

POPULATION PRESSURE AS A FACTOR OF RURAL DEVELOPMENT IN
HAMISI DIVISION, KAKAMEGA DISTRICT

BY

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A THESIS SUBMITTED IN (PART) FULFILMENT OF THE REQUIREMENTS
FOR THE DEGREE OF MASTER OF ARTS, IN THE DEPARTMENT OF URBAN
AND REGIONAL PLANNING, FACULTY OF ARCHITECTURE, DESIGN AND
DEVELOPMENT, UNIVERSITY OF NAIROBI

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DECLARATION.

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

Signed, Helmiyah

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

Signed, M. Misra

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ABSTRACT

Human population in terms of size, composition, distribution, components of growth and other characteristics provide a basic framework for estimating various categories of social, economic and physical planning needs and alternative solutions for the society over time. Consequently population is a significant variable when considering rural development.

The study examines the impact of population pressure on rural development in Hamisi Division. The situation is examined from the physical, social and economic stand points. Finally there is an attempt to show how to check population pressure and sustain rural development.

The findings show that population pressure is severely experienced in the division mainly due to high population densities that exceed the available resources and poor income generating activities. To counteract population pressure the following recommendations are made; reduction of family sizes, resettlement of the overspill population, intensification of agricultural production and diversification of economic activities. In addition there is a recommendation that the area should be provided with adequate and efficient infrastructure and social services such as transportation, health, education, water, energy and postal services.

ACKNOWLEDGEMENTS

I wish to thank the Physical Planning Department for sponsoring me for the Urban and Regional Planning Course.

My gratitude goes to my Supervisor Mr. M.K. Miringy, a Lecturer in the Department of Urban and Regional Planning for his supervision of this work. I also express my special thanks to Mr. Z. Maleche, a Senior Lecturer in the Department of Urban and Regional Planning for his tremendous and tireless efforts in contributing constructively to this work.

To the officers, friends and relatives who assisted me through all the stages of the work, I express my gratitude.

I also wish to express my gratitude to Esther Wangui Mwai for diligently and patiently typing this work.

Finally, I owe an invaluable debt to S.R. Masese for his moral support, it was a big source of encouragement.

Shibadu C. Grace,
University of Nairobi, 1980.

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7. My Mama Safina Isendi,	
8. and	
9. My late brother <u>Harun Andiva</u> ,	
10. for having paid my school fees	
11. finally	
12. To Edgar Andiva Mochache, my	
13. son who is still too young to	
14. understand the inevitable strains	
15. and tensions experienced in life	
16. for so little done while so much	
17. remains undone!	
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CHAPTER ONE

INTRODUCTION

1:1 Problem Statement

Since the Kericho Conference of 1966¹, the attention of the Kenya Government and some donors has been increasingly focused on rural development. Rural development though of paramount importance in Kenya, is not defined in the National Development Plans. However rural development is generally accepted to be a holistic concept which recognises the complexity and interrelatedness of the many variables which influence the quality of life in rural areas².

There are various definitions which attempt to give the meaning of rural development. The Kericho Conference³, conceived it as being a component of a number of things. The most important of these being farm production, the services and establishments which provide basic inputs and production requirements and other essential services for the farmer, non-agricultural form of economic rural activity and the construction operations and maintenance of rural works. The Working Committee on the Human Environment in Kenya defined it as a series of quantitative and qualitative changes occurring 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 life⁴.

Philip Mbithi, defines rural development as a set of action programmes aimed at improving the incomes, the welfare and employment opportunities of rural people.

Finally C.K. Omari considers rural development as a process embracing the overall societal development which looks at the whole spectrums of rurality⁵. On the overall rural development, as defined above, is the sum of multi-dimensional components all aimed at fundamentally improving the living standards and conditions of the rural population. Rural development requires constant efforts in all fields: agricultural development, infrastructure, social services and other forms of economic rural activity. In the context of the study, rural development will be defined as qualitative and quantitative change aimed at fundamentally improving the social, economic and political conditions of the rural population. This should indicate a continuous rise in the standards of living for the target population.

Consequently there are varied factors that affect rural development namely: demographical, economic resources, infrastructural, social, and environmental, characteristics. A consideration of these factors and how they affect development is necessary for proper physical planning of any rural area.

The demographic characteristics have significant implications for rural and urban planning as the population dynamics create and influence change in regions. Problems or change could be experienced in regions due to underpopulation, age and sex composition, fertility, morbidity, migration, nuptiality, population pressure or other related factors. B.S. Hoyle⁶ gives an example of the relationship:

" Population density and population distribution provide in many respects a most sensitive spatial parameter of development: for together these factors reflect the interactions of an extremely wide range of physical, political, economic and social influence in the context of human ecology and represent often with striking clarity, inter-regional differences in levels of prosperity"

In case of underpopulation the population per unit of land is relatively low as in the medium potential areas of Kenya: Lamu, Tana, Isiolo and Marsabit Districts where the population is scattered. This leads to the underutilization of resources thus having negative impact on the development of the area. The sex and age composition which shows the distribution of population by age and sex also has either positive or negative effects on the development of an area. The age-dependency ratio is a measure of how many dependants (under 15 and over 64 years) each 100 persons in the working ages (15 - 64 years) in a population must support. Thus the higher the dependants the more the economic burden the productive portion of the population must carry. Infact countries with very high fertility usually have the highest age-dependency ratios because of the large proportion of children in their populations.

Population pressure implies that the population per unit of land exceeds the land's carrying capacity. Thus, the existing population can not be adequately supported in such a situation, as the resources are limited and thus overutilized. For the study, population pressure will be seen as expressed below: a process of deteriorating physical and human conditions occurring at many scales as a result of excess numbers of human or, fauna in relation to the carrying capacity of the land⁷.

This will be assessed in terms of population density, land carrying capacity and land: household ratio. Thus being seen on light of population growth and the resource development potentials and their utilization levels.

The economic activities of a region are also significant factors of development as they determine the sources of income and livelihood, type of employment and causes of unemployment and income earning levels experienced within the target area. Resources determine required inputs for economic activities. The economic activities are also influenced by population pressure. In a rural setting whose basic resource is land, if the economic activities (for example agriculture) need large pieces of fertile land in order to produce enough to sustain the population it becomes impossible to satisfy this requirement in a densely populated area. A limitation of the required resources for economic activities has negative effects on the employment levels, thus affecting the development of an area. It is at this level that variables associated with economic activities can be used to illustrate whether an area is of low or high economic development.

Infrastructure and social services in any region are also affected by the existing population. The efficiency and adequacy or inadequacy and inefficiency of utilization of such services is assessed in relation to the size of population being served. Broadly infrastructure and social services encompasses the availability of communication network, health, education, energy, water and other facilities that are required by the people.

The spatial planning for the distribution of health and educational facilities depends on how many people need the services. The more the concentrated the people the more of these services are required to ease congestion and inadequacies. Thus an area experiencing population pressure might have efficient infrastructure and social services and yet experience the problem of inadequacy due to overcrowding and struggle for the limited facilities by the existing population. This in turn significantly affect rural development, as infrastructure and social services are channels through which the requirements for economic and social activities are provided for example the roadnetwork and health services.

Finally the environment is largely influenced by population pressure. Rural areas where people insist on cultivating on hilly area and river banks, clearing forests and vegetation for agricultural activities experience soil erosion. This in turn has its effects on the development of the target region especially by depleting essential resources.

Hamisi Division of Kakamega District has its own dimension of rural development problems. Demographically the area has pronounced population characteristics. The area falls within the most densely populated region of the nation having an average of over 500 people per square km. This high population density per sq. km. classifies it as one of the rural population problem areas of the world⁸.

