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INTERNAL MIGRATION IN THE SUDAN: A STUDY OF THE SOCIO-ECONOMIC CHARACTERISTICS OF MIGRANTS IN KHARTOUM

by

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SUMMARY

The last two decades witnessed the beginning of large scale regional mobility; as well as a substantial increase in the volume of rural-urban migration, a major component of this was rural exodus to Khartoum. Every migration movement of this type is stimulated and directed by a number of inter-related factors in the regions of origin and destination.

The thesis studies the patterns and trends of both types of movement - regional and rural-urban. It is divided into four broad sections. Section one reviews the literature with special emphasis on the methods adopted in migration studies in Africa and in the Sudan. The section also defines the physical, human and economic background of the country.

Section two examines the factors that assisted and directed the increase in regional mobility, with specific reference to the disparities in economic development between provinces. Here a spatial interaction model is used to measure the salient factors that enhance and impede regional migration. Due to the absence of reliable data on the three Southern provinces, the analysis was confined to the northern provinces only.

Section three, based on the results of a sample survey, considers the intensity of migration to Greater Khartoum and how and why migration streams to the city varies from one province to another. The section also examines motives for migration to

the capital, the social and economic characteristics of the migrants, their adjustments to urban ways of living, and how they maintain links with their areas of origin.

Section four examines the impact of migration on the housing situation in the Three Towns. The section also considers the Government policy adopted to overcome the housing demand created by the increasing population. Questions included in the sample survey examined the migrants' housing characteristics, their intra-urban mobility and their aspirations in this sphere.

The last chapter of the thesis summarises the findings of the study and shows how it contributes to research in migration in the Sudan.

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CHAPTER I

INTRODUCTION

Since the Second World War less developed countries, particularly in Africa and South America, have experienced an extremely high rate of urban growth. During the last 20 years the share of urban population in Africa (in localities with 20,000 inhabitants or more) has increased from 10 to 20 per cent.(1) This rapid increase of urban population is a result of a set of factors of which the two most significant are rapid natural increase as a result of a higher urban birth than death rate, and net migration. However, migration plays a far more important role in the growth of urban population than does natural increase.

The impact of migration on urban growth in African countries is evident from United Nations statistics for the 1960s which show the substantial contribution of population transfer to the specially high rate of urban growth.(2) An example of this trend is provided by the work of J.C. Caldwell(3) in Ghana, where since 1948 rural to urban migration accounted for more than half the growth of Ghanaian cities while natural increase and foreign migrants only accounted for 25 per cent and 20 per cent respectively. This breakdown of urban growth is probably fairly typical for most African cities. Further support comes from J.I. Clarke who suggests that many African cities have recorded at least half of their population as having been born elsewhere.(4)

The role of migration in urban growth could be considered as

a recent phenomenon preceded and prepared for historically by social, political, economic and cultural changes brought about by European colonialism. Precolonial migration was relatively small and involved either a group of a lineage or a tribe. For example, the declining productivity of subsistence agriculture due to soil exhaustion and overgrazing often forced tribes or a large number of people to move to different locations in search of better land opportunities. A substantial amount of precolonial migration was motivated by political considerations; some movements were specific mechanisms for the exercise of political power through war and conquest.(5) Individual migration was limited by lack of transport and communications, linguistic barriers and lack of knowledge about economic and social opportunities outside the community of origin. But perhaps the most important constraint on individual migration was the rarity of political and social structures to which those who had the initiative to leave their places of origin could move, and in which they could secure a status as good or better than the one they held in their area of origin. Those who did move were normally assigned subordinate places in the new community where they settled.(6) Hence movers had lower status than nonmovers.

With the advent of colonialism in the continent both traditional society and migration patterns were gradually transformed. Almost all African countries, with the exception of Liberia, have experienced in some way and to some degree one or more periods of

colonial rule. However, colonial powers pursued different colonial policies. Britain through the policy of what is known as "indirect rule" to a large extent maintained indigenous cultures and societies by working wherever possible through local social and political systems.(7) For example in the Sudan they maintained and strengthened tribal administration by giving "Nazirs" - head of tribes - more power such as responsibilities for collecting taxes and resolving tribal disputes. Unlike the British policy that of the French, Portuguese and Spanish was committed to the idea of assimilation rather than to eventual independence.

The various colonial powers, following their own particular policies, had set in motion changes of which the most important was the introduction of money exchange economies which hardly existed before. The new modern enterprises established by the Europeans required centres to centralize and organize trade, communications and administration. The demand for labour in the new urban centres in combination with the changing economic base in rural areas paved the way for heavy migratory flow.

Short of labour for their modern enterprises, because the Africans were unfamiliar with wage labour in the late 19th century, the colonial administrations created pressures to stimulate migration to the new urban centres. The most direct method of securing labour was through recruitment. For example, due to shortage of labour at the dawn of the present century, the colonial government in the Sudan had opened a special office in Khartoum

with branches in the provinces to recruit local labour and promote mobility to points of demand. Wages rose as the demand for labour ran ahread of ready supply. The development of railways and communications provided quick transmission of messages and information about the range of opportunities in different urban areas, thereby increasing the volume of migration.(8) Similarly the early settlers in South and Central Africa who tried to establish modern enterprises found themselves short of labour and had solved their problem by recruiting from neighbouring territories that allowed her to do so.(9)

Perhaps the most fundamental measure used by colonial governments to induce people to migrate to work centres was the imposition of taxes which had to be paid in cash. Skinner(10) argued that migrant Mossi of Upper Volta went to mines, plantations and urban centres because of the need to pay taxes, imposed by the French colonists immediately after conquest, in francs rather than in kind or cowries. The taxes were raised gradually and more and more Mossi had to migrate for paid work. Even after the French modified direct labour recruitment and subsequently abolished it, migration contimued because labour movement had become fully integrated in the social system.

The general increase in production and trade, tax collection and administrative requirements demanded the development of education and transportation and communication networks. Improvement in such services enhanced more migration in response to

new opportunities and jobs. Moreover the development of transport reduced the effort hitherto required to undertake a long distance travel and as a result permitted acceleration of existing migration. For example Clarke[11] argues that in Sierra Leone rural-urban migration was motivated not only by the evolution of commercial agriculture and mining but also by the development of the railway between 1895 and 1916.

Thus colonial administration increased the amount and rate of migration and changed its pattern through removing some traditional constraints to migration and creating new pressures in its favour. Moreover migration led to social changes which in turn accelerated migration. As people migrated to urban centres and revisited homes more information on opportunities was conveyed and potential migrants were also induced to move.

ATTEMPTS TO MODEL MIGRATION

Rural-urban migration has drawn the interest of geographers, sociologists and economists because flows of people reflect the pattern of diverging rates of socio-economic development. It is also certain to cause changes in such demographic behaviour as fertility and mortality together with changes in population structure as a whole. Efforts to describe and explain the movement can be traced back at least as far as 1885, when Ravenstein[12] conducted the first serious detailed examination of British internal migration and founded the subject's theoretical base. He was basically concerned with explaining the causes of migration and he presented

empirical evidence which led to the following conclusions: (1) the rate of migration between two points will be inversely related to the distance between these points; (2) migration proceeded by stages. People tend to move first towards nearest towns and then to more rapidly growing cities; (3) each main current of migration produces a compensating countercurrent. Although rural-urban migration may be dominant there will always be a counterstream of reverse urban-rural migration; (4) townsmen are less likely to migrate than rural residents; (5) migration streams will increase over time as a result of the development in the means of transport and the growth of industry and commerce; (6) bad or oppressive laws, heavy taxation, uncongenial social surroundings and even compulsion, all have produced and are still producing currents of migration, but none of these currents can compare in volume with that which arises from the desire inherent in most men to better themselves in material respect.(13)

Ravenstein's laws have revealed important variables influencing migration such as distance or sex structure, and characteristics that it may take, such as stages and counterstreams. His sixth law opened the area of push-pull factors in migration and stressed that economic motives were always predominant in the list of factors influencing migration. However its most important asset was that it opened the field for theoretical models of migration and new generalisations about the migration process.

A subsequent development of this way of looking at the

regularity between population size and distance is that of interaction theory as proposed by Zipf[14] who postulated a direct function between the two. The model took the form,

$$M_{ij} = \frac{P_i P_j}{D_{ij}}$$

In other words the gross number of migrants M_{ij} between centre i and centre j is directly related to the size of their populations ($P_i P_j$) and inversely related to the distance between them.

As a descriptive device the gravity model, in its simplest Newtonian form is useful but it explains nothing about variables associated with and causing migration. The model is also static and deterministic, while population movement is a highly dynamic and complex process. Furthermore, it tends to overestimate and exaggerate short distance migration, a major weakness of the model.

Stouffer[15] strongly rejected any direct effect of the distance factor as such on migration and introduced the concept of intervening opportunities. He suggested that the number of persons going a given distance is directly proportional to the number of opportunities at that distance and inversely proportional to the number of intervening ones. The main limitation of this model is the difficulty of defining those intervening opportunities which may vary from one individual to another. Like the simple gravity model its major shortcomings are, it does not explain how a change has taken place, what movements were involved and the factors that caused them.

The gravity model has often been used in different forms in studying migration in Africa. Beals, Levy and Moss[16] have tested the model in Ghana as part of their study of the social and economic determinants of migration. They hypothesized that migration results from the interaction of a number of independent variables that operate simultaneously, rather than one factor. The variables considered were incomes,education, the level of urbanisation, distance and population. The first three variables accounted for the systematic differences in the individual responses, while distance and population served as proxy measures of transport costs and information flow and job availability respectively. The latter also stood as proxies for unmeasurable variables such as the social and cultural differences between various regions. The estimated migration function took the form:

$$M_{ij}/P_i = (D_{ij}, Y_iY_j, P_iP_j, E_iE_j, U_iU_j) \quad \text{where}$$

M_{ij} = number of persons aged 15-24 born in region i but enumerated in region j.

D_{ij} = Distance measured in miles between major cities of region of origin i and region of destination j.

Y_iY_j = Average African labour income in region i and region j respectively.

P_iP_j = Number of Ghanaian males 15-54 born in region i and j respectively

E_iE_j = Percentage of those 15 or over of region i and j who attended school.

U_iU_j = Percent of population of region i and j residing in cities of 5000 or more.

The independent variables employed in the multiple regression analysis were found to explain 91 per cent of the variance in between regions in Ghana. The findings indicated that distance tended to act as an important impediment to migration. Migration tended to be away from low wage areas to high wage areas. The study as it stood was useful because it catered for the statistical comparison of a number of explanatory variables and because the variables influencing migration were considered in combination. However the framework of the model has been criticised by Harvey and Riddle[17] on a number of counts. They claimed that the interpretation of the model might be biased by the multicollinearity of the independent variables. The distance measures were just estimates for regions of large sizes and the dependent variable was based on data derived from the place of birth and place of residence of the population rather than on the actual moves. However it seems that these limitations are a result of the lack of detailed data rather than conceptual shortcomings of the model itself.

A more generalised model which has been widely used in African migration research is the push-pull hypothesis. The underlying theory hypothesises that two sorts of forces working in different areas lead to the push movement from a rural setting and to the pull to an urban area; i.e. every origin and destination area is assumed to have positive forces which act to hold people within the area or attract them or negative ones which push or repel people from the area. The effect of each of these variables will

vary with the personal characteristics of the potential migrant.[18] Thus, for example, unfavourable economic conditions may push farmers off the land while pressure on a potential migrant takes the form of greater opportunities or better wages offered in the town or city.

Thus the push-pull formula suggests that under certain circumstances a potential migrant will be subjected to centrifugal forces at his place of origin and centripetal forces at his place of destination. This conclusion implies that the motivation for migration is purely economic. However, disparities in income do not exercise a mechanical effect which sets migration in motion. Gutkind[19] argued that it was manifestly impossible to single out any one reason which motivated the movement of people from one place to another. Mitchell[20] pointed out that economic factors were necessary but not sufficient causes. The rate of labour migration was probably determined by economic conditions whereas its incidence probably depended on social and psychological factors. However like the gravity model the push-pull hypothesis can be modified to include the many variables that affect migration and this is where its greatest asset lies.

The main objectives of the gravity and the push-pull models are to define the characteristics of migrants, to predict the magnitude and direction of migration flows or to estimate under what circumstances it is probable that a certain type of people will move. A completely different approach to migration study representing the individual's decision to migrate is that undertaken by economists.

Economic models consider the explanation of population movement in terms of better employment opportunities and higher wages or cost benefit analysis. Most of these theories maintain that migration is directional, flowing from high unemployment areas or ones with low wage rates to more favourable areas until an equilibrium is reached between the supply and demand for labour.

Perhaps the most important economic model of rural-urban migration in Africa was that put forward by Todaro.[21] His model portrayed the decision of the individual to migrate as a function of two variables:

(a) The difference in real income between rural and urban areas and

(b) The probability of obtaining a job in the city.

The elements of the model were expressed in the following formula:

$$\frac{M}{Lu} = F\left(\frac{V_u - V_t}{V_r}\right) \qquad \text{where:}$$

M = Net migration from rural to urban areas

L_u = The size of the urban labour force

V_u = The discounted present value of the expected urban real income over an unskilled worker's planning horizon

V_r = The discounted present value of the expected rural real income over the same planning horizon.

Thus according to the basic model the spatial allocation of labour over time between a rural sector and an urban sector varied directly with the differential in the expected income between the

two sectors and inversely with the degree of difficulty of obtaining a job in the urban sector. The distinctive feature of the model was the emphasis it placed on expected income rather than merely considering rural-urban wage differentials and the probability of obtaining a job in the urban sector as an important factor in the individual's decision to migrate.

The main shortcoming of the model is that it is based on the assumption that the motives of migration are entirely economic. If the economic variables are solely responsible for migration one would expect relative uniform migration rates within various groups. However, Godfrey[22], as a result of his work in Ghana has shown that net migration actually increased even when it had become very difficult to find employment in the urban sector and when, furthermore, the income differential between the urban and rural sectors had narrowed. Samir Amin[23] also pointed out that migrants do not all come from poorer rural areas and nor are they recruited solely from individuals that constitute their population. For example the Bassari of Eastern Senegal were among the poorest people of the region; yet they did not migrate; whereas the Serere, whose income (monetary and real) was much higher did.

However of greater importance is the fact that the model incorporated variables for which precise measurement cannot be made such as rural incomes. Moreover the model failed to recognise that modern sector jobs are not the only element in the urban opportunity structure and that a substantial proportion of migrants are employed

in the informal sector.

Sjaastad[24] recognising that there are other than economic variables to be considered in migration saw migration in the framework of costs and returns from investment in human capital. The expected returns consisted of the greater income accruing to the migrant from better opportunities. Costs were broken down into monetary and non-monetary costs. The former were the increased expenditure on food, lodging and transport expenses involved in migration. Non-money costs include the income foregone during the period spent in travelling, searching for and learning a new job and also the psychic costs which cannot be considered as an economic investment, because they involve no qualifiable resource expenditure.

The essence of the model is that substantial differences in current earnings between two regions may continue to exist without inducing migration because the costs of migration may exceed the observed differences in earnings. However, both types of costs may be more relevant to the study of migration in developed countries rather than in less developed countries. In the latter city surveys almost always report that migrants stay with relatives or friends; thus food and housing costs are a very low investment compared with the expected return from an urban job.

The above attempt to review some of the theoretical input of migration research, glosses over the fact that the main impediment to the proper testing of these models in any third world, but

particularly in African countries, has always been the unavailability of adequate data. Hance[25] goes as far as saying that, "It may be wondered whether migrations are not so complex and changing as to make the development of a unified theory an unrealistic one. Moreover where models are utilised it has often been noticed that they were hampered by the paucity and unreliability of the data. Data deficiencies are so acute that it is virtually impossible to test the simplest of hypothesis.

MIGRATION STUDIES IN AFRICA

Although only relatively recently embarked on, the study of migration in Africa has produced a substantial literature dealing with its various aspects at various scales and at different levels. The very varied contexts within Africa render many studies relevant only to those areas with similar ethnic and social structures or particular economic ones, such as the set of policies by which South Africa attracts miners from Botswana, Swaziland and Lesotho. Nevertheless, Prothero[26] has attempted to design a continental framework of migration. He distinguished three types of population mobility on the basis of characteristics of continuity and change. These are: (a) Historical movements that took place in the past and which have now ceased to exist. (b) Movements that have continued from the past into the present such as pilgrimage and seasonal pastoral migration. (c) Movements that have developed during the present century, mainly rural-urban labour migration. He goes on to

develop a schematic table of rural urban migration in Africa in terms of distance and duration. These were composed of three main types of movements. Seasonal movements from rural areas are the dominant type and occur in response to varied conditions such as when a period of reduced agricultural activity coincides with an increased demand in urban centres or more advanced agricultural areas. In such migrations, absence may be up to six months and the distance travelled to areas of demand can reach hundreds of miles. The second type of mobility is short term movements, normally not exceeding two years, and involves men seeking jobs in towns, at mines and in agriculture. The third category involves those who left the rural areas and settled permanently in the urban centres.

The typology provides a useful framework for the classification of the different types of movements that occur in the continent. However, it must be pointed out the typology of migrants in terms of distance and duration may not hold true for all African countries, i.e., categories are not discrete; also single individuals can take part in all three types of movement during the course of their lives. Thus the only way to classify a person definitively is when he is dead. For example in the Sudan observations have shown that seasonal migrants have become short term or permanent migrants.

Apart from Prothero's study most of the literature has been concerned with particular areas and with specific aspects of population mobility. Some of these studies focused on census data while a large part of recent research has been based on field surveys.

Census based studies have been preoccupied with such variables as place of birth and residence, sex, age and occupation in the estimation of the magnitude and direction of migration and the comparison of migration streams at origin and destination, i.e. they want to estimate and describe populations not processes. Field surveys on the other hand deal mainly with the motives and trends of migration and set up hypotheses of different types of population mobility. Furthermore they test the validity of models which account for different characteristics of migrants.

Census Based Studies

Due to the absence of more direct information such as the place of birth and place of residence in the earlier African censuses, surrogate measures based on tribal data, age and sex structure have been widely used. A typical example of such migration analysis based on tribal data is that of Southhall[27] who assumed that all members of a particular tribe not residing within their tribal area are migrants. Southhall developed a simple but effective measure of migration: the total number of persons of each tribe enumerated in their home district was subtracted from the total of that tribe enumerated in the whole territory. The result was calculated as a percentage of the territorial total and had been called the emigration rate.

The censuses of Tanzania (1948, 1957) Uganda (1948) and Kenya (1948) which provided information on all major groups in their enumeration areas, were used in his analysis. The emigration

rate, so calculated, brought out very clearly the varying tendency of different tribes to migrate away from their traditional homelands. The application of the index to the data of male and female population of each tribe brought out further divergencies in migration patterns both within and between tribes. Southhall was able to identify how the different groups within the country had responded to opportunities by migration. By simple deduction variation in response revealed by the emigration rate were attributed to a complex combination of ethnic, demographic, economic and ecological factors.

Subsequent authors have worked on the same lines. For example, Harvey[28] has made use of the data from the 1963 census of Sierra Leone to calculate the emigration rates of the various tribes and their response to various aspects of modernisation and social change. Hirst[29] examined the tribal data of Kenya and Tanzania and used principle component analysis to define net migration in these two countries. However the empirical and analytical usefulness of such a sophisticated model is reduced by not including actual migration processes in the analysis.

Although information on persons classified by tribes has provided an indication of the magnitude of migration and the variation in its pattern, it is not the best kind of data that can be used for measuring movement due to the following shortcomings. The units used in census data may not always relate to the tribal areas and fixed tribal areas may not exist. The term 'tribe' is always used loosely

to specify a number of ethnic groups and it has no specific and concrete definition. Moreover the value of this methodology is limited to only a few countries, because most African states for political reasons, no longer enumerate population on a tribal basis. And finally, as Gould and Masser[30] suggest, second generation migrants become ambiguous since many individuals consider themselves as members even though they may have never been to the homeland of their tribe.

A considerable number of descriptive studies based on census data used age-sex cohorts ratios as a surrogate measure to establish the spatial variation in the net gain or loss in population resulting from migration. Such studies are based on the assumption that migration is selective in terms of both age and sex and that the magnitude of mobility can be traced to variations in age and sex structure between different parts of the region under consideration. Using the 1960 census of Ghana, Hunter[31] found a positive correlation at local council level ($r = 0.789$) between immigration as represented by the total number of persons not born in that locality and the sex ratio of the 15-44 age group, i.e., economically active persons. He then proceeded to use the adult sex ratio as the basis for delimiting net in- and out-migration regions in Ghana. In a similar way, district variations in total sex ratio have been related to patterns of migration in Zambia, Tanzania and the Sudan.[32] High male sex ratios are associated with urban centres and rural areas offering wage employment, while low sex ratios are associated with

economically stagnant areas or those of outmigration. For example in the towns and European farming areas of Zambia, Kay found that for every 100 women there were 169 and 172 men respectively, while in African farming areas generally there were only 81 men for every 100 women.

While the use of age and sex structure is acceptable as a surrogate measure of migration due to the lack of direct data, its value is limited and the results must be treated with caution. The spatial variation in sex ratio could be a result of the operation of several factors, such as the predominance of male births, different mortality rates of the two sexes and enumeration deficiencies and age misreporting. Thus the predominance of adult males participating in migration is not by itself a conclusive evidence in explaining migration. Also this pattern could change over time if women migrate at an older or younger age. Also it could be ambiguous, for example in West Africa children are sent back to be brought up in the tribal areas so as to release their mothers for work.

Recent censuses undertaken in Africa usually recorded persons by place of birth and place of residence. Such information has been used to estimate net and gross migration patterns at district and national levels as well as for analysing the demographic characteristics of migrants. GelalEldin[33] has estimated the volume of migration at the provincial and regional levels of Sudan from the 1956 census on the basis of such data. A similar approach

was followed by Ominde who identified inter-regional flows in Kenya.(34) In these studies the measure of migration between region i and region j was simply the number of persons born in region i and residing in region j at the time of the census enumeration.

The results of such research are neither conclusive nor comprehensive. Multiple movements of the same person cannot be identified and the intensity of migration over a specific period cannot be assessed. Moreover in most censuses the place of birth is stated in very broad terms, mainly administrative units including both rural and urban areas which make them more suitable for the study of inter-regional rather than rural-urban migration. A more direct method of estimating population mobility is possible if the censuses include questions on the place of residence. "Until such questions are asked the picture must remain cloudy and information on the size, length of stay and source and destination will only be approximate."(35) Census data also become quickly outdated and do not offer answers to important questions regarding the motives of migration, nor are important economic variables such as wages, self-employment and cash transfers included. Despite such limitations census data have a number of advantages including the possibility of comparing information on migrants with that of non-migrants and the possibility of identifying changing migration patterns in terms of the relative stream size in successive censuses.

Survey Based Studies

Most knowledge of population mobility, especially regarding its

behavioural characteristics has been derived from intensive field surveys despite their limited size and scope. The greatest advantage of sample surveys for collecting data on migration is the possibility of experimentation with new questions and investigate the subject at great depth. Sample surveys also have the chance of classifying data into rural and urban categories as well as hearing from the migrant himself the motive that stimulated his movements, as well as his demographic, social and economic characteristics. Their main limitation, however, is the occurrence of sampling errors. There is usually some sampling bias arising from faulty design or from failure to carry out the design exactly.(36)

Perhaps the most important objective of most field surveys is to assess the motives behind migration, i.e., why do people move? Often attempts are made to distinguish between economic and socio-cultural forces behind migration. However the most widely reported reason for migration to urban areas is economic improvement. The analysis of the 1963 Ghana National Survey by Caldwell,(37) shows clearly the overwhelming importance of economic maximization as a motive for migration. Over half of the urban respondents, of which 72 per cent were migrants, and over half of the rural respondents cited economic reasons as the motive for migration. "More money and a better standard of living in the town rather than the insufferable conditions of the village were seen as the basic motivation."(38) Economic motives were also evident in Prothero's(39) survey of the Sokoto province of Nigeria. Of those involved in this

seasonal relocation of population, 52 per cent moved to make money and a further 24 per cent cited trade as their primary reason. This evidence reinforces the theory that migration is primarily a function of rural-urban economic disparities. The fact that people move primarily to improve their economic conditions suggests that the greater the difference in economic opportunities between regions and sectors, the greater the movement from poorer to richer areas, although retarded by intervening obstacles and friction such as distance.

Economic factors are so frequently mentioned by Africans in explaining their decision to migrate, that there is a temptation to dismiss other factors as unimportant. However, research has shown that social and cultural factors are also significant. A preference for town life, desire to become civilised, to attain prestige, to gain education and training and to join relatives and friends who had earlier migrated were also cited as reasons for migration in the Ghanaian study.(40) This importance of social motives was also revealed in Palen's(41) study of migrants in Addis Ababa. Although improvement of economic well being was given by 57 per cent of the household as the principle reason, family and friendship ties was second in importance being listed by 17 per cent of the households, while the desire for education and training was the third cause for migration being listed by 12 per cent of the respondents. These findings support the thesis that multiple causation of migration is certain and social and cultural factors play an important role in the

individual's decision to migrate.

Apart from the decision making process, its determinants of migration and the distance migrated, most research is concerned with the development and testing of general laws for migration in relation to the selectivity of participants. This issue is primarily conceived in terms of age, sex and education. A universal feature of migration is its age selectivity. Associated with the stages in the life cycle in which entrance into the labour force occurs, mobility tends to be high in the late teens and early twenties. Thus dominance of adults especially males is basically the norm. In case of education, selectivity seems to vary. In Ghana rural-urban migration seems to be generally selective of the better educated than their counterparts in the destination nodes. "Migrant streams contained a high proportion of young educated adults with qualifications certainly exceeding those of the general Accra populations."(42) In a part of West Africa mission schools in rural areas have provided better facilities than those available in the rapidly growing towns. On the other hand in Egypt the majority of migrants were found to be generally poor in education and skills compared to population of origin.(43)

Migration Studies in the Sudan

Studies of migration within the Sudan have been limited to some extent in scope and particularly in number, largely because data are lacking. Most of the literature is concerned with particular areas and/or with specific aspects of internal migration. The majority of

these were studies of the movement of specific ethnic groups into Khartoum or other major towns. For example Davies[44] looked at the movement of West Africans to different urban centres and to the Gezira. His study revealed how this particular group responded to economic opportunities in central and Eastern Sudan.

Other studies describe migration by carrying out questionnaire surveys in the reception areas. An example of this type of study is provided by Rehfich[45] who examined southern migrants in the town of Omdurman. Apart from the fact that the sample was small (N = 252), the study just recorded responses about motives of migration, satisfaction before and after migration and adjustment to urban life. Another study of this kind is provided by Sandra Hales.[46] Her study is distinctive in that she analysed ways in which Nubian Ethnic distinctiveness is retained both in ideology and behaviour in a Sudanese urban community. Another study concerned with the movement of certain groups is that provided by Briggs[47] who analysed the mobility of the Gummyia to Khartoum. His study is different in the sense that it examined mobility to Khartoum - motives and frequency of visits - from the rural end.

Two long studies of migration were carried out recently by Abu Sin[48] and Gelal Eldin.[49] Abu Sin was concerned mainly with mobility in central Sudan. He classified the various types of mobility such as nomadic and pilgrimage movements but did not analyse internal migration. Gelal Eldin sought to measure internal migration and to understand the forces behind these movements.

His work, however, was not based on any theoretical background. Moreover the study did not show how the sample was derived and whether it was representative of the total migrant population in Khartoum.

THE OBJECTIVES OF THIS RESEARCH PROJECT

Empirical studies have tended to indicate that the main determinants of population mobility in Africa are regional, economic and social differentials. Thus one of the main objectives of this study is to test the hypothesis that interprovincial migration in the Sudan is a function of provincial economic and social disparities. For the purpose of this study the spatial interaction model will be used because of its suitability for the statistical testing of the variables affecting migration. The basic assumption of the model is that the number of people born in one region and resident in another at the time of the census is some function of the comparative advantages and disadvantages of these regions and the distance between them. The aim here is to detect various possible factors leading to movement to see how they each contribute to migration and how they relate to each other. The independent variables selected for this study are indices of distance, population, income, urbanisation and education.

The study also examines rural-urban migration in the Sudan with specific emphasis on migration to Greater Khartoum (Khartoum, Khartoum North and Omdurman, - hereafter will be referred to as Khartoum, Three Towns, or the capital) and on aspects of migration which have not received attention within the Sudan's context. The

main objectives of this section are incorporated in the field survey undertaken to collect data such as will enable the analysis of migratory behaviour, the spatial aspect of rural-urban migration and the socio-economic influences related to urbanward migration. The following hypotheses will be tested:

1. The main motive of migration is economic, i.e. migrants move into Khartoum because of the expectation of greater real income due to better employment opportunities.
2. Distance is generally a deterrent to rural-urban migration.
3. Migrants are a function of demographic and educational selectivity.
4. Non-economic factors also play a vital role in the individual's decision to migrate.

The review of literature has shown that a major gap in migration research is the lack of detailed assessment of the consequences and impact migration exerts on both areas of destination and origin. Among the consequences of migration in urban areas are unemployment and underemployment, inadequate housing both quantitatively and qualitatively, the growth and spread of low income settlements and deterioration of sanitation, health facilities and other services. Because such aspects of migration need to be examined, the third part of this research project will concentrate generally on housing problems in Khartoum, believed to be partially created by the influx of migrants from rural areas, and specifically on the housing conditions of the migrants.

A field survey approach has been chosen as the main source of data for the last two parts, because only limited information can be obtained from census data and because current information on pattern, direction and motivation for migration to Khartoum can only be obtained through a carefully structured field survey. The decision to launch the survey on the urban rather than in the rural area is dictated by the objectives of the study, the advantages of such an approach and the constraints of time and finance. To adopt a comprehensive approach would involve spreading the survey over various parts of the country, since the migrants covered originate from all over the country. Furthermore, since the main objective of the last two sections is to analyse the motives of migration, the socio-economic conditions of the migrants and their household, the links they maintain with their areas of origin and their living conditions in Khartoum, data for such an analysis can only be obtained from the migrants in the urban area.

Khartoum has been chosen because it has experienced a rapid growth of population, largely attributable to in-migration. It is by far the largest urban centre of the country and as the capital it is the industrial, commercial and educational centre. It also offers more opportunities in wage employment than any other town thus attracting migrants from all other provinces.

The Questionnaire:

The questionnaire (Appendix I) was prepared making use of previous social surveys and the experience of individuals at the

Sudan's Department of Statistics. It was divided into four major sections. The first part was concerned with factual personal and dependants socio-economic characteristics. The second part was designed to elicit from the migrant information about his background, residential history, his motives for coming to Khartoum and his employment and income. The third part was devoted to the migrant's rural-urban interactions and how these interactions may influence the movement of potential migrants. The last part was concerned with the housing conditions of the migrants.

The field work was undertaken from October 1977 to March 1978 and the survey was carried out by professional interviewers from the Department of Statistics. Within the sampling blocks the head of the household formed the primary sampling unit and the enquiry was directed at him. This became necessary, because in a male dominated society like the Sudan, women are always reluctant to see the interviewer and to answer questions in the absence of their husbands. Moreover the questions are more appropriately answered by the head of the household, since migration of other members, in most cases, is usually incidental to that of the head.

The Sample:

With a tolerable error of 5 per cent and using the census data of 1973, it was found that the sample size needed was 420 households. The definition of the 1973 census of population of a migrant is adopted for the purpose of this study. It defines a migrant as a person who is residing at a place other than where he

was born. Assuming a normal distribution, the formula used to decide the size of the sample took the form:

$$P = \frac{Pq}{N} \quad \text{where}$$

P = the proportion of migrants in Greater Khartoum

q = 1 - P

P = the standard error

N = the sample size.

Based on this method seven quarter councils were systematically selected with probability proportional to size - the size being the number of households in each quarter council. (A quarter council is a cluster of defined housing blocks that have a council selected by its residents). The households of these quarter councils were fully listed using a form (Appendix II) in which some migratory characteristics were listed. Thus the migrants in each quarter council were identified.

The migrants households of each quarter council were stratified into three classes according to year of migration into Khartoum. The first class included those who came to Khartoum between 1973-1978, the second group consists of those who came between 1972-1962 and the third group those who came before 1962. Migrants were stratified so as to enable a comparative study of the migrants and how they adjust to life in the three towns. The choice of dates, although arbitrary, classifies migrants into recent migrants, those who came during the five years preceding the survey, long term migrants, who stayed more than ten years in Khartoum, and

those in between.

The households were proportionally allocated to this strata. Sixty households were then selected from each of the seven councils. The size of each stratum were determined by the formula:

$$N_i = \frac{N.}{N} \times n \quad \text{where:}$$

N_i = the number of households in stratum i

N = the total number of households in the council

n = the sample size in the council (60).

Having decided the number of migrant households in each stratum, random number tables were used to select the households for interviewing.

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CHAPTER II

THE SUDAN: EVOLUTION OF THE ECONOMY

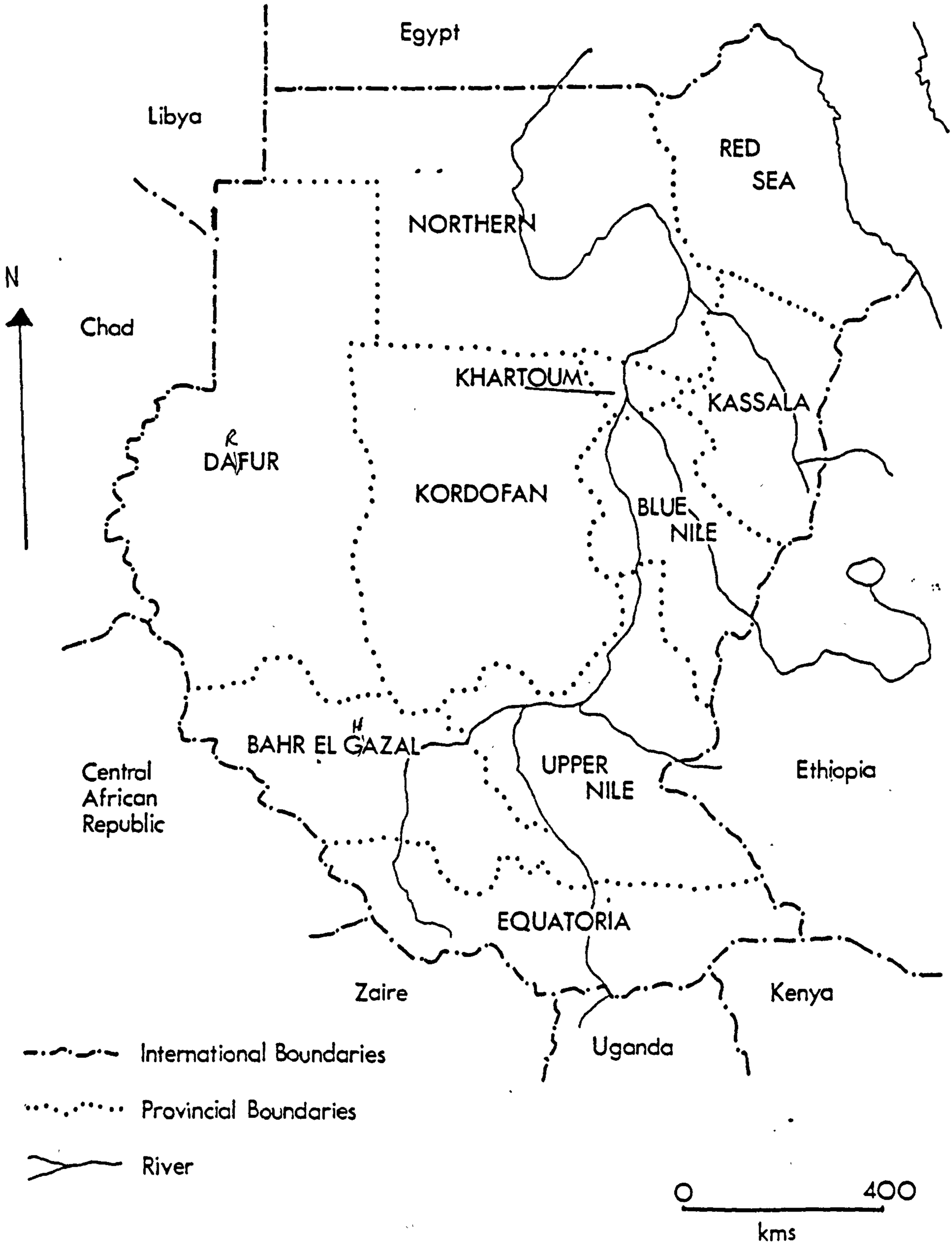
Introduction

The Republic of the Sudan is the largest state in Africa covering almost one million square miles. Before 1973 the country was divided into 9 provinces of which 6 - Khartoum, Kassala, Blue Nile, Northern, Kordofan and Darfur were considered to be northern provinces and the remaining three, Upper Nile, Bahr El Ghazal and Equatoria constitute what is known as the south (map 2:1). In 1974 a broad administrative re-organization took place. The initial provinces were sub-divided and as a result there are now 18 provinces. Since most of the Sudan's population statistics are available only on the basis of the pre-1974 division reference to provinces in this research project refers to the old division.

The Northerners are Muslims and Arabs. These two factors have shaped a certain degree of identity among Northerners and have created a kind of cultural heritage resembling that of other Arab countries but remaining distinctly Sudanese. The degree of cultural identity found among the Northerners does not exist in the South. Southerners are Africans and predominantly pagans and to a much lesser extent either Christians or Muslims. They belong to many tribes and speak different local languages.

With the exception of the Sudd Region in the South, where there are extensive swamps, a few areas along the Red Sea and in the West and Mid-West where some hills are to be found, the country consists

Map 2:1 SUDAN Pre 1974 Administrative Divisions



Source : Second Population Census, 1973

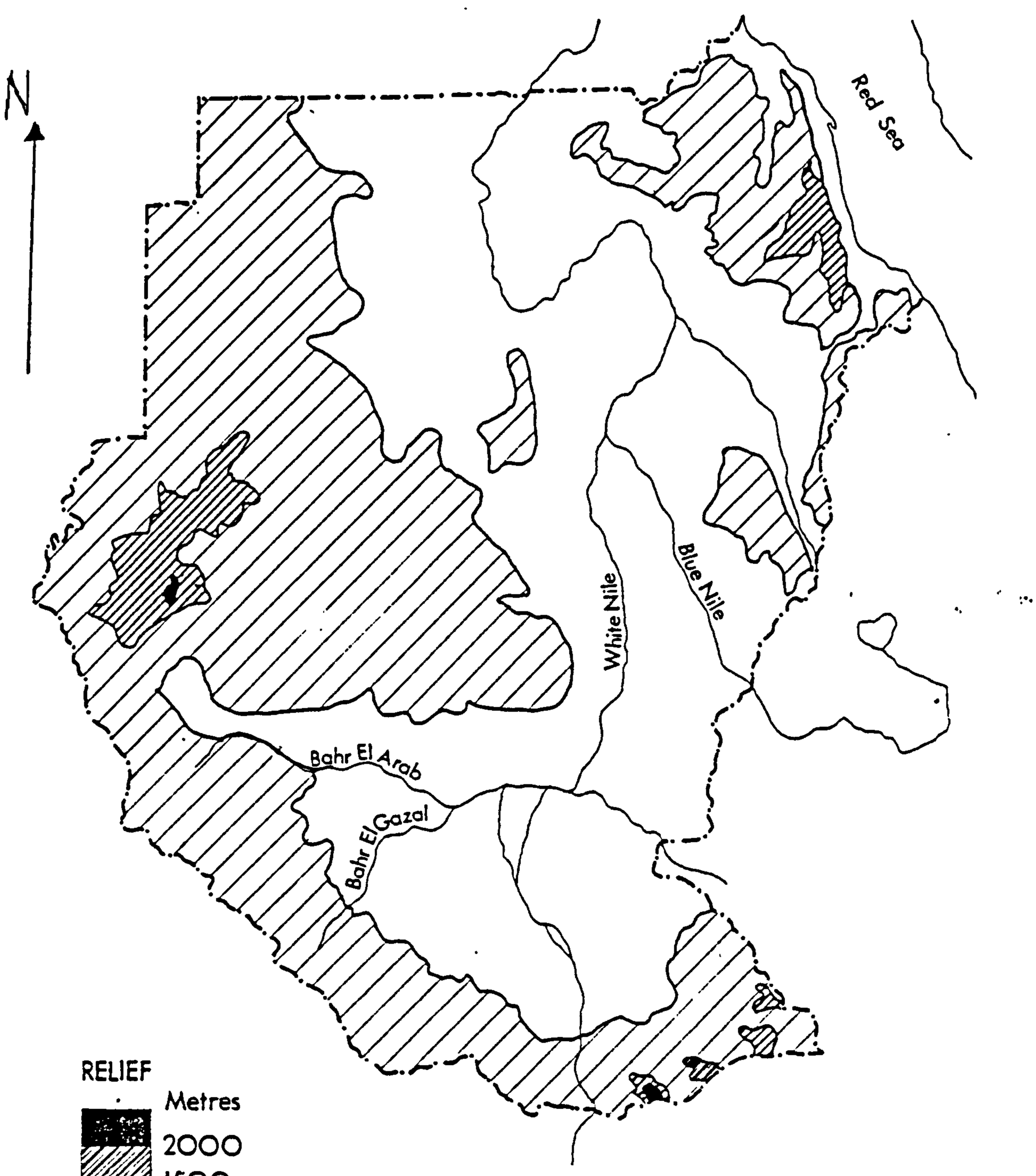
of one vast plain (map 2:2). Climatically the Sudan lies wholly within the tropics, and apart from the narrow basins on the Red Sea, where certain maritime characteristics are experienced, it is entirely landlocked and has a predominantly tropical continental climate, merging from desert in the north to an equational belt in the south[1] (map 2:3).

