A HUU MUDA UPI)

- 1. UNDER ONE YEAR (USIOZIDI MWAKA MMOJA)
- 2. 1 - 3 YEARS (MWAKA MMOJA HADI MITATU)
- 3. 4 - 10 "
- 4. OVER 10 YEARS (ZAIDI YA MIAKA KUMI).

If no, why? (Ikiwa

8. SIZE OF HOUSEHOLD (INCLUDING RESPONDENT) (MUWANGAPI HAPA NYUMB, UKIJIHESABU PIA)

UNDER 18 YEARS	MALES	.....	FEMALES	.....
OVER 18 YEARS	MALES	.....	FEMALES	.....

What Recreational facilities (Katika mtaa huu in

(WANAUME WASIOZIDI MIAKA 18 WANAWAKE WASIOZIDI MIAKA 18

(WANAUME WANAOZIDI MIAKA 18 WANAWAKE WANAOZIDI MIAKA 18

Do you travel outside (Wewe husafiri nje na michezo?)

B. RECREATION

9. HOW DO YOU SPEND YOUR FREE TIME? (UNATUMIAJE WAKATI WAKO WA MAPUMZIKO AMBAO HAUKO KAZINI)

Kama Ndio, ni wapi? If yes, (a) Where?

.....  
.....  
.....

(b) Which facilities (Ikiwa huendi ni kwa (c) If no, Why?

0. If an outdoor game or sport is cited in answer to question 8, then,

Do you play any games? (Je wewe hucheza michezo ya riyadha) (e.g. mpira, mbio n.k.)

- 1. YES (NDIO)
- 2. NO (LA)

If games are cited in 9 or, (Ikiwa hucheza michezo ya riyadha,

If yes, (a) which ones (Ni ipi unayoshiriki) .....

(b) Do you play the game(s) (Je wewe huicheza)

- 1. Alone (Pekee)
- 2. Two people (Mkiwa wawili)
- 3. More than two (Mkiwa zaidi ya wawili)

If no, why? (Ikiwa uchezi michezo ya riyadha, ni kwa nini?)

.....

What Recreational facilities do you make use of in this Estate? (Katika mtaa huu in nafasi zipi za starehe na michezo unazozitumia?)

.....

Do you travel outside your Estate for Recreation?

(Wewe husafiri nje ya mtaa wako kutafuta nafasi za kujistarehesha na michezo?)

- 1. YES (NDIO)
- 2. NO (LA)

Kama Ndio, ni wapi?

If yes, (a) Where? .....

(Ni aina zipi za nafasi za starehe na michezo unazakwendwa kutafuta?)

(b) Which facilities do you go for? .....

(Ikiwa huendi ni kwa nini?)

(c) If no, Why? .....

.....

13. Would you like to have recreational facilities in your Estate  
(Ungenda kuwa na nafasi za michezo na starehe ndani ya mtaa)

- 1. YES (NDIO)
- 2. NO (LA)
- 3. UNDECIDED (SINA HAKIKA)

14. What constraints do adults face in outdoor Recreational facilities in this Estate?  
(Ni shida zipi zinazowakabili watu wazima kuhusu nafasi za starehe na michezo ndani ya mtaa huu?)

- 1. Spatial (specify) (Viwanja na nafasi nje hazitoshi)
- 2. Participation (specify) (Wakazi wa hapa hawajitokea kujistarehesha)

15. How long does your child/children stay outside of your home when they are not in school?  
(Je watoto wako hukaa nje ya nyumba yako kwa muda gani, wakatoka ambao hawako shuleni?)

(a) Where are they at those times? Je watoto hao huwa wapi?

- 1. Fields (Viwanjani)
- 2. Streets (Barabarani na vichochoroni)
- 3. Outside the house (within Earshot) nje ya nyumba (karibu)
- 4. Don't know (Sijui)

16. Are those places suitable (for either playing or resting)?  
(Hapo wanapokuwa ni mahali pafafaa?)

- 1. YES (NDIO)
- 2. NO (LA)

If no, how should they be changed?  
(Ikiwa hapafai, pataimarishwa namna gani pafafaa watoto?)

.....  
.....

(a) Is the  
(Je wako  
asipok

- 1.
- 2.
- 3.
- 4.

(b) How w  
(Ungej

.....

17. What are you  
of children  
within your

(Toa maoni y  
vyotumiwa n  
manufaa ya

.....  
.....  
.....

18. In terms of  
Estate is

(Ukiangalia r  
huu, ungesen

- 1. The
- 2. Slig
- 3. Too

Why .....  
(Kwa nini (y

19. No. of Rooms  
Approximate s

Indoor Usage

(a) Is the activity your child/children is engaging in

(Je waonaje jinsi mtoto wako anavyoturia wakati wake asipokuwa shuleni)

- 1. Useful (specify) (ni vizuri)
- 2. Improper (haifai)
- 3. Wasteful (anapoteza wakati wake)
- 4. Dangrous (specify) (ni hatari)

(b) How would you like them to spend their time?

(Ungependa watumie wakati wao vipi

.....