According to the 1969 Population Census⁹ Kisii and Kakamega Districts were the most highly populated areas of Kenya having an average of 307 and 222 people per sq. km. respectively.

However the Kakamega District's average concealed a well developed pattern of about 70-600 people per sq. km. at Divisional level. Hamisi Division was one of the most densely populated divisions over the district, having 480 people per sq. km. This was a relatively high density of population considering that some other divisions of the district with similar ecological conditions had less than 200 people per sq.km. as shown in Table I.

The 1979 Provisional Population Census¹⁰ show a continuous population increase for the Kakamega District. The pattern of distribution at divisional level is shown in Table I. The high density of Hamisi area, partly explains the fact of population pressure being experienced in the area

Division	Area (sq. km.)	Population	Density (per sq. km.)
Hamisi	100	48000	480
...
...
...
...

Table I. Divisional Population and Density in Kakamega District, 1979

This pattern of high population density for Hamisi Division is due to its ecological conditions. The area is fertile and has a high rainfall. It is also a major agricultural area. The population density in Hamisi is much higher than in other divisions of the district. This is due to the fact that Hamisi is a major agricultural area and has a high population density. The population density in Hamisi is much higher than in other divisions of the district. This is due to the fact that Hamisi is a major agricultural area and has a high population density.

Therefore the high population density in Hamisi is due to its ecological conditions. The area is fertile and has a high rainfall. It is also a major agricultural area. The population density in Hamisi is much higher than in other divisions of the district. This is due to the fact that Hamisi is a major agricultural area and has a high population density.

Table I

Average Population Density for 1962, 1969 and 1979

Administrative Unit	Area Sq. Km.	Density		
		1962	1969	1979
Kakamega District	3520	171	222	293
Butere Division	350	194	295	357
Hamisi Division	164	310	485	581
Mumias Division	597	86	134	225
Vihiga Division	389	364	556	654
Lugari Division	570	45	70	120
Lurambi/Kabras	860	128	149	241
Ikolomani Division	386	296	323	367

Calculations based on the 1962, 1969 and 1979 Population figures

This pattern of high population density for Hamisi Division is even higher at Locational and Sublocational levels. The population at Sublocational levels ranges from 431 - 831 people per sq. km.

Besides the high population densities, the Hamisi area is also characterized by high family sizes with an average of

7 people per household having an average household land holding of 0.4 hectares. The existing size of population per unit of land is relatively high as though this rural setting were urban. The land: household ratio of 0.4 hectares falls below the average optimum size of 3.5 hectares for Kakamega District needed for an income of £.100 plus subsistence per family of 6¹¹.

The existing population exceeds the land carrying capacity for agricultural activities. The fact that there is population pressure implies that the region is experiencing some problems to the effect that the needs of the existing population are not adequately met. This could be due to some weaknesses within the population pattern or caused by some other external factors to population.

The economic base in Hamisi Division is characterized by low economic development that is dominated by agricultural production with low outputs mainly of subsistence crops. The existing cash crops of coffee and tea have not had a strong positive impact on the area due to shortage of land for expansion and other constraints caused by the farmers' negligence of the farms, lack of weeding and unavailability of fertilizers coupled with excessively high prices for agricultural inputs. Infact alternative employment besides agriculture is very poorly developed. This implies that the people stay in the area and have low incomes as low as 20/- per month¹². The resultant phenomenon usually experienced is high outmigration by the working age men to industrial town in search of wage employments. This type of outmigration experienced in Hamisi Division is negative as it robs the area of the active population

from the age of 20 - 50 years¹³. Jiveywa village of Hamisi Division has over 90% of males over 20 years outside the district in search of jobs. Outmigration in such context is partly responsible for the underdevelopment of the area.

Low level infrastructure and services also illustrate the fact of underdevelopment in the Hamisi area. The Government's aim in designating service centres was to provide service levels of administration, social and commercial for the rural population to act as alternative areas of employment. The current situation in Hamisi is such that the level of services is low and some centres lack some of the essential services. This is evident from the high rate of outmigration in search of alternative areas with jobs and adequate services. The transportation network in the Hamisi area is inefficient as most of the roads are impassable during the rainy season and dusty during the dry season. The postal services, educational, health and water facilities also have their limitations in terms of inefficiency and inadequacy.

The factor of underdevelopment in Hamisi Division is caused and influenced by various factors whose effects are related. The effects of population pressure are well pronounced in this area. These include shortage of agricultural land, land fragmentation, land disputes, declining crop yields, food shortage, underemployment and unemployment. The basic effects of population pressure imply that the people's needs are not met adequately. The situation is critical as there is an evergrowing population faced with fixed land and other limited resources. The end result is a crucial state of poverty.

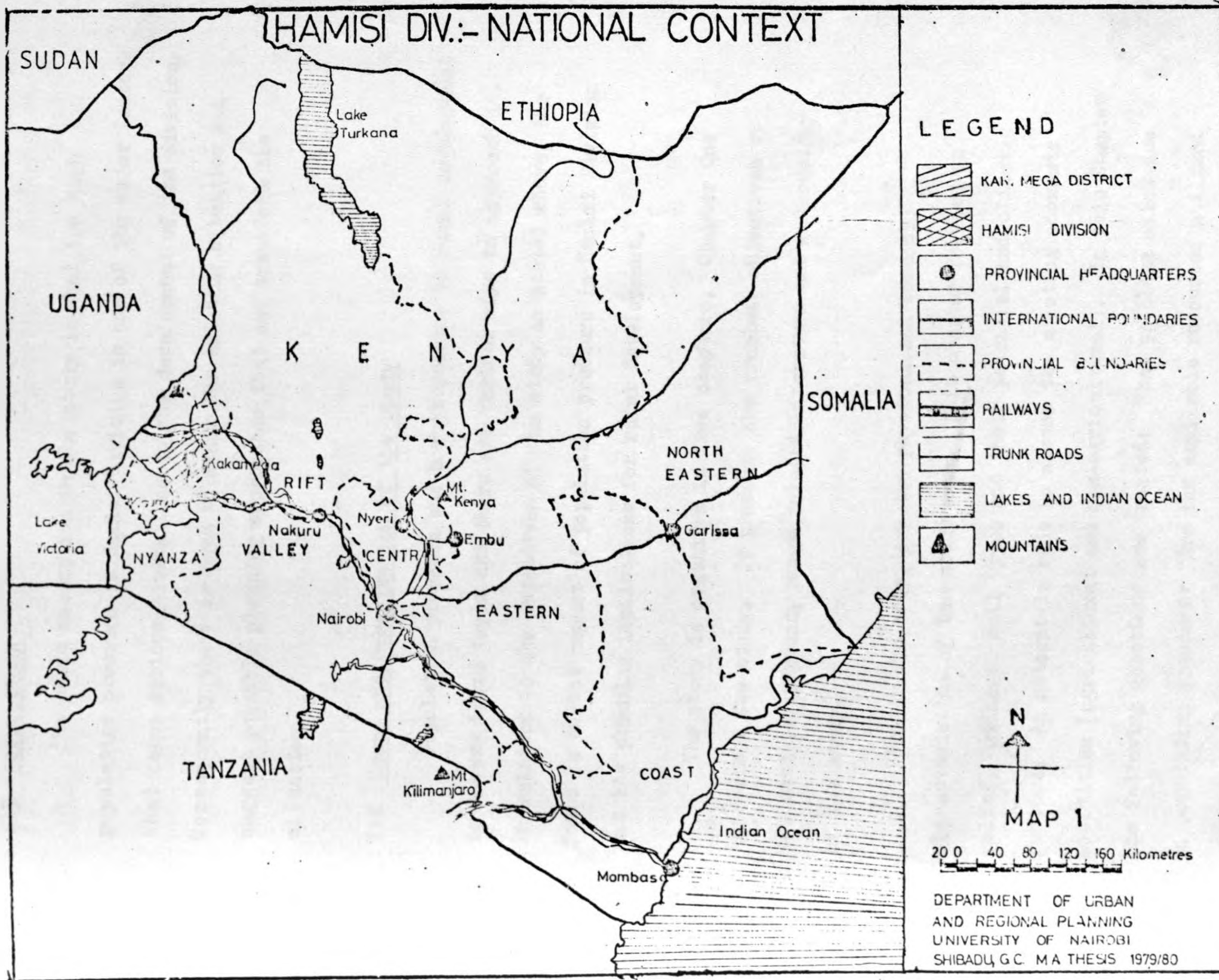
Given the problems experienced in Hamisi Division, there is need to critically examine the background of these problems, analyse the current trends and evaluate the measures available to try and solve these problems and finally attempt to suggest actions that can help transform the situation. This is a necessary prerequisite to the effective planning of the future development of the Division. The study realizes that rural development is broad and complex, however the study concentrates more on the role and significance of population pressure as a factor of rural development.

