STRATEGY FOR THE RESOLUTION OF THE PROBLEM OF RURAL OVER-POPULATION AND INTERNAL MIGRATION IN UGANDA: A CASE STUDY OF BUGISU DISTRICT.

By

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"This thesis is my original work and has not been presented for a degree in any other University."

"This thesis has been submitted for examination with . and approvals as University supervisors."

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A B S T R A C T

The problem of rural over-population and internal migration was realised by the Government of Uganda as early as 1959. Rural over-population, since then, has been found to obtain in the districts of Kigezi, Bugisu, West Nile and Bukedi. Internal migrants have also been known for a long time, to originate from the above mentioned areas. The causes of this problem have been, among others, mainly due to land shortage and lack of employment opportunities in these areas enough to absorb the extra rural populations.

This study thus sets out to look further into the problem of rural over-population and internal migration in Uganda and proposes strategies that will have to be used to resolve the whole problem. Means to implement such strategies are also proposed.

The study has taken a case study of Bugisu district on the Western slopes of Mount Masaba (Mt. Elgon). A more detailed study has been carried out in Manjiya country in the same district and a physical development plan laid out.

This study has found out that the above problem and its main causes does exist and that the list of the above mentioned areas has increased to include Teso and shortly Mengo. In these areas, the projected population exceeds the "capacity" population based on the concept of "land carrying capacity" of the areas

concerned. In other words, the working population is excessive with reference to the current techniques of cultivation in these areas. Consequently, the response of the inhabitants there, has been to voluntarily out-migrate to other parts of the country especially the adjoining areas - Ankole, Bunyoro, Busoga and Kyaggwe and Bugerere. Most of this immigration has been directed to rural areas rather than urban areas. Unwillingness to out-migrate has been very characteristic of the Bagisu.

Furthermore, it has been found out that the district of Bugisu is mainly dependent on an agricultural economy geared primarily to the production of subsistence food crops such as bananas, cassava, finger millet, maize and sweet potatoes, and cash crops mainly arabica coffee on the highlands and cotton on the lowlands.

Also, the urban economy is in a low state of evolution and therefore does not provide sufficient employment opportunities to siphon off the extra rural population from agricultural land. This has been worsened by the low standard of both physical and social infrastructural development in both urban and rural sectors which has consequently discouraged the development of alternative employment opportunities such as could be found in small-scale industries.

The main strategy proposed in this study to

resolve the problem of rural over-population and internal migration in Manjiya is that of "Rural Transformation Programme" which will involve a land reform programme, an agricultural development programme and the establishment of "growth centres" (poles) to act as centres of innovation development and diffusion. In addition, a social welfare development programme involving educating the rural people and instituting a population policy which will recognise the official existence of the Family Planning Association of Uganda, and deploy its expertise towards reducing rural population growth rates. After all, in the final analysis, everything towards solving the problem of rural over-population, depends on the extent to which population growth rates can be controlled.

CHAPTER I

INTRODUCTION

1.1 Statement of the Problem

For the past twenty or so years, Uganda has been experiencing the problem of rural over-population in the districts of Kigezi, Bugisu, West Nile and Bukedi. (Though these districts have now been sub-divided into more districts except for Bugisu, this study will use the old districts as they existed at the 1969 census). The government has always been sensitive to this problem mainly because this problem has always been manifested in the establishment and expansion of slum areas in the major towns of the country namely Kampala, Jinja, Entebbe and Mbale.

Though analyses may reveal little at district level, several counties in the above mentioned districts have been experiencing serious rural over-population. Such counties have instances of landlessness as well as small and fragmented farm plots but still applying traditional methods of cultivation. Land shortage has inevitably led to unemployment since the land utilisation techniques have remained simple and traditional. In these conditions, the current high rates of rural population increase have meant redundant labour and therefore under-employment or disguised unemployment. Thus the working population in these areas is excessive

especially wit.. reference to the techniques of cultivation which, up to now, has remained unchanged.

Consequently, the government has resorted to resettling families from over-populated rural areas to others which are relatively under-populated. For instance many Bakiga families were moved from South and Central Kigezi to North Kigezi, West Ankole and Bunyoro. However, these individual holding schemes that merely spread a traditional agrarian system over new land with no worked out strategies to increase productivity by realising higher yields are only shelving the problem. These areas will soon get exhausted and will, in a short time, be followed by over-population which will inevitably lead to migrations this time only to urban centres since there will no longer be any other empty land for resettlement.

In view of the above, the crucial and relevant questions to put to Uganda's policy makers and planners should include the following:

1. What the magnitude of the problem of unemployment and under-employment is in Uganda as a whole and the study area in particular.
2. What the high rate of population growth rate mean to the economy of the country including the resulting young age structure.
3. What the causes and consequences of the increasing rural-to-rural and rural-to-urban

migration and the rapid growth of few urban centres are.

4. The ways in which these factors effect the quality of life of Uganda's population, particularly with regard to standards of living, the invironment, health, nutrition and productivity of the people.

5. What the carrying capacity in terms of the available and potential resources in the country is.

Practical answers to these five questions will form theme of this study.

1.2 Significance of Problem

The problem of rural over-population and its concomittant internal migration poses several constraints with regard to rural development. In the first instance, it may lead to severe environmental damage. With increasing population, the land available for cultivation diminishes, with farms too, diminishing in size. The problem is further complicated by the division of land upon death through inheritence practices and transfers owing to debts and customary marriages which involve bride wealth payment. With division and sub-division of land, the individual fields become fragmented, which in turn leads to poor farm management consequenting damage to the environment.

If environmental deterioration takes place, the carrying capacity will be lowered causing even more serious over-population problems since land will still be the main resource of that population.

Over-population may lead to a decline in national exports since farmers would be compelled to produce more food crops and less cash crops for obvious reasons. Also, the standard of living in rural areas, contrary to the national goals, may fall drastically because farmers may not be able to afford services. A high rate of population growth means a high dependency ratio and, other things being equal, undoubtedly a lower willingness to save. Thus it hinders growth on two counts: it tends to reduce the rate of saving while at the same time increasing capital requirements.

Furthermore, ~~over~~ over-population inevitably leads to an expansion in the size of the labour force and since the economy is not capable of generating jobs fast enough, the problems of unemployment and under-employment can be expected to worsen. These circumstances lead to large-scale gravitation of rural population to towns leading to severe strains on urban services and facilities. At the same time, it is well known that efforts to find a place in a new society or situation usually creates psychological strains and suffering among the new comers, deriving from a feeling of not being accepted, of inability to satisfy desires

aroused by the new environment, and consequently often arouses instability. This situation presents a tragic wastage of human resources and a potential source of economic and social tensions. For the rest of the members of the family left behind in the rural areas, the mothers might be burdened for years with the responsibility for the care of the children until the husbands are able to send for them, and consequently the whole family suffers.

As already noted, the town to which the migrants go to may find its life suddenly and seriously disrupted by the influx of the new settlers, by the great demands for housing, schooling, and for extended sanitation, health and welfare services. It is confronted with acute over-crowding, slums springing in the peri-urban areas, increased incidence of contagious diseases, prostitution and crime. The results of psychological stress and maladjustment also have a far reaching effect since the distressed and embittered person often seeks escape in drinking, in venting hate on the community or the nation, and other unsocial behaviour.

In view of all this, the problem of rural over-population and, associated with it, internal migration in Uganda are serious especially with regard to the general national development. National strategies are therefore required for resolving these twin problems. The contribution of this study, therefore, should be

seen in this content.

1.3 Purpose and Scope of the Study

This study will address itself to the twin problems of rural over-population and internal migration in Uganda with a view to laying down strategies to resolve those two problems.

Needless to say, it is practically difficult at this stage to study all areas experiencing the problem of rural over-population given both the financial and time constraints. Consequently, in the first chapters, the study will give a general background of the problem in Uganda as a whole and then focus itself on Bugisu District as a case study. Bugisu district has been selected for detailed study because, according to the 1969 population census, it is the most densely populated district in the country. A detailed field survey for Manjiya county in Bugisu district was conducted to evaluate the extent of the rural over-population problem and the alternative strategies available to resolve this problem. On the basis of analysis of this data, a land use plan will be proposed. Manjiya county has been selected due to its more serious problems which have been evidenced in land shortage and landlessness both leading to rural unemployment and under-employment. It is anticipatedthat the proposals to be put forward will act as a guide for the future settlement, land use and environmental planning for, not only Bugisu district, but also the whole country.

1.4 Assumptions and Limitations

The first assumption, and the one that has given rise to this study, is that a serious problem of rural over-population exists in Bugisu district in general and in Manjiya county in particular, resulting in out-migration from the area.

Much has been written on the problem of rural over-population in developing countries but mainly focused on the problem of high rates of population growth. In spite of this, no clear definition exists of what is meant by the term "over-population". The whole issue has been further complicated by the fact that the term itself is a relative one; in other words, it is difficult for two people from two different countries with different demographic and socio-cultural conditions to agree over the definition of the term "over-population". It has therefore been necessary in this study to prove the existence of rural over-population through the application of the concept of "land carrying capacity." Of course the concept of "carrying capacity" has its own weaknesses which will shortly be noted. 1.43 On the assumption that wherever it occurs, rural over-population is usually followed by out-migration from that particular area, some exceptions have to be noted. While this has been true in many cases such as Kigezi district, it is not so true with Bugisu district. Despite the apparent problems the people in this district face due to rural over-population, there is a general unwillingness on the part of most of

the rural Bagisu to out-migrate.

Another assumption made in this study is that rural over-population in Bugisu is a function of uneconomic land use practices. It is uneconomic in that only traditional methods of cultivation are being applied on small and fragmented plots of land to grow the two main crops of bananas and coffee as a food and cash crop, respectively. Yet, as far as is known, bananas to act as a food that can satisfy an average household of five people requires a minimum of one hectare. Contained within this assumption is the presupposition that land fragmentation is bad and that bananas cannot effectively serve high density rural areas as a food crop. At the same time, however, it can be argued that by being able to have a share in the differert categories of land qualities through land fragmentation, one is sure of diversifying the crops one grows. Furthermore, there exists many banana culture areas in East Africa with high rural densities, such as Buganda and Chagga land. So that this assumption may not, in itself, offer enough explanation for the rural over-population case in Bugisu.

The third assumption in this study is that internal migration is due to "push" factors in the rural areas as opposed to the "pull" factors in the urban centres. In other words, the rural areas have no alternative opportunities to offer to its rural population, which consequently finds itself being pushed out of these rural areas, the usual destination being the urban centres.

Although this assumption is, to a certain extent, correct one has to admit also that these people are pulled to the urban centres since it is there that they hope to get employment opportunities in the industries that are usually located in the urban centres. Though it is not the overriding principle, "pull" factors in urban centres as as magnets to induce internal migratioh.

The fourth assumption is that the most appropriate strategy for resolving the problem of rural over-population and internal migration, will be that one which aims at changing the "push" factors in the affected areas into "pull" factors. This is to say, in other words, that rural areas should be transformed to make then more attractive than they are by instituting programmes that will lead to the creation of better opportunities for the majority of the rural population.

It is a well known fact, however, that most of the rural people are conservative and therefore, unless appropriate approaches by well trained extension personnel are initiated from the beginning, all this programme may achieve little if not nothing. It is also assumed that capital for effecting these programmes will readily be available. Experience, however, has shown the contrary. Nevertheless, since the problem and need to resolve the same are there, there is no other alternative but to make all possible sacrifices and start on the programmes with the hope that all problems will be treated as they come.

1.5 Definition of Important Terms

Probably the best way to start this section is by defining what a definition is: A definition purports to determine the boundaries of a term or a word, as used in a certain context.

Needless to say, terms or words are very difficult to define. A term such as "over-population" has not yet had a precise definition. In this study, however, the term is used to mean a region where the working population is excessive with reference to the existing techniques for exploiting the available resources which are, in this case, the land and the forests. This means that the term "over-population" is being defined here as a function of "land carrying capacity".

"Carrying capacity" on the other hand, is here defined as that capacity of the area's environment, both physical and social, to absorb new growth of all forms. "Carrying capacity" and therefore over-population, is not fixed or absolute. It will change through technological improvements to overcome environmental limitations or problems. It may expand or decline through natural or man-made circumstances.

Another term is "migration". This term is being used here to mean a permanent or semi-permanent change of residence. Defined this way, no restriction is placed on the distance of the move or on the voluntary or involuntary nature of the act and no distinction is made between external or internal migration. But irrespective

of the distance, every act of "migration" involves origin, destination, motive and set of obstacles. But since the study is concerned with only the internal migration aspect, we shall talk of out-migration with regard to the point of origin, and in-migration at the point of destination. "Internal migration" is here being defined as movement within national frontiers.

Probably the most difficult term to define is a "Growth Centre" or "Pole". The general theory of "growth centres" is very poorly developed. A review of the literature reveals that a wide range of terminology exists. For instance, "growth point", "growing point", "growing centre", and "growth pole". Furthermore, it should be noted that all these labels are used to describe a series of quite different concepts. Perroux who is generally credited with the whole nation of "growth pole" (pole de croissance), used this concept to apply to abstract economic space. Inherent in the concept is the idea of concentrated development and Hansen (1972), has provided a useful working definition of a "growth centre":

> "By a 'growth centre' or centres is meant a complex consisting of one or more communities or places which, taken together, provide or are likely to provide, a range of cultural, social, employment, trade, and service functions for itself and its associated rural hinterlands".

There is a tendency to regard "Rural Development" and "Agricultural Development" as being synonymous.

Although the latter is a vital component of the farmer, "Rural Development" in this study is taken to mean a series of quantitative and qualitative changes occuring among a given rural population and whose converging effects indicate, in time, a rise in the standard of living and favourable changes in the way of life.

Another word that may need a definition here is "Land Consolidation". This term will be used in the restricted sense of the French word "remembrement", which consists of an arrangement whereby plots of land are exchanged among farmers so as to regroup farms previously consisting of a large number of small plots usually scattered at considerable distance from each other.

There might arise confusion between the terms "Comprehensive or Integrated Rural Development" and "Rural Transformation Programme", as used in this study. While the former is used here to refer to that method of integrating agriculture, industry and services within a defined area, the latter term refers to all the last four terms defined above: "Growth Pole Strategy", "Agricultural Development", "Land Consolidation" and "Integrated Rural Development". This term "Rural Transformation Programme" will be the main strategy to be applied to resolve the problem of rural over-population and internal migration.

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CHAPTER II

REVIEW OF RELATED LITERATURE

2.1 Rural Over-population and Land Carrying Capacity

Looking through the literature related to the problem of rural over-population, one finds that no clear criteria have been developed to determine the point at which a population of a certain jurisdiction (country or district or nation) should be regarded as having reached a mark of over-population. The usual method for assessing the degree of over-population has been that one which relates land area to the number of people in that particular locality - population density.

Interest in population studies can be said to have began with the publication of Malthus' Doctrine in 1798. In his first Essay, Malthus (1926) concluded that "the power of population is indefinetely greater than the power in the earth to produce subsistence for man. Population, when unchecked, increases in a geometrical ratio. Subsistence increases only in an arithmetical ratio."[1]

While it is admitted that Malthus contributed much to the study of population, he nevertheless made rather serious errors in evaluating the importance of contraception as a preventive check and also in evaluating the effects of science in increasing production.

Following Malthus, Sadler (1829) , propounded his

theory which was published during Malthus' lifetime. In short, he concluded that the ability to conceive diminished as the density of population increased.[2] This in all its probability, implies that as soon as man's numbers began to get dense, he would necessarily cease to reproduce as rapidly as he had been because he would lose the power to do so. Thus all would be well without any particular effect on man's part to control his growth.

Certainly, there are certain grave defects in this theory - the first in a series of "Natural Theories of Population growth".[3] So far as may be judged from facts which are available today in the world, the Hindus, the Chinese and Javanese are among the most fecund as well as the most fertile peoples, and at the same time they are among the most densely crowded of people.

Doubleday (1847) followed suit and in fact his theory is somewhat similar to that of Sadler but is expressed in terms of food rather than in terms of density. He argues that "In a nation highly and generally affluent and luxurious, population will decrease and decay. In poor and ill-fed communities, population will increase in the ratio of the poverty, and the consequent deterioration and diminution of the food of a large portion of the members of such communities."[4]

There is, as yet, no clear proof that differences in diet have any significant effect on the ability of people to produce. There are, however, a good many

physicians who believe that the over-eating of rich foods does have a depressing effect upon the reproductive capacity of the individual but inasmuch as this over-eating is generally accompanied by many other conditions which might also reduce reproductive capacity, it cannot be said with certainty just what is the effective cause of lack of reproductive capacity in the overfed classes, if it is at all a fact.[5] What is actually observed is a small number of births rather than a low capacity to conceive, and this low fertility is more likely to be voluntary than due to the inability to conceive.

Another natural theorist on population growth is Spencer (1868). Spencer's theory is that as complexity of life increases, a reduction in fecundity takes place.[6] He uses the case of upper-class girls whom he talks of as having a "deficiency of reproductive power".[7] He argues that this deficiency is attributable to the overtaxing of their brains which consequents a serious reaction on the physique.

As a consequence of the operation of a natural law, Spencer, like Sadler and Doubleday foresees the disappearance of population pressure and its accompanying problems.

All in all, it is a matter of doubt whether or not, one may accept as valid any theory of population growth which, for the explanation of human conduct, falls back upon those unknown and mysterious natural forces over which we have little or no control.

After these natural theorists, there came up what one may call social theories of population growth. Here too there were many of them, and we have to look at a representative sample.

Dumont's theory (1901) has been called "theory of social capillarity."[8] Briefly stated, it is that the individual, like oil in the wick of a lamp, tends to mount to higher levels in his social environment and that in this process of climbing, he becomes less and less likely to reproduce himself; he is drawn out of his natural milieu and away from the family. As a consequence he loses interest in the family and in the welfare of the race. He becomes interested chiefly in climbing or moving in such a way as will benefit him personally, regardless of whether such movement will be of benefit to the community. Usually, social capillarity is greater in countries where obstacles to movement from class to class are few. In countries like India, where capillarity is small because of a rigid caste system, that the chances are that the birth rate will not decline.[9]

Although Dumont's theory allows for a much larger psychological element in determining the birth rate than does Spencer's, it still leaves much to be desired as a complete explanation of the decline of the birth rate. It does, however, have the merit of directing attention more closely to the actual social conditions of a people in the effort to find out the reasons for changes in their

rates of growth.

Next, we may take George's theory (1905). He was interested in population theory because he had a particular theory of social reform - "single-tax theory"[10] - to set forth. The application of the single tax to land, taking all its rental value for the government, would give access to the land to those who could use it best, and as a consequence, a very great increase in man's productive power would ensue. That this would therefore make it possible to support a vastly increased population and would postpone indefinitely, perhaps forever, the day when over-population and poverty would be man's lot."[11] He further seems to assume, like Spencer, that fecundity and/or fertility would decrease as the intellectual development of the individual became possible.

He, unfortunately, failed to logically admit that the fertility of man might interfere with his welfare under the particular reform in the social institutions he proposed. However, he counted on the weakening of fecundity to be a help in the long run.

Another important theorist was Carr-Sounders (1922). He may be said to have sponsored the theory that man's growth in numbers has been determined by his notion of the economically desirable numbers under his conditions of life - the optimum number. He took optimum population to be "..... the number which taking into consideration the nature of the environment, the degree of skill employed, the habits and customs of the people concerned,

and all other relevant facts - gives the highest average return per head."[12] He went on to say that the optimum is not fixed but that it is constantly changing as the conditions referred to vary and, that as skill has tended to increase throughout history, so has the number economically desirable tended to increase.

Carr-Saunders' theory is especially interesting and relevant from the viewpoint of this study because it seems to have started a considerable discussion of the optimum population which has followed his lead - normally, discussion of the optimum population in purely economic terms. On the whole, it would seem that this is a more scientific approach than the "natural theories" mentioned earlier.

One last theorist under this category was Karl Marx (1929). As usual, he claimed that man's tendency to press on the means of subsistence was due solely to the evils of the social system. That poverty was entirely a consequence of unemployment, which was an inevitable accompaniment of the development of modern capitalism.[13] Marx seems to have ignored completely the possibility that pressure of population on subsistence might arise even under socialism.

From the above, one may venture to conclude that there is no natural law of population growth but rather that the conditions of life, both physical and social determine this growth and that it varies from group to group as these conditions vary . In other words, to under-

stand: why a certain area is experiencing over-population, one has to study both the physical and social conditions obtaining in that area so as to come up with any worthwhile explanation.

It is necessary to dwell further on the theory of "optimum population." The discussion of the optimum population as a goal of population planning has been largely confined to the "economic optimum." Such an optimum has generally been defined as that population which can produce the maximum per capita amount of goods with the resources and means of production available to it. However, it is already known, most economies are dynamic and changes in the means of production are taking place almost constantly, although their effects on efficiency are by no means constant. This in itself renders the concept of optimum population to be of no practical value as a goal of policy since it has also to change very rapidly. On the other hand, the concept might be practically useful in an economy which is relatively static - where productive techniques remain relatively fixed over-considerable periods of time and in which, therefore, the new natural resources discovered would continue to require a relatively fixed amount of labour for their exploitation. But with the passage of time, this population would increase, ultimately surpassing the optimum, as envisaged, and thus lead to a situation of relative over-population.

On the whole, there is considerable interest in an

economic optimum population and many people are ready to argue that particular countries or areas have already exceeded the optimum number. This is based on the theoretical argument underlying a judgement of what constitutes the optimum population in any given area at a given time resting on the assumption that there is a point where the marginal productivity of labour as an algebraic sum of all economically productive activities, would be at a maximum. An increase or decrease of labour (population) from this point would reduce the per capita production.

Perpillou (1966) offers another useful method on estimating over-population. He says that a region to be over-populated means that the working population is excessive with reference to a certain technique of cultivation, which must be taken as fixed.[14] He further says that in this sense, it is perfectly sensible to make calculations of the labour requirements of certain crops and to compare them with the actual density of agricultural population in order to ascertain how many workers are excessive. This surely is a difficult task though he later on says that in fact over-population appears in such a crude form that it is easily recognised. He also admits that the figures of density are significant in that land is the chief form of capital and the less land a peasant has, the poorer he is.

This brings us to the concept of "Land Carrying Capacity" as a means to estimating rural over-population.

As defined somewhere else, "carrying capacity" of a jurisdiction, that jurisdiction being the country itself, or a county, or district or urban area, or for that matter any other areal definition of space, is capacity of the jurisdiction's environment, both physical and social, to absorb new growth of all forms.[15] This concept which is currently being applied in Uganda for planning purposes is based on the assumption that habitable land is by far the most important natural resource for the livelihood of the rural population in the country. The calculation of how many people can be supported in a particular rural area is therefore, largely a matter of estimating the carrying capacity of the habitable land. The amount by which the projected population exceeds the "capacity" population is an index of the pressure of population upon the land. The areas where the capacity population exceeds the projected populations are those in which it would still be possible, in theory, to expand agricultural settlement schemes for the landless persons from other overpopulated areas and still maintain an average per capita farm income.

Three steps were involved in the calculation of the land carrying capacity for rural population. Firstly, the country or any of its administrative units was analysed in terms of agricultural productivity (types of crops grown, soil fertility and precipitation) and land required for grazing and then mapped into what is called "ecological zones." These zones range from the poorest to the most productive areas as shown on map 4.5.

Secondly, the maximum or minimum "density of carrying capacity population" was obtained based on a certain per capita income, agricultural productivity of particular ecological zone, median household size of holdings for agricultural production that can raise the per capita income. Such density is shown on map 4.6

Thirdly, the rural habitable land area was then determined by excluding forest and game reserves, national parks, swamps and open water, very high and steep mountains, mining areas, roads and urban areas. The total rural population that can be maintained in a certain area was obtained thus.[16]

$$\text{Land Carrying Capacity} = \frac{\text{Total Habitable land}}{\text{Average holding size}} \times \text{House hold size}$$

It is possible to project variation in carrying capacity by altering the per capita income. Such carrying capacity projection when compared with population projections based on natural growth rate the difference gives the surplus or under population for a particular area at a particular time.[17]

As already noted, this concept of carrying capacity is the one being used in Uganda to measure probable population overspills in the various regions, districts and counties. The main weakness here is that the concept does not envisage a time when the present forest and game reserves will be re-zoned for agricultural purposes, nor does it put into consideration a possibility of terracing present day steep lands to avail them for settlement and other economic purposes. Furthermore, it

excludes the urban areas as though they are not human settlements which, as a matter of fact, save on land by concentrating people on a small piece of land.

All in all, these analyses and informations are being used to guide planners in rural and urban settlements planning.

There is yet another method of calculating land carrying capacity developed by the 1971-1973 U.N. Physical Planning Mission and is based on the following formula:[18]

$$\text{Carrying Capacity} = \left(\frac{4a}{10} + \frac{4b}{15}\right) \times \frac{640}{y}$$

Where: a = area of good soil

b = area of poor soil

y = acreage of cultivated land per head.

This formula is based on the assumptions that:

(i) 80% of the current forest and game reserves is available for cultivations;

(ii) There will be a 1:2 cultivation resting cycle for poor to medium soils.

(iii) There will be a 1:1 cultivation resting cycle for medium to high soils.

Appreciably, there is an attempt by this formula to look to a time when game and forest reserves will be re-zoned for agricultural practices. But again, it fails to realise the importance of urbanisation in concentrating people on relatively small pieces of land as compared to agricultural settlements. On the other hand, by estimating the surplus rural population, it becomes easy

for the planner to estimate the number of people who will require off-farm settlements and economic activities and thus plan accordingly.

However, the main problem with this formula which in fact renders it to be of little practical value, is that it does not give any reasons for picking on the coefficients and weightings attached to the different cateogies of soils in the country.

Furthermore, the first assumption made is rather absurd. It is not likely that the government will relinquish such a large percentage of both forest and game reserves in any foreseeable future.

Another important fact to be borne in mind when applying this concept of carrying capacity is that this capacity is not fixed or absolute.[19] Over a short period though, the land area, water supply, assimilative capacity of various waste products, to mention a few, may impose growth constraints, thus holding the capacity at a fixed level. Otherwise the carrying capacity will change though technological improvements to overcome environmental limitations or problems. Therefore, the concept of carrying capacity is a dynamic one requiring frequent assessment of available growth and carrying capacity.

Demographic coefficients have also been used in many studies to measure population pressure in different regions.

The simplest index of this type is obtained from the formula:[20]

$$C = dR$$

Where c = the demographic pressure or demographic coefficient.

d = the density of population

R = the net reproduction rate.

This is a useful expression because it shows at a glance what future population densities might develop in different regions provided there were no migrations, and were the current rates of mortality and fertility to remain unaltered. It helps to explain the building up of population pressure and migration trends.

2.2 Migration

On migration, Malthus (1926) concluded that the country sending out migrants as a means of relieving population pressure was solving no problem, He felt that this relief in pressure would result, almost immediately, in somewhat earlier marriages and a greater number of births per marriage. Furthermore, that it did reduce pressure, it would also reduce the death rate; "hence the pressure would soon be as or even greater that it ever had been".[21] He quotes the two Spanish Provinces from which the greatest number of people emigrated to America but which again became more populous. He also states that "if the wages of labour in any country be such as to enable the lower classes of people to live with tolerable comfort, we may be quite certain that they will not emigrate; and if they

be not such, it is cruelty and injustice to detain them."[22]

Studies on migration, especially labour migration in Africa, are many and include those of Schapera (1947),[23] who conducted his study in Botswana; Lacey (1935)[24] in Malawi; Reed (1942)[25] made a detailed study in six different areas in Malawi; Richards (1954)[26] conducted a survey on migration routes into Buganda; Southall (1954)[27] studied the Alur migrants in Uganda; Gulliver (1957)[28] studied the Ngoni of Southern Tanzania; Winter (1955)[29] conducted his study among the Bamba of Uganda; Prothero (1957)[30] conducted his study in North-Western Nigeria; Mitchell (1961)[31] studied the root causes of migration in Africa South of the Sahara, and Ominde (1969)[32] looked into the whole process of population movement in Kenya.

From all their work, it appears that motivation operate at three different levels;

1. Through the normative system of the society: That the motivation for migration is incorporated in the normative social system concerned, and presumably, operates through the normal social controls of that society.
2. Through the economic controls of that system: That most migrations are due to economic motivations.
3. Through the personalities of individuals: That many personal reasons come into spark off the actual movement such as trying to escape witchcraft.

An International World Conference held in 1965 on "Internal migration, with special reference to rural-urban movement" came up with almost similar conclusions to those above.[31]

(i) That urban ward migration appears to be a great demographic movement towards modernisation and improvement of the world's level of living through industrialisation.

(ii) That world wide migration to the cities is also creating social problems. That the cities are often unable to absorb all the migrants who come, and therefore the migrants are forced to settle on the outskirts inflimsily built shanty towns. That these settlements are often illegal, and as a result, municipal administrations and public services, such as streets, water, sewarage, police, fire protection and schools, are completely lacking. That conditions in such "mushroom settlements" are sometimes worse than in the villages from which the migrants departed, such encapments, so it continues, which are now a conspicuous part of developing cities everywhere, are tangible evidence of over-population.

It continues to state that urban concentration leads to population drain on the rural areas. That it has strong effects upon age structure, sex ratios, fertility levels, vital rates and socio-economic characteristics of the rural population. Since the migrants are concentrated in the younger ages (15-20) so it continues, the effect is to depress rural birth rates and urban death rates - thus rural areas have lower

birth rates that the cities due to their unusual age structure.

Lastly, it states that migrants flee from areas where employment opportunities are stagnant, where income is low and where the rate of population growth is high. That often these three conditions are found together. Conversely, that they are attracted to areas of new industrial development regions of higher per capita income and areas where the disparity between birth and death rates is less.

Interest in the quantitative analysis of migration phenomena in Tropical Africa has developed quite fast. A number of models have been advanced to explain migratory movements including those of Todaro (1971) - " A Mathematical Model of Rural-urban Migration.", Goddard and Masser (1973) "Interaction Model for Uganda," and Hirst (1973) - "Markou Chain or Analytic approach to Inter-Regional Migration". All the three feel that the emphasis upon economic circumstances and opportunities in many of the available models of inter-regional migration may also need to be balanced by the incorporation of additional variables of social, demographic or cultural nature. Further, they note the scarcity of relevant data on migration. However, Hirst concludes by saying that "The relative death of adequate and reliable data on migration should not hinder the formulation of more pertinent questions and the development of a theoretical framework which will guide the collection of information in order to provide answers to practical problems."[32]

2.3 Rural Development

Considerable literature also exists on rural development among which may be cited those of: Swynnerton (1954), Ruthenberg (1964); Clark and Hashwell (1964); Mosher (1969); Hansen (1972); Friedmann (1969) and Kimani and Taylor (1973). Generally, most of this work is quite similar and one may venture to summarise thus: That the relationship between urban and rural development is important. That it is not desirable to follow the trends that characterise the rich countries of the world and fortunately, that developing countries are not really following the developed world. That in developing countries, urbanisation is not so much due to the "pull" of towns but more due to the "push" from the countryside. That while rural exodus in the past was motivated by the expectation of better economic opportunities in towns, present day urbanisation in developing countries stems from the inefficiency of agriculture.

They go on to say that the development of industry should come through the steadily increasing purchasing power of the agricultural population which is in the majority. Agricultural efficiency therefore, must be increased to enable farmers to buy industrial products, and in turn, enable industrial workers to buy more and greater varieties of food. That the process begins with improved agricultural systems. This process of change so they maintain involves the interdependence of at least five basic elements which are needed to create what Mosher calls a "functional economic area."[33] That there must

be a market centre that will provide an outlet for farm produce and make available the critical inputs that farmers need, while at the same time acting as a growth centre for the establishment of non-primary employment opportunities. Yet, that market centres can have little or no influence unless there are roads connecting farms to those market centres. But again, that market and roads are not enough. That farm products must be adapted to consumer wants, and this will necessitate local verification trials of improved farm practices. Real progress therefore, will involve the utilisation of the best available scientific knowledge, which will call for the services of agricultural experts, and that experience has shown that guidance can best be made available by means of an agricultural extension service. Lastly, that improved agricultural technology will require certain types of investment, and this will make necessary some suitable form of farm production credit. That all these five elements are so highly complementary that there is little point in improving one of them and leaving out the others. This has been called the concept of comprehensive or integrated rural development programme.

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CHAPTER III

DESIGN OF THE STUDY

3.1 Procedures used

As stated earlier, the objective of this study is to analyse the problem of rural over-population and internal migration in Uganda. Due to financial and time constraints, it was not possible to study the whole problem as it occurs in the country, and instead, the district of Bugisu was selected for study. The reasons for this choice have already been given above.

Having identified the field of study, it became necessary to plan the study. The field research was planned to last for two months. Accordingly, the first six weeks were spent on documentary research including the preparation of the necessary questionnaires. The remaining two weeks were then spent on field work in Bugisu in Manjiya county. Six more weeks, however, were spent on documentary research - two in Kampala and four in Nairobi.

That data and information thus collected were analysed and then synthesised. An outline of the thesis was made, and all the material arranged accordingly. With the help of the supervisor, a Table of contents was made. Writing of the thesis then began and the first draft was completed and sent to the supervisor for reading and corrections. A final draft was eventually prepared and submitted for typing, binding and was finally presented.

3.2 Sources of data

As may be noted from the previous section (3.1) most of the time was spent on documentary research and consequently, most of the data for this study were obtained from written documents. Most of these were obtained from the Department of Geography of Makerere University, and the Department of Town and Regional Planning in the Ministry of Provincial Administrations, Kampala. The rest of the written documentary data and information were obtained from the Ministries of Labour, Agriculture and Animal Resources, and from studies done by other scholars.

A second major source of data and information was the field work conducted in Bugisu district on central places and a household survey in Manjiya county using questionnaires.

Some information was also obtained through personal and verbal interviews and letters to people who could not be easily contacted personally.

3.3 Methods of gathering data

During the whole exercise of data and information collection, three main methods were used. The first one was through documentary research which aimed at examining relevant documents in government departments. These were the sources of statistical information that was necessary for the exploration of the existing situation in the country as a whole and the study area in particular.

The second method was through personal contact and open interviews with individuals from Bugisu district and

relevant officers from different departments of government.

The third, and last method used was that of questionnaires, copies of which are included in the appendix. These were used in Manjiya County in Bugisu district, during a field survey which lasted two weeks. The survey on facilities and services in the central places in the district was done by the District Town Development Officer, while the writer, with the help of two people, conducted the household survey. Though the questionnaires were in English, the whole survey was conducted in Luganda and Lugisu (with the help of a Mugisu interpreter). Most of the movement in connection with household survey was on foot though the services of a government motor vehicles were available.

It was not practicable to select the homesteads in such a way that they would be statistically representative of the thousands of homesteads in the county. An attempt to make the selected homesteads representative would have involved listing all the homesteads many of them, scattered over a mountaneous landscape and slecting a random sample which would have probably included homesteads many kilometres apart, thus creating numerous administrative, security, and financial problems.

The homesteads were selected with the aim of reflecting two main factors:
the physical or geographical location and the administrative unit in which that homestead was located. The former is

important with regard to the diffusion of information and other developmental innovations in that people who live farther high up in the mountains are assumed to be less prone to modern ideas and tend to remain conservative while those living near the main roads or trading centres are assumed to be more ready to accept change and modernising innovations. In the case of location according to administrative unit, it is taken that there are differing administrative capabilities to influence the people in different areas of the county. Some chiefs are more influential than others and this may be reflected in the way people from different administrative units respond to agents of change.

Though it was desirable that interviews be conducted in all the four sub-counties, it was not possible to do so in the fourth (Bududa) due to both financial and time constraints.

In all, two hundred and sixty homesteads were interviewed in the three sub-counties (see Map.6.0.). Data was collected on pattern of settlement, family sizes, plot sizes, main agricultureal crops, migration, education, income, land tenure and the main problems in the county. For central places, data was collected on the availability and level of both physical and social infrastructure.

During the field work, some of the interviewees were both indifferent and sometimes unwilling to answer questions put to them. Another serious problem encountered during the study was that of rainfall. It was always raining by 1.00 p.m. everyday and consequently, movement

was considerably affected.

Lastly, was the land topography. To reach the homesteads high up and on a wet ground was always a problem, given the fact that there are no roads leading up there.

3.4 Organisation of the study

The study has been organised into seven chapters and the conclusion.

Chapter one deals with the general introductory formalities to the study. These include the statement of the problem, the significance of the problem under study, the purpose and scope of this study, the main assumptions made in the paper and their limitations, and lastly the definition of the most important terms used in the study.

Chapter two is wholly devoted to reviewing literature related to the study. This includes literature on rural over-population, migration, rural development and carrying capacity.

Chapter three gives an account as to how the study was conducted. This has been sub-divided into procedures used to accomplish the study, and the methods applied in data gathering.

Then chapters four and five provide the background information on the whole of Uganda. Chapter four deals with the ecological setting under which is included relief and land area, the natural resources, and the land carrying capacity.

Chapter five deals with the population problem in Uganda. It starts with the historical background of the population of Uganda, the population size and distribution in the different administrative units in the country; the growth rates, the population projection up to the year 2,000; migrations, settlement patterns; the social and physical infrastructural facilities for the population; and the employment and income levels.

Chapter six and seven deal with the case study area,- Bugisu district and the county of Manjiya. Chapter six deals with the existing situation in the case study area with a special emphasis on Manjiya County. This includes the physiographical background; rainfall and vegetation; demography; settlement patterns social services and physical infrastructure; central places and the marketing system; the natural resources and the land carrying capacity; and lastly, the employment and income levels in the area.

Chapter seven is the last one and it deals with the strategies and policies for the physical development of Manjiya county in Bugisu. It identifies the problems in the county and formulates goals and objectives. These goals and objectives are then structured into specific strategies to be deployed to achieve the goals and objectives thus stated. Lastly, it identifies the problems likely to arise and provides solutions to the same.

The study is then summarised and concluded.

References appear at the end of each chapter while a selected Bibliography appears after the conclusion.

CHAPTER IV

THE ECOLOGICAL SETTING OF UGANDA

4.1 Introduction

The Republic of Uganda is a land-locked country at the upper portion of the Nile Basin. It is bordered on the east by Kenya, in the south by Tanzania and Rwanda, in the west by Zaire and in the north by the Sudan. The equator runs across the southern part of the country with one fifth of the total area laying to the southern hemisphere. Bugisu is to the north.

With a total area of 236,800 square kilometres and a population of about 10.5 million (1975); Uganda is an average sized country by African standards. About 21% of the total area is made up of swamps and open water surfaces, while 7% is under forest and about 1% is above 2,000 metres.

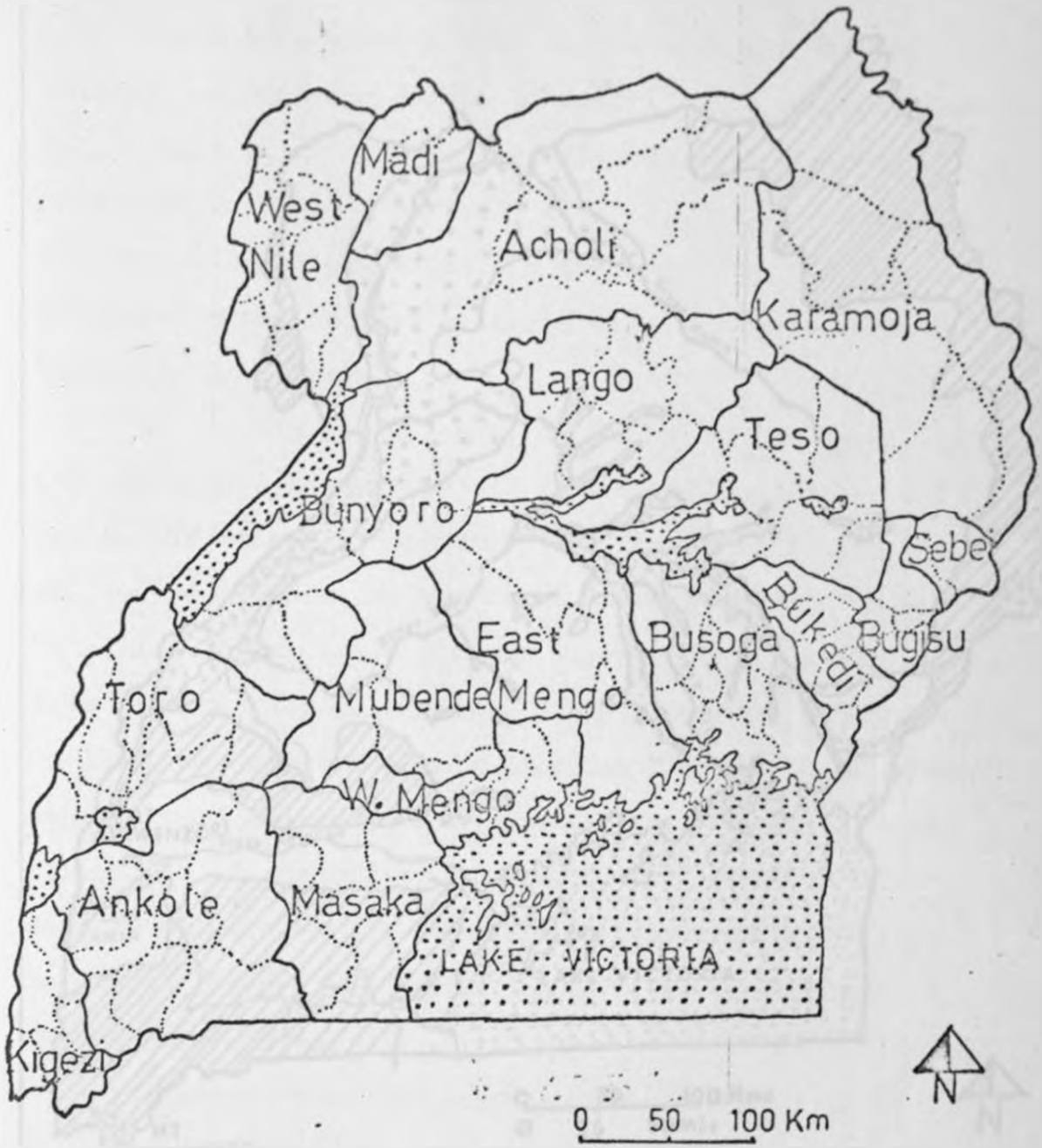
Though Uganda is now divided into 38 districts, this study is using the old 18 districts for statistical conveniency (see Map 4.1).

4.2 Relief and Land Area

Most of Uganda forms part of the high East African Plateau, at an average height of 1,400 metres. The southern part of the down-warped centre of the country is occupied by Lake Victoria and Lake Kyoga. The source of the River Nile is on the north-western shores of Lake Victoria from where it joins Lake Kyoga and then Lake Mobutu from where it flows northwards to the Mediterranean sea, (see Map 4.2).

ADMINISTRATIVE UNITS

MAP 4.1



LEGEND

Boundaries:

District

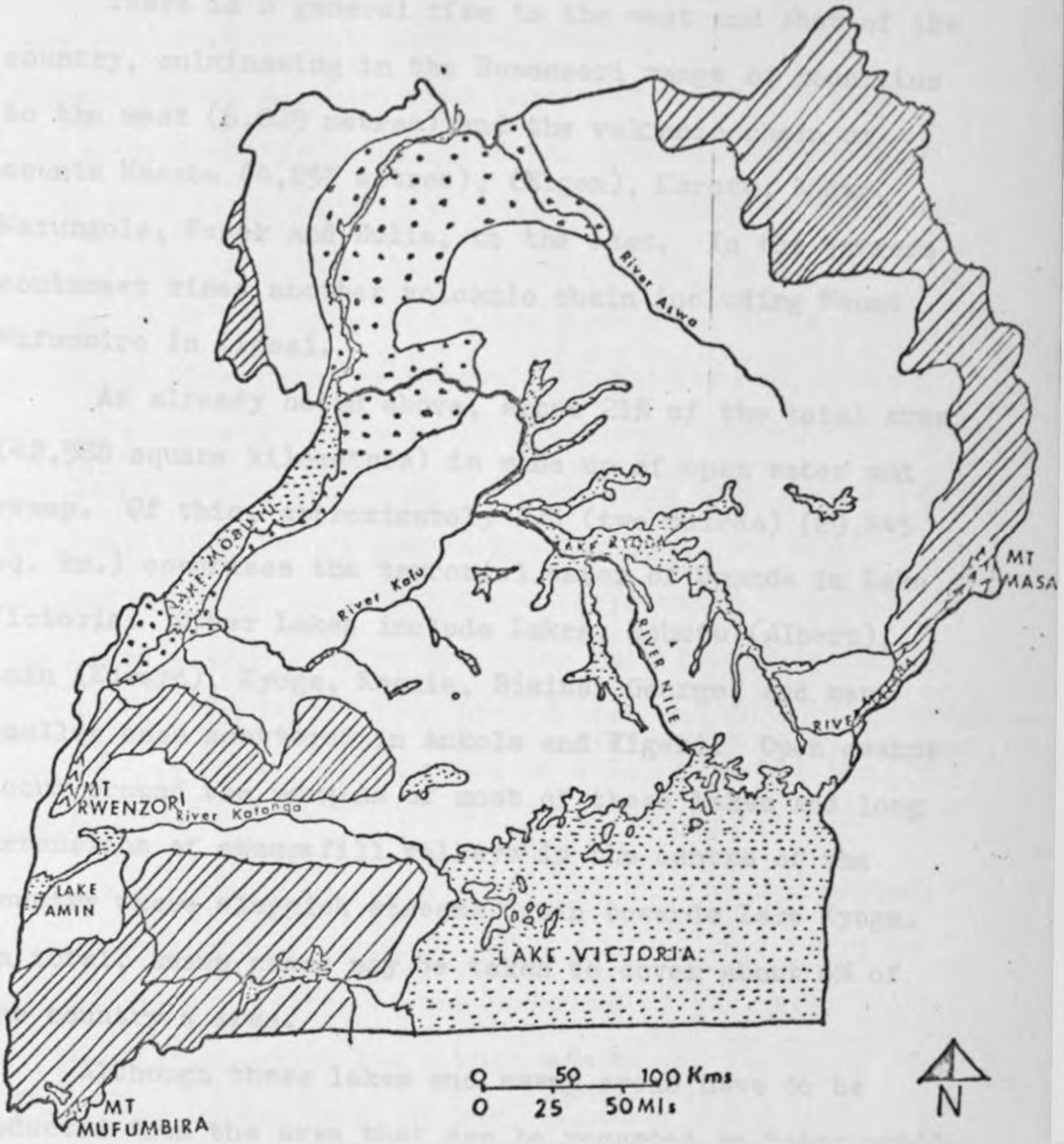
County

Lakes

Source:
Dept of Town and Regional Planning Uganda.

RELIEF FEATURES

MAP 4·2



LEGEND

- HIGHLANDS (Over 1500m)
- LOWLANDS (Below 900m)
- PLATEAU (900—1500m)
- LAKES & SWAMPS

SOURCE: Adopted and modified from ATLAS OF UGANDA op. cit.

There is a general rise to the west and east of the country, culminating in the Ruwenzori range of mountains to the west (5,029 metres) and the volcanic chain of mounts Masaba (4,253 metres), (Elgon), Moroto, Kadam, Marungole, Napak and Zulia, to the east. In the extreme southwest rises another volcanic chain including Mount Mufumbiro in Kigezi.

As already noted above, about 21% of the total area (42,588 square kilometres) is made up of open water and swamp. Of this, approximately 2/3 (two thirds) (29,845 sq. km.) comprises the terrorial water of Uganda in Lake Victoria. Other Lakes include Lakes, Mobutu (Albert), Amin (Edward), Kyoga, Kwania, Bisina, George, and many smaller ones scattered in Ankole and Kigezi. Open swamps occur around the margins of most of these lakes and long extensions of swamps fill valleys in the centre of the country where sluggish streams drain towards Lake Kyoga. In total, swamp areas may be taken to cover about 6% of the country's area.

Although these lakes and swamp areas have to be deducted from the area that can be regarded as being available for agriculture, and have to be taken out of account when calculating population densities and man-land ratios, they are, nevertheless of considerable economic importance. For instance, the lakes are a valuable source of fish and therefore protein in a country in which dairy and meat supplies and still underdeveloped. Some of the crater lakes devoid of fish, have been sources for local salt for ages and today a salt-plant is being established to exploit the

salt resources of Lake Katwe in Rwenzori district. The papyrus swamps may have some potential value for paper making or even for fibre glass manufacture; though there would need to be carried an ecological study to determine the effects of cutting the papyrus swamps first. The reduction of the amount of water lost from the surfaces of Uganda by a third as a result of the removal of this factor of transpiration could lead to a serious rise in the level of surface water. Also, the grass swamps are of great value as dry season grazing lands and are seasonally burnt over to improve their value. Lastly, these swamp margin lands are being used for irrigated agriculture at the Kibimba Rice Scheme and thought is being given to initiate such schemes in other parts of the country.