Climate and water supply affect, more than any other factors, the economy of the country and its population's distribution and mobility. They operate either directly or through their effect on soil, vegetation and agriculture. Landuse practices follow closely the North-South zonation of rainfall. Indeed north of latitude 19°N the scarcity of rains has made the Nile the only means of economic activity, resulting in the most intensive agricultural practice in the country. On the other hand in central and southern Sudan, rainfall is liable to vary from year to year, variations between 25 to 45 percent not being uncommon.[2] Consequently these variations keep large tracts of land out of cultivation and even more important, result in an unpredictable sequence of landuse. This depends on the economic use of rain water through a planned system of grazing, proper timing of cultivation as well as a flexible pattern of macro-regional population mobility.

The Economy:

The economy of the Sudan in the post first war period has been predominantly agricultural and pastoral with land and water as the main inputs of production and income. Agriculture depended entirely

Map 2:2 SUDAN Relief.

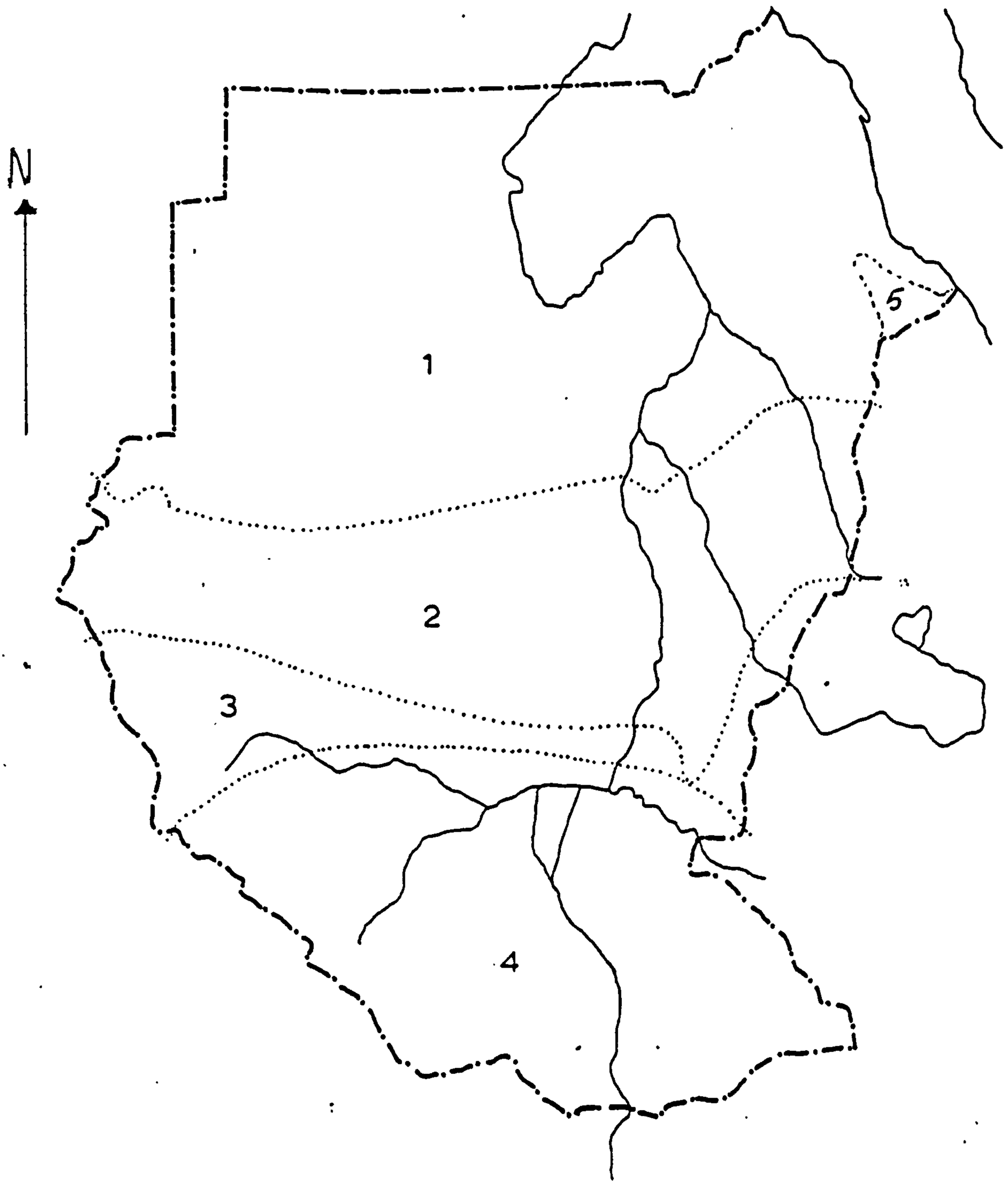


Source: Barbour K.M., The Republic of the Sudan.

Map 2:3

SUDAN

CLIMATIC ZONES
(After Köppen)



1 HOT DESERT

2 SEMI-DESERT

3 SAVANA

4 TROPICAL FOREST

5 TEMPERATE

Source: Barbour K.M., The Republic of the Sudan.

on traditional methods of cultivation, with hand implements rather than mechanical ones, relatively low yielding crop variaties and no input of artificial fertilizers and pesticides. Sudanese exports before 1925 were largely of wild or semi-cultivated crops such as gum arabic, ivory or dates.(3)

The economic changes that took place during the course of this century were assisted and accompanied by development in transport and communications. Docking facilities were installed in Port Sudan and railroads, which were initially established and aligned for military purposes at the end of the 19th century, were extended into the interior. Foreign demands for local materials were brought in contact with their counterparts in the Sudan which resulted in economic dynamism and the cumulative process of commercialisation of an otherwise subsistence economy. There is no doubt that the emergence of the Gezira scheme was a crucial factor in this process.

Nevertheless the economy of the Sudan is still basically agricultural and pastoral. In recent years the contribution of agriculture to gross domestic product (G.D.P.) has averaged about 40 per cent of the total. It generates 98 per cent of the country's annual exports and provides raw materials for 90 per cent of the local industrial plants. In terms of employment about 75 per cent of the country's labour force are engaged in agriculture; many are farmers while others are nomads living off pastoral activities.(4)

As can be seen from table 2:1 which shows the gross domestic product at factor cost by sector, the largest single element appears to

TABLE 2:1

Percentage Contribution of Main Sectors to G.D.P. at Factor Prices
1963 to 1972

	1963	1964	1965	1966	1967	1968	1969	1969/70	1970/71	1971/72
Agriculture	51.58	47.84	47.75	37.86	38.82	38.93	35.64	40.18	40.86	38.17
Manufacturing	5.17	5.47	6.03	8.42	8.57	8.31	8.82	10.16	9.68	8.32
Electricity and water	3.92	3.86	3.76	3.63	3.33	3.17	3.22	3.19	3.12	2.70
Construction & commerce	7.11	6.88	5.09	5.23	4.43	4.61	4.41	4.52	4.19	4.16
Hotels	11.27	13.75	14.72	19.61	19.66	20.49	17.85	10.53	10.37	16.06
Transport	7.11	7.12	7.02	6.97	6.42	6.41	6.64	9.79	9.48	8.06
Finance	3.63	3.70	3.76	3.32	3.56	3.61	5.41	4.49	4.25	6.42
Government and Services	8.57	9.72	10.42	8.88	9.45	9.77	15.18	14.97	15.89	14.62
Others	1.64	1.66	1.63	6.08	5.75	5.70	2.83	2.20	2.16	1.49
Total percentage	100	100	100	100	100	100	100	100	100	100
Total in Sudanese pounds	408.1	421.7	441.3	456.9	489.9	527.0	505.9	516.6	531.7	632.4

Source: Sudan Government, Economic Survey, 1973, Appendix Table 3.1, page 130.

be the complex of activities relating to the production and distribution of agricultural products. The second sector in order of importance is the general category which includes construction, transportation and hotels. Although the share of manufacturing has increased progressively, its contribution is still small.

The present structure of economic activities may best be understood if it is viewed as comprising two economies - one traditional or subsitence economy in which market production plays a minor part, the other a modern or money economy depending very largely upon the export of cotton. However, the conceptual distinction between the two must be kept clear since part of the output of the traditional sector is market oriented, such as cotton cultivation in the Nuba Mountains and other parts of Southern Kordofan, as is the collection of Gum Arabic which is a major export commodity produced exclusively within this sector. Likewise a certain part of the modern sector is basically for consumption within the productive unit or household. For example in the Gezira, the core of the modern sector, the food crops grown by the tenants are mainly for their own consumption. Thusno where in the Sudan does a pure subsistence sector occupying a large area, or areas, exist which has no contact with the market economy.

Table 2:2 demonstrates again, with the qualification about the arbitrary distinction between the two sectors, that they are about equal in importance in terms of G.D.P. However, it must be pointed out the traditional sector figures are not yearly estimates based on field work or any other data but estimates calculated on the assumption

TABLE 2:2

Distribution of G.D.P. between the Modern and Traditional Sector, 1955/56 - 1967/8 (constant Prices)
(Ls Million)

Sector	55/56	56/57	57/58	58/59	59/60	60/61	61/62	62/63	63/64	64/65	65/66	66/67	67/68
Modern Sector[1]	123.5	149.7	140.9	146.9	166.2	177.9	221.6	214.5	214.0	224.0	229.4	228.5	250.4
Traditional[2] Sector	160.7	164.9	170.5	174.8	181.6	191.6	197.7	204.2	211.1	218.2	225.4	232.8	240.5
Modern Sector (per cent)	43.5	47.6	45.3	45.7	47.8	48.2	52.8	51.2	50.3	50.7	50.4	49.5	51.0
Traditional Sector (per cent)	56.5	52.4	54.7	54.3	52.2	51.8	47.2	48.8	49.7	49.3	49.6	50.5	49.0
Total per cent	100	100	100	100	100	100	100	100	100	100	100	100	100

(1) Modern Sector includes: Modern industries, mining, construction, transport, Teritiary activities and irrigated agriculture.

(2) Traditional Sector includes: Subsistence agriculture, forestry, livestock, breeding, handicrafts and fishing. Trend estimates for the sector are based on a rough annual growth rate of 3.3 per cent.

Sources: For 1955/56 to 1959/60, Economic Survey, 1961, p. 75, for 1960/61 to 1967/68, Economic Survey 1967, p.13.

that they grow at a fixed rate of 3.3 per cent[5] per annum regardless of the fluctuating climatic factors which are crucial in the case of traditional agriculture.

Thus while much of the literature on dualism in the less developed countries contrasts a modern sector producing for export with a traditional sector producing for subsistence, this distinction is not strictly applicable to the Sudan. Here the distinction is applicable owing to the difference in the method of production.

Subsistence Sector:

In much of the country the majority of the population are engaged in some form of traditional activity such as rainland agriculture complemented by grazing and handicrafts. Subsistence agriculture constitutes the bulk of the traditional sector and it is practised mainly in the Western and Southern provinces. Usually each family is a working group. The husband and his sons do the land clearing and other heavy work, while the wife or wives do most of the weeding, sowing and harvesting. Thus the size of the farm varies with the available labour force in the family. It is not limited by available land as extensive areas remain idle. The scarcity of labour in relation to land is evidenced by the existence of shifting cultivation under which one piece of land after another is farmed to avoid soil exhaustion and the heavy weed infestation caused by continuous cultivation. The production technique is very simple, making much use of unskilled manpower along with

few implements and very small inputs of fertilizers or modern machinery.

Commercialization in this sector consists of the exchange of produce and labour for consumer goods. The need for cash for the acquisition of the latter is satisfied either through cash crops or through labour migration. It is usual to find both cash crops and domestic food stuffs cultivated side by side in the same area and on the same farm unit in the traditional sector. Cash cropping is apparently always preferred to migration. This is evident in data collected from Western Darfur: "In 1966 about 20 per cent of the male population in the villages of the lower Wadis were absent as labour migrants for a month or more in the year, while in the foothill villages no one was absent. This difference is clearly correlated with differences in the opportunities for cash cropping. Dry season cash cropping in the lower Wadi villages is limited to the acreage that can be irrigated from wells by hand, while the two villages of the foothills have access to perennial water from streams."(6)

Grazing based on primitive methods is largely carried on by nomadic groups; it involves self-contained production units based on tribal and family ties. Production is essentially subsistence for the family with very little surplus being available for the market. Sale of produce is seldom necessary except for paying taxes, cash tributes for ceremonial expenses or buying consumer goods. Cattle owners and herders in the Sudan are bound by

tradition and keep their animals partly for social and cultural reasons. Ownership and accummulation of livestock provides the individual nomad with a high social status within his tribal group. As Lees remarked: "In the context of tradition bounded non-monetary economy, certain institutions evolved which enhanced the attractiveness of this form of investment. Transfer of cattle legitimized marriages, damages were settled by payment of cattle and rank accrued to those able to provide animals at certain rituals."(7)

Handicrafts which constitute part of the industrial sector are defined as establishments employing 10 or less persons.(8) According to the 1970-71 industrial survey, 19,000 handicraft units existed in the six northern provinces with an aggregate value of 21 million Sudanese pounds. This was the equivalent of about 25 per cent of the aggregate value of industrial production of the modern sector as revealed in the sample survey. However there is a distinct provincial variation in both distribution and average wages and labour productivity. The highest concentration is in Kordofan and Blue Nile provinces - 57 per cent of the establishments. But according to the survey, wages are higher in Khartoum where 25 per cent of the labour account for 30 per cent of the total wages. This reflects that productivity for Khartoum ranks first.(9)

The Modern Sector:

The modern sector received its impetus from the introduction of modern irrigation mainly for cotton production in the 1920's. It

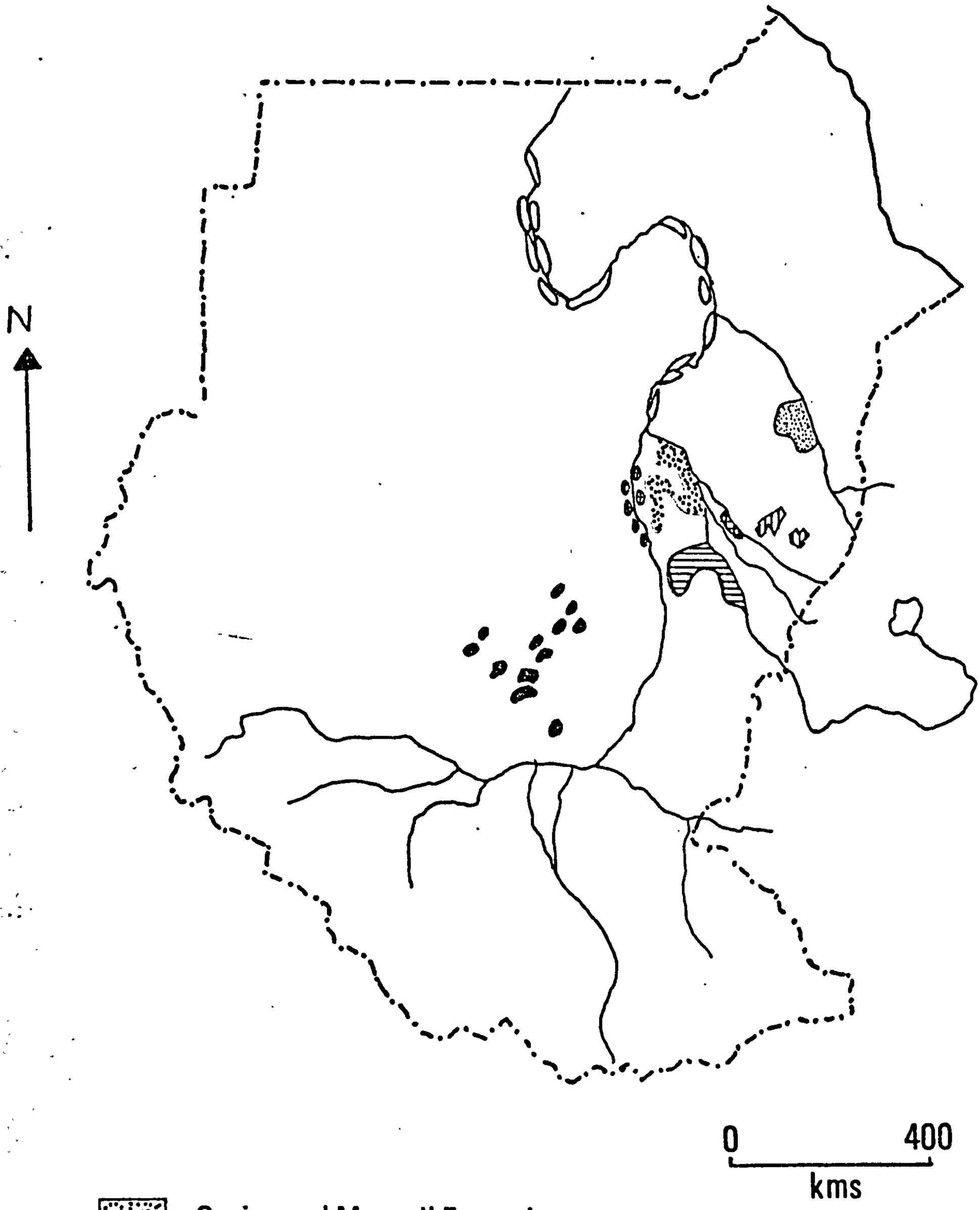
started with the Gezira Scheme which is still the largest and the most economically significant project in the country. Together with its extension, the Managil (map 2.4) it covers an area of 1.8 million feddans (1 feddan = 0.42 hectares), provides 30 per cent of the Government's revenue and 35 per cent of the export earnings and employs more than half a million people. After independence in 1956 a number of projects were developed in which some of the ideas and policies practised in the Gezira were replicated. The most important of these relate to the dams of Khasm Elgirba and Roseires on the Rivers Atbara and Blue Nile respectively (map 2.4).

In addition to gravity irrigation the modern sector includes pump irrigation and mechanised crop production. The former has gained considerable importance in the postwar period after an early start in the twentieth century. From a few hundred pumps in 1944 the number has risen to over 2000 in 1957.(10) Expansion continued after the latter date but at a much lower rate due to the decline in agricultural prices. The bulk of the pumps are concentrated in the Blue Nile and Northern provinces where they virtually replaced the traditional manual pumps - the sagia and the Shaduff.

Mechanised crop rain farming was introduced in the 1950's. The object was to produce sorghum and oil crops in large privately owned plantations, usually in 1000 to 1500 feddan units operated with one tractor.(11) This type of farming is mainly concentrated

MAP 2:4

SUDAN AGRICULTURAL DEVELOPMENT



- Gezira and Managil Extension
- White Nile Pump Irrigation
- Northern Province Pump Irrigation
- Gedaref Mechanized Crop Production Schemes
- Kordofan Mechanized Crop Production Schemes
- Kenana Irrigation Scheme
- Khashm El-Girba Irrigation Scheme
- Rahad Project

Source: Ministry of Education.
Geography of the Nile Basin,(Arabic).

in Kassala and Blue Nile provinces; nevertheless Kordofan and Upper Nile provinces have significant areas cultivated in this manner (map 2.4.) Mechanized farming has provided a modern way of utilizing unsettled land other than by gravity irrigation and even more important it is a step towards more balanced regional economic development.

The development of irrigation and mechanization has led to large scale changes in production methods and structure. This involved not only improved methods of cultivation but the establishment of a new social and economic order. Technologically and organisationally it is an advance from the traditional to the modern age and the transition of the economy from barter to money. It has also provided the tenant with a much higher standard of living than is enjoyed in any other rural area in the Sudan, as the sector enjoys a much greater stability in area, average yield and in volume of output. This is mainly due to high capital investment, more fertile land and sufficient water supply.

Industry:

Manufacturing industry represented a negligible proportion of the G.D.P. on the eve of independence and was restricted to the cottage type engaged in oil pressing, hand weaving and consumer goods to satisfy the needs of the local market. The years 1955-59 witnessed some expansion in the area of import substitution by local manufacture, but still on a very modest scale, with capital coming totally from the private sector. In 1959 the Government invested for the first time in industry and since then there has been relatively intensive investment both by the private and public

sectors. Thus the pace has accelerated and industrial production has continued to grow at an average annual rate of 15 per cent.(12)

A number of factors have contributed to this rapid expansion of industry. First the fact that capital was generated, from internal sources due to agricultural expansion and higher agricultural prices and from external sources, was a prime factor. Secondly, the Government, realising that industrial output, not only in absolute terms but also as a share of total production, was a key factor in bringing about the modernisation and stabilisation of the economy, introduced a number of measures to promote industrial expansion. These included the founding in 1962 of an industrial bank to help in the financing of new and existing projects, the establishment of an industrial institute to undertake technical and economic research and the setting up of the industrial corporation (in 1965) to manage Government enterprises and to speed up the industrialisation process particularly in view of the weakness of private industrial enterprises.(13) Indirectly the Government has encouraged industrial growth by the continuous and progressive raising of import duties undertaken mainly to increase revenue, and also by restricting imports of consumer goods to conserve the diminishing foreign exchange reserves.

As a developing country the Sudan provides a typical case of regional industrial concentration which reflects the existing pattern of income distribution, the availability of infrastructure and service facilities. For example greater Khartoum accounts for

73 per cent of all industrial establishments, 47 percent of all investment and 65 per cent of total production.(14) The dominant position of Khartoum is the outcome of long term factors which, if left unchecked, tend to perpetuate such an unbalanced distribution of industry. Khartoum presents the widest regional market for industrial products where a large compact population with relatively higher per capita income (three times the national average) creates a steady demand. Here the proximity to Government departments and decision making centres, permits direct contacts and as a result faster approval of licensing. Moreover banking and financial services are better. The region is also the most important training centre; thus providing a relatively better supply of manpower and managerial staff.

Thus agricultural modernisation and industrial development exhibit strong geographic concentration. This pattern of development has created a number of problems. The developed areas and particularly the large urban centres, act as forces pulling in the more dynamic elements of the population from the underdeveloped regions. The stagnant regions, therefore, experience an outflow of capital, people and raw materials. Thus while the developed areas are becoming highly dynamic centres of intensive development, the remainder of the country is stagnating into an increasingly subsidiary position.

The impact of these forces is somewhat reduced by the incidence of migration from the latter to the former. A fluid labour market

has been created by the seasonal demand for labour in most of the principle agricultural projects. For example, the Gezira Board in 1973-74 employed more than half a million people in picking the cotton crop; 62 per cent of these workers were brought from outside the province on a seasonal basis (table 2.3.). In the mechanised rainfed farming schemes in Kassala Province, annual migration amounts to 100,000 in the peak season. The total seasonal demand for labour is high and a large percentage is recruited from outside the region from as far as Kordofan and Darfur Provinces, a distance of more than 1000 kilometers. The effect of distance as a deterrent to mobility is reduced because one way transport is provided by the Gezira Board.(15)

This pattern of mobility is attributed to push-pull forces. The main pull factor of the modern sector is simply the rates of pay, in cash and kind offered for weeding, harvesting and sowing. As there is very little open unemployment among workers, even for a very short period, migrants can be fairly certain of their earnings. The main *push* factor of the subsistence sector is under-employment and low incomes. Surplus labour is forced to move to areas with profitable agriculture or to urban centres. As Roberts(16) noted members of the poorer, more insecure subsistence strata of agrarian population will at times be forced by the development of capitalist agriculture to undertake long distance migration to work in more prosperous regions. Moreover the coincidence of the seasonal demand for labour in the modern sector with the period of

TABLE 2:3

Cotton Picking Labour in the Gezira Scheme by Source of Supply (percentage)

Source of Supply	1965/66	1966/67	1967/68	1968/69	1969/70	1970/71
Family Labour	34.7	39.1	37.4	34.3	29.3	31.7
Local Labour	14.2	16.7	17.9	13.6	11.8	12.5
Blue Nile	37.0	23.3	26.5	32.5	22.2	21.3
Kordofan & Darfur	4.9	15.7	14.6	15.9	18.1	17.3
Kassala	-	1.3	0.6	1.5	1.7	1.4
Southern provinces	-	0.1	0.1	0.2	0.1	0.1
Chad	-	1.5	1.7	-	-	
Ethiopia	-	-	-	-	-	
Others	9.2	2.3	1.2	2.0	16.8	15.7
Total	100	100	100	100	100	100
Total number	431699	412385	463179	496265	536137	552827

Source: The Annual Report of the Cotton Pickers Campaign, Barkat 1972.

semi-idleness in the rainfed area is a prime factor in creating the existing pattern of seasonal mobility. As noted by Sarfoh, who observed a similar seasonality in labour use in Ghana, "The period of inactivity in the north corresponds to the time of peak labour demand in cocoa belt of Ghana which made possible the regular supply of seasonal labour in the forest belt."(17)

However it must be noted that while the peaks and troughs in the demand for labour coincide, the amount of rainfall in the Western source provinces plays an important role in determining the magnitude of migration. For example the years 1965 to 1973 were years of low rainfall that not only limited the opportunities of cash farming but also made it difficult to produce enough food crops. On the other hand 1974 was a year of sufficient rainfall. Consequently the recruitment figures of the Gezira Board in Southern Darfur showed a sharp decline from about 20,000 people per year in the 1965-73 period to only 4000 in 1974.(18) This is not to claim that the push factors can be reduced to the variability in rainfall but the drought during that period overshadowed all other factors affecting employment opportunities in the labour exporting regions.

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CHAPTER III

SUDAN'S POPULATION AND MANPOWER RESOURCES

According to the results of the 1955-56 census, the population of the Sudan totalled 10.2 millions. The 1973 census recorded a total of 14.6 millions, an increase of approximately 4.1 million or a gross rate of increase of 2.14 per cent per annum for the intervening 18 years period. This is a high growth rate in absolute terms but even more so on comparative ones. The average annual rate of population increase for the period between 1950 and 1970 was 1.7 per cent for neighbouring Ethiopia, 1.8 per cent for the Republic of Central Africa and 2.3 per cent for Egypt.(1)

Since external migration was negligible during the intercensal period, the growth was a result of natural increase. Increasing medical care and the spread of hygiene since independence, have brought about substantial reductions in crude death rates while birth rates have shown little variation. There is still more scope for a further reduction of the crude death rate. The recorded level of 18.4 per 1000 is higher than that of many developing countries where rates of 10 per 1000 are recorded.(2) If the crude birth rate stays at or near its current level of 48-9 per thousand and the death rate continues to decline, then even a higher rate of increase will ensue.

While the overall population growth is high, considerable variation is noted among the country's nine provinces (table 3.1) and between rural and urban areas. The highest rate of population

TABLE 3:1

Population Growth by Province

Province	Population 1955/56 (000)	Population 1970/73 (000)	Annual Growth Rate
Darfur	1329	2818	2.8
Kordofan	1762	2203	1.3
Khartoum	505	1150	4.8
Blue Nile	2070	3804	3.5
Kassala	941	1572	3.0
Northern	873	964	0.65
Equatoria	903	758	-0.10
BahrElgazal	991	1388	2.0
Upper Nile	889	799	-0.62
Total	10263	14819	2.14

Source: Sudan Second Population Census, Vol. I, 1973, page 1.

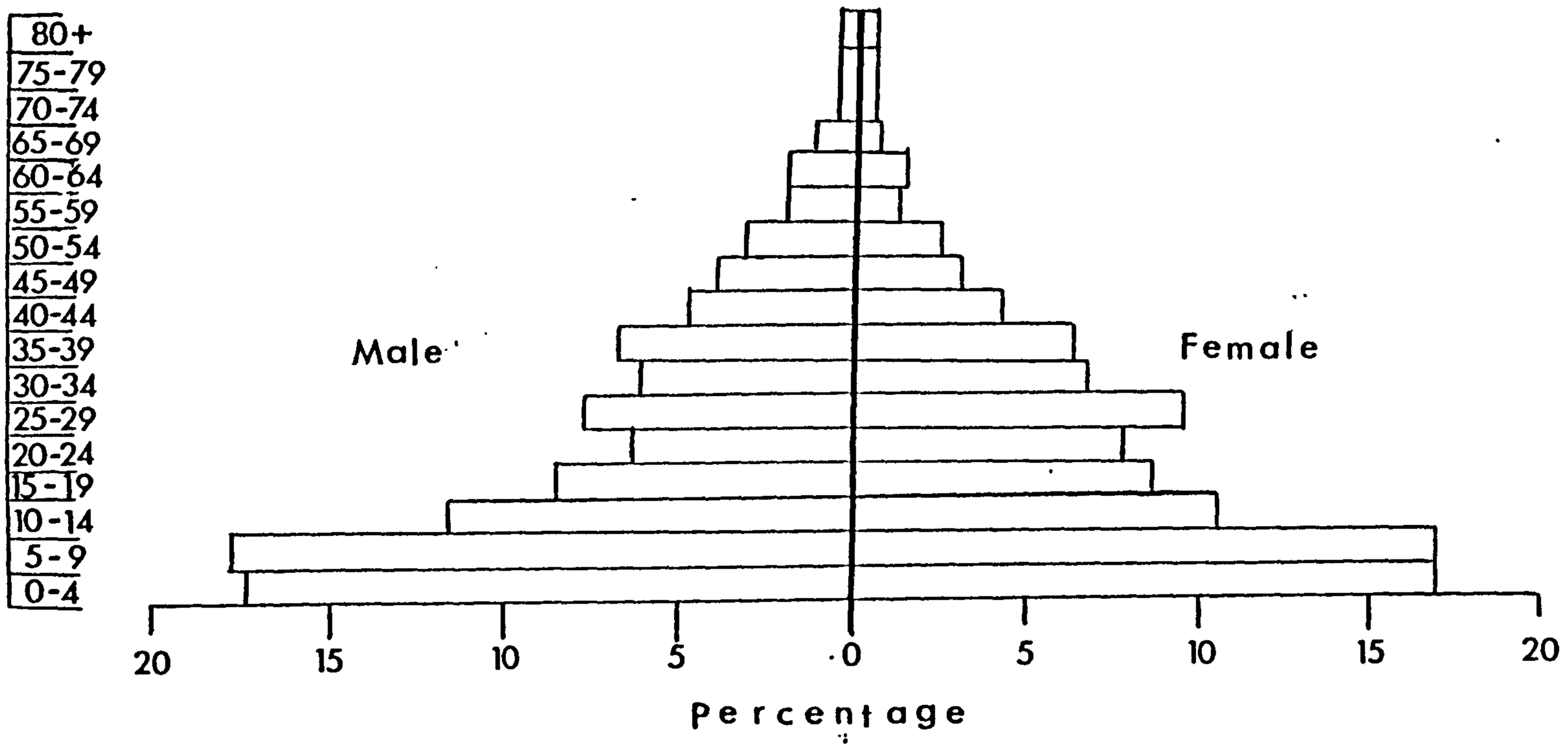
growth, recorded in Khartoum, Blue Nile and Kassala Provinces is mainly due to the high immigration rate of these developed provinces. The distinct decline of population in the Southern provinces can be blamed on political unrest and the consequent migration of Southerners to neighbouring African states. The urban growth rate, (7.4 per cent annually) contrasts with the rural area's low growth of 1.5 per cent per annum. The disparity here reflects the pronounced pattern of rural migration to the principle urban centres in the more developed provinces, notably in the Three Towns in Khartoum province.

The data on sex and age may have been distorted to some extent by errors of under-enumeration and misreporting of age, especially in the rural areas where births and deaths are rarely if ever registered. Nevertheless figure 3.1 reveals the main characteristics of the country's population. Like most developing countries where population growth is rapid, the most important characteristic is its extreme youthfulness. Forty six per cent of the population are under 15 years of age, well over half the population are under 20 years of age and more than two-thirds are under 30. Urban populations have a distinctly older structure with only 40.8 per cent below 15 while the proportion of adult male above the national average is a sure sign of migration to towns.

It is also apparent that males outnumber females in every age group except the 15-34 one. This predominance of males may be attributed to the fact that in a strongly Moslem Society, there is under-enumeration of females, but this is hardly likely to be a

Fig. 3:1

Population Pyramid Chart, (Sudan).



Source: Second Population Census 1973

total explanation; that must be sought at least partly in the higher survival rate of boys which itself is a reflection of the tendency of Moslems to favour males. The high sex ratio of 118 males to 100 females observed in urban areas corroborates the male selectivity of the migration process.

Human Resources:

The first complete count of the labour force was made in the 1955-56 census which estimated that 46.2 per cent of the population aged 5 years and over were engaged in a main occupation and a further 13.6 per cent had a subsidiary one as well. Thus about 4.9 million people over the age of 5 were economically active. This definition excludes all main occupations considered 'unproductive' such as that of housewives or students as well as the unemployed. However, in many cases housewives and students can be highly productive, when for example students help their families during holidays or when housewives provide a major part of the agricultural labour force particularly in family operated subsistence units when the husband migrates to obtain seasonal wage employment.(3)

Other sources of labour information are the 1964-65 population and housing survey and the 1973 census. The data in table 3.2 reflect marked trends in participation in the labour force for both males and females. Male labour participation apparently dropped (from 66.7 per cent in 1955 to 52.5 per cent in 1964 and 47.1 per cent in 1974). However, differences in coverage, age limits and the definition of economic activity adopted by different surveys would

TABLE 3:2

Labour Participation Rates in Main Surveys

Survey	Coverage	Lower age Limit	Male Labour	Female Labour	Both Sexes
1955-56 Census	All	5	66.7	28.7	47.9
1964-65 Population and household survey	Urban North	8	52.5	5.3	30.1
1973 Census	All	15	47.1	11.9	29.6

Sources: 1955-56 Census, 1964-65 Population and Housing Survey; Sudan's Second Population Census, 1973, cited in ILO, Growth Employment and Equity, page 305.

TABLE 3:3

Labour Participation Rates by Sex, Province and mode of living

Province	1964-1965		1973			
	Males	Females	Males Urban	Males Rural	Females Urban	Females Rural
Darfur	90.8	18.7	89.0	90.9	21.9	56.3
Kordofan	90.9	14.8	87.6	95.4	14.5	41.0
Khartoum	85.1	6.3	82.7	83.6	9.9	2.7
Blue Nile	89.9	9.4	86.4	90.7	5.6	10.4
Kassala	90.6	7.1	86.7	91.1	10.2	8.0
Northern	85.4	4.7	80.0	81.6	5.0	2.5
All Northern Provinces	88.2	9.2	84.2	90.7	10.4	27.0

Sources: Population and Housing Survey 1964/65, Sudan Second Population Census, 1973.

appear to explain much of the variation. The 1964-65 household survey defined the economically active population as "all persons of either sex who furnished the supply of labour available for the production of goods and services". The 1973 census on the other hand adopted a more restricted definition than earlier censuses and excluded all those under the age of 15 who in fact may be gainfully employed or engaged in a productive activity. However the extension of school enrolment must also account for part of a real decline for those under 15.

A rural-urban breakdown of the labour force for the six northern provinces is revealing. As table 3.3 shows, male urban participation rates do not differ between provinces, but female participation rates, particularly in rural activities, show a much greater variation. For example many more women in Darfur and Kordofan provinces are working than in the Northern, Kassala and Khartoum provinces. This variation is a reflection of poverty, culture as well as the definition of economic activity as applied to women in official surveys. In the Western provinces for example women do participate in agricultural activities; they are also engaged in marketing cash crops and some are peripatetic traders.(4) The table also reveals that urban activity rates for females are also very much lower than those for rural areas and bare no comparison to male participation. Rates as low as 5 per cent are explained by the fact that women lag behind men in education and training both of which are essential for employment in the modern

sector. Women are also restricted by tradition and customs which have changed little with time.

In common with other developing countries the Sudan is faced with technical problems of definition and measurement. These are well exemplified in the area of gainful employment and cash earnings, particularly in rural areas where it is difficult to define employment and measure the cash value of income, since most peasants consume their own produce. Manpower registration was not known before the establishment of labour offices in the 1960s and those offices manage to give only a broad idea of the employment situation within those towns only. Moreover the unemployed register at employment offices only if they are in real difficulty or have reasonable hope that they can do something. In spite of the Government resolution that all appointments should be made through the employment offices, a large number of people obtain jobs through personal search or contacts. In fact private entrepreneurs such as small industries, business firms and household services prefer unregistered persons who generally accept lower wages.

Census figures, again, are the main source of information on employment. Table 3.4 gives an overview of the distribution by sector from 1955-56 to 1976-77. Agricultural activity is dominant as the main source of employment, but its share declined to 68.5 per cent in 1976. The magnitude of the movement of labour out of farming is also evident in the changes that took place within the modern sector, for the recorded employment in the services,

TABLE 3:4

Industrial Distribution of Labour Force by Sector
1955/66 to 1976/77.

Sector	1955-56		1969-70		1976-77	
	Numbers (000s)	Percen-tage	Numbers (000s)	Percen-tage	Numbers (000s)	Percen-tage
Agr.Livestock & Forestry & Fishing	4154	85.6	2837	69.4	3435	68.5
Industry	248	5.1	136	3.3	185	4.5
Construction	31	0.6	72	1.8	92	1.8
Commerce	100	2.1	193	4.7	245	4.9
Transport	31	0.6	134	3.3	169	3.4
Services	223	4.6	345	10.8	566	11.3
Unskilled and Unclassified	64	1.4	275	6.7	420	5.6
Sudan total	4851	100	4082	100	5112	100

Sources: For 1955/56 First Population Census of the Sudan 1955/56;
For 1969/70 and 1976/77, Manpower in the Sudan

Note: Figures are rounded.

transport and commerce sectors has expanded quickly for the same period. The manufacturing sector did not show a distinct expansion which reflects the slow industrial development.

According to census information, open unemployment was low and continued to be low in spite of urban growth. The 1955-56 census measures unemployment at 1.1 per cent of the labour force, the 1964-65 population and housing survey found unemployment to be 3.5 per cent for the urban areas and 2.9 per cent for the total labour force. The results of the 1973 census yielded a countrywide unemployment rate of 6.5 per cent. Little difference is noticed between rural and urban areas. However wide differences are observed between provinces and age groups. The northern provinces average 3.7 per cent while the Southern provinces show a high unemployment rate of 15.4 per cent, a result of the adverse conditions created by the civil unrest.

Unemployment is high particularly among the young people; around 60 per cent of all unemployed are below 25 years of age. However 66 per cent of the population are below 30, so this is not a disproportionately large figure. The high unemployment in this age group is mainly due to the large number of school leavers that pour into the labour market every year. Despite rapid urban growth due to migration,unemployment rates, according to these figures, remained relatively low suggesting that the labour market has succeeded in absorbing increasing numbers of job seekers or more likely to under-registration and underenumeration.

Data available on income and productivity are generally deficient.

Most surveys have failed to cover the mobile elements of the community and have usually not included the southern provinces. Nevertheless the household budget survey carried out in 1967/68 provides valuable information of the level and distribution of income in the Northern provinces. As table 3.5 shows, nearly 70 per cent of the household earn less than the average for the country as a whole. The greatest disparity in income is found in the urban areas. Here a striking factor is that the average income is in the fifth sextile. Thus the 22 per cent in the sixth sextile must be very rich earning more than 50 per cent of the urban income. The table reveals appreciable difference between urban and rural areas. Urban and semi-urban average incomes are much higher than rural. This disparity is considered as a major factor behind rural-urban migration and it will be discussed in more detail in the following chapter.