It is in light of the above situation that an attempt is made to investigate the impact of population pressure on rural development in Hamisi Division. The aim of the study is to consider the problem of population pressure as experienced in a rural setting whose central resource is agricultural land. There is an attempt to show how to check population pressure and improve rural development in such an area.


1:2 Objectives

1. To examine the impact of population pressure on the development of Hamisi Division.
2. To identify other factors besides population pressure that have affected development in the division.
3. To suggest and recommend possible planning approaches that take into account the factor of population pressure in the division.

HAMISI DIV.: - NATIONAL CONTEXT



LEGEND

-  KAR. MEGA DISTRICT
-  HAMISI DIVISION
-  PROVINCIAL HEADQUARTERS
-  INTERNATIONAL BOUNDARIES
-  PROVINCIAL BOUNDARIES
-  RAILWAYS
-  TRUNK ROADS
-  LAKES AND INDIAN OCEAN
-  MOUNTAINS



MAP 1

20 0 40 80 120 160 Kilometres

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AND REGIONAL PLANNING
UNIVERSITY OF NAIROBI
SHIBADI, G.C. MA THESIS 1979/80

1:3 Assumptions

The basic assumption in the study is that the high population pressure in Hamisi Division is one of the major factors that cause serious limitations to the development of the division. Consequently there is need to study the existing situation and suggest possible planning approaches that can transform the situation.

1:4 Scope and Organisation of the Study

Population pressure and how it relates to rural development is a very broad topic and there are various ways to approach it. In relation to the objectives of the study as stated above, the focus is on the impact of population pressure in Hamisi Division and its planning implications for rural development.

The study is organised in five chapters. Chapter One introduces the study. It presents the problem, objectives of the study, assumption, scope, related literature and methodology of the study.

Chapter Two considers the physical and economic characteristics of the study area. This chapter focuses on relief, drainage, soil types and their potential and climatic factors. An attempt is made to assess the existing economic activities (agricultural and non-agricultural). In this Chapter the following questions are treated: What problems exist due to population pressure? Are the available resources utilized efficiently and properly? Chapter Three examines the social factors; for example, population structure and distribution, migration and settlement pattern. In this Chapter there is an attempt to show the existing population characteristics, a

major basis for determining population pressure. Chapter Four considers the infrastructure and services: communication, health, education, water supply and power as features of rural development. The central question here is: How adequately are these services provided to meet the needs of the population. Finally, Chapter Five gives conclusions and recommendations based on findings.

1:5 Review of Related Literature

Population pressure and rural development are broad concepts that have been studied by various scholars: economists, planners, sociologists, geographers and demographers for different reasons. However, the literature relevant to this study will be selected according to the objectives of the study. The related literature is approached at two levels: 1) considering the concepts in isolation of each other 2) showing the relationship that exists between rural development and population pressure.

Population as a factor influencing the levels of living of people has been part and parcel of society from ancient times. Several scholars have accepted the fact that the average condition of people deteriorates if population continues to grow beyond the available resources. A rapidly expanding population can be an economic burden if it does not balance with the growth of the economy: Confucius and his school¹⁴ said that excessive population reduces output per work and depresses the level of living of the masses. This idea was also shared by Plato and Aristotle¹⁵ who said that man's potential could be fully developed and his 'highest good' realized if there was an optimum size of population, not exceeding the available resources.

Malthus¹⁶ observed that man's capacity to increase his means of subsistence was much less than his capacity to multiply. Accordingly, poverty had its origin in the population pressure on subsistence. He identified size and growth rate of population as a major obstacle to the improvement of living conditions of the people. Malthus' contribution is relevant to this study in that he realizes the negative points of population pressure. However, he advocates that natural law through war, disease and starvation would inevitably take care of population pressure. However, the study attempts to give feasible planning recommendations to counteract population pressure and not through a natural process as advocated by Malthus.

Huxley's¹⁷ travels exposed the growing population pressure on resources of the world through sheer number of people and overcrowding on the land. Thus the limited resources can only be used for human fulfilment (which encompasses: material, space, beauty, recreation and enjoyment) if some balance between the population and resources exist, thus increasing food production and controlling births. Uncontrolled continuous population pressure results into increasingly desperate problems.

A seminar conducted in 1973 attempted to give ideas on the population issues in Africa¹⁸. The participants considered three basic themes: independence, fertility and education as the keys to development. For the purpose of this study emphasis is laid on the population factor. Population problems that needed solutions as perceived by the participants were: high dependency ratio, rural-urban migration, underpopulation and overpopulation

The solutions could be effective if fitted into socio-economic planning and their administration made part of the normal plan implementation process. The anticipated constraints were: limited resources, incomplete data and other cultural and institutional parameters.

Kalifa's¹⁹ work is useful for the study as it treats a similar area to that of Hamisi Division. Kalifa considers the problem of rural overpopulation and internal migration and proposes strategies for resolving the problem. Kalifa based his concept of overpopulation as related to land carrying capacity. The problems he identified in his study area are: land shortage, overpopulation, migration, unemployment, underemployment, traditional land tenure and agricultural practices, low standards of infrastructural facilities, ineffective extension services and low standards of formal education. The improvement lay in rural transformation through land use reform, formulation of a strong marketing policy, establishment of growth centres and population policies like family planning.

A study by Anzagi²⁰ indicates that the underdeveloped world is facing a deteriorating population-resource balance, there is a limited resource base. Kenya as an example is in stress because more than 80% of Kenya's predominantly rural population is concentrated in the small portion of arable land (17%). Anzagi identifies population pressure as most pressing in Kakamega District as the number of people exceed the agricultural potentiality.

For the study population pressure is seen as influencing rural development in Hamisi Division. African developing nations have given priority to rural development, which is seen as a necessity if meaningful national development is to be achieved. This is justified by the fact that 85% - 95% of the population live in the rural areas²¹. This implies that national development and rural development are almost synonymous.

The Government of Kenya has continually shown great concern for rural development. Discussion of rural development in post-independent Kenya can be traced to the Kericho Conference of 1966. The Conference was composed of administrators, social scientist, government planners and leaders who recommended that Kenya should give greater priority to the rural sector in setting national plan objectives. Complimentary to the Conference are national development plans. The 1966-70 plan had rural development as a strategy for national development. Physical planning was extended from the urban areas to provinces and districts for the regional activities. This aim was strengthened by the 1970-74 Development Plan.