From the above, it can be seen that an unusually high proportion of Uganda's total surface area consists of open water, either of the portions of the great lakes of East Africa which lie within Uganda territory, or in open water at the heart of her extensive swamp lands. This leaves the country with only about 194,251 square kilometres (79%) of land area. Out of this land area, 34 per cent lies between about 900 and 1,500 metres, 9.3 per cent under 900 metres, 5.4 per cent between 1,500 and 2,100 metres, and 1.3 per cent lies over 2,100 metres. This elevated position of Uganda is important since the control of temperature by altitude governs the range of agricultural crops which may be grown.

Land below 900 metres occurs only in the Western Rift Valley, the lowest parts being in the plains of the lower Semliki river in its northward course towards the south end of Lake Mobutu, the plains on the southern and eastern flank of the same lake, and a fifty to seventy kilometres wide stretch of country on both the eastern and western sides of the Albert Nile in its course northwards from Lake Mobutu to the Sudan border. This continues southwards to include the plains round Lake George and Lake Amin at just over 900 metres. On the whole these areas are not regarded as attractive areas for settlement, being too hot and dry for many agricultural purposes.

As already indicated, most of Uganda's land area (84%) lies between 900 and 1,500 metres (3000-5000 ft.). This comprises generally a flat plateau region with a gentle dip towards the centre represented by the down-warped area of Lake Kyoga and again towards the north is the lower course of the Aswa River. This represents a recent peneplained surface from which a higher and older (probably cretaceous) surface may be distinguished in the south forming the common flat-topped and often laterite covered hills, at about 1,400 metres very characteristic of the land to the north of Lake Victoria. The monotonously flat plains of the north and centre are only occasionally interrupted by inselbergs. Most of this plateau and plains country is suitable for human settlement.

Apart from narrow bands around each of the already mentioned mountains above, most of the extensive areas between 1,500 and 2,100 metres lie in the south west of

the country. Here they form the expansive area occupying the western half of the old Ankole and most of Kigezi districts. This area is one of the most suitable areas for settlement in the country and includes Bugisu district.

At the other end of the scale, there is the small amount of land above 2,100 metres. The largest amount, is on Mount Masaba (Elgon) where 2,340 square kilometres exists on the western side of the mountain and on which Bugisu district lies. A smaller area is accounted for by Mount Ruwenzori, an uplifted harstblock, where about 1,352 square kilometres lie on the Uganda side of the Zaire boundary. This area may for the moment be regarded as of little economic value. Approximately the upper limit of settlement, as we shall see for Bugisu district, is at 2,100 metres, and land above this height is usually reserved as forest. Cultivation only extends beyond 2,100 metres in a very limited area, and never beyond 2,400 metres. On Ruwenzori, a small number of Konjo and Amba cultivation goes beyond the 2,100 metres; as also do a few plots of Sebei and Gisu settlements on Mount Masaba but in the latter area particularly, these areas are being abandoned mainly due to landslides and monkeys which eat the crops grown.

On the whole only land above 2,400 metres should be considered totally unsuitable for agriculture. On Mount Masaba, a small amount of high altitude grazing is conducted by the Sebei above the forest layer, and on of the fastnesses on Karamoja mountains some very small communities of backward peoples still survive with a greater dependence upon food gathering and hunting than elsewhere in Uganda.

4.7 The Natural Resources of Uganda.

The National Five Year Plan for the country (1971/72-1975-/76) points out that "..... one of the issues most relevant to development policy .... is the variation in the development from district to district". The Plan goes on to say that one of the causes of such variations is "..... the uneven distribution of exploitable natural resources; particularly agricultural land and favourable climatic conditions". This means that any study of the resource base at both national and regional level should have as its objective, an attempt to create a rational balance between a rapidly grazing population and the present and future distribution of exploitable natural resources. This state of balance can be seen from two points of view: One is the need for the national population to be distributed in such a way that no undue pressure is placed on any given resources in a specific location - such as the high rural densities in Bugisu and Kigezi; and the other is the need for the country as a whole to have an appropriate distribution of population throughout all rural areas where natural resources await new or continuing exploitation to promote the socio-economic advancement of the country as a whole.

The natural resources in Uganda may be grouped into:

i. Habitable land in terms of its function for agricultural practices and grazing;

ii. The various types of game reserves;

iii. Forest reserves;

iv. Mineral resources;

v. Water resources;

vi. Fisheries.

i. Habitable Land:

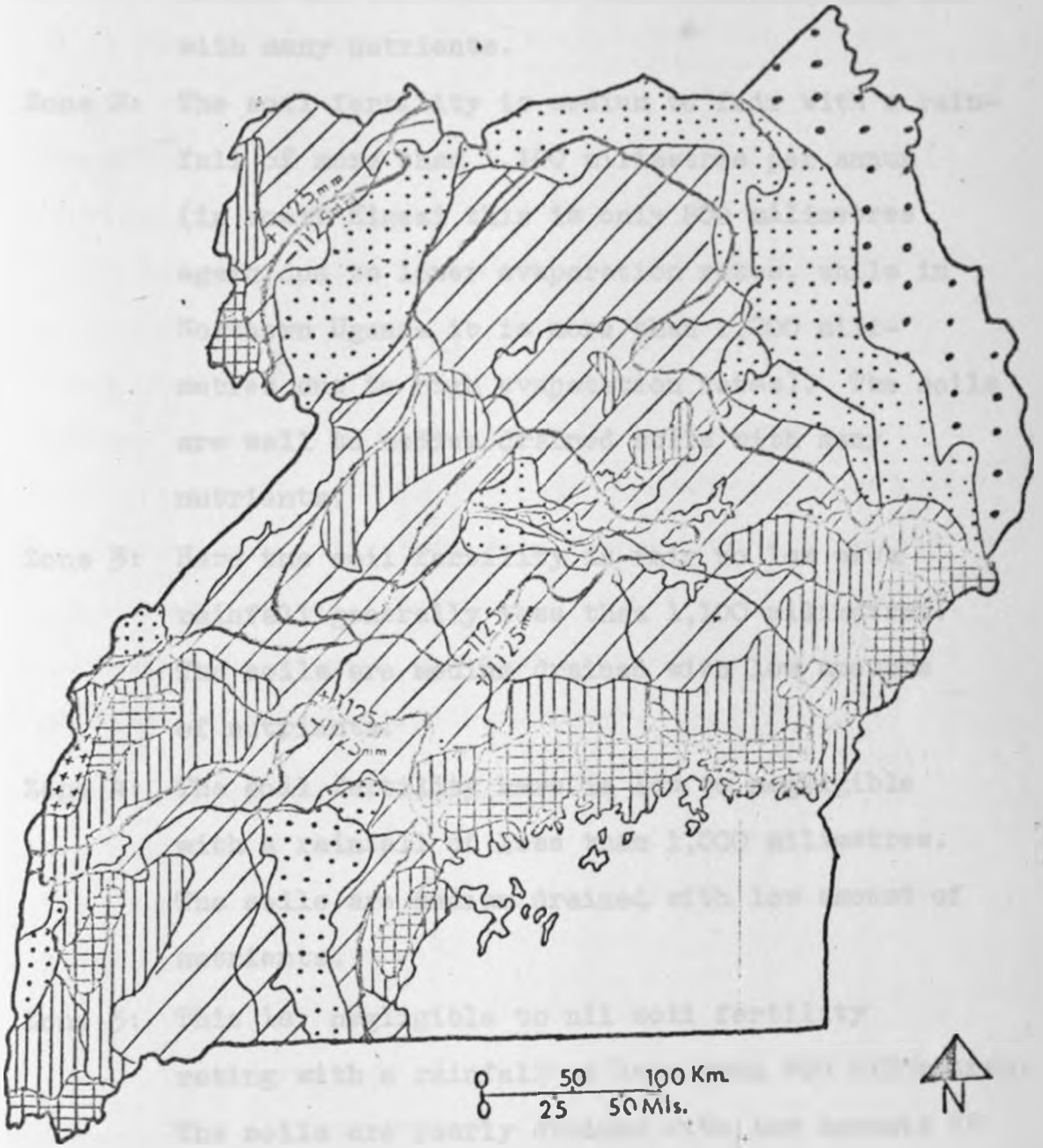
The habitable land of Uganda is the total land area of Uganda (236,860 km^2) minus open water, permanent swamps, forest reserves, game parks and game reserves, urban areas and high mountain areas (Mt. Masaba and Ruwenzori) which reduces it to a "habitable land area" of 173,197 square kilometres or 73% of the total area.[5] The exclusion of urban area from habitable land area is rather questionable since it is here that we find the highest concentration of people. These 173,197 square kilometres of habitable land are not of equal quality throughout the country for a use such as agriculture or grazing. Climatic conditions and soil types are the main physical factors which cause a differentiation in the quality of the habitable land.

With a method of combining climatic conditions (rainfall amount, annual distribution of rainfall, potential evaporation) with soil fertility, it was possible to classify five different ecological zones in Uganda which cover various locations and extent. These zones are classified thus:[2]

Zone 1: The soil fertility is high while rainfall is generally more than 1,200 milimetres per annum, (in south Kigezi it is 900 milimetres due to lower evaporation rates). There is no severe dry

ECOLOGICAL ZONES

MAP 4·5



LEGEND

- ZONE 1
- ZONE 2
- ZONE 3
- ZONE 4
- ZONE 5
- MOUNTAIN AREAS
- +1125 -1125mm ISOHYET

SOURCE: Dept of Town & Regional Planning (Kampala)

season and the soils are well drained, deep and with many nutrients.

Zone 2: The soil fertility is medium to fair with a rainfall of more than 1,100 milimetres per annum (in south Kigezi this is only 800 milimetres again due to lower evaporation rates, while in Northern Uganda it is more than 1,200 milimetres due to high evapotation rates). The soils are well to medium drained soils with many nutrients.

Zone 3: Here the soil fertility is fair to low with rainfall generally less than 1,100 milimetres. The soils are medium drained with low amounts of nutrients.

Zone 4: The soil fertility here is low to negligible with a rainfall of less than 1,000 milimetres. The soils are medium drained with low amount of nutrients.

Zone 5: This is negligible to nil soil fertility rating with a rainfall of less than 800 milimetres. The soils are poorly drained with low amounts of nutrients.

Map 4.5 shows the location and extension of the different ecological zones in Uganda. Zone one with the highest quality for agricultural use is located in the southern parts of Buganda, South Busoga, on the slopes of Mount Masaba (Bugisu), in southern Kigezi, and in smaller extensions in southern province south of Masaka, in West

allows cultivation only in a very few scattered areas, if at all. The amount of rainfall - too low for permanent cultivation without irrigation - is only sufficient for grazing. This zone is located entirely in Karamoja Province, where it covers the eastern parts.

From the above account of the general distribution of cultivable land, it can be seen that any programme which aims at resettling people in the so called "presently empty lands," must take into account the ecological nature of the area and therefore its capacity to absorb such extra rural population from other areas of the country notably Bugisu and Kigezi. This capacity does not take long to get exhausted thus leading to the creation of new overpopulated areas.

ii. Game Reserves & Parks

The establishment of game reserves as a means for the preservation of natural resources is justified by three major objectives:[6]

1. To fulfill the African Convention for the Preservation of Nature and Natural Resources.
2. To obtain revenues from tourism.
3. To serve the population with additional food supply.

Although "game reserve" is a term generally used to describe all types of areas where wildlife is protected or controlled, in Uganda, this is further divided into four categories and defined by the Government as follows:

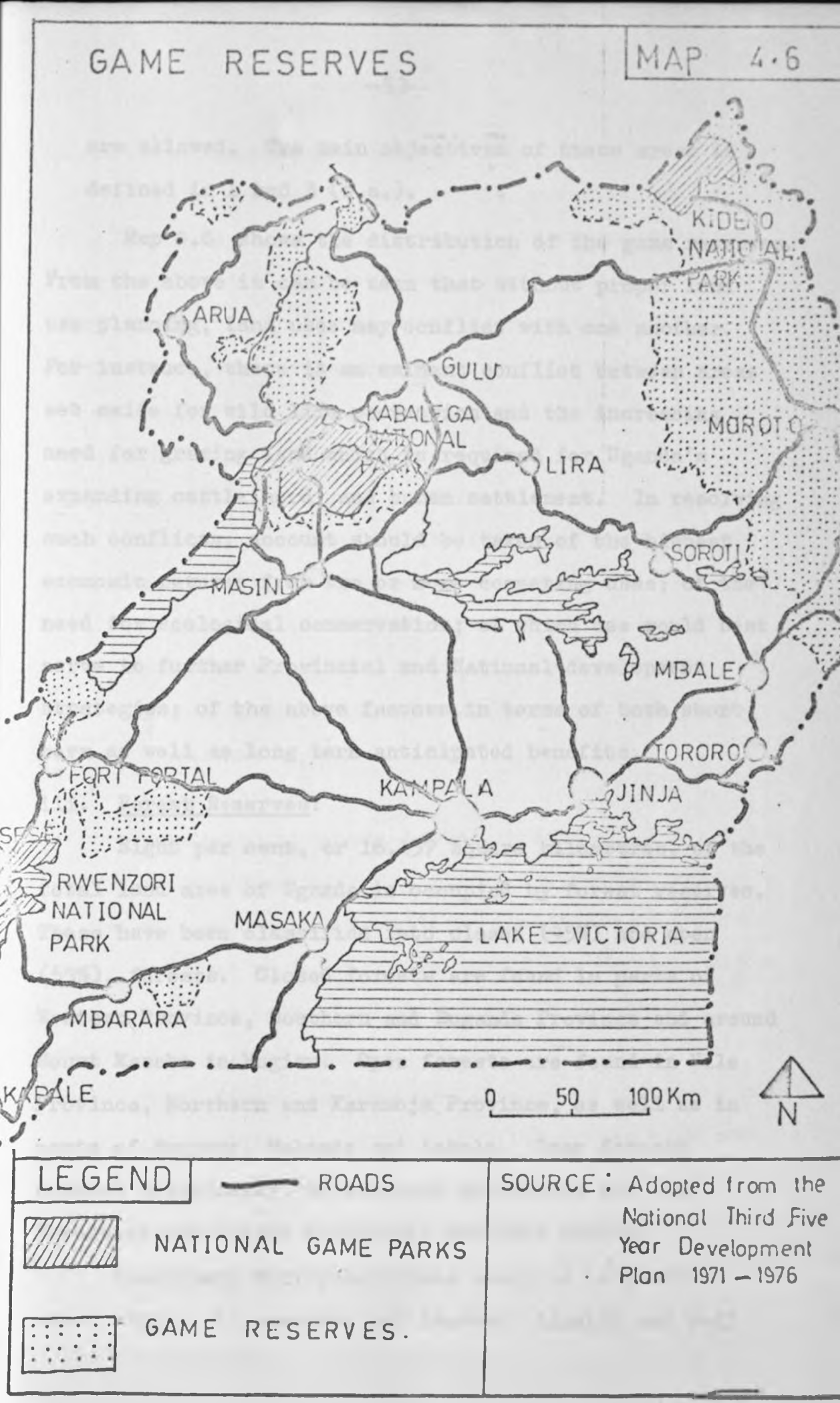
1. National Park: The land here is used completely for the benefit of wildlife. No killing of animals is

allowed, except under the management of the Game Department. Settlements, agriculture and pastoralism are prohibited, except by licence from the Game Department. Major objectives of National Parks are 1 and 2 (s.a.)

2. Game Reserve: This land is almost exclusively preserved for wild game management. Often it is used as a buffer zone to protect agricultural areas from animals marauding from the national parks and to protect the migratory rates of game. As a result, the location of game reserves is often adjacent to national parks. Game reserves play an important role for tourist industry as they are the main resource areas for the supply of skins and trophies. They also supply game meat. Agriculture and grazing are only allowed with special permission. The major objectives for the establishment of game reserves are spelled out in 1,2,3 (s.a.).

3. Sanctuaries: These areas are established for the purpose of protecting certain - often rare - species of animals and birds. Hunting is under no circumstances allowed. There are no rules about the prohibition or otherwise, of settlements and cultivation. The main objective of a sanctuary is defined in 1 (s.a.).

4. Controlled Hunting Areas: Hunting in these areas is restricted by the idea of proper control over the increase and off-take of game to allow a continued number of animals. Settlements, agriculture and grazing


GAME RESERVES
MAP 4·6
KIDEPO NATIONAL PARK
ARUA
GULU
KABALEGA NATIONAL
MOROTO
LIRA
SOROTI
MASINDI
MBALE
TORORO
FORT PORTAL
KAMPALA
JINJA
RWENZORI NATIONAL PARK
MASAKA
LAKE VICTORIA
MBARARA
KABALE
0 50 100 Km
N
LEGEND
ROADS
NATIONAL GAME PARKS
GAME RESERVES.
SOURCE: Adopted from the National Third Five Year Development Plan 1971 – 1976

are allowed. The main objectives of these areas is defined in 1 and 3 (s.a.).

Map 4.6 shows the distribution of the game reserves. From the above it can be seen that without proper land use planning, land uses may conflict with one another. For instance, there is an eminent conflict between areas set aside for wild life protection and the increasing need for grazing land which is required for Uganda's expanding cattle herd and human settlement. In resolving such conflicts, account should be taken of the highest economic returns from two or more competing uses; of the need for ecological conservation; of which use would best serve to further Provincial and National development strategies; of the above factors in terms of both short term as well as long term anticipated benefits.

iii. Forest Reserves:

Eight per cent, or 16,157 square kilometres, of the total land area of Uganda is occupied by forest reserves. These have been classified into closed (45%) and open (55%), forests. Closed forests are found in parts of Western Province, Southern and Buganda Province and around Mount Masaba in Bugisu. Open forests are found in Nile Province, Northern and Karamoja Province, as well as in parts of Bunyoro, Mubende and Ankole, Open forests consist botanically, of savannah grasslands and (in Ruwenzori and Masaba mountains) montaine heaths.

Government policy on forest today is to protect water supply, to preserve and improve climatic and soil

conditions suitable for agriculture, to supply the needs of the local population with forest products, and to supply the needs of the country's economy and those of other countries. Thus two major functional types of forest reserves in Uganda come up; protective and productive forest reserves.

Protective forest reserves include the following categories:

(a) Moorlands, montaine heaths:

Although not likely to be forested, moorlands and montaine heaths are under the control of the Forest Department, as they are areas reserved for water conservation. They cover about 500 square kilometres in high altitudes of Ruwenzori and Masaba mountains.

(b) Bamboo forests:

Botanically a grass, bamboo forests of high altitudes in Ruwenzori mountains and in Mt. Masaba prevent soil erosion. In addition, the shoots of bamboo serve as food for the Bagisu of Mt. Masaba. These cover an area of about 500 square kilometres.

(c) High altitude closed forests:

These forest reserves are also above the areas for cultivation, approximately 2,150 metres high, on Mt. Masaba, Ruwenzori and in Kigezi (Impenetrable Forest). Their function is the prevention of soil erosion and water conservation. The total area covered by these forests is about 1,100 square kilometres.

(d) Savannahs and woodlands of medium altitude:
At present, the major function of these savannahs and woodlands - mostly in Karamoja and Northern Province - is to prevent or to stop the extension of fires as they consist - among other species - of incombustible juniper. These forests cover an area of about 3,380 square kilometres.

Productive forest reserves consist of:

a. Closed forest reserves of medium altitude: The most valuable of these forest reserves are located at altitudes of 1,200 to 1,900 metres in Toro, Bunyoro and Buganda. Their value exists in their composition of commercial species like mahogany, mvule, and others. The total area covered by these forests is 7,245 square kilometres.

b. Savannah woodlands of medium altitude: Unlike closed forests, the value of these is derived from the local supply of poles, fuel wood and charcoal. They cover about 7,817 square kilometres.

c. Plantations: A very limited area of 220 square kilometres is planted with special species in form of plantations. The main species is eucalyptus which is widely used for making poles especially by the Uganda Electricity Board and Kilembe Mines.

iv. Minerals:

As already mentioned, the location and variety of minerals in Uganda is connected mainly with precambrian metamorphic structures. Although the list of minerals

includes Beryl, gold, tantalite, limestone, columbite, tin ore, wolfram, blister copper, iron ore, oil, and rock phosphate, only some of these occur in quantity worth being exploited.

There are few major minerals which contribute almost 100% of the total export of minerals production:

1. The mining of blister copper in Kilembe (Toro), is by far the most important for Uganda, with a production of 15,731 tons in 1971, copper earned 95.2% of the country's revenues from the export of minerals.
2. Wolfram dominates the mineral resources of Kigezi. The total production of wolfram amounted to 277 tons or 2.4% of the country's revenues from the exported minerals.
3. The resources of beryl and tin ore are concentrated in Ankole and Kigezi. In 1971, the mining of both minerals contributed 2.4% of Uganda's mineral exports.

The importance of gold as a mineral resource had declined to a production of only 20 grammes in 1970. Rock phosphate is found primarily in Bukedi and Toro. Its mining became the basis of cement factories in Tororo and Hima.

v. <u>Water</u>:

In comparison to most African countries, Uganda is well endowed with water resources of different types almost throughout the country. As already mentioned, 18% (42,412 km^2) of Uganda's total area is open water in the form of lakes and rivers.

The different types of water resources in Uganda

which consist of rainfall, lakes, rivers and creeks, groundwater and swamps, serve different purposes and their potentials can be used differently.

Agriculture is the most important use of rainfall. Most parts of Uganda receive more than 1,000 mm. annually. That means that a great variety of crops can be grown almost throughout the country. By means of irrigation the area under cultivation can be extended and yields increased. The numerous lakes are a resource mainly for fishery. The function of the lakes for transportation can well be extended, not only internally but also as a link to the neighbouring countries of Zaire, Tanzania and Kenya.

The main function of rivers and creeks is their potential for hydro-electric energy, fishery and domestic water supply. Various falls of the Nile, between Lakes Victoria and Mobutu are potential sites for further exploitation of hydro-electric energy.

Groundwater can be made available by means of wells and boreholes. At the moment ground water is mainly used for domestic water supply. A further potential of groundwater is its application for irrigation.

Generally it can be said that the abundance in the quantity and the variety of water resources are a potential for the development in Uganda that is at present only used to a small extent.

vi. Fisheries.

The fishery resources of Uganda have to be considered in connection with the country's natural habitat of fish lakes, rivers and swamps, Ponds have been constructed in many parts for further exploitation of the fishery resources. The importance of fishery at the subsistence and small-scale marketing level has a long tradition, but its share on the total exploitation is declining in favour of a commercial type of fishing which also suppies other African countries.

An assessment of the country's fish resource is difficult to undertake as investigations are still under way to determine the upper limit of the lakes' potential fish population. However, the fishery resources of Uganda may be defined as the potential fish population that can be caught yearly without depleting the resource. The role of Uganda's national fish resources for the supply of the country's population with protein and the export, cannot be over-emphasized. These resources have a great potential for future development, if the yields are increased by improving the catch techniques and by controlled preservations.

The last, and probably most important resource is the human resource. Much has already been said about the number, distribution and growth rates. What remains to be re-emphasized here is that the human resource of the country has to be developed (mainly through proper education) and exploited to the full. The role of the human resource for future development of the country can hardly be

over emphasized.

4.8 Land Carrying Capacity

According to the 1969 census, 93 per cent of Uganda's population lived in rural areas. This means therefore that the majority of the people in the country earns its living by means of agriculture and/or raising livestock. Only less than 10 per cent of the rural taxpayers are employed in the secondary and tertiary economic sectors and a substantial number of these are at least partially engaged in traditional primary activities. An overwhelming proportion of the national population therefore depends directly on the country's natural resources, particularly the habitable land. Secondary natural resource activities of fishing, forestry and so on, mainly provide supplemental income for those otherwise engaged in commercial or subsistence agriculture.

In view of all this, it is necessary therefore to intervene through land use planning to formulate a framework for optimal utilisation of the environment with an aim of achieving an ecologically acceptable balance between environmental preservation on the one hand, and maximum utilisation of the environment by and for man on the other. This dynamic balance may be called "eco-development."[7] Since habitable land is by far the most important natural resource for the livelihood of the rural population in Uganda, establishing environment capacities is largely a matter of estimating, as already mentioned, the land carrying capacity of the different ecological zones consistent with eco-development.

Ankole district, east of Fort Portal in Toro district, and in the south-western part of the Nile Province adjacent to the border with Zaire.

Zone 2 can be defined as being of good to medium quality for agricultural use. In many parts of Uganda, this zone is located adjacent to zone one that is, in the southern and central parts of Buganda Busoga and Bukedi, in Kyotera district, central Kigezi, west Ankole and central Toro. Smaller area of zone two are to be found around Arua and Moyo, along the White Nile River, around Masindi in Bunyoro, around Lira in Lango and in the south eastern parts of Teso.

Zone three combines a great variety of soil types and climatic regions throughout the country. It is of good quality for agriculture and covers about 50% of the country's total habitable land. Agricultural use is only of minor importance in zone four. The relative low amount of rainfall, generally long dry seasons and poor soils favour this zone for grazing rather than for crop production. It covers the western parts of Karamoja, adjacent parts of Acholi and Teso, runs like a belt via northern Acholi to Madi, the south eastern parts of Nile Province and western parts of Acholi to northern Bunyoro. Another major area stretches from South Mubende across Buddu district (Masaka) and East Acholi to the south. Minor areas occur in North Kigezi, north Toro, and along the western banks of Lake Kyoga.

Zane five is defined as an ecological zone type that

Carrying capacity therefore, refers to the capacity, not only of the physical but also the social environment, to be able to absorb new growth of all forms. The factors considered to be of major importance in land carrying capacity analysis are technology and the natural changes in the environment. Technology is here used to mean applied knowledge of social and physical sciences. As this epplied technology expands, certain environmental limitations or problems will be solved. Similarly, the carrying capacity may expand or decline as a result of the natural or man-made circumstances, and these dynamics have implications for environmental management or organisation of physical planning.

The land carrying capacity is, therefore not fixed or absolute. It may be regarded as a function of the available energy (or the technological output of a population) to support man's residential and agrarian systems in rural settlements. This energy is therefore the limiting factor. However, for practical purposes, land area and water supply attributes of the physical environment, and possibly waste assimilative capacity are potential constraints to growth, But the rural areas, as already indicated, are not homogeneous for most part, therefore carrying capacity in rural areas varies from one ecological zone to another.

To emphasize it further, there is an imperative necessity for proper and wise utilisation of the natural environment because the alternative would be inevitable disaster for the rural population and probably the whole

national economy. To implement eco-development it is necessary to establish the rural population densities consistent with what various environments can support through full utilisation of the natural resources, especially of the habitable land. The analytical tool used for this purpose is referred to as eco-carrying capacity of an area or an ecological zone.[8]

In the traditional agrarian systems of Uganda, land carrying capacity mainly depends on the physical environment. The physical environment in this case comprises of many ecological zones differentiated by their physical qualities. Taking Uganda's average house-hold size of five persons, it is obvious that the size of a shamba necessary to support a single household would vary with the main ecological zones. The elements considered to be of importance have already been referred to, and include soil fertility, rainfall amount, rainfall distribution and the potential evaporation. Ecological zones influence or determine the different sizes of holdings to give minimum hectare requirements for rural households of five persons.

Given the current traditional agrarian system of:

1. Mixture and regional distribution of crop cultivation and livestock raising;
2. Regional specialisation among crops;
3. Local standards in agricultural technology;

The minimum hectare requirements for shambas in different ecological zones are as follows:[9]

Zone 1: 2.2 ha-2.6 ha.

Zone 2: 2.5 ha-3.3 ha.

Table 4.2

Population Carrying Capacity of Rural Areas at 1969 rural income level

Districts and Provinces	Habitable Land Area (km^2)	Rural Population 1969	pop. per Hectare 1969	Min. shamba size in ha. (range aver.)	Ultimate Carrying Capacity	Ultimate pop. per hectare
W. Buganda	4,168	487,812	117	2.2-3.4 (2.6)	808,000	194
E. Buganda	11,891	838,777	71	2.2-4.0 (3.1)	1,931,000	163
Masaka	9,040	627,629	70	2.8-4.1 (3.0)	1,509,000	167
Ankole	13,455	845,067	63	2.8-4.8 (4.1)	1,636,000	122
Kigezi	3,759	636,749	169	2.2-3.2 (2.7)	709,000	189
Toro	8,895	556,032	63	2.8-3.8 (3.1)	1,430,000	161
Mubende	8,506	322,688	38	2.3-3.9 (3.4)	1,241,000	146
Bunyoro	12,537	344,259	28	3.1-3.8 (3.2)	1,955,000	156
West Nile	9,683	558,553	58	2.6-4.6 (3.7)	1,305,000	135
Madi	4,320	87,322	20	3.6-4.6 (4.3)	498,000	115
Acholi	24,867	440,901	18	4.4-4.9 (4.5)	2,735,000	110
Lango	11,907	496,975	42	3.3-4.6 (3.8)	1,553,000	130
Karamoja	23,967	275,803	12	4.6-25.0(20.0)	598,000	25
Teso	10,842	558,230	52	3.8-4.9 (4.4)	1,236,000	114
Bugisu	1,952	397,889	204	2.2-2.6 (2.5)	391,000	200

Table 4.2 (CONTINUED

Districts and Provinces	Habitable Land Area (km^2)	Rural Population 1969	Pop. per hectare 1969	Min. shamba size in ha. (range aver.)	Ultimate Carrying Capacity	Ultimate pop. per hectare
Sebei	1,061	64,464	61	2.2-3.2 (2.8)	188,000	177
Bukedi	3,912	511,113	131	2.6-3.8 (3.3)	588,000	150
Busoga	8,355	823,210	99	2.3-3.1 (2.8)	1,468,000	176
Uganda	173,117	8,873,473	51	2.2-25.0(4.0)	21,779,000	126

Source: U.N. Physical Planning Mission. op. cit.

Zone 3: 3.1 ha - 4.4 ha.

Zone 4: 3.6 ha - 12 ha.

Zone 5: 8.8 ha - 25 ha.

The overlapping is caused by different predominances in the type of land use.

Transferred to the administrative units of new provinces, the average minimum size per family of five members is as follows: (see also Table 4.2).

North Buganda)) Provinces South Buganda)	2.9	hectares
Busoga Province	3.0	"
Western Province	3.2	"
Southern Province	3.4	"
Eastern Province	3.8	"
Nile Province	3.9	"
Northern Province	4.3	"
Karamoja Province	20.0	"
Uganda average	4.0	

The following calculation of the land carrying capacity for districts under existing agricultureal patterns has been done using the following formula.[10]

$$\text{Carrying Capacity} = \left(\frac{4a}{10} + \frac{4b}{15}\right) x \frac{640}{y}$$

Where: a = area of good soil

b = area of poor soil

y = acreage of cultivated land per head.

Table 4.3 - Potential Land Use and Carrying Capacity under existing Agriculture Patterns

District	Total Area	Open water & Swamp	Un-cultivable Area	Cultivable Area		Population (1969)	Estimated Carrying Capacity	Acreage Required per head (Acres)	Years to Attain Carrying Capacity at 3% Growth Rate	Date
				Poor soils	Good soils					
W. Nile/Madi	6,051	187	-	3,694	2,170	663,740	1,822,000	0.63	34	2003
Toro	5,233	488	469	742	3,534	571,514	1,568,000	0.65	34	2003
Ankole	6,276	348	272	217	5,634	861,145	2,641,000	0.56	38	2007
Kigezi	1,950	48	-	157	1,745	647,988	570,000	0.65	-	-
Bunyoro*	4,810	60	33	1,638	3,079	351,903	1,133,000	0.94	43	2012
Acholi	10,783	-	-	7,277	3,506	463,844	3,673,000	0.80	70	2039
Lango	5,054	590	21	753	3,906	504,315	868,000	1.30	18	1987
Karamoja	9,290	-	-	-	-	284,067	-	-	-	-
Teso	4,954	648	14	1,559	2,737	570,628	600,000	1.61	2	1971
Bugisu/Sebei	1,628	17	127	163	1,326	485,897	382,000	0.96	-	-
Bukedi	1,575	-	2	1,003	570	527,090	330,000	0.96	-	-
Busoga	6,940	3,497	12	1,175	2,256	849,384	777,000	1.00	-	-
Mengo*	14,417	4,728	38	3,001	6,792	1,695,781	2,250,000	0.94	10	1979
Masaka	7,978	4,197	260	1,403	2,362	640,596	844,000	1.00	9	1978
Mubende*	2,679	-	44	637	1,998	330,955	669,000	0.94	21	1990
						9,526,200	18,198,000		23	1992

* According to pre-1967 boundaries

Source: U.N. Regional Planning Mission.

Ministry of Planning and Economic Development (1971/1973).

Table 4.2 and Map .6. shows the results of the calculations which were based on the assumptions:

i. That 80% of the area now under forest and game reserve is available for cultivation.

ii. 1:2 cultivation/resting cycle for poor-medium soils.

iii. 1:1 cultivation/resting cycle for medium-high soils.

From Table 4.3, it can be seen that four districts had population already in excess of the estimated carrying capacity in 1969. These were Kigezi, Bugisu, Bukedi and Busoga with excess populations amounting to 72,300; 103,000; 188,900; 167,900; respectively. Teso district joined the above districts in 1971. This Table further indicates that by the year 2039, all the capacity will have been used up and therefore any further population increase will have to be settled somewhere else - most probably in urban areas.

This brings us again to one of the weaknesses in the above estimates: no allowance was given for the urbanisation effects on these land carrying capacities. With a national average of urban population growth rate of 8.1% per annum, it can reasonably be assumed that the majority of the would-be excess populations in rural areas will find settlement opportunities in these urban centres (see Table 4.4). Also, since resettlement programmes are already under way, it can be assumed that the capacities in districts nearing capacity utilisation of their land

Table 4.4

Distribution of Urban Population and Growth rates (1959-1969) and Future Population upto 1985 at the 1969 growth rate.

Urban Centre	1959	1969	Growth Rate p.a.	1972	1976	1980	1985
Kampala	147,735	331,889	8.4	388,310	531,022	623,951	730,156
Jinja	58,000	117,000	7.3	143,910	189,540	266,760	370,[illegible]0
Mbale	13,569	23,544	5.6	28,017	36,258	49,442	58,860
Entebbe	12,229	21,096	5.5	25,107	32,488	44,302	52,740
Gulu	4,770	19,707	15.3	29,955	45,523	105,236	160,020
Mbarara	3,844	16,078	15.4	24,438	37,140	85,856	130,553
Tororo	6,365	15,977	9.6	21,249	31,155	50,000	66,464
Masaka	4,782	12,987	10.5	16,489	24,176	38,800	51,576
Soroti	6,645	12,398	6.4	14,753	19,090	26,040	30,995
Kabale	10,919	11,239	0.4	11,576	11,913	12,026	12,925
Arua	4,645	11,099	9.1	14,760	21,643	34,740	80,910
Fort Portal	4,750	8,278	5.6	9,850	12,748	17,384	20,695
Moroto	2,082	8,264	14.6	12,560	21,982	44,130	67,100
Lira	2,929	7,340	9.2	9,760	14,313	22,974	30,534
Kasese	1,564	7,213	15.9	10,960	19,187	38,517	58,570
Mubende	1,877	6,004	12.3	8,466	13,389	23,776	33,502
Iganga	3,146	5,958	6.5	7,090	9,175	12,517	14,895
Masindi	11,571	5,305	12.9	7,655	12,481	22,997	33,183

...../ Table 4.4 (CONTINUED)

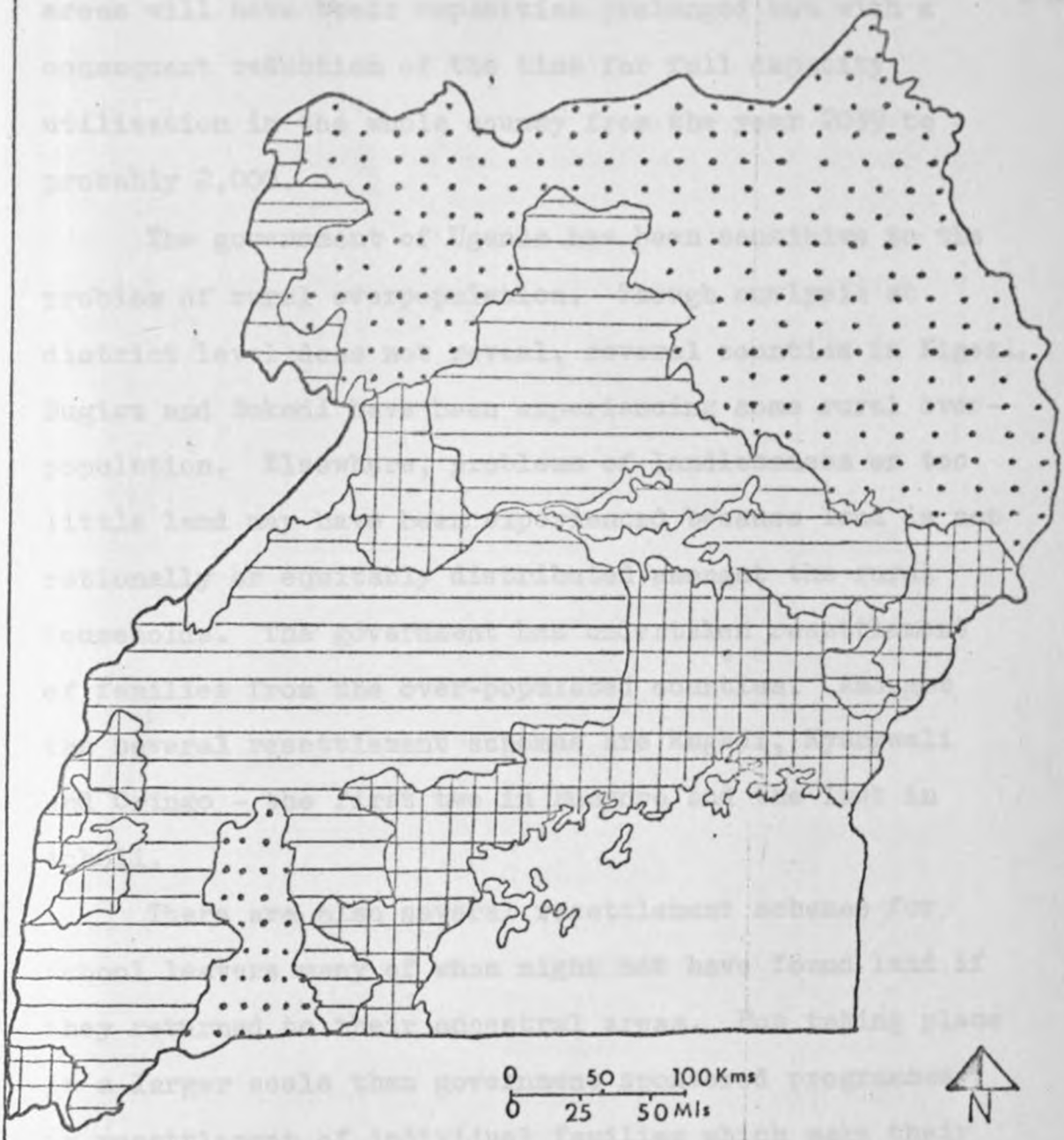
Urban Centre	1959	1969	Growth Rate p.a.	1972	1976.	1980	1985
Magamaga	-	4,818	-	-	-	-	-
Rhino Camp	3,478	4,115	1.7	4,362	4,691	5,144	5,473
Mukono	450	3,532	22.8	6,569	16,141	44,150	78,622
Kitgum	3,454	3,242	1.2	-	-	-	-
Mpigi	577	3,401	19.4	5,748	19,351	27,820	46,934
Bundibugyo	1,615	2,931	6.1	3,488	4,514	6,155	7,328
Kamuli	1,867	2,916	4.6	3,380	4,138	5,303	5,653
Moyo	2,009	2,656	2.9	2,895	3,267	3,772	4,090
Myendo	-	2,430	-	-	-	-	-
Hoima	1,056	2,339	8.2	2,947	4,023	5,918	7,461
Mityana	803	2,263	11.0	3,100	4,730	7,988	10,953
Total	310,298	676,019	8.1	851,781	1,162,749	1,710,032	2,156,494

Source: Uganda: Population Patterns and Urban Areas.

Department of Town & Regional Planning, Kampala, 1972.

POPULATION DENSITY OF CARRYING CAPACITY

MAP 4.7



LEGEND

120 – 220 Persons per square kilometre

60 – 119 " " " "

Less than 60 " " " "

SOURCE: Dep't. of Town & Regional Planning (Kampala)

areas will have their capacities prolonged but with a consequent reduction of the time for full capacity utilisation in the whole county from the year 2039 to probably 2,000.

The government of Uganda has been sensitive to the problem of rural overpopulation. Though analysis at district level does not reveal, several counties in Kigezi, Bugisu and Bukedi have been experiencing some rural overpopulation. Elsewhere, problems of landlessness or too little land may have been experienced because land is not rationally or equitably distributed amongst the rural households. The government has undertaken resettlement of families from the over-populated counties. Amongst the several resettlement schemes are Kagadi, Kyangwali and Oringo - the first two in Bunyoro and the last in Acholi.

There are also several resettlement schemes for school leavers many of whom might not have found land if they returned to their ancestral areas. But taking place at a larger scale than government sponsored programmes is resettlement of individual families which make their own choices as to when and where to resettle privately. Part of this type of resettlement is due to land shortage in the home districts. Examples of this type of resettlement include movement of families from Kigezi to East Ankole and from Nile Province to North Bunyoro district.

One characteristic of past government sponsored resettlement is that it has been ad-hoc and has only been

Table 4.5

Counties with Excessive Land Carrying Capacity

County	Land Available	County	Land Available
Kilak	4,449.46 ha.	Bugahya	1,482.62 ha.
Omoro	1,670.16 ha.	Kibanda	2,538.82 ha.
Aswa	1,375.91 ha.	Buuyaga	2,167.01 "
W.Acholi		Bugangaizi	1,527.66 "
District	7,495.53 ha.	Bujeje	2,328.74 "
Lamwo	4,788.84 "	Buruli	1,884.69 "
Chua	3,274.27 "	M. & S.	
Agago	1,775.06 "	Bunyoro	
Arua	4,156.55 "	District	11,929.54 "
E.Acholi		Amuria	1,671.12 "
District	13,994.72 "	Usuku	1,664.53 "
Labwor	1,580.19 "	N. Teso	
Jie	3,775.57 "	District	3,335.65 "
Dodoth	4,715.16 "	Buwekula	2,358.62 "
N.Karamoja		Singo	5,300.79 "
District	10,070.92 "	Mubende	
Matheniko	1,188.46 "	District	7,659.41 "
Bokora	1,990.60 "	Mitooma	1,547.09 "
C.Karamoja		Nyabushozi	2,360.51 "
District	3,179.06 "	Isingiro	2,400.35 "
Upe	1,640.16 "	E. Ankole	
Pian	2,088.63 "	District	6,307.95 "
S.Karamoja		Mawogola	2,000.05 "
District	3,728.79 "	Bukoto	1,045.89 "
E.Madi	2,750.00 "	Buddu	
Aringa		District	3,045.94 "
(N. Nile		Koki	
District)	1,969.92 "	(Kyotera	
Madi		District)	1,158.30 "
(C. Nile		Bulemezi	4,223.95 "
District)	1,452.88 "	Buruli	2,496.67 "
Moroto	2,507.50 "	Bulemezi	
Erute	1,431.11 "	District	6,720.62 "
E. Lango		Budiope	
District	3,938.61 "	N. Busoga	
		District	1,199.45 "

Table 4.5 (CONTINUED)

County	Land Available	County	Land Available
Oyam (W.Lango District)	1,741.96 ha.	Bukooli (S. Busoga District)	1,117.00 ha.
Mwengo	1,507.09 "		
Kyaka	1,489.26 "		
Burahya	2,358.62 "		
Bunyangabo	1,128.85 "		
Kibale	1,342.29 "		
Toro District	7,826.11 "		
		Uganda Total:	100,622.41 ha.

Source: U.N. Regional Planning Mission

N.B. Counties with less than 1,000 hectares are not included.

handled administratively. There has not been a continuous process of scientific forecasting or projections of national and district population combined with land carrying capacity analysis in order to establish which counties are over-populated or will be and when or which counties have spare land carrying capacity and how such counties should be utilised not to prejudice future resettlement. An attempt along these lines is currently being done and this paper is expected to contribute to such an exercise. Table 4.5 shows the counties with excessive land that can be utilised for resettling people from over-populated areas. The main problem with these figures is that they are not categorised into soil quality groupings. This makes it difficult to calculate the population that can be absorbed in those counties. Yet the main objective of land use analysis in this context would be to achieve a rational geographic balance between distribution of a rapidly growing population and the exploitable natural resources, especially the habitable land.

In fact under prevailing conditions, where population is continuing to grow without check and where grown up persons continue to colonise new territory and work it traditionally, good agricultural land will, within a shorter time than anticipated, be fully occupied. Individual holding schemes that merely spread a traditional agrarian system over new land, are thus bringing us closer to that stage. For these schemes to offer a permanent solution to the landlessness issue, strategies need to be worked out so that settlers can increase productivity by realising higher yields and not merely opening up new lands.

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CHAPTER V

THE POPULATION PROBLEM IN UGANDA

5.1 Historical Background

According to historical records, the current population of Uganda is composed of immigrants from Ethiopia, Eastern Horn of Africa and Southern Sudan. On the other hand, little is known about where and when Baganda and Banyoro (the two oldest ethnic groups in Uganda) came to present day Uganda, but it has been suggested that they came in small groups from Ethiopia before the fourteenth century and settled in present day Bunyoro and Buganda. It was not until early fourteenth century when Bachwezi from the Eastern Horn of Africa came into Uganda and occupied South-west and Central Uganda. Bachwezi who were active hunters and herdsmen established the famous dynasty which was dominated by centralised settlements and administration lasted for two generations (1300-1500).

The beginning of sixteenth century was dominated by immigration of the Luos who came from the south-east of present Sudan Republic. They settled in present West Nile, Acholi, Lango and Bunyoro. At the time when the Luos were settling in Northern Uganda, the Babukusu f from Kenya (Gushu Plateau) were also occupying the slopes of Mount Masaba (Elgon) and the surrounding plains. Present Bukedi was settled by people from Acholi and Kenya whereas Busoga was occupied by the local communities

of Banyoro and Baganda who were later on joined by Bagisu, Dhola, Bagwere and Luos. The occupying tribes consolidated themselves in the present boundaries of Uganda until 1750 when Jie and Dodot people of Karamojong stock immigrated into North-east Uganda from Kenya.

Arab slave raids which were organised in Northern Uganda during the eighteenth and nineteenth centuries contributed to the present day population distribution pattern. People from Madi and Acholi emigrated to the interior away from the slave traiders. Emigration caused by slave raids accounts for the higher population desnsities south of Gulu town and very low densities in areas to the north of Gulu, excluding the West Nile Highlands.

Religious settlements of late nineteenth and early twentieth century allocated counties in Buganda on religious basis. For instance, Lugard allocated Buddu County to Roman Catholics; Butambala, Busujju and Gomba to Moslems; the rest of Buganda went to Protestants.[1] After each settlement there was mass evacuation to and from allocated counties.[2] The three major religious sects established dioces and deanery headquarters which later on developed into settlements and trading centres. Protestants established two dioces and nineteen deanery headquarters; Roman Catholics established three dioces and nine deanery headquarters; whereas Moslems established theirs according to political units.[3] The way religions established themselves in Buganda was extended to the rest of Uganda and settlements with schools, teachers,

Training Colleges, trading centres and so on, were set up throughout the country to form present day urban centres which have been acting as growth poles.

The recent immigration which took place in early 1920's and early 1960's was motivated by economic development in the Lake Victoria region (Buganda and Busoga) and political instability which prevailed in neighbouring countries. People from Northern region, Ankole, Rwanda and Burundi came to Buganda and Busoga to work either in plantations and small farms or in towns. Most of these people stayed in Buganda and Busoga. The early 1960's were dominated by immigrants from Southern Sudan, Zaire, Ruanda and Burundi. Immigrants from Southern Sudan and Zaire settled in West Nile and Acholi whilst those from Ruanda and Burundi settled in Kigezi and Ankole. It was from there that they spread to the rest of the country in search of jobs.

Apart from historical migrations, human settlement in Uganda was affected by rainfall distribution, soil conditions and sleeping sickness. Cultivators settled south of Lake Kyoga where rainfall distribution and soil conditions were favourable for agriculture whereas shifting cultivators and herdsmen settled north of Lake Kyoga where the soils are relatively good but the marked dry season prevent cultivation throughout the year. The agricultural communities in the south settled, worked on the land and established large kingdoms of Ankole, Buganda, Bunyoro and Toro. Nucleus settlements developed

around the King's palaces and chiefs' homes which later developed in towns such as Kampala, Mengo, Mbarara, Hoima and Fort Portal. This contrasts heavily with areas where such kingdoms never appeared such as Bugisu, Bukedi, Kigezi and most of Northern Uganda; and therefore few necleus settlements ever formed.