Urbanisation

Urbanisation has not been entirely a modern development in tropical Africa, as some of the oldest towns in Africa are known to have developed in the Sudan belt. In the northern Sudan urban centres flourished long before European contact. In fact after the Arabization and Islamization of the northern part of the country, commerce and trade flourished and commercial bonds became well established through the caravan routes. Access to different parts of the country created the potential for new and expanded towns along the caravan routes with commerce and administration as the the two main functions. A similar pattern is also observed in West

TABLE 3:5

Distribution of Households according to annual income and mode of living

(Northern Provinces)

Annual income groups	Urban areas	Semi-urban areas	Rural areas	All areas
Less than LS 100	3.8	15.5	34.2	30.7
100 to 200	24.4	34.0	-47.7	-42.9
200 to 300	25.1	-22.3	-11.1	13.4
300 to 400	14.8	11.8	4.3	5.8
400 to 500	9.7	5.8	1.4	2.7
More than 500	22.2	10.6	1.3	4.5
Average annual income in £s)	411	270	148	189

Source: Household budget survey for the Sudan, cited in ILO, Growth, Employment and Equity, page 504.

Africa where several of today's cities have been in existence for centuries, developing mainly on the trade routes from the Saharan countries to the South.(5)

However the present pattern and conditions of urbanisation owe much to the colonial period. With the introduction of modern means of transport and the beginning of the cash economy since the early years of the colonial rule, the social and economic modernisation of the country was underway. The Anglo-Egyptian occupation led to the creation of new centres as well as the development of old towns. The building of towns and the provision of urban services did not assume its true dimensions until after the end of the Second World War.(6) In the post war period considerable progress was made in improving the infrastructure, increasing the area under irrigation and developing small-scale light industry. These measures plus the improvement of communications have stimulated rural-urban migration and urban growth. Reference has already been made to the fact that one of the main causes of migration is the existing rural-urban economic and social imbalance. While urban areas receive the major proportion of development projects, rural areas are left to stagnate. Thus inhabitants of those economically depressed areas will be compelled to engage in the rural exodus.

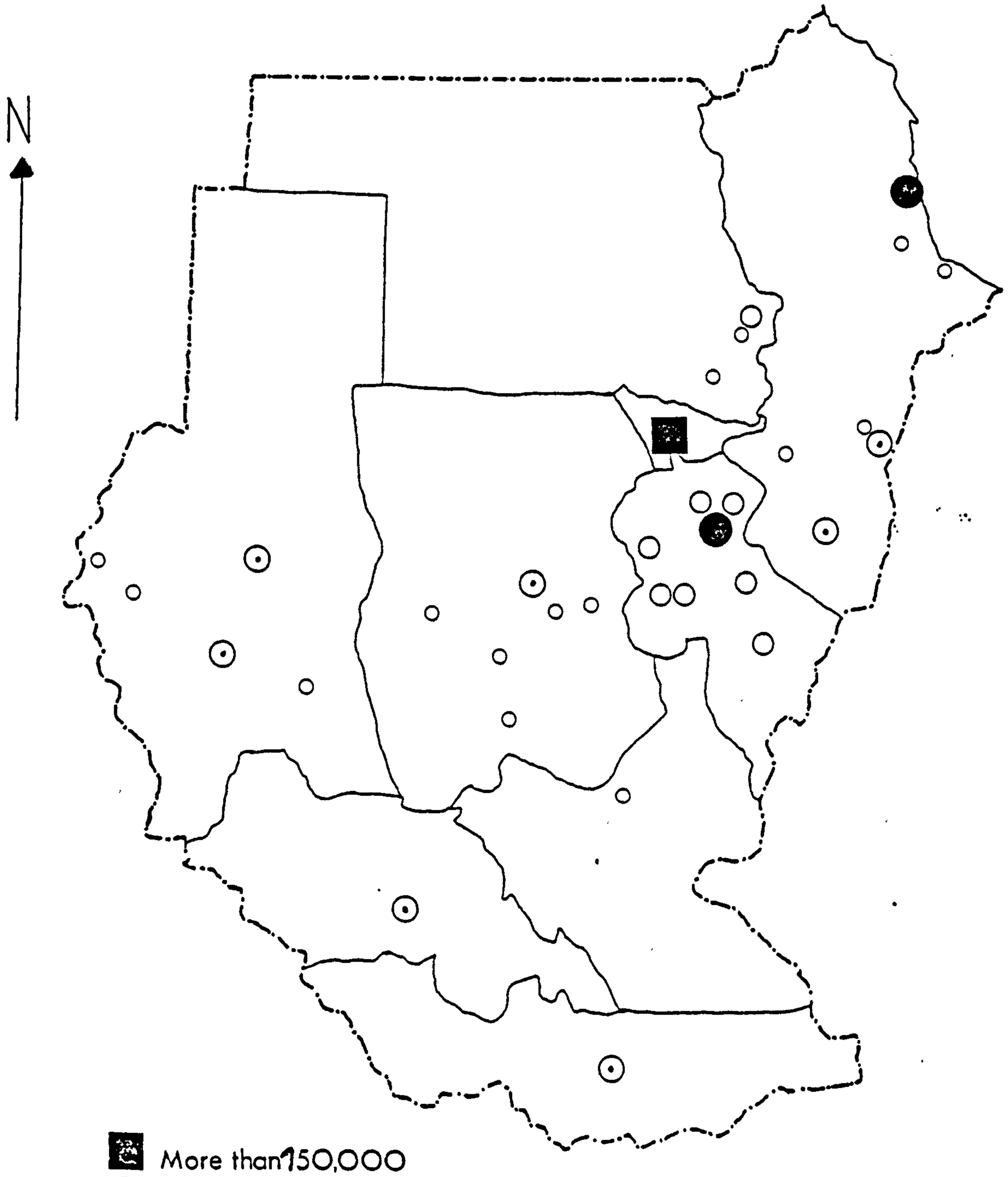
The first statistics revealing the level of urbanization in the Sudan are available in the 1955-56 census, when 8 per cent of the total population were found to be living in urban areas. The 1973 census showed that out of a total population of about 14.6 million,

only 13 per cent lived in 111 towns. This means that the Sudan is one of the least urbanised countries in Africa. Moreover the majority of the urban centres are rather small, providing a limited range of urban functions, mainly commercial and administrative. More than half of the urban areas have a population of less than 10 thousand people. Only five cities, namely the Three Towns, Medani and Port Sudan have exceeded the 100 thousand mark and together they account for about 39 per cent of the urban dwellers. With a population of almost 800 thousand Greater Khartoum is by far the most significant urban centre of the country. In addition to their demographic importance, the Three Town dominate the Sudan's landscape politically, socially and economically.

The urban sector is not only dominated by a few major cities but the urban infrastructure is highly concentrated. The two most important zones of urban population are the central mainlands and the Nile corridor where development projects are proceeding (map 3.1). Outside this belt of relatively high urbanisation, urban centres exist only at a few isolated points in the rest of the country. For example each of the three southern provinces has only one urban centre - map 3.1.

The extent of urbanisation also varies from one province to another as table 3.6 shows. Only Khartoum, Kassala provinces have urban population percentage higher than the national average. The other provinces fall far below and the percentage in the southern provinces is exceedingly low. In these provinces urbanisation as a

Map 3:1 Major urban centes 1973.



More than 150,000
100,000-150,000
50,000-100,000
20,000-50,000
Less than 20,000

400
kms

Source: Compiled from 1973 Census.

way of life was not known prior to the establishment of the Anglo-Egyptian rule.(7) As no significant development schemes were established throughout the period of foreign rule except for the Zande Scheme, the region continued to be dominated by subsistence economies. Thus little urbanisation expansion occurred during that period. Moreover after Independence the area was in a state of civil war which made it impossible to implement any economic projects and the prolonged period of unrest has forced a large number of people to take refuge in towns particularly Juba, Wau and Malakal. Recently, as a result of the peace settlement between the Government and the Southern leaders, more people both from within the Southern provinces and from neighbouring countries poured into towns. Thus urbanization in the South came only really after independence.

Table 3:6 also demonstrates the high degree of urban population concentration in the province of Khartoum. Although the province is the least populated in absolute terms, it has the highest urban population concentration and in 1973 about 30 per cent of all urban inhabitants lived in this province. Fig. 3.2 shows the population growth of the province for the period between the two censuses. Urban population has almost tripled in the period between the two censuses while the rural population has Stagnated.

Three main factors have been responsible for the growth of the Sudan's urban population. Firstly, the total population has grown rapidly through natural increase. This growth has occurred in all regions and affected all population groups in rural as well as in urban areas. Secondly, rural-urban migration has contributed greatly to urban growth, particularly after independence. The third factor

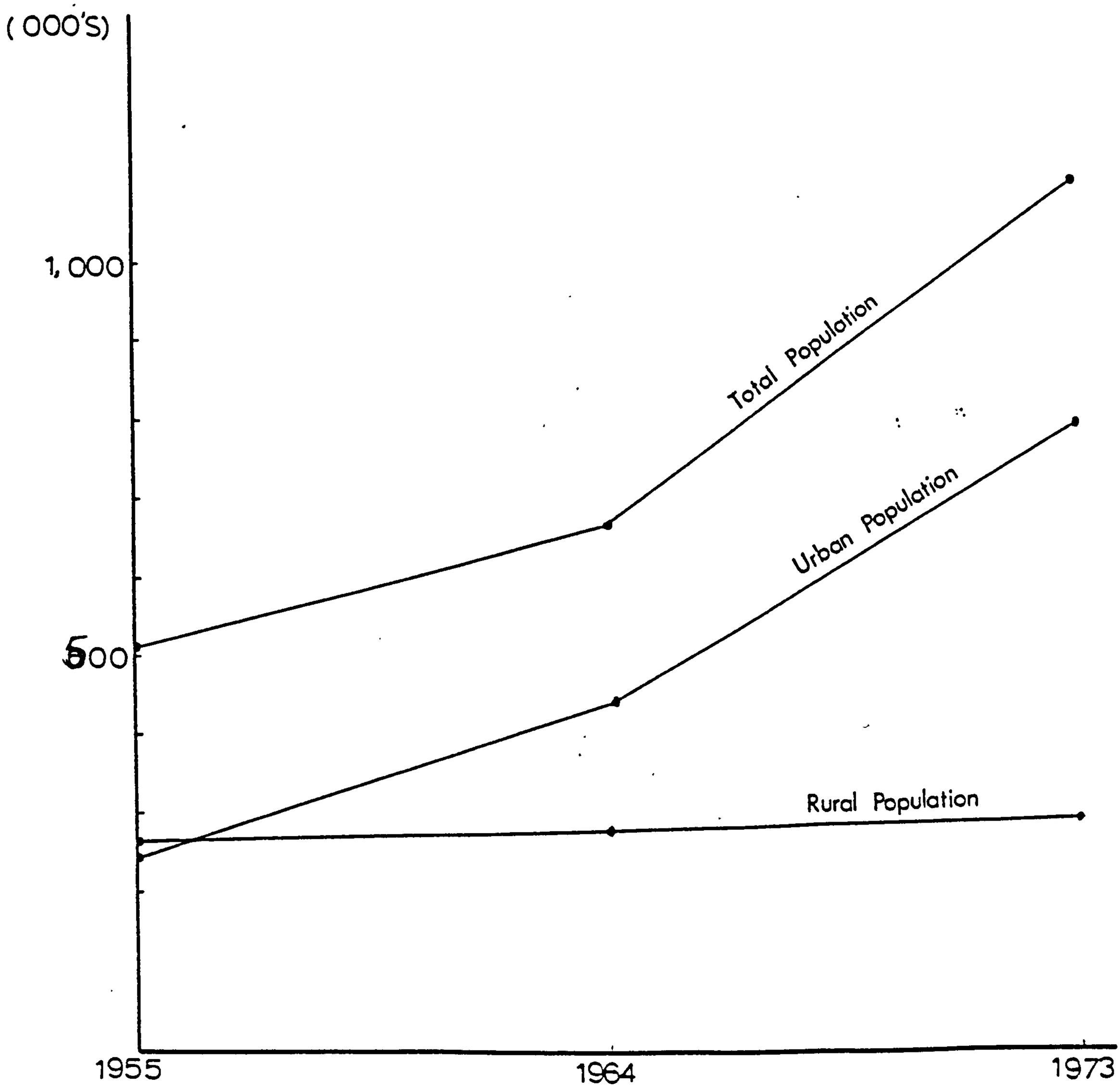
TABLE 3:6

Urban population as a percentage of total population by Province.

Province	1955-56	1973	Average Annual percent growth rate
Darfur	4.03	9.08	7.10
Kordofan	6.56	12.82	4.85
Khartoum	50.38	71.58	6.67
Blue Nile	14.27	6.95	7.49
Kassala	15.86	21.81	6.85
Northern	10.09	18.53	4.00
Equatoria	2.45	18.40	9.80
BahrElGazal	9.09	1.75	10.71
Upper Nile	1.09	4.59	6.8
Sudan	8.32	18.46	6.53

Source: Sudan Second Population Census 1973, Vol. IV, page 1.

Fig 3:2 The Growth of the Urban and Rural Population of Khartoum Province, 1955-1973..



Source: Second Population Census, 1973

is administrative reclassification, particularly in the case of the Three Towns. Residents in surrounding villages and small towns are continually trying and in most cases succeeding, in being considered as part of the city so to gain access to urban services and amenities.

To conclude, census results show that urbanisation in the Sudan is modest and that much of the urban population is concentrated in a few comparatively large towns. Vast areas of the country, even entire provinces, are still remote from any important centre. Khartoum has an exceptionally high rate of urban growth and this dominance is expected to continue, thus contributing to further population increases, mainly through migration.

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CHAPTER IV

MIGRATION PARAMETERS OF THE SUDAN

National Migration Pattern

Migration is a necessary element of normal population adjustment and equilibrium. Within the Sudan, like most other countries, some areas have higher fertility rates than others; likewise some have expanding employment opportunities, while others are stagnant or declining. Migration is the predominant force in dictating the redistribution of human resources in response to changing relative opportunities among regions. As Bogue[1] observed, every region and every country that has undergone industrial development has simultaneously undergone a redistribution of its population. The Sudan, now experiencing technological change in the form of capital investment in new industrial plants, large scale irrigation schemes and other facilities responsible for the production of goods or services, all of which provide new employment opportunities, is subjected to the same migration experience.[2]

Internal migrations are not new but the scale of displacement and the role played by the rural exodus is. The high degree of mobility in the Sudan is revealed by the 1955-56 census which reported that about half the population were enumerated in villages, towns or districts other than the locality in which they were born. However, 93 per cent of those were born in another locality within the province of their birth, thus suggesting that most of the migration

is short distance. The relatively small amount of interprovincial migration is explained by the large area of most of the provinces, inadequate and inefficient transport and communications and the diversity in culture between different regions, particularly between the north and south. However, it must be noted that not all intra-provincial movements are short distances, because a movement between two localities within the same region could cover a longer distance than an interprovincial one. Furthermore the estimates of the 1973 census show a significant growth of interprovincial migration. Whereas in 1956 3.9 per cent of the Sudanese population lived in provinces other than that of birth, in 1973 the proportion had risen to 8 per cent.

Here a spatial interaction model of interprovincial migration in the Sudan is developed. The analysis of internal migration will be undertaken in the context of existing records of (life time) migration as shown by data on province of birth and province of enumeration, provided by the two major population censuses. However, data are not detailed enough to enable a more rigorous analysis, since there is no way of knowing whether the movement from place of birth to place of census enumeration took place in one or several steps, nor is there any indication given of the time when individual movements were made. Moreover, in the Sudan there are some traditions that make the place of birth a mere accident. A high percentage of Sudanese wives return to their father's home to bear the first and often the second and subsequent children. This

tradition gives rise to some false migrations as measured from place of birth. Moreover in the Sudan enumerators only collect data from heads of households who may not be aware of all the birth places of the members staying with them, so that unintentional mis-statements arise.

Although interprovincial migration as a factor of population is not very high, inhabitants of some provinces were more inclined to move than others (table 4:1, map 4:1). Six provinces have gained through life time migration. Of these Khartoum, Blue Nile and Kassala have received the highest number of in-migrants and together they account for almost two-thirds of the interprovincial migration. This trend accords with expectation since the three provinces are the most developed and urbanized areas of the country. However the net gain scored by Kassala province had been inflated by an element of non-voluntary in-migration. The construction of the High Dam near Aswan in Egypt entailed the flooding of the Wadi Halfa District, thus forcing the inhabitants to evacuate the area and they were eventually resettled in Khasm ElGirba in Kassala province. Equatoria province's insignificant net gain was of less than ten thousand, as befits a much poorer area.

At the other extreme Kordofan, Darfur, and Northern emerge as regions with high levels of net out-migration. A distinction can be made within this group for Kordofan and Northern provinces are characterised by a much above average number of out moves per thousand population, while Bahr ElGhazal is below (Fig. 4:1). This again

TABLE 4:1

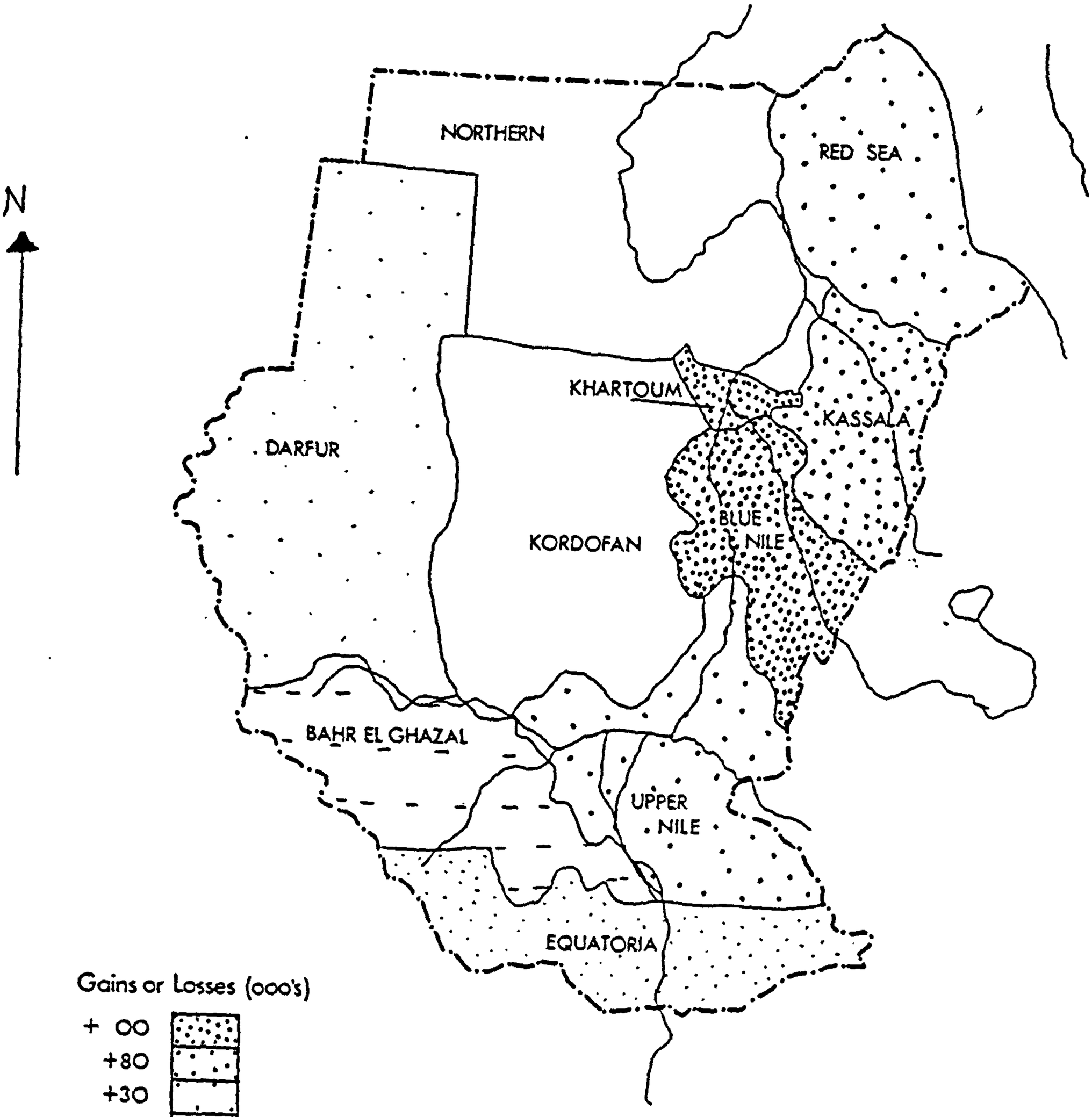
Inter-Provincial Migration (1973)

Province	Resident Population	Migration			Turnover* Rate per 1000
		IN	OUT	NET	
Red Sea	459365	60267	26437	+ 33830	189
Bahr El Ghazal	1387842	17026	36110	- 19084	38
Blue Nile	3804400	352212	142215	+209997	130
Darfur	2180570	45573	237153	-191580	130
Equatoria	758412	33204	23948	+ 9256	75
Kassala	1112886	127317	42850	+ 84467	152
Khartoum	1150397	363924	69933	+239991	377
Kordofan	2202977	86124	319390	-233266	184
Northern	963609	36123	263618	-227495	311
Upper Nile	798800	69683	29799	+ 39884	124
TOTAL	14819258	1191453	1191543	-	-

Source: Sudan Second Population census, Vol. I, 1973.

* Turnover rate= $\frac{M + M_i}{N}$ where M = Migrants from Province to all other provinces, M_i = Migrants to province from all other provinces, N = Total population of province.

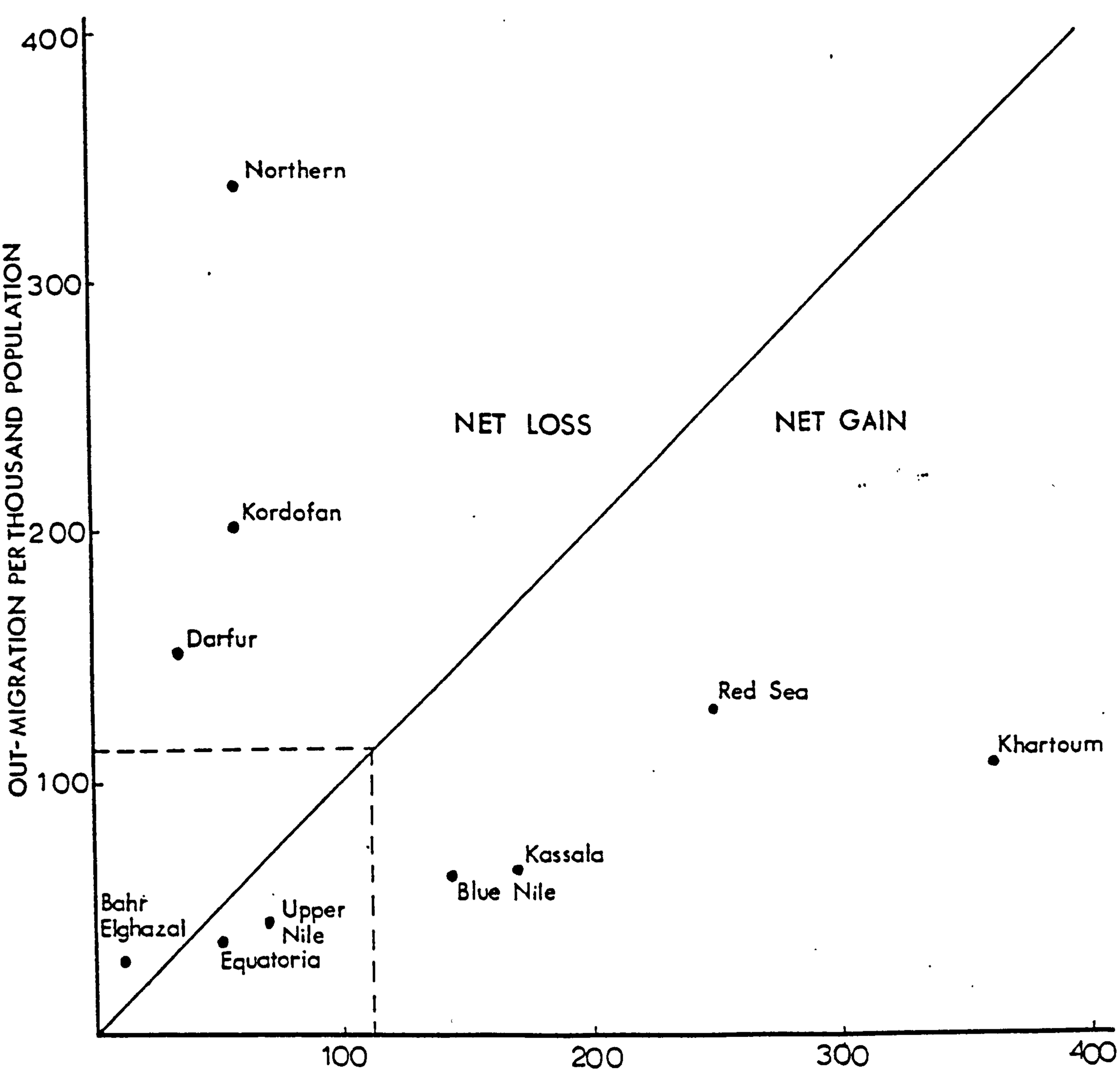
Map 4:1 Net Population Change Through Migration



Compiled from 1973 Census

Fig 4:1 In-migration and Out-migration.

Rates per 1000 population by province.



Source: Compiled from 1973 Census.
Note. Red Sea Province and Kassala Province boundary changes in 1973.

can be seen as a function of remoteness from the central part of the Sudan.

A better understanding of these variations and the intensity of interprovincial migration can be achieved by looking at the turnover rates. Unlike net migration, turnover rate is intended to measure the total number of moves across the border of each province in relation to its total population. It is measured by the following formula:(3)

$$\text{Turnover} = \frac{M + M_i}{N} \times 100$$

where M = Migrants from province to all other provinces

M_i = Migrants to province from all other provinces

N = Total population of province

The turnover rates of the ten provinces are included in table 4:1 and represented graphically in figure 4:2. A different picture of migration emerges with these relative indices. Khartoum and Northern provinces dominate with a turnover rate of 377 and 311 moves per thousand population respectively. This result is significant considering that Khartoum has recorded the highest absolute net migration gain while the Northern province have scored the highest net absolute loss. Thus the turnover rate highlights the intensity of movement into the former and the intensity of out-migration from the latter.

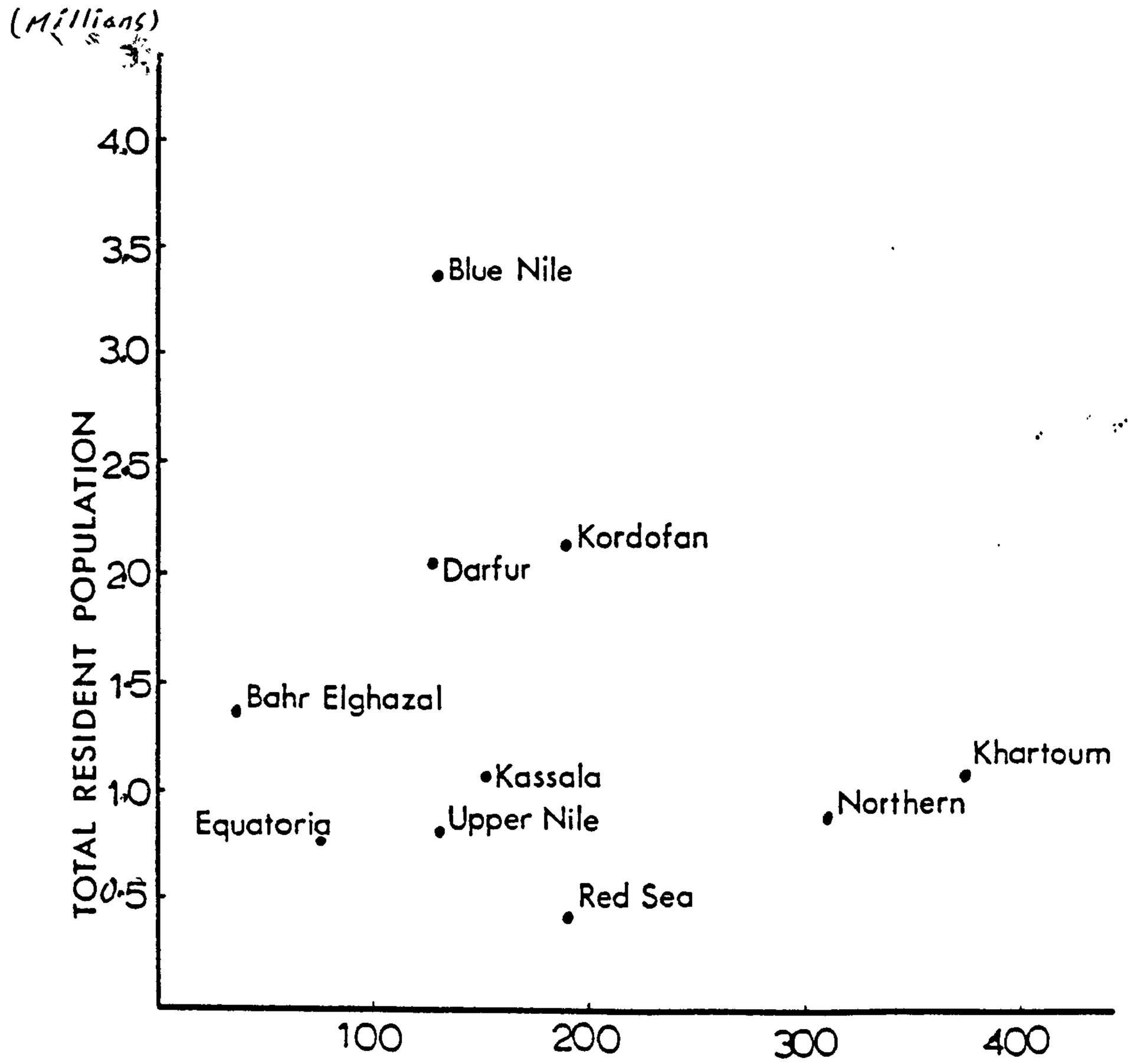
The lowest turnover was observed for the southern provinces, particularly Bahr El Ghazal which recorded only thirty eight moves. This shows a level of mobility far below the national average.

Lying between these two classes are the rest of provinces for which the turnover rate varies between 180 and 139. The unexpected lower turnover rate of the Blue Nile is largely due to its large population size.

Thus when the population size is taken into account the results do not resemble those observed for the pattern of net migration. It is important to note that this phenomenon is not in line with findings of similar studies in other African countries. For example, Masser[4] and Ohadike[5] who examined internal migration in Uganda and Zambia respectively observed strong resemblances between net migration patterns and turnover rates. In the Sudan, as can be seen from fig. 4:2, there is a weak correlation between turnover and population size. This may be a result of the fact that in some provinces, particularly Kordofan and Blue Nile, the population size is swollen by the presence of a large number of nomads who are not considered as part of inter-provincial migration. Moreover, it is important to note that intermittent cotton pickers in the case of the Blue Nile are not enumerated as migrants.

An important aspect of internal migration is the direction of flows and counterflows across boundaries. In studying this phenomenon Ravenstein[6] observed that migration tends to take place largely within well defined streams and a counterstream develops for each migration stream. Internal migration in the Sudan is basically labour migration and migrants often return home to settle or visit and this in itself is a source of a counter-stream. In addition, planned

Fig 4:2 Relationship between Turnover rate and total population.



Source: 1973 Census.

strategies have succeeded, although to a limited extent, in decentralising investment and administration. These measures are also a prime factor in generating streams and counterstreams. Thus unless people migrate and totally terminate connections with their respective places of origin or unless the Government fails to decentralise and take into account regional development priorities, it can hardly be expected that counterstream movements will not be generated.

From table 4:2 it can be seen that a direct correspondence between life-time in-migration and out-migration is observed in the three southern provinces, as the streams and counterstreams are nearly equal. For example in 1956 Equatoria province attracted 10 thousand migrants and lost 9 thousand. In 1973 the contribution of the three southern provinces to either out-migration or in-migration followed more or less in the previous trend, although Upper Nile has increased its proportion of in-migrants while Equatoria's share declined.

On the other hand in the Northern provinces, although streams do generate counterstreams, they are by no means equal, the dominant movement being from the North-Western provinces to the North-East. Khartoum absorbed only 30 per cent of the total in-migrants but contributed even fewer, 5.8 per cent of the out-migrants. By contrast the Northern province in which 22 per cent of all out-migrants were born, attracted only 3 per cent of all in-migrants.

TABLE 4:2

Provincial Streams and Counterstreams*

Province	1973		1955-56	
	Streams as % of total	Counterstreams as % of total	Streams as % of total	Counterstreams as % of total
Red Sea	5.05	2.22	N.A.	N.A. ≠
Bahr Elghazal	1.4	3.03	2.50	4.25
Blue Nile	29.56	11.94	30.75	12.75
Darfur	3.82	19.90	5.5	18.00
Equatoria	2.79	2.00	2.25	2.25
Kassala	10.69	3.60	17.75	4.5
Khartoum	30.55	5.87	25.00	10.25
Kordofan	7.23	26.81	10.25	16.25
Northern	3.03	22.13	3.75	29.00
Upper Nile	5.85	2.50	2.75	2.50
Total	100.0	100.0	100.0	100.0

*A stream is a group of Migrants having a common origin and destination in a given migration period.

≠ counterstream is the movement in the opposite direction.

N.A. Not available.

Sources: Sudan's first population census 1955/56 and

Sudan's second population census 1973.

Comparison of the 1955 and 1973 census results also shows that the direction of movement tends to be fairly constant. Provinces that lost population in 1955/56 did so in 1973 and vice versa, such as Khartoum and Blue province's net gains in 1955/56 and in the 18 year period between the two censuses. The only province that experienced a decline in its in-migrant share was Kassala province. This is undoubtedly a result of its division into two provinces rather than an outcome of change in the pattern of migration.

Not only did migration flows to the eastern provinces accelerate during the intercensal period and their proportional share of in-migration increase but also they tended to loose fewer people. This trend is verified by a Spearman rank correlation coefficient of rs = 0.55 in 1955/56 which indicated that there was a tendency for a province with large in-migration also to have a large out-migration stream. However by 1973 this positive correlation declined to a co-efficient of 0.22. This implies that Khartoum, Blue Nile and Kassala have increased their role as poles of attraction at the same time that they were loosing fewer people. Similarly, provinces that were unattractive and lost population in 1955/56 fared even worse in 1973.

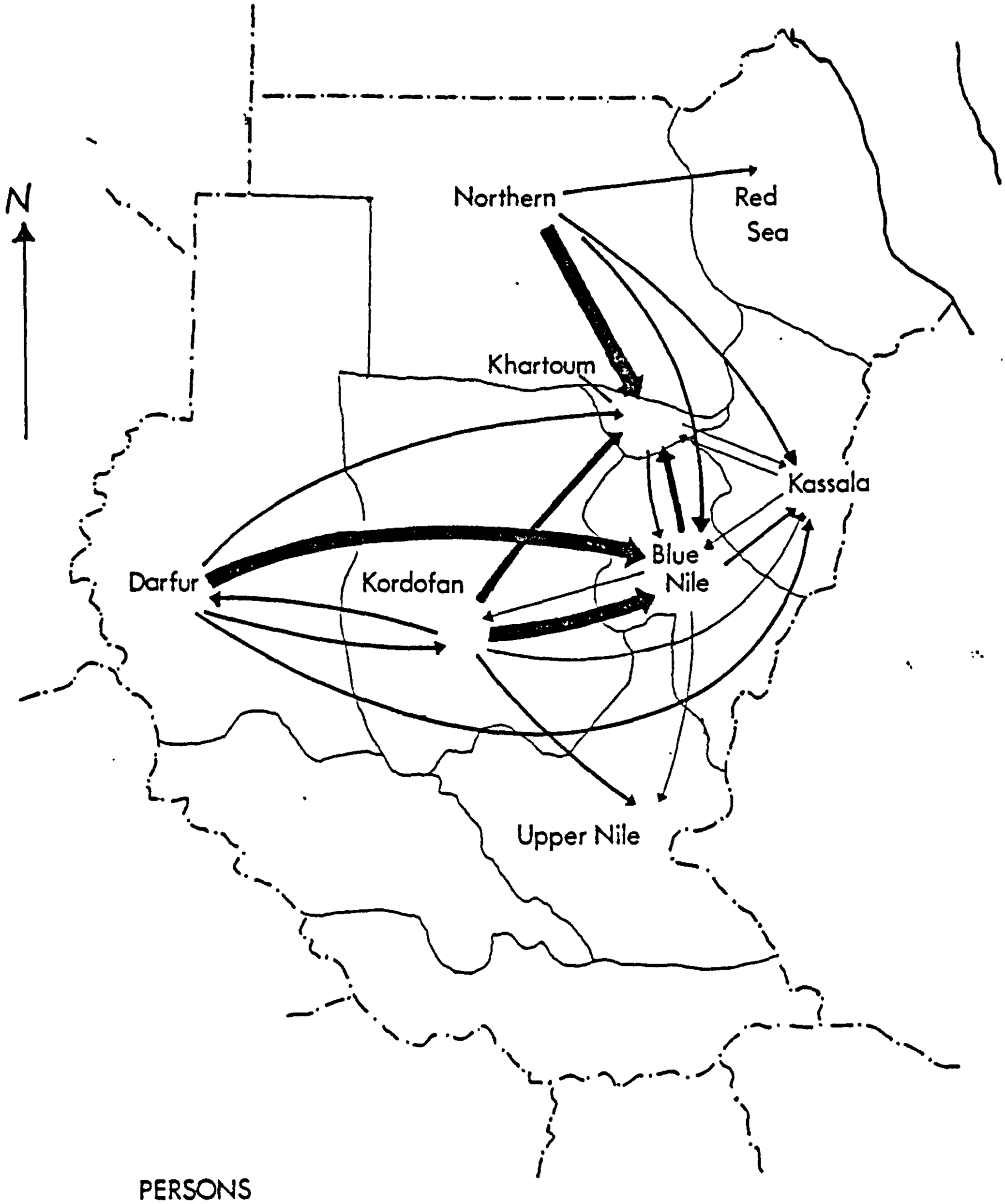
Additional insight can be gained by examining the spatial pattern of flows and counter-flows (appendix 3). Massive differences are observed, with almost one-third of all movement between provinces being accounted for by only three streams, each of which has over 100 thousand people. Only two flows fall between 50 thousand and 100 thousand

and 17 flows lie between 10 thousand and 50 thousand, leaving 69 even smaller flows. Thus the general spatial pattern of migration is dominated by a relatively small number of large flows which is brought out clearly in map 4:2. Blue Nile, Khartoum and Kassala provinces can be singled out as poles of attraction, while Kordofan, Northern and Darfur are the dominant sources of migrants. The largest flows were from the latter (Kordofan and Darfur) to the former (Blue Nile) and in particular from the Northern province to Khartoum. Moreover the two flows of over 50 thousand are from Kordofan and Darfur to Blue Nile. All these flows, with the exception of that from Blue Nile to Khartoum, are long distance. Once again this reflects the impact of the imbalance in economic development between regions, the contrast between agricultural development, and the absence of agricultural schemes in the West and North.

In contrast to the large flows which were predominantly unidirectional, the smaller flows appear to be more localised, between neighbouring provinces and compensatory in nature. Thus the 22 thousand persons born in Darfur who had moved to Kordofan were balanced by 30 thousand immigrants born in Kordofan, and Khartoum and Kassala exchanged 11 thousand people. These movements are comparatively short distance and may not differ from the mobility within each province.

The map also reveals that there is no significant movement between the Northern and Southern provinces, for such flows represented only 1.2 per cent of the total migration. Moreover, the net balance

Map 4:2 Inter-provincial flows greater than 10 thousands.



PERSONS

100,000 +

50 - 100 (000's)

20 - 50

10 - 20

0 400

kms

Compiled from 1973 Census

was in favour of the Southern provinces which is the opposite of what one might expect considering that the better economic and social conditions prevail in the North. Long distances and poor communications may have contributed to this low level of mobility. Moreover Southern people speak little or no Arabic and nor do many belong to the Islamic faith of the majority of the town dwellers of the Northern provinces. This, the policy of isolating the North from the South, followed by the British Colonial Government, plus the recent civil war, played an important role in retarding the migration of the Southerners to the North.

The only Southern province that attracted a significant flow of people from the North was Upper Nile. The main force behind these streams was the development of mechanised crop schemes which attracted a large number of Northern investors and farmers. Probably contiguity, at least in part, influenced persons from Blue Nile and Kordofan to migrate to Upper Nile. However it is also important to note that the majority of Northerners who move to the South are officials who in most cases, are reluctant to do so, despite the "South Allowance" paid by the Government.

A Migration Model:

Migration and the differential response of the individuals to the need to migrate constitute a complex set of factors; there is no one single variable that can account for the difference in migration behaviour or pattern, but a network of social and economic variables each interacting with one another.