" Thus although the overall objective is to accelerate the rate of growth of the economy as a whole we are now proposing that an increasing share of development should be directed towards rural areas. Special programmes are being put together to obtain a significant improvement in the standard of rural life. Rural development is the basic strategy of this plan."²²

Rural transformation would be achieved through improvement of transportation facilities, new marketing opportunities, rural water supplies, better housing, job creation, provision of services, growth centres strategy and training facilities through local participation supplimented by the government.

The approach of the plan is relevant in both its policy framework and implementation recommendations which are relevant for most rural areas.

The 1974 - 78 Development Plan was a continuation of the previous plans through greater decentralization of development planning and implementation to the district level. This was not only to raise rural incomes but also the standard of services such as education, health, transportation and employment facilities.

The current Development Plan 1979-83, carries the same theme. There is need to improve on the well being of the people and alleviation of poverty through emphasis on continued growth. This improvement can be achieved by solving problems of unemployment, water, transportation, land usage, medical care, education, energy, mechanization, technological innovation, market and credit facilities. The ideal situation would be increased production and income, accessibility to services and increased participation and decision making at district level.

The Kericho Conference realized the significance of rural development and stressed the need for diversity in dealing with the various rural areas. It stated that rural development can only be achieved with different kinds of services, management and technical expertise for each area. It went on further to say:

"Rural development is built up from a number of basic components. The most important of these is farm production but other elements can be identified. These include the following:

a) The services and establishment which provide the basic inputs and production requirements of the farmers and other essential services which are associated with processing and handling the farmer's produce during the marketing stages.

- b) Construction, operation and maintenance of rural works.
- c) Rural Credit
- d) The non-agricultural form of economic rural economy."²³

The major result of this Conference was S.R.D.P.²⁴ which has been very significant in the Hamisi area. The Conference stressed the need for a pilot survey of the rural areas on the basis of which six areas were chosen for S.R.D.P. projects. S.R.D.P. had various development projects for the Hamisi area namely: agricultural and livestock production, labour intensive road programme and social service section (functional literacy and adult education, community development, medical service, village polytechnics) land adjudication and rural industrial development.

S.R.D.P. was an early stage of district planning, with decentralization of development administration whose basic aim was to increase agricultural, industrial, and commercial output. All the projects were seen as relevant for the development of the target area. Failures were experienced in some of the sectors. A consideration of the progress of these projects are used as a guideline for avoiding mistakes that hindered the achievement of the anticipated development of the pilot areas. The World Bank has also contributed to the efforts of rural development in Africa²⁵. A study was prompted by the fact that 85-95% of the Sub-Saharan human population live in the rural area. Agriculture constitutes the largest sector in the gross national products of most of the African countries for example Kenya has most of its rural population oriented towards subsistence agriculture. The World Bank study wanted to find ways of designing relevant projects that could be accomplished in rural Sub-Saharan Africa despite the limited resources.

This study recommended that development of subsistence rural sector is very significant, and the only logical way of stimulating overall rural development. Subsistence rural sector is the basic resource for low-income population. The problems identified for lagging development were: seasonality of labour usage, improper utilization of machinery and overpopulation (in some districts like Kakamega, Kisii and Muranga) and underpopulation in other areas like the White Highlands. The identified strategies for improving the situation were; raising the livestock and crop production through proper marketing and transport facilities, extension services, mass participation, credit facilities to small scale farmers and training for rural development. These recommendations are useful for the Hamisi area whose problems are similar to those outlined by the World Bank study.

Silitshena's paper²⁶ dealing with a rural setting identify the major problems of Botswana to be as follows:-

dispersed settlement, shortage of land, poor marketing outlets and poor transportation. He advocates villagization as a precondition for rural development in Botswana; however he insists on understanding people's social and economic system before rushing into villagizing them. He recommends increasing agricultural productivity and provision of social and physical facilities. Silitshena²⁷ also considers rural-rural/urban migration as an effect of soil exhaustion and pressure on the existing land. Hamisi Division is having similar problems; therefore the papers are relevant for the study.

Ndebele's²⁸ work though limited to agricultural development and human settlement pattern in Maun District, is useful in this

study because the basic resource for the area is agricultural land.

An efficient agricultural production system would be a partial solution to population pressure. Ndebele identified problems similar to those in Hamisi Division: low standards of infrastructure, inadequate marketing facilities, traditional methods of production and inadequacy of extension services. He recommended extension service programmes, better marketing and transportation for the above problems.

Finally, the Government of Kenya has realised that population is related to rural development, although there is scarcely any precise information on their relationship. At national level there are deliberate actions that affect population size, growth and distribution. The central organisation has been the Family Planning Programme which was officially launched in 1967. Other supplementary strategies are growth centres and resettlement programmes.

In summary, it can be concluded that population is an important factor in influencing rural development for any country especially those with high rural populations. However the population variable as a factor of rural development can not be considered in isolation due to the interrelationships existing among the identified components of rural development.

The above literature shows the relationship that exists between population pressure and rural development. The central idea being that a rapidly rising population which does not balance with the existing economic, physical and social resources results

in population pressure and hence underdevelopment. The struggle for the available limited resources by the population implies inadequate development. The basic argument is that population pressure if unchecked has negative effects on the levels of living of the people like low incomes. The identified problems of population pressure by these scholars are: land shortage, overpopulation, outmigration, unemployment, underemployment, which are increased by traditional land tenure and agricultural practices, low standards of infrastructural facilities, ineffective extension services, low standards of formal education, inadequate market and transport facilities. These problems of population pressure can be checked through various ways: expansion of subsistence and cash crop production, family planning, improvement of infrastructure and increased rural production.

A consideration of the situation in Hamisi shows that besides the problems of population pressure, other features of underdevelopment are predominant: low level economic development characterized by low incomes, poor alternative employment opportunities and low level services. Consequently, a consideration of the population pressure as a factor of rural development cannot be seen in isolation of other economic, physical and social factors of development.

1:6 Methods of Data Collection and Analysis

The objective of the study influenced the type of information collected and analysed.

The methods of data collection used in this study were a combination of available written materials, non-schedule

standardized interviews, schedule standardized interviews, key-informant interviews and observer participant survey.

Study of available written relevant materials was the main technique of data collection. These included District and Divisional Development Plans, Annual Reports, Annual and Bi-Annual Agricultural Reports for Kakamega District and Hamisi Division respectively, Vihiga/Hamisi S.R.D.P. Evaluation Reports and other relevant literature highlighting the theoretical framework of population pressure and rural development as concepts in planning.

The non-schedule standardized interviews were held with various official personalities. District Officer for Hamisi Division, Chief of Tiriki Location, Provincial Extension and Management Officer, District Agricultural Officer, Divisional Extension Officer, Locational Extension Officers and other staff of Ministry of Agriculture for Hamisi Division. The other people interviewed were from Physical Planning Department, Ministry of Health, Education and Economic Planning. The non-schedule standardized interviews were guided by the following questions:

- 1) What are the rural problems of Kakamega District? What are the feasible solutions for these problems? What are the major bottlenecks in trying to solve these problems?
- 2) What would you say about the general trend of rural development in Kakamega District with special reference to the densely populated areas of the District like Hamisi Division? What are the factors relevant for accelerating development of the area? What are the strategies through which the local people can participate in rural development?

3) How do your official duties and responsibilities contribute to rural development in Hamisi Division?

The aim of these interviews was to supplement the written materials with current official information.