Sleeping sickness epidemics which affected the shores of Lake Victoria, Toro, Acholi and Bunyoro districts during the early twentieth century induced the colonial government to evacuate people from sleeping sickness infested areas. People from Acholi and West Nile lowlands were moved to West Nile highlands and those from South Busoga were taken to Central Busoga. This mass evacuation of people partly accounts for the high densities of population in Central Busoga and West Nile highlands as will be shown later.

5.2 Population Size and Distribution

Uganda has had population censuses since 1911. As may be seen from Table 5.1, in 1911 Uganda had a population of 2,840,000 people, this increased to 2,960,000 in 1921, and in 1931, it was 3,554,000. These figures were estimates from chiefs' returns and therefore, not much statistical significance is attached to them. The 1948 census, which may be regarded as the first census to be counted on, gave a population of 4,960,000. These figures indicated that the rate of growth of the population in the 1920's and 1930's was slow due, most probably, to the high death rates and high infertility rates in certain

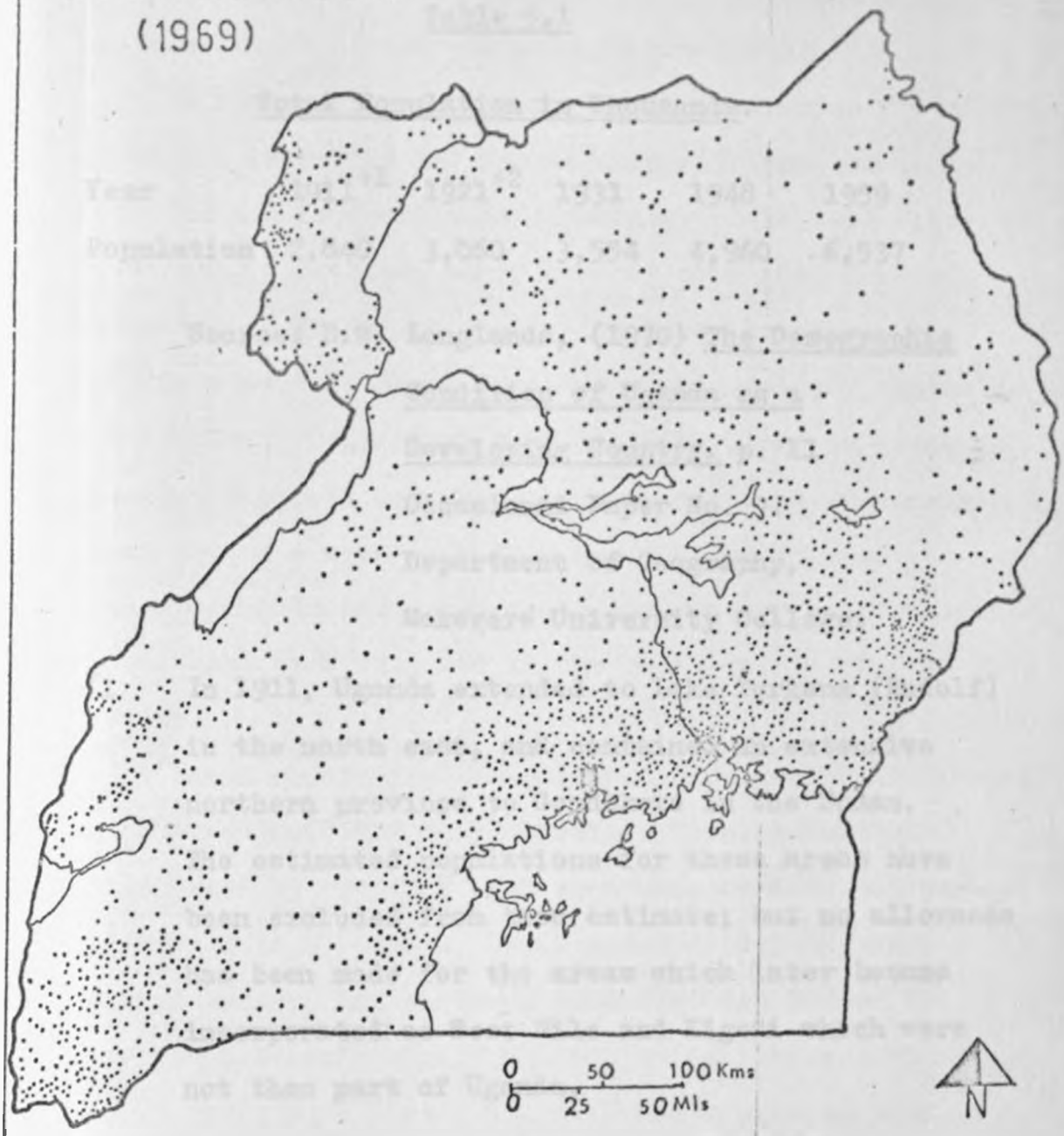
parts of the country.

According to the 1969 census returns, Uganda had a population of 9,548,847 people. This includes Africans and non-Africans, though the former accounted for 99% of the whole, while Ugandan citizens constituted 94% of the total population. Compared to the previous census of 1959 which recorded 6,536,531, the annual population increase was 3.8% giving a total increase of 45.7% during that decade. This is one of the highest increases in the world and naturally gives rise to some concern to the planners.

Whilst it is a fact that a substantial number of Asians left the country in 1972 thereby reducing the population somehow, there is evidence that the rate has been increasing, and is likely to reach 4% during this same decade, thus leading to a doubling of the population every after 18 years. This would mean a population of about 20 million people by 1989. However, the inter-censal increase of 45.7% is rather exaggerated by an unusually high immigration that took place largely of refugees from Rwanda, Zaire and Sudan, and also of itinerant labourers from Kenya and Tanzania. Also, if one allows for a certain amount of under-counting, especially in Karamoja Province in 1959, the natural increase may have been 3.2% per annum. This arises from the crude birth rate being far in excess of the crude death rate at 50 and 18 per thousand, respectively. All in all, with improved medical care, the infant mortality

MAP 5·1

POPULATION DISTRIBUTION (1969)



LEGEND

EACH DOT REPRESENTS 5,000 PEOPLE

▫ Kampala 331,889

x Jinja 47,000

SOURCE Adopted from B.W. Langlands UGANDA IN MAPS op. cit.

Table 5.1

Total Population in Thousands.

Year	1911[+1]	1921[+2]	1931	1948	1959
Population	2,840	3,060	3,554	4,960	6,537

Source: B.W. Langlands, (1970) The Demographic Condition of Uganda as a Developing Country. p. 11 Occasional Paper No. 9. Department of Geography, Makerere University College.

+1 In 1911, Uganda extended to Lake Turkana (Rudolf) in the north east, and contained an extensive northern province to Gondokoro in the Sudan. The estimated populations for these areas have been excluded from this estimate; but no allowance has been made for the areas which later became incorporated as West Nile and Kigezi which were not then part of Uganda.

+2 In 1921, Uganda still retained Rudolf Province, but the estimated population for this area is not included.

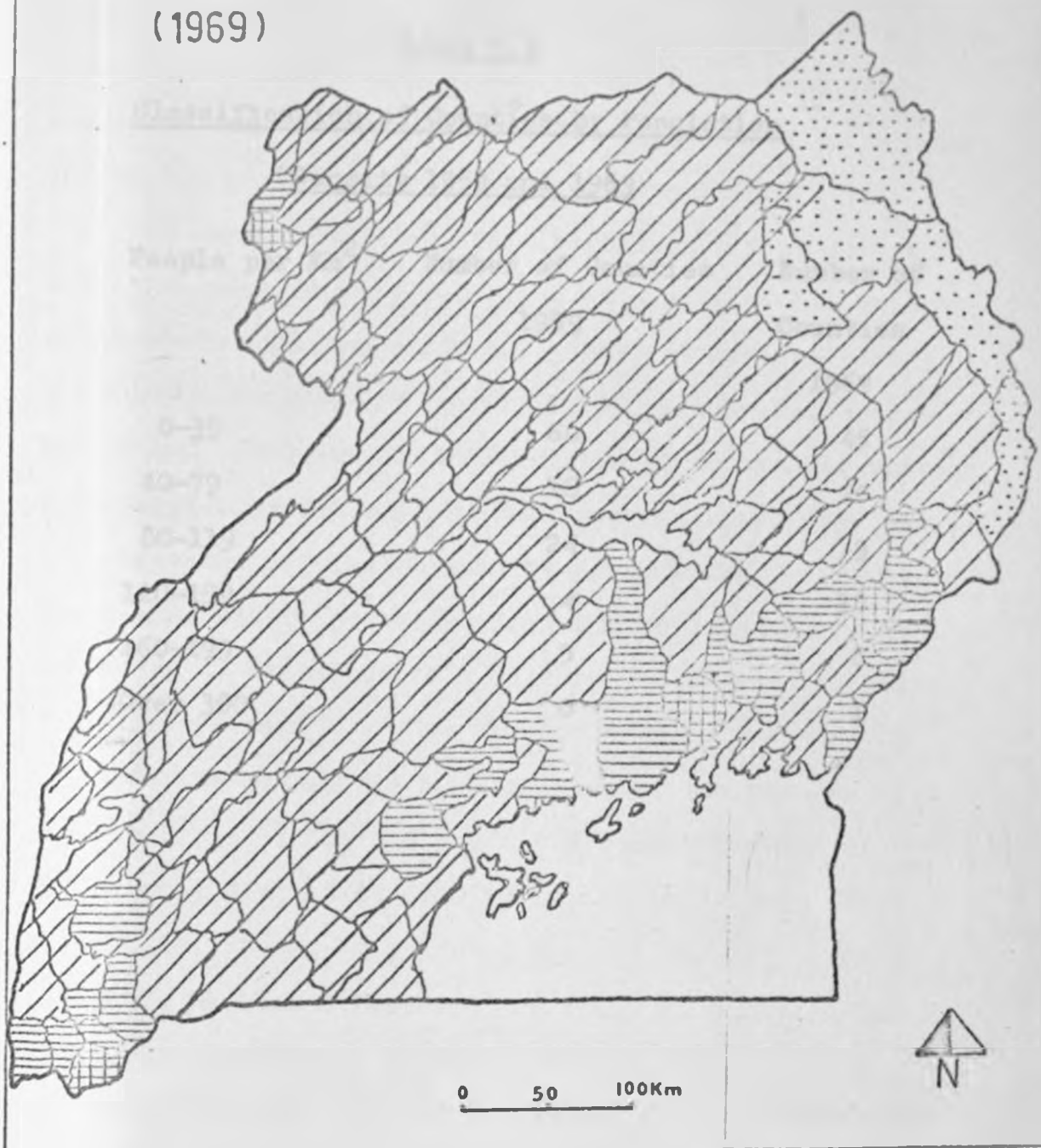
in particular, has been reduced and therefore the natural increase might already be at 3.5% per annum.

A number of factors affect the population distribution in Uganda including the recent change in population by internal and international migration. Like many other developing countries, there are not many instances of urbanisation affecting population distribution in the country except in those counties where regional capitals are located. Only about 7.4% in 1969, lived in towns of over 2,000 people, so that the population is overwhelmingly rural and as can be seen from map 5.1, it is mainly concentrated in the areas south and west of Mount Masaba, around Lake Victoria, and in the south-west corner of the country.

Rural population, therefore, is unevenly distributed at both national and local levels. This is further illustrated by the fact that according to the 1969 census six Provinces (Southern, South and Northern Buganda, Central Busoga, and eastern) accounted for 70% of the total population but only 40% of the habitable land. - [illegible]. The remaining four Provinces (Western, Nile, Northern and Karamoja) contained 30% of the population and 60% of the country's land. These circumstances are highlighted by the problems of over-population now apparent in Kigezi, Bugisu and Bukedi districts and by unutilised or underutilised land in Bunyoro and Acholi as well as Karamoja. At the local level, the sheer necessity to have enough land for

MAP 5·2

POPULATION DENSITY
(By County)
(1969)



LEGEND

- Over 300 people per Km.^{2}
- 200–299 " " "
- 100–199 " " "
- 10 – 99 " " "
- Under 10 p.p.Km^2

SOURCE: Adopted from B W Langlands: UGANDA IN MAPS op. cit.

Table 5.2

Classification of Counties by Population Density 1959 and 1969

People per Km^2	Number of Counties 1959	Number of Counties 1969
0-39	60	45
40-79	18	20
80-119	24	9
120-159	4	18
160-299	5	8
Over 300	0	1

cultivation or raising livestock has led to the dispersion of the homesteads. There has, on the other hand, been concentration of population in and around trading centres and on the peripheries of major urban centres.

As Langlands notes, the impression of population densities depends very much upon the size of the unit to which the population relates.[4] Thus, at national level, the average population density is 50 persons per square kilometre. However, if this is related to smaller units, considerable variation from this average comes up. Map 5.2 shows the population density by counties. In 1969, population densities varied from 606 persons per square kilometre in Kyaddondo to 8 persons per square kilometre in Labwar (Karamoja). The highest density recorded in Kyaddondo is mainly due to inclusion of the main area of Kampala City. Table 5.2 gives the classification of counties by population density in 1959 and 1969. From this Table, it can be observed that of the 111 counties in Uganda by then (there are now 126), 60 counties had a population density of between 1 and 39 people per square kilometre in 1959. This was reduced to only 45 counties in 1969. There was no county of over 300 persons per square kilometre in 1959 while in 1969 there was one.

Table 5.2 again shows that in 1969, there were a further 26 counties with populations of over 120 persons per square kilometre, and which can be regarded as densely populated. Eight of these could be taken as really heavily populated. These were Butembe (Busoga

district) 269; Bughoko (Bugisu district) 202; Ndorwa (Kigezi district) 246; Manjiya (Bugisu district) 188; Rubanda (Kigezi district) 152; Ayivu (West Nile district) 214; Tororo (Bukedi district) 172; and Bufumbira (Kigezi district) 168 persons per square kilometre.

The areas with low population densities in 1969 were, as in 1959, primarily the pastoral counties. In 1959, the two least populated districts had been Karamoja and Acholi. The 45 counties in 1969 with less than 40 persons per square kilometre accounted for over 40% of the habitable areas, but a little less than 10% of total population. On the whole, as may be seen from map 5.2, only a relatively small area of Uganda carries high densities of population (of over 100 people per sq. km.) However, these lands account for a high proportion of the total population, so that 10.5% of the population is contained on 1.5% of the land area; 14% is contained on 2.5%; and 23.9% is contained on 3.7%. This, in a way, indicates a slightly greater concentration than in 1959 when 9.4% lived on 1.3% of the area, but infact, as will be shown later, the highly populated areas have a lower growth rate than the national average. Also, the map shows that large areas of the north and middle west in particular, have low densities of population.

It is important to see these variations in population densities against environmental conditions. Uganda being an agricultural country (90% of the population depends on agriculture for their livelihood) higher

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It is important to see these variations in population densities against environmental conditions. Uganda being an agricultural country (90% of the population depends on agriculture for their livelihood) higher

population densities suggest a heavy pressure upon land resources. However, the ability of the environment to sustain high pressures vary very considerably. If societies were still heavily dependent on subsistence farming, it would be very feasible to calculate land carrying capacities, but most Ugandans are above this. This concept, as already mentioned, make too little allowance for changes in farming techniques whereby high densities may be supported without a deterioration in the quality of the land. On the other hand, the standard of farming has not been so much modernised as to render the concept of carrying capacity unapplicable in the country.

As is the case, the quality of the land in Bugisu, as shall be pointed out further later on, is high. Here a rich volcanic soil has been supporting a high density of population without creating soil erosion. While it is undoubtable that it is now becoming difficult for the younger males to obtain their own farms, and whilst Manjiya county may be the only one in Uganda in which there is a landless under-employed rural population, nevertheless on a basis of banana and coffee, often intercropped, the district has until now supported a generally prosperous community at high rural densities without a deterioration in the quality of the land.

Again in Kigezi and in much of the Lake Victoria fringe area of Southern Uganda, fairly high densities can be supported by the environmental conditions. For Kigezi, for about the past 20 years, and in Bugisu and West Nile

district, however, land shortage has partly led to some of the population migrating to other parts of the country.

On the other hand, there is no close correlation between the harshness of the environment and the density of population except probably in the case of Karamoja. For instance, much of the low density areas of Acholi and Bunyoro have a high rainfall, though unevenly distributed seasonally, and all have high potential for prosperous settlement but few people have been going to settle there. Generally, however, the actual distribution of population depends on many factors such as altitude, absence of malaria, and other diseases, disparities in female fertility, agricultural potential, soil qualities, the nature of the traditional economy, the establishment of commercial agriculture and industrialisation.

The disparities in population distribution, a concern for the protection of the environment in the highly populated areas and an awareness of the existence of empty areas suitable for increased habitation, has stimulated a considerable amout of thought in regional planning circles, and consideration is now being given to the evolution of a settlement planning policy. More will be said about this later on.

5.3 Population Growth and projection

As already observed, the population of Uganda grew from 3 million in 1921 to about 3½ million in 1931, to 5 million in 1948, to nearly 6½ million in 1959 and to about 9½ million in 1969.

Table 5.12

Assumed growth rates for Uganda 1969-2000

Year	Growth rates
1969/74	2.87
1974/79	3.01
1979/84	3.17
1984/89	3.35
1989/94	3.51
1994/99	3.64
1999/2000	3.64

Source: United States - The Two Child Family and Population Growth. op. cit. 1971.

Table 5.13

Uganda Population Projection (1974-2000)

Year	Males	Females	Total
1974	5,560,530	5,458,913	11,019,443
1979	6,461,608	6,343,544	12,805,152
1984	7,566,999	7,428,732	14,995,726
1989	8,944,412	8,780,985	17,725,397
1994	10,653,423	10,458,768	21,112,191
1999	12,773,773	12,540,376	25,314,149
2000	13,245,380	13,003,367	26,248,747

Source: Simeon Ominde, op. cit. 1975. p. 109.

From Table 5.13 it can be seen that on the basis of an exponential growth rate rising from 2.87 per cent in 1969 to 3.64 by the year 2,000, Uganda's population is expected to increase from about 9.5 million in 1969 to about 18 million by the year 1989 and to about 26 million by the end of the century.

Analysis of the total population by various functional age groups (not presented) shows that the population aged less than 15 years is expected to increase from just over 5 million in 1974 to about 9 million by 1989 and to approximately 12 million by the end of the century. The proportion of the population age 15-59 will increase from about 5 million in 1974 to about 8 million by 1989 and about 12 million by the end of the century. These projections suggest that the problems of a growing dependency burden and the cost of social services and the pressure on available employment opportunities as well as habitable land, will continue to face Uganda.

5.4 Migration

Besides fertility and mortality, migration is clearly one of the most important factors affecting the characteristic of a population and therefore the rate of growth. But the refinement in the study of the contribution of migration is hampered by lack of adequate data. However, migrational studies, as already indicated, have been undertaken on the basis of estimates derived from indirect methods of which the birth-place and age-sex ratios are the most commonly used. Uganda has been affected by

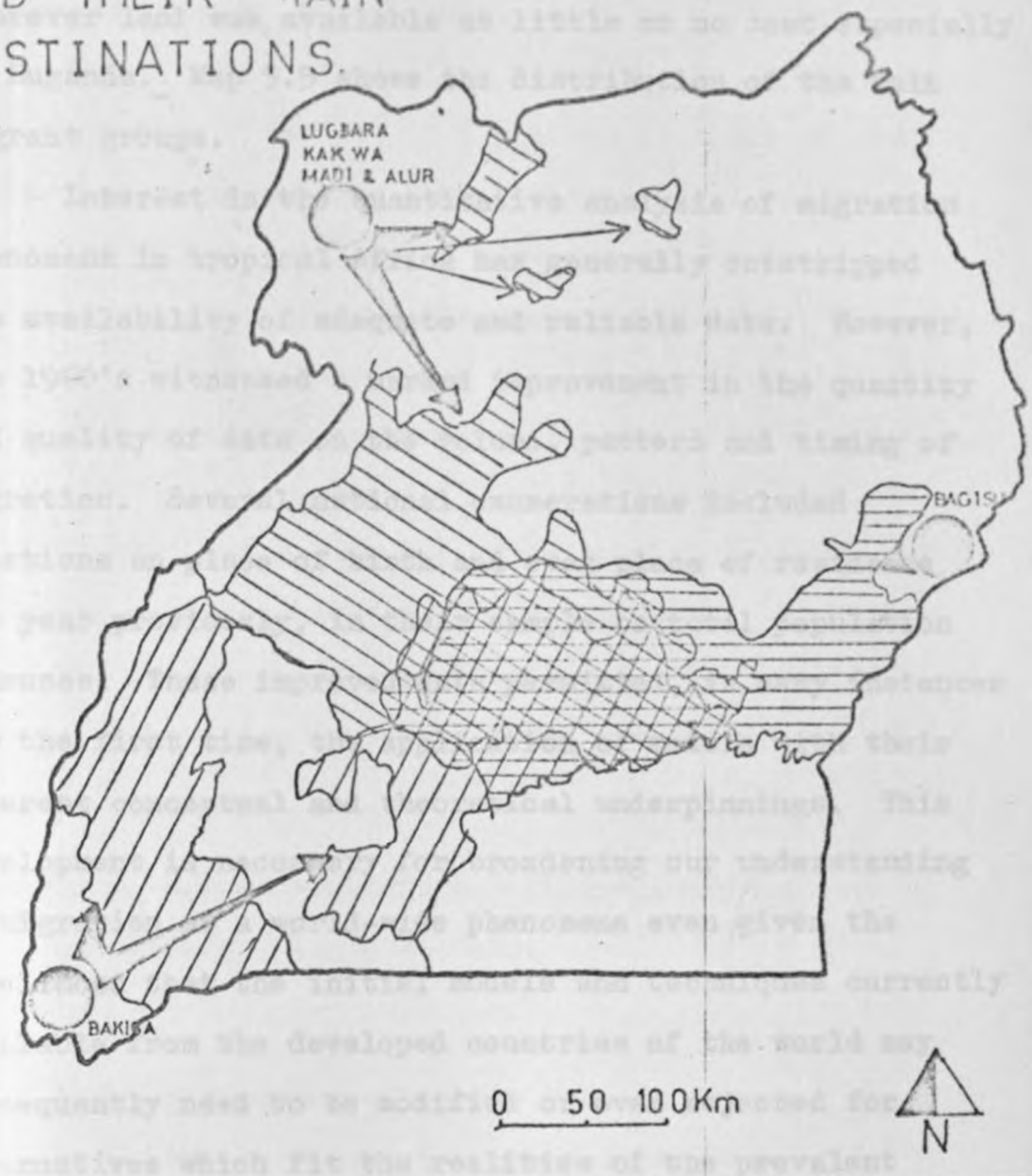
considerable internal migration, though, in addition, international migration has been an important component of population change in the country. This study, however, is more concerned with internal migration.

Before the establishment of British rule in Uganda, there has been the usual historical movement of large ethnic groups such as the Bantu, the Luo and the Karamojong. These may be referred to as having been the first internal migrants which culminated in the present day distribution of ethnic groups. After this large-scale movement of people, there came up what may be termed small scale movements with the intentions of merely adjusting themselves to comfortable settlements. Among these may be included the Iteso who founded small colonies among the Padhola, Bagwe and Samia of Eastern Uganda, and the Hima, who in pursuit of grazing areas for their animals, found themselves in other tribal areas.

In early 1920's, international and internal migrants began to converge on certain parts of the country, particularly Buganda and Busoga. This power to attract by these areas was due to the inherited more developable resources for agriculture as well as the urban employment that subsequently followed. Thus the migrants found it easier to make a living here than in their areas of origin, either as porters on Basoga and Baganda farms, or as employees in industries of Kampala and Jinja and the sugar plantations. Some migrants got settled in the rural areas and took to cultivation of cash crops on their own (cotton and coffee)

MAP 5.5

MIGRANT GROUPS AND THEIR MAIN DESTINATIONS.



LEGEND

FROM BUGISU

FROM WEST NILE

FROM KIGEZI

SOURCE: Compiled from O. Dak,: A Geographical Analysis of the Distribution of Migrants in Uganda op. cit.

wherever land was available at little or no cost especially in Buganda. Map 5.5 shows the distribution of the main migrant groups.

Interest in the quantitative analysis of migration phenomena in tropical Africa has generally outstripped the availability of adequate and reliable data. However, the 1960's witnessed a marked improvement in the quantity and quality of data on the volume, pattern and timing of migration. Several national enumerations included questions on place of birth and even place of residence one year previously, in their sample or total population censuses. These improved data permitted, in many instances for the first time, the application of models with their inherent conceptual and theoretical underpinnings. This development is necessary for broadening our understanding of migration as a world-wide phenomena even given the likelihood that the initial models and techniques currently available from the developed countries of the world may subsequently need to be modified or even rejected for alternatives which fit the realities of the prevalent circumstances in the areas concerned. For instance, the relatively high degree of seasonality and circularity which is an important characteristic of migration even at the inter-regional scale in E.Africa, may need to be incorporated into the available models which tend to neglect this aspect of population mobility.

Two models have been applied to migration studies in Uganda. The first one, employs the Interaction model (Goddard and Masser 1973) and the other one employs

Markov chain model (Hirst 1973).

The interaction model is based on the hypothesis that migration flows can be expressed in terms of similar to those used to measure gravitational force and on an extension of this analogy to take account of the comperative advantages of the regions involved.[21] This model draws upon studies of time specific migration flows that have been carried out by Lowry (1966) and Roges (1967, 1968) Schwind (1971) and Masser (1970) in North America and Europe and takes special account of applications which utilise birthplace data.

The relationships hypothesized by the combined gravity/comperative advantage model are summarised as follows:[22]

$$\text{LogMij} = a_0+a_1\text{LogPi}+a_2\text{LogPj}-a_3\text{LogDij}-a_4\text{LogXi}+a_5\text{LogXj}+a_6\text{LogZi}+a_7\text{LogZj}.$$

Where =

Mij = the number of people born in region i who were resident in region j in 1969.

Pi Pj = measures of the size (mass) of regions i and j respectively.

Dij = measure of the distance between regions i and j.

Xi, Xj,

Zi, Zj = measures of the comperative advantages of regions i and j respectively.

The gravity element of this model (i.e. the mass

and distance variables) assumes that the number of migrants from region j who are living in region i at the time of survey, is some function of the respective sizes of regions i and j and the distance between them. The inclusion of the comperative advantage variable implies that the size alone is not adequate as a measure of the generation and attraction of migration flows.[23]

Results from the Model indicated that despite difficulties related to correlations and interpretations in some cases, the general pattern described was that of mainly short distance movements of a highly directional nature from the larger regions (populationwise) towards the smaller regions. That origin regions had low income levels and poor educational opportunities while destination regions had urban opportunities. Flows from the poorer rural areas to the wealthier urban areas as implied by the model, go further to emphasize the general empirical findings of short distance movements between rural areas in the country, and point to the cumulative effect on population distribution of continued migration over time. At the same time, these findings draw attention to the special role in the national pattern played by both the major urban centres and also the densely settled peripheral areas of Kigezi, West Nile, Bugisu and Bukedi.

The Markov chain or analytic approach views migration as a simple process whereby inter-regional population groups undergo changes accordingly to a set of movement or transition probabilities: Its central mechanism is

a probability which refers to the likelihood of movement from one region to another region in a given time interval.[24] These probabilities are obtained from the original inter-regional migration matrix which is transformed to a transition probability matrix by dividing each element by its row sum: the rows of the transition matrix therefore sum to one, and each element refers to the probability of migrating from the row to the column region. No causal structure is implied.[25]

Like all Models, Markov Chain Models are subject to a number of very restrictive assumptions which makes the inherent conceptualisation of migration phenomena somewhat unrealistic. Moreover, some of the assumptions appear to have been more critical than is usually the case in the study of Uganda. For instance, the inter-regional system is assumed to be closed in the sense that emigration and immigration movements are not considered and yet during the 1960's Uganda experienced a very heavy net immigration of at least a third of a million persons; In the operation of the model, fertility and mortality are excluded and in effect natural increase is assumed to be unity. The total population in the system of regions therefore remains constant. Lastly, the movement of transition probabilities are considered to be constant through time. This is probably, the most troublesome and restrictive assumptions and attempts to use the Markovian model as a technique for temporal analysis have as a consequence, proved to be disappointing. Movement probabilities clearly vary

Table 5.14

African Population by District of Birth and District of Enumeration in 1969

District of Enumeration, 1969

District of Birth	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
E. & W.															
Mengo	1095006	15413	30866	891	2353	1108	9262	234	996	3588	2015	2470	1604	1385	1576
Masaka	32860	486467	6456	195	362	331	1364	81	614	3502	813	395	91	138	199
Mubende	23879	1932	203870	49	41	31	581	22	170	643	950	848	124	102	67
Teso	10863	397	372	542678	3191	3311	14009	2468	138	466	422	340	324	3513	7536
Bugisu/ Bebei	21003	265	800	1249	436849	4032	15127	708	37	292	2353	186	180	528	630
Bukedi	28051	388	409	5411	11393	497710	57840	428	75	370	942	219	138	564	484
Busoga	35844	768	790	2884	4241	4379	744953	202	92	472	469	565	569	1304	1051
Karamoja	498	14	61	603	910	84	402	237815	22	112	21	80	78	1232	376
Rigezi	27237	7937	7114	185	192	269	2026	55	617208	77641	52975	1409	57	191	113
Ankole	28070	22603	3785	2456	318	427	3893	74	5478	723074	5665	843	162	974	2750
Toro	16356	1848	12945	145	229	142	835	28	701	6438	437681	5744	94	302	302
Bunyoro	10827	315	10020	363	247	193	1072	58	197	468	1081	212980	1201	1345	2822
W.Nile/ [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Table 5.15

SELECTED TRANSITION PROBABILITIES AND THE EQUILIBRIUM VECTOR

	District	Main diagonal of transition probability matrix	Equilibrium Vector
1.	E. & W. Mengo	0.94	0.466
2.	Masaka	0.91	0.096
3.	Mubende	0.87	0.123
4.	Teso	0.92	0.016
5.	Bugisu/Sebei	0.90	0.021
6.	Bukedi	0.82	0.008
7.	Busoga	0.93	0.103
8.	Karamoja	0.98	0.022
9.	Kigezi	0.78	0.004
10.	Ankole	0.90	0.035
11.	Toro	0.90	0.025
12.	Bunyoro	0.88	0.024
13.	W. Nile/Madi	0.83	0.007
14.	Acholi	0.92	0.026
15.	Lango	0.92	0.024

Source: Hirst M.(Dr.), (1974), An Application of Markov Chain to Population Migration. op. cit.

through time as well as over space and the model therefore cannot be used as a realistic forecasting technique. If, however, a series of transition probability matrices are available for successive time periods, then Markov chain models do provide a particularly incisive technique for examining changing trends overtime in the distributional consequence of migration.[26]

The findings of the Model are based, like the previous Model, on fifteen districts instead of eighteen by amalgamating East and West Mengo, Bugisu and Sebei, and West Nile and Madi. From the Transition Probability Matrix in Table 5.14 the main diagonal of that matrix which indicated the proportion of people who reside in their place of birth is shown in Table 5.15. It is therefore an index of the stability of the population in each district and summarises some generally well-known features of inter-regional migration in Uganda.[27]

Kigezi and West Nile/Madi districts each have a low proportion and are traditionally recognised as areas of out-migration. The low figures for Mubende and Bunyoro districts are probably spurious in view of the boundary changes that were effected. East and West Mengo and Busoga districts are the most urbanised and the most economically developed parts of Uganda so that the high proportions recorded for them are easily explicable in terms of there being little or no incentive for people to leave these districts. Karamoja district also is seen to have a high proportion of these born in the district being

resident but this is because Karamoja is most populated by normadic pastoralists who continue to pursue their traditional mode of life rather than be drawin away by the so called attractions of a more modern life style in the economically advanced districts. The high figure for Bugisu explains the tendency for Bagisu to prefer staying in overpopulated home areas rather than venturing into other areas for better opportunities.

The equilibrium vector describes the steady-state proportions of the population distributed between the fifteen districts. As Table 5.15) indicates, this produces the startling result that the long term result of the present migration system as portrayed by the birth-place data, is for 47 per cent of the total population to be resident in East and West Mengo. Certainly this figure is too high due to the assumptions inherent in the Model but it suggests that migration into the economic care of Uganda which also includes the capital, Kampala, has the ability at least in the long term to dominate all other streams of population movement, and that it should not go unrecognised.

It has been said some time and again that the role of migration is to redistribute the national population into its regions equitably according to resources. However, it is unlikely that periphery-to-care movement can ever effect a net redistribution of population within Uganda if consideration is simultaneously given to other components of population change (fertility, mortality, rural-rural

movements, immigration, circular migration etc). The limited evidence available is nevertheless suggestive of the importance of migration in effecting a redistribution of population between the districts in the country. At the same time, various types population movement, such as colonisation movements in search of new land for settlement and cultivation and the immigration of refugees, have been important during the intercensal period in influencing the distribution of population and as such have obscured the simple proposition of net migration into the core and out of the peripherial areas.

5.5 Settlement Patterns

Contemporary location of rural settlements as well as urban nuclei reflects the varying extents and concepts on which locational decisions were based. The most widespread pattern of settlement in the rural areas of Uganda is one of dispersed homesteads over the countryside and the tendency to live in sizeable villages is limited to a few areas. It is only in the primarily pastoral district of Karamoja that nucleated settlements are of notable significance. Here up to ten families may be found living in separate huts in a communal enclosure. These settlements are fairly far from one another and constitute a definite spatial network with recognisable nodes.

Elsewhere in the country, however, no such distribution of individual homesteads is not all that random. The distances between individual homesteads vary considerably from area to area and are primarily determined

by the density of population, as well as the dominant system of land use and tenure. In the more densely populated areas such as Bugisu, the homesteads are closer to each other than in areas of sparse population. Similarly, homesteads tend to be farther apart in agricultural areas. The homestead then, is the most important unit in the pattern of rural settlement in Uganda and it is at this level that the relationship between man and his environment may best be perceived. In each home there are often more than two adults and up to six or more, children though in most studies in Uganda, an average home is taken to be made up of two adults and three children.

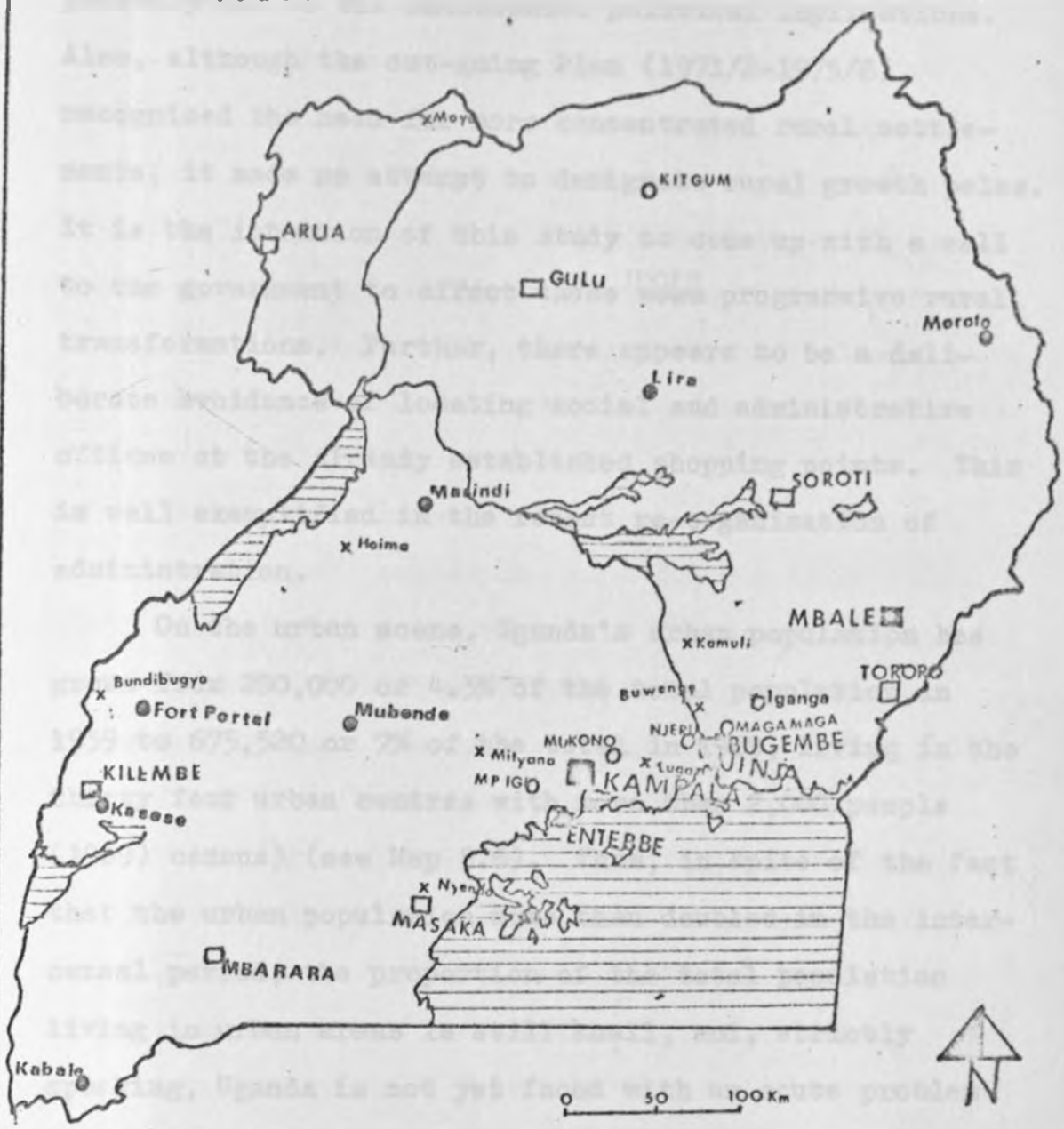
This pattern of rural settlement in Uganda creates problems in the attempt to provide social services to the rural areas. The fact that the homesteads are dispersed makes it difficult to provide social amenities like water, electricity, health services, schools and roads within easy reach of all people. In these circumstances, social facilities provided in the rural areas are often excessively duplicated. This implies that the services can only be made available to people in rural areas at a much higher per capita cost than in urban areas.

Such observations point to the need and urgency for re-organising the settlement pattern all over the rural areas of Uganda especially now that the land has been nationalised. By concentrating people in villages, it would be possible for planners to begin tackling the domestic environmental problems more effectively. This

MAP 5.6

URBAN CENTRES

(Settlements with over 2,000 people)
(1969)



LEGEND

▢	Over	50,000
▭	20000	49,999
▭	10000	19999
●	5000	9999
o	3000	4999
x	2000	2999

SOURCE Adopted from
BW Langlands
ATLAS OF POPULATION
CENSUS op. cit.

matter has not been given much consideration in the country probably due to the anticipated political implications. Also, although the out-going Plan (1971/2-1975/6) recognised the need for more concentrated rural settlements, it made no attempt to designate rural growth poles. It is the intention of this study to come up with a call to the government to effect these ~~were~~ more progressive rural transformations. Further, there appears to be a deliberate avoidance of locating social and administrative offices at the already established shopping points. This is well exemplified in the recent re-organisation of administration.

On the urban scene, Uganda's urban population has grown from 280,000 or 4.3% of the total population in 1959 to 675,520 or 7% of the total in 1969, living in the thirty four urban centres with more than 2,000 people (1969) census) (see Map 5.6). Thus, in spite of the fact that the urban population more than doubled in the inter-censal period, the proportion of the total population living in urban areas is still small, and, strictly speaking, Uganda is not yet faced with an acute problem of urbanisation.

The growth of individual towns cannot be accurately measured as many towns underwent extensions of their beundaries, and, in any case, it is difficult to work out complete correspondence between the 1959 urban census areas and those of 1969. Kampala itself demonstrates this problem in that its area has been extended from

20.7 to 180 square kilometres, and the present boundaries do not coincide with any administrative units recorded in 1959. There is a similar problem with Jinja in that although the main township population may have grown from just under 30,000 to over 52,000, the growth of the peripheral zone, which is administered separately as Bugembe, cannot be estimated. However, even with the provision that the boundaries may not be identical, there is plenty of evidence to show that a few towns had grown enormously in the inter-censal period (see Table 4.4.).

Whilst the dominance of Kampala is obvious, there is a second urban complex in Jinja-Bugembe-Njeru which forms a single urban planning unit and which together accounts for over 104,000 people. Thus, the two main urban foci account for 4.4% of Uganda's population. Both Kampala and Jinja urban regions fall within a belt of relatively high econnomic development which spreads from Tororo to Masaka, and includes also the urban centres of Iganga, Magamaga, Buwenge, Lugazi, Mukano, Mpigi, Mityana and Entebbe. The third largest town, Mbale, lies not far to the north of this belt and could be considered as part of it. Other than in this zone of urban concentration, towns are fairly widely spaced. The only other area of Uganda where there is a grouping of urban activity is in Toro district where Kasese and Kilembe are located within 80 kilometres of Fort Portal and where there is yet a further urban growth at Hima, Katwe and Kasenyi. (see Map 5.6).

The growth of some of the towns can be partly explained by the expansion of industrial activity. This applies certainly to Tororo, Kasese, Jinja and even Kampala. Another category of places which seems to have grown fairly fast are the headquarters of newly established districts such as Mpigi and Mukono, though both are still overshadowed by Kampala. On the other hand, for a few towns namely Fort Portal, Kabale, and Kitgum, the population appears to have stagnated or declined. In the case of Fort Potal and Kitgum, this may be the effect of the change of census boundaries. On the whole, however, the expansion of the overall urban population can be attributed to the movement of people from rural areas to towns.

The population characteristics of the main towns differ from those of the rural areas. They all have a higher proportion of males to females, and generally the proportion of young is less. This stems directly from the fact that the rural to urban movement is predominantly a phenomenon of adult males. However, these differences are decreasing as more people become permanent urban residents especially after the declaration of the "Economic War". Inevitably, urbanisation will increase at even higher percentages and not only may an increase in urban employed be anticipated, but experience from other African countries should lead one to expect an increase in urban unemployed.

This brings us to the problems of peri-urban settlements. Here almost no social services exist. While it may be possible that some of these propblems could be solved by extending the boundaries of the neighbouring town to them, the whole exercise may never cease since peri-urban settlers usually do so in a bid to avoid the town authority regulations.

An urban administrative hierarchy has been developed over the years. The highest category is the city to which Kampala belongs, Jinja, Mbale and Masaka were the only ones classified as municipalities. With the introduction of new administrative Provinces, each Provincial Capital is now a municipality and therefore there are six more: Arua, Gulu, Moroto, Fort Portal, Mbarara and Bombo for Nile, Northern, Karamoja, Western, Southern, and North Buganda, Province respectively. Administratively, the distinction between the city authority and municipalities is largely a matter of nomenclature and ceremony. Below the municipalities are town councils, town boards and trading centres in that descending order. This diversity of urban administrative authority creates variation in the planning machinery and provision of social services.

Mention has been made of the growth of urbanisation mainly as a result of the movement of people from rural to urban areas. The most important socio-economic effect of this migration has been to increase the demand for services and employment in urban areas at a greatly accelerated

rate. This has led to extreme strain on certain basic urban facilities, mainly housing, water and sewarage, and to a widespread urban unemployment. This has been made worse by the "Economic War" in that most industries are underproducing or are at a complete standstill and therefore providing no employment.

The first fundamental policy issue arising from this situation is, how to keep the overall rate of urbanisation within the limits dictated by the country's ability to provide urban services and fruitful employment. This implies that the opportunities for gainful employment in rural areas must be increased at a much higher rate, and that rural life in general must be made more attractive. The practical usefulness of the notion of regional "growth poles" or "centres" in the context of rural transformation programme must be deployed.

5.6 Social and Physical Infrastructure

Most of the social and physical infrastructure in the country is provided by the Central government. These include schools, hospitals, dispensaries, maternity centres, bore holes for water, roads, extension advice for farmers and peasant cultivators, water and sewerage. The effectiveness of these services, however, is impaired by the fact that people live in scattered homesteads making it impossible to locate all the services within reasonable access by the majority of the people.

Consequently it has been necessary to build many separate units in order to reach the majority of the

population. This is best illustrated by the proliferation of rural primary schools in the country. Part of the explanation for the large number of primary school units in the country is to be found in the competition between the founding religious institutions to establish themselves everywhere in the country. This led to duplication of facilities in neighbouring locations. On the other hand, there is need for the provision of many small schooling units at the primary level since the pupils are widely distributed.

But even when there is such a large number of primary schooling facilities in the rural areas, the majority of the children have to walk up to eight kilometres every morning and afternoon to get to and from the nearest school. Indeed, many school-age children have to stay at home because they cannot manage to walk to the nearest school, transport facilities are not always available. Furthermore, each school unit requires buildings, teachers, books and other teaching materials. Thus considerable savings would be realised if the distribution of homesteads was such that a few large school units would be accessible to the majority of the pupils. This would also lead to improvement in the quality of teaching and education which is very important in the whole process of development.

Similarly, many health units, boreholes and other public utilities and provision centres are not easily accessible. Consequently, they tend to serve only those people in their immediate vicinity. The lot of the

agricultural and veterinary extenstion staff and health visitors in the rural areas of Uganda have to travel long distances from one homestead to another, and even in areas that are densely populated such as Kigezi and Bugisu, it it infact means that many homes are not visited and do not therefore benefit from whatever expert advice would be given by the extension officers. In this respect therefore, the dispersed pattern of homesteads is clearly a hindrance to the dissemination of ideas and innovations, Thus, the reorganisation of rural settlements such that homesteads evolve into nucleated communities should be seen as a priority requirement in whole process of rural transformation.

On the side of transportation we have to bear in mind the fact that the economic function of a country's transport system is to eliminate the gap between producer and consumer, measured, not in terms of kilometres but in cost. The difficulty of this task depends to a great extent upon the geographical features of the country as well as its economic structure. The main geographical barrier to transport is formed by the distribution and alignment of the lakes, rivers and swamps in the country. This is especially so with the river Nile and Lake Kyoga. On the other hand , the lakes themselves have been turned to good use for water transport, but this benefit does not outweigh the disadvantages they course to road and other modes of communication.

In the West and Mount Masaba areas, the rugged nature

of the topography has effected problems towards road construction which can only be overcome after heavy expenses. This is also true of the thick forest found in many parts of the country.

Despite all these problems of road construction, the country has a relatively dense road network. This dense road network with its focus on Kampala and other large urban centres, has its origin in the relatively small size of the country and the need to open up areas for the production of cotton. The ease with which such a network was built in the past can be explained as the result of the widespread use of communal effort in various forms. In pre-British days, the inhabitants of the different parts of Buganda and Busoga were required to maintain the roads in their areas communally. This custom became known as "Luwalo" after the arrival of the British administration; in this form it was a tax of one month's labour a year on native administration works, principally roads. It was later commuted into a cash payment, but the idea of communal development lived in the Community Development or "Bulungi Bwansi" roads, Most of the country's road system began in the form of a track, made through communal labour for the use of the people concerned; at a later stage it was taken over by the Local Authority and made up to a higher standard according to the traffic that had developed on it.

Today, Uganda's transport and communication system

is varied. There are over 27,500 kilometres of main, secondary and other public roads covering all parts of the country. The railway net work, consisting of 15000 kilometres of rail extends to Kasese in the West, Pakwach in the north and, through Tororo, links with the Kenya network, thus providing a connection with Nairobi; and Mombasa on the coast; so is the road network.

Entebbe, the international airport of Uganda, used to be served by fifteen international airlines providing scheduled flights to various parts of the world. In addition to Entebbe, one other international airport is under construction in Arua, plus 10 internal airfields available for scheduled or charter flights.

Inland water transport services are provided on Lake Victoria. Part of Uganda's transport system consists of harbours in Kenya and Tanzania which serve a number of shipping lines.

In telecommunications, there is a spread of post offices, telephones and telegraph facilities, covering all urban areas in the country.

5.7 Employment and Income

In a programme dedicated to implementing the national goal of fostering a more even distribution of development, it is appropriate to begin with defining the term development. "In the popular mind, a fairly widespread misconception exists which associates development with physical objects which can be seen, such as modern roads,

commercial buildings and permanent- type homes, factories, cars, tractors, hospitals and schools. To the planner, "development" has the more fundamental connotation of "change," and in particular, change for the better in all social, physical and economic aspects of national life, and for all sectors of society. The above mentioned physical objects are important only to the extent that they contribute to improvements in residential living standards; to speedier; more efficient transport and communication; to higher levels of public health and greater educational achievements for the children and consequently the whole nation.

To the economic planner, "development" concerns change in three specific areas of human livelihood.

(1) improvements in the level of total employment oppotunities;

(2) improvements in the range and variety of different types of employment available;

(3) improvements in the level of personal income.

Of all the many different aspects of development it is these three which come closest to defining what economic liberation really means to the daily life of the average Ugandan. They determine his social and economic status in his home community his opportunity to achieve his innate potential for occupational improvement and his ability to support his family at the financial level to which he aspires and to provide for his children those opportunities which he himself missed.