Previous studies of migration in the Sudan lacked adequate explanation for population movements and most of them emphasised the influence of economic disparity between regions on the level and pattern of migration. The underlying hypothesis here is that the magnitude of migration between two provinces is a function of the characteristics of each. Unfortunately the analysis has to be confined to the seven northern provinces due to the absence of adequate data on the southern ones. However, it has been observed that migration between the north and south is very small. The data are derived mainly from the 1973 census as presented in Appendix 3. The methodological approach is that of multiple regression which was used in other recent studies and from which the partial influence of individual variables can be discerned. The equation estimated took the following form:-

$M_{ij} = F(D_{ij}, Y_i, Y_j, U_i, U_j, E_i\ E_j\ P_iP_j)$ where

M_{ij} = the absolute number of persons born in province i and resident in region j

D_{ij} = railway distance in miles between the capital of province i and the capital of province j (with road connection in Dar Fur).

Y_i = Average per capita income in province i

Y_j = Average per capita income in province j

U_i = Proportion of population living in urban centres in province i

U_j = Proportion of population living in urban centres in province j

E_i = proportion of population ten years and over in province i who received some kind of education

E_j = proportion of population ten years and over in province j who received some kind of education

P_i = density of population in province i

P_j = density of population in province j.

It was hypothesised that in isolation the most important variable would be the economic factor. It is assumed that an individual's decision to migrate reflects the differentials in the wage rate between his place of origin and destination. However, so far as the migrant is concerned, it is not the actual inter-regional differences in wages that influence his decision to migrate but rather the income he expects to earn given his background and present occupation.(7) Unfortunately information on wage rate in different provinces is not available. Thus regional per capita income is employed instead. As Beals(8) observed, most migrants seek higher personal income and this income may be closely related to the regional average. Thus it is reasonable to assume that people will tend to move from regions of low per capita income and lower wages to regions where higher per capita income and higher wages prevail. Thus positive regression coefficients will be expected in the income variable at the destination and a negative sign at the origin.

The rank order of income for each province generally supports this assumption. Higher per capita incomes are generally found in the north-eastern provinces while lower per capita incomes are found in the north-west. The range is also considerable; the highest per capita income (518 Sudanese pounds) being in Khartoum province, while the lowest (219 Sudanese pounds) is in Darfur.

Another factor which is expected to affect migration is distance. Distance stands as a proxy for the cost of moving which

is usually considered as made up of money and non-money components.(9) Non-money costs are psychological; the costs to the individual of having to leave familiar surroundings, family and friends. There is no doubt that the frequency of personal interaction (with family and friends) will decline with the distance involved. The money costs are equivalent to the transportation costs. Since there are no data on transportation costs and since such costs are usually roughly proportional to distance, distance moved has been chosen as a proxy for transportation costs as well as psychological costs for which we have no measurable data.

Distance here is measured by the railway route between the administrative capitals of each province. This method of course assumes only one means of transport for migrants and that all migrants start from capitals and go to other capitals. In fact a substantial number of people in the Sudan travel by lorry, but it is very difficult to measure distance travelled by road. However, bearing in mind the large areal units of the Sudan's provinces, these limitations are not so serious as to cause any important bias in the impact of the variable as a deterrent to migration.

The level of urbanization is also likely to play an important part in migration. People are usually attracted to urban areas where job opportunities, wage rates and other social facilities are likely to be better than elsewhere. In the Sudan, town attraction was particularly strong for educated people. Since there was little they could do if they remained in the village or small town.

Urban attraction is now equally strong for the uneducated because of higher wages. Thus the level of urbanization should act as a pull factor in the destination region and a push factor in the origin region. The measure of urbanization in this study is based on the 1973 census definition of an urban centre: "Locations which are statutorily constituted as towns or with population of 5000 or more are considered as urban".

Education is included as an explanatory variable, because educated people are generally more alert to opportunities than others. If this is the case, the larger the number of educated people in a region, the larger the expected number of outmigrants. On the other hand, as Sahota[10] observed in a similar study of internal migration in Brazil, the migration rate is not necessarily higher among educated individuals, for in general higher income regions are also high education regions. Since the educated individual in the origin region has to compete with his counterpart in the destination region, a high level of education at the latter may serve as a deterrent. Thus it is not clear what the effect of education would be. The education variable here is measured as the percentage of people who achieved some level of formal education in each province.

The last variable included is population. The significance of population in generating migration stems from economic imbalance caused by unequal distribution of resources and the lack of correspondence between the distribution of economic development and

population. Thus the size of population may either attract people or serve as a push factor. The push factor may be due to pressure on economic resources. On the other hand more populous regions may pull migrants because of the availability of social and cultural activities and more job opportunities. Migration here is related to density of population rather than size so as to cater for the differences in area between provinces and because in the rural areas, density is a crucial criterion of the carrying capacity of the land.

Log transformations were applied to standardize the basic data. To avoid the problem of multicollinearity, a stepwise regression(11) is used. As table 4:3 shows there is a strong correlation between income and urbanization, income and education and urbanization and education.

The results of the model show that 72 per cent of the variance is explained by the independent variables. Thus the model, in terms of this criteria, provides a fairly satisfactory explanation of internal migration in northern Sudan. It is also of interest to note that these results are generally similar to those obtained in previous studies of this type; for example, Greenwood who used the same variables in his study of internal migration in Egypt found that 75 per cent of the variance was explained by the model.

Table 4:4 shows the coefficient of regression for each variable. The regression coefficient for distance of -0.477 has the expected

TABLE 4:3

Relationship of Selected Variables

Variables	M_{ij}	P_i	P_j	U_i	U_j	E_i	E_j	Y_i	Y_j	D_{ij}
* M_{ij}	-									
P_i	0.026	-								
P_j	0.585	-0.169	-							
U_i	-0.323	0.361	-0.061	-						
U_j	0.318	-0.063	0.360	-0.166	-					
E_i	-0.250	0.440	-0.072	0.796	-0.132	-				
E_j	0.379	-0.075	0.437	-0.132	0.796	-0.166	-			
Y_i	-0.168	0.643	-0.107	0.890	-0.148	0.085	-0.147	-		
Y_j	0.476	-0.110	0.642	-0.148	0.890	-0.147	0.885	-0.166	-	
D_{ij}	-0.529	-0.321	-0.321	-0.261	-0.2611	-0.360	-0.359	-0.413	-0.412	-

(M_{ij}) = Migration
(P_iP_j) = Population
(U_iU_j) = Urbanization
(E_iE_j) = Education
(Y_iY_j) = Income
(D_{ij}) = Distance

TABLE 4:4

Sudanese Inter-regional Migration - Logarithmic Regression Coefficients

Variable	Regression Coefficient
D_{ij}	- 0.477
Y_i	0.928
Y_j	- 0.354
U_i	- 0.767
U_j	0.186
E_i	- 0.550
E_j	0.064
P_i	- 0.133
P_j	0.554
R_2	0.715
Degree of freedom	240

Significant at .01 level

sign and is significant. This suggests that the variable serves as an acceptable proxy both for the economic costs of moving and for other psychic costs. Since the equation used is in a loglinear form, it implies that a 10 per cent increase in the distance between province i and j results in a 4.77 per cent fall in migration.

However, Greenwood[12] and Beals[13] obtained a considerably higher negative coefficient value for distance -1.06 and -1.41 respectively. Both studies used distance as proxy variable to measure transport as well as cultural and social costs. In the Ghana study distance was measured by the road route between major cities of regions. Since the Sudan is larger in area than either Ghana or Egypt a higher negative coefficient for the Sudan would be expected. Possibly, although distance acts as a deterrent to migration in the Sudan, its impact is not as great as in other African countries.

The parameter's estimate for the income variable have negative signs for the origin and positive for the destination. It appears however that the origin region has a much stronger push with reference to income than does the pull of the destination region. A 10 per cent increase in the origin per capita income would retard migration by 9 per cent. On the other hand a similar increase in the destination per capita income will cause only 3.5 per cent rise in in-migration. This shows that in the Sudan the factors of low income in provinces of origin, created by the imbalance

of economic structure and lack of employment, is perhaps a stronger motivational factor for migration than the pull of higher per capita incomes of other provinces.

The results of urbanization show that the variable does exercise an influence on migration. Migrants are less likely to leave an urbanized area and more likely to move to urban areas. Significantly the effect of urbanization as a deterrent of migration is larger than that of distance. Clearly inhabitants of urbanised areas with better social and economic facilities are reluctant to leave.

For education the coefficient for the origin region has a negative sign and is significant. On the other hand the destination region has a negative sign but is not significant. This suggests that the higher the level of education in the province of origin, the lower the role of outmigration. Thus there is no evidence that education causes migration. Moreover education level at the destination province does not exercise an influence on migration since its coefficient of regression is close to zero. Perhaps because overall educational levels are so low and the measure is crude, that the variable cannot pick up any variance.

The population variable is also significant and has the expected signs. Migrants tend to be attracted to the more populous regions. In provinces of origin the impact of density is not very high. This strengthens our earlier observation that in the Sudan there is no scarcity of land. Thus it seems that it is the

availability of jobs, services and better opportunities in populous areas, has a pull effect on migrants.

Results of the analysis confirm that the spatial interaction model can successfully be used to consider hypotheses and explain migration from census data. However as observed by Thomas[14]: "According to one regression model variations in the dependent variable may be divided into two parts; one part of which is associated or explained by the hypothesized variables, and another part attributed to other factors including chance occurrence." Thus even though a number of variables were included in the analysis, other factors were not and these determine the magnitude of the residual values. The residual from regression for a particular observation is defined as the difference in magnitude between an observed and a predicted value determined only by variables included in the regression.[15]

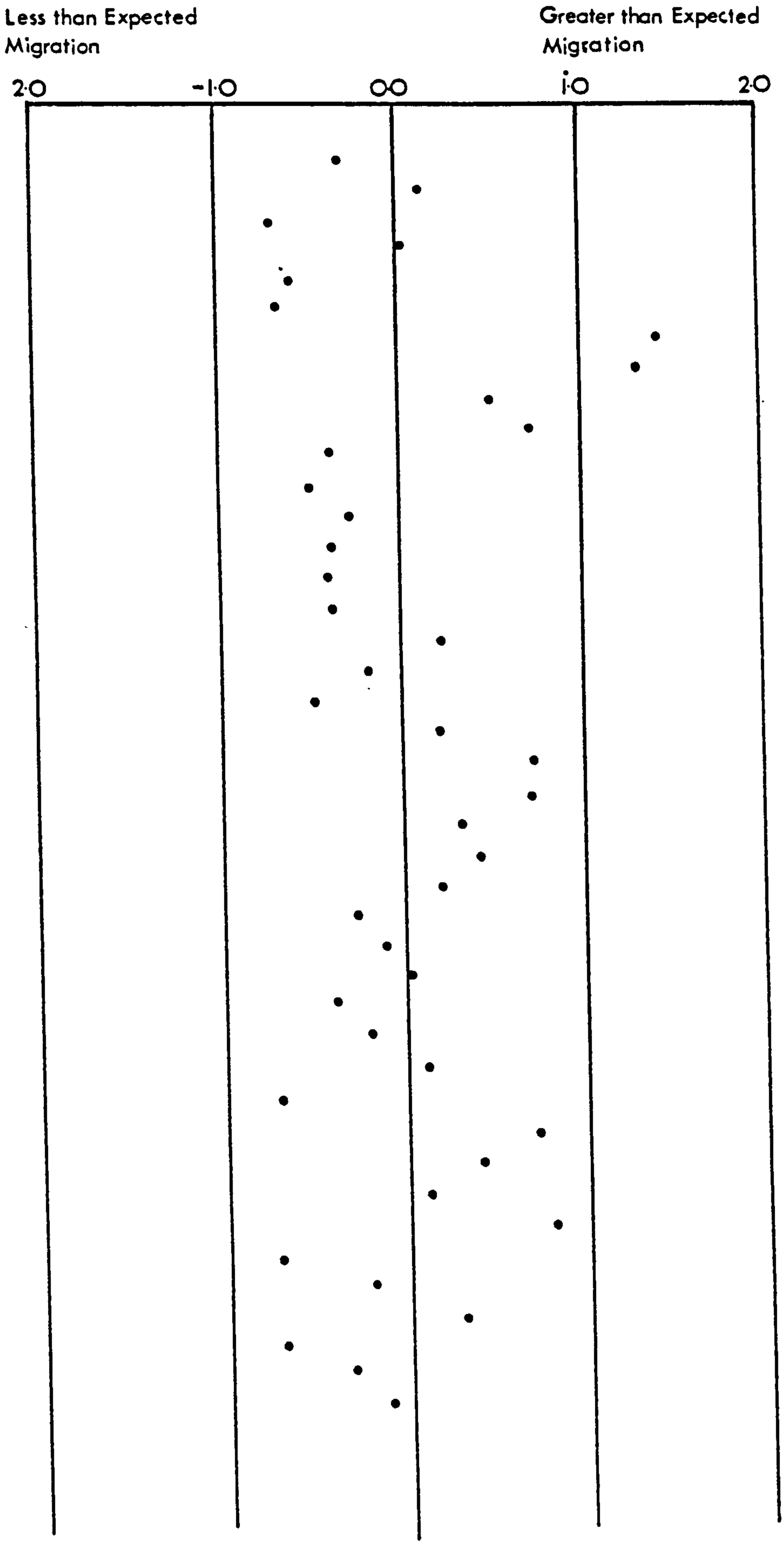
Since the object of the analysis is not to obtain the largest coefficient of determination (R^2), but rather to understand the process of migration, it is important to examine residuals to see whether the assumptions are correct. Only Masser[16] in his analysis of migration in Uganda analysed residuals.

The distribution of standardized residuals* shown in (Fig. 4:3), confirm that the results conform to the assumptions made. There are no positive or negative residuals in excess of 1.5 standard deviation from the mean. This result compares favourably with those obtained

*Standardized residuals are computed by the following formula. $\frac{Y - Y_1}{S_y}$

where: Y = observed value, Y_1 = predicted value, S_y = Standard error of estimate.

Fig 4:3 Plot of Standardized Residuals



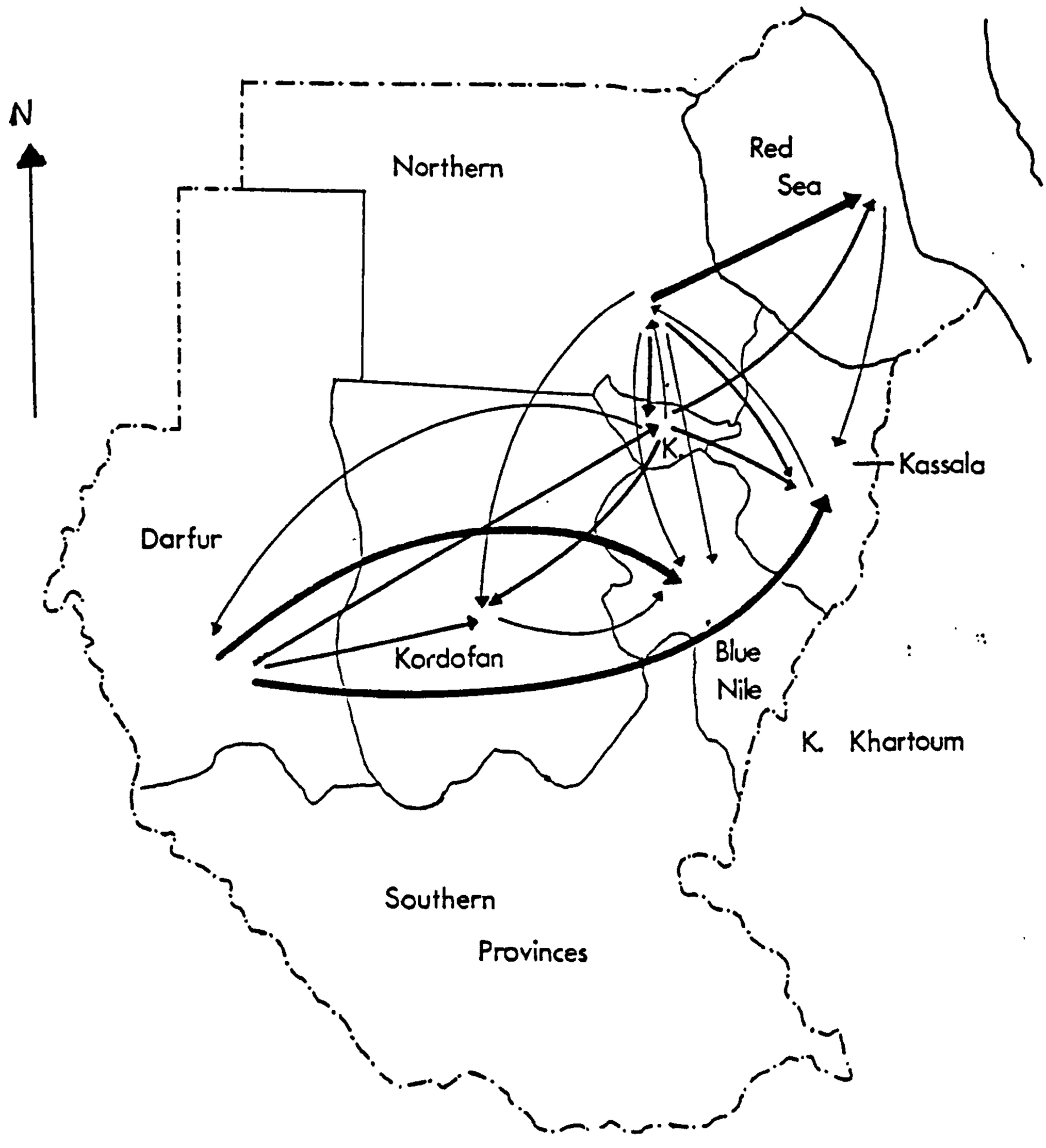
by Masser[17] in his Uganda study, although the latter achieved residuals in excess of 1: 5 standard deviation.

Positive and negative residuals are shown in Maps (43) and (44) respectively. The largest residuals are associated with movement from Darfur to Blue Nile and Kassala Provinces and from the Northern province to the Red Sea. This suggests that there is a tendency to underestimate movement out of Darfur and at the same time underestimate movement into Blue Nile and Kassala. This may be a result of place of birth misreporting - people from Darfur may claim that they were born in the province of residence so as to ensure access to a plot of land - either for farming or for housing. Land is usually allotted to individuals on the basis of the duration of residence in the area under consideration. In the case of the Northern province underestimation of flows to the Red Sea may be due to the recent administrative reclassification of boundries; the Red Sea was part of Kassala province until 1972.

Other positive residuals are associated mainly with the Blue Nile and Kassala provinces. This shows that these two provinces which have the major share of agricultural development in the country, are more attractive to migrants than the estimate shows.

The pattern of negative residuals is associated with the three main losing provinces - Darfur, Kardofan and the Northern province. This pattern suggests that these provinces especially Darfur are unattractive to in-migrants. The map also shows an overestimation of movement from the Red Sea and Blue Nile. In the case of the

Map 4:3 Standardized Positive Residuals.



⟶ Less +0-0·5

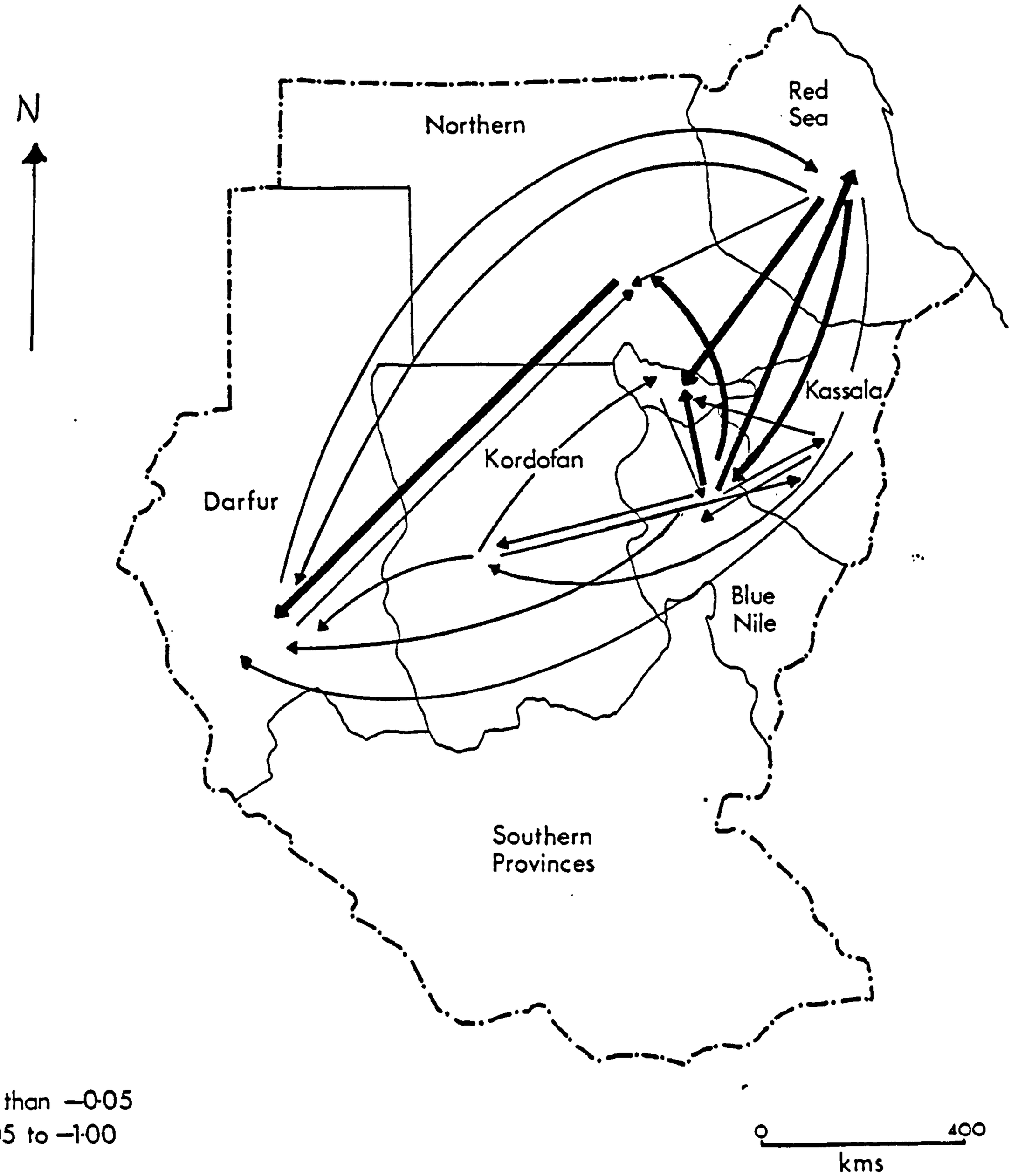
⟶ +0 0·5 — 1·0

⟶ 1·0 to 1·50

0 400

kms

Map 4:4 Standardized Negative Residuals.



the former this may reflect the boundry changes identified above. In the case of Blue Nile the result reinforces our earlier observation that the model underestimates the attractiveness of the province to in-migrants.

The analysis shows that spatial interaction models offer a valuable method for explaining migration. Moreover the model enabled the identification of those characteristics which distinguish internal migration flows in the Sudan from other countries. Most important of these characteristics is the relatively smaller impact of distance as a deterrent to migration. However, the application of such models in under-developed countries is limited by the availability of data in the correct form - in the case of the Sudan this requirement was not completely fulfilled. Thus the analysis was confined to only the Northern part of the country.

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CHAPTER V

MIGRATION PATTERNS AND KHARTOUM

Rural Urban Migration

An important part of population movement is rural-urban migration. Up to 1956 this had not been of great numerical importance in the Sudan. Out of the total Sudanese enumerated at the 1955-56 census in the areas classified as urban only 25 per cent (215 thousand people) reported that they were born in rural areas. On the other hand the census identifies an approximate number of persons in rural areas who were born in urban ones. If the data were accurate, the figure would imply a balanced movement between rural and urban areas.

The comparatively small magnitude of that population shift was in contrast to the large volume of movement between rural areas, especially over short distances. Of all persons enumerated within their province of birth, 52 per cent were living in a different locality. This greater frequency of short range rural migration may result from the Sudanese way of life, of shifting cultivation, nomadism and the continuous search for more productive farmland. Moreover poor transportation facilities, long distances and the lack of industrial development elsewhere creating employment opportunities may have retarded the rural to urban drift during this period.

Nevertheless the 1973 census results revealed a drastic change

in the migration pattern, showing a sharp rise in the amount of rural-urban migration as a percentage of total migration. By 1973 rural-urban movement accounted for 57 per cent of the total migratory incidence compared to 25 per cent in the earlier census. Unfortunately the 1973 census did not publish detailed comparable information on the lifetime migrants; information as to the place of birth was given only as a summary finding.

However using available data it is possible to evaluate the magnitude of change in migration in the province of Khartoum. Since Khartoum has been the main recipient of in-migrants it will provide a good example of the sharp increase in population drift to urban areas.

As table 5:1 shows over the eighteen year period, migration accounted substantially (46.5 per cent) for the increase recorded in the province. Considering the two periods, this volume of migration represented a rapid growth both in absolute and relative terms; 44 thousand and 131 thousand for Khartoum municipality. The same trend applies to Khartoum North and Omdurman. On the other hand during the entire period, 66.2 thousand emigrated (from rural and nomadic) outside the conurbation. Thus migration represents the most important component of population growth in Greater Khartoum. Unfortunately the data do not permit detailed study of the origin of migrants.

The reasons for such a sharp increase in rural-urban drift are many. Most of the recent economic development has been established

Table 5.1.

Demographic Balance of the Population in Khartoum Province 1955-66 - 1966-73.

	Khartoum (000s)	Omdurman (000s)	Khartoum North (000s)	Three Towns (000s)	Remainder of Province (000s)	Total (000s)
1955-56/1966						
Initial population	95.5	116.2	40.2	251.9	253.0	504.9
+ Natural increase	34.0	39.0	16.0	89.0	71.7	160.7
+ Migration	44.0	30.2	23.8	98.0	-50.7	47.3
= Final Population	173.5	185.4	80.0	438.9	274.0	712.9
1966 - 1973						
Initial Population	173.5	185.4	80.0	438.9	274.0	712.9
+ Natural increase	44.1	43.8	22.1	110.0	54.3	164.3
+ Migration	131.5	71.3	48.0	250.8	15.5	253.3
= Final Population	349.1	300.5	150.1	799.7	318.2	1112.5

Source - 1955-56 and 1973 censuses - 1964-66 population and household survey.

in urban centres. The attraction is thus increased due to the expected availability of jobs for those unemployed, higher incomes for those already employed and the general belief that the standard of living can be improved. In the rural areas movement from the land has been caused by a decline in agricultural returns relative to the increasing cost of living and by the lack of employment especially in the rainfed areas. Moreover improvement in educational facilities in rural areas, in transportation and communications has paved the way for additional migration to urban centres.

Migration is selective and selectivity is expressed in the social and economic characteristics of migrants. Evidence of such variations exists in the age and sex data obtained from census sources. There is a preponderance of males among migrants and they outnumber females in every province, as table 5:2 shows. Even by African standards where male migration is always predominant, the sex ratio recorded in the Sudan is outstandingly high; for social as well as religious reasons, males are more likely to migrate. Migration involves travelling over long distances and being exposed to socially and culturally different ways of life. Because of this, women are not allowed to travel alone and consequently primarily, men migrate. The sex ratio of Bahr El Ghazal and Darfur, for example, show that male migrants outnumber females by two to one and many of those female migrants are probably merely accompanying their husbands.

TABLE 5:2

Sex Ratio of Outmigrants and in-migrants by Province.

Province	Sex Ratio	
	Out-migrants	In-migrants
Red Sea	121	156
BahrElghazal	209	157
Blue Nile	154	144
Darfur	200	124
Equatoria	151	178
Kassala	148	152
Khartoum	120	171
Kordofan	131	142
Northern	147	120
Upper Nile	190	145
Total	152	153

Sex ratio = males per 100 females

Source: Sudan Second Population Census 1973.

Thus an unbalanced sex ratio serves as an excellent indicator of migrants in a host population. Khartoum and Blue Nile, the two most urbanised provinces, and the main poles of attraction for migrants, recorded sex ratio of 120 and 112 respectively in 1973. On the other hand the Northern and Darfur provinces, the main losers of population as a result of migration, had a sex ratio of 89 and 95. This pattern reveals a strong positive correlation between sex ratio and the proportion of the migrants received and an inverse correlation between sex ratio and the proportion of out-migrants.

Large urban areas also diverge from the age-sex structure of the country more than the others (Table 5:3). Irrespective of sex, a considerably higher proportion (66.7 per cent) of migrants are in the economically active age group (18 - 52) compared to the 43.9 per cent of the total population. By contrast a much smaller proportion (25 per cent, nearly half that of the total population) of the migrants are in the youthful age group (0 - 17). Migrants are clearly older than the averages for the total population.

Table 5:3 also shows that in large urban areas migrant males are dominant in all age groups with the exception of those under 12 years of age. This is also true for small urban areas except that there are relatively more females than males in the age group 13 - 17. It is also evident that smaller urban areas have not only relatively younger males than females but also relatively more older people. This might account for their relatively low sex ratio, (120) compared with 160 for migrants in large urban areas. In

TABLE 5:3

Migrants by age and sex in large and small urban areas (per cent)

Age	* Large Urban Areas			≠ Small Urban Areas			All Urban areas			Total Population Both Sexes (Sudan)
	Males	Females	Both Sexes	Males	Females	Both Sexes	Males	Females	Both Sexes	
0 - 12	9.7	13.9	10.2	17.8	19.8	18.7	13.1	16.8	14.7	38.0
13 - 17	8.8	8.3	8.6	6.1	6.4	6.3	7.7	7.4	7.5	9.5
18 - 27	31.8	29.5	31.0	19.0	24.2	21.3	26.9	26.9	26.6	21.1
28 - 37	22.4	22.3	22.4	22.3	20.3	21.3	21.3	21.3	21.8	13.9
38 - 52	17.7	16.6	17.3	20.7	17.8	19.3	17.2	17.2	18.3	11.1
53 +	10.6	8.4	9.5	14.3	11.5	13.0	10.4	10. 4	11.1	6.4
Total	100	100	100	100	100	100	100	100	100	100
Total Number	150430	94220	24650	113450	94610	208060	363880	188930	452710	
Per Cent	61.5	38.5	100	54.5	45.5	100	58.3	41.7	100	

* Large urban area = Localities with 20,000 inhabitants or more.

≠ Small urban area = Localities with 5000 to 200,000 inhabits

Source: 1964/65 population and housing survey

turn this might be explained by the fact that small towns attract migrants from shorter distances. Since the cost of living is relatively low (especially house rents) and long distances are not involved, whole families are likely to move. Moreover the sex ratio here may be reduced via out-migration. In fact most of the small urban areas, especially in the less developed provinces, have sex ratios of under 100, signifying that they are supplying other areas mainly the large urban. (1) The 1955-56 census confirmed that they were net losers of population through migration.

Migration to Greater Khartoum:

Migrants are defined as those not born in Khartoum but residing there at the time of the survey. According to this definition of the total,1546 heads of households interviewed, 69 per cent were born outside Khartoum (Table 5:4). However, the distribution of migrants is by no means homogeneous between quarter councils, ranging from 93.3 per cent in Imtidad Eldirga Eltalta (Third class extension) to 41.6 per cent in Eid Hussien which is located on the outskirts of the city (Map 5:1). The relatively higher concentration of migrants in the former and in Elhag Yousif reflects the fact that migrants tend to cluster in areas where living conditions are particularly low. Moreover, it was observed that the majority of migrants in the third class extension came from the Northern province while those in Elhag Yousif were from the Western provinces. Migrants tend to go to the specific area of the city already containing persons from their community of origin.

TABLE 5:4

Distribution of Migrants by Quarter Councils in Khartoum

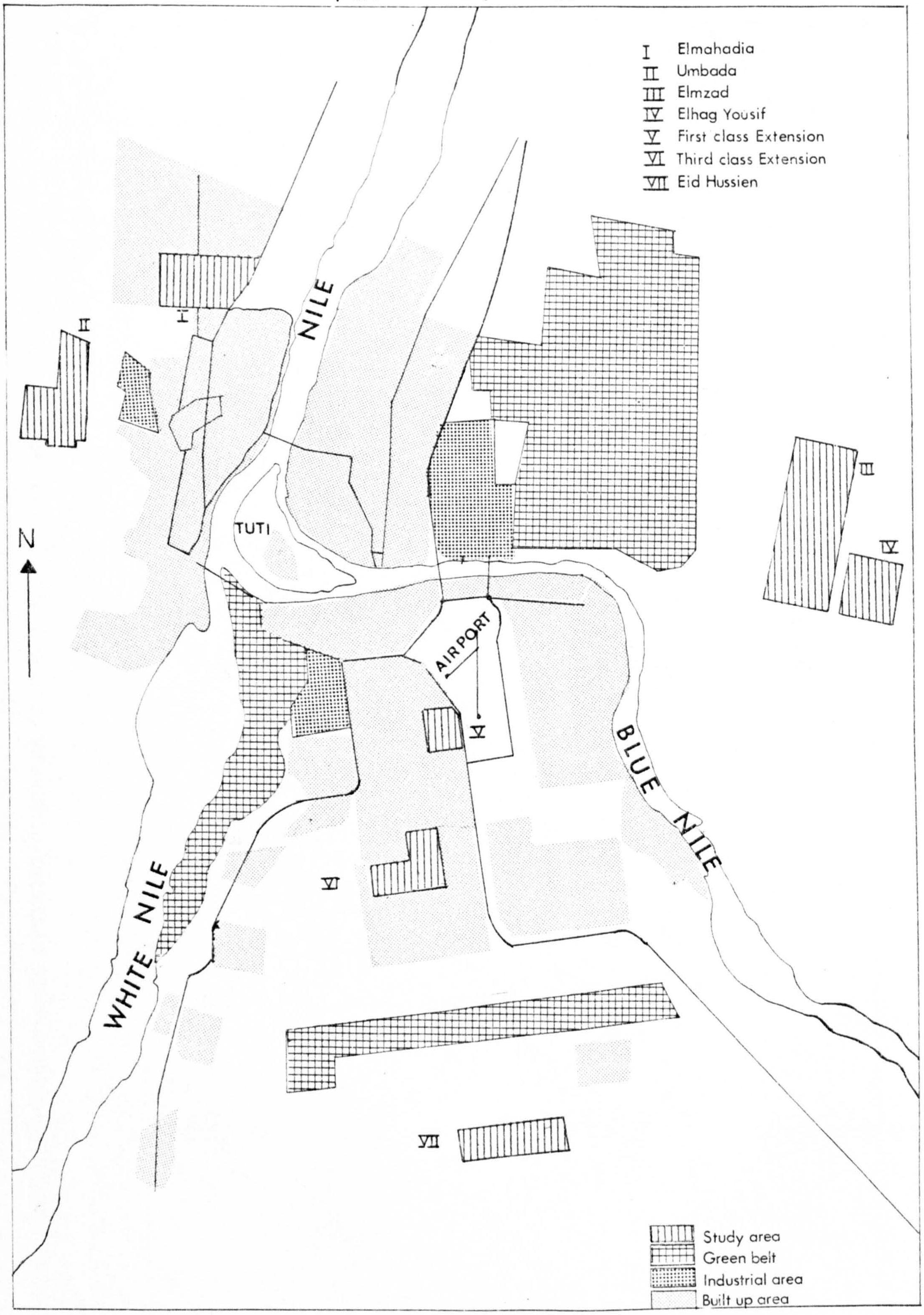
Quarter Council	Total No. interviewed	Migrants	% Migrants
Third Class Extension	223	208	93.3
Elmazad Shamal	198	131	66.2
Elmahadia Elhara Elsaba	278	179	64.8
Umbada	211	141	66.8
Eid Hussien	242	101	41.6
Elhag Yousif	236	212	89.8
First Class Extension	160	97	60.6
TOTAL	1548	1069	69.0

TABLE 5:5

Migrants in Khartoum by place of birth and last place of residence. (Heads of House holds).

Province	N	Place of Birth	Last Place or residence	% of popul. to Sudan total
Blue Nile	75	17.9	19.9	25.7
Darfur	40	9.6	9.3	14.7
Kassall	29	6.8	8.2	10.6
Khartoum Rural	31	7.3	7.3	7.7
Kordofan	81	19.4	21.4	14.8
Northern Province	139	33.0	28.6	6.6
Southern Province	25	6.0	5.3	19.9
Total	420	100	100	100

Map 5:1 Study Areas



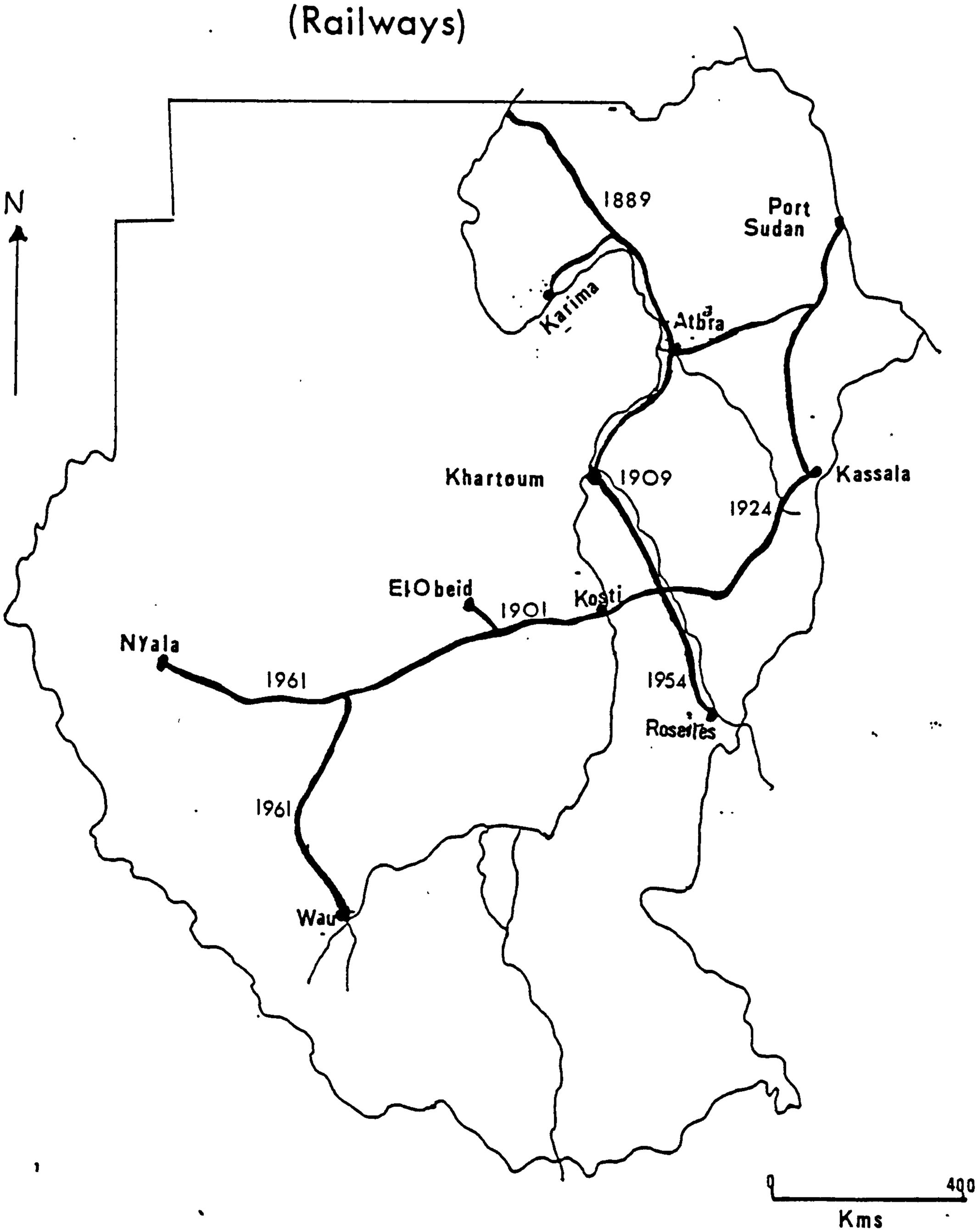
SOURCE: REGIONAL PLAN FOR KHARTOUM AND MASTER PLAN FOR THE THREE TOWNS, PHASE IV, MEFIT S.P.A., CONSULTING ENGINEERS.

The results of the survey indicated that migrants in the city originated from all parts of the country. As Table 5:5 shows migrants whether defined as those born outside Khartoum or as those persons whose last residence was different from Khartoum seems to be similarly distributed. However a distinct variation is evident in the proportion of migrants from each province, the Northern being the chief source of migrants to the city followed by Kordofan and the Blue Nile. Once again fewest migrants come from the Southern provinces, in spite of the fact that the region accounts for one-fifth of the total population and is the most economically and socially depressed region of the country.