Thirdly there was the schedule standardized questionnaire (note Appendix) for the local people of Hamisi Division. The questionnaire concentrated on the social and economic characteristics of the area. The aim of the questionnaire was to supplement the available data with ideas from the local people. All the local people of Hamisi Division could not be interviewed, therefore a sample population was selected.

The whole Division lies within the same eco-agricultural zone, consequently 5 sublocations were randomly selected: Hamisi B and Kapsotik from Nyang'ori Location and Senende, Jeptulu and Bumbo of Bumbo of Tiriki Location. These Sub-Locations were further divided in sectors, from within these sectors respondents were interviewed; they included the landless, subsistence and cash crop farmers and other wage earners.

The key-informant survey interviewed farmers from Hamisi B do illustrate the typical situation of Hamisi Division.

There was also the observer-participant survey of the Division noting the typical land uses, striking features like relief; steep slopes and stony areas and typical social and economic characteristics.

The data collected was analysed manually.

For justification of inference and conclusion, the analysis based on frequencies, percentages and averages of the raw data. Tables are used to present the data in some systematic form.

1:6:1 Problems of Data Collection and Analysis

The major problem was the scarcity of disaggregated information on Hamisi Division. This problem was mitigated by the whole field survey which attempted to get information on the Hamisi Division as an entity.

The other problem was with the respondents who were either unable or unwillingly to respond to some of the questions as in case of their income. Similarly it was not possible to trace some of the officers to be interviewed.

Finally there was the problem of inaccessibility to some areas of the division due to limited means of transport; this limited the reconnaissance of some areas of the division.

The above problems affected the accuracy of the data used in the study respectively.

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In analyzing the economic activities the principal...
 examine the economic characteristics and how they relate to...
 the issues of population pressure. There is a description of...
 the agricultural and non-agricultural resources and their...
 relationship with the variable of population pressure.

II. Physical Characteristics

Seven Districts, one of the 9 Districts which comprise the...
 Kweneng District, is located in the north western part of the...
 district. The Division, an area of about 1000 km. sq. is composed...
 of 3 administrative Divisions: Mafeteng and Molepolole. These...
 Divisions are further divided into sub-divisions (refer to Map 3).
 The Division extends from the north to the south, from...
 Mafeteng in the north east through to the south east, finally...
 the wide border with the Division of the District, this is shown...
 on Map 3.

1.1.1. Relief and Drainage

Relief features along the District, and variations...
 between 1200 - 1800 metres above sea level.

CHAPTER TWO

2.0. PHYSICAL AND ECONOMIC CHARACTERISTICS

This chapter considers the physical and economic characteristics of the study area. The physical features of the Hamisi area are significant factors to be considered when one is initiating development because these features form the backbone of the economic activities.

In analysing the economic activities we principally examine the economic characteristics and how they relate to the factor of population pressure. There is a consideration of the agricultural and non-agricultural resources and their interaction with the variable of population pressure.

2:1 Physical Characteristics

Hamisi Division, one of the 8 Divisions which compose the Kakamega District, is located in the south eastern part of the district. The division, an area of about 164sq. km. is composed of 2 administrative locations: Nyang'ori and Tiriki¹. These locations are further divided in sub-locations (refer to Map 3). This division borders Nyanza Province in the South, Nandi Escarpment in the South East through to the North East, finally the area borders other divisions of the district, this is shown on Map 2.

2:1:1 Relief and Drainage

Hamisi Division lies along the Equator, and stretches between 1350 - 1800 metres above sea level.

The area is well distributed and drained by numerous permanent rivers the main ones being the Galigoli, Jeprok and Lwandoni rivers.

A large proportion of the division is hilly and stony more pronounced in Banja, Hamisi B, Kapsotik, Cisambai, Jepkoyai, Tigoi, Ivola, Hamisi A, Gimarakwa and Camelenga sub-locations (refer to Plate I and Map 4).

2:1:2. Soil Types

The soils² of this region are derived from both volcanic and basement complex rocks. These are well drained dark friable clays partly covered with deep humic soils. These soils are highly fertile having outstanding carrying capacities suitable for mixed arable and livestock farming.

2:1:3 Rainfall and Temperature

The division receives long and reliable rains. It is fairly wet with good rainfall adequately distributed ranging from 1,300mm to about 2,000mm per annum. The long rains in the area are expected from March through June while short rains from August to November. The rainfall is usually accompanied by hailstorms in June, August and September, thus damaging the crops.

2:1:4. Ecological Zones.

The factors of land use: topography, altitudes, rainfall, temperature and soils categorise the division in the star grass zone. This zone is well suited for mixed arable and livestock farming.

2:1:5 Overview Assessment of the effects of Physical Features

On the overall the Hamisi area is of reasonably high potential due to its reliable rainfall, and soils. The area is suitable for a variety of crops and livestock, having basically 2 seasons per annum. The distribution of crops is fairly uniform in its production of bananas, maize, beans, potatoes, vegetables and sugarcane which are not significantly affected by the relief of the area. However crops like tea and coffee with deep roots do not grow in the whole division due to constraints by the very stony and hilly areas. Gamalenga and Tigoi Sub-locations do not have coffee or tea because of the topography. Shiru sub-location also does not have tea and coffee as it is a newly settled area, that has been a forest area.

The hilly and stony areas do not coincide with the lowest density areas but some areas like Gamalenga, Tigoi and Gisambai Kapsotik and Banja rank among the most rugged areas of the division and at the same time rank among the most densely populated areas of the division. This has implication of severe pressure on land as the resource potential for agricultural activities does not match with the high population per sq. km. as in Gisambai, and Gamalenga that have over 800 people per sq. km.

The most hilly and stony areas of the division also are victims of soil erosion. When the areas are overutilized due to the high population per unit of land this results in poor productions and thus poor incomes. Thus a household situated in the stony and hilly areas of the division, relying on a small plot of land for agricultural production for its income gets very

low agricultural yields. This is because the potentially of rich volcanic soils have been exhausted due to fragmentation and overutilization besides the fact that the actual holdings to be utilized for agricultural activities are reduced by the presence of stones and hills. This as a factor makes the problem of population pressure more crucial. The cultivation of such poor and rugged areas can not be terminated despite low yields due to inaccessibility to more agricultural land, instead there is even intercropping in such areas as illustrated in Plate I. There is an attempt by some of the people to reduce the population concentration by migrating from the very highly populated areas to the less populated and less stony and hilly areas of Shiru Bumbo and Bulukhoba of Tiriki location. The catchment areas for the overspill population are basically former forest areas which have been infringed on by the people. These former forest areas are identified as the most underutilized areas of the division.

While the agricultural production is significant due to favourable conditions the steep and stony features could be used as raw materials for other economic activities. The stones could be utilized for block and brick industry. Similary the well dark friable clays are a resource for brick and pottery industry.

Thus the physical features of this area could be used more broadly in the sence that the stony and hilly areas should be seen as resourceful beyond the agricultural activities. Thus the economic activities in the division should not be relatively uniform distributed but there is need for differences

between sub-areas in relation to the differences in topography which has significant implications for the economic activities. This can be illustrated in the case of Kapsotik sub-location with an average of 629 people per sq. km. which could be suffering from population pressure more severely than Serem having an average of 763 people per sq. km. as the Kapsotik area is more stony and hilly than the Serem area. Thus despite the ecological similarities the division should be viewed more broadly in terms of the existence of hills, steep slopes, stones and other features that could increase or decrease the population pressure for any type of economic activities. Similarly while mechanization could be proposed for some areas of the division the proposal does not apply for the stony and hilly regions.

2:2:0. Economic Characteristics

The physical characteristics of Hamisi Division form the major environment for economic growth and development in the area. This is indicated through the available resources (besides human beings) which form the backbone of the economic activities namely: agricultural land, stones, clays, sand and mud.