The first subject which usually arises when discussing national employment is that form of wage

Although wage employment generally represents the most modern and prosperous sector of the economy, it touches the lives of a relatively small proportion (6%) of the country's labour force, and totals only about 3000,000 people.[28] By contrast, the vast majority of Ugandans are self employed; some managing their own shops and business enterprises, many more farming their individual shambas.

An immediate cause of much misery and frustration is undoubtedly unemployment and underemployment, particularly in the over-populated rural areas. This has, as already mentioned, generally given rise to mass migration into towns. As this process has continued, the urban areas have become choked with surplus labour. Some of the unemployed are supported by friends and relatives who have jobs. Others have been driven into the urban traditional sector where they are eking out an existence as casual labourers, stallholders, beggars or petty thieves. It is undeniable that man's cost of living or subsistence rises significantly the moment he moves from a rural area into a big town where he becomes dependent upon a multitude of costly public services which the rural environment provides free of charge.

Today, unemployment has become so high and productivity in the traditional sector so low that living standards have sunk below a subsistence level. In fact, migration from the rural to the urban areas has been so checked that instead the direction of migration has been reversed - urban to rural areas. Manufacturing, mining and transportation (activities commonly associated with

industrialisation, are employing less than 20% of the wage earners. Construction is employing a lower percentage than that. The largest employer by far is government, which is accounting for about two thirds of the employment, and within government the biggest two "industries" are education and provincial administrations which account for over one half of total employment by government.

One may assume, in the absence of reliable statistics, that the increase in the labour force approximates the increase in total population. Uganda, whose population is assumed to be growing at 3.0% may be assumed to have a labour force growing also at 3.0% annually. At the same time, the labour force may be assumed to constitute about one third of the population, and three quarters of this may be taken to be engaged in subsistence activities mostly in agriculture.

The proportion of the labour force potentially seeking employment in the modern sector is closely related to educational attainment. A fairly conservative assumption might be that all males and perhaps half of the females with a primary education or more, are hoping to find some kind of employment in the modern sector. Actually of course, great numbers of persons with no education as well as primary school drop-outs, are currently employed in the modern sector. The finding of a government job is a major ambition of most persons who have some education and some notion of the modern world.

Early studies on the estimate of surplus, labour, used estimates of the man-year equivalent needs of

agriculture for labour and compared these estimates with the size of the available labour force. These early studies have been criticised on a variety of grounds, and in certain cases, evidence has been given to the effect that no surplus existed. However, these positive evidences trying to prove that no surplus exists have been also subjected to as much criticism as the early studies aiming to prove the existence of such a surplus.

The basic target for employment in the Third Five-Year Development Plan was to increase the number of Ugandan wages earners to 380,000 in 1976. This may appear an impressive target but if it is related to the fact that by the same period about 861,000 people would be looking for those 380,000 jobs, it becomes apparent that there would be a surplus labour force of about 481,000 people in the modern sector.

On the other hand, it is possible to derive the demand for labour in the modern sector from actual or expected rates of growth of output. However, the demand for labour in the modern sector increases at a slower rate than output due to increases in productivity. Here the concept of the incremental output to employment ratio (I.O.E.R.) is useful. In developing countries as a whole, Uganda inclussive, this ratio may range from a minimum of 1.5 to a maximum of 4 to one. This simply means that an annual increase in employment of 1% would require an increase in output of somewhere between 1.5% and 4% per

year. But today in Uganda most factories are under-producing or not at all. Even if they start producing immediately, it would take another five years for such industries to expand and therefore offer opportunities for new jobs. The task of the planners is to concentrate on measures to modernise the traditional sector, to raise its levels of living and thus to provide opportunities for the masses as well as the fortunate minority in the modern sector.

The subject of employment and the inter-sectoral distribution of employment opportunities cannot be separated from the personal income effects of these economic activities. Of all the "changes for the better" that development implies, none are more important than improvements in income and the standard of living. The following Table compares three measures of income for each Province.[29]

i. The average (median) income level, at which half the taxpayers report higher incomes, and half report lower incomes;

ii. The proportion of taxpayers who have annual incomes above the (arbitrarily selected) poverty level of 1,000/=;

iii. The ratio of average (median) rural income to average (median) national urban income.

Table 5.18

Annual Income Per Taxpayer - 1969

Province	Medium Taxpayers Income above 1000/=		Rural Income as % of Urban
Buganda/ Central	1,246/=	62.6%	48.3%
Western	475/=	24.4%	20.7%
Busoga	475/=	20.1%	21.9%
Southern	465/=	19.7%	20.1%
Eastern	450/=	18.0%	19.0%
Karamoja	385/=	17.8%	16.6%
Nile	315/=	9.1%	13.7%
Northern	305/=	12.6%	13.3%
UGANDA	485/=	27.6%	19.2%

Source: National Overview. op. cit.

For all three indicators, Buganda/Central Provinces exhibit a striking advantage compare with the rest of Uganda; Western, Busoga, Southern and Eastern Provinces approach the national average, but Karamoja, Nile and Northern provinces fall below it. Perhaps the most revealing of those figures are those in the third column comparing rural incomes with the average national urban income of 485/= and 2,261/=, respectively. The fact that with one exception, rural incomes are nowhere more than one-fifth as high as the urban income level appears to illustrate rather strikingly the continuing impact of a dual economy in Uganda which concentrates the modern

sector in urban areas leaving the rural areas still dominated by a traditional, largely non-monetary, economic way of life.

The Buganda/Central Provinces exception to this general condition may be especially significant. Here, in this simgle central geographic area of Uganda, the average annual rural income of nearly 1,100/= has reached nearly half the urban level. In the absence of more detailed research, one can only speculate that superior soil and climate may prove to be a relatively minor factor in this achievement since there are many other areas with similar environments. The more decisive influences are probably: the advantage of having the country's largest and quite fast growing urban areas as a market for surrounding rural produce; the advantage of being located at the hub of the nation's road, rail and air transport net work; the advantage of being able to draw upon the country's greatest concentration of health and educational services and ministerial technical knowledges; and the employment opportunities for surrounding rural shamba residents of being able to commute in daily to an estimated one-quarter to one-third of the 72,000 relatively high wage urban jobs in Kampala, Entebbe and even Jinja-Njeru. Finally, Buganda enjoys the indirect advantage of rapid diffusion of modern ideas on business management, accountancy, and marketing and production techniques from the urban secondary and tertiary sectors to surrounding rural areas which leads to a greater readiness to accept innovation in all areas of life.

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CHAPTER VI

THE CASE STUDY

6.1 Introduction

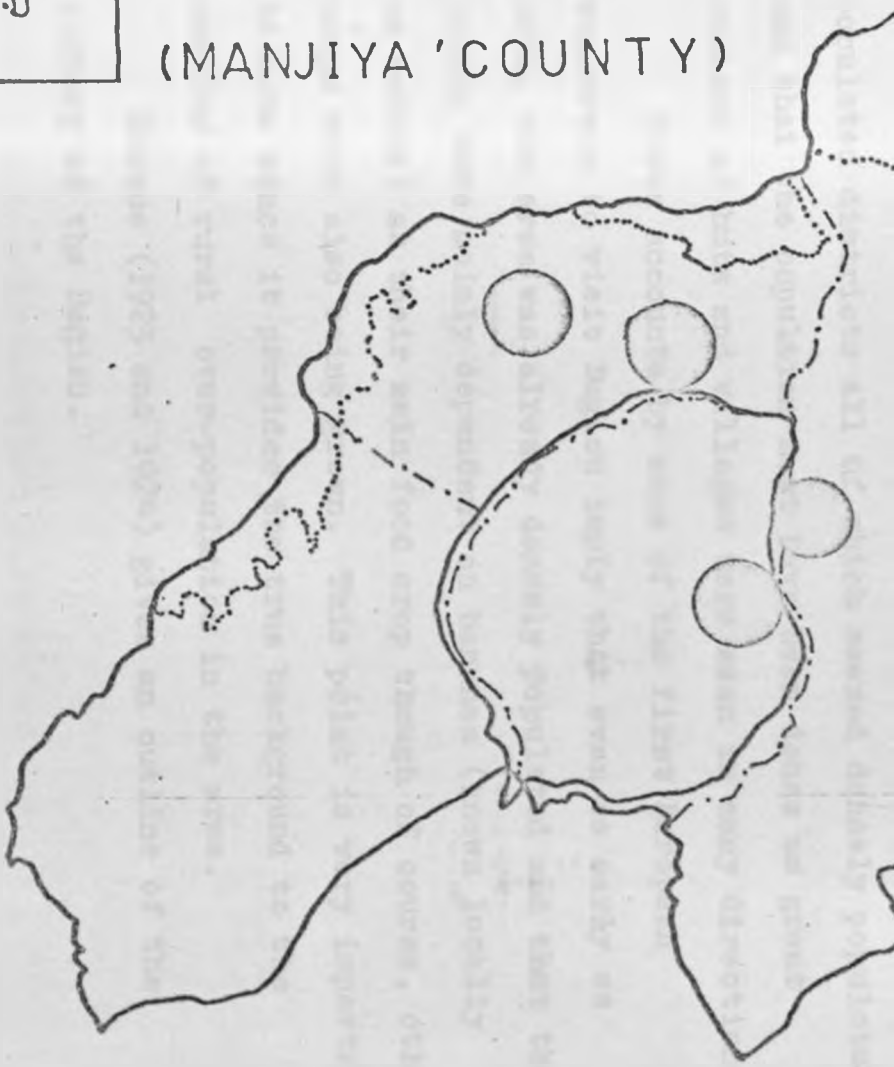
The last ~~wto~~ two chapters have tried to show the salient factors behind the present spatial distribution of people in Uganda as a whole. It was seen that the present pattern of population distribution is very much related to social, physical and economic factors. The rural population densities were seen to be directly related to the environmental quality - the ecological zones - especially with regard to the availability of rainfall for agriculture. Areas with a good combination of soils and rainfall are the most densely populated and it is here that the problem of rural over-population is very apparent. These areas include, Kigezi, Bugisu and Bukedi. Bugisu District is being taken as the case study area for this study.

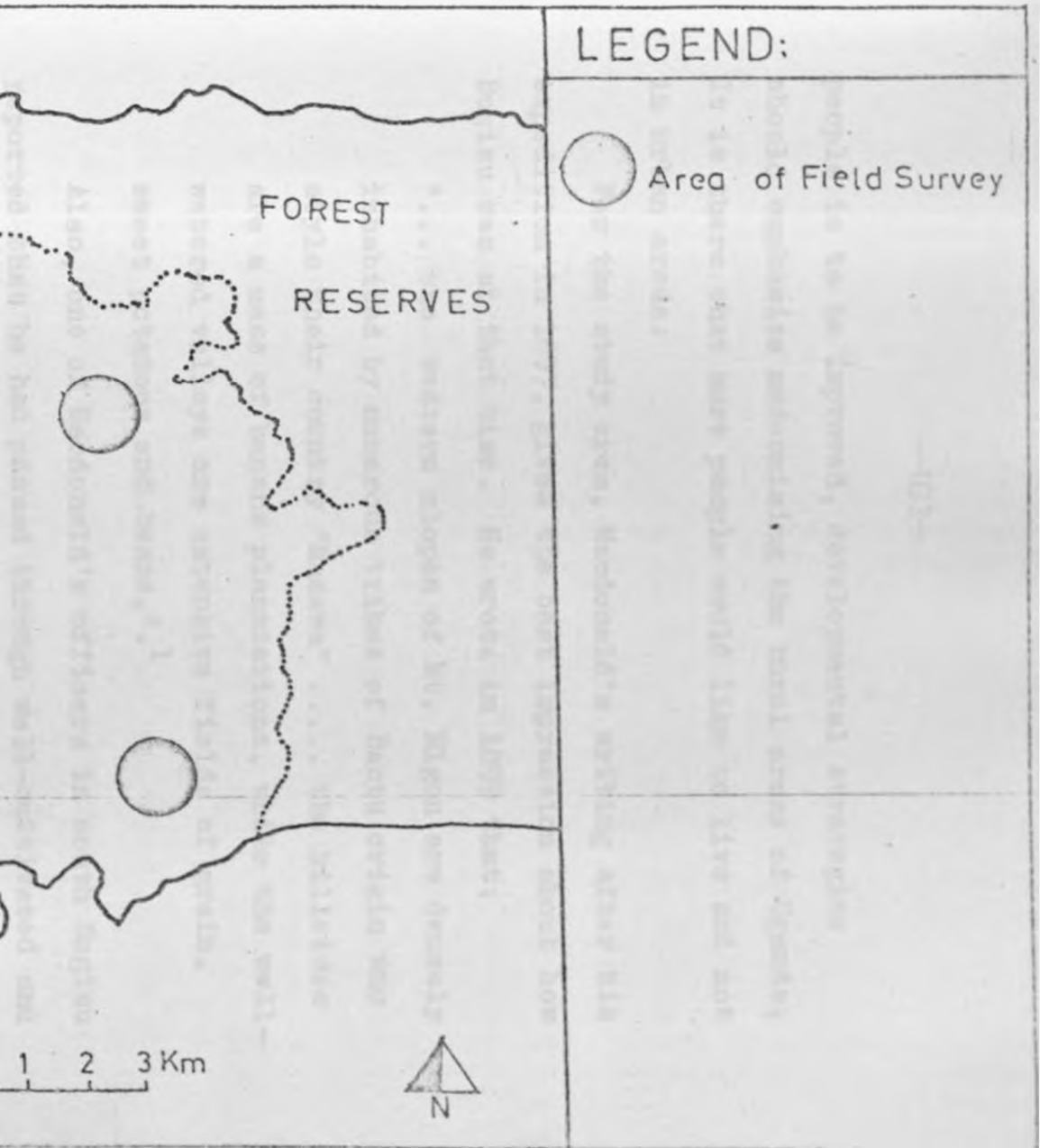
On internal migration, it was seen that due to the disparities that exist between rural and urban income as well as in the distribution of urban centres, there has been (and it is likely to continue) a migratory trend towards Buganda region - the area that is most advantaged with regard to urbanisation. At the same time, it was noted that most of the internal migration in the country is from rural to rural areas which in the 1969 census accounted for 800,000 people out of the total 1.1 million migrants.

This, by itself, shows that if the welfare of the

MAP 6·0

STUDY AREA (MANJIYA 'COUNTY)




LEGEND:
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people is to be improved, developmental strategies should emphasize modernising the rural areas of Uganda, It is there that most people would like to live and not in urban areas.

For the study area, Macdonald's writing after his expedition in 1897, gives the best impression about how Bugisu was at that time. He wrote in 1899 that;

> "... the western slopes of Mt. Elgon are densely inhabited by numerous tribes of Bantu origin who style their country "Masawa" ..... the hillsides are a mass of banana planatations, while the well-watered valleys are extensive fields of grain, sweet potatoes and beans,".[1]

Also, one of Macdonald's officers in south Bugisu reported that he had passed through well-cultivated and populated districts all of which seemed densely populated and that the population must have been dense as great numbers of huts and villages were seen in many directions.[2]

These accounts by some of the first European explorers to visit Bugisu imply that even as early as 1890, the area was already densely populated and that the people were mainly dependent on bananas (known locally as matoke) as their main food crop though of course, other crops were also being grown. This point is very important to note since it provides the true background to the problem of rural over-population in the area.

Roscoe (1923 and 1924) gives an outline of the history of the Bagisu.

He says;

"The Bagisu tribe on Mount Elgon (now Masaba) was driven from the plains to the east of Mount Elgon by the attacks of the Masai and Nandi. To escape the ravages of these war---like tribes, the Bagisu fled to the mountains only to find that on the lower slopes they were subject to periodic raids by the Abyssinians .... They therefore made their way to the less easily accessible heights and seldom left the high valleys and plateaus of the southern and western sides .... When the Bagesu settled on Elgon, the different clans took possession of land on the upper slopes ... and this land was meted out to sub-divisions and within these sub-divisions, to the families. As families grew and increased, it became necessary to take in more land, and the fields gradually extended down the slopes. When the arrival of the British guaranteed their safety from raids, the lower valleys and slopes, and then the plains, were brought under cultivation. The old fields, however, still remained the property of the different clans and members of other clans might not encroach."[3]

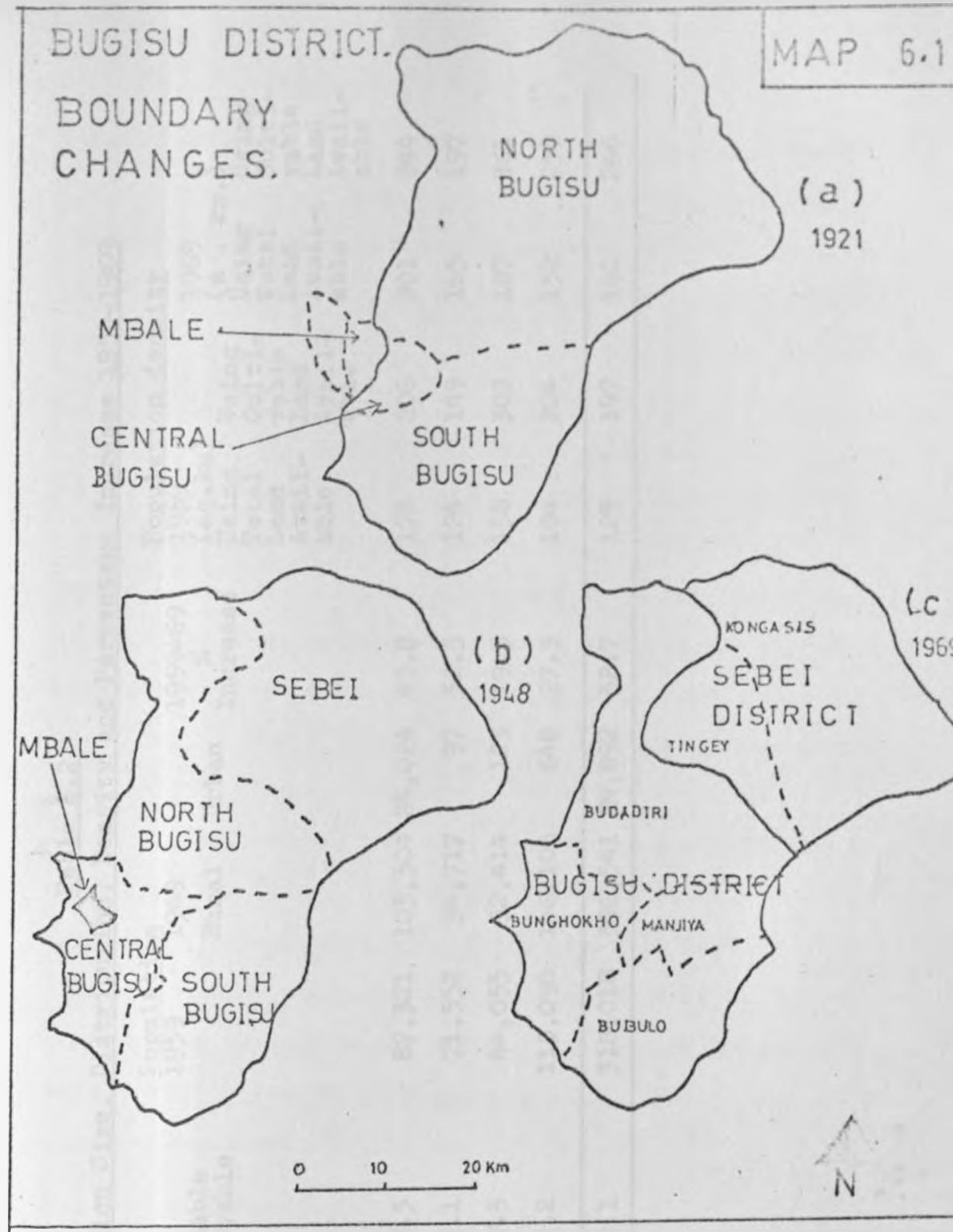
With the passage of time, land for further colonisation has dwindled to almost non-existence. One may rightly say that it is this situation which, in the 1960's, gave rise to the migrations of Bagisu to other rural areas in the neighbouring districts including Busoga, and Kyaggwe districts, and Bugerere in Kyaggwe district.

Any study of Bugisu district should take note of both district and county boundary changes that have been effected since 1921, as portrayed in Maps 6.1a, b, c.

In 1921, the district was administered from Mbale as part of Bukedi district, but from 1923 to 1937, Bugisu was a separate district together with the present Sebei district, with its own administrative headquarters at Bubulo. After that it became part of Central district, sebsequently in 1941, called Mbale district. In 1954, it was again divided away from Bukedi district and retained Mbale as its administrative headquarters.

The county structure of Bugisu, however, has changed less. Apart from the fact that for the 1921 and 1931 census, the vicinity of Mbale formed a separate county about a half of which later became part of Bugisu and the other half part of Bukedi, counties regarded as North, Central and South Bugisu have existed throughout. The 1959 county areas were published in the preliminary report of the 1959 census. Working backwards there were four counties in Bugisu and two in Sebei in 1969 as against three and one, respectively, in 1959; the names too had changed: Central Bugisu became Bunghokho; North Bugisu became Budadiri; whilst South Bugisu of 1959 was divided into Bubulo and Manjiya counties. Other than this split, the county boundaries did not change.

For 1948, 1959, and 1969, Mbale can be treated as if it was a separate county. In 1931 and 1921, North Bugisu was much the same as the later North Bugisu and



LEGEND

BOUNDARIES:

District

County

SOURCE Adopted from

B. W. Langlands, (1971)

THE POPULATION GEOGRAPHY OF BUGISU AND SEBEI DISTRICTS

Table 6.2

Population Size, Distribution, Density and Percentage Increase 1959-1969

County	Land Area (sq. km) Total Land Area	Land Area (sq. km) Available Cultivable Land	Population 1959	Population 1969 Rural	Population 1969 Urban	1959-69 % Increase	Population density 1959 (sq.km) Using Total Land Available	Population density 1959 (sq.km) Using Cultivable Land Available	Population density 1969 (s . km.) Using Total Land Available	Population density 1969 (s . km.) Using Cultivable Land Available
Bunghokho	512.7	423.5	87,321	103,304	24,024	45.8	178	206	201	244
Bubulo	575.4	481.1	71,552	94,717	97	32.5	124	149	165	197
Manjiya	279.7	145.3	44,055	52,414	123	19.3	158	303	187	361
Budadiri	1,103,3	563.2	115,090	146,106	648	27.5	104	204	132	259
	2,471.1	1,613.1	318,018	396,541	24,892	32.7	129	197	160	246

Sebei, combined; but South Bugisu was larger and Central Bugisu was smaller than the 1948 units. The later Central Bugisu was enlarged in part by an addition from South Bugisu and in part by the addition of half of the former Mbale county.

From the above account, one can reasonably say that present Bugisu district was created in 1959 and that some of the Bagisu were, by the establishment of these new boundaries, left outside the district and were included in Bukedi and Sebei districts. In view of this, it becomes of no practical value to analyse the population characteristics of the district prior to 1959.

Bugisu now covers an area of 2,471.1 square kilometres, of which only 1,613 (or 65%) are cultivable. Table 6.2 shows the land area by county. As may be seen from the Table, over 42% of Manjiya county is under forest and other physical constraints. It is this fact that has mainly contributed to Manjiya's serious land shortage as will be shown later. Suffice it to say at this point that much of Bugisu is uninhabitable due to physical constraints.

6.2 Physiography

Bugisu district is located between Longitude 034° 05'E and 034° 50'E, and Latitude 000° 45'N and 001° 36'N. With the exception of some small portions in the north and south of the district, the whole district lies on the western flanks of Mount Masaba (Elgon). Mount Masaba is shared with Kenya, the boundary dividing it in

some of the hills. Most of these hills have slopes varying from 15° to over 40° with the steepest section existing where the concave base suddenly rises thus giving way to a convex section.[5] Some hills, however, do not exhibit this concave-convex profile, but they all tend to flatten off towards the top. On the whole, the land topography gives a spectacular scenery with a predominance of steep slopes standing well above the plain lowlands. This is quite true with much of highland Bukedi county as well as Bugisu county toward the border with Kenya.

At the foot of these hills are perennial rivers forming the basic drainage system of the county. The other hilly parts of the district have similar patterning of the streams and rivers, all fanning out from the Mount Kasaka top down to join the Lake Kyoga system. The Manafa river (see Map 6.2) is the main channel and it is served, like the others such as Sipi, Kamatela, and Malaba, by a number of small tributaries, most of which come pouring down the steep slopes and escarpments.

The soils here (see Map 6.3) like in the rest of the district, are extremely fertile. They belong to the Bukuda series, a type of soil derived from volcanic and precambrian rocks and generally composed of red clay loams. Where the altitude is above 2,000 metres, however, (incidently this is almost the upper limit for settlement permitted) the less productive humic soils become dominant and forest dominates the scenery. These soils are the black humus type and volcanic in origin

an east-south-west direction. It is a large domant central volcano about eighty kilometres (50 miles) across, crowned with a well marked caldera wall, the highest point of which (Wagagi) reaches 4,322 metres (14,178 ft) (see Map 6.2).

By far the largest of a number of volcanic centres aligned approximately north south, it is the southern most of four major Tertiary volcanoes, the others being Kadam, Napak and Moroto in Karamoja Province of Uganda. There are also the much reduced remains of older centres of particular scientific and commercial interest because of their carbonatite composition, with associated rare minerals around Tororo, to the south. There is evidence of glaciation and the higher altitudes above about 3,000 metres (10,000 ft.), contain alpine moorland and heath. The volcano is quite broad with a quite gentle slope (about 4°) to its sides although on the west and south in particular, there are considerable cliffs and escarpments up to 300 (1,000 ft.) metres high, and numerous water falls.

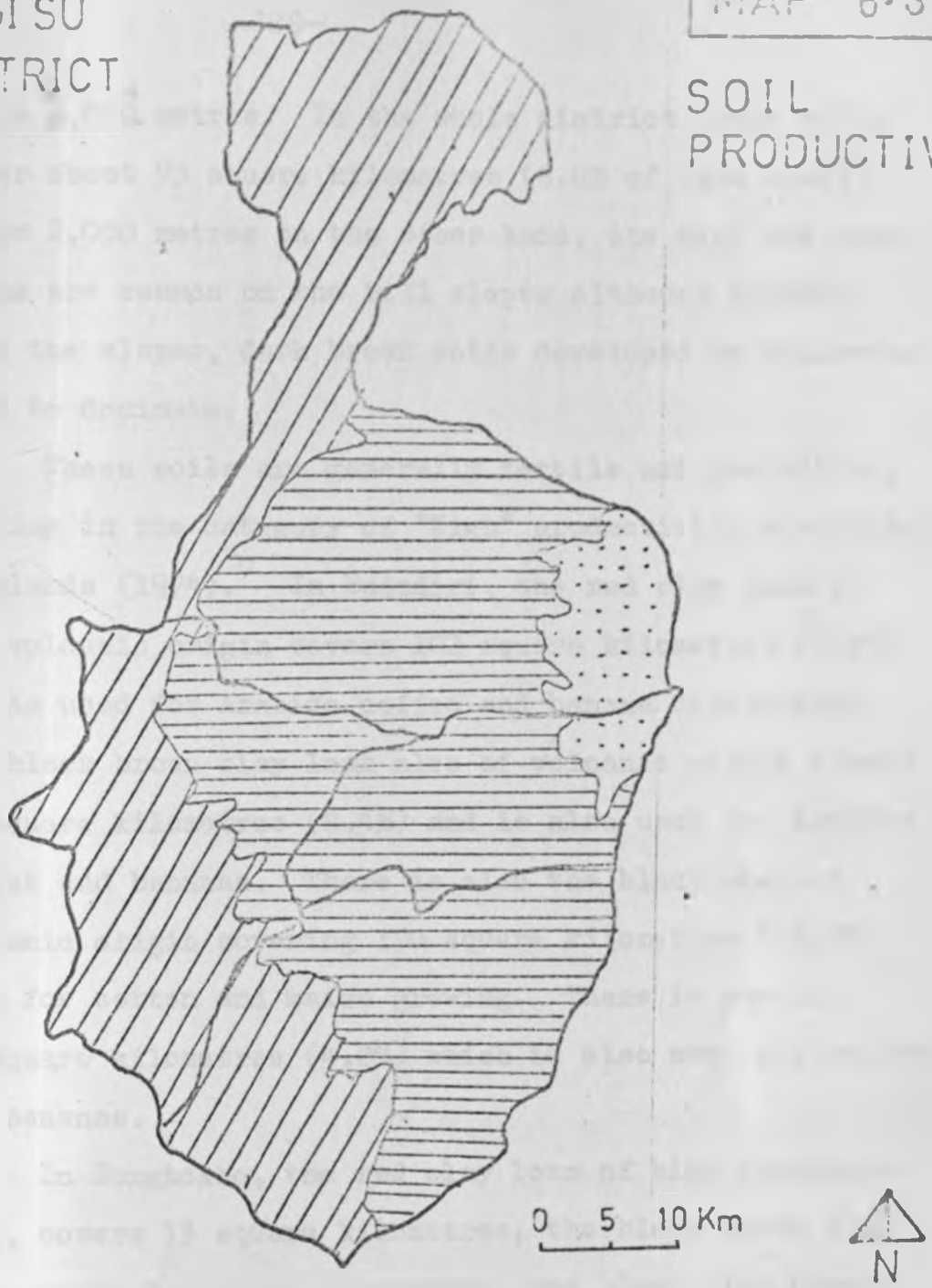
Generally, the district lies between altitudes of 1,060 metres (3,500 ft,) and the peak of Mount Masaba at 4,322 metres (14,178 ft.).

Manjiya county consists of a number of steep hills rising to over 300 metres (1,000 ft.) above the surrounding lowlands. The general altitude of the area is about 1,400 metres (4,600 ft.) above seallevel. Nusu, 2,070 metres (6,831 ft.), Bukalasi, 2,067 metres (6,821 ft.), and Namatale 1,980 metres (6,534 ft.), are

MAP 6·3

BUGISU DISTRICT

SOIL PRODUCTIVITY



LEGEND

HIGH

MEDIUM

NILL

SOURCE: Adopted and modified from B.W. Langlands, Soil productivity in Uganda op. cit.

above 3,000 metres. In the whole district these soils cover about 73 square kilometres (6.6% of land area).[6] Below 2,000 metres on the other hand, the dark red clay loams are common on the hill slopes although farther down the slopes, dark brown soils developed on colluvium, tend to dominate.

These soils are generally fertile and productive, falling in the category of "High" productivity according to Langlands (1974).[7] In Budadiri, the red clay loam of the volcanic origin covers 102 square kilometres (9.2%) and is used for Arabica coffee and banana cultivation. The black brown clay loam also of volcanic origin covers 94 square kilometres (8.4%) and is also used for Arabica coffee and bananas. There is also the black clay of volcanic origin covering 170 square kilometres (15.4%) used for cotton and maize growing. There is another 53 square kilometres (4.8%) which is also used for coffee and bananas.

In Bunghokho, the red clay loam of high productivity, covers 13 square kilometres, the black brown clay loam covers 31 square kilometres, the black clay covers 20 square kilometres while the red clay loam covers 45 square kilometres. In Bubulo, 75 square kilometres are under this high productivity soils.

In Manjiya, the black brown clay loam of volcanic ash, and one of the most productive soils, covers 151 square kilometres (53.6%) and is used for the production of the required crops especially Arabica coffee and

bananas. Some of this fertile soils are under forest cover. The rest of the district is covered under soils which are categorised as being of low and medium productivity. These soils are mainly used for the cultivation of a variety of crops including Arabica coffee, bananas, cotton, maize and sweet potatoes. Cotton is the main cash crop on these soils.

The suitability of the soils is further enhanced by the presence of sub-angular structures in the top soil. These structures promote the rapid infiltration of water and effectively minimise the risk of erosion in the county. On steeper slopes, especially those of Bulucheke sub-county, however, the penetration of the water tends to increase the incidence of landslides and this has been experienced on a number of hills, the most recent one of 1971 having killed twelve people. The slides leave scars and expose reddish soils which are less productive and often not suitable for crop cultivation. The Table below, shows the soil productivity categories by county.

Table 6.1

Soil Productivity By County - Bugisu District

County	Soil Productivity Category and Area (Km^2).									
	High		Medium		Fair		Low		Nil	
Budadiri	419	37.8%	617	45.8%	-		-		73	6.6%
Bunghokho	109	22.2%	319	65.1%	-		62	12.7%		-
Bubulo	75	15.5%	322	66.8%	5	1.0%	81	16.8%		-
Manjiya	151	53.6%	32	11.4%	-		98	35%		-

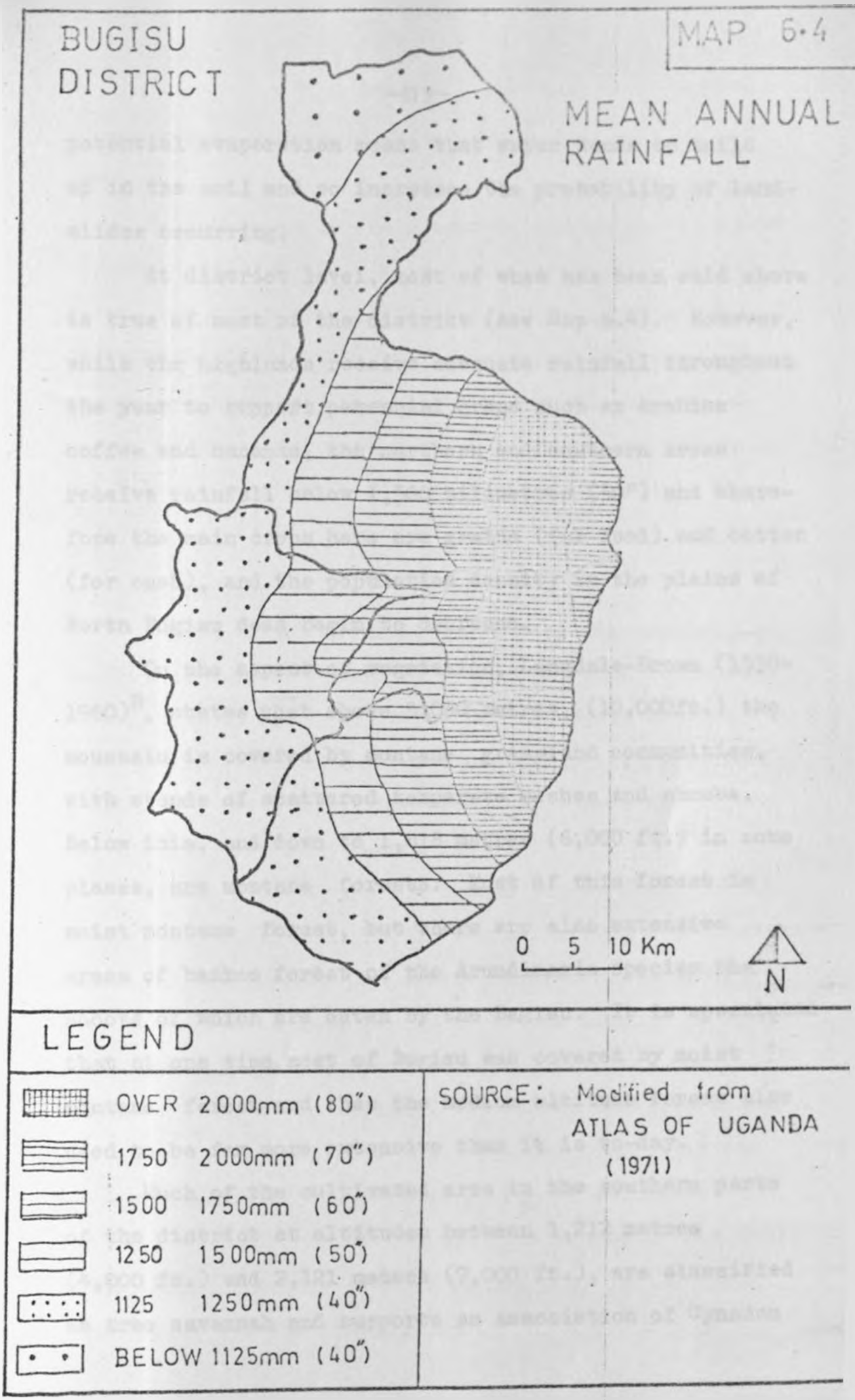
Source: Langlands, B.W., (1974), op. cit.

This Table (i.e. 6.1), indicates that whilst there are only 145 square kilometres available for settlement in Manjiya county, potentially, there are 151 square kilometres of high productivity soils. But since the 32 square kilometres of medium productivity and the 98 square kilometres of low productivity mainly occur at lower altitudes, it therefore means that the largest amount of the high productivity soils are relegated to forestry. This is one instance of land use conflicts and it is questionable whether, given the present land shortage problem in the county, such presently unproductive forests should continue occupying such fertile soils. More will be said about this later on.

6.3 Rainfall and Vegetation

Manjiya county generally receives about 1520 milimetres (60") of rainfall annually. There is no particularly dry month, the rainiest period being from March to November. These nine months experience between 100 and 250 milimetres on the average, with May receiving the highest and December experiencing the least of about 250 and 65 milimetres, respectively. There are, however, some annual variations in the quantities of rainfall received.

The relatively cooler highlands increase the effectiveness of the rainfall by reducing the rate and amount of evaporation. In almost all months, there is an excess of precipitation over potential evaporation. On the other hand, this excess of precipitation over


BUGISU DISTRICT
MAP 6·4
MEAN ANNUAL RAINFALL
0 5 10 Km
N
LEGEND
OVER 2000mm (80")
1750 2000mm (70")
1500 1750mm (60")
1250 1500mm (50")
1125 1250mm (40")
BELOW 1125mm (40")
SOURCE: Modified from ATLAS OF UGANDA (1971)

potential evaporation means that water tends to build up in the soil and so increases the probability of landslides occurring.

At district level, most of what has been said above is true of most of the district (see Map 6.4). However, while the highlands receive adequate rainfall throughout the year to support perennial crops such as arabica coffee and bananas, the northern and southern areas receive rainfall below 1,500 milimetres (50") and therefore the main crops here are grains (for food) and cotton (for cash), and the population density in the plains of North Bugisu does begin to decrease.

On the aspect of vegetation, Langdale-Brown (1959-1960)[8], states that above 3,030 metres, (10,000ft.) the mountain is covered by montane grassland communities, with stands of scattered temperate bushes and shrubs. Below this, and down to 1,818 metres (6,000 ft.) in some places, are montane forests. Most of this forest is moist montane forest, but there are also extensive areas of bamboo forest of the Arundinaria species the shoots of which are eaten by the Bagisu. It is speculated that at one time most of Bugisu was covered by moist montane forest and that the medium altitude forest also used to be far more extensive than it is to-day.

Much of the cultivated area in the southern parts of the district at altitudes between 1,212 metres (4,000 ft.) and 2,121 metres (7,000 ft.), are classified as tree savannah and supports an association of Cynodon

dactylon and Pennisetum clandestinum with various tree species.[9]

To the north of the mountain, the rainfall, as already mentioned, decreases as one approaches Greek river, and drier communities are found on the northern slopes and plains with various species of Hyparrhenia occurring together with combretum. On the black soil plains of Sebei and northe Bugisu, Acacia drepanalobium and Sataria occur with Echinochloa and Cyperus in the wetter areas.[10]

6.4 Demography

Bugisu district, like the rest of the country, has had population censuses starting from 1921. But due to the instability of the district's boundaries, it has not been possible to make use of those early censuses of 1921, 1931, and 1948. This study will therefore mainly use the 1959 and 1969 census figures.

At the 1959 population census Bugisu district had a total population of 318,018 people, giving a population density of 129 people per square kilometre. However, if the uninhabitable land is excluded, the density goes up to 197 persons per square kilometre. This was the highest in the whole country. At county level, with the exclusion of unihabitable land, Manjiya county had the highest density of 303 persons per square kilometre followed by Bunghokho at 206 and then Budidiri (see Table 6.2). Bubulo, mainly because of its poor agricultural conditions, had the lowest (149).

BUGISU DISTRICT

MAP 5.5

POPULATION DISTRIBUTION

LEGEND

Each dot represents 500 people

Source: Langlands op. cit.

Table 6.3

Population Growth at Parish Level

Parish	Rural Population 1959	Rural Population 1969	1959-1969 % Increase	Estimated 1976 Population	Estimated Population Density 1976
Bushiyi	3,893	4,865	25	5,949	427
Bumasata	2,054	2,341	14	3,029	300
Bumayoka	4,245	4,313	2	5,192	304
Buwali	1,711	2,447	43	2,982	382
Bukalasi	4,314	4,326	0	5,283	427
Buwagiyu	3,430	4,044	18	4,986	479
				27,421	383
Bumukiso	2,309	3,118	35	3,810	459
Bukunya	3,668	4,392	20	5,368	358
				9,178	394
Bukibino	4,280	5,575	30	6,813	406
Bukibokolo	1,833	2,427	32	2,968	267
Bunamukye	2,679	3,314	24	4,052	300
				13,833	334
Bumatanda	1,576	2,019	28	2,468	851
Bushiribo	2,906	3,618	25	4,422	417
Bunakhayoti	2,861	3,196	12	3,907	651
Bunamubi	2,088	2,589	24	3,164	811
				13,961	599
Manjiya	43,947	52,537	20	64,393	443
Bugisu	318,018	396,541	32.7	491,315	305

By 1969, the district's population had increased to a rural population of 396,541 and an urban population of 24,892 people - Mbale being the main contributor to this urban population. This left Bugisu district in a leading position with regard to population density. While Manjiya, with a population density of 361 persons per square kilometre was the most densely populated county in Uganda.

On the other hand, during the inter-censal period, (1959-1969) the percentage population increase in the district was lower than the national average, at 32.7% and 45.7%, respectively. The annual growth rate of 2.9% was also less than the national average of 3.8%. At the same time, only 369,133 people were recorded as having been born in the district, so that there must have been some significant out-migration of Bagisu in the past who were replaced by some in-migrants mainly into Mbale town, as may be witnessed by the high increase in Bunghokho county where Mbale town is located.

Maps 6.5 [illegible] shows the population distribution in the district as a whole. [illegible] The effects of topography are well exemplified on these ~~two~~ maps. Most of the steep slopes and high lying areas are vacant and are left to forestry.

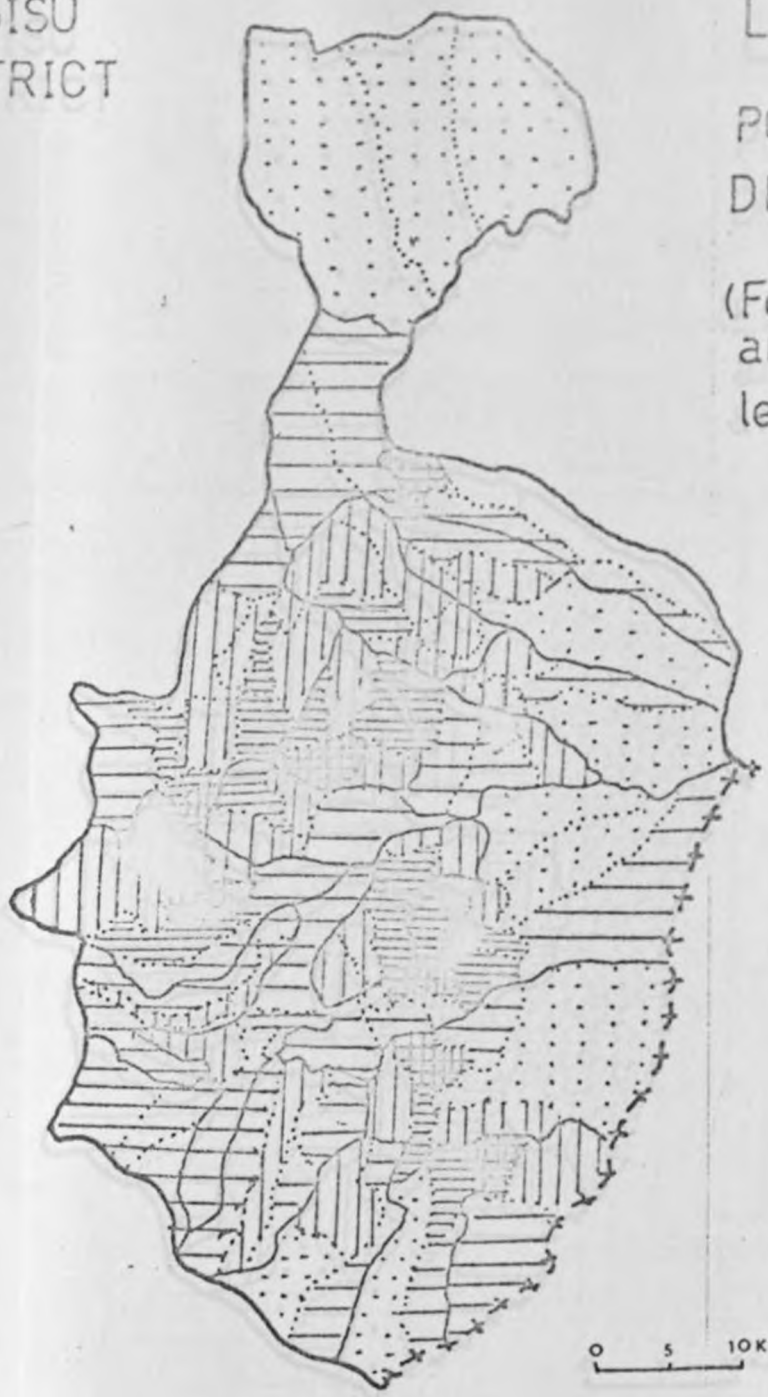
Table 6.3 shows Manjiya's population size and increase during the period 1959-1969, at Parish level. An estimated population for the year 1976 is also included as well as population density. (see also maps 6.6a,b,&c) Figures for the whole

MAP 6·6a

BUGISU DISTRICT

POPULATION DENSITY

(For total land area at Parish level)



LEGEND

Over 600 people per km^2		100 199 p. p. km^2
500 599 " " "		Below 100 " "
400 499 " " "		
300 399 " " "		
200 299 " " "		

Source Adopted and modified from: Langlands, op cit.

MAP 6.5b

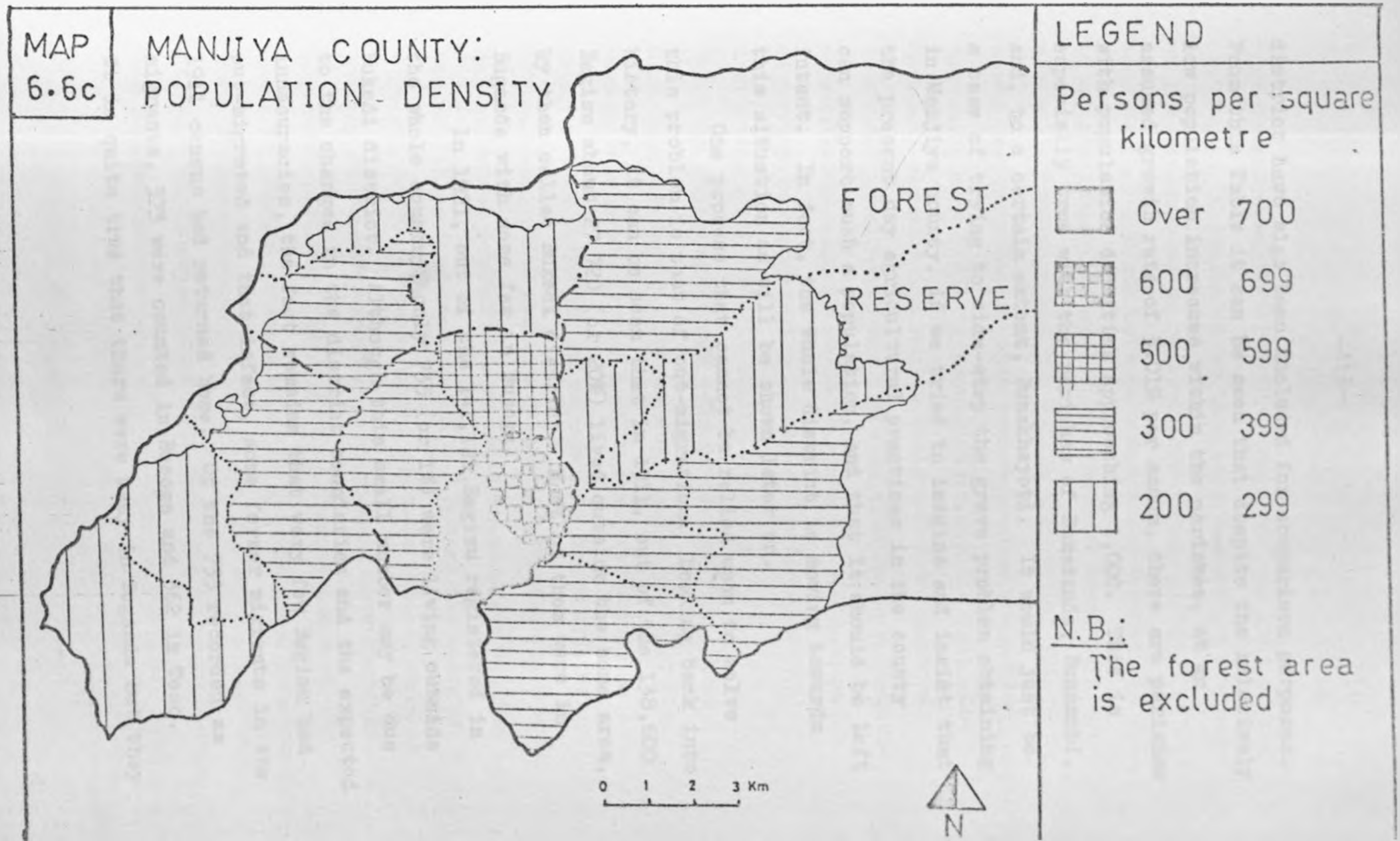
BUGISU DISTRICT

POPULATION DENSITY

(Excluding forest and mountain areas)

LEGEND

Over 600 people per km^2	100 199 p. p. km^2
500 599 " " "	Below 100 " "
400 499 " " "	Source: Langlands op. cit.
300 399 " " "	
200 299 " " "	


MAP 6.6c
MANJIYA COUNTY: POPULATION - DENSITY
FOREST RESERVE
0 1 2 3 Km
N
LEGEND
Persons per square kilometre
Over 700
600 699
500 599
300 399
200 299
N.B.:
The forest area is excluded

district have also been included for comparison purposes. From this Table it can be seen that despite the relatively low population increases within the parishes, at an assumed growth rate of 3.01% per annum, there are parishes with population densities approaching 1,000. This is especially true with the parishes of Bumatanda, Bunamubi, and, to a certain extent, Bunakhayoti. It would just be a case of trying to side-step the grave problem obtaining in Manjiya county, if we tried to imagine and insist that the present day agricultural practices in the county can support such a population, and that it should be left intact. In fact, the whole district is moving towards this situation as will be shown later on.