The variation in the spatial distribution of source areas of migrants can be explained within the framework of the social and economic development of each province and its distance from Khartoum. Generally the provinces most remote from Khartoum contribute the fewest migrants. Remoteness here does not mean the physical distance which determines how far a potential migrant must travel, but rather accessibility to Khartoum and the presence or absence of means of transport. With the lack of paved roads and with road and river transport acting as feeders to the rail-way, rather than offering alternatives to it, the railway was and still is the most important means of transport in the country. As map 5:2 shows, the railway connecting Khartoum to the Northern province was established in 1897 and extends as far north as Wadi Halfa. The Blue Nile and Kordofan provinces were also

Map 5:2 The Sudan:Transportation

(Railways)



Source: Lees, F.

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connected to Khartoum by rail since 1901 and 1906 respectively.(2) Thus accessibility to Khartoum is relatively easy for the inhabitants of these provinces particularly in the case of the Northern province where settlement pattern is closely tied to the Nile and so is the railway.

The continued process of mobility means that migrants from these provinces have long standing connections with relatives and friends in Khartoum. The existence of family ties entails a process of visits to relatives and friends which facilitates the exchange of the type of information that usually influences potential migrants. This leads to the development of chain migration which is, above all, a reflection of the close family links that form an integral part of the migration process within the Sudan's context. Given such links it is expected that the areas from which the initial outmigration occurred will continue to be the sources of new migrants who join relatives.

On the other hand up to 1958 there was no railway link between the capital and the three Southern provinces and Darfur province. Potential migrants could only reach the city by road or river which are both expensive and time consuming. With regard to the Southern provinces, another factor leading to low numbers of Southerners in Khartoum is that they face ethnic, racial and cultural barriers. However, the number of both Darfur and Southern provinces migrants has been increasing in recent years particularly after the extension of the railway line. As table 5:6 demonstrates that of those who

TABLE 5:6

Migrants: Relationship between Place of Birth and Period of Migration

Period of Migration	Province	Southern Province	Blue Nile	Darfur	Kassala	Khartoum Rural	Kordofan	Northern	Total %	N
1973-78	N	32	82	49	37	28	83	121		432
	%	7.4	19.0	11.3	8.7	6.5	19.1	28.0	100	
1962-72	N	40	127	62	40	49	136	208		662
	%	6.0	19.2	9.4	6.1	7.4	20.5	36.7	100	
Before 1962	N	14	50	28	21	29	62	149		353
	%	7.0	14.2	7.9	5.9	8.2	17.6	42.2	100	
Total	N	86	259	139	98	106	281	478		1447

arrived before 1962 only 7.9 per cent were born in Darfur province. This proportion increased to 9.4 per cent and 11.3 per cent for the period 1962-1972 and 1973-1978. A similar pattern is observed for the three Southern provinces. The introduction of cheap public transport seems to have reduced the deterrent effect of distance and encouraged migration from these provinces to Khartoum. A still more rapid increase in the proportion of migrants from these provinces is likely if their development continues to be neglected, as increasing migration is in itself a reflection of dissatisfaction with life there.

Regional imbalance in the economic potential and development is also an important factor that determines the number of migrants from each province. In the Northern province, the cultivable area is only 1.8 per cent of its total territory. The rest of the area is desert. Furthermore, the land is privately owned and land holdings are very small-size family farms which are subjected to continuous subdivision and fragmentation. When the owner dies, the division of land among heirs follows the Islamic Law in which all members of the family (males and females) inherit. This has meant that, though the holdings were mostly adequate in the past, subdivision has taken place progressively through the generations, so that now they are very small and economically not viable.[3] In view of the acute shortage of farming land and the practice of land fragmentation, it is understandable that there has been a substantial outmigration from this province to Khartoum for decades.

However if the magnitude of migration to Khartoum from each province is a reflection of provincial economic and social disparities, the rate of actual population movement from the Blue Nile province should have been lower and that from Darfur and the three Southern provinces should be higher. The Blue Nile province ranks among the most socio-economically advanced provinces in the country and ranks second to Khartoum in per capita income primarily because of the existence of the Gezira scheme. Abundant water supply, advanced farming techniques and above all, continuous government investment have been responsible for its development. Nevertheless the province has consistently lost migrants to Khartoum. This is attributed to easy access to Khartoum, high wages in the capital and the greater appeal of urban more stable jobs to potential migrants. Moreover the province has a high proportion of educated people. Since the objective of education in the Sudan is to achieve better employment, such attitude usually generates migration, for the distribution of such jobs has a substantial bias in favour of the urban and the capital. Parents also believe that migration is an instrument to remove their children from the land for their economic betterment and social prestige. This attitude explains why the province has a shortage of agricultural workers and why it attracts replacement migrants from other less developed provinces.

On the other hand Darfur and the three Southern provinces which virtually have not witnessed any successful industrial

development contribute little to the migrant population of Khartoum. The explanation for the anomaly lies in their location relative to Khartoum being exacerbated by their lower educational achievements. In addition, a high percentage of Darfur inhabitants are nomads who are reluctant to move to urban areas. This may also explain the lower number of migrants from Kassala and Kordofan provinces.

Examining the origin of migrants by type of community, i.e. rural or urban, it is evident that the majority of migrants in Khartoum have come from rural areas. The survey results indicate that 69.4 percent of the migrants were born in rural areas which is not surprising in a country where 82 per cent of its population live in rural areas. Nevertheless those migrants born in urban areas, later identified as having more than 20,000 inhabitants in 1973, are proportionately over represented. It is likely that the urban element may have been exaggerated to some extent, because it is suspected that the town nearest to the birthplace might often have been given in the survey instead of the actual birthplace. However, attempts to minimize this bias were made as when a respondent stated that he was born outside Khartoum but in a large town, he was always asked whether it was in the town itself or in a village near it.

While we established the fact that the majority of migrants in Khartoum originated from rural areas, it is important to investigate the spatial process by which the migrant actually moves from his rural environment to the capital city. It has been

hypothesized that a migrant moves by a series of steps or stages with successive stops in bigger towns,(4) the rationale being that direct moves from village to capital city disrupt existing cultural patterns most, since the migrant has to adjust to a new way of life which is physically, socially and economically different. On the other hand, stage migration implies that the effect of these differences will be less drastic since the migrant will gradually adjust to urban ways of life.

In the survey, the migration history of the head of household was obtained by asking him to list all places in which he had lived before coming to Khartoum. The results suggest that step migration is a relatively unimportant feature of the general pattern of migration to the city and that direct migration is the rule. In fact 65.8 per cent (table 5:7) of all migrants moved directly from their community of origin to Khartoum; thus their previous mobility was nil. The table also indicates a distinct association between age and previous mobility. The majority of young migrants came directly from their areas of origin to Khartoum. By contrast of those migrants who were 35 years of age or more upon first arrival, almost one half made at least one stop before arrival. Nevertheless, since the majority of migrants arrive at a young age, it could be inferred that movement to the city does not involve a stepwise process. Evidence of similar studies also indicates the inapplicability of the model to less developed countries. For example Caldwell(5) in his study of migration in Ghana found that step migration had not been of great importance.

TABLE 5:7

Previous movement of in-migrants by age at arrival

Age at arrival	Direct Migrants	Multiple Migrants	Percentage of total	N
0 - 19	89.8	10.2	23.2	97
20 - 24	85.3	13.7	32.7	137
25 - 29	75.4	24.6	17.3	73
30 - 35	77.3	22.7	12.6	53
35 - 40	52.6	47.4	11.2	47
40 +	51.2	48.8	3.0	13
All Migrants	65.8	34.2	100	420

TABLE 5:8

Previous movement of in-migrants by size of origin

Number of moves	Rural	Urban	All migrants	N
NIL	69.3	52.6	65.8	276
One-Move	17.5	27.2	18.6	78
Two moves	7.2	10.5	7.1	30
Three moves	2.7	7.4	5.4	23
More than 3 moves	3.3	4.3	3.1	13
Total	100	100	100	420

N = 420

Previous mobility also shows an important difference between rural and urban regions. Almost 69.3 per cent of the migrants from rural origins had made only the one move to Khartoum (Table 5:8). Of the remainder a substantial number made one stop before arrival at Khartoum. On the other hand migrants of urban origin had greater mobility, since more than one half of such migrants have made at least one move before arriving at Khartoum. Nevertheless there is not much evidence to indicate interclass movements, i.e. movement from low to successively higher order settlements. Thus by whatever criteria the results of our data lend no support to the step migration model.

The model's lack of fit is probably a function of its underlying assumptions. The model implies that urban places exist and that they do not differ greatly in their attractiveness to migrants. This does not hold true in the case of the Sudan, for the simple reason that a well developed urban hierarchy equally linked by an efficient transportation system does not exist. There are few urban places to step to and even fewer jobs available in most urban centres.

Only Khartoum and one or two other cities have benefited from modest industrial development. Other urban centres have merely administrative functions and are often economically stagnant and consequently not particularly attractive to migrants. Furthermore in accordance with central place[(6)] theory, the number of job opportunities, social contacts and other pull forces

are highly correlated with the size of the central place. As a result a migrant would rarely move from his village to the next higher order place of greater accessibility. In the Sudan, as will be shown in greater detail in the following chapter, people migrate to places where they have relatives or friends awaiting them and these places are not necessarily the next largest category. Because of these reasons direct migration dominates and migrants go to Khartoum, bypassing centres of small and moderate size.

Migrant Characteristics:

The influence of migrants demographic and social characteristics is central to the understanding of migration trends and patterns. Almost all migration studies have established the fact that the process is selective; those who move are different demographically and sociologically from those who do not. As Goldscheider observed: "The fact that migrants are not a representative cross-section of the population they leave or the population to which they move has obvious implications. Essentially it suggests that movement has patterned social, economic and demographic determinants and consequences".(7) Thus migration patterns depend not only on provincial characteristics but also on how migrants differ from non-migrants.

The sex structure is typical of other migrant groups in African cities, favouring males with a ratio of 143 for every 100 females (Table 5:9). The excess of males reflects their greater independence, the impact of social and religious restrictions

TABLE 5:9

Migrants in Khartoum, Sex Ratio by Geographic Origin

Province	N	Males	Females	Sex * Ratio	Distance from≠ Khartoum	Female labour ⊕ participation rate
Blue Nile	259	170	89	191	150	10.4
Darfur	139	103	36	286	1023	56.3
Kassala	98	57	41	139	727	8.0
Khartoum Rural	106	59	47	126	-	2.7
Kordofan	281	105	176	168	688	41.0
Northern	478	289	189	153	331	2.5
Southern	86	69	17	405	980	N.A.
Total	1447	852	595	143		

* Sex ratio males per 100 females

≠ Distance between capitals ofprovinces and Khartoum in miles

⊕ Source: 1964/1965 Population and Housing Survey

N.A. not available.

which deter women from pursuing careers outside their home and the type of jobs available in Khartoum which are overwhelmingly male dominated. Even so there is a distinct variation in sex ratio by area of migrant origin. The largest positive deviation from the mean is observed in the Southern provinces, Darfur and Blue Nile. Their higher proportion of male migration perhaps can be explained by distance and the rate of female labour participation. As the table shows the greater the distance from Khartoum the greater the proportion of males except in the case of Blue Nile which is the nearest province to Khartoum but has a high sex ratio. The deviation of this province from the norm is attributed to the fact that most of its migrants leave their families behind since they can visit them frequently. It also appears that there is a relationship between the female labour participation rate in each province and the sex composition of its migrants. Male migration to Khartoum is dominant from provinces with a high rate of female labour participation such as in Darfur and Kordofan provinces. In such cases females are usually left behind to look after the family interests in the village. Therefore it could be argued that the longer the journey to Khartoum,and the higher the proportion of female labour participation in the source province, the more dominant is the male migration.

In addition to the sex imbalance, migrants in Khartoum are predominantly young adults. This was evident in the 1973 census which indicated that the Khartoum age pyramid had a

relatively small number of children and a dominance of adolescents. The survey also revealed that 71 per cent of all migrants were below 30 years of age and three quarters of those were between 15 and 24. Only 6 per cent of the migrants were above the age of 50. These findings are in no way unusual for they substantiate reports from African studies that migration is most frequent among this age group. This imbalance will be reduced obviously as the current migration population ages unless the influx of new migrants greatly outnumber them.

However the initial age of migration to Khartoum is perhaps a more important aspect of the movement for it provides information about the time in life in which the process of adaptation to a different social and economic environment begins. Even more significant, it influences the demographic composition and natural growth rates in both the sending and receiving areas. This information computed from the survey, is shown in Table 5:7. However, it must be noted that the results cannot be very accurate since most of the migrants, especially those born in rural areas, do not know their exact date of birth. Nevertheless, the data in Table 5:10 indicate that a high proportion of the migrants made their move at an early age for 72 per cent of the migrants arrived before the age of 25. A high proportion of those arrived before the age of 15; however it is a long standing Sudanese tradition for wives to give birth to the first and in most cases to their second and third child in their hometowns and villages. Generally

TABLE 5:10

In-Migrants by age of arrival and community of origin

Age Groups	Total percent	Rural Origin	Urban Origin	N
0 - 14	30.2	19.7	25.8	437
15 - 19	16.4	12.6	17.9	237
20 - 24	25.6	28.5	19.7	370
25 - 29	14.8	19.4	14.3	214
30 - 34	6.7	7.9	8.1	97
35 - 39	3.2	6.2	7.7	47
40 +	3.1	4.7	7.8	45
Total	100	100	100	1447

the movement of most migrants in this very young age group is not a result of their own decision but rather of their parents as they come as members of a household unit.

People are more mobile in their late teens and early twenties for a number of reasons. Normally this is the period when schooling is terminated, entrance into the labour force and the formation of new family units begins. Family ties are less prohibitive at this age than earlier for in the Sudan usually after the age of 18 a male is considered mature and is given the freedom to choose for himself. The younger the migrant arrives in the city the longer will be his period of residence and the greater his chances of successfully adapting to the city ways of life and improving his social and economic status. In contrast, the older the age at which migration takes place from the community of origin, the more difficult it will be to change behaviour and leave relatives and friends. Moreover as noted by Bowels[8] the migrant worker arrives with little or no on-the-job experience in the particular place where he finds employment. A migrant in the younger age group expects to be treated like similar workers born in the city. On the other hand an older worker who in the process of moving may be deprived of much of the value of his previous experience and find his income below that of similar workers in the city. Thus for younger migrants the prospect of earning through time are better than those for older ones.

When age at arrival is examined some difference between rural

and urban origin is observed. The information in Table 5:10 suggests that a high proportion of the migrants aged 0-19 originate from urban areas than from rural areas. This is contrary to expectation, because the more urban the community of origin, the more likely the young can remain to complete their secondary education - especially low secondary between the ages of 13 to 16. However, it must be recalled that migrants in this age group (0 - 14) usually come with their family. This implies that migrants from urban areas tend to bring their families with them while those from rural areas do not. On the other hand in the age group 20 - 29 the trend is of a greater proportion of migrants born in rural areas. This implies that rural migrants come basically for economic reasons.

Many migration studies point to high educational selectivity in migration patterns. It is generally believed that the tendency to migrate increases with the acquisition of qualifications. Educated young people are more likely to respond to opportunities in the city and adapt to urban living. Moreover, since most school leavers who go to Khartoum have a preference for clerical jobs rather than manual work, educational attainment is a necessary condition for acquiring this kind of work.

The sample survey (Table 5:11) suggested that more than 40 per cent of all migrants are illiterate; of these about 3 per cent have attended Khalwa schooling which is basically an informal type of education directed towards the teaching of the Koran.

TABLE 5:11

Educational attainment by sex and size of community of of origin

	N	% total	Male	Female	Urban	Rural
Illiterate	614	42.4	42.9	71.3	39.7	51.4
Primary	457	31.6	34.2	20.2	36.9	31.3
Low Secondary	179	12.4	12.5	5.5	10.2	8.6
High Secondary	148	10.2	7.2	2.4	9.7	7.5
Post Secondary	79	3.4	3.2	0.6	3.5	1.2
Total	1447	100	100	100	100	100

Thirty two percent had primary education and a further 12 per cent attended lower secondary schools. Only a small proportion of migrants seem to have had higher secondary or university education. Nevertheless in a country where 68.7 per cent of the population are illiterate, the findings reflect the importance of educational achievement for the population moving to Khartoum.

There was also a distinct difference between the educational level achieved by male and female migrants, the former tending to have received far more. Over 70 per cent of the female migrants are illiterate and the majority of the rest have only attained some primary education. On the other hand, illiteracy among male migrants is almost half that and more than a third attended primary schools. These sharp differences are not surprising in a society where female education is restricted by traditional beliefs and customs which have changed little with time, especially in rural areas. This is reflected in the figures of enrolment in the primary and secondary education. There are twice and three times as many males enrolled in primary and secondary schools than females. Moreover, education is a necessary condition for employment in Khartoum; most female migrants on the other hand, come as wives or potential wives who are considered not to need educational qualifications, unlike persons seeking employment. Women are also generally restricted to the home where little reading matter percolates. In addition they spend most of their time doing the daily household activities which are time consuming in large families.

The level of education is also higher among migrants of urban origin compared with those from rural areas. Migrants with no formal education are over represented among rural migrants. This can be accounted for by the simple fact that opportunities of schooling are better in urban than in rural areas. According to the 1973 census, 48 per cent of the urban population (both sexes) attended school compared to only 25.6 per cent of the rural population. The disparity is even more distinct in female school attendance. While 42 per cent of the female urban population attend school only 16 per cent of the rural females do. However, the level of education achieved by migrants has been increasing in all formal stages throughout the years (Table 5:12). For the arrivals before 1962, 55.8 per cent of migrants attained at least some primary education, while the percentage of recent migrants was 72.0 per cent. Migrants are probably now aware of the scarcity of clerical jobs and hence the higher competition involved to secure employment.

Only 4.5 per cent of migrants from the sample were unemployed before arrival in Khartoum. Of the remaining migrant heads of household interviewed, 31.6 per cent had been engaged in farming, while 30.7 per cent were self employed. This category included owners of small businesses such as shopkeepers and tradesmen and self employed craftsmen like tailors, carpenters, mechanics etc. Fifteen per cent were either in school or institutional training and the remaining 14.3 per cent had been either in government or private wage employment. They included administrators, clerks, teachers,

TABLE 5:12

Level of Education by occurrence of Migration.

Period of Migration	Level of Education						Total	N
	Illit.	Khalifa	Primary	Lower Secondary	Higher Secondary	Post Secondary		
1973 - 1978	25.2	2.8	38.9	17.9	12.6	2.6	100	432
1972 - 1962	30.5	3.3	33.7	16.6	14.2	1.7	100	662
Before 1962	38.0	6.2	30.5	12.6	11.6	1.1	100	353

nurses and other lower paid jobs. Thus those who had been engaged in farming had a higher propensity to migrate because opportunities for economic betterment through this activity were constrained by scarcity of land (as in the case of the Northern province) or, because water was in short supply (Kordofan and Darfur). Of the migrants who were formerly engaged in agriculture 70 per cent stated that the water supply was not enough for their agricultural activities and only 30 per cent claimed that their income was sufficient to sustain the family. Moreover more than half the migrants previously engaged in farming stated that the yield was mainly for family use only.

Those in mechanical crafts, whether self-employed or wage employed, were also attracted to Khartoum because they are more likely to make more money or receive better pay in the capital than in their place of origin. When asked whether their income was sufficient to sustain the family about two-thirds said it was not. The relatively low percentage of migrants who were in school before migrating reflects the fact that usually primary school leavers who represent the majority of migrants, are too young to move to the city on their own immediately after leaving school. Even if they do, their chances of securing a well paid job in Khartoum are limited. In fact most of them work in the informal sector as shoe-shiners, car-washers or cigarette sellers. Moreover school leavers usually stay for some time in their rural setting helping the family farming or in the shop. Since opportunities of employment

are limited in what is primary subsistence oriented farming, they are likely to migrate sometime in the future.

About 80 per cent of the migrants heads of households were married at the time of the survey with 18 per cent of the wives living away from their husbands. The majority of the latter were wives of new migrants. However only 47 per cent of the sample were married at the time of their first migration. The high proportion of married migrants reflects the fact that marriage becomes a strong characteristic only after migration and once settled and employed. Migrants are usually young and single; even the married ones tend to leave their families behind because they cannot afford to bring them nor meet the demands of married life in the three towns. Thus there is usually a time lag between arrival of the migrant and when he sends for his wife and children. In some cases a single migrant comes to Khartoum alone and then sends for his parents and brothers. The following example illustrates a typical process of migration.

"Ali left his home-town when he was 19 years old. He came directly to Khartoum looking for a job in one of the Government ministries. He was very lucky to find a job in the Commercial Bank. He lived with his uncle in the third class extension for two years. During this period he saved enough money and went home briefly to marry his cousin, whom he left behind. After one more year he rented a small house and brought his wife along. Then his two younger brothers came to Khartoum in search of jobs . Both of them

secured employment and they moved to a bigger house. Eventually they brought their parents and his two sisters".

This trend is also evident in the composition of the household. Of the total household interviewed, only 43.7 per cent were nuclear families, i.e., consisting of father, mother and children. The remainder are extended families including more distant relatives. In most cases the extended family consists of the father, his family and the families of his daughters and sometimes his sons. This reflects the long standing tradition in the Sudan that the daughter and her husband usually stay with the former's family. However, relatives also stay for long periods, especially junior members.

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CHAPTER VI

MOTIVES FOR MIGRATION AND MIGRANTS SOCIO-ECONOMIC EXPERIENCE

Khartoum as the Primate City:

Khartoum was selected as the capital of the Sudan in 1823 by the first Turkish Governor General of the Sudan. Between 1823 and 1885 the town continued to grow both as the administrative centre of the country and as a trading centre. In the meantime Khartoum North and Omdurman were only small agricultural villages. The year 1881 saw the outbreak of the Mahidist revolution led by Mohed Ahmed ElMahadi who declared a Holy War against the Turco-Egyptian rule. In 1885 after almost one year of siege Khartoum was captured by the Ansar and ElMahadi declared Omdurman as the new capital of the country; the majority of the inhabitants of Khartoum and Khartoum North were transferred to Omdurman.

The Sudan fell again under foreign rule and Khartoum was again chosen as the capital of the country under the condominium agreement in 1898. Since then the three towns continued to grow especially after the construction of the Blue Nile and White Nile Bridges which led to the creation of the Khartoum complex. Anglo-Egyptian colonial policy fostered the concentration of Government services in the three towns. This plus the convergence of communication routes stimulated the development of the Three Towns as the main commercial centre of the country. After independence in 1956 the national Government pursued the same policy and encouraged the development of industry in

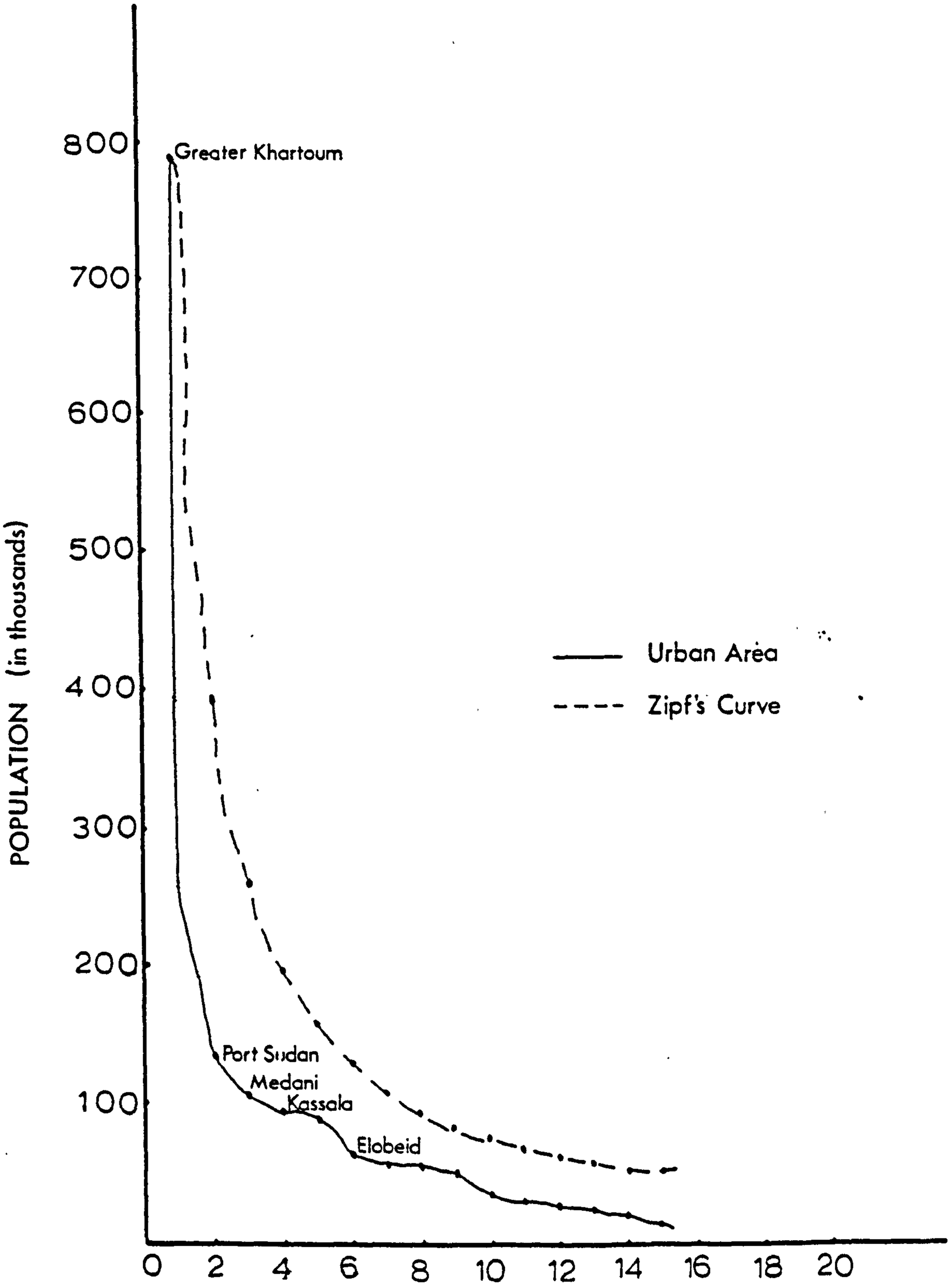
the Three Towns. With this constant bias in their favour it is not surprising that the population of the Three Towns grew and is still growing at a high rate.

Undoubtedly Khartoum, like most capitals of developing countries, qualifies as a primate city. When Zipf rank-size rule is applied to the urban centres of the Sudan (Fig.6:1) Greater Khartoum is located at the apex, far removed from all other urban areas. Moreover the marked deviation from the expected alignment of a true rank size highlights its primacy. This imbalance in the pattern of urbanization supports the point made earlier that Khartoum is more attractive to migrants than any other urban centre.

However the rank-size rule is only concerned with population size. Equally important is the fact that primacy embodies social and economic features, the predominant of which is economic activity. For example, the Three Towns have 70 per cent of the industrial establishments of the country, 58 per cent of the total employment of the professional technical group, 45 per cent of the commercial sector employment, 37 per cent of the commercial bank offices, 56-7 per cent of the country's doctors, 20 per cent of the national provision of hospitals and virtually all post-secondary educational institutions.

The concentration of economic and social facilities has undoubtedly exacerbated the primacy of the Three Towns. But even more important, especially within the context of migration, is the fact that such concentration has led to the creation of wide disparity in earnings between the Three Towns and the rest of the country.

Fig 6:1 Rank and Size of Urban Areas, 1973 and Curve of Zipf's Rank Size Rule.



Comparison of the average household income in the Three Towns which is 469 Sudanese pounds as opposed to 363 pounds the average of other major urban centres, suggests that the wage differential is very large. Moreover average household expenditure in Khartoum is about twice as high as the average for the six Northern Provinces and almost double the average household expenditure of Kassala and ElFashir the capitals of Kassala and Darfur provinces respectively. Such wide income disparities plus the concentration of economic and social facilities enhances the advantages of living in the three towns and thus acts as a strong pull for potential migrants from both rural and urban areas, as will be verified by the results of the survey.

Motives for Migration to Greater Khartoum:

Motives for migration to Khartoum in this study were obtained from one direct question: "Why did you come to Khartoum?" However, a much more realistic picture of the motives for migration were obtained by viewing the response to the direct question in context of other questions distributed in different parts of the questionnaire. Answers to the direct question were initially precoded but this proved to be unwise as the predesignated reasons were not exhaustive. Thus interviewers were instructed to write all responses and were explicitly told not to read the categories to avoid passive agreement with the most obvious reasons for coming to Khartoum. Only the head of the household was interviewed because his movement largely determines the movement of other household members. Each respondent

was allowed to give more than one reason, so the number of reasons exceeded the number of respondents.

Results of the survey (table 6:1) revealed that economic conditions were the predominant motivating forces for migration to the Three Towns. Economic reasons covered 65 per cent of all the responses given. Typical comments were: "I came to Khartoum because there are better job opportunities", "In Khartoum you earn more money than any other place", "I wanted a stable monthly paid job so I came to Khartoum". It was obvious that these answers indicate that employment was a very strong pull factor. However, it was also observed that dissatisfaction with rural jobs or rural income had an equal force in motivating movement towards Khartoum. Typical responses were: "I do not make enough money", I do not wish to work on the land", "There is no water for farming", "Income is not stable and you are never sure about the rains", "There was no suitable job for me in the village", "My plot of land is small".

Economic responses were classified into two categories to determine whether the motives for migration were a result of pull or push factors. 55 per cent of those who mentioned economic factors answered only in terms of pull factors, 40 per cent in terms of push factors and 5 per cent in terms of both push and pull factors. Thus statistically there is no significant difference between any of the responses. In other words, migrants left their home towns because of adverse economic conditions and came to Khartoum mainly for economic betterment. However it is important

TABLE 6:1

Reasons for Migration (Household heads)

Reason	N	Percent
Job related reason	601	65.1
Family reasons	98	10.6
Urban links	78	8.4
Education	66	7.2
Attraction of city life	32	3.6
Transferred	21	2.3
Others	26	2.8
Total N of reasons given	922	100
N of household	420	

at this point to mention that since only 4.5 per cent of the sample were unemployed before first arrival at Khartoum, it seems that the actual reason for migration is looking for a better job or higher income rather than employment per se. This lends support to Todaro's hypothesis that migration to urban centres takes place in response to rural-urban differences in expected earnings. As will be shown later, almost all migrants seem to have improved their income since they arrived at Khartoum.

The second major reason for migrating to Khartoum according to the respondents is their family situation. Family reasons comprise 10.6 per cent of the total responses. Given typical comments were: "All my sons are now working in Khartoum and so I came to stay with them" or "I came to visit relatives, found a job and so I decided to stay", "My father died and I had to come to live with my brother". In some cases the decision was made by the relative living in Khartoum rather than by the migrant himself. Responses such as "My uncle brought me to help him in his shop" or "because my brother sent for me because he wanted somebody to stay with his wife as he works night shifts."

Some responses indicating family reasons are obviously related to work. In reality, few cases can be attributed to solely economic circumstances or solely family reasons but rather a flexible combination of the two. In some cases joining relatives is not an end in itself but rather a means of gaining employment in the city. Pure family reasons in the Sudan apply mainly to women who come to

join their husbands or to elderly men or women who come to live with their sons.

Migration for family reasons often develops into a chain migration with a tendency for people who have already migrated to Khartoum acting as sources of help and information, particularly during the initial period of adjustment. In some cases one member of the family had made the move and secured a stable job and sufficient income that allowed other members of the family to follow. One response was: "The people of my hometown come mainly to Khartoum". Thus one member of the family chooses Khartoum because of its better opportunity of employment. Later, members of the family such as brothers, cousins, or even fellow villagers, choose Khartoum as a destination because one member is already there. Thus contacts are taken for granted and most people wanting work head for Khartoum.

This trend is further supported by the fact that some migrants stated that they came to Khartoum merely because they knew somebody there. Urban links accounted for 8.4 per cent of the total response. Migrants often arrive in Khartoum with little or no money and during the period before finding a job in the city, help is usually provided by and indeed expected from people they already know in the city. In fact more than 90 per cent of the sample stated that they had relatives or friends who could potentially provide them with information about jobs and give them help.

Table 6:2 shows that 92 per cent of the migrants received help upon arrival at Khartoum. This is not surprising given the strong

TABLE 6:2

Response to the question: "What kind of help have you received upon arrival at Khartoum?"

Type of help	N	percent
Temporary accommodation (from relatives or friends	183	43.5
Help to find job	85	20.2
Financial help	28	6.8
Temporary accommodation + job	36	8.6
Temporary accommodation + financial	24	5.8
Find job + Financial	16	3.7
All three types	15	3.5
No help	33	8.9
Total	420	100

bond that ties an individual to his extended family and even his hometown in most parts of the Sudan. The most common type of help is the provision of temporary accommodation which also entails the provision of food. Help to find a job ranks second in importance. Only 6.8 per cent received direct financial assistance. This figure might be lower than expected, because migrants did not like to give the impression that they received money from other people. Twenty-one per cent received at least two types of help when they first arrived and 3.5 per cent received the three types of help. Moreover when migrants were asked if they were willing to give help to new migrants, 95 per cent said they would. Even if they were unwilling, it would be very difficult for them to refuse, because they would be branded as unco-operative or in-hospitable by their kinship. Such an attitude may even lead to family problems for the migrant both in Khartoum and in his home town.

Social contacts, particularly family links, besides providing material help - thus reducing the economic and social costs of migration - also increase the migrant's knowledge of the city through previous visits or through the evidence of successful returned migrants. For example, when migrants return from the city bringing the money they have earned, the goods they have bought and wearing new clothes, they earn the admiration of their friends and relatives. This will of course encourage further migration to Khartoum and will exert more pressure on potential migrants. Almost 83 percent of the migrants had an idea about life in Khartoum before coming to

live permanently. Of those, 57.8 per cent acquired their ideas from previous visits and a further 24.8 per cent from return migrants. When migrants were asked whether they were looked upon as important when they visited their hometown, 77.6 per cent answered "Yes". Of the remaining 12.2 per cent said "No" and the rest did not know.

Only 7.7 per cent of the response accounted for education as a motive for migration to Khartoum. This is not surprising because unlike economic factors which generally affect the whole population, education oriented migration is limited to a minority. Only those who wish to pursue higher education in Universities, Technical institutes or private higher secondary schools are expected to give education as their motive for migration. Moreover this implies that education as a factor for choosing Khartoum is confined to those who are under 20 years of age and achieved the necessary qualifications to be enrolled in higher educational institutes. Equally important, it is limited to those whose families can afford to pay the expenses, especially in the case of private higher secondary schools which always demand high fees. However it could be argued that migration for education is motivated by intentions to participate in economic activity rather than for its own sake, since education is viewed as a prerequisite for higher levels of educational achievement.

The pull of city life as a factor in the decision to migrate was mentioned far less than economic or family related factors.

This is so in spite of the entertainment facilities in Khartoum such as cinemas, parks, dancing halls, sporting events and theatres. The relative insignificance of city life may be attributed to the fact that the majority of the migrants were of rural origin who were used to a different life-style and they were not aware of such facilities even if they had made a previous visit to the capital. Moreover migrants of rural origins were, perhaps, just not used to thinking in terms of abstract concepts mainly because they were poorly educated people. On the other hand, work is tangible and leads to money which permits them to fulfil certain ambitions such as marriage.

Apart from those who were transferred to Khartoum - teachers, doctors, administrators, private firms officials such as bank clerks, policemen and nurses, the remainder of the responses covered factors such as independence and prestige and the availability of social services in Khartoum. Typical reasons were: "Life in the rural areas is often restricted by traditions" or "one is freer in Khartoum to do what one wants"; "To be more important and civilized". Such responses indicate movement to Khartoum is primarily a move to assert personal independence. Life in the village or even in small urban areas is often restricted by traditional obligations. In Khartoum there is much greater social freedom and the opportunity of forming a wider circle offriends from one's own age group.

To some extent, the search for independence and freedom from

the rural social structure can be related to economically-oriented migration. In some cases land tenure and family authority structure expects young men to work in a situation where farming and output are controlled by the head of the family. Such a situation will exert pressure on young men to break away from the family so as to reap the return of their own labour as well as achieve personal autonomy.

Examination of motives for migration by size of place of origin reveals a direct relationship between the size of the source settlement and the reasons given for migration by their residents. The relationship between the source settlement size and the propensity of a migrant giving economic reasons, search of education or urban links, is evident from table 6.3. Although there is a consensus between the two groups about the importance of economic factors in motivating migration, migrants from rural areas seem to put more emphasis on this motive than those from urban areas. This is an expected reaction, as residents of rural areas suffer more from the shortage of employment opportunities and from underemployment. Moreover a breakdown of job-related factors by size of origin show that migrants of rural origin stress push factors rather than the pull of the city. For example, more migrants of rural origin mentioned factors associated with the poverty of their source settlements and lack of suitable jobs rather than the job opportunities in the three towns. On the other hand, migrants from urban areas are more sensitive to the pull of

TABLE 6:3

Reasons for Migration by size of Community of origin

Reasons for Migration	Urban		Rural	
	N	percent	N	percent
Economic	223	56.7	378	71.4
Urban links	31	7.9	47	8.9
Family	43	10.9	55	10.4
Education	45	11.5	21	4.0
Attraction of city life	21	5.3	11	2.1
Transfer	14	3.6	7	1.3
Others	16	4.1	10	1.9
of Reasons	393	100	529	100

the Three Towns rather than the push factors of their urban areas. Almost two thirds of those within urban origins mentioned better employment opportunities and higher incomes in the Three Towns while one third mentioned lack of employment in the centres of origin.

When we compare the importance of urban links as a factor for migration to Khartoum a distinct pattern is evident. City links are more important to rural migrants than to those of urban origins. Rural migrants for whom life in towns is radically different from that in the village are most likely to move to Khartoum because they know somebody there. The risk of migrating without the presence of somebody to help may limit their mobility. By contrast, such urban links were not an important motive for migration to Khartoum for migrants of urban origin, indicating their greater confidence with Khartoum ways. The presence of relatives or friends may provide an extra benefit rather than a major reason of choice of Khartoum as a destination.

Migrants from urban areas do put more weight on education as a motive for migration. Conversely it seems that the better educational facilities in the Three Towns were not a particularly strong inducement for rural residents. Eleven per cent of the response given by urban migrants accounted for education as a reason for coming to Khartoum compared to 4 per cent of the response given by rural migrants, a sure reflection of the distribution of secondary schools. Thus urban migrants not only seek higher education in the capital city

because they have the necessary qualifications but because they are aware of the facilities. Moreover in a developing country like the Sudan, it is only at the higher levels that education pays off in terms of very much better job status. For example, a person does not need much beyond literacy to work in a factory or on a building site. Furthermore, rural residents may not be able to afford the expense of educating their children in the capital. Going to school may further deprive the family of the income their sons could earn if they were to enter the labour force. On the other hand, urban dwellers are more prone to give their children better opportunities to succeed later in life, because they can afford it and because they know that education is a prerequisite for prestigeous occupations and higher incomes.

There is also some difference between urban and rural migrants in the attraction of the "bright lights" of the capital as a determinant of migration possibly for the same reasons I mentioned earlier. Urban migrants put more stress on the attraction of city life while those from rural areas scarcely mention it. This is because urban dwellers are aware that Khartoum provides a good deal of varied entertainment. Moreover the mass media such as the radio, newspaper and recently television, which are accessible primarily to urban residents, emphasise the importance of Khartoum as the centre of modernization and entertainment.

Returning to Hometown:

Migrants were asked whether they intend to return to their

hometowns so as to compare the attitude of prospective return migrants and those who intend to stay in Khartoum.permanently and to explore the migration experience of respondents. As table 6.3 shows a relatively low proportion - 18.8 per cent - expressed definite intentions about returning. The majority of those prospective return movers are recent migrants who had arrived since 1973. Clearly the amount of time in Khartoum has some effect on the inclination to return. Moreover with a high birthrate and migration rate, competition for jobs in the capital is getting fiercer and the least adequate drop out, i.e., those migrants who are young and poorly educated.

Of more importance is the experience of the respondents and their evaluation of Khartoum and their place of origin relating to the aspects they feel desirable and undesirable about the two places. As expected, economic reasons were paramount for all. As table 6.4 demonstrates, 66 per cent of those who planned to stay gave pull factors as the most influencing their plans to remain in Khartoum. Among the answers: "Here I can earn more money", "I have a good stable monthly paid job", "All the goods I need are available". Other pull factors refer to the social services in Khartoum. Typical answers were: "My children can get better education here", or "Medical facilities are better in Khartoum than in the village". This result is interesting in the sense that only a small minority of the respondents mentioned the availability of social services in Khartoum or their lack at their place of origin as a motivating factor behind their migration. Negative factors of the hometown influencing plans

TABLE 6:4

Reasons for staying in Khartoum or returning.