Agricultural land is the central resource from which the majority of these people derive their livelihood. As already indicated the topography, altitude, rainfall, temperature, categorise the region in the star grass zone which is a high potential agricultural zone well suited for mixed arable land and livestock farming. Consequently the main activities (sources of income and livelihood) are basically agriculture oriented. Thus the economic activities are positively skewed

to agriculture. Infact, besides agriculture the other alternative forms of employment related to the other named resources are limited³. Supplementary to these activities we have professions like teaching, nursing, clerical work and migration by able bodied to the urban areas in seerch of wage earning jobs. The economic activities in Hamisi Division can be divided into the agricultural and non-agricultural activities.

2:2:1 Agricultural Activities

Agriculture is the most important aspect of Kenya's economy forming the backbone of the nation's meaningful rural development. Consequently, Kenya's development strategies have constantly identified expanded agricultural production as the principal means of achieving economic development. This trend is similar in Hamisi Division whereby agriculture is the major basis of its development.

The area is favourable for both crop and livestock farming which is predominantly done on small scale. Infact the average household size of 7 persons mostly derive their livelihood from small pieces of land (0.4 hectares) there is very little land but inspite of all these, people still insist on cultivating even the hilly and stony areas (refer to Plate I). The majority of the households have small pieces of land as shown in Table 2. Infact the situation is worse than shown in Table 2 due to large proportions of the land that is rendered uncultivable due to outcrops of rocks and steep slopes.

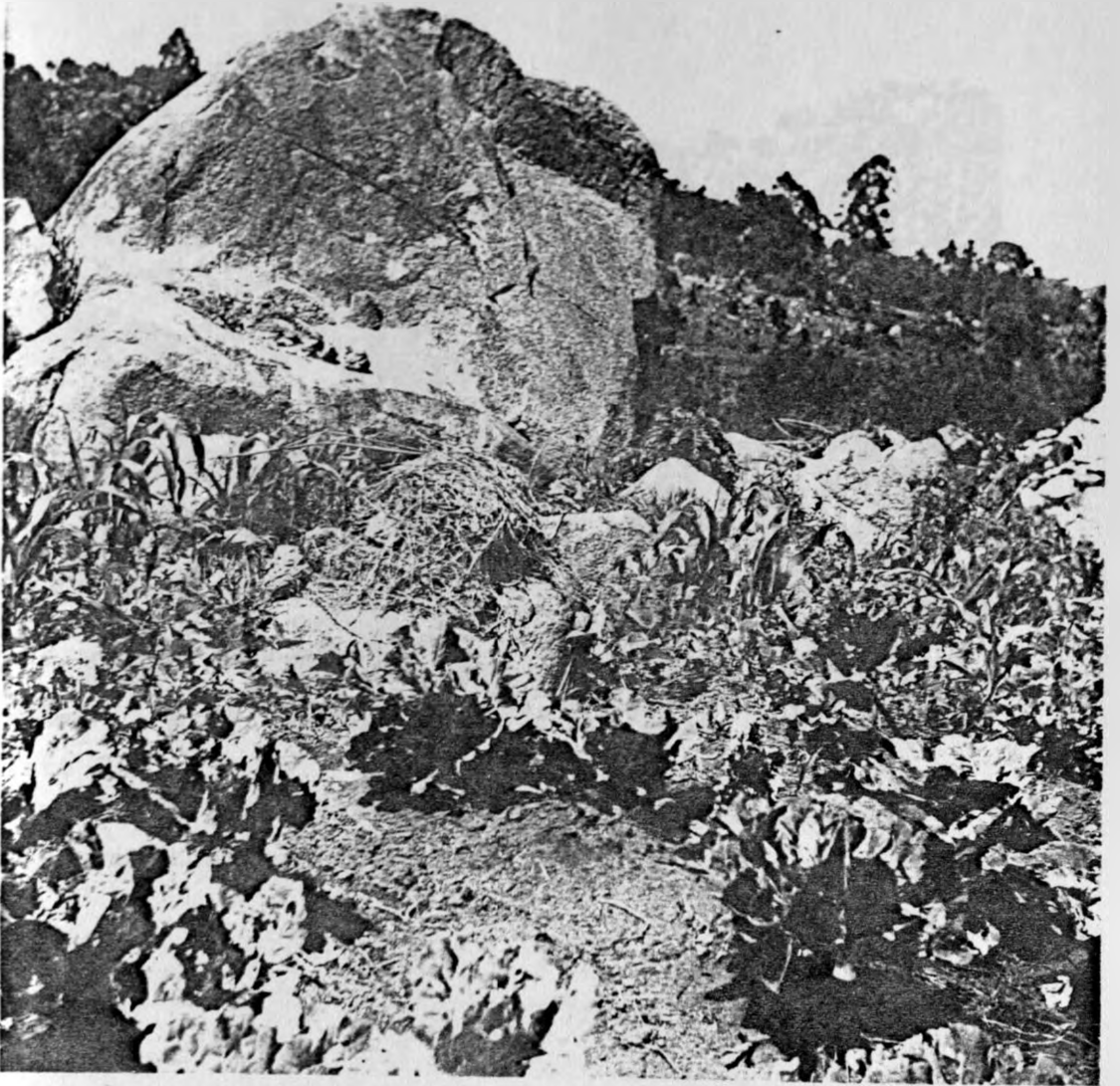


Plate 1:

Steep Slopes and stony areas under cultivation.



Plate 2:

Bananas and Vegetables, there are steep and stony slopes in the foreground.



Plate 3:

Maize and Beans interplanted.
Beyond there are the hills.

Table 2

Land size Holdings in Hamisi Division

Size Hecterage	Owners %
0	14.3
0-1	28.5
1-2	20
2-3	17.2
3-7	20
Total	100

Source: Field Survey.

The Agricultural Department of the division similarly said that the average size of 4 acres is raised by the relatively big farms of better of small scale farmers. Otherwise the average land holdings for the typical subsistence farmer is 0.4 hectares⁴.

2:2:1:1 Crop Production

Hamisi area falls within the most fertile region of the district and supports a varied range of agricultural activities being classified as a coffee zone⁵ area. Crop production here is done at cash and subsistence crop small scale farming. Besides coffee the other crops grown are tea, maize, pulses, bananas, vegetables, potatoes and other horticultural crops. However as already indicated land shortage due to high population concentration is a major constraint to the expansion of crop production.

The coffee is grown by about 1,206 registered farmers and presently covers about 159.2 hectares. The production trend per hectare in the area is about 853 kilogrammes as based on the 1976 production average. These yields are low in comparison to the national average which are 2000 kilogrammes per hectare as low, 5,000 kilogrammes per hectare as medium. Kakamega is expected to produce at least 5,000 kilogrammes of cherry per hectare⁶. The coffee produced in the area is pulped and marketed by 2 Cooperative Societies of Jeprook and Lwandoni.

There are problems experienced in the production of coffee the major problem is the limitation of land. Most of the people still insist on using their small pieces of land for agricultural purposes. It is under this conviction that there is cultivation even in the unsuitable areas like the hilly and stony ones. The high productivity capacities going hand in hand with the fact of land shortages has led to intercropping by most farmers as shown in Plates 1, 2 and 3. The other constraints besides land shortage are caused by the farmers negligence of the farms, lack of weeding, unavailability of fertilizers coupled with excessively high prices for agricultural inputs. These problems are coupled with poor transportation marketing outlets in case of the surplus crop that need to be sold and inadequate extension services.