One process that cannot be relied upon to solve this problem is that of out-migration. Looking back into history, it can be seen that in 1911, out of the 138,600 Bagisu about 27,720 (or 20%) lived outside the home area, by then called Bukedi district. Most of them were in Buganda with some few in Busoga.

In 1921, out of the 141,121 Bagisu registered in the whole country, only 735 (or 1%) were living outside Bukedi district. Although this small number may be due to the changes in the district boundaries and the expected innacuracies, the fact remains that very few Bagisu had out-migrated and that infact, some former migrants in the 1911 census had returned home. Of the 735 recorded as migrants, 373 were counted in Busoga and 362 in Teso. It is quite true that there were many in Buganda but they

were recorded as Bakedi, since they had come from Bukedi district. In addition, it is a well known fact that some of the Bagisu used to migrate from their district because they did not want to undergo the traditional rite of circumcision ("embalu"). At the same time, if a man misses circumcision and his son is circumcised before he does, tradition has it that he has to flee and settle somewhere else. All it means, therefore, is that once settled, elsewhere, a mugisu would not like again to identify himself with the tribe or else he is hunted for circumcision. All these facts, make the whole exercise of trying to estimate the number of Bagisu migrants difficult.

In 1931, Bukedi had been divided up into three districts of Bugwere, Budama and Bugisu. So that the Bagisu population returned in Bugwere and Budama in 1931 could not be regarded as migrants in the normal sense of the word. With such an enlarged district, the Bagisu had therefore capitalised on the situation and settled as far as Palisa in Bukedi district. But as the district's area got reduced, those Bagisu who were already settled outside such new boundaries continued to live there as permanent settlers. On the other hand, those whom the boundary changes found within the present area, could not move to those same areas that their friends or relatives had earlier on moved since they were then under different administration.

In 1948 only 9.1% of the Bagisu were living outside

the district in spite of all these boundary changes, an indication that some might have migrated back into Bagisu, especially those who had been included in Bukedi district. Those who had gone as far as Buganda (Bugerere) and Busoga, remained since it was too far to make a come-back.

By 1959, the percentage had gone up to 11.4% of the total Bagisu living outside the home district. This may be due to the general increase of Bagisu through reproduction by those who had migrated earlier plus a small number of out-migrants.

In 1969, this number had dropped to 10% (including Sebei migrants), thus confirming the fact that despite the land shortage problem at home, most Bagisu do not want to migrate. This is further supported by evidence from the results of the field survey conducted for this paper. Out of the 280 households interviewed, 165 reported none of the members of their families having migrated, 44 reported a total of 76 people, sixteen reported 54 while five households reported a total of 32 members living away. This gave a total of 164 people in the sample. This number though it may look impressive, included married daughters who had of necessity to go away and join their husbands, some as far as Nairobi, and school children who would of course come back if they fail to succeed with their studies. On the other hand, the latter are potential migrants since after testing good life in schools would not like to go back to "rot" in the rural areas.

Of those who actually migrated, only two were recorded as having left before independence and had gone to Bugerere (Kyaggwe district) while seven women had gone to marry in 1962 also in Bugerere and another seven are assumed to have gone to Nairobi (Kenya). This latter group, must have gone for postitution purposes rather than marriage. Most of the so called migrants, however, left the area after 1971.

This large number after 1971 may be related to the change of government in the country in that year. The most important effects this change of government brought about were the institution of army officers to act as chiefs in the area in 1973. When they arrived, they started a campaign of trying to convince young people who did not have land to migrate to Bunyoro. This campaign, according to available records, netted 42 people from Bumasata Parish, 20 from Buwagiyu Parish, 4 from Bushiyi Parish, 4 from Bumayoka and 11 from Buwali Parish. All these parish are from Bulucheke sub-county. Bukigai sub-county recorded 3 people: two from Bunakhayoti Parish and one from Bunamubi Parish. No records of any migration were available from the sub-counties of Bushika and Bududa. This may be due to the fact that the army chiefs in these two administrative units were not as vigilant as those of Bulucheke and Bukigai sub-counties. Another reason may be that the problem of land shortage in the former counties is not as serious as in the last two.

Accordingl , the campaign is supposed to have convinced 84 people to migrate. However, at the time of the field survey conducted for this paper, most of those who were supposed to have registered themselves for migration to Bunyoro were still in the area. Asked as to why they were still around, one said that infact it was somebody else who put there his name and therefore he had no intention at all of going to Bunyoro. The others said they were forced to register but that since the army chiefs had left, they were not ready to migrate. On the other hand, the whole exercise was not all that a complete failure. There were some two or three young men who left for Bunyoro. After one year, they came back looking very smart and apparently rich. They also started convincing their friends to join them but as to how many really followed suit, is not recorded.

According to circular LAN.8/6 dated 25:03:1960 from the District Commissioner's office (Bugisu) appearing in the Appendix I , attempts to convince Bagisu to migrate to Bunyoro started as early as 1959, and infact there are records to show that by then the district was already experiencing land shortage problems. For instance, in May 1959, six families had settled on the Manjiya county headquarters land and had to be froced out.[11] Also, according to the Manjiya county records on migration, many people from the county, especially Bulucheke sub-county, had been moving to settle in other parts of the district - especially in Budadiri county in the north. Besides these spotty evidences of over-

population and migration no records are available, even following the above mentioned circular, as to how many people actually were involved. At the same time, whilst such out-migrations were reported, there were reports of in-migration into the county from Kenya especially of Kikuyus.

During the survey, a question about the sex of the migrants was included in the questionnaire. The results from the survey show that most migrants from the sample interviewed (52%) were females. Certainly, the majority of these women go to marry but a substantial number takes to prostitution. This big number of women migrants explains Langlands' (1975) contention that migration cannot be derived only from Female/Male ratio of the rural population.[12] The number of women in areas known for out-migration may be smaller than that of men (contrary to the general assumption) because the young women left behind in the rural areas migrate through marriage or, as already noted above, take upto prostitution in the big towns in the country.

From the above, one can reasonably conclude that while there exists a real problem of land shortage and therefore rural over-population in the district in general and in Manjiya county in particular, Bagisu, by their very nature, are not willing to migrate to other areas in the country. Though there is some out-migration, the number involved is less than expected given the circumstances as they exist.

Table 6.4

Bugisu District: Age and Sex Composition

Age Group	Sex		Total	% of Total
	Males	Females		District Population
0-14	93,720	92,078	208,673	53%
15-29	41,748	45,790	87,538	22%
30-44	30,806	30,435	61,241	15%
45-64	22,903	21,466	44,369	10%
65+	10,496	7,755	18,251	5%
Total	199,673	197,524	421,433	100

Source: Uganda Population Census, (1969) Vol. II.

Table 6.5

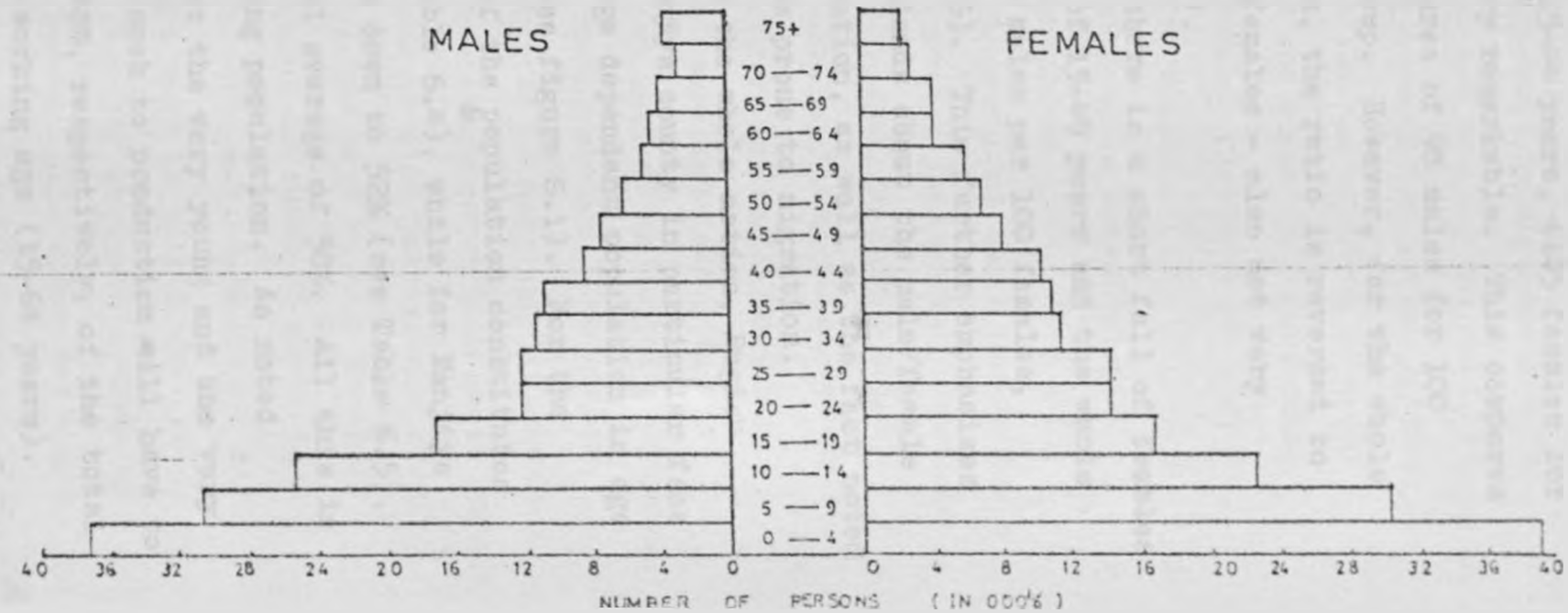
Manjiya County: Age and Sex Composition

Age Group	Sex		Total	% of Total
	Males	Females		County Population
0-14	12,372	11,661	24,033	46%
15-49	10,747	10,385	21,132	40%
50-64	2,265	2,021	4,286	8%
65+	1,908	1,142	3,050	6%
Total	27,292	25,209	52,531	100

Source: Uganda Population Census, (1969) Vol. II

FIG. 6.1

POPULATION PYRAMID FOR BUGISU DISTRICT (1969)



At the 1969 census, Bugisu had more females than males in the age group of 15-44 years, (105 females for 100 males) although not very remarkable. This compares well with the national figures of 98 males for 100 females in the same age group. However, for the whole district's total population, the ratio is reversed to stand at 101 males to 100 females - also not very remarkable, (see Table 6.4).

For Manjiya county, there is a short fall of females for both in the age group of 15-49 years and the whole population, at 103 and 108 males per 100 females, respectively (see Table 6.5). This further emphasizes the point observed by Langlands about the male/female ratio in areas of out-migration, as well as the fact noted above that Bagisu, are less prone to migration.

Like is the case for the whole nation, Bugisu district as a whole and Manjiya county in particular face a growing problem of a large dependent population in age bracket of 0-14 and 65+ (see figure 6.1). For the district as a whole, 58% of the population constitutes a dependent burden (see Table 6.4), while for Manjiya this figures comes alittle down to 52% (see Table 6.5), as compared to the national average of 50%. All this is a symptom of rapidly growing population. As noted earlier on, this means that the very young and the very old who do not contribute much to production will have to be maintained by 42% and 48%, respectively, of the total population who are in the working age (15-64 years).

This situation requires that the available meagre resources will have to be diverted from productive investments in order to meet new demands for food, clothing, services and education. With rapid population growth the size of the labour force can be expected to swell and since the economy is at the moment not generating jobs fast enough, the problems of unemployment/under-employment can be expected to worsen.

Table 6.6 shows the district's situation with regard to educational attainment in 1968. From that Table it can be seen that the district had a particularly good enrolment in schools especially at primary level as compared to the national averages. It ranked third and second in primary and secondary schools enrolment at that time in the whole country. Generally speaking, however, the level of educational attainment in the district was low; over 50 per cent of the total population had no formal education. The proportion also differs very much between the sexes. At primary level, less than 50 per cent of the girls in the age group 5-14 years were in school; this becomes worse at secondary school level where the proportion of girls to boys is only about 18 girls for 100 boys, as compared to about 28 girls to 100 boys at national level. Infact, only 8.3% of the girls in the age group 15-19 years were in school and surprisingly it is higher than the national average of only 4.8% of the same age group. This shows how lowly educated women are in the whole country, a situation that should not be allowed to continue, realising that women

are the mothers of a nation and whose role in educating the young does not need any further emphasis.

For the sample taken in the study area (Manjiya) 54 per cent of those interviewed had never had any formal education at all. Thirty eight per cent had completed the primary school level (primary one to primary seven) while only 8 per cent had reached senior secondary level (senior one to senior four).

When this educational attainment level is related to the willingness to migrate, the results indicate that they are those among the few educated who wished to migrate; most of the uneducated were old people who did not at all think of migrating. Also, all those who had attained senior secondary level wanted to migrate but not to rural areas such as the usually proposed Bunyoro but to urban areas such as Mbale, Jinja and Kampala. On the other hand, the rest of the people who were willing to migrate did not want to go to ~~rural~~ urban areas, but to rural areas of their own choice. Here again educational attainment levels affected such decisions. From the whole sample, only 23% indicated willingness to migrate to any part of the country and all of them were from the educational attainment level bracket of one to seven years of formal schooling. Very few of them were married so that the question of whether when asked to migrate they would move with their families did not arise. However, for those who had families, most of them indicated that they would wish to go alone and first find out how the situation was before deciding whether

Table 6.7

Rural Population Projections For the Counties of Bugisu

Based on a 5-Year interval using a changing exponential Growth rate.[13]

Year	Growth rate	Manjiya	Bunghokho	Bubulo	Budadiri
1969/74	2.87	60,543	122,594	109,945	169,941
1974/79	3.01	70,220	142,188	127,519	197,103
1979/84	3.17	87,550	166,199	149,053	230,388
1984/89	3.35	103,231	195,966	175,749	262,847
1989/94	3.51	126,972	232,191	208,835	312,331
1994/99	3.64	151,825	277,640	249,712	373,468
1999/2000	3.64	157,351	287,746	258,802	387,062

to take the wives and children with them or not. This also reflects, as shall be pointed out later, that most of the Bagisu who migrate do not want to lose their land left behind. In other words they are always hoping for a return to their home district at old age.

What has been said of educational attainment and its effects on the people's propensity to migrate suggests the importance of education in the whole process of rural transformation. Unless the people are educated to make realistic assessments of their environments and what can be attained by the application of a range of technological innovations, not much can be expected to come out of any rural developmental programme.

The following population projection figures are based, as already noted, on a five-year interval using a changing exponential growth rate.[14] Though during the inter-censal period (1959-1969) the population growth rate for Bugisu district as a whole was lower than the national average rate, it has been felt necessary to use the national growth rates so as to avoid cases of under-estimation at district level. The same growth rates have been used for Manjiya county.

Accordingly, Table 6.7 shows the projected figures for the four counties upto the year 2,000. As may be seen from the Table, all three counties - Bunghokho, Bubulo and Budadiri - will have reached the quarter million mark of rural populations by the turn of the century. These figures may not reflect anything serious

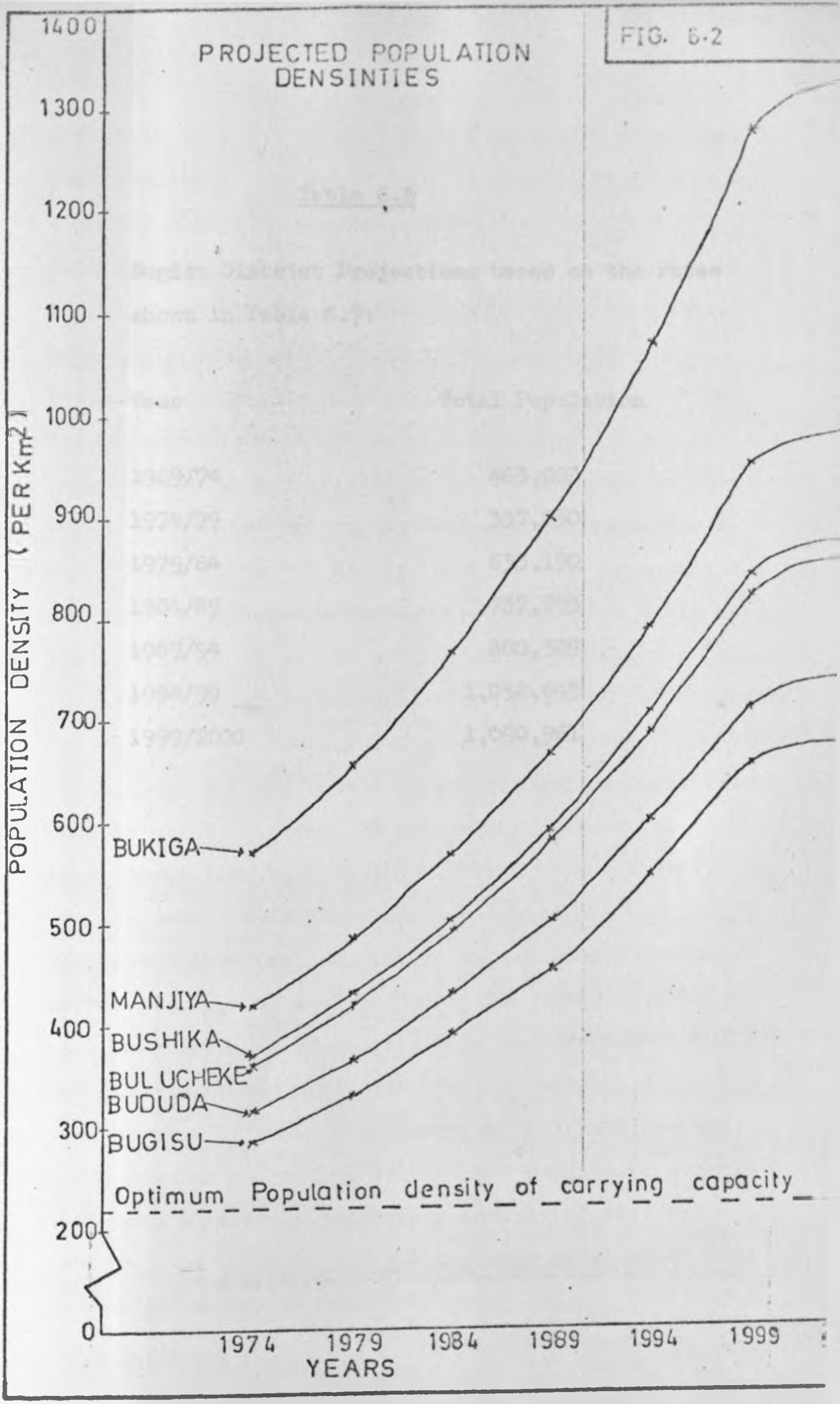


FIG. 6.2
PROJECTED POPULATION DENSINTIES
POPULATION DENSITY (PER Km²)
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
0
BUKIGA
MANJIYA
BUSHIKA
BULUCHEKE
BUDUDA
BUGISU
Optimum Population density of carrying capacity
1974
1979
1984
1989
1994
1999
YEARS

Table 6.8

Bugisu District Projections based on the rates shown in Table 6.7:

Year	Total Population
1969/74	463,023
1974/79	537,030
1979/84	633,190
1984/89	737,793
1989/94	880,329
1994/99	1,052,645
1999/2000	1,090,961

not until they are related to the amount of cultivable land available. As Table 6.7 shows, the whole district will have a total population of about 1.1 million people giving an average population density of over 600 persons per square kilometre with some areas, especially those parishes up in the mountains, with population densities of over 1,000 persons per square kilometre. It would be too much optimism for one to imagine that such densities will be manageable in those rural areas under the current agro-economic practices.

Projections for Manjiya county, have been carried out at both parish and sub-county levels (see Table 6.9) and population densities at sub-county levels have been included. As may be noticed, there are some differences indicated in the Table showing the total county population projections and the totals shown from parish projections. This is mainly because, in the former case, urban populations have been included whilst in the latter, they are excluded. Relating these population projections to cultivable land, one can notice an alarming situation. By the year 2,000, most parishes will have densities of over 800 persons per square kilometre (see figure 6.2). Bukigai sub-county will have the most serious situation because even by 1994, the densities will have reached 1,000 persons per square kilometre. Manjiya as a whole, will have an average population density of over 950 persons, and by 1979, the density will be at about 500 people per square kilometre.

Table

Manjiya: Population Projection at Growth rate

Parish	1969/74	1974/79	1979/84
Bushiyi	5,607	6,508	7,608
Bumasata	2,855	3,311	3,869
Bumayoka	4,893	5,675	6,635
Buwali	2,810	3,259	3,809
Bukalasi	4,979	5,775	6,750
Buwakiyu	4,705	5,450	6,371
Bulucheke	25,849	29,978	35,042
Pop. Density	361	418	489
Bumashiso	3,591	4,165	4,869
Bushunya	5,059	5,867	6,858
Bushika	8,650	10,032	11,727
Pop. Density	371	431	503
Bukibino	6,421	7,447	8,704
Bukibokolo	2,797	3,244	3,792
Bunamukye	3,819	4,428	5,175
Bududa	13,037	15,118	17,671
Pop. Density	315	365	427
Bushiribo	4,168	4,833	5,649
Bunamukye	3,682	4,271	4,992
Bumatanda	2,326	2,698	3,154
Bunamubi	2,982	3,459	4,043
Bukigai	13,158	15,261	17,838

6.9

es similar to average national rates

1984/89	1989/94	1994/99	1999/2000
8,969	10,656	12,743	13,207
4,562	5,421	6,897	7,148
7,823	9,296	11,115	11,519
4,492	5,338	6,382	6,614
7,959	9,457	11,282	11,6[illegible]
7,513	8,928	10,676	11,065
41,318	49,096	59,095	61,246
576	685	824	854
5,740	6,820	8,154	8,451
8,086	9,608	11,488	11,906
13,826	16,428	19,642	20,357
593	705	843	874
10,262	12,193	14,579	15,109
4,471	5,312	6,351	6,582
6,101	7,249	8,667	8,982
20,834	24,754	29,597	30,673
503	598	715	741
6,661	7,915	9,464	9,808
5,887	6,995	8,365	8,669
3,720	4,421	5,287	5,479
4,768	5,665	6,774	7,021
21,036	24,996	29,890	30,977

...../ Table 6.9 (CONTINUED)

Manjiya: Population Projection at growth rates similar to average national rates.

Parish	1969/74	1974/79	1979/84	1984/89	1989/94	1994/99	1999/2000
Pop. Density	565	655	766	903	1,073	1,283	1,329
Manjiya	60,694	70,389	82,278	96,792	115,274	138,224	14,253
Po. Density	418	484	566	666	793	951	986
Bugisu:							
Po. Density	287	333	393	457	546	653	676

N.B. Population density figures are based on the cultivable land available as at 1969 Population Census.

Population Growth rates are based on a 5-Year interval using a changing exponential growth rate.

All the above projections point to one main problem: the problem of rural over-population if not at the moment, then in the very near future in the whole district and seriously so in Manjiya county. In Manjiya, the problem has already reached critical levels in the sub-counties of Bulucheke and Bukigai.

6.5 Settlement Patterns

The pattern of settlement in the district of Bugisu is typical of that found anywhere in the district. That is in the rural areas, most of the homesteads are dispersed all over the landscape with isolated clusters of building around trading centres, schools and administrative headquarters. Like elsewhere in the country, ribbon settlements are very common. In many parts of the district where the population density is still low, areas with steep slopes are not settled. This general failure to utilise such slopes may be attributed to many social, cultural and economic factors. It is surprising to note that in the whole district, no attempt, except in some few cases, has been made towards building terraces whereas in Kigezi, where a similar problem of land shortage exists, the steep slopes have been terraced to allow for a full cultivation of the hill sides.

In Manjiya, certain hills have been left intact on the traditional or cultural belief that certain spirits reside there. Also, large areas of the county have been zoned as forest reserves and therefore restricted from settlement for agricultural purposes.

With the current problem of land shortage in the county, it would be absurd on the side of planners to look at hills as embodiments or shrines of gods and spirits over which there is no power for acquiring the resources therein. Essentially, mountains and hills are part of the physical environment, the exploitation of which helps, to a certain extent, in resolving the problem of land shortage in that particular area. Therefore, there is great need to extend a rational use, renewal and conservation of the resources in such areas. Just as it is unfair to relegate large pieces of land for forests in an area of serious land shortage, so is the wasteful use of such resources through improper agricultural practices.

On the other hand, however, it does not mean that steep slopes are not being settled in Manjiya county; many people are settled on these slopes but with no intention of improving the techniques applied in utilising them. One may then ask oneself as to why such people have ventured to do so. One of the reasons may be that those people are there because of the land shortage down below. Whilst such a viewpoint may be true to a certain extent and may suggest a continued future occupation of the rest of the steep slopes as pressure increases on the presently occupied lands, it is not enough to take it that the people who are living there went up due to population pressure. For instance, there is now a population pressure and yet these people are not reversing the movement so that they go down to the lowlands which are relatively sparsely settled. Infact,

these people are now so culturally adapted to this environment so much so that traditionalism controls their altitude towards this same environment.

As already noted, the hills of Manjiya, except for those with poor soils or with very steep slopes, are densely settled with gardens leaving no free land. Most of the settlements are mainly concentrated on the lower areas of the hills and continue up the slopes with a decline towards the hill top. The high population density has led to a decrease in the size of holdings though the plots on top are usually larger than those below. According to the survey conducted for this study, the average size of holding per household was 1.2 hectares on the lower parts and 1.6 hectares on the higher parts of the slope. These figures compare very well with those given by the Bugisu District Agricultural Department of 1.7 hectares,[17] [illegible] for Manjiya county. However, since Manjiya falls under ecological zone number one, the average plot size is suppoed to be in the range 2.2.-2.6 hectares.[18] This therefore means that the land available for cultivation for each household in Manjiya is just one half of the expected, and in fact it is less than one half of the district's average of 2.6 hectares.

Besides the plots being small, they are, almost in all cases, scattered sometimes on different hills. Since land is one of the main issues in this study, it is appropriate to go into some detail about the land tenure system as it exists in the district as a whole.

Fortunately, there is a definitive account of land tenure system as it was about 1939-1945, prepared by a former aministrative officer in Bugisu, C.M.A. Gayer, in conjuction with Land Tenure Committee composed of prominent Bagisu.[19] In view of this only salient aspects of land tenure in the district will be brought out.

Gayer suggests that the Bagisu system of individual land tenure is very ancient and that it prevailed at the time of the European penetration of the country. He summarises Bagisu land tenure as a system of individual owned land with definite clan (lineage) checks, which provides for the buying, selling, giving, exchanging, lending and short time leasing of land and reserves to the community rights of grazing, watering, fuel gathering and the use of salt and clay deposits. Onwership of land in Bugisu is comprised of the following rights possessed by the individual farmer:

1. To utilise his land as he thinks best;
2. To lend or rent his land for temporary purposes (but not for building or planting permanent crops);
3. To pledge crops on his land but not the land itself;
4. To sell land, subject to the approval of his minimal lineage;
5. To dispose of land according to the customary laws of inheritence;
6. Prohibit grazing near his homestead and cultivation;

7. To fence his homestead and cultivation.

This remains a valid statement of the rights of the owner up to now despite the new decree that nationalised all the land in the country. Lineage rights, however, have been somewhat modified. It rarely interferes with an individual's transactions over land. The community, however, still retains the right to graze cattle and goats on uncultivated land, and to use springs, streams and other sources of water. Women on the other hand, can possess only usufructury rights over land; they cannot inherit or bequeath it.

Onwership of land or any other object can best be analysed in terms of the distribution of rights in the object among individuals and social groups. It is now widely recognised that even in those types of African land tenure commonly referred to as "communal", the rights to exploit land are usually held by individuals or household heads. It can well be asked, then in what way the individual Gisu system of tenure differs from those termed "communal".

Max Glukman (1944) has said "I consider the right of every subject to some land to be the essence of African communal ownership of land...."[20] He adds that when pressure on the land becomes severe, this right to some land tends to become a right to any unused land. As an example, he cites those Tswana tribes where the chief can take unused land from its owner and give it to the landless. In systems of this type, security of

tenure is dependent on effective use and occupation of the land.

Amongst the Bagisu, however, an individual's right to his land is in no way dependent on effective use or occupation. Neither his lineage nor the community has retained rights to interfere with his decisions as to whether or not he shall exploit his land, and in what way. A man can, in theory, remain absent for many years, leaving his land untouched, without in any way impairing his rights to it. Further, there is no authority which can compel him to give up his rights to any land he is not using for the benefit of a landless agnate, At the same time, there is no limit on the amount of land that one individual can own, It is possible, and it does happen that one man can possess rights to far more land than he can usefully exploit himself. In the sample interviewed in the survey, seven people reported having plot sizes varying between 7.2 and 12 hectares (18-30 acres) of land. All these seven had such land fragmented into at least ten pieces and one person reported having sixty pieces of land scattered all over the county.

Thus it follows that membership in the Gisu community, that is membership of a lineage, confers in itself, no right to use or own land, since thereis no way of re-distributing ownership rights to unused land for the benefit of the landless.

The practical importance of understanding precisely what is the present distribution of rights over land as between individuals and social groups before introducing

any change is well illustrated by an example of misguided policy quoted by Gayer.[21] A 1922 note by the District Commissioner, Bukedi, say:

"Owing to emigration and the very large number of Bagisu who go to work, there are now numbers of apparently abandoned shambas. Difficulties arose in connection with these owing to natives occupying shambas and the owners subsequently returning from abroad and claiming their rights. The matter was therefore considered by the combined Bagisu Council on October 3rd, 1921, and rules were formulated on the subject which received the District Commissioner's approval. Gombolola (sub-county) chiefs are now empowered to allot abandoned plantations to others".

Gayer comments:

"It needs little imagination to guess what happened. The chiefs acquired the land themselves or alloted to their friends and the popular outcry was so great that the District Council's resolution was repealed and the chiefs and their friends were forced to disgorge their ill-gotten estates; the last outstanding case was settled in 1940. It is then little wonder that the chiefs are still suspect over land matters in many areas."

Under the Gisu system, land can be obtained by inheritence, gift, loan, lease or purchase. Bagisu customary law with regard to land inheritence, remains effective up to the present day. In the case of a monogamous union, a man's land is divided equally among all his sons. A man with more than one wife will have, during

his lifetime, di ided his land holdings equally amongst his wives. The sons of each woman are given an equal share of the land allotted to their mother. The division may be made when the father dies, or when his sons begin to marry; the custom differs in different parts of Bugisu. Often, when a young man marries, his father will give him a small piece of land, but may be reluctant to give him his full share because it would deplete his own resources. In the sample study conducted for this paper, one married young man reported that though he was married, his father had refused to give him land. When asked what he was planning to do next, he just said, in a relaxed manner, that he will wait until the father gives him the land. He was not ready to migrate. This, usually, is a major source of conflict and ill-feeling between father and son.

Inevitably, this principle of inheritence procedure has contributed to the fragmentation of land holdings that is very common in Bugisu, especially in Manjiya.

A wealthy man may give his sister's son or some other male relative a piece of land, but such gifts are not common. The donor's minimal lineage has the right to protest, and often does so though not effectively. The most frequent occasion for such gift of land is the circumcision of a sister's son. Also, large land-owners may loan portions of their land to kinsmen or friends, in principle for short periods of two or three years. As already noted, no building or permanent crops such as

coffee or bananas can be planted on borrowed land except under exceptional circumstances. Leasing of land is common and land is usually leased for two or three years only, and the planting of permanent crops is never permitted. The fee may be paid in beer, a share of the produce, or money.

Buying and selling of land is very common in Bugisu. Main reasons for selling land are need for money to pay poll-tax, bridewealth, or school fees, necessity of repaying a debt, and when one plans to migrate to other places. These reasons reflect the desparation of a man hard-pressed for cash with no other means of getting it than selling part of his main productive resource. It is noteworthy that two of these reasons are by their nature recurrent: tax money and school fees. Yet selling a plot of land presumably reduces productive resources and, certainly reduces the means of earning income to meet these demands in later years. Selling land to provide for school fees, on the other hand, is sometimes seen as an alternative to providing an adequate inheritence for one's sons. One school boy said his inheritence had been sold and he was being put through secondary school education instead, The buyers of land are wealthy farmers and employed people, who, in some cases, already own somewhat more than the average amount of land.

As already noted above, there have been conflicts

over land issues between the government and the people of Bugisu. In fact by as early as 1939, the situation was already so bad as to necessitate the setting up of a commission to try and resolve the differences. Thus a Bagisu Land Tenure Committee chaired by the District Commissioner was set up and included representatives of the main lineages, chiefs, school masters, clerks, an African paster and political agitators.[22] The terms of reference were to enquire exhaustively into the habits and customs of the Bagisu with regard to land tenure, in order that legal recognition might be considered. Gayer's report was not acted upon, instead, in 1950, a declaration of land policy apparently designed to assuage African suspicion was made. Among the points made by this policy was that the rural crown lands were to be in trust for the use and benefit of the African population.

The Bugisu District Council was not satisfied with the statement, their main objection being to the term "Crown Land". So that in 1952, the Council made it clear that their convictions and outlook had in no way been changed by the Land Policy Announcement. Infact the same attitude was expressed after the recent announcement that a decree had been signed aimed at nationalising all land in the country. Their strong ideas on individual rights could not be reconciled with the term "Crown Land" as they cannot today be reconciled with the whole idea of Government ownship

of all land in the country, in spite of the guarantees contained in the announcements.

Feeling was intense, like it is now, and several incidents are reported to have occurred. In Bulucheke (Manjiya County) for instance, the residents are reported to have refused to co-operate in a survey of pressure on the land that was to be carried out by Makerere agriculture students. That they feared it would lead to restriction on cattle numbers or to forced resettlement. The administrators held the view that the opposition had been fermented by agitators. Even if this view was correct, however, an explanation is still needed as to why the agitators were consistently more successful in stirring up trouble in some areas, such as Buluckeke than in others. The conditions favourable to repeated successful agitation in Manjiya county and some parts of Budadiri county have not been satisfactorily explained in official reports, but they appear to be highly correlated with population pressure.

In 1954, Bagisu representatives presented a brief outline of their views on individual tenure to the East African Royal Commission. In 1955, the Protectorate Government issued its Land Tenure proposals which were largely in accordance with the recommendations of the Royal Commission, as a basis for discussions with those concerned.[23] The proposals listed, as among the objectives of a new land policy, greater local control

over land administration, the encouragement of individual land ownership by Africans, with provision for registration of individual title when desired, and the establishment of district land tenure boards which could after due process of adjudication, issue individual title to land. The proposals provided for variations in the form of title to meet differing types of customary tenure, but where full individual rights already existed, the title would amount to freehold, giving the holder right to bequeath, mortgage, lease, give or sell part or all of his land as he wished.[24] This and other proposals seemed to be just what the Bagisu had for so many years been asking for. Unfortunately, again, these proposals were opposed by the local branch of the Uganda National Congress and therefore the whole exercise of individual tenure was not effected. Perhaps it was the case that the proposals for legal recognition of individual tenure came so late that the Bagisu attitudes of suspicion, especially on land, had reached insuperable proportions. The proposals also came at a time of increasing agitation for independence, so that any proposal from government was apt to be opposed simply on grounds of origin. Thus the chance to reduce the traditional system of tenure to written byelaws was missed.

By the time the new constitution for Uganda of

1967 came into force, land was no longer a burning issue amongst the Bagisu. During the field survey (in Manjiya) for this paper, it was noticeable in interviews with the people that few of these men understood the present legal position with regard to land ownership: they still felt that their land was individually owned and that nobody, even the government, can or has the right to alienate their land. They cannot imagine the fact that the land they regard as their own land holdings are, in law, Government or Public Land.

Before the land tenure issue in Bugisu district is left, it is important that we look more at the problem of land fragmentation. From the sample survey conducted for this study, 77 per cent of those interviewed had their land holdings scattered in different parts. Most of those with fragmented land holdings (58%) had between two and four plots. As already noted above, one farmer reported having 60 pieces while twelve people reported having over 10 pieces.

Agriculturalists and other officials interviewed were united in the conviction that fragmentation impedes the efficiency of agriculture in many ways. It is a physical impossibility for a farmer to supervise his land if it consists of a number of small scattered fragments, and it is virtually impossible for Agricultural Officers to advise him in such circumstances. The separate pieces of land are too small to permit of

a sound rotation of crops and, if a man has to cart manure on his head for several kilometres, he is unlikely to be able or even willing to do this to all his fragments. Also, since the pieces are too small to permit of a farmer grazing his cattle on his own land, a system of common grazing is the normal thing. Grazing in these areas is uncontrolled and no rotation is practised because no individual has any real interest in it, and, even if he had progressive ideas, he cannot persuade other users to adopt them or even to restrict their animals. The large number of small fragmented holdings, also make soil conservation measures ineffective. While a man may be prepared to terrace his own land, it is not of much use if his neighbour does not do likewise.

Over the years there have been many comments in administrative reports on the desirability of land consolidation in Bugisu district, especially in Manjiya county. But it was, like it still remains to a certain extent, difficult for the administration to take any action while the question of land tenure remained unsettled.

There appear to be three main factors leading to fragmentation of land holdings:

1. The inheritence pattern, by which each son gets a share of the land cultivated by his mother;
2. The desire to own land, if possible, in each

of the main ecological zones;

3. The desire to sell, when necessary, only the smallest possible amount of land.

The main argument put forward in favour of fragmentation was that it was preferable to have land scattered in different places, to take advantage of different types of soils, each suited to certain crops more than to others. Further, it was felt by those interviewed that it was safer to have crops scattered in different places to reduce the risk of loss through natural causes. It is in view of this, plus the conviction of each farmer that his land was more fertile than any others, and the difficulty involved in consolidating areas of permanent crops such as coffee and bananas, that most Bagisu are seriously opposed to the idea of land consolidation. At the present time there are no moves towards consolidation, or even towards creating a favourable climate of opinion on the subject.

6.6 Social Services and Physical Infrastructure

There is a tendency for some economists to disregard the importance of social infrastructure in the process of economic development on the pretext that they are non-productive. Such attitudes towards development are very absurd since they tend to forget the most important fact that all efforts towards development are directed to developing the populations

welfare and not the physical structures themselves. A development plan would be useless if it neglected that aspect which aims at improving or upgrading the standard of living of the people for whom the plan is meant. Therefore, one of the important objectives of rural development should be that all citizens of the country have an equal or fair access to the different types of social services offered by government.

At a national scale a prominent attention is currently being accorded to the development of rural water supplies, health services, security, administration and education. In Bugisu district, most government efforts towards improving water supplies has been through the construction of bore-holes especially in the southern and northern parts of the district where rainfall reliability is not as good as in the central areas. Otherwise, piped water supplies are only found in urban centres, secondary schools and hospitals as well as other government institutions such as agricultural and veterinary services. In Manjiya county, piped water supply is only found at Bududa hospital and town. Otherwise, most of the rural population depends on rain water collected from the corrugated iron roofs (for those who have such roofs), from rivers and streams at the bottom of the hills and from some few protected springs. This entails

struggling through the steep and rough wet terrain, and means taking dirty water from rivers where all forms of pollutants may be found. Water contaminated at the higher altitudes is used by those down below, so that drinking water is quite a health harzard to many people in the county.

With regard to health services, Table 6.11 shows the number of each of the different classes of medical units in the district. Table 6.10 on the other hand, shows the indices of level of health services in the district as of 1969.

Table 6.10

Indices of Level of Health Services 1969

	Bugisu District	Uganda Average
General bed demand index	1:906	1:1,301
Infectious diseases and T.B. bed demand index	1:8,605	1:12,222
Hospital service index	1:210,717	1:156,289
Dispensary service index	1:60,530	1:56,102
Sub-Dispensary index	1:32,418	1:80,868
Health centre service index	1:398,121	1:256,468

Source: Assessment of the level of Development, op. cit.

From the two Tables, it can be seen that there are relatively few hospitals (two) and dispensaries (seven) in the district. However, the number of beds does not seem so low in fact the district ranks sixth in this sector in the whole country. The number of health centres is too small, though this disparity tends to be reduced by the presence of sub-dispensaries and aid posts.

There are many primary schools in the district numbering 139 in total. These are made up as follows: One level two primary school, one of each of levels three and four primary schools, six of level five primary school, seven of level six primary schools, and 123 of level seven primary schools. There are also seven secondary schools two of which offer up to Higher School Certificate; three Teachers' Training Colleges for primary teachers and one Technical School.

Table 6.11

Bugisu District: Medical Units

Unit Class	Number of Units		Location
	Govt.	Private	
Hospital	2	-	Mbale, Bududa.
Health Centre	3	-	Mbale, Budadiri and Bubulo.
Dispensary/ Maternity	5	2	Mbale, Busano, Busoba, Buwasya, Busiu, Nakhupa, Bukigai.
Sub-Dispendary	13	-	Buluganya, Bumulo, Buwalasi, Sirokho, Muyembe, Lwanjusi, Bumbo, Bupoto, Bulujewa, Buginyanya, Bunambutye, Bukalasi, Bubutu.
Aid Post	5	-	Bufumbo, Bumwambe, Bunasenke, Buteza, Atari.

Source: An Inventory of Government Units in Uganda, Ministry of Health. (1970)
Medical Officer of Health: Bugisu District.

Definitions.[15]

1. Hospital:

   A medical unit where in-patients and out-patients comprehensive medical care is provided and where the services of a qualified dector are always available.

2. Health Centre:

   A medical unit where in-patient and out-patient elementary medical care is provided by a medical assistant, in-patient midwifery services are provided by a qualified midwife, and where the services of a health visitor are available for home visiting within the defined area around the unit. Preventive care is also available through Public Health staff.

3. Dispensary/Maternity Unit:

   A medical unit where in-patient and out-patient elementary medical care is provided by a medical assistant or lower grade auxiliary, and where in-patient midwifery services are provided by a qualified midwife.

4. Sub-Dispensary:

   A medical unit where out-patient elementary medical care only is provided by a trained auxiliary.

5. Aid Post:

   A medical unit where out-patient elementary medical care only is provided by trained staff from a

"parent" unit, usually on one day a week only.

All these other institutions above primary school education cater for the whole country and not only Bugisu. Even some of the primary schools offer vacancies to children from neighbouring Bukedi and Sebei districts. As may be seen from the map, the location of these schools followed no plan and they are just scattered all over the rural areas. This is especially so with the primary schools. The secondary schools on the other hand, are mainly located within a radius of about 15 kilometres of Mbale town, thus leaving the southern and northern parts of the district relatively poorly served.

Besides Mbale town, where two army barracks are located together with both the district and Eastern Provincial headquarters, all other security (police posts) and administrative units (county, sub-county and parish headquarters) are widely located in the rural areas. As already noted, with the exception of some few cases, there has been no attempt at concentrating the location of these different social services. Upto now, it is evident that no one has thought seriously of planning the development of these places as comprehensive semi-urban areas capable of being the basis of providing the amenities of the towns in the rural areas. If one visits the county headquarters (Bududa in this case being an exception) one finds that no efforts along

the lines of integrating this rural administrative centre with other services, such as schools, dispensaries, health centres, shopping centres, the market places and the homesteads have ever been taken in a deliberate and systematic manner. Though in Manjiya county, the county headquarters, the hospital, the shopping centre and a school are rather integrated in one contagious area, it still falls short of organising up the rural homesteads and infact the rest of the county's services are haphazardly located. As Chango Macho says, (Macho, 1970), they are not to act as a stimulant to rural development, but merely to exist as isolated islands of modern life in a sea of backward rural surrounding.[16]

Thus at senior secondary schools and hospitals, the electricity and water supply will be for the school and hospital use alone, so will be the telephone service. These are dug under or flung over the homesteads of the rural population unconcerned of his needs of them. There are usually no other deliberately planned shopping centre, dispensary, or any other modern amenities meant to serve both the school and the hospital, and the rural population in which the two services are located.

Accompanying these social services are physical infrastructural facilities such as roads, railway lines and other communication networks. The transport and communication system is an indispensable element in

BUGISU DISTRICT

MAP 6·7

ROADS AND CENTRAL PLACES

LEGEND

CENTRAL PLACES:

▲ Gazetted

● Others

ROADS:

Main (Trunk) (tarmacked)

" " (untarmacked)

Feeder

the economy of an area and plays an important facilitating role in economic development. A cheap, reliable and efficient transportation system is probably the most basic. A market economy relies upon the regular and rapid transportation of perishable foodstuffs from the farming areas to the towns and upon the reverse flow of urban made consumer goods and urban-based technical services. Where an area's communications are regularly cut in the rainy seasons or where transportation costs are abnormally high because of bad roads, trade will be discouraged and the area tends to rely on subsistence farming and thus contribute little to the economic development of the country.

Roads are the most ubiquitous element of the transportation network and road vehicles form the most flexible form of transportation, with the ability to carry small units of freight or passangers economically and reliably between any two points in proximity to an all-weather road. In cases where roads with all weather surface are not found, road transportation may still be feasible with four-wheel drive vehicles but at a considerable sacrifice of economy and reliability.

In Bugisu, there is a trunk road which runs on the western side of the district, with a small tarmacked section up to Sirokho (see Map 6.7). Besides this road, the rest of the feeder roads to this trunk road

are of very low standard. They are narrow, poorly maintained and not well connected. For instance, all movements between the southern and the northern areas of the district have to be made through Mbale town. The gradients on some of these roads are so steep that during the rainy season only four-wheel vehicles such as Land Rovers and Land Cruisers can be put to use. Sometimes even these vehicles fail to move, so that during the rainy season, people have got either to walk or to stay at home. A place such as Bugitimwa, even Buginyanya (see Map 6.7) are usually impossible to reach during the wet periods, and yet it is ever wet up there.

To make it worse, there are no telephone lines connections. Even the district headquarters in Sebei district (Kapcharwa) uses radio calls. So that besides these areas having poor road networks, they also do not have any other means of communicating with the police in cases of trouble. One may say that it is this relative, if not absolute, remoteness that has encouraged people to remain traditionalistic and therefore repugnant to most new ideas, as well as being more prone to commit more murder crimes than anywhere else in the country. Poor communication with the outside (the rest of the country) has left them ignorant of what exists beyond the confines of the district boundaries and therefore have tended to remain reluctant to migrate even when faced with the problem of land

shortage.

Rail transportation is of little significance in the district since it is generally suited to long distance bulk carriage of commodities and therefore uneconomical to provide unless the volume of traffic is large. Bugisu is served by the Tororo-Pakwach line which enters the district at Busiu and passes on the western periphery of the district upto Mbale town before entering Teso district at Kachumbala. Coffee is the only commodity of significance that benefits from the services of this railway line.

Because of the poor quality of the road network in many parts of the district plus the rough topography of the district, air transportation could be made an attractive and economic alternative to surface transportation especially for the high lying areas. Unfortunately, however, there is not any provision of an air strip in the whole district. To reach the district by air one has to get off at Tororo, some forty kilometres away, and then go by road upto Mbale.