Factors for staying	N	percent
Total staying	341	81.2
Pull of Khartoum	224	65.6
Push of Hometown	117	34.4
Total leaving	79	18.8
Push of Khartoum	58	73.4
Pull of Hometown	21	26.6

to stay in Khartoum covered lack of suitable employment, low earnings and lack of social services and amenities.

The attraction of the hometown is stated far less often than the push factors of life in Khartoum, for 73 per cent of those who plan of return gave push aspects as the most important influence. Typical of the responses are: "The cost of living is high", or "It is difficult to find the job you want unless you have some contacts", or "I live in a small house" or "I don't like sharing housing with others". Among the pulls of place of birth the respondents referred to were the easier and more quiet life, less stress in earning a living and the wish to live with other members of the family.

A minority of the respondents mentioned the attraction or the drawbacks of life in Khartoum in their replies. It seems that fewer migrants go to the cinema or football matches or take their families to parks. This may be an income deficit. The perils of city life, however, are mentioned by those who decided to return. The main worry of migrants is crime, particularly robbery as well as the general lack of security and safety in the city.

Since employment is the most important factor influencing the decision to migrate, the effectiveness of migration depends on the time necessary for the migrant to find his first job. The underlying assumption is that the longer the period of unemployment, the higher will be the cost of migration. The survey results indicate that almost 91 per cent of the male migrants sought work immediately upon

arrival at Greater Khartoum. The rest were either transferred employees who had jobs waiting for them (6.4 per cent) or students who came to continue their education.

As table 6.5 shows, of those who came to Khartoum looking for work, 40 per cent had jobs within one month after their arrival, 21 per cent had jobs within two months and a further 13.4 per cent had jobs within three months. Only 8.3 per cent had to wait for six months or more to find their first job. Since almost 80 per cent of the migrants got jobs within the first three months this implies that there is not a long period of unemployment among migrants to Khartoum. Probably most of the migrants were willing to do menial and casual work, for 16.6 per cent were absorbed by the informal sector. Although it is difficult to define the informal sector here it stands for casual employment such as car washing, shoe-shining, vendors, street traders and other petty jobs characterised by long hours, low productivity and small income. A further 20 per cent were absorbed as labourers or production workers. Migrants take such jobs because it is very difficult to obtain stable wage employment. When they were asked whether their first job was the one they desired before coming to Khartoum 83.7 per cent said it was not.

Migrants accept such employment until they find a wage job or save enough money to join the informal sector at the upper end of the scale such as self employment in a trade or business. This is evident from the number of times migrants changed their jobs; less than half of the respondents held only one job during their stay in

TABLE 6:5

Lag between arrival in Khartoum and employment in first job.

	N	Percent
Job arranged before arrival	27	6.4
Within first month	168	40.0
Within two months	87	20.7
Within three months	56	13.4
Three to six months	47	11.2
More than six months	35	8.3
Total	420	100

Those who came for education were asked to give time of obtaining first job after finishing their education.

Khartoum. Of those who changed jobs 24.2 per cent changed their job once, 17.2 per cent changed their job twice and 10.6 per cent had more than two jobs since they arrived in Khartoum. The most common reasons for change of jobs were inadequate pay, long work hours and the desire for a better job. Moreover when migrants were asked whether they were satisfied with their present jobs 69.9 per cent said they were not satisfied. Most of the migrants preferred either self employment or a stable monthly wage job in a factory or a private firm. This indicates that there is a continuous job mobility among migrants.

When time to find the first job is crosstabulated with educational attainment, an interesting result emerges. Table 6.6 shows that those who were illiterate or attended primary schools only, managed to find employment quicker than those with lower secondary or higher secondary education. Less than a quarter of the migrants who had not attended school had not found work within the first month of their arrival at the capital city. Migrants with no education are willing to take any job they can get. On the other hand those who attended lower or higher secondary schools have high aspirations, preferring clerical jobs for which there is less demand and much competition due to the increasing number of school leavers. Table 6.6 shows that 9.8 of the lower secondary school leavers had to wait more than six months to find their first job. Thus although education increases the propensity to migrate it does not guarantee immediate employment in the capital city. However,

TABLE 6:6

Relationship between time to obtain first job and level of education.

Time to find first job	Level of Education			
	Illiterate & Primary	Low Secondary	High Secondary	Post Secondary
Within First month	78.1	54.6	47.7	53.2
Within Two months	12.2	11.5	21.1	31.4
Within Three months	6.5	17.4	7.9	7.8
Three to Six months	2.7	6.7	5.1	5.3
More than Six months	0.5	9.8	18.2	2.3
Total	100	100	100	100

those with post secondary qualifications had to wait the shortest period to find employment. It is government policy to guarantee employment to science graduates from universities and technical institutes.

A considerable change in the occupational distribution of migrants after their arrival at Khartoum is observed. Employment in Khartoum is restricted for those with a family background to unskilled occupations in the city such as daily labourers, vendors, and in domestic services. The increase in the number of skilled workers indicate the amount of upward mobility that occurs as migrants move from rural areas to Khartoum.

Occupational achievement is expected to be related to the length of residence in Khartoum, i.e., those who had lived long in Khartoum should be more successful than recent migrants. However there is not a direct relationship between length of residence and educational achievement (table 6.7), although it is clear that higher percentage of recent migrants are employed in unskilled jobs. This also reflects changes in the employment structure in the city. In earlier years of less competition and more demand, it was easier to enter the formal sector. At present the increase in educated people and the lack of jobs make it difficult to enter the professional or clerical sectors. However, it is also clear that generally the longer the residence in Khartoum does not imply a better occupational status. This may be explained by the influences of other factors such as educational qualifications, job training before arrival and age at arrival.

TABLE 6:7

Length of Residence in Khartoum and Occupation

Length of residence	Professional	Clerical	Skilled	Unskilled
5 years	27.4	17.9	31.5	54.6
5 to 10 years	45.7	43.8	29.8	20.2
More than 10 years	36.9	38.3	38.7	25.2
Total	100	100	100	100

Migrants from urban areas attain higher occupational status when compared with their counterparts from rural areas. For example 77.4 per cent of those employed in the professional jobs and clerical jobs were born in urban areas, while on the other hand a higher proportion of rural migrants were engaged in semi-skilled jobs. Once again the correlation between urbanization, knowledge of opportunities and education is evident. Moreover having previously lived in urban places means that they will be more aware of the rewards of high status occupations.

It is hypothesized that the migrant's educational background is an important determinant of the kind of occupation he can get in Khartoum. Very few of the migrants with no schooling were able to obtain the relative well paid jobs of the modern industrial sector - seventy two per cent (table 6.8) of the illiterate migrants were engaged in vending activities, domestic services or daily labourers. More or less similar findings apply to those to who had primary school education only. But a large proportion of elementary school leavers are employed in skilled jobs such as taxi-drivers, mechanics, carpenters, tailors and barbers.

Migrants with secondary education are primarily employed in clerical jobs and the social services as teachers, nurses, or in administration and finance related occupations (85.4 per cent). Other occupations play a very minor role in absorbing migrants with post primary education. Professional jobs such as doctors, higher secondary school teachers, and administrative and managerial

TABLE 6:8

Relationship between Education and Occupation

Level of Education	Occupation			
	Profess-ional	Clerical	Skilled	Unskilled
Illiterate	-	-	27.4	72.6
Primary	-	8.2	63.1	28.7
Low Secondary	-	27.4	58.3	14.3
High Secondary	2.2	85.4	5.4	-
Post High Secondary	95.3	4.7	-	-

N = 420

jobs are dominated by university and technical institute graduates. Migrants who obtain such jobs were either government or private firm employees or those who came to continue their education and were posted in Khartoum.

Income

The survey results provide information about the earnings of the migrants before arrival at Khartoum and their present earnings. Table 6.9 shows that migrants have considerably improved their income since they arrived at Khartoum . At the lower end of the scale 21.4 per cent of the respondents earned less than twenty pounds per month before migration, but this proportion dropped to only 5.3 per cent afterwards. The proportion of those who earned more than forty pounds was almost doubled after migration. These results are expected since, as shown before, the average income in Khartoum is higher than any other part of the country.

However, higher incomes in the Three Towns are partially offset by the high cost of living there, due for example to higher rents and expenses for transport. The migrants were, therefore, asked whether they were better off financially in the city than their places of origin. Although most migrants indicated that they earn more money, only 59.7 per cent said that they were better off financially.

TABLE 6:9

Comparison of declared monthly income prior to Migration and present income

Monthly income in Sudanese pounds	Income before migration		Present Income	
	N	Percent	N	Percent
0 - 19	85	21.4	215	5.3
20 - 39	144	36.2	121	30.5
40 - 49	43	10.9	56	17.1
50 - 59	21	5.3	30	7.6
60 - 69	17	4.2	49	12.3
70 - 79	8	2.1	18	4.5
80 - 89	22	5.6	13	3.3
90 - 100	6	1.5	16	4.6
More than 100	51	12.8	73	18.4
Total	391	100	397	100

CHAPTER VII

RURAL-URBAN SOCIAL AND ECONOMIC LINKS

Most migration studies in Africa have shown that the great majority of migrants to urban centres maintain strong links with their villages of origin, mainly because they consider themselves as part of their original community through strong social and kinship ties. The most conclusive evidence of this trend has been reported in Caldwell's[1] survey of rural-urban migration in Ghana. Such evidence indicates that the general diffusion of social and economic change from urban centres to rural areas was generally due to the continued strong social and economic links that tie the migrant to his village. As Griffen[2] argues: "Internal migration is likely to improve the distribution of income in the rural areas .... and accelerate capital formation and technical change on small peasant farms." In the Sudan the gap between life in the village and in the urban centres is still wide; but life in the village is not static. Here too it is changing all the time as people leave and come back, bringing with them new ideas and new attitudes which can generate social change and better standards of living.

The existence of social and economic links between migrants and their home towns depends on the presence of relatives in the village. Because of the extended family system in the Sudan most migrants usually retain some family connections in the village. Most migrants feel the need and in fact are expected to continue

their contacts with their hometowns. Even financially successful migrants, who have no intention of returning to their home-towns to settle, are influenced by the complex social ties and often contribute economically to the rural areas. This usually takes the form of building schools, hospitals or mosques. Moreover rural residents expect migrants to maintain such links through ceremonial or ritual occasions when all members of the family are usually informed and expected to attend, irrespective of where they reside. Moreover when an urban migrant wishes to get married he is expected to marry from within the family or at least from his home-town.

The survey results indicate that (table 7.1) 84.6 per cent of the total migrants had relatives in their home-towns. Nine per cent had property such as land, a house or business and only 6.3 per cent did not have relatives or property that bound them to their home-town. This classification, however, is not exclusive since some of those who had relatives also had property and those whose ties were primarily through property also had some relatives, however distant. The table also shows that the more recent the arrival at Khartoum the more likely are the migrants to have relatives in their hometowns. The proportion rises from 77.8 per cent for those who arrived before 1962 to 93.2 for the latest arrivals. This is not surprising since chain migration is dominant. Thus the majority of migrants had relatives with whom contacts at different levels were maintained.

TABLE 7:1

Migrants links with place of birth by stage of arrival at Khartoum.

Type of Link	1978-73		1972-62		Before 1962		All Migrants	
	N	%	N	%	N	%	N	%
Relatives	88	92.2	139	85.7	135	77.8	256	84.6
Property	5	5.1	8	9.2	18	10.5	38	9.1
None	3	2.7	4	5.1	20	11.7	26	6.3
TOTAL	96	100	151	100	173	100	420	100

At the urban end, migrants also provide an important link for rural areas. Migrants in the capital are also expected to provide assistance to their relatives or even to their fellow villagers, whether they come to Khartoum as new migrants or only as visitors. Such help is taken for granted by rural residents. As table 7.2 shows two thirds of the migrants help their kinsmen when they arrived at Khartoum. Twenty seven per cent had already offered arriving migrants or visitors accommodation; 10 per cent found jobs for their relatives, 3.8 per cent offered financial assistance and a further 20 per cent provided a combination of the three types of help. Thus both migrants and visitors are bound by traditional obligations in which certain rural-urban interactions are expected and maintained.

Remittance of Money:

One of the strongest measures of ties to the place of origin involves the remittance of money by migrants to relatives at their home areas. This of course is a reflection of the amount of income earned by the migrant, the strength of the ties to the home area and the income of the home family. Nevertheless even if the relatives at home are financially well off they expect money or gifts from the urban migrant as a sign of prestige and well-being.

In the study only 23.4 per cent of the respondents reported that they did not send money home. This group consists mainly of those who had brought their immediate families and other members of their households and of recent migrants who had neither settled down nor

TABLE 7:2

Type of help already offered by respondents to new migrants

Type of help	N.	Percent
To find job	45	10.8
Financial help	16	3.8
Accommodation	113	27.0
Job and Financial help	40	9.6
Job and Accommodation	12	2.8
Financial help and	32	7.6
All types of help	23	5.5
Never offered help	139	33.0
TOTAL	420	100

yet secured well paid employment considering the type of their marginal occupations. Of those who did send money home, as table 7.3 shows, 65.5 percent reported that they sent money regularly, i.e. on monthly basis. Twenty four percent reported that they sent money regularly but not on a monthly basis. Only 11.7 per cent sent money just once or twice a year. This trend indicates the extent of economic links between migrants in Khartoum and their relatives in rural areas. Moreover the money remitted to relatives does not include goods which the migrant sends to the village periodically or on ceremonial occasions. When migrants were asked whether they sent presents to their relatives 73.5 said they did. These took the form of clothing, radios and other household equipment..

Nearly all the respondents (84.9 per cent) reported that they sent money to supplement the daily needs of their relatives, specifically for the purchase of consumption goods and for the improvement of housing. The dominance of remittance for the purpose of consumption expenditure may be due to the fact that rural inhabitants are predominantly engaged in subsistence agriculture with very low cash generation powers if any. In comparison only 9 per cent reported that they sent money for productive investment such as running of a farm, purchase of implements or seeds or hiring labour or supplementing the capital of a non-agricultural enterprise like a shop. Only 3 per cent of the remittance was sent to assist in the education of migrant's or relatives children, for primary education, even in boarding schools, is free in the Sudan and

TABLE 7:3

Frequency of Remittance of Money

Frequency of Remittance	N	Percent
Remit	332	76.6
Never Remit	98	23.4
Total	420	100
Remit monthly	138	65.5
Remit regularly but not on monthly basis	77	23.8
Rarely remit	37	11.7
Total	322	100

children need little pocket money simply because there is little to buy in rural areas. Three per cent contribute to the cost of marriages of relatives or friends or of funerals.

An attempt was made to measure the volume of the flow of money from the migrants in Khartoum to their home towns. The results are undoubtedly approximate for remittances may vary from one month to another and it is also difficult to evaluate gifts in monetary terms. However migrants were asked how much money they sent or took during visits to their dependents in their community of origin. Usually only a modest amount of money is involved,under fifteen pounds for the majority, while 10.8 per cent sent less than five pounds a month and only 6.4 per cent of the migrants sent more than forty pounds each time (table 7.4). As shown in the previous chapter a large proportion of the migrants had a monthly income of less than forty pounds. Thus the amount of money represents a substantial proportion of their monthly income.

Both the amount of money sent and the frequency of remittances varies according to the provinces of origin. Table 7.5 shows that while 52 per cent of the migrants from the three southern provinces sent less than ten pounds to their relatives only about 30 and 25 per cent of the migrants from the Blue Nile and Northern provinces respectively sent the same amount. A higher proportion of the migrants from the latter two provinces sent more than twenty pounds each time to their relatives. Moreover migrants from the three southern provinces, Kordofan and Darfur stand out as having the lowest

TABLE 7:4

Amount of money remitted by migrants each time

Amount of money remitted	N	Percent
Less than 5 pounds	35	10.8
5 - 10 "	102	31.7
11- 15 "	62	19.3
16- 20 "	40	12.5
21- 25 "	23	7.3
26- 30 "	13	4.1
31- 35 "	14	4.3
35- 40 "	11	3.6
Over 40 "	21	6.4
Total	322	100

TABLE 7:5

Amount of money remitted each time by Province of origin.

Amount of Remittance in Sudanese pounds	Blue Nile	Khartoum Rural	Kassala	Kordofan	Darfur	Southern	North
Less than 10	30.6	17.6	36.7	44.4	65.9	73.7	25.5
10 - 20	45.2	49.8	52.5	39.3	22.6	19.4	40.8
21 - 30	12.8	19.7	3.2	12.2	7.4	5.8	17.8
31 - 39	5.6	8.5	4.7	2.7	4.1	1.1	7.4
40 and more	6.7	4.4	2.9	1.4	-	-	8.6
Total	100	100	100	100	100	100	100

percentage of those who sent money regularly and a negligible percentage in the most generous category. On the other hand, migrants from the Blue Nile and Northern provinces had the highest proportion of the migrants sending monthly remittances.

These differences are a function of the level of development and distance of the province of origin from the Three Towns. Because of their better educational achievements migrants originating from the Blue Nile and Northern Provinces are over represented in the better paid jobs in the capital and thus they can afford to send money regularly to their kin in their home-towns. On the other hand migrants from Kordofan, Darfur and the Southern provinces are over represented in the marginal occupations and thus they are in no position to remit money regularly. This implies that the less developed rural areas, where rural deficiencies are more acute, gain less from urban rural transfer than the more developed rural areas. This trend may also be aggravated by the fact that there is less migration from these underdeveloped provinces.

Distance variation and the presence or absence of efficient transport and reliable postal service from Khartoum to the provinces of origin and especially to rural areas may influence the frequency of remittance. In the Sudan there is a marked lack of such facilities especially in the rural areas, so that migrants from the remote areas usually refrain from sending money through postal channels - that is if they exist - because of the time taken as well as the high probability of loss. Moreover many of the

recipients might not have a fixed address because of movements in search of better cultivable land or better grazing areas. So migrants who come from those areas may be forced to take money with them when they visit or send it with relatives who come to Khartoum, thus reducing the frequency of remittance. On the other hand, migrants from the Blue Nile and Northern province can send money regularly to their relatives because of the better facilities.

Visits:-

Visits are the most common social links for migrants between the city and their hometown. Normally, these are arranged during the annual holidays, the duration of which ranges between three and eight weeks, depending on the type of employment. Both Government and private employees are usually entitled to travelling allowances. Besides annual holidays, other social and religious occasions lead people to visit their hometowns. Marriages, for example, are usually celebrated in the hometown and all those related to either the bride or the bridegroom are expected to come to the village or town for the occasion. Guests usually stay for a week or more, depending on the closeness of the relationship to the married couple. Two important religious festivals also motivate visits and they usually draw a large number of migrants to their hometowns; these are Eid Elfiter that marks the end of Ramadan (fasting month) and Eid Eladha. Both occasions are followed by about five days of public holiday during which all economic activities are brought to a standstill.

The number of annual visits to the hometown is shown in

table 7.6. The results show that 82.4 per cent of all migrants in the Three Towns visit their home towns at least once a year. This figure is consistent with the proportion of migrants who claimed to have rural ties through relatives. The table also shows that 35 per cent of the migrants make one annual visit probably during their holidays, and 16 per cent made two visits. The high proportion of migrants who visit their home-town more than three times annually is due to the large number of migrants from Khartoum rural and the Blue Nile Province. In fact a large number of migrants from these regions reported that they visit their relatives at least once a week. Besides being close to Khartoum, these areas are served by reliable and frequent daily bus services which are a direct result of the building of the paved road that connects Khartoum to the Gezira.

Although the Northern province is also well connected by rail and bus service the frequency of visits was comparatively low. This may be attributed to the fact that the majority of the respondent's relatives are in Khartoum. In the case of the provinces remote from the Three Towns, such as Darfur and the South, journeys are both long and expensive.For example the journey from Khartoum to ElFasher, the capital of Darfur, by lorry lasts for at least five days and costs approximately fifteen pounds return. Such journeys are expensive, time consuming and very exhausting. As a result migrants from these provinces are inclined to visit their hometowns less frequently. The largest proportion of migrants from these provinces are included in the category that makes one visit every year.

TABLE 7:6

Frequency of visits by Provinces of Origin

Province	Never	Once	Twice	Three times	More than three times	Total
Blue Nile	2.0	3.1	13.7	20.4	60.8	100
Khartoum Rural	0.6	1.3	5.9	11.7	80.5	100
Kassala	4.5	37.8	38.9	16.2	2.6	100
Kordofan	3.7	41.8	29.4	15.9	9.2	100
Darfur	4.4	66.9	20.8	4.6	1.3	100
Southern Pro.	8.3	71.9	17.8	1.2	,8.3	100
Northern	6.6	58.2	25.7	18.5	3.7	100
All migrants	7.6	34.8	16.1	11.3	30.2	100

For example, more than two thirds of the migrants from Darfur and the Three Southern provinces make one visit annually. Moreover it has been shown that migrants from these provinces cannot afford the costs of the visit which includes both the travelling expenses as well as the presents which are always expected by relatives at the home-town.

Cross-tabulation of frequency of visits by age indicates a distinct relationship between the two variables. As table 7:7 shows the frequency of home visits declines with age. While 43.5 per cent of the age group 15-19 visit their home-town at least three times a year, only 5.3 per cent of those 40 years and over did. On the other hand, while only 7.8 per cent of the young migrants visit their relatives once a year, 68.5 per cent of those over forty years make only one visit. The younger migrants are more mobile because they usually have small families, and they can endure the hardships of travelling. On the other hand, older migrants usually have large families. They are more settled and they may have severed relations with the home town. Moreover there comes a time in every migrant's life when the balance of allegiance is changed. When young most ties are still in the rural area and being of low status the migrant is expected to show respect and visit his parents and relatives and attend all ceremonial and ritual occasions. With a longer period of residence in the city the migrant will be well established in town and will become a head of household in his own right and it is up to the more junior members of the family to travel to him. Thus the longer

TABLE 7:7

Frequency of visits by Age Groups

Age Group	Frequency of Visits					
	Once	Twice	Three Times	More than 3 times	Never	Total
15 - 19	8.7	15.6	43.5	28.0	2.2	100
20 - 24	10.2	20.4	41.7	25.9	1.8	100
25 - 29	27.9	29.8	19.1	17.5	5.7	100
30 - 34	36.5	30.8	14.2	10.5	8.0	100
35 - 39	49.2	27.3	8.4	7.2	7.9	100
40 and over	68.5	14.7	5.3	2.1	9.4	100

the period of urban residence the less the frequency of visits to the rural area. It is also a common practice in the Sudan when an occasion takes place in the village or home-town, elderly heads of households send one of their children to represent them at the ceremony, because they cannot endure the hardships of travelling themselves. Thus although older migrants report that they rarely visit their home towns other members of their family do so on their behalf.

Migrants also receive visits from relatives or friends from time to time. These visits are either social or for business purposes. They are normally short and tend to last between one and four weeks, unless they come for special purposes such as for medical treatment, which may require longer periods.

The pattern of visits received seem to be largely similar to that made by migrants. Table 7.8 shows that migrants from the Blue Nile and Khartoum rural received visits more frequently than their counterparts from other provinces. While 6 per cent of migrants from the Blue Nile received visits more than three times in a year, none of the respondents from either the three Southern provinces or Darfur received visits at the same frequency. This trend emphasizes the impact of distance and hence the expenses involved on the frequency of interaction between rural and urban areas. Moreover because rural incomes are low it will be even more difficult for rural residents to spare the money to travel to the Three Towns.

TABLE 7:8

Frequency of Visits Received

Province	Frequency (per cent)					
	Once	Twice	Three Times	More than 3 times	None	Total
Blue Nile	5.4	10.7	29.6	60.9	3.4	100
Khartoum Rural	-	7.8	21.1	71.0	-	100
Kassala	42.5	29.6	17.4	9.5	1.0	100
Kordofan	24.9	46.7	19.2	7.4	1.8	100
Darfur	68.2	25.7	2.9	-	4.1	100
Southern	63.1	29.4	5.5	-	2.0	100
Northern	46.7	36.1	8.3	7.2	1.7	100
All Migrants	40.4	22.0	12.1	21.6	3.9	100

Nevertheless the results also indicate that migrants received more frequent visits than they made to their home-towns. For example while 40.4 per cent received one visit annually, 34.8 of the respondents made visits to their home areas at the same frequency. The results also indicate that some of the respondents who reported that they did not make any visits to their relatives received visitors. Only 1.7 per cent of the respondents did not receive visits from their relatives or friends but as has been shown earlier, 7.6 per cent of the respondents reported that they never visited their home towns. This finding suggests that the proportion of migrants who are totally isolated and whose ties with the village life is completely severed is very small.

The frequency of visits between migrants in Khartoum and their relatives in the rural areas provides an important channel for reducing the economic gap between rural and urban areas. The transfer of money, household goods, clothing and other urban goods to rural areas and the flow of food items from rural relations depends on the process of visits made and received by migrants. It is also a common practice in the Sudan that a delegation of rural citizens comes to urban areas to collect money from migrants in the city to be used for building of schools or dispensaries in the village. It is also through visits that migrants are kept in touch with and informed about relatives in rural areas, and through visits rural residents are introduced into the urban way of life.

The attraction of city life and the prospects of finding jobs may influence the rural visitors to decide to stay in Khartoum or perhaps migrate in the future. Thus the frequency of visits contributes directly to the process of migration. Since the frequency of visits depends partly on distance and the availability of transportation facilities, it follows that the flow of migration to Greater Khartoum is expected to be greater from the Blue Nile and Khartoum rural.

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CHAPTER VIII

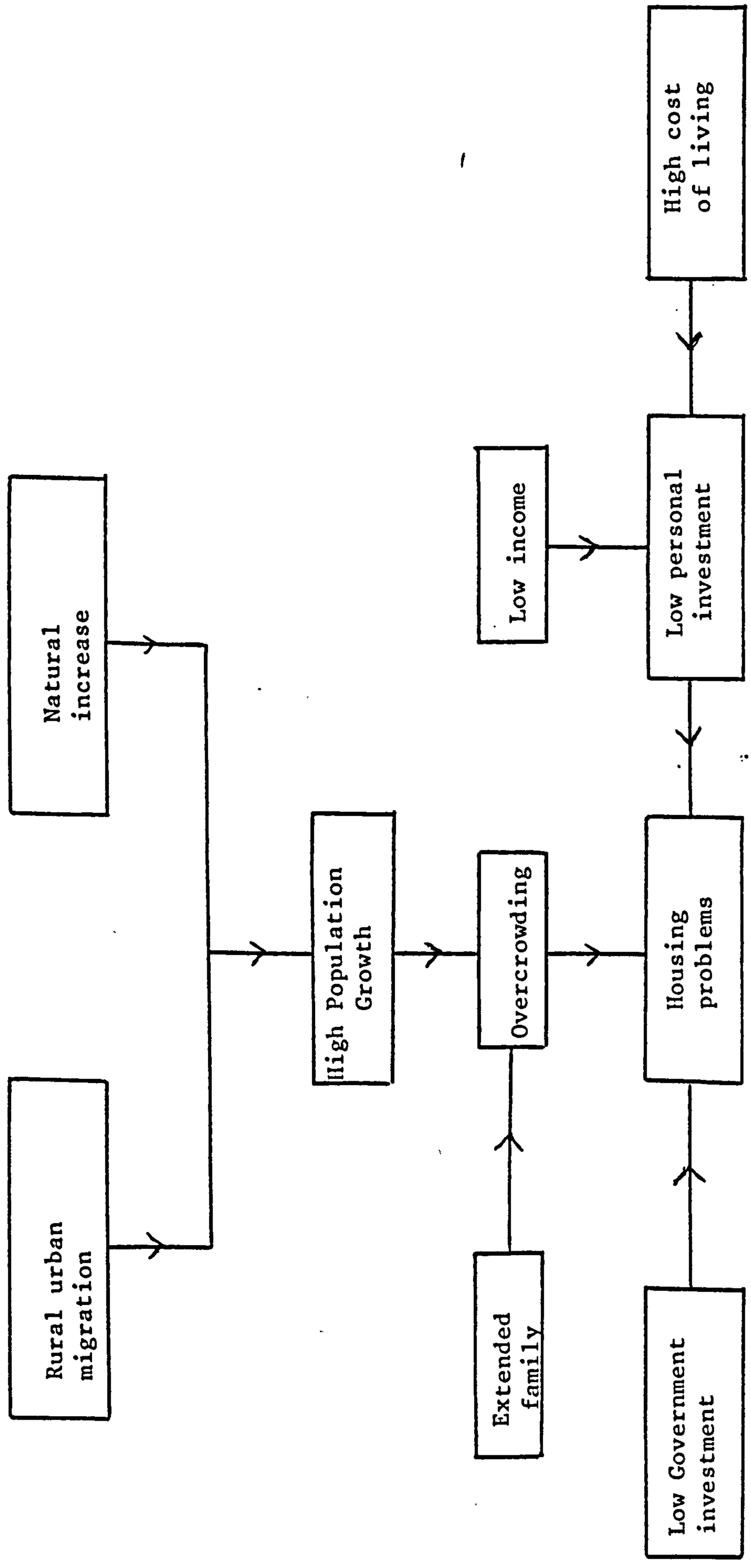
IMPACT OF MIGRATION ON HOUSING AND MIGRANTS HOUSING ADJUSTMENT

Introduction

The rapid expansion of the population of the Three Towns has created many problems associated with the difficulties of providing basic infra-structure, such as, transport, medical facilities, education and other social services. But perhaps the most serious of all problems is that of providing adequate housing facilities for the ever increasing population. Housing needs in the capital have been made greater and housing problems exacerbated by a number of independent social and economic factors (Fig. 8.1). Migration from rural as well as urban areas to the Three Towns is probably the greatest single factor creating housing demand. These people must find a place to stay in the city. Without a permanent space for himself and his family the migrant cannot really be said to have established roots in the city. The inability of many migrants to find adequate dwellings is a significant factor in the development of shanty towns in the outskirts of the Three Towns.

Although in-migration is probably the largest single contributor to housing demand there are several other factors to be considered. Deterioration of older houses already in existence creates added demand. Many of the houses in the Three Towns,

Fig. 8.1. Factors in the Demand for Urban Housing



especially in Omdurman, are constructed of temporary material. It is not uncommon for a large number of houses to collapse during the rainy season. Moreover, rising cost of living, soaring inflation, the low income of the vast majority of the city's population and low government investment in housing all have contributed substantially to the housing problem.

Housing demand is a major problem because of the lack in supply. In the period from 1955 to 1973, almost 99 thousand new houses were needed due to population increase.* During the same period, construction provided almost 90 thousand new houses. So in 1973 there was a deficit of about 9 thousand houses. But this does not portray the gravity of the problem because it ignores the fact that a large number of the houses are in bad shape, and lack the necessary environmental services such as water and electricity.

Government Housing Policy

In the Sudan the vast majority of houses were and are still built by the occupants. The Government's role as a constructor of houses was restricted to supplying its employees. During the colonial period, the authorities were faced with the problem of housing their nationals who worked in government service. The lack of suitable housing and the lack of a private housing market perhaps

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*Housing demand is calculated by the following formula:

$$N = \frac{P_n - P}{HS}$$

where P = Population in 1955/56

P_n = Population in 1973

HS= Household size (5.9)

made it imperative for them to be involved in building dwellings for the expatriate staff. Moreover, in an attempt to enhance the rapid development of the capital, the authorities began to sell land; however only foreigners were rich enough to be able to buy the most valuable plots. In fact most of the central area of Khartoum and a considerable amount of agricultural land in its vicinity was owned by Greeks, Armenians and other non-Sudanese who came in when the country was reopened for development.(1)

The colonial authorities were faced with the inevitable problem of housing the Sudanese who came to rebuild Khartoum or to seek general employment. It was decided to accommodate them in what was known at the time (1912) as native lodging areas or "Deims", located away from the settlements of the ruling colonial staff. Each individual was allowed to build himself a single mud hut in a 50 square meter open plot. None of the basic services were supplied, not even latrines, and tenure was regulated by an ordinance which provided that the land could be recovered without any compensation if the plot had been in occupation for ten years or more.(2)

During the immediate years that followed the development of these Deims, no new ones were authorized and the existing ones continued to absorb migrants, who were actually encouraged by the authorities to come to Khartoum. The influx of new migrants, natural increase, and the lack of alternative accommodation increased the degree of overcrowding and created an unhealthy living environment.

These Deims in fact became the residential areas of the lowest income groups; of course a plot which had been meant for a male labour force on a temporary basis was obviously unsuitable for family life. Because of overcrowding and worsening sanitary and social conditions, new Deims were authorised in 1930. The new Deims were laid out in properly surveyed plots but were still 50 square meters in size.(3) They served only to ease overcrowding since no services were provided.

The authorities became aware that a single room without access to a latrine (not even a communal one) provided few opportunities for decent family life, even at the lowest standard. In 1937 it was decided that a 200 square meters open plot was the minimum area adequate for a single house and a layout was accordingly drawn up which enabled a pit latrine to be dug in each compound. Indeed a number of resettlement schemes did take place on this pattern and by 1952 all the old Deims were demolished and new Deims were built by the people with scarcely any financial help in the form of loans or subsidies from the Government. It must be pointed out that the new houses were intended to resettle the existing residents of slum areas rather than to cope with an increasing urban population. In fact while 4741 houses in the Old Deims were demolished, only 3721 houses were constructed during the same period (1949 to 1953)(4). The surplus population were batchelors who did not qualify for the allocation of a plot in the New Deims. Although the number of houses was less than that of the Old Deims, a higher standard of housing was achieved.

After independence in 1956, the national Government followed the same policy of open plot housing. As far as the residential classification of land and the minimum standard of building was concerned, the national Government devised the following hierarchy: First class areas (with a minimum plot size of 800 square meters and which should be built with permanent materials); second class (with a minimum area of 400 square meters in which any material could be used but outside walls must be faced with permanent material); third class areas (with a minimum area of 300 square meters in which any material except grass could be used).

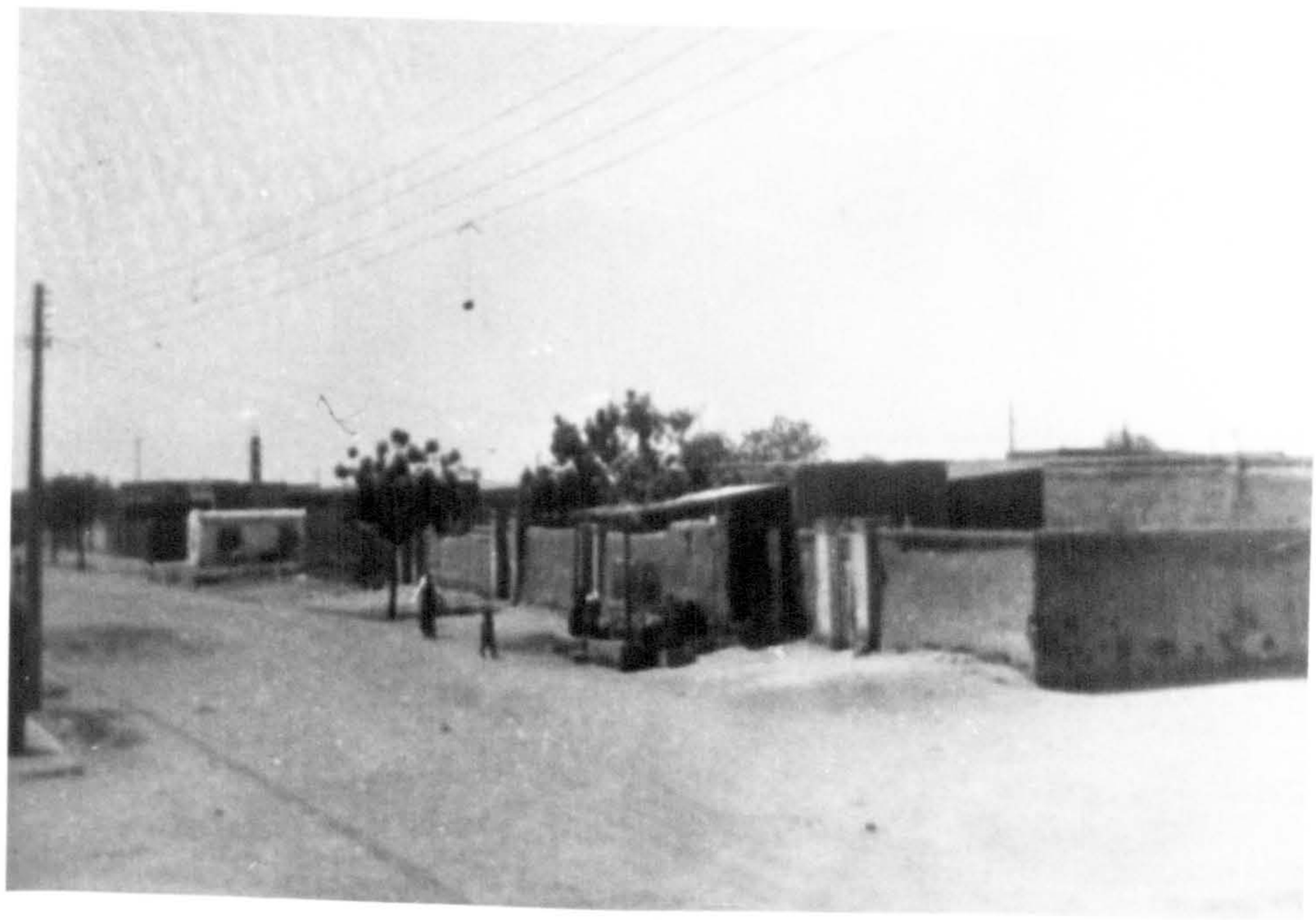
Applicants for third class plots have to satisfy a board of local people that they belong to the low income group which was defined in 1966, when 22 thousand plots were distributed, as those earning below 540 Sudanese pounds annually. A low income earner was considered qualified to apply if he was maintaining a family and had lived in a rented home in one of the Three Towns for at least ten years. At each distribution (plots of land were frequently distributed), applicants outnumbered the plots to be distributed and in these cases a lottery system was used to decide who would get the plots. Those successful were expected to build their houses such that essential buildings would be fit for use and occupation within one year. In fact most of the people managed to do that and most third class houses were built out of mud layers (Plate 8:1).