Tea is the other important cash crop advocated by the Kenya Tea Development Authority (K.T.D.A.) to cater for small holders. This is supposed to serve as a source of constant and stable income. S.R.D.P. was significant in trying to strengthen small scale farming for development in an overpopulated

place through agricultural credit, extension services and demonstrations which are predominant in the K.T.D.A. programme. Like coffee the major problem being faced by the tea crop is the problem of land shortage. Thus as already indicated areas like Tigoi and Gamalenga cannot have tea plantations due to poor topography. The area produces about 2 million kgs. of tea which is marketed to the neighbouring tea factories in Nandi district as there is no tea factory in the area. The presence of tea in the area made it possible for the improvement of some roads which were specifically meant to connect tea growing areas to the market. These roads passing through the tea areas are bitumized in the most rugged areas. Infact K.T.D.A. is significant in trying to improve on the road networks in the area.

Maize is grown throughout the division on smallholder scale for consumption and sale of the surplus. Maize is the staple food crop of the area. The average division yield is 27 bags of 90 kilogrammes per hectare. This production could be raised as indicated by Wanga⁷ who says that given the existing good ecological background with good husbandry practice maize rates in the Kakamega district small scale farming areas could be increased to as high as 45 bags per hectare. Generally maize has been on the increase from the local type to hybrid. In 1978 first crop there was 4807 hectares of hybrid maize and 1543.6 hectares of local maize. Maize is a significant local sale subsistence crop. Beans and vegetables are also significant local sale subsistence crops which are grown in the Hamisi Division.

- 30 -

Vegetables in the area have been encouraged in area through 4K-Club and Volunteer Groups⁸. The vegetables planted here are onions, tomatoes, cabbages, leeks and cowpeas being sold at the local markets and tenders to institutions like schools and colleges.

Of the horticultural crops the pawpaw fruit is the most important one due to the Gambogi Paw Paw Factory. The factory has been expanding as it has ready market and is a good source of income for the farmers in the area.

While crop production is a significant economic activity in the area, there are some problems that are experienced. The problem of landlessness or lack of adequate land for agricultural activities is very predominant in the southern ward of Tiriki Location and Nyang'ori Location where the people are very concentrated, so that a household has to rely on very small pieces of land of less than a hectare⁹. The Northern ward of Tiriki still has larger plots of land and is not suffering from the problem of population pressure as in the Southern areas. There is also the problem of poor topography of the division so that the factor of land shortage is intensified and people insist on cultivating these areas.

Similarly apart from the Shamakhokho and Jeptulu areas which are served by the C39 Chavakali-Kapsabet bitumized primary road, the division generally suffers from poor transportation and no clear market for most local sale subsistence crops. Bananas which are grown all over the division are wasted as there is no organised market for this crop.

This would be a source of income if a Banana Wine Factory was started or a co-operative would be formed to serve the farmers as in the case of coffee and tea. Pineapples which are intensively grown in Hamisi, Senende and Shamakhokho Sub-Locations also lack an organised market. Besides there is also the problem of poor transportation for these crops. In addition to the above problems there is lack and limited finance and inadequate extension services experienced by the farmers. There is bias towards the cash crop small scale farmers, over 50% of the farmers visited have tea or coffee. Tea farmers are visited at least once per month or any other time they need the services.

2:2:1:2 Livestock Production

Livestock production has been significant in the area for consumption and other cultural obligations like bride price. These livestock include cattle, pigs, goats, sheep and poultry. The table 3 shows the distribution of livestock over the years.

Table 3

Bi-annual Livestock Population

January - June

	1976	1977	1978
Grade Cattle	585	450	2,721
Local Cows (Zebu)	-	-	11,760
Poultry	1,435	2,045	1,875
Other Birds	-	-	865
Sheep	-	-	4,210
Goats	-	-	5,383
Pigs	-	166	294

Information not available

Source: Ministry of Agriculture - Hamisi Division

The division has a higher number of local livestock even though both indigenous and exotic breeds are kept in the area. Currently animal husbandry is extensively encouraged on commercial basis in an effort to improve the incomes of the farmers due to the diminishing cultivable land. Due to scarcity of open pasture land, the agricultural department encourages the growing of napier grass plus potato vines and maize stalks for zero grazing of the cattle. The cattle is kept for beef and milk. There is a campaign for the expansion of grade cattle for higher milk and beef production as the zebu or local cattle milk production has remained low thus being insufficient to meet local demands. Artificial insemination is used to upgrade the zebu cattle to grade cattle so as to improve the quality and quantity of the milk and beef production of the indigenous cattle. Similarly grade cattle is relatively expensive for the farmers to buy, it is about 3,000/- per head. Initially people were afraid of artificial insemination, however with time they have accepted it, so that currently there are about 3000 cattle in the area. The increase of grade cattle calls for more dips as the grade cattle are prone to catch ticks than the zebu ones. There are 7 dips in the division in Kapsotik, Banja, Senende, Bumbo, Tigoi, Gisambai, Jepkoyai and Hamisi A Sub-Locations. This leaves a need for dips in Shiru, Gamalenga, Bulukhoba, Jeptulu, Shamakhokho, Ivola, Hamisi B and Gimarakwa Sub-locations. Currently the cattle have not had a significant influence on the economic activities besides the provision of milk and beef in

the area. However if the services for livestock are adequate, then other associated industries of diary and leather would be simultaneously encouraged. However, given the problem of land shortage, more so in the rugged areas there is need to control and discourage the number of cattle kept in such areas. Thus while zero grazing is encouraged it should only be encouraged in areas where it is possible to economically keep the cattle considering the size of the land.

Poultry especially exotic breeds are encouraged for incomes, broilers for meat production and layers for eggs and meat. Campaigns to expand poultry keeping were strengthened from 1976 when the Dutch sponsored the National Poultry Development Programme for demonstration. S.R.D.P. also encouraged poultry keeping as one way of generating rural incomes as it uses a small portion of land and has high returns. Besides there are other farmers who have kept poultry on their own initiative as there was ready market on local demand and the Manyatibu Cooperative Society. The major problems experienced in poultry keeping is that of buying feeds from Kisumu town (30-45km.) away. There is also the category of farmers who initially cannot afford membership fee to join the Manyatibu Cooperative Society. This results in marketing problems as the individual farmer has to find their own market. Finally the exotic breeds of poultry need very special care, they die very easily from disease. However, on the overall poultry require very little land they are to be encouraged in the division especially in the most densely populated areas.

Sheep and goats are kept in the division but their economic significance is not stressed. However, if a cattle leather industry was encouraged this would provide market for the goat and sheep skins.

Finally livestock keeping if practised with consideration of the modern economy would be an alternative source of income and employment without using large pieces of land. This would be achieved through intensification of production of grass and fodder crops for cattle. Consequently there would be need to extensify use of artificial insemination. Thus in effect having strongly developed dairy and leather industries.

2:3 Non-Agricultural Activities

The problem of land shortage is predominant in Hamisi. Division thus making it significant to consider other activities besides the agricultural base. Commerce and trade is an important non-agricultural activity which is carried on in the Urban Centre at Kaimosi, rural Centre of Hamisi, market Centres of Serem and Gambogi and the local centres of Banja, Kinu, Jeprok and Senende and finally other centres that have shops supplying local people with manufactured goods. The activities carried on in these centres are mainly of shop-keeping and open air market where the local people sell both agricultural products and manufactured goods. Most of the people who come to the market are from Tiriki, Maragoli and Nandi areas. The sale of local food crops is determined by the time of the year so that the rainy seasons have more horticultural crops and thus more traders as opposed to the drier season when only unperishable foods like maize and

beans are on market. The agricultural produce sold are generally from the individual farm products surplus. While the manufactured goods are bought from nearby wholesalers by the shop-keepers for retail trade.