6.7 Central places and the Market System in the District.

Bugisu district does not posess as many well developmed central places as her neighbouring districts of Bukedi and Teso. Besides Mbale, which in all probability, is a real primate urban centre in the district with a population of 23,544 people (1969 census)

the only other centres are Nakiwondwe (386), Bukasakya (372) and Sirokho (262). The other sizable trading centres are Bududa (the only sizable one in Manjiya County) with a population of only 123, Busiu (108), Mayenze (97) and Nakaloke, which is just developing as a ribbon settlement on the Mbale-Soroti highway. Otherwise, the rest of the central places (see Map 6.7), numbering about 37 of them are quite small and widely scattered.

As may be seen from the map, they are all located along roads and usually at road junctions and such locations were never planned for. No structural plans exist for these centres except for Mbale town and the small trading centres of Butiru, Busiu, Mayenze, Bududa, and Sirokho, whose plans appear in the appendix. One main feature common to these plans is that they were all laid out to fring the through-roads thus encouraging ribbon development. Although these plans exist for these centres, the developments taking place there are not controlled since they have not been officially brought up to fall under the category of "gazetted planning areas". However, two other centres, (Nakiwondwe and Nakaloke) have been gazetted for planning and already work is in progress to restructure the old structural plans. These two, both in Budadiri county, were picked on because of their rapid rates of development taking place in them and their potentialities to sustain such development. Nevertheless, it is the

realisation by this study,, that the choice of these two was too limited and probably unrealistic since it led to the recognition of only three towns in the whole district (Mbale, Nakaloke, and Nakiwondwe) and all of them to the north of the district leaving the whole south with no centre designated for growth.

From the above, it can be seen that the urban population in Bugisu in 1969 (towns with population above 2,000) was only 23,544 all of which was concentrated in Mbale. This means that only 5.6% of the total district population was urbanised as compared to the national average of 7.0%. Furthermore, the annual growth rate of Mbale town during the inter-censal period 1959-1969 was below the national average, at 5.5% as compared to 7.5%. This in itself implies that the degree of intergration between town and the country side is low. Also, not only is the ratio between village or homesteads and towns very low but the gradation in the central place bierarchy is very abrupt - there is no relatively big town to be taken as being the next to Mbale.

A survey was conducted to find out the number of central services in each centre in Bugisu district. The disparity in the distribution of these services has been capitalised on for ranking these centres.

Ponzio and Kamalomo in their study of central places in the districts of Busoga and Mengo in Uganda

in 1965, employed a method developed in Ghana (Grove & Huszar, 1964) for determining the hierarchy of central places. Essentially this involves compiling a list of central functions and assigning different weights to these functions according to their relative importance (see Table 6.14). Then the points awarded to each function in each centre are summed to derive a centrality score. This method, however, has often been criticised on the grounds that it disregards the relative social value of different services. It is true, for instance, that some services such as hospitals, may generally be considered to have greater value to the population of the centre and the surrounding area than others such as post offices, even though their relative values cannot be measured.

Forty three central places were found to exist in Bugisu district with seven in Manjiya county. On the basis of the frequency distribution of such scores, a five-order hierarchy has been defined. In defining this five-order hierarchy, Mbale town has been excluded because of its particularly larger size and complexity. The following table gives the number of central places in each county under different hierarchies.

Table 6.~~8~~12

(1975) - Number of Centres in Counties

Scores	Manjiya	Budadiri	Bubulo	Bunghoko	Total
A=Over 27	-	1	-	-	1
B=22-27	1	1	-	-	2
C=16-21	-	-	1	3	4
D=8-15	2	10	8	3	23
E=1-7	4	2	6	1	13
Total	7	15	15	7	43

From Table 6.~~8~~13, it is apparent that there is progression in functional complexity of the central places. Lower order functions are common to all centres while higher order functions such as hospitals, bank branches and petrol stations are found only in few selected centres. One other point to note is that size and importance are not synonymous - relatively small centres may perform functions of a higher order and vice-versa. For instance Bududa in (Manjiya) has a one hundred beds hospital and yet Nakiwondwe (in Budadiri) which is bigger, has only got a Dispensary.

The rank-size rule is quite aobservable in Bugisu district as a whole and Manjiya County in particular. There are many more small trading centres (36) a lesser number of relatively medium-sized towns (4) and only three relatively larger centres (see Table 6.~~8~~12).

Table 6.~~8~~13

Service Functions in Central Places (1975)

Central Places:	1 GENERAL RETAIL SHOPS	2 SPECIALISED SHOPS	3 REPAIRS	4 RESTAURANT	5 BUTCHERY	6 BAR	7 LAUNDRY	8 CINEMA	9 PUBLIC SPORTS GROUND	10 DANCING HALL	11 PUBLIC LIBRARY	12 RELIGION	13 EDUCATION	14 MEDICAL SERVICES	15 BUS SERVICE	16 ELECTRICITY SUPPLY	17 WATER SUPPLY	18 LAWYER	19 POST OFFICE	20 TELEPHONE EXCHANGE	21 PETROL STATION	22 ROAD JUNCTION	23 BANK BRANCH	24 LOCAL INDUSTRIES	25 ADMINISTRATIVE H.Q.'s	26 POLICE	27 TOTAL SCORES	28 PLACING	29 HIERARCHICAL GROUP	30
Nakiwondwe	✓	✓	✓	✓	✓	✓	✓		✓			✓	✓	✓	✓	✓			✓		✓	✓	✓	✓		✓	30	1	A	
Bududa	✓	✓	✓	✓	✓	✓			✓	✓		✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓			25	2	B	
Sirokho	✓	✓	✓	✓	✓	✓			✓			✓	✓	✓	✓	✓			✓		✓	✓		✓			24	3	B	
Nakaloke	✓	✓	✓	✓	✓	✓			✓	✓		✓	✓		✓	✓			✓	✓	✓	✓		✓			19	4	C	
Busiu	✓	✓	✓	✓	✓	✓						✓	✓	✓	✓	✓			✓		✓	✓		✓			18	5	C	
Nabumali	✓		✓		✓	✓			✓			✓	✓		✓	✓				✓		✓					18	5	C	
Bubulo	✓		✓	✓	✓	✓			✓			✓	✓	✓	✓	✓				✓		✓					16	7	C	
Bugema	✓		✓		✓	✓				✓					✓	✓				✓	✓	✓		✓			14	8	D	
Muyembe	✓		✓		✓					✓		✓	✓	✓	✓							✓		✓			12	9	D	
Buluganya	✓		✓	✓	✓	✓						✓	✓	✓										✓			12	9	D	
Bulucheke	✓		✓	✓	✓				✓	✓		✓	✓		✓	✓											12	9	D	
Magale	✓		✓	✓	✓	✓						✓	✓	✓	✓				✓			✓					12	9	D	
Bugusege	✓	✓	✓	✓	✓							✓	✓		✓	✓						✓					11	13	D	

Table 6.A (CONTINUED)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Cheptui	✓		✓		✓	✓						✓	✓	✓	✓									✓		✓	11	13	D	
Bulugeni	✓		✓	✓	✓	✓							✓		✓						✓	✓		✓			11	13	D	
Butiru	✓		✓	✓	✓							✓	✓		✓												11	13	D	
Bumbo	✓		✓	✓	✓	✓			✓	✓		✓	✓		✓				✓			✓					11	13	D	
Bugobero	✓		✓	✓	✓	✓			✓			✓	✓	✓	✓							✓					11	13	D	
Buteza	✓		✓	✓	✓	✓						✓	✓	✓	✓												10	19	D	
Bugitimwa	✓	✓	✓		✓	✓						✓	✓		✓	✓								✓			10	19	D	
Mufufu	✓			✓	✓	✓						✓	✓		✓	✓								✓			10	19	D	
Bufumbo	✓		✓	✓	✓					✓		✓	✓		✓							✓					10	19	D	
Namagumba	✓		✓	✓	✓							✓			✓	✓						✓		✓			9	23	D	
Bukigai	✓				✓	✓				✓		✓	✓		✓	✓								✓			9	23	D	
Mayenze	✓	✓		✓											✓	✓			✓								9	23	D	
Buweri	✓		✓	✓	✓	✓									✓	✓											9	23	D	
Buginyanya	✓		✓		✓	✓						✓	✓	✓													8	27	D	
Atari	✓		✓	✓	✓	✓						✓	✓		✓												8	27	D	
Busano	✓		✓		✓				✓			✓	✓	✓								✓					8	27	D	
Lwakhakha	✓											✓	✓		✓	✓				✓						✓	8	27	D	
Namba	✓		✓	✓	✓	✓							✓		✓							✓					8	27	D	
Buyaga	✓		✓	✓	✓	✓						✓	✓									✓					7	32	E	
Lwaboba	✓		✓	✓	✓	✓									✓									✓			7	32	E	
Bukiga	✓				✓							✓	✓		✓	✓											7	32	E	
Nampanga	✓		✓									✓			✓	✓						✓					6	35	E	

Table 6.8 (CONTINUED)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Bukalasi	✓				✓							✓		✓	✓												6	35	E	
Lwanjusi	✓				✓							✓	✓	✓													6	35	E	
Bukibokolo	✓				✓	✓						✓	✓														5	38	E	
Lwangoye	✓												✓		✓	✓											5	38	E	
Nambola	✓					✓								✓	✓							✓					5	38	E	
Buwagogo	✓				✓										✓	✓											5	38	E	
Bunambale	✓				✓	✓				✓	✓																5	38	E	
Buwabwala	✓			✓								✓	✓		✓							✓					5	38	E	

Table 6.~~10~~14

Weighting of Central Functions

Functions		Weight
A.	Administration	
	1. Police: Police station.	2
	Police post.	1
B.	Communication	
	2. Post Office: Departmental	2
	Postal Agency	1
	3. Petrol Station: Service station	2
	Filling station	1
	4. Telephone Exchange:	
	Day and Night service	2
	Day service	1
	5. Road junction	1
	6. Bus service	1
	7. Railway service	2
	8. Electricity supply	1
C.	Social Services	
	9. Education: Senior Secondary School or Teachers' Training College	2
	Primary school.	1
	10. Medical Services:	
	Hospital (with over 50 beds)	3
	Hospital (with 1-50 beds)	2
	Others (with no beds)	1

		Weight
C.	Commerce and Industry.	
	11. Banks	2
	12. Local Industry (Factories)	
	Over 100 employees	3
	50-100 employees	2
	Less than 50 employees	1

Source: Ponzio and Kamalomo. 1966. op. cit.

What does this entail with regard to the market system? Inevitably, the structure of the market system is essentially dendritic. Goods destined for export (coffee and cotton) and a wide variety of provisions for the Mbale urban population (bananas, poultry, eggs, pulses, grain, cabbages and other green vegetables as well as livestock for beef and pork) are gathered up in or near rural periodic markets, bulked and then moved to Mbale. Conversely, consumer goods which the peasant community artisans cannot produce, move from Mbale through the few trading centres to local periodic markets. Because of their need for some cash income, the peasants unwillingly pass all their produce to the traders and the whole system tends to keep the peasants' terms of trade persistently adverse. It is this organisation of the market system as well as the control that frustrates any really progressive and equitable integration of town and countryside.

Furthermore, what happens is that licences to trade, means of transport, and processing facilities are in the hands of merchants from other areas of the district and country. The sellers of produce are, in most cases, unorganised peasants who, although largely self-sufficient, nevertheless must obtain some cash income so that they can purchase the day to day domestic and personal requirements as well as paying school fees for their school children. Consequently, they bring

their bananas, millet, maize, pulses, and yams, to local rural or periodic markets or along the roads, and herd their pigs, goats and cattle to larger markets or even to Mbale. Since their produces are perishable, or costly to feed, they are at a disadvantage in bargaining with experienced buyers, who meet them (the peasants) before they actually reach the markets and persuade them, through all possible means, to sell. As is to be expected, there is no supervised grading of produce, no open auctions, nor is there any effective co-operative association of sellers to offset the buyers' advantages.

The compulsion to sell, and the number of individuals under such constraint leads to an inordinate number of sellers, willingly or unwillingly competing with one another, while the minuteness of trading operations leads to a proliferation of the number of these inefficient periodic markets.

Also, lack of good roads, carts and vehicles, limits the distance that peasants can travel. Consequently, the radii of these markets are short, except for the main route extensions that the traders have established between the rural areas and Mbale.

From the above, it can be noted that thousands of peasants are trying to obtain a marginal cash income to supplement their agricultural subsistence incomes so that their families can have things produced both of materials and by methods which presently lie beyond

their grasp. Because sellers are many and urgently in need of cash, competition has become rather fierce. If they sell horizontally to their village neighbours, price offers will be low because the buyers' income is small; if they sell to exporters or urban produce-buyers, they will still suffer from being cheated. All this is a revelation of the basic short-coming of the colonial type of dendritic market which encouraged the dominance of vertical trade and limited development of horizontal trade in the whole of Africa, not so much in volume as in composition. This is just because the typical concern of the colonial governments was to expand the output of a few specialised lines of primary production (especially cash crops) for export.

Accordingly, the habit of clinging to the production of food and simple staples and hesitating to over-specialise in export products represents what Johnson (1970) terms both peasant propensity to follow tradional production and exchange practices and, at the same time, a shrewd type of wisdom developed in the face of fluctuating export prices.[25] For although the reward for producing millet, peas and beans may be small, it is dependable, and, above all, it seems to be fairer.

On the other hand, horizontal trade is terribly inefficient and, again as Johnson states, by its prodigal use of intermediaries, it not only reflects but helps to perpetuate the chronic under-employment

characteristic of ill-organised agrarian landscapes.[26] The produce brought to the market comes in such small lots that the movement of human beings by weight may exceed the movement of produce, for each little load of maize or millet is brought by a selling intermediary.

In conclusion, one can reasonably say, in support of Johnson, that these periodic markets, very typical not only of Bugisu but also of most parts in the country, give an outstanding proof that unguided free enterprise does not necessarily lead to optimal development either of individual talents or of regional productive potential. Because the countryside is inadequately provided with accessible market centres where farm produce can readily be sold and where shops filled with consumer and producer goods can exert their tempting "demonstration effects", the incentives to produce more for the market and the inducement to invest in better tools, fertilisers, or better livestock in order to generate a larger marketable surplus are weak.

In Manjiya county, the only sizable centre is at Bududa where is found the county headquarters, a one hundred bed hospital and some few shops. No comprehensive structural plan exists. Other centres are at the sub-county headquarters at Bukiga, Bulucheke, and Bukigai. The only other centres outside these administrative centres are Lwangeye, Bukalasi and Bukibokolo. As is to be expected, all these centres, with the

exception of Bulucheke, are located on rugged landscapes where the chances of expansion are seriously limited by these physical problems. Also, all of them, except for Bukalasi and Bukibokolo, lie on the circular and the only road in the county (see Map 7.1). This road is so poor that the section from Bukiga to Bulucheke is unusable by vehicles.

The only other services that make these centres to have the title of central place is a Dispensary near Bukigai sub-county headquarters and a sub-Dispensary at Bukalasi. Otherwise, these so-called central places are made up of between three and ten dukas (shops) and some other settlements.

6.8 The Natural Resources and Land Carrying Capacity

The natural resources of the whole country have already been noted earlier in the paper. Bugisu district, unfortunately, does not possess the whole range of those natural resources. As a matter of fact, the only resources in the district of developmental importance are the land and the forests. As yet, no minerals have been found in the mountain and the wild animals that may be existing up in the mountains are of little economic importance at the moment since they cannot be reached.

According to the four-year Report of the Forest Department (July 1964-1968) Bugisu had 52,755 hectares under forest or 12.4% of total land area of the district.

Over 50% (31,205 ha.) of this forest area is under closed forests on which no improvement has at all been carried out and is just in its natural state. Other types of forests occupy 20,761 hectares (39%) of the total forest area thus leaving only 789 (less than 10% hectares) of planted forests. Thus only a very small proportion of the total land reserved for forestry is actually being usefully employed for forestry production. As may be seen from the map showing forestry reserves, most of these forests are in the counties of Budadiri and Manjiya.

While the national policy on forestry sounds so realistic: "To create a permanent forest estate adequate to protect water supplies, to preserve climatic and soil conditions suitable for agriculture and to supply the needs of the people of Uganda for forest produce both now and in the foreseeable future".[27] It is unenviable on the side of the forest department to carve out such a large piece of land as forest reserve and only work on 10 per cent of it. This becomes more absurd when such a case is effected in an area characterised with a serious shortage of agricultural land.

In the whole country, where 8% of the land area is under forest reserve, only 3,563 people were recorded in 1971 as being employed in forestry, fishing and hunting, combined. At district level (Bugisu) only 144 were recorded in 1971 as being employed in forestry

and fishing. Although it is difficult to know exactly how many people are employed in forestry alone, the above figures indicate that presently, the forests in the district of Bugisu are not providing enough employment opportunities relative to the land they occupy.

Since forests are usually located in the rural areas, one would expect forest industries to locate there too. This would in turn provide people with jobs such as logging, milling, road making, planting and other forest operations. This ability to provide jobs in the rural areas would reduce unemployment and pressure on agricultural land. But in Bugisu only less than 140 people are occupied in forestry industry which occupies 12.4% of the total district land area. This is in contrast to the case in Kenya where there are a number of towns such as Elburgon, Londiani, Kikuyu and Webuye, which have forestry as their main economic base. The concentration of people not only in these towns but also in numerous forest/saw-mill villages have necessitated the construction of schools, dispensaries, roads and the provision of other social services, These amenities have benefited the neighbouring communities as well, thereby making rural life more tolerable, Is this impossible in Bugisu district?

The only other important natural resource in the district is the habitable land. This provides to the

rural populations the means of earning their living by growing crops and keeping of livestock. As the habitable land is by far the most important natural resource in the district for the livelihood of the rural population, a calculation of carrying capacity in rural areas is orientated on the carrying capacity of the habitable land. This concept has already been defined earlier on in the paper as being a calculation of the number of people that can be supported by a full use of the habitable land in terms of crop cultivation or keeping of livestock without inflicting damage to the environment.

With the use of the formula which has already been given, it was found out that Bugisu district had already exchausted its carrying capacity by 1969. But because of the assumptions made under the use of this formula, objections may be raised over the results obtained. For Bugisu district, therefore, a detailed calculation, using figures from the District Agricultural Department which actually carries out a physical measurement of the acreages under each crop grown in the district, has been carried out. To obtain the following figures, figures for the total number of tax-payers has been obtained. The assumption here is that each tax payer, who is normally a married man with a family, requires land to grow the cash crops from which to obtain the cash to pay the tax. Consequently, to

obtain the average requirement of each tax-payer, or for that matter each household holding, it is a matter of dividing the available land in each county among the total number of tax payers, for a particular year. The acreage has been calculated up to the year ~~xx ka~~ 2000.

From Table 6.15 it can be noted, for instance, that Budadiri county contained 37% of the total tax-payers in the district on a total cultivable land area of 60,443 hectares; this gives an average plot size for each tax payer of 2.26 hectares for the year 1974. This is below the minimum hectare requirements for a holding in ecological zone one in which the county falls. For Manjiya county, there were 11,305 tax payers on 14,525 hectares, so that each tax payer had to share himself an average plot size of 1.28 hectares, which compares very well with the 1.2 hectares found in the sample survey for this paper. This too as already noted, falls below the 2.6 minimum requirement for the ecological zone in which Manjiya county falls. The district's average of 2.29 is also below the minimum requirement of 2.6 hectares.

By 1975, the figures of tax payers in each county had changed as shown in Table 6.16. This means that the acreage for each tax payer in Budadiri county had been reduced by 0.11 hectares, and by 0.12 for Bunghoko, o.10, for Bubulo and by 0.09 hectares for

Manjiya. The average reduction for the district was 0.11 hectares.

Table 6.15

Land Availability and Plot Sizes (1974)

County	Number of Tax payers	Available Land (Hectares)	Plot Sizes per Household
Budadiri	26,714	60,443	2.26
Bunghoko	15,923	42,349	2.66
Bubulo	18,268	48,110	2.63
Manjiya	11,305	14,525	1.28
Bugisu	72,210	165,427	2.29

Source: Department of Agriculture: Annual Report (Bugisu).

Table 6.16

Land Availability and Plot Sizes for 1975 and 2,000.

County	1.	2.	3.	4.	5.	6.
Budadiri	28,095	60,443	2.15	0.11	2.75	-0.60
Bunghoko	16,705	42,349	2.54	0.12	3.00	-0.46
Bubulo	18,983	48,110	2.53	0.10	2.50	-0.03
Manjiya	12,149	14,525	1.20	0.09	2.25	-0.05
Bugisu	75,932	165,427	2.18	0.11	2.75	-0.57

1. Tax payers in 1975.
2. Area in hectares.
3. Average plot size in 1975 (ha)
4. Annual reduction in plot size (1974-1975) (ha)
5. Total reduction in plot size by the year 2,000.
6. Land availability in the year 2,000.

Using the following formula, it has been possible to estimate the number of people who are extra in the rural areas of Bugisu:

$$\text{Extra Rural Population} = \left(T - \left(\frac{L}{H}\right) \times 5 \right)$$

Where: T = Number of tax payers.

L = Available cultivable land.

H = Minimum Hectareage required for the Ecological Zone.

5 = Average number per household.

The following Table gives the results of the calculations:

County	Number of Tax payers (1975) Recorded	Expected	Total Extra Rural Population
Budadiri	28,095	23,248	24,235
Bunghoko	16,705	16,288	2,085
Bubulo	18,983	18,504	1,945
Manjiya	12,149	5,585	32,820
Bugisu	75,932	43,625	61,085

From the above Table, it can be seen that there existed a total rural surplus population of 32,820 people in Manjiya county or 6,564 disguised landless families, in 1975. Budadiri 4,847, had the next largest number of disguised landless families followed by Bunghoko (417) and Bubulo (389). These are the families which are in actual demand for off-farm employment opportunities or who need resettlement somewhere else.

If the whole situation is left to take to its own course, and on similar lines as before, many more families will join the category of disguised landless families.

MAP 6·3

BUGISU DISTRICT

AGRICULTURAL BELTS

LEGEND

- Millet/Sorghum/Maize Belt
- Cotton Belt
- Coffee Banana Belt
- Mixed cropping
- Banana limits

This leads us to look at the state of agriculture as it exists in the district. In the whole district, most of the people are mainly agriculturalists with some livestock keeping. Various types of crops are grown but the main ones are coffee and bananas. The others include maize, sweet and European potatoes, finger millet, beans, pulses, cabbages, onions, cotton, cassava and sorghum. Groundnuts and a variety of green vegetables, sugar cane, and a variety of fruits are also grown. Wheat and rice are also grown but are insignificant. Most of these, as already noted, are for domestic consumption with banana being the main item in the diet, although a substantial amount of it together with maize and cabbages are sold for cash. All in all, arabica coffee is the main cash crop.

As is to be expected, there is great variation in the type of crops grown with altitude, so that the above mentioned crops have concentrations only in some few areas of the district. For instance, cotton, maize and groundnuts, just to mention a few, are grown in the lower areas of the district, while arabica coffee and wheat are mainly grown in the higher altitude areas. Map 6·8 shows the general distribution of the main crops in the district.

As regards the ammount of land allocated to individual crops, coffee is the main land user followed by banana. Table 6.17, shows the allocation of land to

Table 6.17

Bugisu: Allocation of Land to Individual Crops 1973/1974 (in Acres)

County	Amount of Land for:															
	Banana	Cotton	Maize	Sweet Potatoes	European Potatoes	Finger Millet	Sorghum	Beans	Ground nuts	Mixed Vegetables 'Cabbages'	Cassava	Simsim 'Barley'	Wheat	Onions	Tomatoes	Rice
Budadiri	0.53	0.40	0.57	0.21	0.13	0.34	0.10	0.30	0.33	0.15	0.41	0.10	0.12	0.15	0.10	0.30
Bunghoko	0.56	0.64	0.44	0.46	0.10	0.53	0.20	0.27	0.17	0.10	0.52	-	-	0.10	0.10	0.40
Bubulo	0.60	0.68	0.63	0.46	-	0.58	0.23	0.22	0.23	0.10	0.58	-	-	-	-	0.40
Manjiya	0.75	0.20	0.65	0.33	0.10	0.15	0.10	0.40	0.10	0.20	0.46	-	-	0.10	0.20	0.40
Bugisu 1973	0.61	0.48	0.57	0.37	0.11	0.40	0.16	0.30	0.18	0.14	0.49	0.10	0.12	0.12	0.13	0.35
1975/76	0.50	0.69	0.45	0.24	0.11	0.41	0.27	0.31	0.23	0.12	0.32	0.10	0.12	0.11	0.13	0.44

Source: Department of Agriculture: Annual Report - 1973/1974, Bugisu District.

Table 6.~~14~~18

Mean Plot sizes of crops for Manjiya County: 1973 (in Acres)

Sub-County	Banana	Cotton	Cassava	Sweet Potatoes	Maize	Beans	Finger Millet	Sorghum	Ground nuts	Cabbages	Tomatomes	Onions	European Potatoes	Rice
Bududa	0.75	0.20	0.50	0.30	0.60	0.40	0.20	0.10	0.10	-	0.20	0.10	-	-
Bushika	0.75	-	0.50	0.30	0.70	-	0.10	-	-	-	-	-	-	-
Bulucheke	0.75	-	0.40	0.50	0.70	-	-	-	-	-	-	-	-	-
Bukigai	0.75	-	0.45	0.20	0.60	-	-	-	0.10	0.20	0.20	-	0.10	-

Source: Department of Agriculture: Annual Report, 1973/1974.

the different individual crops both in the district as a whole and at county level. Coffee figures were not available due to the fact that it is usually planted here and there all over the plot and at the same time under it is planted the other crops such as cabbages, beans, and onions. On the whole both crops, bananas and coffee, are often undercropped with coffee extending farther afield than bananas. Both coffee and bananas are usually grown around the home but coffee receives more attention in terms of the time spent on looking after the growth, picking, processing and the final selling. The coffee berries are wet processed initially at home and this is one of the occupations of some off-farm redundant labour.

In Manjiya the other main food crops are cassava, sweet potatoes and maize. As may be seen from Table 6.18, it is only Bukigai sub-county which has turned to growing harticultural crops such as cabbages, tomatoes and onions, and it is the only area where a significant amount of European potatoes are grown. This may be due to the higher population densities that exist in this sub-county as already noted. So that as land has continuously got reduced, people have had to adopt more intensive agricultural methods. But as already noted, the marketing of these harticultural crops is not at all organised and this may explain as to why other sub-counties have not adopted the growing of similar

crops as yet,

Other crops such as field peas, soya beans, cow peas, simsim and cashew nuts are grown but their acreages are difficult to compute and instead only tonnage figures exist.

The type of crops grown and their acreages indicate that not much modern scientific knowledge is being applied in the production of these crops. The farmers' knowledge of farming has been tradionally acquired mainly from their parents and through their own experience. Little has been obtained from school, and contact with the agricultural extension staff is very limited. The only agricultural officer found in the sample study area appeared to be of very little help to the farmers and infact he was more concerned with looking for local brews of beer than carrying on his duty.

The majority of the farmers interviewed were aware of the fact that productivity on their farms was very low. This was especially so with regard to food crop production. They were also aware of the facts that their income were quite low vis-a-vis the cost of living that prevailed, and that though their farms required a great deal of improvement they had little to do about it by themselves and that most of the things were beyond their control. As already noted, the chief food crop in the district and in Manjiya in particular, is banana (matoke). Unfortunately, this plant has a productivity

period of about twelve years after which it is necessary to start a new plantation of the crop. However, given the fact that there exists a land shortage problem, there is therefore no possibility of opening up new grounds for the crop.

If one has to start a new plantation, one has to first cut down the old plants; an exercise that would subject his family to complete starvation since they would have to wait for at least one year before the plant could produce again. Being as unpracticable as it is, the whole exercise has been abandoned, thus living the people to go on with their old and less productive plants. Few bananas are therefore being obtained by each family from the plots, and inevitably, people have had to go on with only one meal a day - and a poor one.

Furthermore, the people interviewed revealed that their last season's coffee was still lying in stores unsold and yet they were picking coffee for the current season. In other words, besides their banana failing to provide them with enough food, there was no money from coffee, to purchase other types of food to supplement the bananas. Needless to say, lack of money also meant misery to the people since they could not afford to buy what they needed as well as paying school fees for their children.

When some of these farmers were asked about the

possibility of acquiring loans from the government they all replied with indignation. Their contention was that if they got such loans they would never be able to repay it since all the money would go on food while their coffee continued piling up in the co-operative society's stores, and that this would mean their going to prison thus leaving their families to suffer further.

Coffee being the basis on which the economy of Bugisu depends, it is essential that we look into its role in both the economic and social improvement of Bugisu district. Coffee was introduced in Bugisu in 1912 and by 1916, production had already reached 14 tons growing up to 250 by 1931 and to 800 tons by 1945.

In 1933, the Bugisu Coffee Scheme with the Executive Bugisu Coffee Board, was created with the purpose of collecting, processing and marketing the coffee grown in the district. It was also responsible for preparing the growers towards the actual growing of the crop and the formation of Co-operative Societies. However, there developed up no co-operation between the growers and the coffee scheme and therefore upto 1946, most of the coffee was handled outside the scheme. After that year the relations improved this mainly being due to the inaugeration and enactment of the 1946 Buganda Co-operative Societies Ordinance whose byelaws were also applied in Bugisu.

In 1954 the Bugisu Co-operative Union Ltd., (B.C.U.), was created. The overall objectives of the B.C.U. were to "promote in accordance with co-operative principles the economic interests of its members."[28] The Union came up with vigour and;

1. Encouraged better farming, particularly through improved methods of agricultural land utilisation;
2. Engaged itself in the co-operative processing and marketing of much of its members' agricultural produce as was from time to time to be decided upon;
3. Obtained, on behalf of its members, agricultural and building requirements;
4. Made loans, against adequate security to members for productive purposes and for crop finance;
5. Acquired such land, buildings, machinery and vehicles, and provided accommodation, transport, and other services, as were necessary for proper fulfilment of those objectives;
6. Encouraged in the members the spirit and practice of thrift, mutual help and self-help.[29]

Available records, however, indicate that the union failed in the majority of these objectives. On Most occasions the growers never co-operated. The

actual administration was done by government agents including the District Commissioner and the marketing was carried out by a private company. At the sametime not a single Gisu farmer was on the Board until 1955 when seven were put on the Board.

Despite these failures, the union achieved a lot for the people of Bugisu as a whole. A coffee curing plant was erected in 1959 in Mbale. Prior to this coffee had been processed by the Kenya Planters Co-operative Union in Nairobi. By 1958, there were about 63,500 members of the Co-operative Union. This represented ninety per cent of the tax payers in the district who received an average income of about £110 for the 1953/54 season, apart from other crops and livestock.[30] Infact during this period, Bagisu coffee growers were economically better off than their counter parts in the adjoining districts of Bukedi, Teso and Karamoja. During this same period, the money earned was spent on the purchase of corrugated iron sheets for roofing their houses, while putting their surplus cash into savings mainly with the B.C.U.

The B.C.U. offered social services through the building of schools, giving scholarships, constructing roads and bridges. It even extended loans to the Bugisu Local Government amounting to £80,000 for the construction of roads in North Bugisu in 1955.[31]

In 1960, the Bagisu started asking for a tribal king like the Kabaka of Buganda. They felt they had become economically comparable with Buganda, the model of a progressive African indigenous state.

Under the Bugisu Coffee Ordinance 1962, all marketing and processing of coffee in Bugisu came to be done by the B.C.U. All this coffee is today wet processed and is purchased from the growers through primary co-operative societies by the union in the form of patchment. This is then finally processed in the Union's mill in Mbale and exported for sale in Nairobi. Permissive powers do exist in the Ordinance for the Minister of Co-operative Development to fix prices to growers but up to now, these have not been used and the union has been left to fix prices consistent with its own financial stability and the prices it receives for its clean coffee.

But as already noted earlier, at the time of the interview, coffee for the last season had not yet been bought by the union and people put the blame to the officials whom they claimed had used the money meant to be paid to the growers for their own businesses.

6.9 Employment and Income

Most of the rural population in the district is engaged in agriculture - cultivation of both food and cash crops. Table 6.19 shows the number of people in the district employed in each formal industrial sector

Table 6.~~15~~

Bugisu District: Sectoral Employment Opportunities (1968)

	Agriculture	Industry	Construction	Commerce	Transport	Services	Total
Number employed	1,156	1,342	1,748	599	405	3,936	9,096
Percentage 1.	1.8	3.1	4.3	5.8	3.8	4.1	3.4
Percentage 2.	12.7	14.8	19.2	6.6	4.5	43.3	100.0
Percentage 3.	24.4	16.3	15.3	3.9	4.0	36.1	100.0

1.= Proportion of the total employment in respective sector.

2.= Proportion of the total employment in the district.

3.= Proportion of the total employment in Uganda.

Source: Bugisu District, Assessment of level of Development. op. cit.

as of 1968.

Accordingly, the job opportunities per 1,000 inhabitants was only 22 as compared to a national average of 28. The main employing agent again was the government (services) followed by construction. This was then followed by industry (mainly textile manufacturing) and then agricultural processing. Commerce and transportation employed the least number. As is to be expected, over 90% of these jobs were all located in Mbale town and only government employments could be found in the rural areas.

The Table further shows that there was a total of less than 1,000 jobs in the district and doubtless, this figure has not gone up even to 1,500 by now. This means that in spite of Bugisu district ranking as the third most industrialised district at that time, only 3.4% of her population was employed in formal sector. Furthermore, a substiantial number of this number came from other parts of the country. So that Bagisu, as such, did not, and still do not, benefit much from those employment opportunities existing in Mbale town though of course they gain in other ways by the mere existence of Mbale town.

The incomes earned by those employed in the formal sector at that time were not either impressive. For instance, only about 9% earned more than 6,000/- per annum, while 61% earned less than 2,400/- per annum in

1968.

On the other hand, from coffee selling alone, an average farmer gets about 700/- per annum. The field work recorded a maximum annual income of about 5,000/- and a minimum of 480/- from the Bugisu Co-operative Union, Bulucheke branch. Further information on income was obtained through asking people how much they paid for their poll-tax, which was then equated with the poll-tax assessment mannual from the government. The following Table gives the results:

Table 6.16

Manjiya County: Levels of rural Income, 1975

Graduated Tax (in shillings)	Number of People	Income bracket	Percentage
None	18	Nothing	8%
65	50	0-500	22%
80	59	501-1,000	26%
90	50	1,001-1,500	22%
100	41	1,501-2,000	17%
120	7	2,001-2,500	3%
160	5	2,501-3,000	2%
200	-	3,001-3,500	
250	-	3,501-4,000	
300	-	4,001-5,000	
350	-	5,001-6,000	
400	-	6,001-7,000	
450	-	7,001-8,000	
500	-	8,001-9,000	
550	-	9,001-10,000	
600	-	10,001+-	
Total	230		100

Accordingly, 48% of the people interviewed had an annual income of between 1,000/- and 1,500/-, and 22% had an annual income of between 1,500/- and 3,000/-. However, 30% had an income of less than 500/- per annum. This means that the majority of the people in Manjiya earn above 1,000/- per annum.

It is apparent from these figures that this area is prosperous. Despite the small size of holding per farmer, the average annual income per farmer, based on coffee alone, is still higher than the national income per capita. However, although these figures are so impressive, it should be born in mind that they are figures of household owners and do not include incomes for the young men who are coming up in search of land. This will, as already noted, reduce the acreage under coffee for each farmer thereby leading to a reduction in the income obtained.

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CHAPTER VII

STRATEGIES AND POLICIES FOR PHYSICAL DEVELOPMENT OF MANJIYA COUNTRY

7.1 Introduction

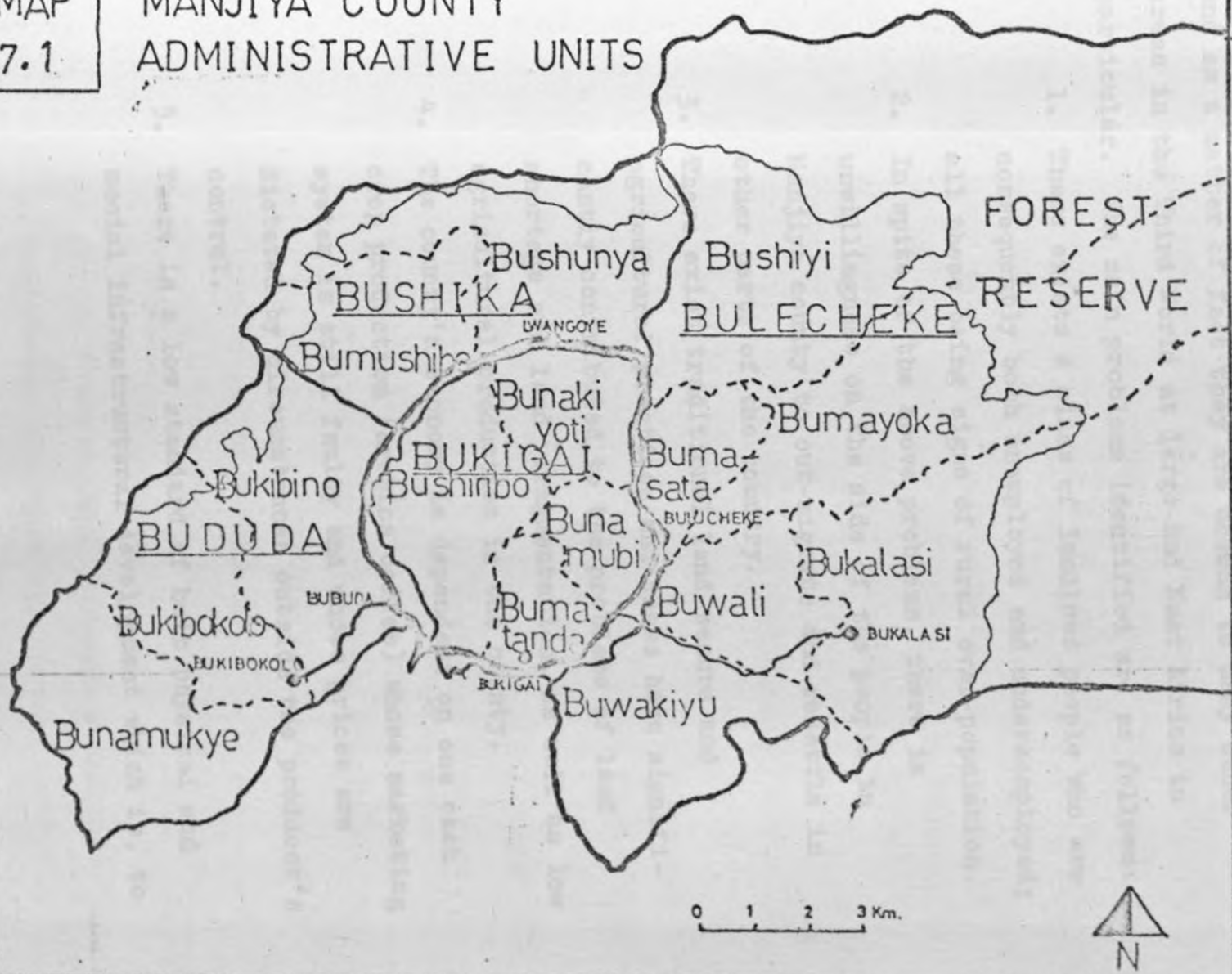
The last chapter detailed out the existing situation in the study area - Bugisu district with special reference to Manjiya county. It was noted that the Bagisu have been living on the western slopes of Mount Masaba (Elgon) for a long time and that by as early as 1890, the area was already experiencing dense populations. The ecological quality of the environment is among the best in the whole county. It allows for the cultivation of a wide range of crops though, at the moment, such an advantage is not being utilised.

In Bugisu district, there has been the interesting phenomenon of a society with an individual form of land tenure, and individualistic values, in which the minimal lineage has held certain important rights over the disposal of land. However, the ideology of co-operation and mutual help supporting the lineage rights has been in conflict with the prevailing individualistic competition. To a certain extent, cash crops, and programmes for their improvement, have reinforced the competitive rather than the co-operative side of the conflict.

This last chapter is now going to lay down strategies and policies to resolve the following identified problems in the study area. As noted earlier, this plan is meant for Manjiya county but the strategies proposed can as well

MAP 7.1

MANJIYA COUNTY
ADMINISTRATIVE UNITS



LEGEND

Boundaries:

County

Sub-county

Parish

N.B.:

Bulucheke Sub-county extends farther to the right than has been possible to include in the map.

be applied in other parts of Bugisu district or the country.

7.2 Problems identified

The background studies and analyses contained in the last chapter reveal that the problems of Bugisu district as a whole and Manjiya county, in particular, are not novel and as a matter of fact they are common to many other areas in the Third World at large and East Africa in particular. The main problems identified are as follows:

1. There exists a class of landless people who are consequently both unemployed and underecmployed; all these being signs of rural over-population.
2. In spite of the above problems, there is unwillingness on the side of the people in Manjiya county to out-migrate and resettle in other parts of the country.
3. There exist traditional land tenure and agricultural practices and these have significantly contributed to the problems of land shortage and land fragmentation, as well as low agricultural production in the county.
4. The county's economy is dependent on one cash crop production (arabica coffee) whose marketing system is still faulty and whose prices are dictated by circumstances outside the producer's control.
5. There is a low standard of both physical and social infrastructural development which is, to

a certain extent, a contributory factor to the non-existence of an industrial base.

6. The urban economy is in a low state of evolution characterised by a low standard of urban infrastructural development which, in turn, has discouraged the development of industrial enterprises and therefore has not provided sufficient employment opportunities to absorb the extra-ordinarily dense population off the agricultural land.

7. There is a lack of effective extension services in the area and this has curtailed the chances of government realising the agricultural problems in the county especially the need for credit facilities for the small-scale farmers.

8. There is a low standard of formal education which, in one way or the other, has contributed to the perpetuation of traditionalist tendences. These have, in turn, inhibited, to a large extent, the penetration and consequently, the adoption of new ideas and attitudes essential for general development.

9. Lack of effective family planning education which would help in lowering the rapid population growth in the county.

10. A forestry policy which reserves a very large, potentially very good agricultural land, area as a forest reserve with no plans to improve on that forest's production, thereby rendering

it unavailable for settlement of the dense population in the county and therefore leaving it to lie idle and non-productive.

11. A land topography which is, in many places, too rugged for settlement and/or cultivation and grazing, as well as making it difficult to construct and provide physical and other social infrastructural facilities.

This chapter will set forth strategies by which the limited capital investment available from government and private sources for the social and physical development of the county may be deployed to stimulate the maximum possible economic development. The main strategy proposed here is that of a "Rural Transformation Programme" which incorporates an agricultural development strategy through land use reform programme, and a growth "pole" strategy through a programme aimed at siting new towns and upgrading and expanding the selected existing towns.

At the outset, it ought to be borne in mind that the rural development of Manjiya county must be carried out within the framework of national development and these proposals have had, therefore, to be realistic and in proportion to the economic expectations of the district (Bugisu) and the national as a whole.

7.3 Goals and Objectives

The general rural development policy for Manjiya county, envisages an increase in the output of goods and services, an expansion of total employment, an improvement in productivity, a wider usage of progressively improving

technology, a steady growth in consumption attesting progress in general welfare, and a systematic enlargement of educational, medical, and other social amenities and facilities. This general policy is broken down into the following specific goals and objectives:

1. To reduce the population pressure that is already being felt on the agricultural land in the county: such a reduction if achieved, will allow for the creation of more economical farm holdings which will, in turn permit the application or use of more scientific methods of farming leading to higher productivity of the agricultural land.
2. To create enough employment opportunities in the county: these opportunities will relieve pressure by absorbing the extra agricultural population thereby allowing for the attainment of objective (1) above.
3. To change the traditional land tenure system to that one which will allow for the implementation of a land reform programme, aimed at land consolidation and registration.
4. To diversify the agricultural crops in the area: this will lead to reducing the dependency on coffee and bananas as the only cash and food crops in the area, respectively. Furthermore, such a diversification is likely to allow for a more intensive use of the land, provide

more work opportunities and increase production.

5. To provide adequate and conveniently located social infrastructure in the county. The aim behind this is to make the rural area of Manjiya more attractive to both government and public investors as well as enabling the rural population have a better and fuller use of, and accessibility to, the services and facilities provided to them.

6. To establish growth poles or centres in the county: this will, first of all, bring about an adequate, yet economic distribution of urban services in the area in order that opportunities for educational and cultural improvement, together with medical, technical and commercial facilities, are reasonably accessible to all the rural people. Secondly, it will lead to the creation of urban nudeii equipped with the basic infrastructure necessary for the efficient operation of business and industry with which to stimulate employment outside Mbale town. Thirdly, it will encourage the establishment of urban facilities necessary for the exploitation of Manjiya's natural resources. It will also lead to [illegible], the diffusion of developmental ideas and innovations. It will lead to the creation of urban settlements and urban population, thus allowing for a more efficient utilisation of

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the land area, all of which are hitherto non-existent.

7. To make Agricultural extension service more effective: this is to enable an accelerated agricultural growth and development to take place in the county.

8. To provide adequate capital to the small-scale farmer in the county. This will allow farmers with small and medium-sized holdings to achieve and, hopefully, apply modern technological innovations on their farms, and thus achieve higher productivity from their farms.

9. To educate the majority of the rural people in the area: this will allow for an accelerated diffusion and adoption of innovations, since it is now an accepted fact that the speed and rate at which an innovation diffuses and is adopted, respectively, varies directly with the standard of educational attainment of the population concerned.

10. To educate people on matters concerned with family planning: this will help, overall, in reducing the current rapid population growth rates.

11. To make a better use of the forest area: this will allow for a higher production from this presently under-exploited resource and area.

12. To terrace all steep areas: this will reduce the problems associated with steep slopes and rugged land topography such as soil erosion

landslides and poor accessibility.

7.4 Strategies

As already mentioned above, all these goals and o objectives will be accomplished through what has been termed "Rural Transformation Programme" which is diagramatically represented in figure 7.1. From this figure, it can be seen that the programme can be further broken into two main aspects: an agricultural development programme aimed at increased rural production and employment generation, and a growth "pole" strategy through a programme which will select certain central places for upgrading and expansion and which will eventually develop into nucleii of innovation and development.

The whole programme has further been broken down into specific strategic actions to be adopted as follows:

1. Land use Reform Programme

Land consolidation and registration involving the issue of titles for agricultural land is well documented in a number of books and periodicals which deal with the question of land tenure. Arguments mostly in favour of land consolidation - a process that aims at leaving the farmer with one consolidated holding to which he has a secure negotiable title - have been taking place in many parts of the world. As may be judged from what has been said above, most of the conditions calling for the need to consolidate and probably register land are quite ripe in Manjiya County in particular and Bugisu district as a whole. These include the fragmentation of holdings, high

human population densities, both contributing to poor farm management and practices.

The concept of individual ownership of land in Bugisu is quite well established and this came about especially after the introduction of coffee as a permanent cash crop. People saw in it the advantages and possibilities of advancement in the agricultural productivity of their land. However, the move to achieve the legal aspect of this has always been delayed by customary laws of land tenure, transer of land and inheritence practices. As has always been said, sound agricultural development is deemed to be dependent upon a system of land tenure which makes available to the peasant (farmer) a unit of land and a system of farming whose production would support a family at a level comparable with other occupations. The farmer must be provided with such a security of tenure through an indefeasible title as will encourage him to invest his labour and profit into the development of his holding and as will enable him to offer it as security against such financial credits as he may wish to secure from such sources as may be open to him.

Steps to effect individualisation of land ownership in legal terms in Bugisu and probably Kigezi (the two most densely populated areas in Uganda) would have began immediately after the conference held in Arusha in 1956 on Land Tenure in Eastern and Central Africa. But the colonial government in power then, exercised a deaf ear to the recommendations offered by the conference.

It is well known that the very first attempts at

land consolidation in Kenya met with resistence from the people and particularly the majority of the African politicians who were on most occasions suspicious of government intentions at that time. The same is expected of such a process in Bugisu district. But, putting political considerations aside, the whole process eventually leads to rapid economic development of the areas concerned as may be witnessed in the Central Province and Kisii District, of Kenya.

The benefits that accrue from such a reform includes a possible saving in time and also money spent on land litigations or travelling between numerous scattered plots of land; increased security of tenure which would facilitate security of agricultural loans and enable farmers to make long-term improvements on their farms. Above all, the main benefit of the reform measure is seen in the the light of it acting as a powerful stimulus to agricultural development which in turn would encourage higher levels of employment in the rural areas thereby reducing over-population on the agricultural land.

Some exponents of economic changes in developing countries have often challenged the rationale behind a policy like this implying that perhaps similar achievements might be realised without costly reforms. The main problem is of course that of quantifying the results of such a massive programme of land adjudication, consolidation and registration in order to be able to evaluate its achievements in terms of costs and benefits. The important

point to note though, is that right from the inception of the idea, land consolidation and registration should never be taken as an end in itself but only a means. The whole process creates an environment conducive to the desired development in not only the agricultural sector but the whole rural spectrum.