Second and first class houses were distributed (in 1966) in open auctions with no restrictions except that the bidder should be

Plate 8:1

Third Class Housing

(Omdurman)



earning more than 540 Sudanese pounds annually. Most of the houses were built either out of fired bricks or stone (Plates 8:2 and 8:3). This open auctioneering, where the bidder had the opportunity of acquiring as many plots as he could afford, suited a minority of the population and led to the increase in the selling prices of plots. To avoid such problems created by the open auction of first and second class plots, the authorities decided in 1970 to dispose of plots through a closed system. An applicant was qualified if he earned more than 540 Sudanese pounds annually and provided he was not already an owner or lessee of a house or an open plot.(5)

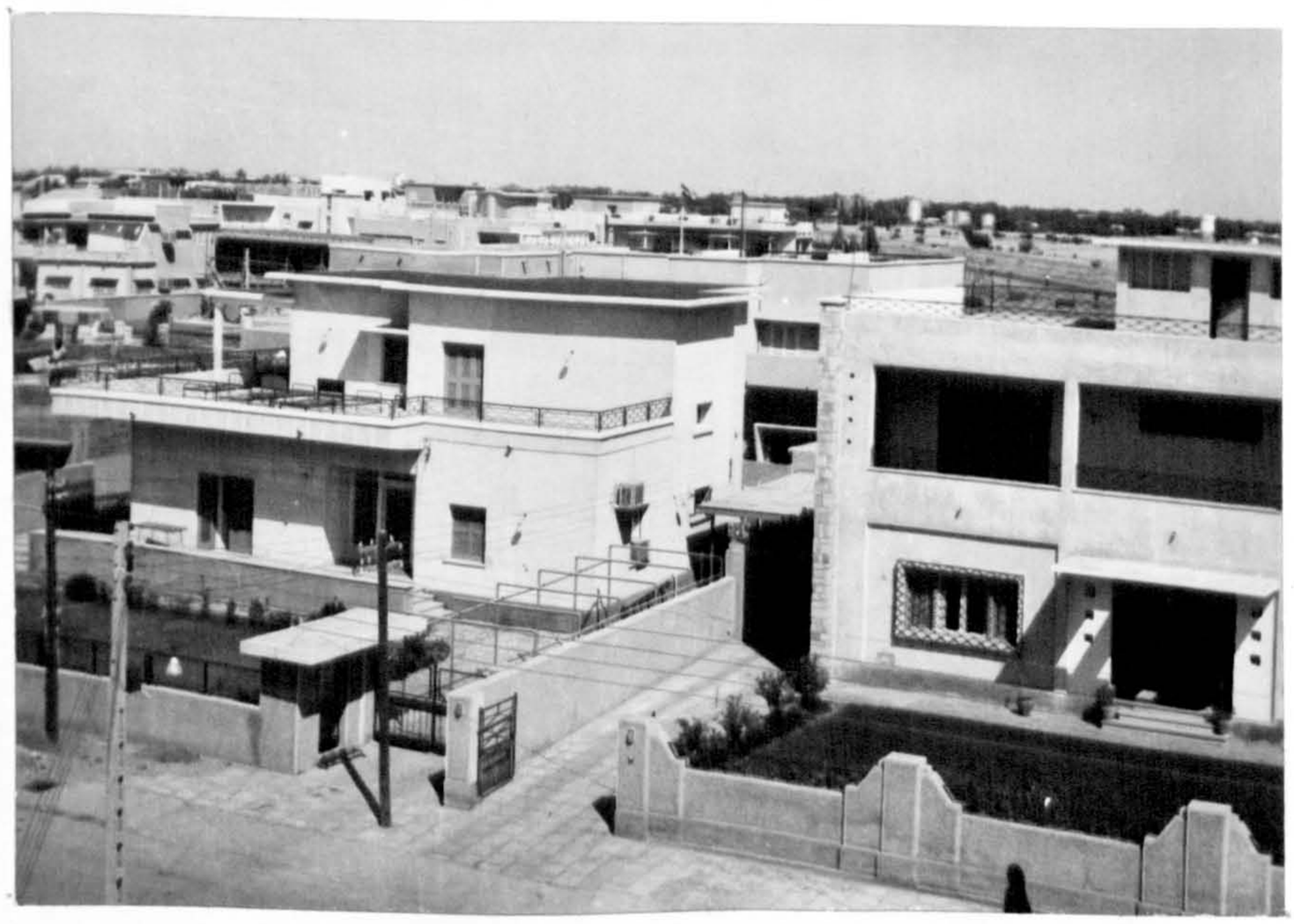
By injecting a large number of subsidized plots into the market, it was expected that the acute problem of housing would be solved and rents would drop. However it is likely that this policy will motivate more movement to the Three Towns and thus, among other things, will aggravate the housing problem. The ten year period qualification plus a family in town will encourage many migrants to bring their families and to live in overcrowded conditions, in order to qualify eventually for the cheap plot. It must be noted, however, that not all beneficiaries build their houses; in fact a substantial number sell their plots on the black market within a short period of distribution in spite of the Government's law to the contrary. This leads to the concentration of property in the hands of land speculators and eventually to high land values and higher rents.

Nevertheless the policy of open plot housing has proved to be effective in coping with the urban housing needs. But even more

Plate 8:2

First Class Housing Area

(Khartoum)



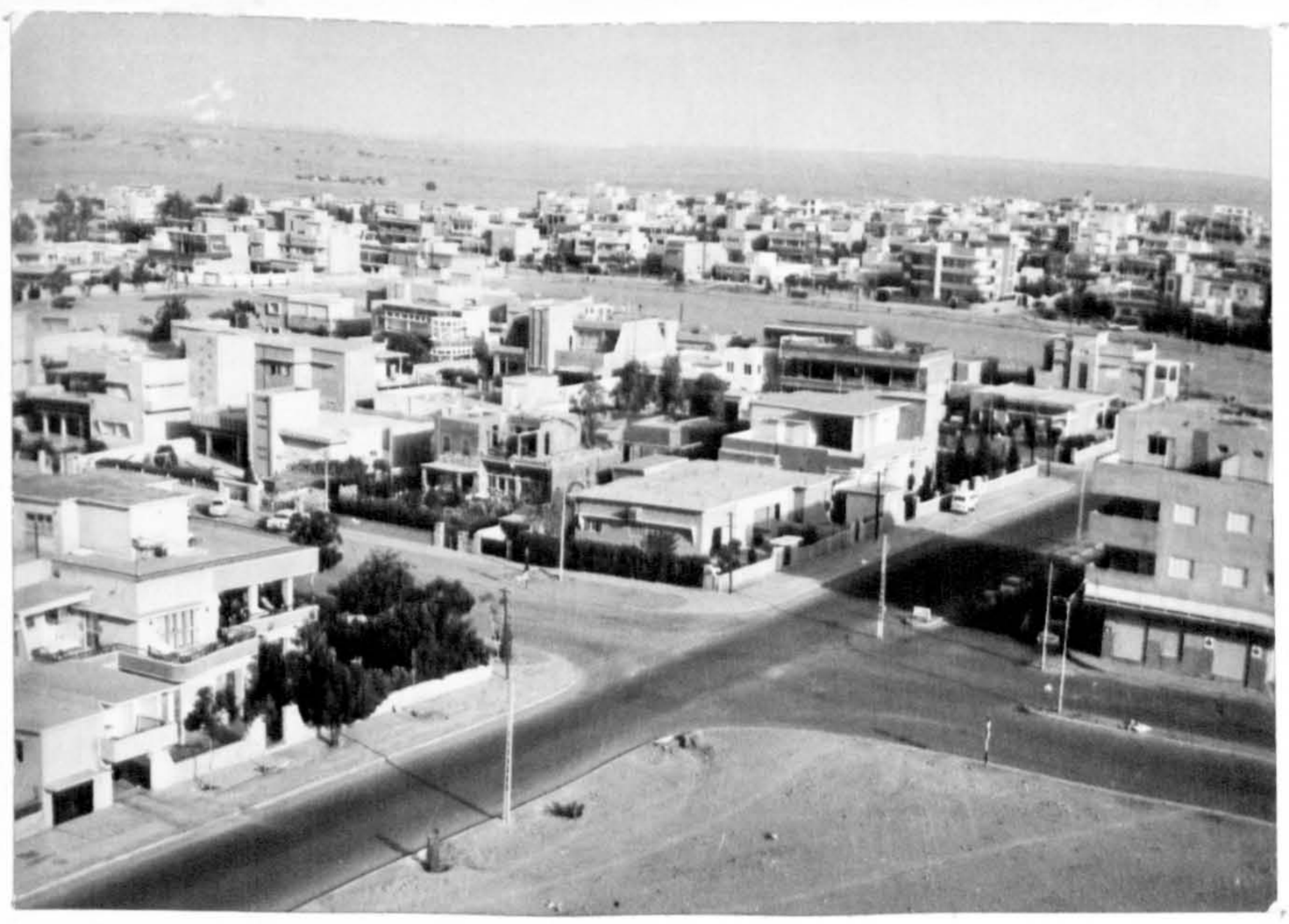


Plate 8:3

Second Class Housing Area

(Khartoum)

important it provides the low income groups with the opportunity of developing their plots with the kind of dwelling they can afford and which they can expand and improve whenever needs arise and their resources permit.

The only project in which the Government undertook the construction of houses for low income people was that carried out in Khartoum North, where 1000 houses were built between 1961 and 1967. The houses were essentially built to benefit those working or living in Khartoum North, earning monthly salaries not less than 12 pounds or more than 25 pounds while being in support of families of not less than five members. The houses were built in plots of land varying between 270 and 320 square meters and consisted of either two rooms or three rooms (Plate 8:4).

Unsurprisingly qualified applicants greatly outnumbered the 500 units produced in each phase. A point system that awarded priority to those with the larger families and longer period of residence was introduced to determine the beneficiaries. However, the total output of the Khartoum North project failed to satisfy the housing needs of the narrow group of low wage earners in this area alone, not to mention its negligible impact on the housing needs of the urban low wage earners at large.

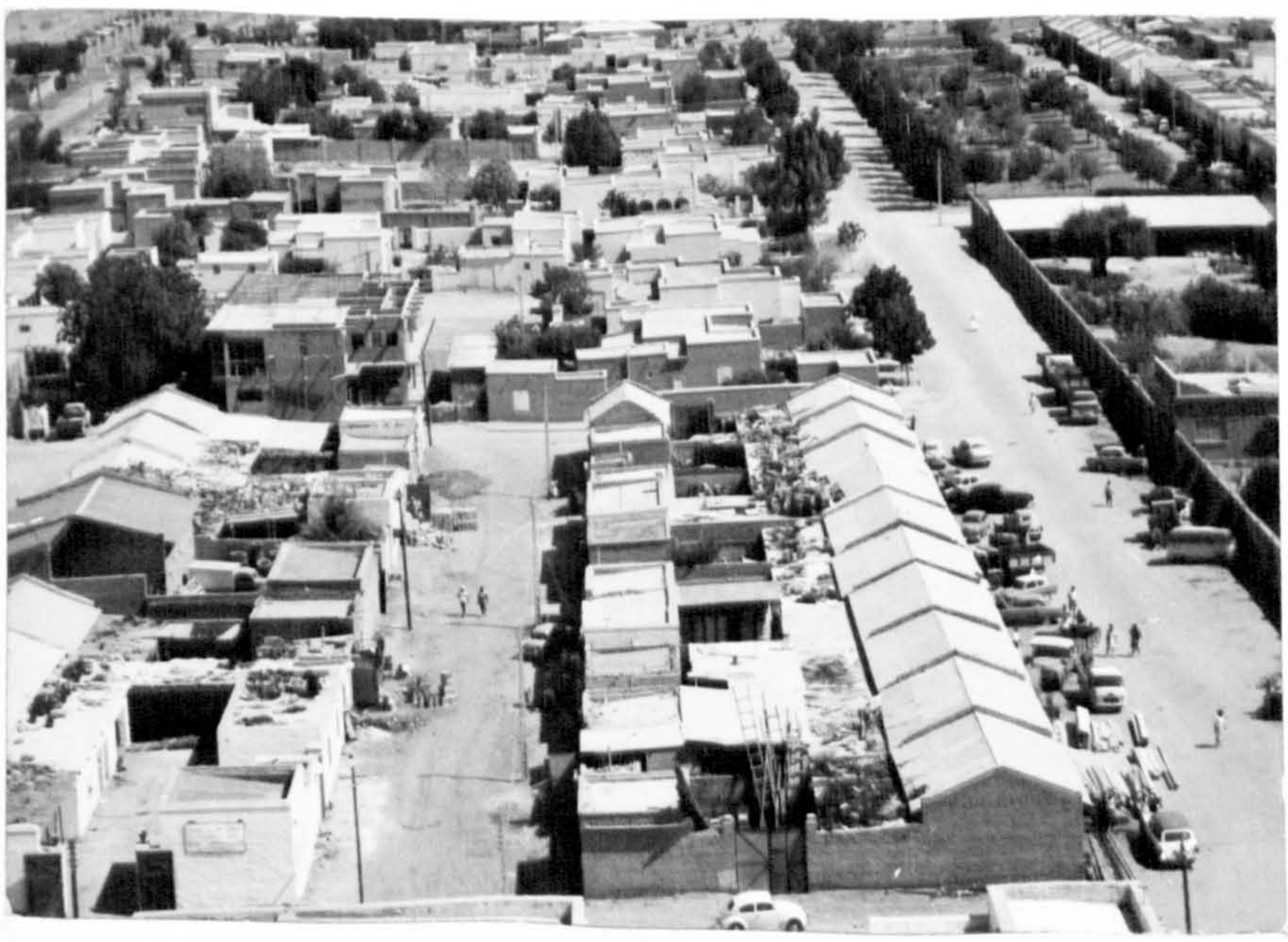
Housing Design

The conventional urban house in the Sudan has usually two or three bedrooms and a veranda and is built in a plot of land rarely

Plate 8:4

Government Built Low_income Houses

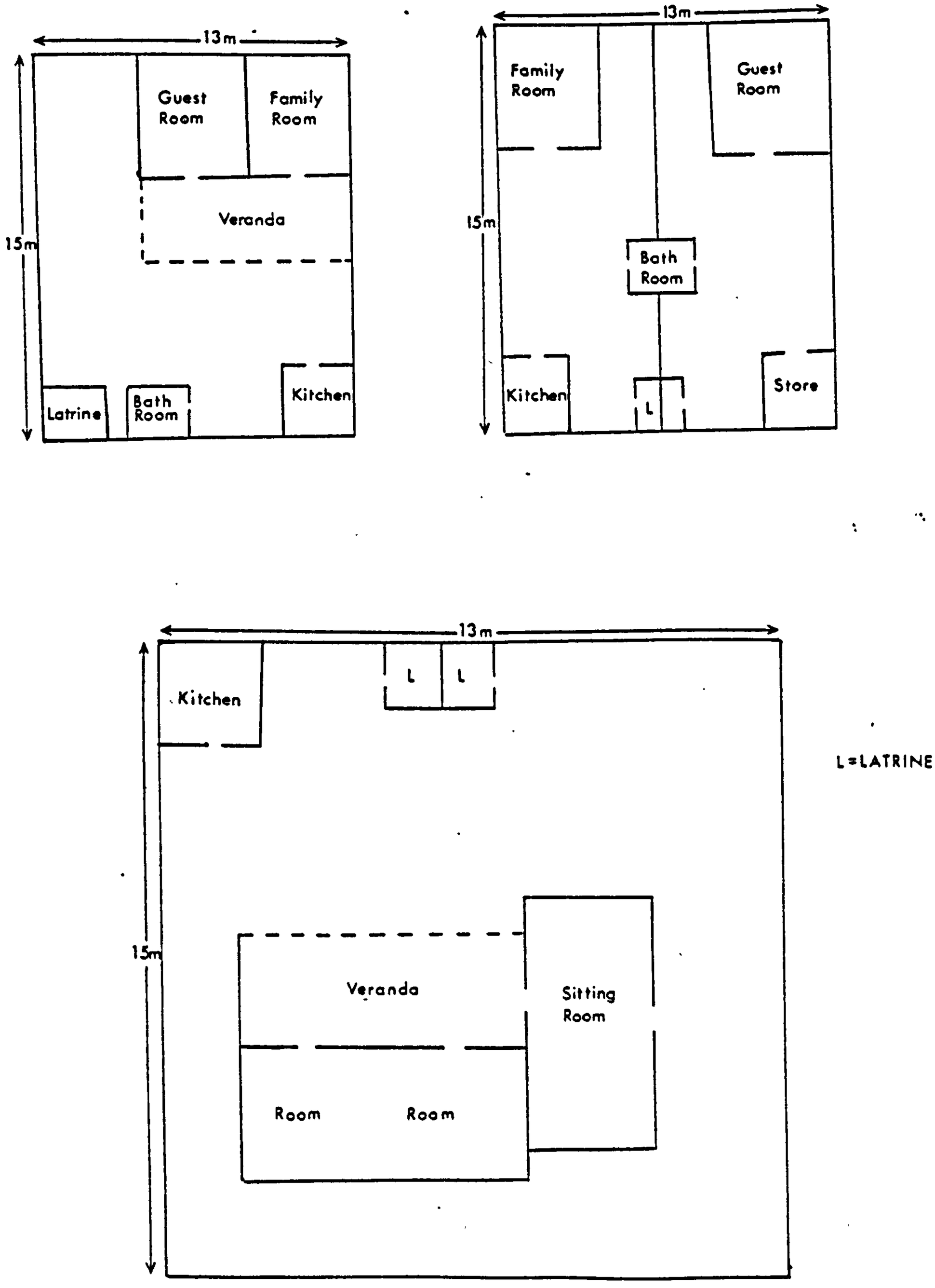
(Khartoum North)



smaller than 300 square meters. In addition there is a kitchen and latrine which are located away from the bedrooms for sanitary reasons (Fig. 8:2). The walls are usually made of "Jallos" - mud layers, or bricks. They are protected from rainfall by a kind of plaster known as "Zibala" which is made from a fermented mixture of animal dung, soil and water. Roofs are supported by beams and rafters of local timber and are made from palm fibre or grass mats covered by a layer of earth and plastered on top with a layer of Zipala to prevent leakage.(6)

However the most important feature of the Sudanese home is its space requirements. This space is not required as much for the activities performed within it as for related social and climatic factors. Thus apart from household activities the need for space in the home is influenced substantially by the desire for the separation of the sexes, for the privacy of women folk from visitors and strangers, for the display of the family's prestige and social status and for thermal comfort at different hours of the day. It must be pointed out however that the seclusion of sexes does not mean the division of the members of the same households into males and females. Although in many cases social customs dictate that the two sexes in the same household should eat separately, for most other functions of family life the family is one unit. Seclusion is valid only for one sex in relation to the stranger or outsider. To explain what is meant by a stranger or outsider in this context, an example is appropriate. I might be on very good terms with my

Fig: 8:2 Urban House Design



Source: Fawzi, s. Social Aspects of Urban Housing in Northern Sudan. Sudan Notes and Records Volume 35, 1954.

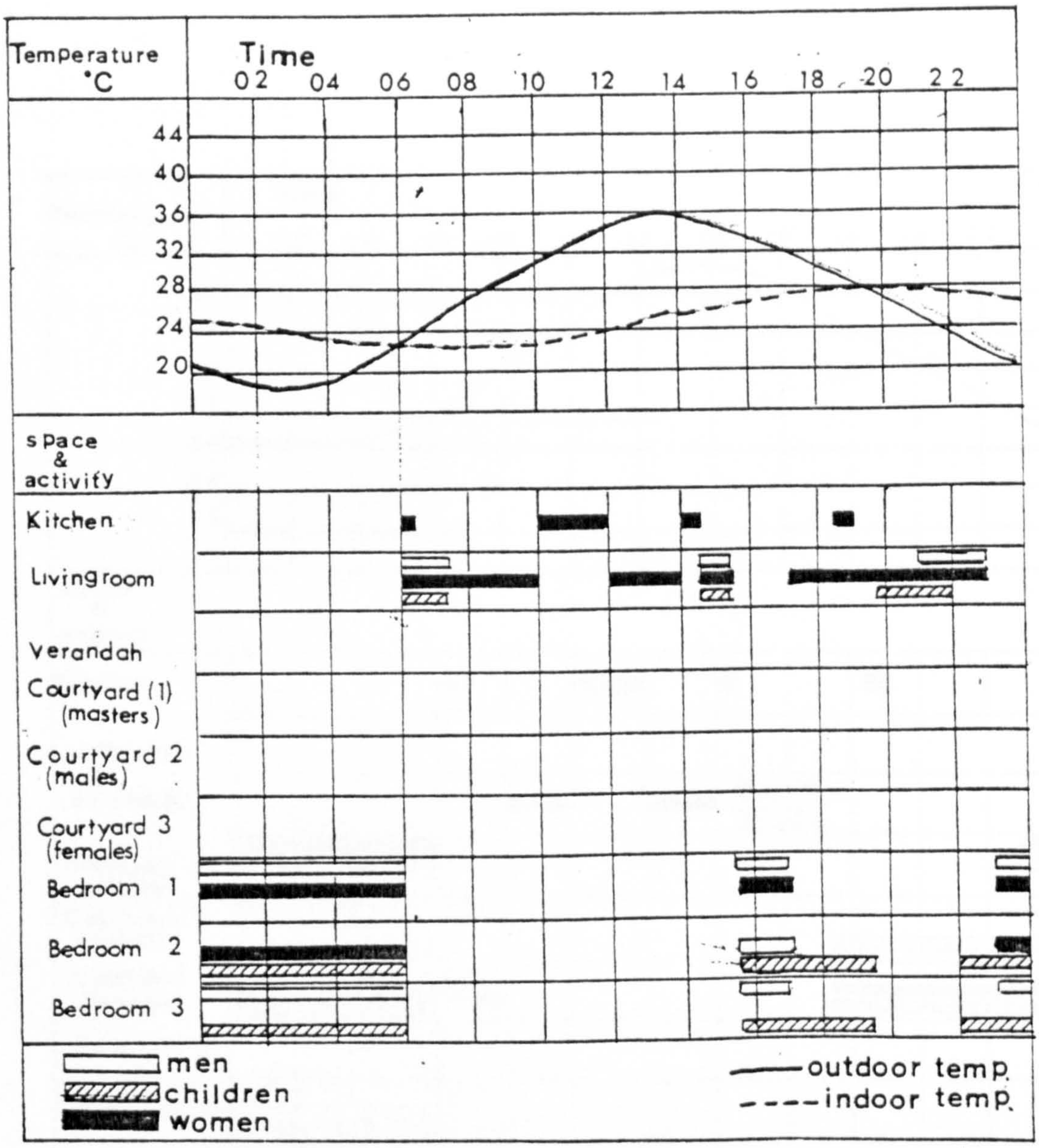
neighbour or friend, but I am still a stranger to his women folk and must be treated accordingly. The same of course applies to him.(7)

This practice of the seclusion of women leads to the need for more space in a housing unit than that needed in other tropical countries. For example, Atkinson(8) suggested that in tropical countries with single storey dwellings, a reasonable level of privacy can be maintained by a total habitable level of 9 to 19 square meters per person. In the Sudan the minimum acceptable area is 33 to 40 square meters per person, which is well above Atkinson's average. Considering that the average household size varies between five and six persons, the minimum size of the plot, which allows for the proper functioning of the average household's living habits, is 200 square meters. However, the larger areas create more economic expense for the government and the people as a result of the provision of longer networks of pipes and cables, higher maintenance costs and extra building works.

A large space is also needed because a substantial part of the daily household activities, particularly in the hot, dry summer, takes place in verandas and in the open courtyards within the plot units. Throughout the year, except on cold winter nights and during actual rainfall, people sleep outdoors in their respective courtyards. The two activity charts for Khartoum, during the hot and cool season (Figs. 8:3 and 8:4) show quite clearly that the courtyard is an integral part of the housing unit. It is used for cooking, sleeping and as a playground for children.

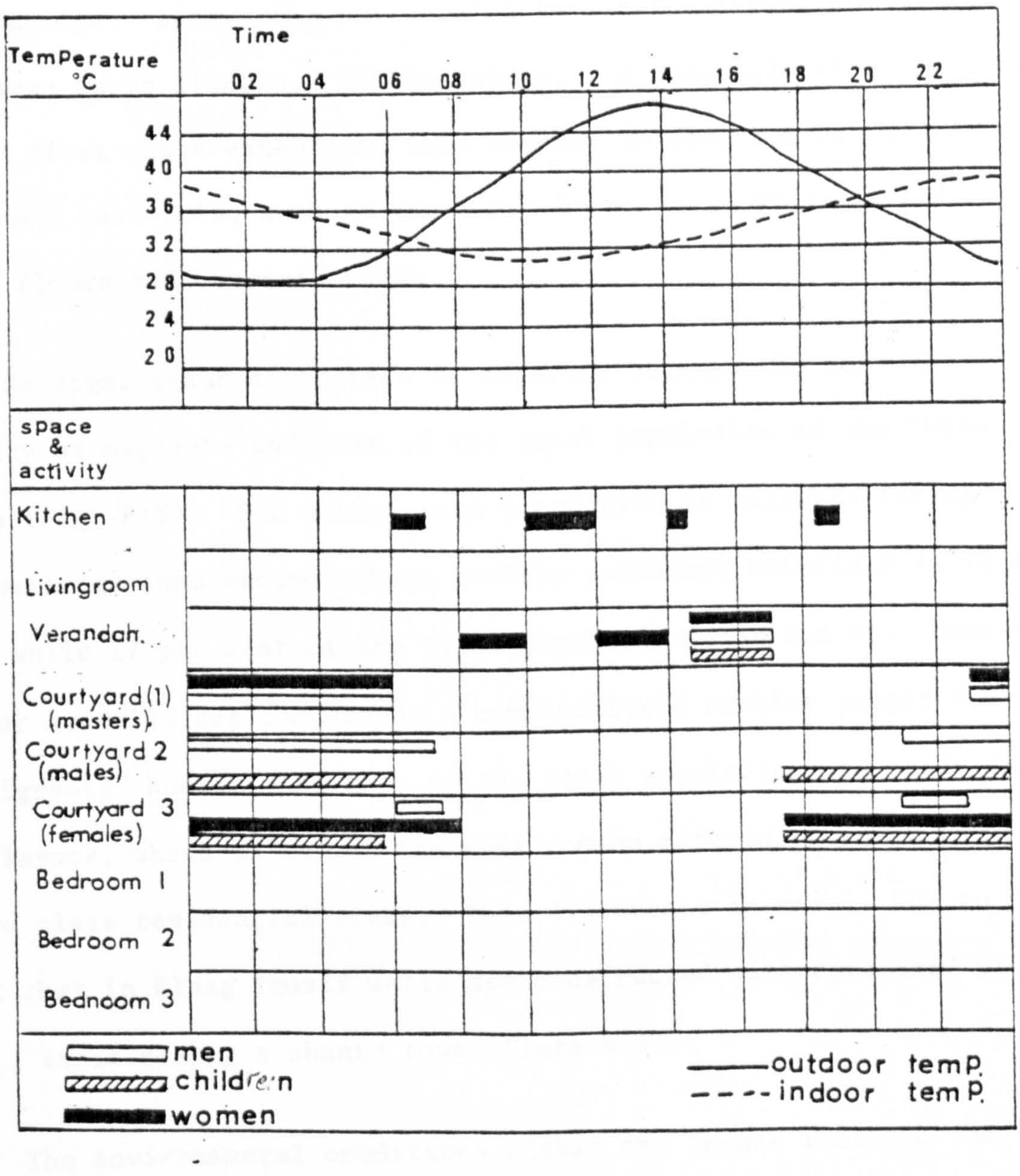
Activity Chart For Khartoum Town During the Cool Season, January.

Fig 8:3



Source ; U.N "Design of low cost housing and community facilities", Volume I : Climate, and housing design ; New York 1971.

Fig 8:4
Activity Chart For Khartoum Town During The Hot Season, June.



Source: UN Design of Low Cost Housing and Community Facilities
Volume I: Climate, and Housing Design, New York 1971

The Survey of Migrant's Housing Conditions

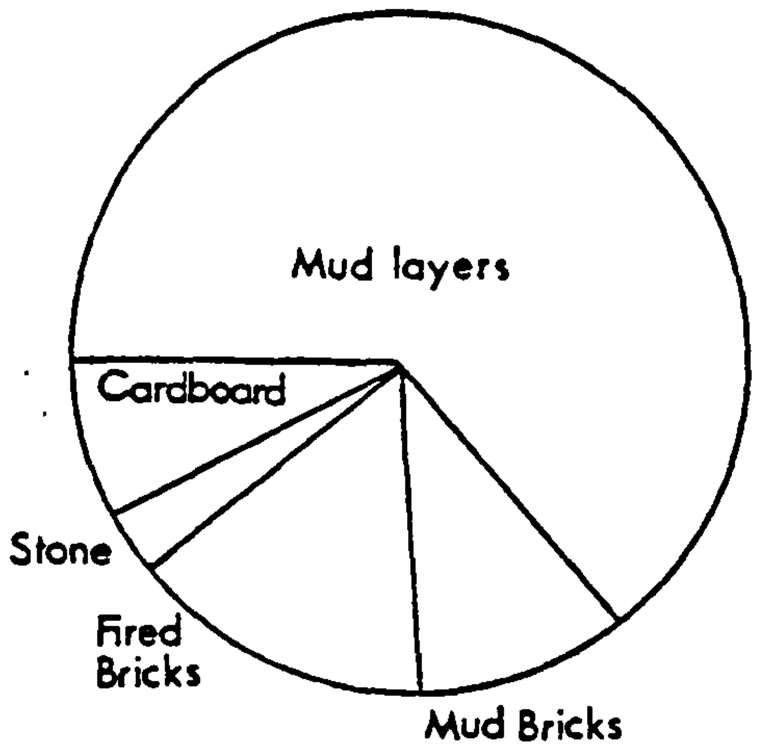
In each housing unit the materials forming the walls, roofing and flooring as well as the provision of a number of utilities were examined. Fig. 8:5 shows that 64 per cent of the migrants dwellings were built in mud layers (Jallos), the traditional method of construction. Sixty nine percent were roofed in local material and 81 per cent were earth floored. Few buildings, and those almost exclusively in the first class extension, were erected in what can be termed permanent materials, such as fired bricks or stone walls or had tiled floors and concrete roofs.

No significant difference is observed between the housing quality of migrants and that of the total population of the Three Towns (Fig. 8:5). For example the proportion of migrants living in dwellings constructed of high quality permanent materials is 18 per cent while 17 per cent of the total population also did so. However, as far as walls are concerned, a comparatively smaller proportion of migrants' houses than that of the total population are built in mud layers, which is by far the most common material used in the third class residential areas. This difference is mainly due to the fact that in Elhag Yousif walls are constructed with cardboard or tin i.e., it is really a shanty town (Plate 8:5).

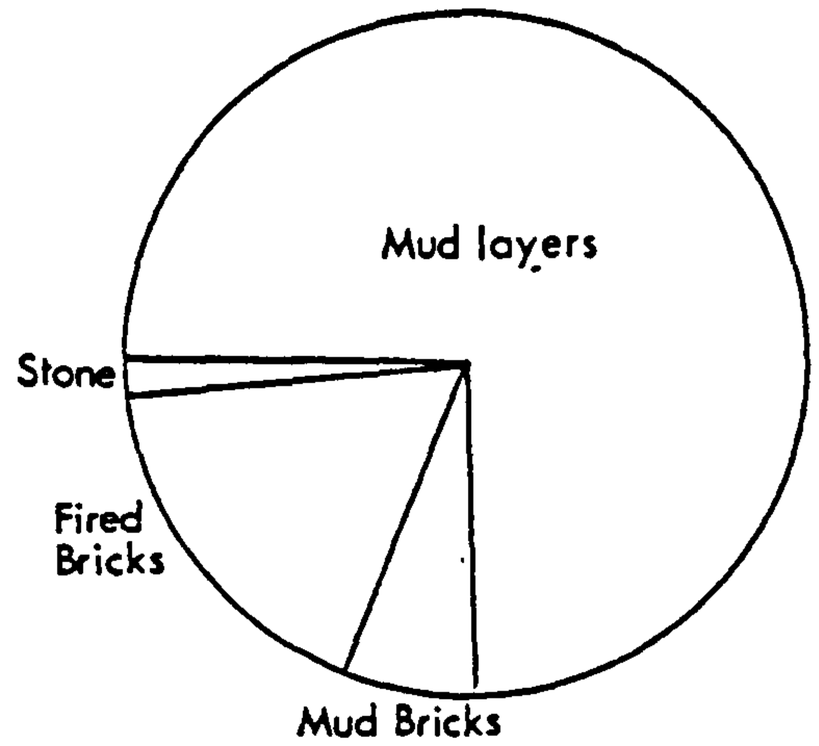
The environmental conditions within the houses included the nature of the water supply, electricity, and sanitation. From the point of view of water supply the picture is rather bleak. Only 59.5 per cent of the migrants have an indoor filtered water supply,

Fig 8:5 Building Materials

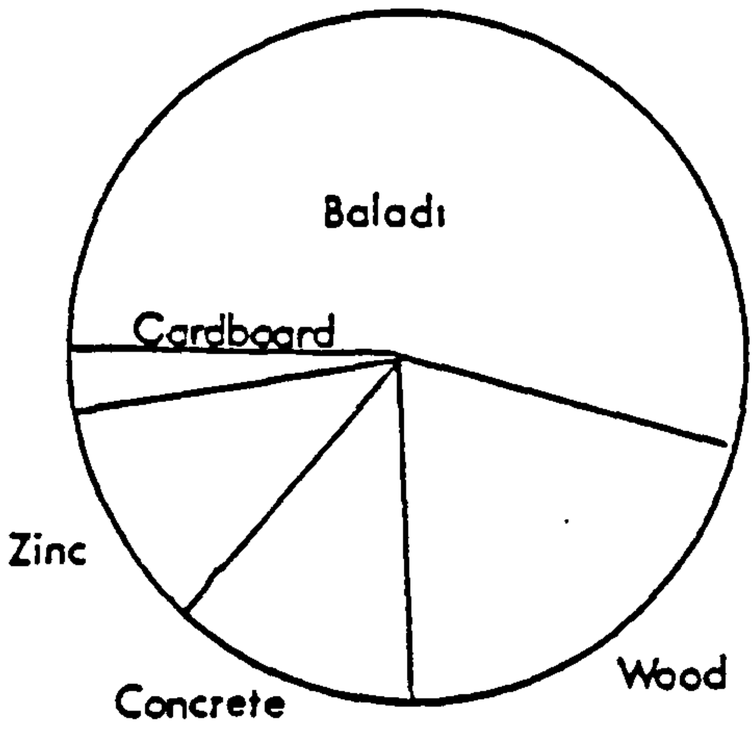
Migrants

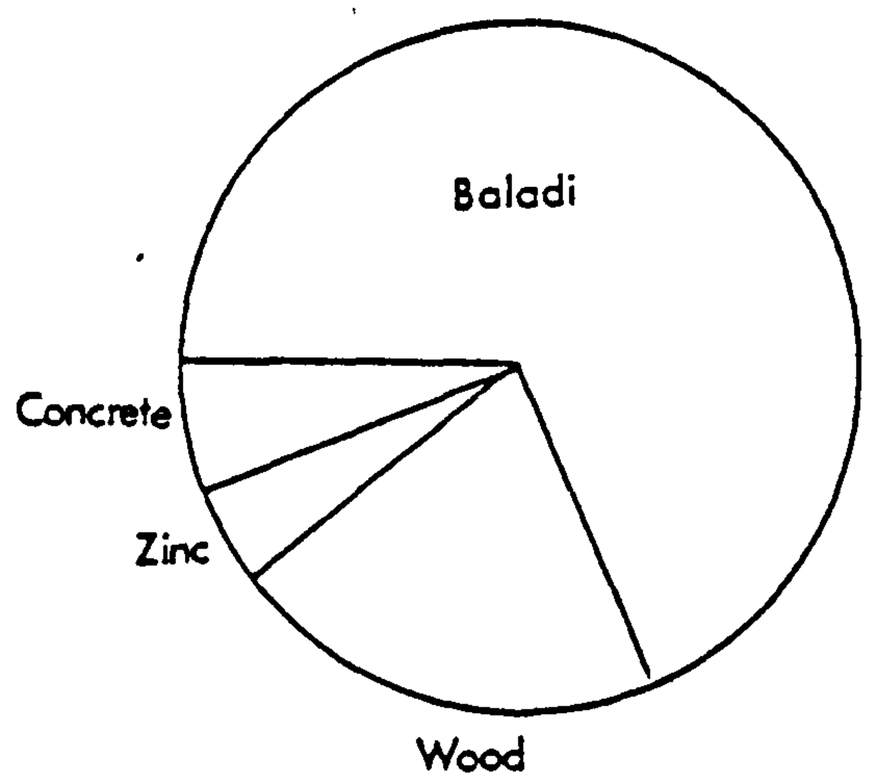


Total Population*

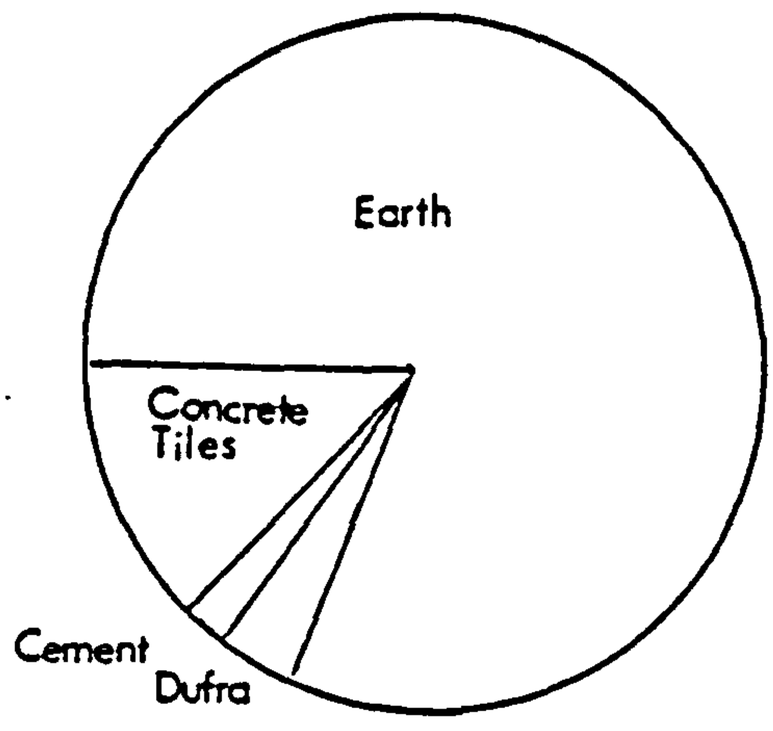


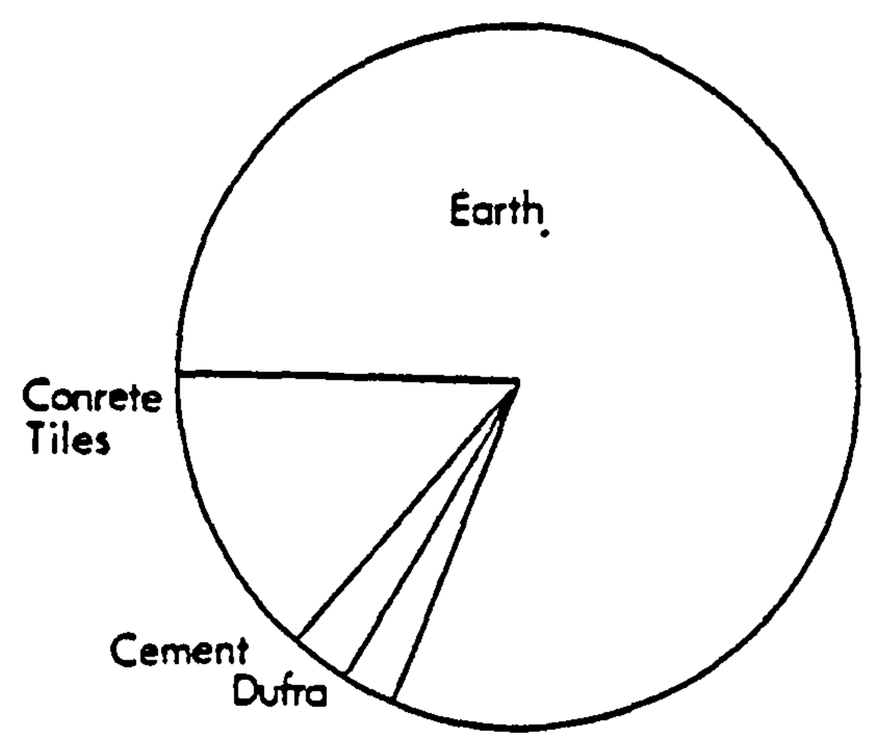
WALLS





ROOF





FLOOR

* Data Derived from 1973 Census

Plate 8:5

Cardboard Shacks in a Squatter Settlement (Omdurman)

7.6 per cent have access to outdoor communal water taps and the rest buy water from other individuals who sell it in containers (Plate 8:6). The electricity supply is even worse, only 49 per cent of the sample having access to it. The deficiencies in the provision of such services reflect the fact that migrants usually live in peripheral parts of the Three Towns where it is very costly to provide such services. Generally in the Three Towns satisfactory services prevail in the central areas of each municipality; with the exception of areas recently urbanized with first class plots; conditions deteriorate as one moves away from the centre. The worst conditions are found in the most peripheral and recently urbanized third class areas in each of the Three Towns. For example the entire population of Eid Hussien (approximately 6000 people) and ElHag Yousif (approximately 15,000 people) have neither water nor an electricity supply and 80 per cent of the sample in Umbada are in the same condition. However, most of the inhabitants in the first two quarter councils live in temporary structures, which are unfit for extending electricity to, even if the authorities were willing to do so and the occupants could afford it.

The survey results reveal that 12% of the dwellings were without pit laterine, bucket, water toilet, siphon or any kind of communal toilets. The majority of those are residents of Eid Hussien and Elhag Yousif, who use waste ground; a practise which is not only hazardous to health but also offensive to the sense of decency.

Plate 8:6

TransPortation of Water for Purchase

in Squatter Settlements(Omdurman)

Moreover of those who have the privilege of access to a latrine, 37.7 per cent share it with another household. The most common type of toilet is the pit latrine and only residents of the first class extension have access to siphons. This is not surprising, since only a small part of the city is sewered. The number of houses supplied with sewerage, according to the 1964/65 population and housing survey is only 13 per cent in Khartoum, 4 per cent in Khartoum North and 3 per cent in Omdurman.

As regards washing facilities the results indicate that 52 per cent of the dwellings have no bathroom, 35 per cent have a private one and 13 per cent share. This result is expected, since more than half the dwellings are not connected to a water supply. Although this aspect of utility has a lower priority relative to other basic needs, it is very important in a tropical country like the Sudan where a person needs at least one shower a day. It is also important to note that one third of the dwellings do not have a kitchen. Cooking is either carried out in the open or on the veranda if one exists.