17. What are your feelings about present day outdoor involvements of children and what improvements should be made, particularly within your Estate?

(Toa maoni yako kuhusu nafasi za nje ya nyumba na njiani zina- vyotumiwa na watoto na ueleze ungependa ziinarishwe vipi kwa manufaa ya watoto wa mtaa wako)

.....  
.....  
.....

18. In terms of the buildings and open spaces, do you feel that the Estate is

(Ukiangalia mijengo na nafasi zilizoachwa wazi ndani ya mtaa huu, ungesema

- 1. The best it could ever be (Unatosheka na hali hi?)
- 2. Slightly congested (Nyumba zimesongamana kidogo)
- 3. Too crowded (Nyumba zimesongamana isivyofaa?)

Why .....  
(Kwa nini (yaani eleza zaidi maoni yako).

19. No. of Rooms in House .....

Approximate sizes .....

- Indoor Usage (1) Bare
- (2) Average
- (3) Congested



Interviewer's comments.

REC  
KAL

SHA

PUN

BAI

MB

LU

OF

of Room in House

Approximate size

Labour usage

(1) Bare

(2) Average

(3) Detailed

Appendix 2

RECREATION TYPES OFFERED BY VARIOUS SOCIAL HALLS

KALOLENI	Cinema Shows, Disco dances, Parties, Drama, Badminton, T.V. Viewing, Ajua, Playing cards, Darts, Draughts, Table tennis, Boxing Karate, Teniquite, Football, Volleyball.
SHAURI MOYO	Disco dances, Parties, Football, Volleyball, Draughts, Boxing, Karate Ajua, Carts.
PUMWANI	Badminton, Boxing, Body building, Table tennis, Football, Film shows
BAHATI	Boxing, Drama Badminton, Cinema, T.V. Viewing, Karate, Volleyball.
MBOTELA	Boxing, Drama Badminton, Ajua, Cinema shows, Table tennis, T.V. Viewing, Karate, Volleyball.
LUMUMBA	T.V. Viewing, Ajua, Boxing, Badminton, Table tennis, Football
OFAFA JERICHO	Film shows, T.V. viewing, Parties, dances, Volleyball, Karate, Ajua Table tennis, Darts, Draughts, Chess Ludo, snakes & ladders, Reading.

Appendix 2

RECREATION TYPES OFFERED BY VARIOUS SOCIAL HALLS

KALO LENI	Cinema Shows, Disco dances, Parties, Drama, Badminton, T.V. Viewing, Ajua, Playing cards, Darts, Draughts, Table tennis, Boxing Karate, Teniquite, Football, Volleyball.
SHAURI MOYO	Disco dances, Parties, Football, Volleyball, Draughts, Boxing, Karate Ajua, Carts.
PUMWANI	Badminton, Boxing, Body building, Table tennis, Football, Film shows
BAHATI	Boxing, Drama Badminton, Cinema, T.V. Viewing, Karate, Volleyball.
MBOTELA	Boxing, Drama Badminton, Ajua, Cinema shows, Table tennis, T.V. Viewing, Karate, Volleyball.
LUMUMBA	T.V. Viewing, Ajua, Boxing, Badminton, Table tennis, Football
OFAFA JERICHO	Film shows, T.V. viewing, Parties, dances, Volleyball, Karate, Ajua Table tennis, Darts, Draughts, Chess Ludo, snakes & ladders, Reading.

Appendix 2

RECREATION TYPES OFFERED BY VARIOUS SOCIAL HALLS

KALO LENI	Cinema Shows, Disco dances, Parties, Drama, Badminton, T.V. Viewing, Ajua, Playing cards, Darts, Draughts, Table tennis, Boxing Karate, Teniquite, Football, Volleyball.
SHAURI MOYO	Disco dances, Parties, Football, Volleyball, Draughts, Boxing, Karate Ajua, Carts.
PUMWANI	Badminton, Boxing, Body building, Table tennis, Football, Film shows
BAHATI	Boxing, Drama Badminton, Cinema, T.V. Viewing, Karate, Volleyball.
MBOTELA	Boxing, Drama Badminton, Ajua, Cinema shows, Table tennis, T.V. Viewing, Karate, Volleyball.
LUMUMBA	T.V. Viewing, Ajua, Boxing, Badminton, Table tennis, Football
OFAFA JERICHO	Film shows, T.V. viewing, Parties, dances, Volleyball, Karate, Ajua Table tennis, Darts, Draughts, Chess Ludo, snakes & ladders, Reading.

APPENDIX 3

KEY TO NUMBERED REFERENCES MAPS 2 - 7

1.	Kaloleni	Estate
2.	Makongeni/Maisha	Estate
3.	Mbotela	"
4.	Makadara	"
5.	Doonholm	"
6.	Umoja	"
7.	Kariobangi South	"
8.	Outer Ring Road	"
9.	Buru Buru	"
10.	Uhuru	"
11.	Harambee	"
12.	Kimathi	"
13.	Jerusalem	"
14.	Jericho	"
15.	Ofafa Maringo	"
16.	Bahati	"
17.	Shauri Moyo	"
18.	Gorofani (Lower Pumwani)	"