There are technical as well as practical limitations to contend with when one is trying to evaluate the impact of the programme on economic development of the areas concerned. For instance, changes in agricultural performance which the programme is expected to bring will invariably be noticeable after a considerable period of time of at least fifteen years has elapsed. The programme is, at the same time, expected to be accompanied by fairly other vital factors like improved insfrastructure in the area, good credit facilities, organised marketing systems, and, above all, a substantial amount of extension and advisory work in order to bring out the desired benefits. Also there will have to be adequate control and follow-up to ensure that the land is being utilised productively. Otherwise, some of the evils like the re-sub-divisions of holdings might again creep back.

Although no complete data are available on the costs of the reforms in Kenya, it has been estimated that on on average it cost the government of Kenya about shs.21 for every acre of land, brought to the register. In the case of resettlement, another form of reform that the Kenya government exercised the minimum investment required to bring about a net positive impact on development was

estimated to average £150 per family or nearly £25 per acre excluding the social problems that the settlers underwent in acclimatising themselves to the new environment.[1] However, the latter case can only apply for Bugisu situation where people are transfered to Bunyoro but since most of the resettlement at the moment is to be effected within the district, the costs should be less.

Those against the reform measures will be apt to argue that land consolidation will breed further unemployment and landlessness. Where consolidation involves giving a person legal title to one plot of land of a size or value approximately equal to the sum of all scattered fragments to which he had a recognisable claim, the feared creation of landless groups of people will only arise through the exposure of those hitherto disguised as landowners. Consolidation, in other words, will simply bring out the problem of the existence of such groups of people and will make it possible for the further planning of adequate measures to deal with the problem, by either giving them employment elsewhere or settling them in new areas.

The actual detailed programming of the process will be worked out when the real time of inception comes. Suffice it to mention the salient steps to be taken:

When it has been decided to go ahead, the first stage in the process of consolidation and registration will be the determination of rights to every piece of land in the area being dealt with. This process is known as adjudication.

After adjudication, teams of measurers will move in and measure up every fragment in the area. It must be remembered that the boundaries of these fragments are very rarely straight lines, and the first thing the leader of the team will have to do will be to obtain the agreement of adjoining land owners to a straight line boundary between them. The quickest and most accurate method of measurement is to divide the fragment into triangles and, instead of measuring the perimeter, to measure the diagonals and the perpendicular distance from the corners onto the diagonals.[2] As may be expected, this work is quite enormous. Besides caculating the total land area for each individual, committees must decide how much land in the section to be left for future needs of the community for such local public purposes as roads, schools, markets, dispensaries, communal grazing areas and so on.

Consolidation itself will begin after the record of existing rights has been declared final and after the land entitlement of each land owner has been reduced by the reconciliation factor and the percentage cut. These are calculated as follows:[3]

$$\text{Reconciliation Factor} = \frac{\text{Acreage from areal survey}}{\text{Acreage from ground survey.}}$$

$$\text{Percentage cut} = \frac{\text{Acreage required for public services}}{\text{Acreage from areal survey.}}$$

The first is to minimise the differences between land area obtained from areal photographs and that from actual ground survey. The second (percentage cut) is to provide

land for public purposes.

The layout of the section will have to be planned as a whole. This will require assistance from officers of the Administration, Departments of Agriculture and Survey, It ought to be emphasized that laying out holdings is quite a complicated exercise.

When demarcation of the holdings is over, the Adjudication Register will be prepared. This will contain details of every piece of land in the section by reference to a number on the map.

The final stage will be the preparation of the Register of Titles which will take place immediately after the end of a period which will be set for objections or when all objections will have been resolved.

One last, but very important, programme will be that of repairing the now damaged terraces. The above exercise will be rendered useless unless the people in each section, plus other governmental resources, are mobilised into repairing the old and building new terraces.

2. Introduction of new cash and food crops.

As already noted above, consolidation, enclosure and registration must not be regarded as an end in themselves, for it will be after registration that the important work of agricultural follow-up will really begin. Once the holdings are consolidated, it will be necessary to work out suitable systems so that the results of consolidation, which cost a large sum of money and effort, can be translated into more efficient farming. Farmers training centres,

Farm Planning. This is going to be an infricate exercise and in practice it will only be possible to give this detailed service to the very best and most energetic farmers, but a system will have to be worked out by which a farmer will be given a simple layout and left to follow the general pattern of farming appropriate to his zone.

It was noted earlier on in the paper, that Bugisu district has coffee and cotton as its main cash crops and bananas, sweet potatoes, cassava and to a lesser extent, maize, as the food crops. Cotton is limited only to the low laying area while the other crops are widely distributed (see map 6.8). The interplanting of coffee with bananas was also noted as being a common practice and this has been a subject of controversy among research and extension workers. Despite this long-standing controversy, there has only been one small observation trial which was run at Bududa (Manjiya County) for a few years in the mid 1950's of interplanting and this proved to be inconclusive.[4] Under the Bugisu Coffee Rules (1968) interplanting was forbidden in new plantings, and in recent years extension efforts have been directed against the practice.[5] At the same time, there has evidently been an increase in interplanting this probably being due to the increased land shortage and pressure on land.

Robison (1961) has described a number of trials carried out under estate conditions in Tanzania. Their general findings were that the depression of coffee yields was approximately linear with increasing density of bananas.[6] However, he admitted that "no attempt had

been made to evaluate the economics of mixed coffee/banana plantings".[7]

The question now arises as to whether, with the full realisation that the majority of Bagisu holdings are very small in size, it would be wise to interfere with the practice of interplanting since the farmer is concerned with obtaining the maximum produce (especially food) from his available land and labour.

It is recommended that interplanting of banana and coffee should be left to continue with a hope that gradually the practice will cease so that plots are left entirely to coffee. But since bananas are used for mulching coffee groves, this practice will take a long time to cease. Coffee is therefore proposed to be left as the main cash crops in areas where it can profitably be grown without seriously jeopardising the production of more profitable crops. In other words, on plots which cannot accommodate 526 coffee trees which are reckoned to be the optimum for each household, given the planting spacings, no coffee should be allowed. Instead, other types of crops, as suggested below, should be planted.

This will apply to bananas also. Planting to harvesting of bananas takes 10 to 18 months, depending on the suckers planted, variety and conditions of soil and climate. A maximum of five bunches (irrespective of their size) may be harvested annually from each stool. In Manjiya, average area under bananas on each plot is about 0.75 acres which gives a maximum of about 100 banana stools on each plot. At the same time, local surveys

have indicated tnat the economic life of a well-managed garden is about 30 years, and from the field evidence, most banana grooves in Manjiya have even passed this stage and are only producing leaves, with very small bunches. So that in Manjiya a farmer obtains about 500 small bunches of banana annually, But to prepare a meal, it would need about three of these small bunches to satisfy a family of about five people. This, in other words, means that such a household is only able to feed itself from the banana plantation for less than one half of the year. For the rest of the year, the family will have to satisfy its food requirements from another source. Such a source would be of food bought with the use of money obtained from coffee. But as already noted, coffee money is quite unreliable. The family therefore finds itself at a standstill.

In view of the above situation, the following are the new crops that will have to be grown on the economically small-sized plots. Relatively larger holdings will also have to incorporate these crops in their farming practices in addition to bananas and coffee and other already mentioned cros (see Map 7.1).

1. Maize.

This is a crop which is already being grown but using low-yielding seeds. Not much emphasis is presently being put on the crop. Since this crop is annual and allows for intercropping, it can therefore be economically produced as both a food and cash crop. Improved hybrids will have to be imparted into the area so as to increase

the yields. The main areas for this crop will be in the sub-counties of Bududa and Bulucheke, and in Bushiribo parish of Bukigai sub-county. This crop is meant to replace bananas in most of these areas, as a food crop.

2. Pyrethrum

This is a crop whose climatic and soil requirements are well met in the county. It can be interplanted with most other crops and is highly paying. The crop is presently being grown but in very negligible quantities. It suits the land shortage and labour surplus situation of the county. This crop will replace coffee where the plot size is found to be too small for coffee production. This crop will mainly be grown in the sub-counties of Bukigai, Bulucheke and Bushika.

3. Passion Fruits

This crop, like pyrethrum, is labour intensive and allows for interplanting. Already, there exists hybrids of this crop at Kawanda Research Station which will be introducted in the area. This crop will be encouraged to be grown throughout the county.

Like in the case of pyrethrun and the fruits to be proposed below, the growers will be massively supported through the provision of material inputs (for initial investments and variable inputs) on credit terms, they will be further assisted through a system of close extension and supervision. For all these new crops whose markets will mainly lie outside the country, services to the growers will be rendered through the establishment of an

organisation alors the lines of the agricultural development boards. Farmers will grow the crops according to a contract conducted between them and the said board.

4. Pulses

Beans: A variety of these exist in Uganda and take only 70-90 days to mature. This means that several crops can be grown a year in Manjiya. At the same time they can be interplanted with maize, coffee, passion fruit and even bananas. Out of the three main varieties (semi-climber, climber and bush type) the semi-climber yield most and should be the one to be encouraged in Manjiya.

Peas: Presently, these are being intensively grown in Kigezi and there is no reason why they should not be introduced in Manjiya and Bugisu as a whole. Two crops can be produced in a year. They can also be interplanted with maize, beans, finger millet, passion fruits and wheat or used as a nurse crop for coffee and bananas. The yield is quite paying.

5. Vegetables

Onions: These are sensitive to day - length and therefore varieties of a 12-day hour photosynthetic period have been selected. These are pungent (hot) varieties and mild flavoured varieties. Without doubt, the Red Creole Hybrid (pungent) is the heaviest yielder, 8-9 tons per acre of dried bulbs having been recorded. Texas grano (mild) is a close second. These will be grown all over the county.

Exotic vegetables: These may be divided into those which

can only be grown at high altitudes and those at lower altitudes. The former will include cauliflower, brussels sprouts, celery, asparagus, green peas, broad beans, and globe artichokes. The latter will include green peppers, egg plant, cucumber and olcra. The former will be grown mainly in the sub-counties of Bukigai, Bushika and Bulucheke, while the latter will be more suitable in Bududa.

6. Temperate Fruits

These will be limited only to the high lying areas of the sub-counties of Bushika and Bulucheke. This is because many of these fruits require the cool climate of high altitude areas. Unfortunately, cultivation is not allowed in mountainous areas above the forest line at about 2,100 metres (7000 ft.) and even this is not high enough for many species. The 12-hour day is another limiting factor. Nevertheless the following fruits will be economically introduced in the county:

Peach: mainly to be grown at altitudes between 1800-2100 metres.

Apple: varieties of delicious and rome beauty only to be introduced.

Fig: to be grown above 1500 metres.

Grapes: to be grown between 1500 and 1800 metres high.

Others at similar altitudes will include melons, strawberries, ra-strawberries, white-stemmed raspberry and cape gooseberries.

The whole exercise will, by the time it comes to full operation, provide employment to a very big number of people who are hitherto underemployed or unemployed. Besides such direct effects, there are likely to be set into motion many economic activities which will benefit from the different economies of scale that will be operative in the area.

Indeed, it would be of great help if the number of people to be employed is estimated, so is the intial cost of each project proposed above. But to obtain such figures, one would need to establish a trial project in the area so as to find out the number of man days required per acre (or hectare) and the initial costs to be expended on such items as land preparation, fencing, planting, training, trellising, spraying, fertilising, hoeing, and so on. But under the circumstances in which this study is canducted, it is practically impossible to do so. However, one can make a hazardous attempt and estimate that the whole exercise is going to require at least two fully employed people per acre or about five people per hectare. At this rate of labour requirement, one can reasonably say that some extra labour from other parts of the district as well as the whole country will have to be imparted into the county. Thus the problem of underemployment and unemployment will cease to exist.

3. Dairy Industry Development

Already there exists a substantial number of cattle in the county. Due to land shortage in the county, most

of these cattle are tethered near the homes and fed on such materials like the peelings from bananas and the succulent parts of the banana plant. In other words the cattle are being traditionally kept.

Milk from such cattle is mainly produced in order to satisfy the subsistence needs of the farmers' families. While several measures, namely the introduction of grade cows on a larger scale and the intensification of the efforts made by artificial insemination service, have considerably increased in the rest of the country, nothing is mentioned about the same in the district as a whole by the Department of Agriculture's annual report of 1974/75.

In view of the fact that there exist potentialities for the dairy industry to develop but that it has just been neglected, it is proposed that grade cows be introduced in the area together with an intensification of the Artificial Insemination services. Since the poor development of the industry is due, among other reasons, to the poor organisation of the marketing system, it is further proposed that the Dairy Corporation does organise the enterprise including the establishment of Milk Cooling plants at Bududa and Bulucheke. Each farmer will be responsible for taking the milk to the cooling plant.

Since the health aspect of the industry is very important, it is proposed that there should be established two cattle dips in each of the sub-counties of Bududa, Bukigai and three in Bulucheke. These dips shall be constructed through self-help. The locations will be

determined by the people themselves.

Several problems will come up in connection with the industry. These will include the poor feeder road infrastructure which will make milk transportation difficult, the reliability or otherwise of the quantities to be supplied; and the price expectations of farmers. As already proposed, milk will be transported by individual farmers; since there are many farmers with cattle in the county, it can be assumed that milk supply to the cooling plants will be continuous; and the prices for milk should not be all that a problem for it is always high. Most of this milk will find a ready market in Mbale urban centre where there exists one of the two milk factories in the whole country.

The implementation of the project should be in the interest of the Dairy Corporation and therefore it should be ready to provide loans to farmers as well as other scientific help.

4. Extension Saturation Project

Much effort has been made to accelerate agricultural development in Uganda even before independence. This has been especially so in the way agricultural extension services have been encouraged. In spite of all this endeavour, however, progress with developing small-scale farming has in many cases been disappointing. Agricultural extension services have been frequently criticised for failing to produce results.

Probably this criticism is due to the ill-definition

of the extension worker: is he supposed to act as a change agency or a service agency? The former implies an active or stimulatory role in which the extension worker is supposed to overcome conservatism. Doubteless, very few of the farm level extenstion staff in Uganda fits this role - most emphasis is put on the latter. This may be due to the fact that instead of being client oriented they are employer oriented. Consequently, the extension worker becomes torn between his allegiance to his employer and his need to serve his farmers.

In Uganda, at least 32 different rural extension methods have been listed as having been used since 1910. These range from mass media like television, radio and the press to demonstration teams, area competitions and research station open days. As far as is known, no systematic analysis of the effectiveness of these methods has been undertaken. Such an analysis would in fact be extremely difficult because of the large interaction effects. Research in the United States has shown that most innovations result from several different approaches to the farmer.[8]

One of the most heavily criticised strategies has been that of the cult of the progressive farmer. This is because, until its abolition in 1964, this approach used to bring about individualism rather than co-operation and infact used to lead to hatred between the rest of the farmers and the so-called progressive farmer.

In addition, Uganda has an acute problem of

co-ordination particularly as regards Agriculture, Marketing and Community Development which are each responsible to separate Ministries. This situation leaves the extenstion worker in a sort of confusion. In recent years, therefore, the trend has been towards the group approach. This approach lays out criteria for the establishment of a group farm. These are:

1. The farmers must be members of a long established and credit-worthy co-operative society.
2. The management committee must have control over the land and be able to allocate it without dispute.
3. The area must be sufficiently productive to justify investment of capital and to give members a good return.
4. The area must be large enough to employ a mechanical cultivation unit and a manager efficiently.
5. The area must be consolidated and not fragmented into a lot of small blocks.
6. There must be a good supply of water.

These farms are not "collective farms" for each member farmer keeps his individual plots although they are planned so that he gains the benefits of large-scale methods. Each member must weed, thin, and harvest his crops at the right time and must assist in certain community jobs in the development phase, such as bush

clearing.

On a typical farm some 100 farmers in a Co-operative Society have cultivation rights over 80 hectares of land (2000 acres). On each farm a tractor hire unit of 4-6 tractors and a full range of implements is established and is hired by the group farm to carry out land preparation, planting, and spraying operations. Members' land is so positioned as to allow uninterrupted mechanical cultivation across individual boundaries. Credit for the hire of the tractor unit is channelled through the society which also handles all marketing.

This fits in well with political philosophies like Ujamaa and Co-operatives. It also meets the objection to the progressive farmer approach that group pressures and jealousies often nullify the advantages of singling out early adopters for intensive contact. It increases the number of contacts that a worker can make.

In view of the advantages thus cited with regard to group farm approach vis-a-vis progressive farmer approach, the former will be followed through the medium of Extension Saturation Project.

These projects, which were started in 1967 and originated by Harold Duessenbery[9] were designed, from the outset, to meet some of the causes or lack of effectiveness in extension that have been mentioned. In practice, the basis of Extension Saturation Projects has been the allocation of an extension worker to an area of 12-80 square kilometres having 3-500 farmers. This is instead

of a typical pattern of one man working in an area of 200-400 square kilometres with 1500 to 10,000 farmers.

The stated objectives of the Extension Saturation Projects were:

1. To increase the effeciency of the majority of farmers in the community.
2. To increase yields per acre of land used and the overall productivity of the farm for the majority of the people.
3. To align social pressure in support of progressive farmers.
4. To involve the extension staff in the process of planning and executing an intensive, effective programme of work.
5. To evaluate the response to an intensive programme.

This study therefore recommends for the institution of these two programmes - the group farm and the Extenstion Saturation Projects - which hitherto have been non-existent in the study area. Most of this lies on the shoulders of the Ministries of Agriculture and Animal Resources, Provincial Administrations, Culture and Community Development and that of Finance Planning and Economic Development. With an effective deployment of their respective staff, the above mentioned agricultural development programmes should not be a problem too impossible to institute.

Needless to say, for all this to be effectively carried out, the infrastructure of markets, input supplies, transport and credit must be strong in the area. Also there must be innovations to give quick and startling results.

5. Credit Facilities

As has been emphasized above, the economic growth of Manjiya will depend, in all probability, on the growth and development of the agricultural sector. Therefore, it has to be acknowledged here that credit to farmers is a most important instrument in improving farm productivity.

Many farmers of small and medium-sized holdings are always caught in a vicious circle from which it is difficult to escape without outside financial assistance. This is because small farms on subsistence level are, for the most part, unable to accumulate capital. In addition, credit facilities for small holders are very poor because, among other reasons, they are unable to offer adequate security.

Lucky enough, by a recently signed decree by the President of Uganda, a special bank has been set up to cater for credits for farmers. This, though, is not the first time that such a bank or facility is being set up. For instance as early as 1950, the then Government of Uganda established the Uganda Credit and Savings Bank from which loans could be drawn. The bank was specifically set up to supply loans to African enterprises, including agricultural enterprises. In 1954, an African Loans Fund (.A.L.F.) was established. The purposes of the fund was to supply loans with less stringent security requirements to commercial and

agricultural enterprises. It was administered by the Uganda Credit and Savings Bank (U.C.S.B.) and under this scheme, loans to farmers were given on chattel mortgages. In 1965, the United States International Co-operation Administration provided finance for a Revolving Loan Fund (I.C.A. Revolving Fund).[10]

Loans from all these three sources were made for both agricultural and commercial purposes. As regards the number of loans, it is recorded that about 50% were for agriculture, but in respect of the amount of the loans, only 14% of the total amount was devoted to agriculture.[11]

During the period from July 1962 to February 1964, medium-term loans from the A.L.F. and the I.C.A. Revolving Fund were available under the Progressive Farmers Loan Scheme. Farmers qualifying for the tittle "progressive" could apply for such loans for farm development purposes. A progressive farmer, for the purpose of the scheme, was a farmer who actively followed the advice and put into practice the instructions given to him by the Department of Agriculture or the Department of Veterinary Services and Animal Industry, for the proper management of his farm.[12] Loans amounting to shs.4,417,340/= were approved for 2,589[13] farmers under this scheme until it was suspended in 1964. The reason for suspending the scheme was the high default rate, which left insufficient funds

available for re-lending.

The second scheme, the Co-operative Credit Scheme, was financed by the A.L.F. This scheme, introduced in 1961 has proved to be more useful than any other. Unfortunately it provides only short-term loans for recurrent farm expenses. The Co-operative Societies borrow money from the U.C.S.B. and relend it to their members. This money is then used to hire labour, hire tractors and ploughs, purchase insecticides and similar purposes, has to be repaid within one year, at a 12% interest.

In 1965, the A.L.F. and the I.C.A. Revolving Fund, were combined into the Development Loans Fund, which had a capital of shs.10,745,006/= but then shs.10,412,932/= were outstanding in loans and accrued interest.[14] Although the loan applications were required to have the approval of the District Agricultural Officer, the African Loan Fund Area Committee and the U.C.S.B. the loans were to be disbursed in kind and although visits of extension service staff to the borrowers were recommended, the losses of the various Loan Funds and Schemes were considerable. For instance, the overall accumulated losses of the A.L.F. and I.C.A. Loan Fund amounted to more than shs.1.1 million at the end of 1965.[15]

From the above, it can be seen that hitherto, the amount of money available has of necessity been limited and the distribution of loans and subsidies has been

too restricted. Also, some of the rules have been too rigid while the interest rate has been too high. Furthermore, the Co-operative Credit Scheme has been restricted to only short-term lending while the now defunct Progressive Farmers Loans Scheme used to offer only medium-term loans and deliberately refused to provide short-term credit for labour.

Realising that the reform that is being proposed here involves both short, medium and long-term planning and spending, this study proposes that the new bank recently set up to cater for agricultural enterprises should:

1. Provide all types of credit - short-medium, and long-term - to farmers if development is to be balanced.
2. There should be two basic criteria for judging loan applications:
   (a) The purpose for which the loan is to be given must be economically sound, judged from the standpoint of the individual farm unit and from the standpoint of the whole economy.
   (b) The farmer who is to be given a loan must be progressive in the widest sense of the word, and skilled on the one hand, and short of capital needed for farm development, on the other.

3. As a precaution, registered land should be preferred as a security, but land titles should never be made a pre-condition for receiving a loan.

4. Any loan granted should be through the local Co-operative Society which should, at the same time be associated with the extension services in the area so as to minimise default cases. It will also remove the common conception by the loan recipients who think that a loan is a gift.

6. Inventives for Farmers.

The main strategy proposed for the resolution of the problem that this study is looking at is that of Rural Transformation Programme whose basic objective is that of expanded rural production of goods and services. Part of this intermeshed programme will have to be undertaken by the public sector, leaving another, infact the much larger part, to be implemented by the private sector.

A very major problem here is whether the agrarian private sector will voluntarily assume responsibility for a substantial fraction of the entire development burden or not. This will very certainly depend on whether adequate incentives can be held forth that will induce farmers to raise more produce, market a larger quantity, improve the quality of what they sell, earn

more, and hence be able to invest more.

It is seldom accurate to make a sharp distinction between subsistence farming and commercial agriculture since virtually all cultivators sell some fraction of their crop, however, small. Ordinarily, a major fraction of farm output is consumed by farm families, and only marginal amounts are marketed.

On the other hand, there is a tripple gain from a fuller commercialisation of an agrarian area: the cultivator would have a cash income which he could spend for the consumer or producer goods he wanted; at the same time he would have a larger quantity of farm produce available for consumption by his family and himself; thirdly a larger quantity of farm produce would be delivered to urban and industrial centres for the feeding of the country's non-agricultural population. The problem is how to do it.

Very clearly an expansion of the commercial portion of farmers' output and their marketed surplus will not occur unless adequate incentives are provided by one means or another, and contrary to what occurs in thoroughly commercialised and developed countries, prices may not be effective inducements because of a preference for leisure, a high priority for increased consumption, and an inadequancy of requital goods.

The first is a cultural phenomenon: production of farm produce over and above what is needed for

subsistence mortgages time, strength, and wits, which may provide greater happiness if devoted to traditional ceremonies such as circumcision, play, sleep, or some other type of non-productive activity such as drinking. Want scales are often short in range; and until the "demonstration effect" of goods can change consumption habits, leisure may be psychologically more rewarding than work.

The second is institutional. If prices rise, relatively less produce needs to be sold to obtain the cash income so urgently needed, and this reduction in forced selling will allow relatively more produce to be devoted to consumption. For a time at least, then, higher prices could conceivably be a disincentive. But here one must be careful not to reach hasty conclusions. For, whereas the higher prices might release the small farmer from the necessity of selling as much as before, the very fact that more can be retained might suggest the wisdom of producing more.

Throughout the annals of economic history it has been the proffer of requital goods that has induced farmers to grow farm surpluses which might be exchanged for non-agricultural commodities, whether consumer or producer goods. Conversely, it has been the insufficiency of requital goods that has deterred the production of agricultural surpluses. If there are no buyers proffering payment goods, directly or indirectly, (via money)

it is pointless definitely, to produce more grain, onions vegetables or beans than a family can consume.

In view of what has been explained above, there will have to be incentives that will induce farmers to use better tools, improved seeds, superior breeds of cattle, sheep, pigs and poultry, and to employ the best known farm practices, so that they are able to produce as much as possible at lowest possible unit prices and to market a larger quantity of produce. The critical factor is therefore evident: since the majority of the people are farmers, development should involve changing the behaviour of farmers with respect to production.

Farmers will have to be induced by one means or another, to alter their customary or traditional practices. However, their capacity to insure a degree of stability of agricultural output, ought not to be abandoned unless it is very certain that in addition to something better being possible, the new techniques will be equally dependable - which should be the case. To vary from established patterns is risky business; consequently farmers in the area will have to be convinced beyond any doubt whatever, that deviation from tradition will not bring less or ridicule. For the first duty of a cultivator is not to contribute to a nation's commercial food supply or even to make a personal profit; his first duty it to his family.

It is for the family to say what should be produced, not an extension worker or an outsider from a community development headquarters.

This means therefore that extension officers will have to emphasize their role as a change agency more than a service agency. Incentives such as exemption from tax payment, provision of more requital goods in shops, provision of subsidised roof building materials and free education for the farmers' primary school children will have to be considered for institution during the early stages of the programme. Despite their other side effects, prices will be used as the main incentive. To be effective, such price increases will have to be announced at the beginning of the growing season of each particular crop. Furthermore, infrastructural facilities and services - roads, stores, and an efficient marketing system preferably on co-operative basis - will have to be provided. Lastly, farmers' produce will have to be paid for on the same day or after a maximum of one week.

7. Infrastructural Development

Agricultural economists agree that farming involves a biological production process which depends for its efficiency partly on the behaviour of farmers, partly on the layout and the agronomic potential of physical farms, and is an operation that is measurable in terms of costs and returns. But if these four

elements of farming are to be effectively co-ordinated so that real development can be set in motion, there will have to be properly organised and satisfactorily administered markets for farm produce within reach of the cultivators; a constantly changing and progressively improving technology; local availability of farm supplies and all other necessary inputs, and serviceable (preferably all weather) means of transport for out going farm produce and in coming farm supplies. The following are the proposed improvements that will have to be carried out on both physical and social infrastructural facilities in the county: (see Map 7.2).

(i) Transportation

The circular road in the county together with the whole length up to the junction with the Tororo-Mbale highway (see Map 6·7) should be built to first class murram road by 1980 and be wholly tarmacked by the year 2000. This will allow for a fast movement of produce from the county to Mbale as well as within the county to Bududa and Bulucheke - the two proposed urban centres in the county.

All weather road, will be built from Bukiga sub-county headquarters following the present truck and connect it to the road extension from Bufumbo. This will enable people from the northern part of the county to have a quicker and cheaper access to Mbale. It will

further allow for a greater communication between the people in Budadiri county in the north and those to the south without necessarily having to pass through Mbale town.

All other roads, and their class, to be constructed are indicated on Map 7.2 . Most of these roads are to act as service roads to the farms lying a little higher up as well as enabling the access and eventual exploitation of the forest resources which, as already noted, are up to now lying unexploited.

Public Service Vehicles

Three buses should be put to operate in the area. Two will serve between Mbale and Bulucheke one via Bufumbo and another via Bubulo, while the third will serve on the circular road in the county. Private taxis will be allowed to operate in the area especially on those roads where no buses exist.

All these will help in releaving the present problem of transport which has left the county rather isolated from the rest of the district as well as the country.

(ii) Telegraphic Services

A direct dial system with a day and night exchange, should be connected between Mbale and Bududa and Bulucheke townships, as well as the Bududa hospital. Furthermore, all sub-county headquarters should be connected to the telephone system. Another extension

will have to be made to Bukalasi.

Two post offices should be established, one at Bududa and another one at Bulucheke. In addition, two postal agencies will be established one at Lwangoye and another one at Bukalasi.

(iii) Power Supply

An electric power line should be extended from Bududa to all the sub-county headquarters following the circular road, Provision will have to be made for connections from this power line to individual homes. Furthermore, a power line will have to be extended to Bukalasi and some other higher areas.

(iv) Water Supply

This is an area where the need for piped water supply is very great as already noted. This is especially so with people at lower altitudes. First priority should be given to protecting many more springs through self-help efforts with some help from government. This should not be much of a problem since there are many springs in the area.

When that is being accomplished, a dam should be built on river Manafwa near the Nusu hill, from where water will be purified and then distributed down through gravity force to the people below. This should also be easy if the proposed resettlement programme proposed below is adopted for it will reduce on the cost of pipes.

Definitely one scheme of water supply is not likely to be enough. It is therefore proposed for the establishment of another water project at Bududa to supply the township, the hospital and the areas around.

All these projects should be ready by 1990 with the spring protection being ready by 1980.

(vi) Administration and Security

Because of the small size of the county, the present administrative units with their headquarters are enough.

On security, however, it is of high priority that a police station be established at Bulucheke. The lack of this service might have contributed to the common crimes that are committed in the county especially higher up in the hills.

(vii) Health

As already noted, there exists a hospital of 100 beds at Bududa, a dispensary at Bukigai and a sub-dispensary at Bukalasi. This means that the northern part of the county is unserved.

In view of this the dispensary at Bukigai should be developed into a Health Centre by 1989, through self-help. The Bukalasi sub-dispensary should be developed into another health centre through self-help by 1985. These two, when fully operational will ease the pressure that might have built up at Bududa hospital by that time.

(viii) Education

There exists 14 level 7 primary schools, two level 5 primary schools and one level 6 primary school.

It is proposed that the other three primary schools should be promoted to level 7 to make a total of 17 level 7 primary schools. One of those at Bududa should be built into a boarding school with a double-stream intake in all classes. In addition, a secondary school should be built at Bududa through the concerted effort of the parents in the whole county's contribution of labour and money, and the government together with other private donors. Furthermore, a farm school whose intake level will be that of level 7 should be established at Bulucheke by government immediately to prepare manpower for the land reform that has been proposed.

Adult literacy centres will be established at each sub-county headquarters plus one at Bukalasi. Each adult male and female will have to attend these centres twice a week in the afternoons starting at 2.00 p.m.

8. Family Planning

Admittedly all the above strategies are aimed at resolving the problem of rural over-population in the county in one way or the other, both directly and indirectly. Despite all this, little will be achieved unless a policy that aims at tackling the problem

directly is promulgated.

Already there exists a Family Planning Association which has been in existence since 1926. In 1957 it got affliated to the International Planned Parenthood Federation. Though in the out-going Third Five-Year Development Plan it is clearly stated that the government would use the Family Planning Association of Uganda to institute a programme of advice to women on family planning and child spacing matters and that the F.P.A.U. would receive a recurrent subvention from government for its programme, and that it would be able to operate regular clinics at all government medical institutions,[16] nothing of that sort was implemented.

This study therefore proposes that:

(a) Government should decide to embark on a programme to decrease the rate of population growth to aspire and realise socio-economic progress and family welfare.

(b) Government should declare its policy on reduction of population growth rate in order to have a firm decision on (a) above.

(c) Having declared such a policy, government should show its committment to such policy by giving financial assistance to such programme and should direct the national and local government facilities to be used to

achieve it.

(d) If the population programme is to be successful at all, all government ministries should be involved thus making the population problem a national issue. However, some direct services, such as maternal and child care, sex education and son on, should be the concern of the Ministry of Health in conjuction with the Family Planning Association of Uganda.

(e) The programme should be phased out nationally starting with the already relatively over-populated areas such as Kigezi and Bugisu in general and pilot projects on family planning should immediately begin in Manjiya County. This will help in providing experience to be used elsewhere.

(f) Such a pilot project should work hand in hand with the already proposed Extension Saturation Project in the county. This will involve establishing clinics at Bududa hospital (headquarters) Bukiga sub-county headquarters, Bulucheke sub-county headquarters, Bukigai Dispensary, Bukalasi sub-dispensary and at Bududa sub-county headquarters. Furthermore, the best contraceptive method should be found through experimentation with the people

concerned, and also determine the extent to which family planning is accepted by the people.

(g) Government should train personnel to carry out the programme.

(h) The already existing services of private agencies, private and mission hospitals and health centres should be co-opted and integrated in the whole programme.

(i) Immediate steps be taken to improve and intensify the collection of vital statistics as a long-term project.

(j) Realising the shortage of locally well-trained personnel in the field of population, government should give attention to the procurement of foreign advisers.

(k) A National Family Planning Council has to be formed. This body will be responsible for co-ordinating family planning activities in government, F.P.A.U., and other private agencies, Initially, the F.P.A.U. will provide the chairman, and members will be appointed from Ministries with interest in family planning.

9. Resettlement Migration

Whilst it can be anticipated that the above strategies and policies will, together with others below, go very far in solving the problem of rural over-

population in Manjiya, it is not necessary that a limitation is put on those who want to migrate,. Consequently, it is proposed for an open door policy to be maintained with regard to those who may wish to go and resettle outside the county's boundaries. However, a clear record of such people will have to be kept by the officer in authority.

It is, however, hoped that with the modernisation of the rural areas, the number of such people is likely to go down very tremendously. The "push" factors will have turned into "pull" factors in the rural areas of Manjiya.

10. Forest Rehabilitation

As it has already been noted, it is Uganda's forestry policy to create a permanent forest estate adequate to protect water supplies, to reserve climatic and soil conditions suitable for agriculture and to supply the needs of the people of Uganda for forest produce both now and in the foreseeable future. In Manjiya, the forests cover about half of the land area and yet little, if at all, has been done towards making that forest produce something worthwhile.

This paper therefore proposes that government should heed to this role of forestry by providing development funds in forestry related to projects such as rural afforestation extension shemes, local afforestation schemes and such other schemes like

a tree planting day like is done in Kenya. Furthermore, the Department of Forestry should intensify or start silvicultural practices and exploitation in the existing forests of the county.

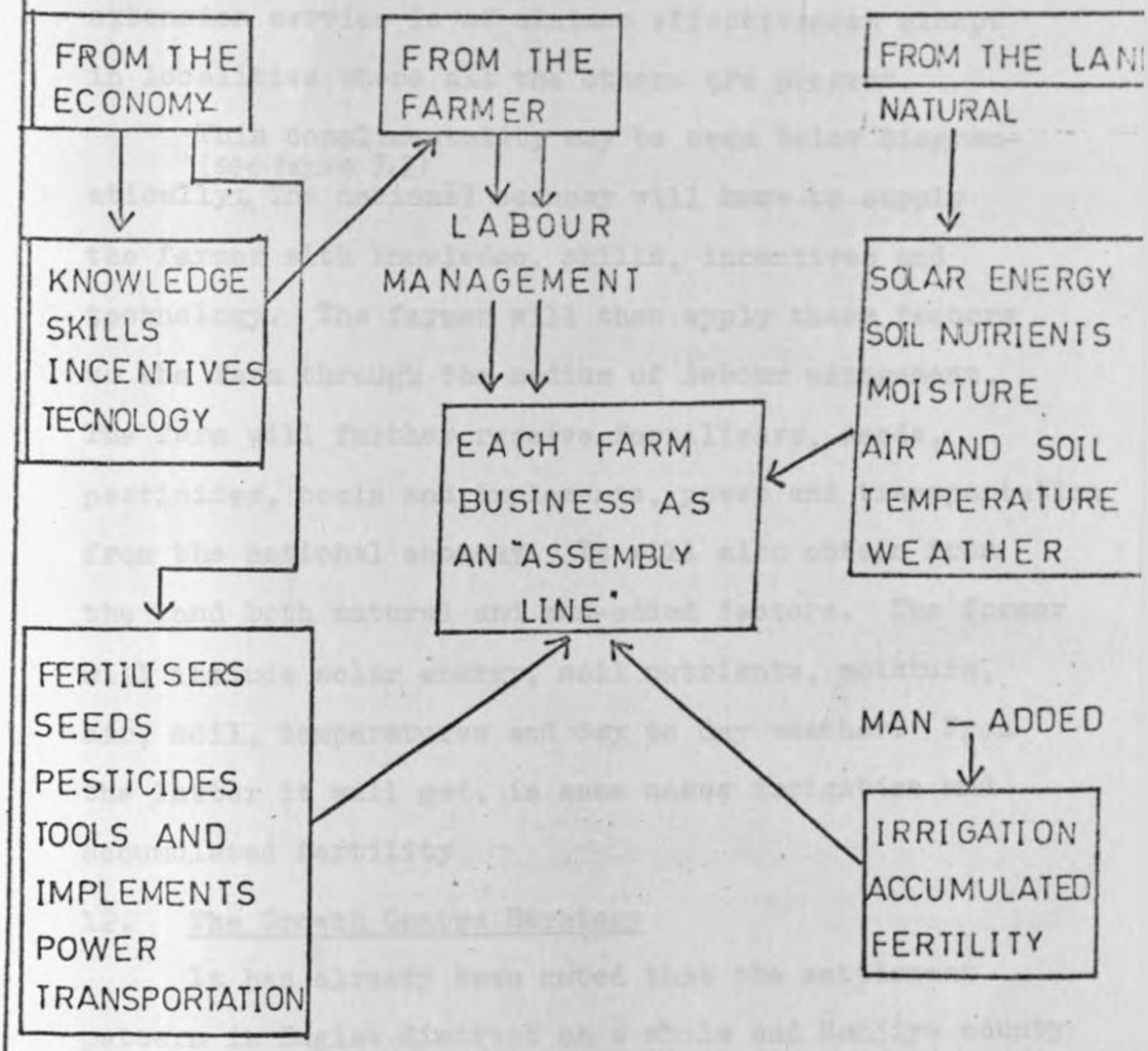
It is further proposed, that a portion up to the height of 2,600 metres (8,000 ft.) (see Map 7.2), which is presently under forest be zoned off to allow for an extension of settlements uphill. This will also allow for the cultivation of temperate crops which require such altitudes. Portions of this area which are too steep will be rehabilitated with better species of trees with the hope that they will, in 25 years' time or so, provide raw materials for saw mills and probably a paper factory. These will, in the course of their establishment provide further employment opportunities to the people in the county as well as from other parts of the district.

11. Inputs into Modern Farming

All that has been said in this chapter is related to creating a progressive rural structure to serve a modern agriculture. Five complementary elements have been pointed out, whereby it would be of little help in improving one of them and leaving out the others. Improving roads has little consequence unless there are services nearby which can lead to increased production. Improving market outlets for farm products will have to be accompanied by locally proved methods of increasing

FIGURE 7.2

INPUTS INTO MODERN FARMING



Source: Adopted from:

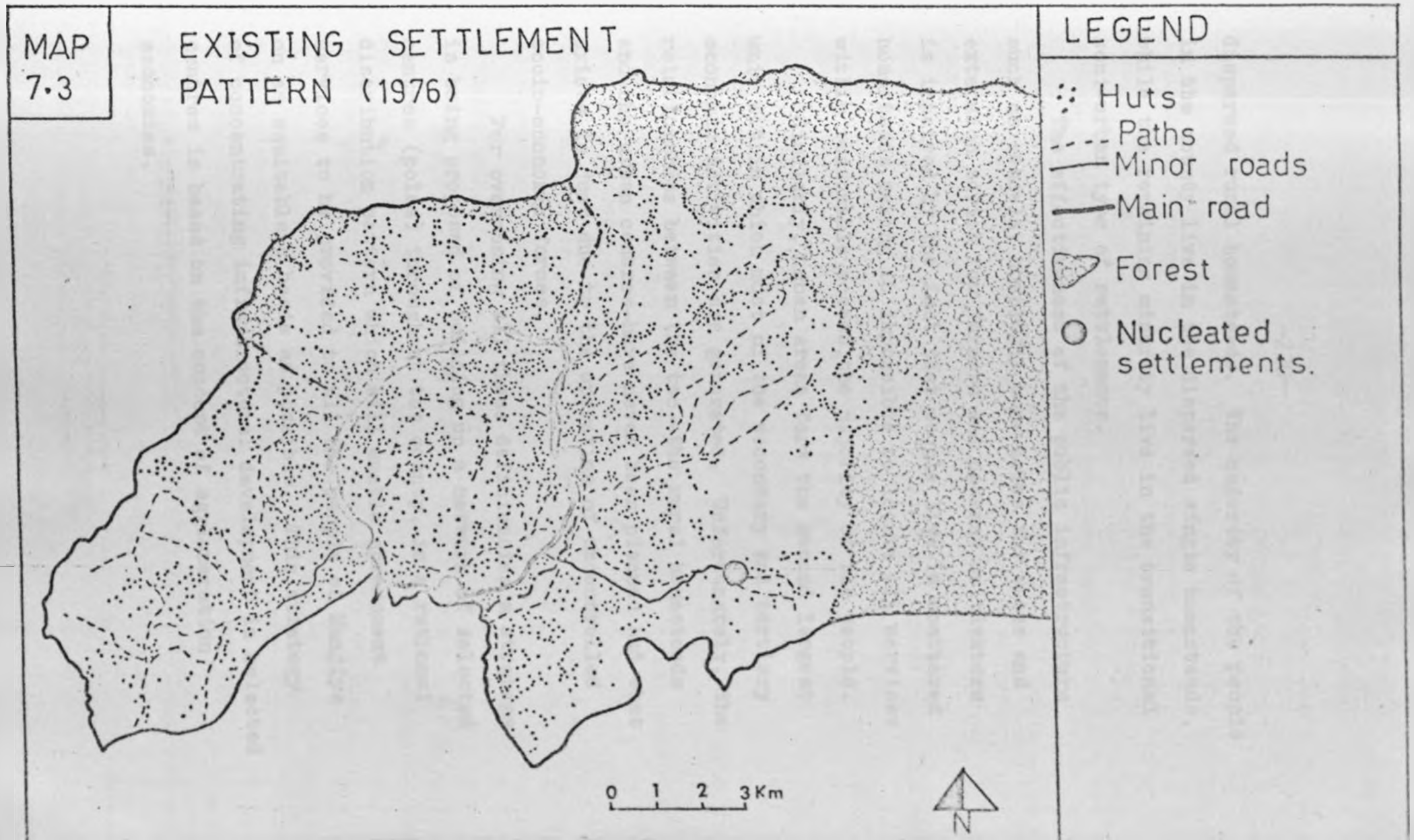
A. T. Mosher, Creating a Progressive Rural Structure. op. cit.

production (local verification trials) and farm supplies and equipment needed to increase production. All extension service is of minimum effectiveness except in localities where all the others are present.

This complimentality may be seen below diagramatically: (see figure 7.2) The national economy will have to supply the farmer with knowledge, skills, incentives and technology. The farmer will then apply these factors to the farm through the medium of labour management. The farm will further receive fertilisers, seeds, pesticides, tools and implements, power and transportation from the national economy. It will also obtain from the land both natural and man-added factors. The former will include solar energy, soil nutrients, moisture, air, soil, temperatures and day to day weather. From the latter it will get, in some cases irrigation and accumulated fertility.

12. <u>The Growth Centre Strategy</u>

It has already been noted that the settlement pattern in Bugisu district as a whole and Manjiya county in particular, is characterised by clusters of unplanned ribborn settlements along the few main roads, scattered homesteads all over the rural areas and a few gazetted trading centres also located in the junctions of roads, (see Map 7.3), So that on the whole there are two types of settlements: Clustered forms consisting of semi-urban and urban settlements and single forms consisting of


MAP 7·3
EXISTING SETTLEMENT PATTERN (1976)
LEGEND
Huts
Paths
Minor roads
Main road
Forest
Nucleated settlements.
0 1 2 3Km
N

dispersed rural homesteads. The majority of the people in the county live in the dispersed single homesteads, while the remaining minority live in the transitional semi-urban type of settlements.

The effectiveness of the public infrastructure such as schools, hospitals bore-holes for water and extension advice for farmers and peasant cultivators is impaired by the fact that people live in scattered homesteads making it impossible to locate all services within reasonable access to the majority of the people.

Similarly, urban areas form the second largest unit within which most of the secondary and tertiary economic activities are generated. Unfortunately, the relationships between the two—the rural homesteads and the urban centres-have never been planned and what exists is just due to the operation of uncontrolled socio-economic forces.

For overcoming all these deficiencies a strategy is being proposed of building up a network of selected centres (poles) throughout the county, in a rational distribution pattern which will enable government services to be provided to all the people of Manjiya on as equitable a basis as possible. This strategy of concentrating infrastructural development in selected centres is based on the concept of agglomeration economies.

That is, that as these selected towns grow, they will form a level of communities large enough to be economically served with public water supply and sewage disposal, grid electricity, improved access roads, postal and telephone services and banking facilities. Once a centre has these basic infrastractural facilities it will be in a position to attract commercial and industrial development which will enrich the lives of the people of the rural areas and provide improved employment opportunities. The actual growth of the centre would start off with what Perroux calls a key industry,[18] that if this key industry, by its internal economies of scale, can reduce the prices of its products, then the other industries which use that product will benefit from the external economy and thus also improve. Infact more industries may be attrated, although of course all this is a result of increased production and sale of produce and availability of innovations.

Growth poles (centres) will benefit the residents of their surrounding hinterlands either by the opportunities they offer to persons attracted to the centres (as migrants or commuters) or through beneficial effects that spread from the centres to the hinterlands. However, it should be noted that the role played by growth centres in rural development is a particular case of the general process of innovation diffusion

and their development role will involve the simultaneous filtering of innovations that will bring growth down the urban hierarchy and the spreading of the benefits occurring from the resulting growth both nationally from the core to hinterland districts, and within the district from Mbale outwards to the county towns such as Bududa, Nakiwondwe and Nakaloke. From Bududa the benefits would go farther down to centres such as Bulucheke, Bukalasi and Lwangyoye and down to the villages.

As was noted in the past chapter, 7 central places have been identified in Manjiya County. In a hierarchical order of importance, these are Bududa, Bulucheke, Bukigai, Bukiga, Bukalasi and Bukibokolo, (see Map 7.2). Bududa and Bulucheke will be the only two centres to be planned for wholly while the rest will be left to develop as nudeii for large village settlement, Following are the detailed proposals for the development of the above central places as well as the settlement pattern in the county.

Bududa:

As has already been noted, this is the largest central place in the county. It is the seat of both county and sub-county headquarters for Manjiya and Bududa, respectively. There is a one hundred beds hospital with piped water supply, electricity supply, paved streets and security lighting. The main physical

constraint is the land topography which is too rough and at the same time there is limited land for expansion. In 1969, it had a residential population of 123 people but this figure should not be taken serious since there is no boundary fixed for this town.

Accordingly, it is proposed that this centre is developed to serve not only Manjiya county but also Bubulo since it is just at the boundary of the two. This will further allow for an expansion of the town into Bubulo county, to capitalise on the flat land that exists just across the boundary.

It will be developed to contain a population in excess of 5,000 people and will therefore be urban in the true sense of the word with the full range of services usually associated with a town including a treated, piped water supply, a piped sewage system and disposal plant, refuse collection, paved roads, street lighting, fire protection and an improved transport service. This will thus require an autonomous form of local government to administer these services, In other words it will be at the level of a district headquarter.

Bududa will serve Manjiya county which is expected to have a population of about 140,000 people by the year 2,000 plus a large section of Bubulo county. So that in addition to the already existing hospital, Bududa should be the location for the main administrative offices of the area, a secondary school of form four level, a permanent library, a boarding primary school, a fully

equipped service station and a main post office. It should also contain well developed shopping facilities full-time commercial banks authorised to handle loans and mortgages, and posses a residential hotel.

The phasing out of these developments will depend on the progress of the land reform programme whose requirements will dictate the timing for the establishment of anyone of the above mentioned infrastructural services. All in all, these proposals cover the period up to the year 2,000.

Bulucheke

This is going to be developed as the largest centre wholly within the county. This is particularly to be developed in line with the development of the rural economy. Together with Bududa they will serve the whole county's population of 143,000 by the year 2000. It will be a focus of trade and commerce.

Here it is proposed for a farm school which will take in primary 7 level leavers. It will be built on both self-help and government assistance. Most of what is to be done in this school will have to be related to the agricultural development of Manjiya county in particular and Bugisu district as a whole. In addition to agriculture, the school will be the headquarters for the agricultural machinery to be imported into the centre, and therefore the workshop for the repair of the equipments. Also, this school will provide services to the farmers through day to day organised demonstrations

and seminars.

The Bukigai dispensary should be developed to a Health Centre to serve the expected increase in population in Bulucheke, and should be equipped to the standard of a cottage hospital with maternity facilities and beds where patients can be kept. A social Hall and a permanent library should also be provided.

The commercial facilities should be developed to quite a high standard and should have a closed market. In addition a telephone service, a Post Office and banking facilities as well as electricity and piped water supply. will be provided.