Tenancy

Almost exactly half of the households (50.9 per cent) own their dwellings. However it must be noted that there were actually two quarter councils within the sample where none of the occupants had legal titles to their dwellings at the time of the survey. In these areas the majority of the respondents were actually squatters, although they identified themselves as owners. Renters are

concentrated in those parts of the town where rents are lowest. For example in Umbada, where the average monthly rent was found to be 9 Sudanese pounds, the majority of the residents were renters. Nevertheless in the first class extension, where the average monthly rent was 113 Sudanese pounds, 46 per cent of the sample were renters. This is mainly due to the fact that in this area houseowners, who were mainly Khartoum born, prefer to rent their dwellings to raise capital rather than to occupy them themselves. The high rents were mainly due to the fact that the houses are two storeys and coveted by foreigners and embassies. In fact the majority of the residents in this area are foreigners.

A breakdown of houseownership by the duration of residence in the Three Towns shows a positive correlation between the two variables (Table 8:1). Of all house owners in the sample only 7.4 per cent were recent migrants compared to 78.1 long term ones. Moreover houses owned by recent migrants were either temporary or semi-permanent, with poor indoor facilities and rarely had electricity supply.

These findings are in line with our earlier observation that newcomers to the city are young, single, unskilled and their primary requirement is to find a job. As the income of the migrant becomes fairly steady and he accumulates some savings, his priorities begin to change. At this point the migrant and his family will aim at acquiring a plot of land to secure their residential stability,

TABLE 8:1

Period of Migration and Type of Tenancy

Period of Migration	Rent	Own	Share
1973 - 1978	86.7	13.2	39.2
1972 - 1962	20.8	79.2	26.4
Before 1962	7.4	92.6	5.9

Total N = 420

even if this involves squatting which entails a relatively distant and isolated site at the periphery of the city. Moreover according to Government policy, nobody will be allowed a plot of land unless he has resided in one of the Three Towns for at least ten years. Thus the probability of owning a house increases with the duration of residence in the city. Migrants cannot afford to buy a house at cost price even by installments. In fact when respondents were asked how they acquired ownership, 91 per cent said that they were allotted a plot of land by the government and the vast majority claimed that they built their houses gradually from money saved after migration, according to the needs of the family and according to the rate of income generation. Most respondents started with one room and then added more rooms or indoor facilities within five years of acquiring their plots.

Table 8.1 also shows that almost one-third of the respondents shared housing with other familites. This proportion was high keeping in mind the fact that Sudanese families do not approve of sharing housing except with sons or daughters in law. However, the evident change in attitude is a consequence of economic and social necessity. The rapid rate of migration to the town, shortage of housing, high rents, rising cost of living, low income of the vast majority of migrants and above all, the change in socio-cultural habits of the population, are the main factors that contributed to the encouragement of sharing with both relatives and strangers. The causes of

change from the traditional extended family in which one household unites the father of the family, his wife or wives, his unmarried daughters and sons and his married daughters and sometimes married sons are numerous. To the migrant the city has new earning prospects which enables the young to break away from their dependence on the family property. The spread of education among both sons and daughters has introduced new concepts counter to the traditional way of life, and favouring aspirations of individuality and independence. Moreover disagreement between mothers and in-laws are common and the latter usually seek other accommodation whenever a quarrel breaks out. This transformation is, however, slow and the traditional household still dominates. When migrants were asked why they shared their dwelling, the majority stated financial reasons (61.5 per cent). The desire to be independent was second in importance (17.8 per cent). Those sharing housing because of tradition were mainly married sons or daughters but they represent only 13.2 per cent of those sharing.

Household Size and Overcrowding

More than two-thirds of the respondents were housed in one or two rooms each, and only 16.6 per cent had more than four rooms (Table 8.2). This must be seen in conjunction with the distribution of household units. Table 8:3 shows a preponderance of small households of three, four and five persons. However, the fact that households are small does not in any way imply that overcrowding is not a characteristic feature among the migrant population of the

TABLE 8:2

Distribution of Households by

Numbers of Rooms

Number of rooms	Per Cent	Cumulative per cent
One room	38	38
Two rooms	27	65
Three rooms	18.4	83.4
Four rooms	11.1	94.5
More than four rooms	5.5	100

N = 420

TABLE 8:3

Distribution of Households

Number of persons per household	Percentage in household	Cumulative percentage
Two persons	6.5	6.5
Three "	12.3	18.9
Four "	16.4	35.3
Five "	14.1	49.4
Six "	13.9	63.2
Seven "	11.1	74.3
Eight "	9.8	84.1
Nine "	5.0	89.2
More than Nine	10.8	100

N = 420

Three Towns. In fact the majority of the households were overcrowded and the average number of people per room was 6.3, while averages of 7 or 8 persons per room were not uncommon for subsamples.

Crowded conditions vary with period of migration and type of tenancy. It was observed that recent migrants were the least crowded and had a below average persons per room ratio compared to long term migrants. This can be explained simply by the fact that recent migrants had smaller families. Long term migrants, besides having larger immediate families, had more distant relatives or fellow villagers living with them. This arises from the tradition that new comers always use long term migrants as their first contact in settling down to an urban existence, as they usually have larger dwellings.

It was also observed that those living in their own houses were more severely overcrowded than those who were rent payers. Houseowners had 6.7 persons per room compared to 5.5 for renters. It is not uncommon for migrants, who had saved enough money to build their own houses to limit family use to one or two rooms and to rent the rest to provide an additional source of income. Renters on the other hand had normally had a better chance of choosing a house that suited the needs of the family. Moreover, the majority of house owners were long term migrants, who, as was already shown, had large families.

However it is doubtful whether such quantitative standards

give a realistic picture of the housing needs of migrants in Khartoum. United Nations Housing Experts[9] considered a house overcrowded if there were more than 2.5 persons per room. But in a tropical country like the Sudan, the application of such averages is not appropriate. In fact, because of the climate and social habits of the population, a substantial part of the daily routine takes place out of doors, as already discussed. Moreover a high number of persons per room in urban areas is unavoidable, because the low income of the vast majority of the population limits the amount of housing a family can afford regardless of its size. Therefore it is the number of useful square meters available per person that counts as an appropriate measure of overcrowding.

Migrants' housing equipment varies with the duration of residence in Khartoum. A simple technique is used to measure the housing quality of each migrant group based on the presence or absence of the following utilities: Bathroom, laterine, kitchen, indoor water connection and electricity supply (Appendix 4). As Table 8:4 shows there was a direct relationship between the length of time in the city and the quality of housing. The quality of housing index increased from 121.3 among recently arrived migrants to 140.1 and 214.4 among those of intermediate and long-term residences. As has been observed before, migrants especially those of rural origin, upon first arrival at Khartoum, were usually employed in low paid marginal occupations (porters, vendors etc.). Without enough capital to buy plots of land and build their own

TABLE 8:4

Relationship between period of migration and housing quality.

Period of Migration	HOUSING QUALITY					
	Bathroom	Laterine	Kitchen	Water Supply	Electricity	Total
1973 - 1978	20.7 (45)	18.9 (70)	31.3 (87)	33.2 (83)	17.2 (35)	121.3
1962 - 1972	31.3 (68)	21.1 (78)	25.6 (71)	28.8 (72)	33.3 (68)	140.1
Before 1962	48.3 (105)	34.8 (129)	42.8 (119)	38.0 (95)	50.5 (103)	324.4

N = 420

Figures in parenthesis are the number of each variable in each migration group

house, they often end up renting low quality houses or owning one in a shanty town. Long term migrants live in higher quality houses due to improvements with time operating through residential mobility or improvement to existing dwelling. This is also substantiated by the fact that there is no significant difference between the housing quality among recent and intermediate migrants.

Residential Mobility and Aspirations

Of the total 420 migrant heads of household interviewed, 80.4 per cent changed residence at least once since arrival at Khartoum, reflecting a substantial amount of residential mobility among migrants. This is not surprising considering that very few had their own individual accommodation from the start, even if they moved to the city with other members of their family. Survey results indicate that 76 per cent of the migrants shared housing with relatives or friends when they first arrived. The period of sharing varies from less than a month to years, depending on the financial condition of the migrants, the closeness of his relationship to the host and the time required to find a suitable house to move to.

Moreover housing needs change as migrants' families go through the life cycle and they themselves move up the occupational ladder. Family size increases as children are born in early years of marriage soon after arrival and consequently housing needs and space requirements change. When a migrant brings his family there is always the possibility that relatives or friends may come to

live with him, if only for a short time. When migrants move up the occupational ladder, they are usually sensitive to the social aspects of location and use residential mobility to bring their residence in line with their new prestige. The case of Ali provides a typical example of residential mobility:

"I came to Khartoum when I was 17 years old and have now been here for 16 years. When I arrived I lived with my uncle sharing a room with six relatives. In those days jobs were easier to find and I was employed in a filling station. In my spare time I learned to drive and eventually managed to pass the exam. After a year I changed my job and was hired as a taxi driver. Having secured a well paid permanent job, I moved from my uncle's house where I had stayed for almost five years. I shared a house with a group of bachelors in the same area. I worked hard and saved enough money and in two years time I accumulated enough, which together with financial help from friends and relatives, enabled me to get married to my cousin in my home-town. Two years later I decided to bring my wife, child and sister-in-law to live with me permanently. I shared a house with another family who I did not know before. Sharing the cost of the water supply and the kitchen had been a source of friction between my wife and the other lodger's wife and so I decided to move. I found this house through

the help of friends. Although it consists of only one room and a veranda, I enjoy the privacy. Nevertheless I intend to move in the future if I find a better house but at a reasonable rent."

Mobility varies with type of tenure. It was observed that renters were more likely to move than owners. The mobility rate for renters was on the average almost three times as high as that for owners. Generally renters were younger than houseowners and were therefore less likely to have achieved what they considered a permanent housing condition. Thus they were able to exchange their houses for more suitable accommodation. Owners do not usually move unless they can make a profit from renting their own house.

The analysis of reasons for migrant's residential mobility shows that they were mainly seeking an improvement in their housing conditions (Table 8:5). The desire for larger accommodation and better indoor facilities stands out. The cost of housing ranks second in importance. This implies that migrants move to peripheral areas where rents are comparatively low. Other factors that induced migrants to change housing were the desire for a better neighbourhood surroundings, the desire to live near friends or relatives or to live near schools or urban facilities.

Migrants who had moved were asked to compare their existing house with the previous one. Assessment of the unit was made

TABLE 8:5

Reasons for Residential Mobility

	N	P
Better Accommodation	272	58.6
Cheaper House	59	12.7
Live near relatives or friends	45	9.7
Better neighbourhood	43	9.2
Live near place of work	39	8.5
Live near schools	6	1.3
Total	464	100

Total respondents 338; some respondents gave more than one reason.

according to its physical attributes, the number of rooms, area of plot, facilities, water connections and electricity and building material. The two most important reasons for assessing the house as better than the previous one were its indoor facilities and its number of rooms. It should be noted however that all reasons, particularly water and electricity supply and indoor facilities were named quite frequently as features which were worse in their new home. Most of the respondents who claimed that their housing conditions declined since they moved were residents of Eid Hussien, Umbada and El Hag Yousif, where no water supply or electricity were provided. However, it must be noted that the absolute numbers saying that the defined factors were better after moving were more than three times as great as those saying that they were worse. Thus although most migrants mention pros and cons for their existing house generally some improvement was achieved through residential mobility. (Table 8.6).

One of the indicators of satisfaction with a house is plans to continue to live in it indefinitely. When respondents were asked whether they were intending to move, 65.7 per cent said they had no intention of doing so in the near future. This indicates that either great satisfaction exists with the present housing or more probably, a high value is placed on a site when it is obtained, i.e. inability to move elsewhere.

Furthermore, migrants were asked to give the principal reasons for staying or moving from their existing house.

TABLE 8:6

Comparison of present with
last move.

Assessment	Better		Same		Worse	
	N	%	N	%	N	%
Number of rooms	170	27.6	34	43.6	24	19.8
Indoor facilities	177	33.1	13	16.7	28	23.1
Open space	68	17.0	9	11.5	13	10.7
Water and Electricity	57	14.3	15	19.2	39	32.2
Building material	32	8.0	7	34.6	17	14.0
Total	399		78		121	

N = 420

Some respondents gave more than one reason

Ownership, the size of the house and the difficulty of obtaining another house were given as the three most important reasons in all quarter councils. The principle reason given for the dissatisfaction with the present house was that the area of the house was inadequate for carrying out family functions according to traditional customs and norms, particularly with reference to privacy between the sexes. Other reasons for dissatisfaction were the costs of housing, number of rooms and absence of basic infrastructure such as water supply and electricity. An example of dissatisfaction with housing is that of Gumma:

> "I am from a village in the Nuba Mountains. I have been in Khartoum for about three years. Now I am a waiter in a restaurant and earn only 18 pounds per month. When I first came to Khartoum I had two acquaintances from my village who let me stay with them and loaned enough money for me to get by. Because of my low pay I have to live in a bad house like this. It consists of one room only and there is no kitchen or even a pit latrine. It is also very far from my place of work. Neither my wife nor myself like it but where else can I find a house or even a room for 5 pounds a month. Anyway I hope that in the future I will find a better job and move to a more pleasant place to live in"

The degree of satisfaction with housing varies from one quarter council to another. Almost twice as many of the respondents

in the first class extension as in ElMazad answered that they were satisfied with their present housing conditions. This is not surprising since most of the residents in the first class extension were owner-occupiers and enjoyed all urban services and facilities. The most surprisingly result was that a comparative high percentage of the residents of ElHag Yousif did not intend to move in spite of the total lack of services and long distance from the centre of Khartoum North. This may be due to the fact that the majority of the respondents were recent migrants who cannot afford the high rents of the city. Even more important was the fact that they expect to own the house whenever the Government legalizes the site.

To give some idea of the migrants aspirations regarding their housing, heads of households were asked what they would like to achieve regarding their house in the future. The majority of the respondents wanted to improve it (70 per cent), by finishing it (39 per cent), expanding it by adding a new room, a kitchen, a veranda or a laterine, (20 per cent) or go to the extent of constructing a new one (10 per cent). The remainder stated that they wanted a better house in a different neighbourhood.

Migrants were also asked whether they had applied for a plot of land. Seventy five per cent of the migrants said that they had. Even those who already owned one applied for the simple reason that if they were successful in getting one, it would be an investment for the future or they could sell it in the Black Market. Those who did not apply were recent rural migrants, who were either not

aware of the fact that the authorities were distributing plots, or because they had yet to qualify in terms of residence in the Three Towns. When asked about the number of rooms they would like to build if they were allotted a plot, a little over half (55.3 per cent) of the total responded "three", about one third wanted two rooms and only 9 per cent wanted more than three rooms. In the light of the fact that the average household size in the sample was 6.3 persons per room, this desire does not appear to be over-ambitious.

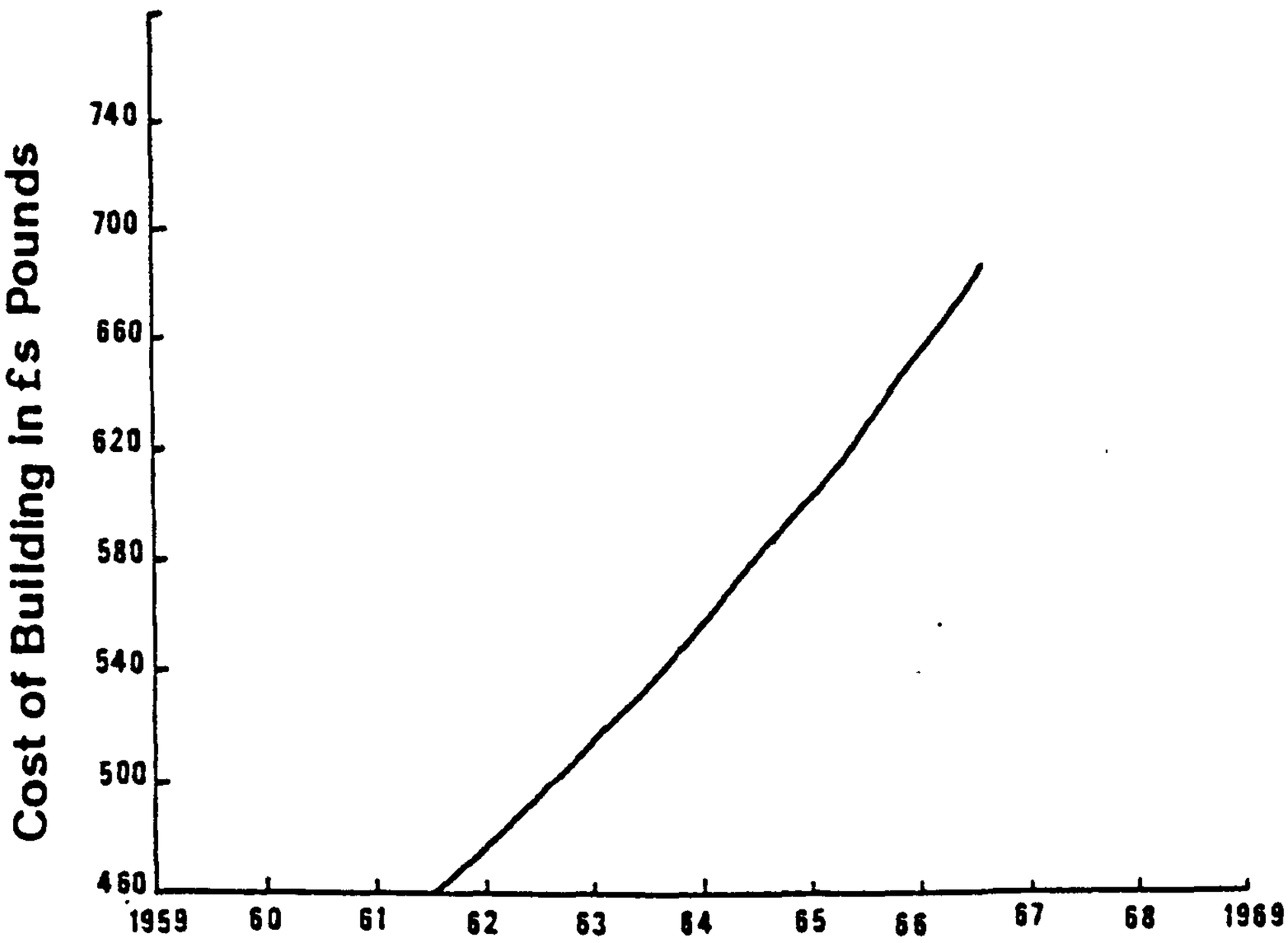
The majority of the respondents said that they would build their houses in stages, as their immediate available resources were insufficient to construct a complete house. If one factor is to be singled out as the major cause of the failure of most respondents fulfiling their minimum housing goals in a short period, it would be the high cost of construction. As can be seen from Fig. 8:6, the total cost of construction of a conventional two-roomed low-income dwelling increased from 460 Sudanese pounds in 1961-62 to 680 in 1966-67; i.e., more than 50 per cent increase in five years. For the same period the average household income increased by about 16 per cent.(10)

Considering cost of production in relation to income, a typical two roomed conventional house in 1967 cost as much as five or six times the annual income of the low income group. It is generally accepted by United Nations experts that twice the annual income is the maximum that can be afforded. It is also

Fig. 8:6

Increase in Cost of Two Roomed

Conventional Dwelling



Source: Hamid, A. National Housing and

Experiment of Low Cost Housing

generally accepted that the housing expenditure of such groups should not exceed a maximum of 25 per cent of their income.(11) Thus if a migrant with an income of 500 Sudanese pounds was allotted a plot of land in 1967, he should have only spent 125 pounds annually on building purposes. Assuming that prices were kept constant, he would have taken at least five years to finish the house.

I believe that at present the situation is even worse and construction costs are at least 10 times of what they were in 1967. I was told by a number of people that a traditional house built with semi-permanent material would cost between 5 and 6 thousand pounds at least. This sharp increase is mainly due to high inflation and the failure of the Government to supply imported construction material such as cement and wood. Consequently the solution of the housing problem does not lie now in the distribution of cheap plots but rather on the reduction of prices of construction materials and the creation of credit facilities designed to help low income people.

Rapid urban growth has been the major feature of the Three Towns in the post independence period. However expansion has not been equal among income groups and low income settlements show more rapid growth than either first or second class residential areas. This is to be expected since the majority of the newcomers are poor. Nevertheless, in spite of the Government's efforts, the expansion in housing has not kept pace with the explosive rate

of urban population increase. Shortage of houses and high rents in central areas prompted the establishment of squatter settlements in the periphery of the city in the early 1960s.

Squatter settlements in the Three Towns, similar to settlements elsewhere in Africa, are established not by migrants coming directly from the villages but by low income groups who have settled earlier in the city. The population of such settlements grow rapidly because they attract newcomers from the same villages. It was noticed that in ElHag Yousif squatter settlement that most of the residents come from Western Sudan, and the majority had known each other for years. Initial residents welcome the expansion of the settlement, because the larger the number of participants and the bigger it becomes the more difficult it becomes for the authorities to demolish it.

Squatter settlements in Khartoum are characterized by insanitary conditions, inadequate water supply, lack of open space, overcrowding and absence of communal facilities. Nevertheless, in spite of their disturbing conditions they are serving a purpose. Since the occupants of such residential areas are by definition from the lowest income groups, they are unable to afford better standards. The resources necessary for building better housing would have to come either from the Government or the private market. In view of the public sector's limited investable

resources and the various pressing development needs, it is doubtful whether the Government could go as far as building better dwellings for such a large number of people. The private market does not support individual housing loans for low income groups because their income is not stable and they are unreliable in meeting regular payments. Moreover, the majority of the population will not accept loans that involve interest because it is against the laws of Islam (Islam prohibits borrowing money or lending it for interest).

Moreover as Turner observed, the squatter's procedure of illegally occupying a plot of land,(obtaining possession without much economic outlay and living in sort of shelter he can manage) allows the family to improve its living conditions and to become far more independent at a much earlier and at a more active stage of life. Migrants risk the danger of squatting in return for the chance of eventually securing legal rights and slowly improving their houses. Indeed, observation has shown that after the squatter settlement is legalized the quality and the appearance of the houses improve and become indistinguishable from the third class extensions. This supports Turner's theory that it is only when a migrant gains economic security, title to his land and the minimum beginnings of a permanent dwelling structure that amenity in the living environment becomes a priority. At this point he may begin substantial improvement on his dwelling by substituting more permanent material

for temporary ones or through the addition of new indoor facilities.

Moreover urban house ownership is a source of social and economic security. As Turner[14] argues, "Even if the dwelling is no more than a shack on a plot of rough land it frees the owner from rent payments; it also provides him with opportunities with additional income and the chance to invest his small saving, skills and spare time".

Since migration to the city cannot be limited, it should be planned for. The two major constraints on planning for low income housing are land availability and finance. With regard to the former the Three Towns have plentiful wasteland. Regarding finances, the Government is directing its policy towards self-help housing, which is designed to provide a framework within which people build their own houses as their resources permit. The advantages of self-help houses over Government developed houses is that their areas are much larger. Moreover a vital economic advantage of progressive building is that it permits and stimulates the investment of non-monetary resources which are abundant in the country.

However the development of viable communities cannot rely on housing alone. Community facilities (schools, clinics, open spaces) and the provision of vital services such as water supply, paved roads and electricity should be considered as an essential part of the self-help policies. This part is undoubtedly the responsibility of the Government. Unfortunately due to lack of

resources and the outstanding sprawl of the city, the Government fails to provide adequate service, although the people pay for its provision when land is distributed or legalized.

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CHAPTER IX

CONCLUSIONS

Internal migrations are not new in the Sudan; they date back several centuries and they certainly outdate colonial rule. Such movements were related to environmental conditions, such as the search for adequate grazing, for the search for more productive land due to the exhaustion of the soil. But the patterns, intensity, volume and direction of population movements have been substantially altered by colonial administration. Colonial policy was generally directed towards the development of the foreign export sector in areas where conditions were favourable, e.g., the Gezira Scheme. After independence, national Governments started building on the foundation of the development policy laid by the colonial regime. Investment in agriculture was mainly concentrated along the Nile and industry, administration, commerce, social amenities and post primary education were concentrated in the growing urban areas, especially Khartoum.

Such policies were the major cause of inequalities which paved the way for labour migration and massive rural exodus. People moved from Western provinces because of their stagnant economy and consequently limited job and income opportunities. Many people left their original residential zones, because of alarmingly low income, underemployment and unemployment, under-nourishment and ill-health. Movements were also conditioned by

the attraction of the comparatively prosperous and dynamic conditions found in areas of agricultural development and urban agglomerations.

Evidence of these trends was provided in this study by the results of the model employed to explain the patterns of internal migration in the Sudan. Among the major findings was that income inequalities and distance, the two most clearly economic components of the migration function, were of overwhelming importance in explaining the patterns of movement between 1955 and 1973. The results implied that migrants were quite responsive to income differentials, being attracted to areas where wages were higher.

Khartoum is by far the most dominant urban centre in the country. The city owes its rapid growth mainly to substantial migration, a factor that influenced rapid population growth of most African cities. Although most of the migrants came from provinces close to Khartoum (Northern and Blue Nile provinces) every part of the country was represented in the migration streams. The variation in the magnitude of migration to Khartoum between provinces was explained by distance and the economic development of each region. It was also noted that migration to the capital was direct, i.e., no step-migration was involved. This may be due to individual choice, the influence of chain migration or the absence of attractive localities between origin and destination.

Age, sex and educational selectivity appear to characterise the migrants. Migrants were usually young and males were more numerous in migration streams than females. In general, migrants tend to be drawn mainly from the better educated. However female migrants had fewer years of schooling and migrants from urban areas were better educated than those from rural areas. Rural in-migrants greatly outnumber urban in-migrants.

It was apparent that economic reasons were the most salient factors in rural-urban migration. This was quite evident from the migrants' response to the series of questions connected with motives for migration. Migrants left their home because of lack of work and chose Khartoum as a destination to take advantage of job opportunities. Apparently these motivations tend to be of the "push" type rather than the "pull" ones. Migrants were aware of the comparatively unfavourable living conditions in the rural areas. Other factors such as family reasons, urban links and education played an important role in influencing migration to Khartoum. However, the exact nature of the reason for migration depends more or less on the size of the source settlement. For example more migrants from urban areas come to Khartoum in search of education than those from rural areas.

Kinship networks were considerably involved in the migration process. Migrants were aided materially and with information by their relatives in the city. They receive help in confronting the problems of accommodation and adjustment and financial assistance

to keep them going until acquiring employment. Such help is important in reducing the cost of migration.

Once in Khartoum migrants enter the labour market very quickly and adjust to the change of occupation equally quickly. However their occupational achievements depend on their educational background, length of residence in Khartoum, and the size of their community of origin. Rural in-migrants had a lower level of education but were less likely to be unemployed for a long period, had lower incomes and were employed in marginal jobs. Urban migrants appeared to have a more difficult time in obtaining occupation because they wanted clerical jobs which were in short supply and for which competition was great. The effect of the duration of residence on occupational adjustment appeared to be strong. Migrants who had lived long in the Three Towns had better jobs and higher incomes than recent migrants. However, almost all migrants moved up the occupational ladder, benefi:ted from the much better conditions of wages and the greater opportunities of work.

Most migrants in the Three Towns retained links with their places of origin. Contact was made through the transfer of money and goods from the city to relatives in the home-towns. The flow of money was used as a supplement to rural income for improving the standard of living and possibly to pay visits to Khartoum.

This trend made it possible for rural residents to benefit from the development of the urban economy. However, the frequency of remittance varied with income, length of residence in Khartoum and distance from the home-town.

Contact was also maintained through visits which serve as channels of cultural diffusion and may also enhance further migration to the capital. Visiting patterns may be quite intense with almost weekly visits or may be limited to one trip home during annual holidays or on religious occasions. The frequency of visits depends on the income of the migrant and the accessibility of his home-town, such that the longer the distance from Khartoum, the lower the frequency of interaction. Thus migrants from the Blue Nile province and Khartoum Rural had stronger links with their families in the home-town compared to those from other provinces. This finding suggests that those provinces which have witnessed higher rates of economic development are benefitting most from urban wealth. On the other hand the flow of money to poorer provinces such as the south was limited by poor transport and less numerous migrants. The patterns of visits received by migrants was almost the same as that of visits made.

Rural urban links proved to be profitable for both segments of the population. For those remaining behind in the village, city kin were the source of cash for material improvement, the bearers of gifts and the providers of a place to stay while in Khartoum. For the migrant the village provides security against the future and is also a source of agricultural products. The following case

provides a relatively typical example of rural-urban reciprocity:

> "I visit my home-town in the Gezira as often as possible. When I go home I live with my father in law, because of tradition. My village is not far from Khartoum and relatives often come to stay with me. When I go home I usually take presents to relatives and friends. In return I am given food to bring back to Khartoum".

Among the major consequences of migration to Khartoum are inadequate housing both quantatively and qualitatively and the growth and spread of squatter settlements.

The failure to provide adequate and sanitary housing that meets the demand of the growing population is evident throughout the Three Towns. Almost half of the sample occupied only a single room, with a total average occupancy of 6.3 persons per room. Apart from the high degree of overcrowding, the majority of the housing units are made of mud layers or other materials of temporary nature. Migrants dwellings in all the study areas, with the exception of the first class extension, suffered from lack of sanitation, inadequate water supply and absence of electricity.

The Government, in an attempt to meet the demand for housing, follows the longstanding policy of distributing plots of land on a preferential basis from time to time. However the Government's

housing policy often lacks the systematic approach which recognises that the problem has many components and in order to solve it, these components (population growth, industrial development, building material, industry and housing finance) should be analysed together to be realistic. The housing problem cannot be solved through the allocation of cheap plots of land alone. Besides the land, the policy should consider costs of construction and services provisions. It has been established that people fail to achieve their housing needs due to low incomes and increasing inflation.

Evidence examined here indicates that most migrants were not satisfied with their dwelling units. Adequacy of the dwelling was determined by its internal space, number of rooms, the structural quality and other utilities within the house. Nevertheless it was also evident that migrants through time improve their housing conditions both through residential mobility and improvement of existing houses. Settlement in the capital is not usually a single event but rather a process of repeated relocation, starting with the migrant's arrival in Khartoum and continuing over a number of years. Few migrants in the sample found housing in which they remained permanently.

Aspirations of migrants regarding their housing requirements were modest and were in line with the conventional low-income type already existing: two or three rooms and a veranda, plus a kitchen, latrine and a bathroom. Most migrants were content to

construct their house out of mud layers or other types of temporary or semi-permanent materials. This modesty of aspirations reflect two factors. First the migrant's expenditure in housing is constrained by their low incomes and the high prices of permanent building materials. Secondly, a small house is preferred, due to the gradual but obvious changes that are taking place in the structure of the Sudanese family, i.e., from the traditional extend family to the nuclear family.

This study has examined some of the main hypotheses of migration such as those concerned with selectivity and motives. It has dealt with these issues in general terms regarding inter-provincial migration. The results of the multiple regression analysis of a regional migration indicate that it is possible to measure migration theoretically within the African context in spite of the scarcity of data. The study also examined migration hypotheses in terms of movement to Greater Khartoum and how the pattern was influenced by certain social, cultural and religious factors that characterise the Sudanese in general and different ethnic groups in particular. However, it must be emphasised that rural-urban migration in the Sudan has many features in common with that in other African countries.

Rural-urban migration is mainly directed towards Khartoum. This trend, of course, has a profound impact on the social and economic conditions of the city. This study examined the impact

of rural exodus on housing and has considered the adequacy of a policy wholly devoted to the allotment of cheap land as a solution to housing problems. Clearly a complementary scheme designed to provide rudimentary urban services is required before conditions in this sector can be considered as satisfactory.

This study has faced the usual problem of lack of reliable data, thus necessitating the use of a sample survey. However, housing is only one aspect of migration about which planners and policy makers need hard facts. There is ample scope for future research along similar lines concerning all aspects of employment, from how it is generated and rewarded to the assessment of its productivity. The change in lifestyles brought about by an urban environment as well as the relaxation of the more traditional social controls also generate problems concerning individual behaviour (delinquency and crime) and well being (nutrition and health).

APPENDIX I

Questions used to list heads of households in each quarter council

Town	Quarter Council	House No.
Name of Head of Household	Date	Interviewer

Head of Household	Age	Year of Migration	Birth Place	Employ-ment

APPENDIX II

THE QUESTIONNAIRE

Town	Quarter Council

Head of Household	Date	Interviewer

Section I
Details of members of Household.

Households	Sex		Relation to household	Age	Birth-place	Employed	Unemployed	Student	Educational level	Occupation	Income	Year of Migration to Khartoum
	Male	Female										

Section II

Background of Head of Household

1. What was your marital status before migrating to Khartoum?

1. Married 2. Single

2. What was your occupation before migrating to Khartoum?

.....

3. What was your monthly income?

1) 0 - 9
2) 10 - 19
3) 20 - 29
4) 30 - 39
5) 40 - 49
6) 50 - 59
7) 60 - 69
8) 70 - 79
9) 80 - 89
10) 90 - 100
11) More than 100

4. Of what type was the land?

1. Rainfall
2. Perenial irrigation
3. Basin irrigation

5. Was there sufficient water supply?

1. Yes 2. No.

6. Was the yield for family use, market or both?

1. Family use only 2. Market only 3. Both

7. Was the yield sufficient to sustain the family?

1) Yes - always sufficient

2) Yes - sufficient except in years of drought

3) No - always insufficient

8. Was your income enough to sustain the family (all respondents)

1) Yes - always sufficient

2) Yes - but not always

3) No - always insufficient

Section III

Motives for Migration, Employment and Income

A. Migration

1. What moves did you make before coming to Khartoum?

Year	Origin		Destination	
	Town or Village	Province	Town or Village	Province

2. Did you have any idea about town life before migrating to Khartoum?

1. Yes 2. No

3. How did you acquire this idea?

1. From a previous visit
2. From a returnee migrant
3. Other source (state)

4. Why did you migrate to Khartoum?

   1) To obtain a job

   2) To gain education

   3) To join relatives or friends

   4) Because of land shortage or low productivity at home

   5) Lack of suitable work at home

   6) Family needs help

   7) Presence of services in Khartoum

   8) Lack of services at home

   9) Others (state)

5. Did you have relatives or friends in Khartoum before your arrival?

   1. Yes 2. No

6. Did you receive help when you first arrived?

   1. Yes 2. No

   If answer in (6) Yes,

7. What kind of help?

   1) Help to find job

   2) Financial help

   3) Accommodation

   4) Other kind of help (state)

B. Employment

8. What was your first job in Khartoum?

.....

9. Did anyone help you to find this job?

Yes No

10. How long did it take you to find your first job?

1. Within one month
2. Within two months
3. Within three months
4. Three to six months
5. More than six months

11. Was this the kind of job you desired when you thought of coming to Khartoum?

1. Yes 2. No

12. What is your present job?

.....

13. How many times have you changed your job since coming to Khartoum?

.....

14. How did you acquire your present job?

1) Through relatives or friends

2) Through the employment office

3) Personal search

4) Other means (state)

15. Do you intend to change your present job?

1. Yes 2. No.

16. What job do you desire?

C. <u>Income</u>

17. What is your monthly income?

1)	0 - 9	7)	60 - 69
2)	10 - 19	8)	70 - 79
3)	20 - 29	9)	80 - 89
4)	30 - 39	10)	90 - 100
5)	40 - 49	11)	More than 100
6)	50 - 59		

18. Do you think if you stayed in your home-town you would earn this income?

1. Yes 2. No

19. Do you intend to return to your home village?

1. Yes - Why?

2. No - Why?

Section IV

Rural-Urban Links

1. Have you visited your home-town since you arrived at Khartoum?

1. Yes 2. No

If answer in question (1) yes,

2. How often do you visit your home-town?

1. Once 2. Twice

3. Three times 4. More than three times

3. When you visit your home-town do you take presents with you?

1. Yes 2. No

If answer in (3) is yes

4. What are the common types?

5. Do you send money back to your home-town?

1. Yes 2. No

If answer in (5) is yes

6. How often do you send money?

1. Monthly
2. Regularly, but not monthly
3. Irregularly

7. Have you helped relatives or friends who came to Khartoum?

1. Yes 2. No

If answer in (7) is yes,

8. What kind of help?

1. Help to obtain a job
2. Accommodation
3. Financial help
4. Others (state)

9. Do you receive visits from relatives or friends?

1. Yes 2. No

If answer in (9) is yes,

10. How often:

1. Once
2. Twice
3. Three times
4. More than four times

Section IV

Housing

1. Where did you stay when you first arrived at Khartoum?

.....

.....

2. Have you changed your residence since you have arrived?

1. Yes 2. No

If answer in 2 is yes

3. How many times?

4. Why did you move?

.....

.....

.....

5. How do you compare your present house with the last one?

.....

.....

6. What are the physical conditions of the house?

Wall material	roof material	Floor material	Veranda	Kitchen	Bathroom	Laterine	Type of Laterine	Water Supply	Electri-city	Courtyard (males)	Courtyard (females)
			1.Available 2.None		1, Private 2. Shared 3. Communal 4. None						

7. How many rooms do you have?

8. Do you own or rent this house?

1. Own

2. Rent ——— What is the monthly rent? _____

Questions 9 to 13 for houseowners

9. Did you build the house yourself?

1. Yes 2. No

10. How did you acquire the plot of land?

1. Government distribution

2. Open market

11. What is the area of the plot?

12. How did you pay for the house or for its building expenses?

1. Money saved after coming to Khartoum

2. Before coming to Khartoum.

13. Do you share the house with others?

1. Yes 2. No.

If answer in question 13 is yes,

14. How many families share the house?

15. Is there any relationship between you and the others?

1. Yes 2. No

16. What makes you live in a shared house?

1. Financial reasons
2. Shortage of houses
3. Tradition
4. Other reasons - state

17. Have you applied for a plot of land?

1. Yes 2. No

18. If you are awarded a plot of land what is the minimum area you think it should be?

.....

19. What type of house do you desire to build?

Room ..... (number) Bathroom ..... (number)

Veranda ..... Toilet ..... (number)

Kitchen .....

20. What type of material would you use?

1. Mud layers
2. Mud bricks
3. Baked bricks
4. Stone
5. Others (state)

21. Are you satisfied with your present house?

1. Yes 2. No

22. Can you tell me why you are satisfied or unsatisfied?

.....

.....

.....

.....

22. Do you intend to move to another house?

1. Yes 2. No

APPENDIX III

Exchange of Migrants between provinces and Net Gains or Losses due to Migration 1973.

Place of Birth	Province of Enumeration										Total residing outside place of birth	Net Gain or Loss
	Red Sea	Bahr Elghazal	Blue Nile	Darfur	Equat-oria	Kassala	Khar-toum	Kordor-fan	North-ern	Upper Nile		
Red Sea		1771	3224	1310	953	9331	4590	1156	3680	422	26437	+ 33830
Bahr Elghazal	532		3522	6168	4408	937	7959	7986	718	3880	36110	- 19084
Blue Nile	3128	1241		6376	2107	22353	69312	18014	5634	14050	142215	+209997
Darfur	1662	4697	114419		3122	29065	46198	30807	2383	4800	237153	-191580
Equatoria	433	3080	2438	948		1032	7380	4110	734	3793	23948	+ 9256
Kassala	4822	146	15065	1659	764		11386	2376	6251	381	42850	+ 84467
Khartoum	4792	1333	24816	3884	2499	11693		9758	8296	2862	69933	+239991
Kordofan	6720	3181	134838	21836	8201	15643	85265		7294	36412	319390	-233266
Northern	37848	688	47239	2984	3038	36283	123059	9396		3083	263618	-227495
Upper Nile	330	889	6651	408	8112	980	8775	2521	1133		29799	+ 39884
Total Born outside province of birth	60267	17026	352212	45573	33204	127317	363924	86124	36123	69683	1191453	-

Source: Sudan Second Population Census, 1973, page

APPENDIX IV

Method of Measuring Housing Quality

A simple technique is adapted from the measure used by Davies, W.K.,* to measure centrality of functions in a central place hierarchy. Here an importance coefficient of each indoor facility was determined by the formula:

$$C = \frac{n}{N} \times 100$$

where

C = Importance coefficient

n = One unit of the indoor facility

N = Total number of units of the indoor facility in the sample.

Thus since there are 218 bathrooms in the sample, the location coefficient is

$$C = \frac{1}{218} \times 100 = 0.46$$

Multiplication of the relevant importance coefficient by the number of bathrooms present in the dwellings of each migrant sub group gives the quality index of bathrooms in each group.

Example:

Recent migrants had 45 bathrooms in the dwellings.

Thus quality index = 45 x 0.46 = 20.7.

Addition of the results for all variables (bathroom, laterine, kitchen, water supply and electricity) gives the housing quality index of each migrant group.

* Davies, W.K., Centrality and Central Place Hierarchy, Urban Studies, Vol. 4., p.10

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