This centre will be developed as the main industrial centre in the county. Besides the proposal that any agricultural processing plant will have to be located here, because of its generally flat topography and central location, the intrastructural basis for the development of small-scale rural industries which are expected to create new employment opportunities in the whole county to absorb surplus agricultural labour, also will be located here.

While a rough structural plan exists for Bubulo, nothing of the sort exists for Bulucheke. Consequently, it is proposed that a structural plan be laid out for Bulucheke and the other four centres - Bukigai, Bukiga, Bukalasi and Lwangoye.

The timing of all these Developments will depend

on the rate at which the land reform programme will be progressing, since it is this programme that will determine the institution or not of the proposals being made here.

13. Re-organisation of Settlement Patterns

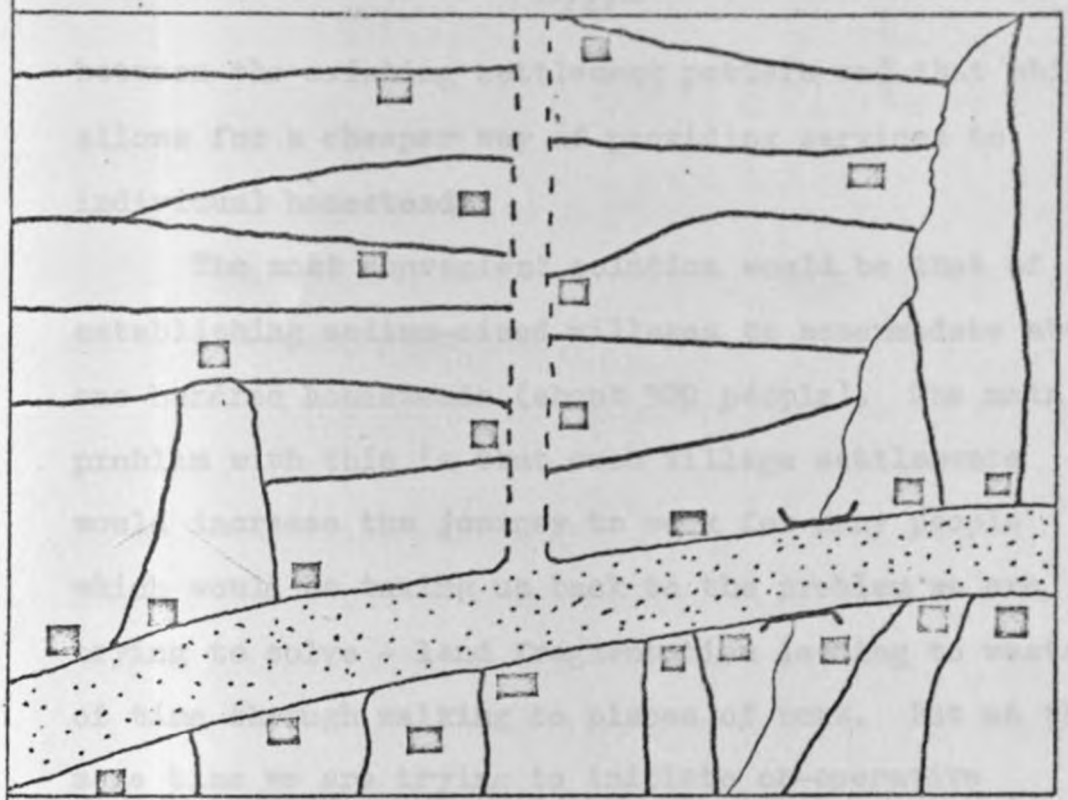
As was noted earlier, the dispersed, pattern of settlement that exists not only in Manjiya County but in the whole country to a large extent prohibits the development, utilisation and consumption of most of the services provided by government. This is a state of affairs that planners would not like to continue uncorrected. Consequently, this paper proposes for a re-organisation of the settlements in the county to reduce the above mentioned problems.

Assuming that the land consolidation programme proposed will be carried to its intended end, we shall then have the individual holdings arranged as is shown in figure 7.3 together with the individual homesteads as indicated. ([illegible]). But, as already noted, such a pattern of settlements makes the provision of services to be too expensive and prohibitive. Since the main goal here is to transform the rural areas into something very attractive both to the rural population as well as the would-be investors, we have to provide services such as water supply, electricity supply, roads and so on.

To attain this, a compromise must be struck

SETTLEMENT PATTERN (SKETCH)
(Before re-organisation)

FIG. 7.3

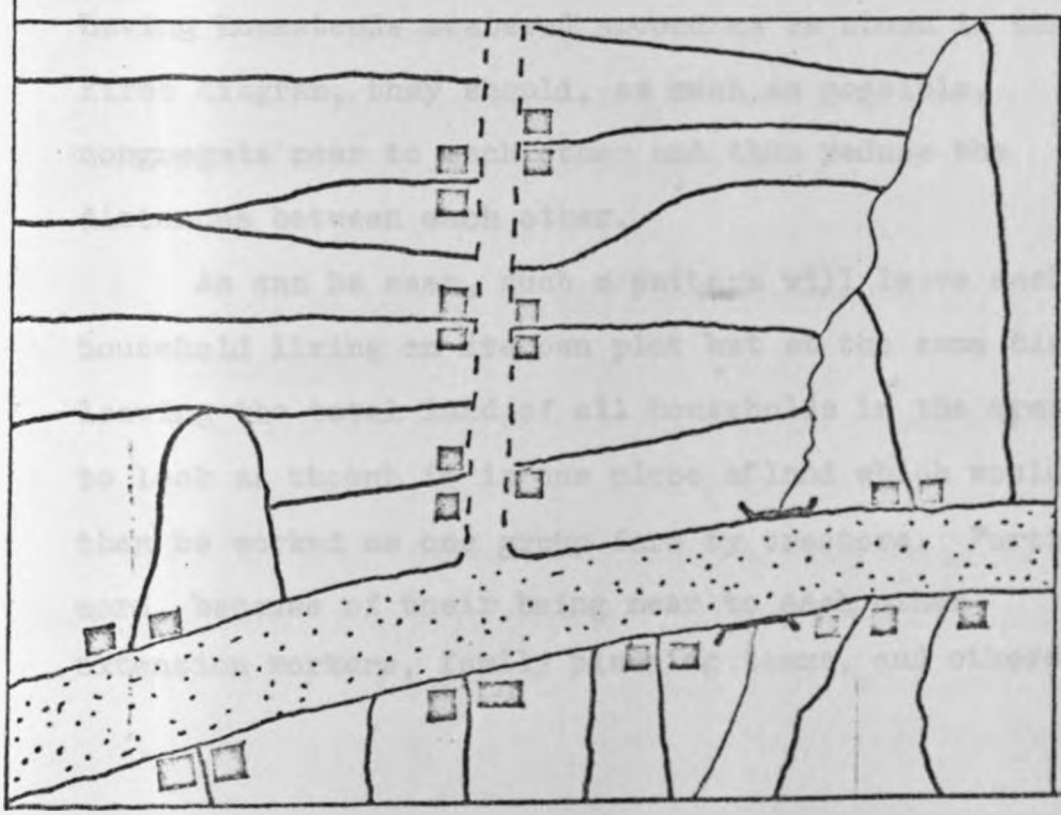


PLOTS BOUNDARY INDIVIDUAL HOMESTEADS

PATHS TRUCKS(Motorable)

FIG 7.4

SETTLEMENT PATTERN(After re-organisation)



between the existing settlement pattern and that which allows for a cheaper way of providing services to individual homesteads.

The most convenient solution would be that of establishing medium-sized villages to accommodate about one hundred homesteads (about 500 people). The main problem with this is that such village settlements would increase the journey to work for many people which would be taking us back to the problem we are trying to solve - land fragmentation leading to wastage of time through walking to places of work. But at the same time we are trying to initiate co-operative work through the group farm scheme.

In view of all that above, it is hereby proposed that a settlement pattern similar to the hypothetical one in figure 7.4 be developed, so that instead of having homesteads scatered around as is shown in the first diagram, they should, as much as possible, congregate near to each other and thus reduce the distances between each other.

As can be seen, such a pattern will leave each household living on its own plot but at the same time leaving the total land of all households in the area to look as though it is one piece of land which would then be worked as one group farm by tractors. Furthermore, because of their being near to each other extension workers, family planning teams, and others

would easily visit them and thus offer all the necessary services required. Many other advantages will be realised if this proposed settlement pattern is effected.

Such settlements would require local centres to serve them and which will have to be in walking distance. It is therefore proposed here that the remaining five centres will serve this purpose. These centres are Bukiga, Lwangoye, Bukigai, Bukalasi and Bukibokolo. Each of these centres will have in them a full primary school, an Aid Post, postal agency, shops and an open market, as well as a social hall. It will also be used as the place of important local meetings, promoting lectures on better farming, family planning, health and nutrition guidance. By the year 2,000, they should have got telephone service and a bank branch. More permanent settlements will be encouraged to settle in these centres with a view to promoting them into proper urban developments. Small cottage industries - basketry, pottery, rope making and so on - will be encouraged in the centres.

7.5 Problems likely to arise and their possible solutions.

The implementation of this physical development plan in Manjiya county will, above all, depend on whether or not, the land tenure reform as proposed above is carried out. The main problem therefore will be that of convincing the people in Manjiya that it is better to

have their land parcels consolidated. But as already noted, Bagisu have usually been reluctant to change from their traditional beliefs and practices. However, being faced with the problem of land shortage and therefore rural over-population, it would be absurd on the side of government to sit and keep quiet about this problem. These people, if not yet aware, will be taught to understand the problem they are facing and that the only long lasting solution to that problem is a land tenure reform. With the help of other influential Bagisu elders, as well as the police power of the government, it will be possible to effect the land consolidation programme proposed.

In connection with this reform will be that of the proposed re—organisation of the settlement patterns. Many people have already put up their so-called permanent houses (iron sheets covered roofs) so that to ask such a person to break down his house would be tantamount to destroying his life's achievement. The only possible solution to this will be to provide such people with building materials on subsidised loans. So that as he builds the new one, he will still continue living in the old house. On completion of the new house, which will have to follow simple design requirements, the old one will be demolished and the materials preserved for other purposes or sold to others who may need such materials. This strategy besides allowing

for a controlled settlement pattern will also allow for an improvement on rural housing.

Another problem likely to arise with the implementation of land consolidation programme will be that of exposing those people who are landless. Whilst accepting that such an exposure will enable us to plan for such people, it will, at the same time require all of us getting them settled somewhere. Two solutions will be possible. One will be to resettle the willing ones into those areas in other parts of the country designated for such resettlements. The other solution will be that of designating certain areas near the proposed central places where each of them will be given a plot enough for his house as well as growing garden crops such as tomatoes and cabbages. This will at the same time, provide both industrial and agricultural labour that will be required.

To implement all these proposals money will have to be got and spent. Obviously such money, especially that meant for agricultural reforms, rarely avails itself. So the problem of where to get that money stands. Fortunately however, a bank was recently set up with the sole and expressed aim of providing funds for agricultural development. It is therefore anticipated, that most of the funds required for this development programme will be obtained from this bank through government supervision. Also, individuals will

be encouraged to invest in the programme.

A revolutionary development programme such as this one is bound to raise much criticism and pesmism. These are inevitable and if they are constructive criticisms, they will help in revealing other problems which might have been missed by the implementors and thus, solutions for them will be sought. To avoid failures that may be very desastrous, to the welfare of the people and the country's economy, a pilot project will be started on either Bukigai or Bulucheke sub-counties. If a sub-county proves to be too big for such a pilot project, then it will be carried out on two parishes in Bukigai - Bukibino and Bunakhayoti

A programme like this is difficult to time, since its progress will depend on factors that may be beyond the control of the people concerned. It is in view of this that not much emphasis has been placed on the actual dates for the completion of each project proposed. On the whole, however, land consolidation if started immediately should take not more than five years. Another five years will be given for the introduction and experimentation with the new proposed crops. This means that fifteen years are required for the completion of the programme. It will not be until then that the full benefits of the programme are realised. By the turn of the century, it is expected that everything proposed will be in full swing.

SUMMARY AND CONCLUSIONS

As was expressed in the introduction, the aim of this study was to find solutions to the existing problem of rural over-population and internal migration in Uganda. But due to the financial and time constraints, the study concentrated on Bugisu district where there is the most apparent problem of rural over-population especially in the county of Manjiya and in the mountanous parts of Budadiri County. The problem of rural over-population in Manjiya county was known to be the most serious in the whole country and so a detailed field survey was carried out there.

The problem of defining the term "rural over-population" came up and this was resolved by employing the concept of "carrying capacity" which determines the number of people that can live on a certain piece of land without environmental destruction, given the level of technological advancement. But since the latter is dynamic, a constant re-assessment of the capacity of that land is necessary. Such a re-assessment, however, requires that one re-examines the rainfall regime, the soil's productivity, evaporation rates and the crop mixtures in that area. The existing carrying capacities of the different ecological zones in the country were established in 1971/72, and certainly since then, not much change has been effected on the above mentioned

factors in the environment. Consequently, this study has found it appropriate to use these figure with a hope that a re-assessment of this capacity will be carried out in the near future.

To avoid relying only on these figures to determine land shortage, figures from the Department of Agriculture in Bugisu were used. From these figures, the average plot size in each parish in Manjiya could be obtained by totalling up the average area under each crop. From these figures it was evident that the land for those who have was less than is economically required. All these analyses proved one thing: that the land for cultivation is not enough and that there is disguised landlessness, unemployment and under-employment.

On migration, both the field survey conducted in Manjiya and the figures obtained from population census reports showed that Bagisu are less prone to migration than the Bakiga - another area of rural over-population. In spite of the many attempts carried out since 1960's to induce these people to migrate only a very insignificant number has migrated from Manjiya. It may be this reluctance to migrate that has partly contributed to the problem of overpopulation in the county.

In view of all this, the main strategy to resolve the stated problems of rural overpopulation in Bugisu in general and Manjiya county, in particular, is that

of rural transformation. This strategy will involve two sub-strategies: that of land reform programme and that of growth centres establishment. The main objective behind this is that of integrating agriculture, industry and services within Manjiya county, taking into account the economic, social, organisational and political interaction between these activities. But since one cannot plan a region in isolation, focus has been put on Mbale town and other surrounding rural areas.

Thus, in the first instance emphasis will be put on improving agricultural production and the basic infrastructural facilities. The farmer will have to be induced to adopt new techniques in order to increase production and this will only be achieved after the successful implementation of the land consolidation programme. A team of experts will have to be taken to the area to teach and guide the farmers. These farmers will have to settle in the area, become part of the community and the leading spirit in its development so as to succeed in influencing the farmers.

Furthermore educational facilities for the whole community will have to be introduced so as to allow for a constantly rising level of education. The higher educational attainment will allow for a faster diffusion of developmental ideas and innovations. To further this, a hierarchy of central places will be

established to link the rural life to the urban life. The two main centres will be Bududa and Bulucheke.

To be included in this development process will be industry. Once agriculture is improved the extra population will not be needed there as farmers, and to keep them from becoming destitute, a new dimension - industry - will be added. This industry will have to be of a category that can be established in small units and still be economical - cottage industry. Many people talk about small-scale industry or cottage industry but it appears that even governments are unwilling to invest in such undertakings like basketry, pottery, mats making and beds making. For this matter, credit facilities will have to be secured not only for agricultural development but also for the development of small-scale industries including those to process the new crops to be introduced in the area.

The community (the county) will then become a composite rural structure comprising agriculture, service personnel and industrial personnel. All these will act as employment opportunities and will thus siphon off the extra agricultural population thus removing the whole problem of rural overpopulation and out migration.

On the premise that impulses of economic change are transmitted in order from higher to lower centres, emphasis in development expenditures will shift from Bududa and Bulucheke to the other lower order centres

after achieving sustained growth in the former.

It was noted above that lineage rights over disposal of land in Bugisu have apparently, as far as present evidence suggests, weakened greatly but not given way completely in all areas. A more detailed study of this point would provide useful information on the conditions under which such a traditional lineage system is modified, and in what directions, in the face of modern economic pressures. It seems obvious that an understanding of the ways in which part of the basic frame-work of Gisu Society - the lineage system - is being modified, and the ways in which it is now related to land holding is a prerequisite to any policy attempting to bring about significant change. Where the right of the minimal lineage to control disposal of land remains operative, attempts to introduce land consolidation could be seriously hampered unless this right was understood and the co-operation of the lineage leaders secured, as well as that of individual owners. We do not also know as to what extent such a minimal lineage would impede the development of group farming which requires the common exploitation of land resources.

As it appears, there is intense opposition to the idea of land consolidation, which seems to have its origins at much deeper levels than those expressed reasons, would suggest. While Bagisu suspicions on

other aspects of land have been allayed since Independence, attitudes to consolidation appear to have changed little. Further study needs to be made, therefore, of Bagisu attitudes in this respect, in the hopes of elucidating the emotions and fears directed towards land reform programmes. An attempt to bring about land consolidation without the widespread use of compulsion could succeed only if it were based on good understanding of the sources of opposition. While there may be a non-rational component in this opposition, nevertheless the rational arguments in favour of fragmentation need to be effectively answered and disposed of, not merely ignored.

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APPENDIX ..1.....

The Circular:

Ref: L.A.N. 8/6

District Commissioner's
Office,
Bugisu District,
P.O. BOx 31,
M B A L E, Uganda.
25/3/1960.

To: All Saza Chiefs,
Bugisu District (2 copies).
All Ggombolola Chiefs,
Bugisu District (2 copies).

NTOMA RIVER SETTLEMENT SCHEME . BUNYORO

There is a large area of land along the banks of the Ntoma River in Bunyoro where there are no people living and where government wants to encourage people to set up their homes.

FREE LAND: Anyone who wants to settle in this area will be given a free grant of 20 acres (8 hectares) of land by the District Commissioner, Bunyoro. The land is fertile and good. People from Bugisu, where there is a shortage of land, will be especially welcome.

WATER SUPPLIES: Special water supplies are being put into the area to help the settlers.

ROADS: Government is making special roads to serve the settlers and help them get their crops to market.

FREE FOOD: Anyone who goes to settle on this land will be given 6 months basic rations to help them and their families while they grow their own food.

NO TAXES: settlers will be exempted from taxes for the first two years.

FREE TRANSPORT: Settlers will be taken with their families and personal effects all the way to Bunyoro at no cost to themselves.

SCHOOLS AND MEDICAL SERVICES: New schools and medical services are being provided for the settlers.

WHY IS GOVERNMENT DOING THIS? This area used to have tsetse flies and wild animals in it. Government has spent lots of money on clearing out the animals and a lot of the fly, thus preventing a spread of the fly to cattle areas to the south. These tsetse flies did not make people sick but they did make cattle sick. Now that the animals and a lot of the flies have been sent away, the best way to keep them out is to encourage people to live there. Where there are lots of people you do not get wild animals or the tsetse flies that feed on them. The other reason for government being willing to help people in this way is that government wants to encourage farmers with little land or young men with no land to use the empty parts of Uganda to grow food and cash crops and make themselves and Uganda rich.

.....If anyone wants to go to Bunyoro, you should let

me know as soon as possible. The scheme is absolutely voluntary.

District Commissioner

Bugisu District.

APPENDIX 2

QUESTIONNAIRE FOR FACILITIES & SERVICES IN CENTRES

Name of Interviewer .....

Name of Centre .....

Level of Centre .....

Date of Interview .....

CARD NO.1

		CODE	COLS
1.	Water supply condition 1=piped water system. 2=stand pipe 3=borehole (mechanised) 4=borehole (manual)		1
2.	Power supply. 1=electrcity (U.E.B.) 2=electricity (private) 3=electricity (diesel engine) 4=nonexistent.		2
3.	Hotel facilities. 1=Hotel (Uganda hotels) 2=lodge, 3=Hotel (Private) 4=Rest house, 5=nonexistent.		3
4.	Health facilities 1=Hospital (100 beds) 2=Hospital (Less than 100 beds) 3=Dispensary 4=Health Centre 5=Sub-dispendary 6=Local dispensary		4
5.	Education facilities:- 1=University, 2=T.T.C. (Higher), 3=T.T.C. (Lower) 4=Technical College (Higher) 5=Technical School (Lower) 6=H.S.C. School 7=S_1-S_4 School 8=Primary School. 9=Sub-grade.		5

APPENDIX 2

		CARD CODE	NO. COLS
6.	Bank facilities		6
	1=Regional bank branch, 2=Branch bank, 3=Mobile bank units, 4=nonexistent		
7.	Postal Services		7
	1=Head Post Office, 2=Departmental Post Office 3=Post Office, 4=Sub-Post Office, 5=Postal Agent, 6=Standing Mail Box, &7=nonexistent.		
8.	Petrol Services (Automobile)		8
	1=Automobile dealer, 2=Petrol station with servicing, 3=Petrol station.		
9.	Bus Services (or Public Transport) frequency		9
	1=every after one hour, 2=twice a day, 3=daily, 4=3 times a week, 5=weekly, 6=fortnightly, 7=occasaionally, 8=nonexistent.		
10.	Telephone Services		10
	1=full time, 2=only day time, 3=non-existent.		
11.	Market facilities		11
	1=enclosed food market, 2=permanent open food market, 3=periodic food market, 4=selling place		
12.	Shops		12
	1=over 500 shops 2=over 100 shops, 3=over 20 shops, 4=over 10 shops, 5=over 5 shops.		
13.	Specialisation of shops		13
	1=over 10 shops, 2=over 5 shops, 3=at least one.		

APPENDIX 2

		CARD No. CODE COLS
14.	Religious facilities:-	14
	1=Cathedral,Mosque.	
	2=Church or Mosque,	
	3=Parish Church or Mosque,	
	4=Chapel or Mosque built by individuals.	
15.	Industries.	15
	1=Many types of large-scale industries.	
	2=one or two large-scale industries.	
	3=small-cale local manufacturing of repairs.	
	4=largely commercial with some services.	
	5=wholly commercial.	

APPENDIX 3

QUESTIONNAIRE FOR HOUSEHOLD SURVEY

Name of interviewer .....

Date of interviews .....

Name of survey area .....

		CARD NO. I	
		CODE	COLS.
1.	Household number		1-3
2.	Distance from nearest centre 1=1-2km., 2=3-4km, 3=6km. 4=7-8km., 5=9-10km., 6=11-12km. 7=13-14km., 8=over 15km.		4
3.	Distance from road 1=0-½km. 2=½-1km. 3=1-2km. 4=3-4km. 5=over 5km.		5
4.	Size of household (family)		6-7
5.	Do some of your household members live away? 1=yes. 2=No.		8
6.	If yes, how many?		9-10
7.	How many in rural areas but within the same county?		11-12
8.	How many in rural areas outside the county but within the same district?		13-14
9.	How many in rural area but outside the district?		15-16
10.	Where? Name areas)		
11.	How many in urban centres but within the district?		17-18
12.	How many in urban centres outside the district? (Name centres)		19-20

APPENDIX 3

27.	If no, what do you intend to do 1=migrate, 2=acquire more land 3=do not know what to do.	43
28.	If acquire land, where? 1=within county 2=other county (name) within district 3=other district (name)	44
29.	If migrate, where 1=urban (name) 2=rural (name)	45
30.	If migrate will you move with your family? 1=Yes, 2=No.	46
31.	If asked to migrate to any part of the county would you move? 1=Yes, 2=No	47
32.	If given the chance to choose where would you like to? 1=rural, 2=urban.	48
33.	Main source of income 1=agriculture, 2=non-agricultural	49
34.	How much do you pay for grduated tax?	50-52

APPENDIX 3

13.	When did most of them go?	21-22
14.	How many intend to come back?	23-24
15.	When?	25-26
16.	How many females?	27-28
17.	About what age are most of them?	29-30
18.	How often do you go to town? 1=daily, 2=twice a week, 3=once a week, 4=fortnightly, 5=monthly, 6=occasionally, 7=not at all.	31
19.	Which centre? 1=nearest centre (Name .....) 2=county capital 3=district capital	32
20.	Did you go to school? 1=No 2=Yes (1-7) 3=Yes (S_1-S_4) 4=Yes (S_5-S_6) 5=Yes (University) 6=Yes (Vocational training)	34
21.	Size of household plot (acres)	35-36
22.	Nature of plot 1=one block 2=fragmented	37
23.	If fragmented how many pieces?	38-39
24.	Main cash crop grown 1=coffee, 2=cotton, 3=banana 4=vegetables, 5=other (name)	40
25.	Main food crop grown 1=banana, 2=potatoes (sweeet) 3=potatoes (Irish) 4=cassava 5=other (name)	41
26.	Is land enough for your needs 1= Yes , 2=No	42

APPENDIX 4

QUESTIONNAIRE FOR SERVICES IN CENTRES

Name of Interviewers .....

Date of Interview .....

Centre .....

Services		No.	Present	Remarks
Repairs:	Watch.		.....	.....
	Radio.		.....	.....
	Bicycle.		.....	.....
	Shoes.		.....	.....
	Automobile		.....	.....
	Furniture		.....	.....
Specialisation of Shops:				
	General retail		.....	.....
	Retail & Wholesale		.....	.....
	Retail cycle spares		.....	.....
	General hardware		.....	.....
	Super market/grocery		.....	.....
	Auto parts		.....	.....
	Construction materials		.....	.....
	Electrical appliances		.....	.....
	Business equipment		.....	.....
	Bakery products		.....	.....
	Jewelry		.....	.....
	Godown		.....	.....
	Photo studio		.....	.....
	Watches.		.....	.....
	Tailoring		.....	.....

APPENDIX 4

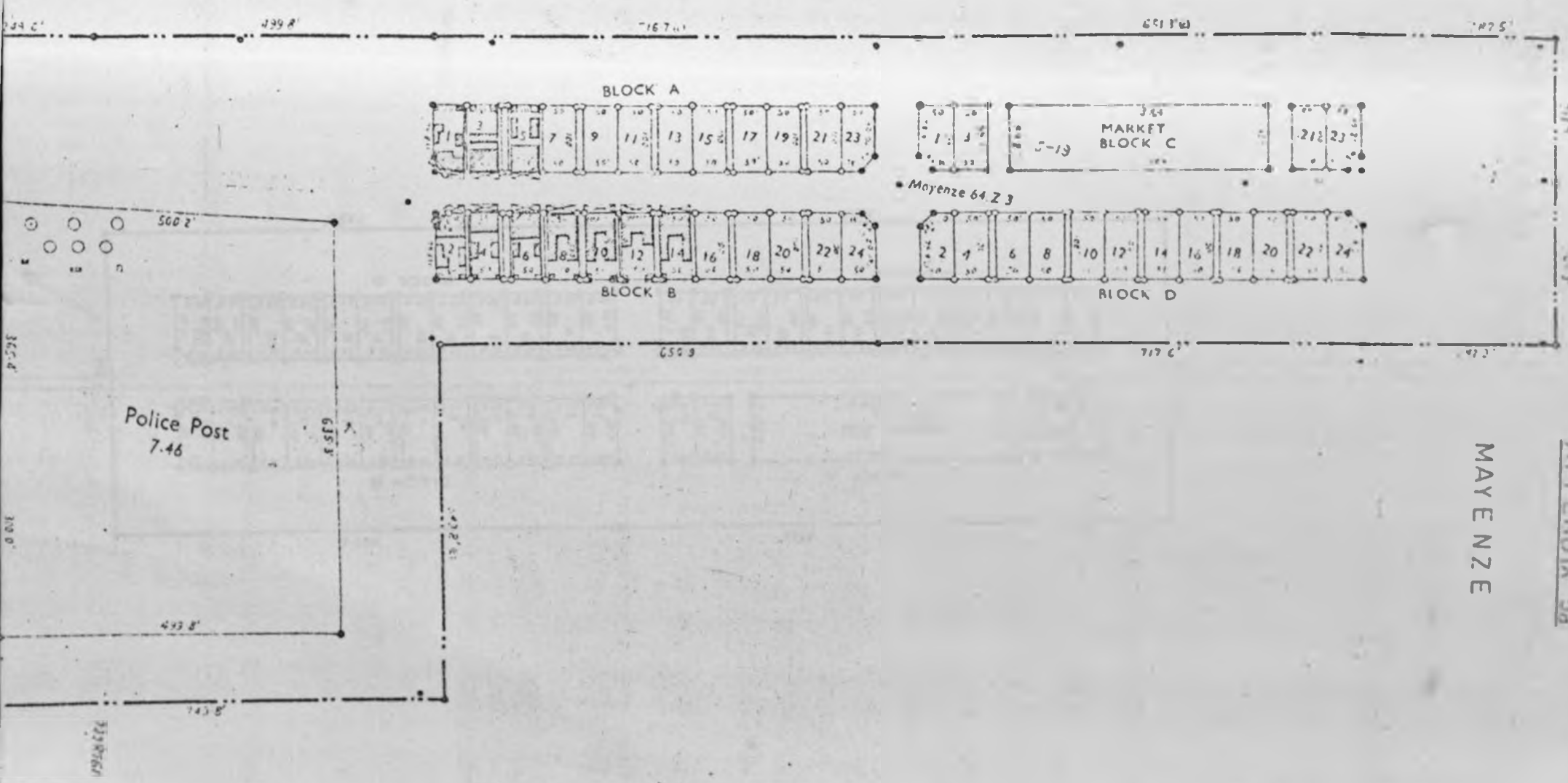
Services	No. Present	Remarks
Garage	.....	.....
Filling station.	.....	.....
Hides & skin buyer	.....	.....
Cotton/coffee buyer	.....	.....
Butchery	.....	.....
Restaurants	.....	.....
Hotels	.....	.....
Bars	.....	.....
Laundry	.....	.....
Post Office	.....	.....
Primary school	.....	.....
Secondary school	.....	.....
T.T.C.	.....	.....
Vacaticnal school/College	.....	.....
Mosque	.....	.....
Church	.....	.....
Health (Private)	.....	.....
Health (Government):	.....	.....
Hospital	.....	.....
Health Centre	.....	.....
Sub-Dispensary	.....	.....
Electricity Supply	.....	.....
Piped Water Supply	.....	.....
Milk Collecting/Cooling	.....	.....
Insurance Branch	.....	.....
Public Library	.....	.....
Public Sports Ground	.....	.....

APPENDIX 4

Services	No. Present	Remarks
Dancing Hall	.....	.....
Bank Branch	.....	.....
Police	.....	.....
Telephone	.....	.....
Chemist	.....	.....
Cinema	.....	.....
Book Store	.....	.....
Lawyer	.....	.....
Oil Mill	.....	.....
Coffee Factory	.....	.....
Ginnery	.....	.....
Maize/Millet Mill	.....	.....
Transporter (Private)	.....	.....
Bus Service	.....	.....
Bicycle Service	.....	.....
Railway Service	.....	.....
Shoe shine	.....	.....

APPENDIX 5a

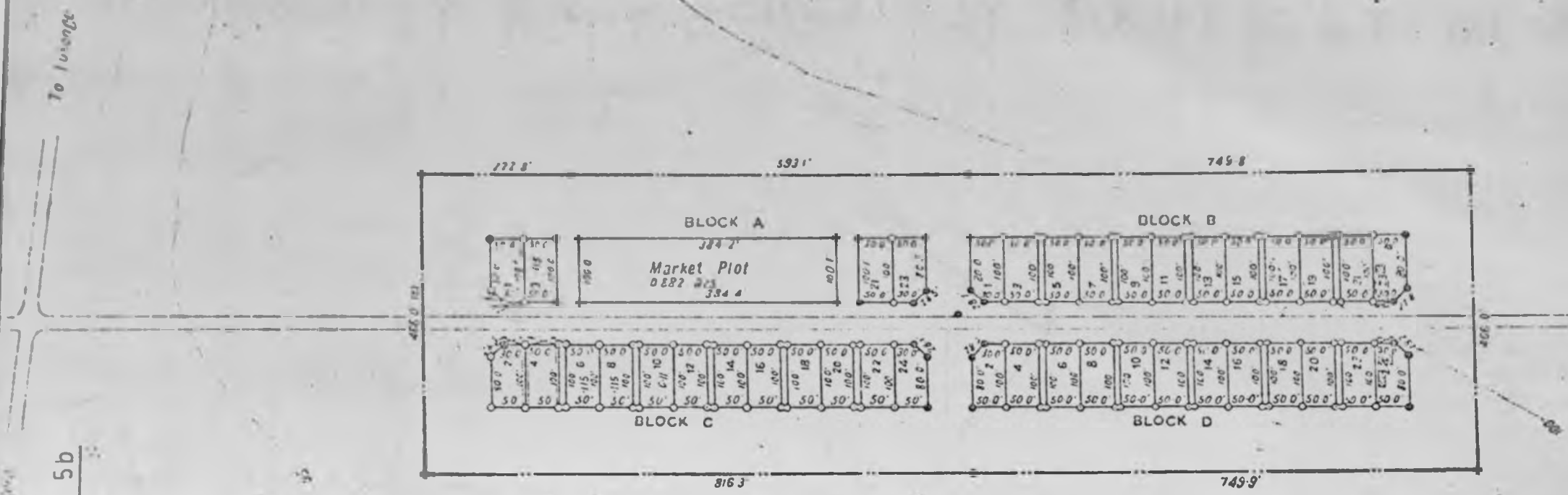
MAYENZE



SCALE 1:2 500

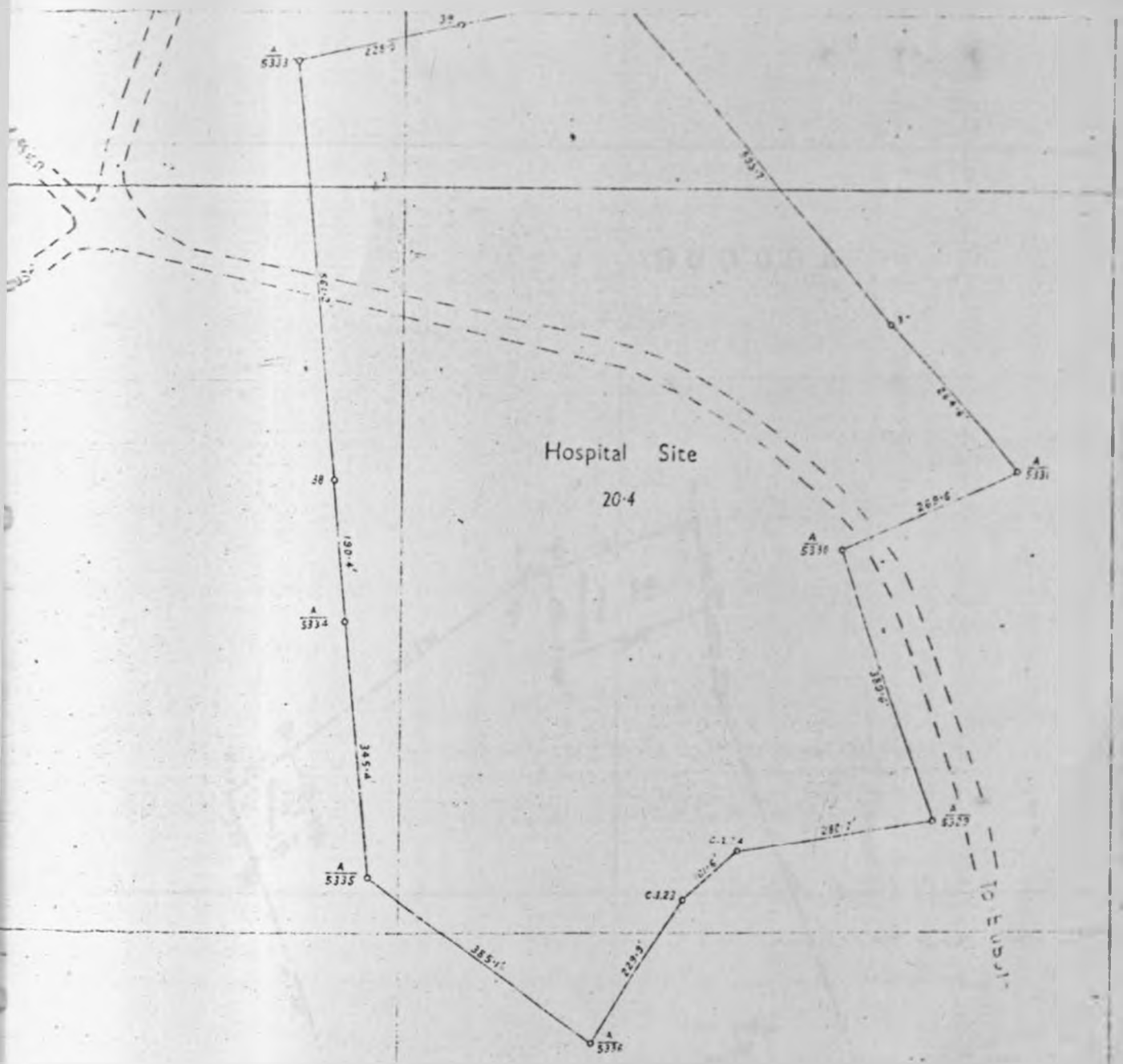
APPENDIX 5b

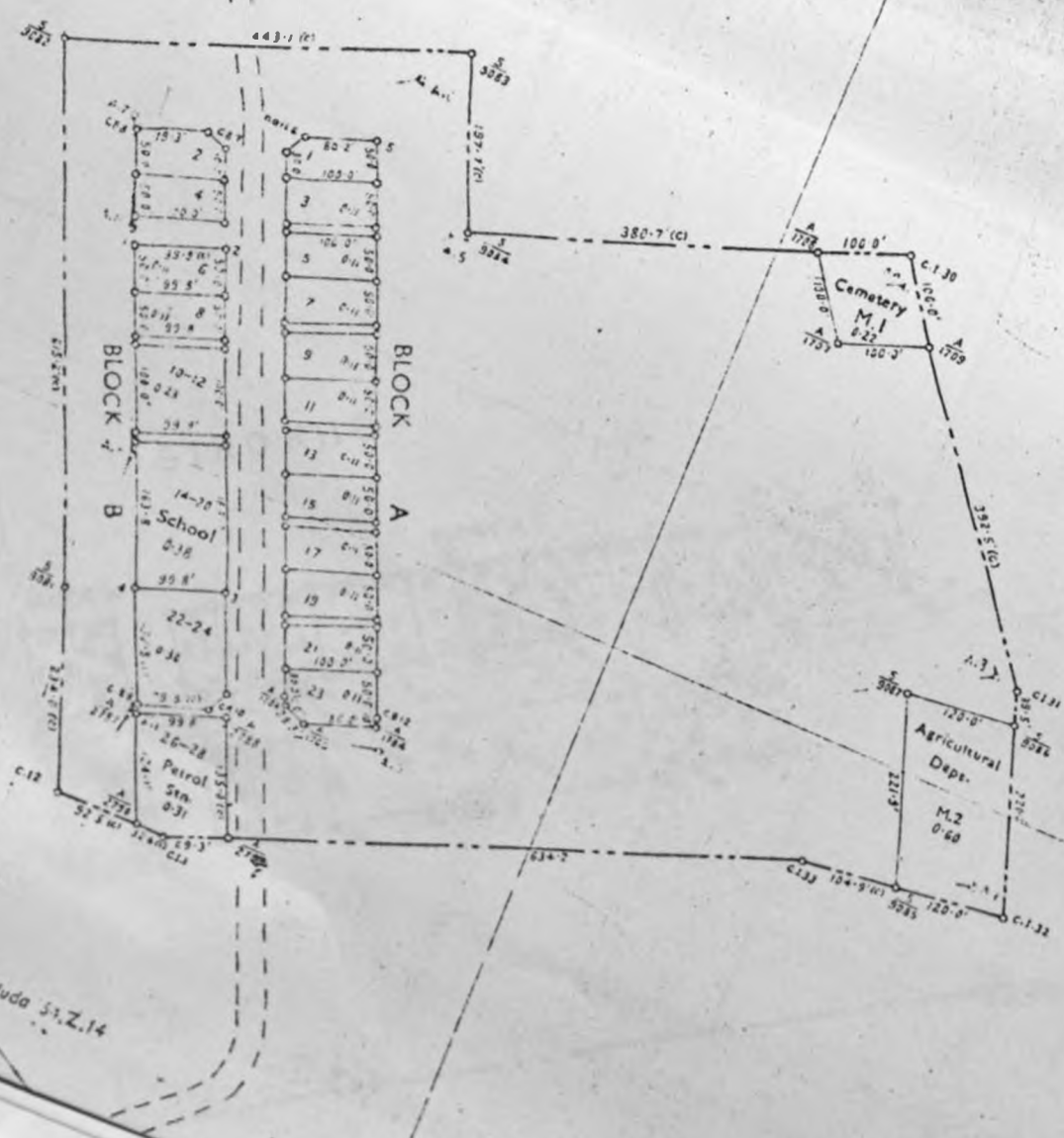
BUSIU

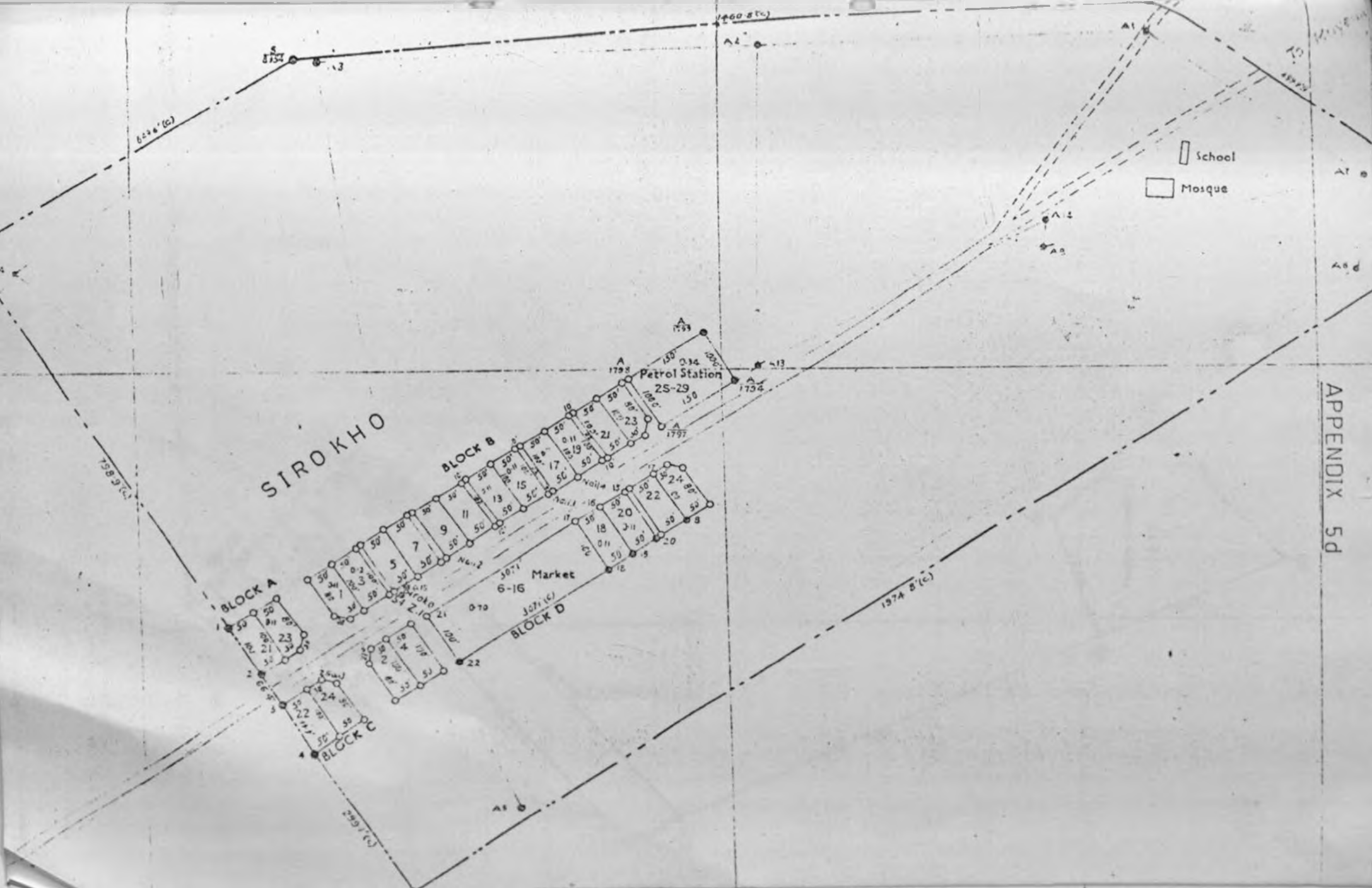


APPENDIX 5c

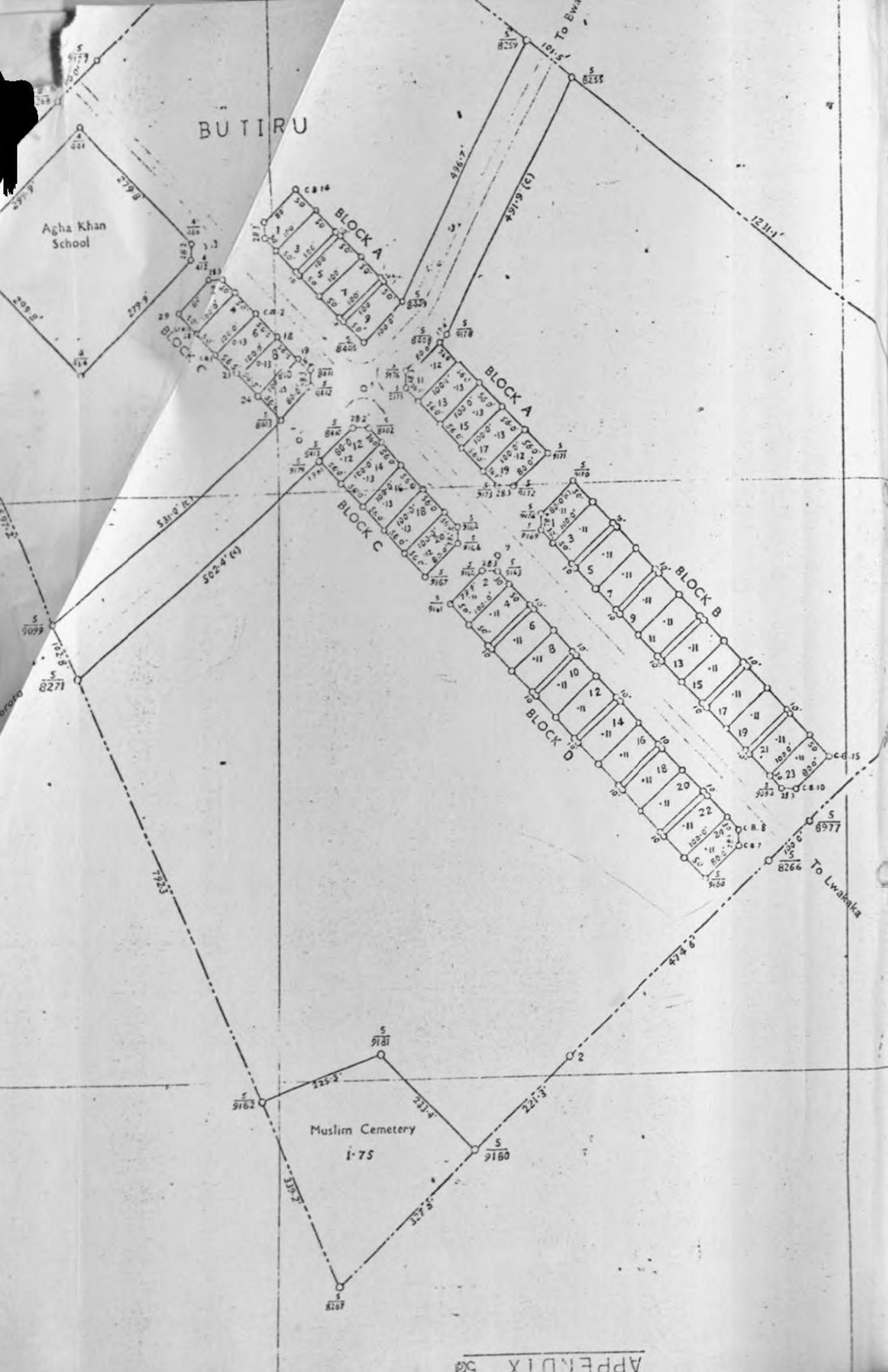
BUDUDA




BLOCK A
BLOCK B
School
Petrol Stn.
Cemetery
Agricultural Dept.
Bududa
Bududa S.T.Z.14


SIROKHO
BLOCK A
BLOCK B
BLOCK C
BLOCK D
Petrol Station
25-29
Market
6-16
School
Mosque

APPENDIX 5d


BUTIRU
Agha Khan School
BLOCK A
BLOCK A
BLOCK B
BLOCK C
BLOCK C
BLOCK D
To Ewa
To Lwakaka
Muslim Cemetery
1·75
436·7
491·9 (C)
1231·1'
531·9' (C)
502·4' (C)
279·8'
299·9'
299·8'
279·9'
162·8'
7923
474·6'
225·2'
233·4'
221·3'
339·2'
327·8'

APPENDIX 3a