The transport activities of matatu and bus ownership also employes a few of the people. However, this is very limited to a few individuals. Besides the agricultural activities, commerce and trade, teaching, nursing and clerical work, other areas of occupations are almost idle. There is a very negligible involvement in small scale wood or tin industries. Consequently the other open areas of rural activities need organisation so as to raise people's levels of living in their rural setting for instance brick making, pot making, quarrying, bee keeping, wood saw mills and maize crushing plants. Steps were taken by way of Rural Industrial Development Programme which took ground during S.R.D.P. however alot has still to be done in the field of rural Industrialization¹⁰.

2:4 Income and Employment

About 80-90% of the Hamisi population is involved in small scale agricultural activities, at either subsistence or both subsistence and cash crop level. This type of employment has peak and off season labour demands depending on whether its digging, weeding or harvesting time. This type of employment is very much fluctuating. Similarly the incomes from the agricultural sector of employment are very fluctuating depending on the type of farmer whether he is a rich cash crop farmer or a poor small scale farmer.

The poor small scale farmers are those farmers who have small plots as low as 1 hectare of land. Consequently there is a little of most of the subsistence crops like maize, bananas, beans and vegetables all interplanted. The outputs fall below subsistence for the family. In such a case there has to be other sources of income, in which these people usually work as casual labourers on other rich farmers' plots if they are not in any other wage employment. Similarly the male adults may migrate to the prime urban centres in search of wage earning jobs. The outmigration in search for employment outside the home does not have a strong influence as most of these migrants are casual labourers, earning small amounts of money almost no more than for their individual subsistence.

The better of small scale farmers have constant monthly incomes from the tea and at times from the coffee, while the incomes range from as low as 11/- to as high as 600/- or above. However the yearly incomes are higher with the majority of the farmers getting between the range of 600/- and 3,000/-. The better of farmers with larger parcels of tea plantations get as high as 10,000/- or over for their yearly bonuses.

The services like education, and health have employed a number of these people. The 81 primary schools in the division have employed about 800 teachers of whom about 210 are untrained form four leavers, 15 P4's, 128 P3's 211 P2's, 158 P1's and 13 S1's. These teachers have monthly incomes ranging from about 600/- to over 2,000/- depending on their qualification and years of services. Other teachers are employed in adult

literacy classes, secondary schools, colleges and nursery schools. Similarly the Kaimosi hospital, the health centres and the dispensaries have employed a number of these people. All these institutions employ casual labourers (usually local people) in their various departments.

There are also other people employed as clerical officers in the Hamisi Divisional Headquarter in the various government departments.

Commerce and trade also plays a significant role in providing employment to the local people. Shopkeepers in the designated services centres and other local centres have relatively permanent occupations and good incomes until or unless their business falls. In addition during the market days a substantial number of the local people are involved in selling some of their agricultural products. In this case the incomes and employment in such circumstances is not stabilized as the agricultural activities demand labour seasonally and the sale of surplus subsistence crops is influenced by the time of the year.

The transport activities of matatu and bus ownership also employes a few of the people in the area. However this is not a developed enterprise and therefore not significant.

Finally there are a few cases of quarrying and brick making however these are done on very temporary terms when there is demand. There is no organised market for such activities. These activities have a potential of absorbing more people without use of too large pieces of land if they are clearly organised.

This portion of the economic sector is significant for rural industrialization. This would be an alternative in the division as the population exceeds the land carrying capacity for efficient agricultural activities. These industries supplementing agricultural activities should be based on available local raw materials. Thus lack of diversified form of economic activities skewed towards crop production is a threat to proper and adequate employment as the land is fixed and those who need to utilize it are increasing rapidly.

In respect of income and employment there is need for an intensive research on these topics. The research should not only be placed on agricultural activities but also non-agricultural activities which have been neglected by the local people and thus need some type of organisation.

2:5 Summary

A consideration of the physical characteristics showed that the factors that affect land use: topography, altitude, rainfall, temperature and soils categorise the region in the star grass zone, which is a highly fertile area with outstanding capacities suitable for mixed arable and livestock farming. However, other physical features also limit the agricultural capacities. These are the hilly and stony features of the division more predominant in the southern sub-locations namely: Gamalenga, Tigoi, Ivola, Gisambai, Jepkoyai, Hamasi A, Hamasi B Gimarakwa, Kapsotik, and Banja. Severe pressure on land is experienced in these regions as some of these most rugged sub-locations are the most high density populated areas of the

division with over 600 people per sq. km. as in Tigoi, Gamalenga, Banja, Kapsotik, Gisambai and Ivola. There is very little available land, the outcrops of rocks and steep slopes reduce the size of cultivable land however people insist on cultivating these hilly areas thus encouraging soil erosion which is highly experienced in the area. Thus in such circumstances the potentiality of rich volcanic soils have been exhausted due to fragmentation and overutilization of these small pieces of land. The situation calls for alternatives so that the physical features of this area could be used more broadly in the sense that the stony and hilly areas should be used more resourceful beyond agricultural lines. Thus stones could be used as raw materials for block and brick industries. Similarly the dark friable clays could be used for brick and pottery industries.

The physical characteristics form the backbone of the economic activities in Hamisi. Agriculture is the basic economic activity practiced by about 80-90% of the population. This is done by practising small scale farming and livestock keeping. There is overdependence on land for agricultural activities. The most severe agricultural problem is land shortage, where an average household size of 7 persons has to rely on small pieces of land of less than a hectare. The other identified agricultural problems are inadequate extension services, lack and limited finance for managing the farms, poor transportation and no clear market for most local sale subsistence crops, unorganised sources of farm inputs and labour supply.

The non-agricultural activities though not well developed are carried on in the division namely: commerce and trade, small scale wood industry, and transport activities.

On the overall the above agricultural and non-agricultural activities are the major sources of income and employment for the populace of Hamisi Division. Infact there is overdependence on land for agricultural purposes with very little concern for other land resources as quarrying, brickmaking and saw milling. The economic base for the area is very thin and needs diversification to cope with the needs of the existing population.

6. Wanyo J.S.V. Op. 214 Page 43

7. Wanyo J.S.V. Op. 214

8. Wanyo J.S.V. Op. 214 Page 47

9. S.S.A. Volunteer group in the Social work demonstrating the significance of vegetables both for sale and consumption.

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CHAPTER THREE

3.0 SOCIAL CHARACTERISTICS

This chapter examines population as a significant social factor of rural development. There is an attempt to show the population situation by considering the population structure and distribution for example the population density and the patterns of settlement and dispersal. A consideration of the above population components are used in assessing population pressure. An example of this relationship can be illustrated by the example of an ever increasing population on a fixed piece of land which results in continuous fragmentation of land into uneconomic sizes especially for agricultural activities thus an indication or effect of population pressure.

3:1 Population

3:1:1 Growth

There has been population increase in the Hamisi area over the 1962 to 1979 period.

In 1962 the division had 50,900 people and in 1969 the population had risen to 79,591 people thus representing an average growth of about 6.3 per cent annual increase. By 1979 the population had risen to 95,330 people thus the growth rate between this period was about 1.8% per annum.

Basing on a rate of 1.8 per annual increase over the 1979 population census the Hamisi Division is expected to have about 138,654 people in 2000A.D. The improvement in the health services resulting in declining mortality and rising fertility rates has resulted in population growth. The relatively high difference in the annual growth rate between 1962 and 1969, and 1969 and 1979 of 6.2% and 1.8% respectively could be attributed to technical errors in the 1962 census as the manpower for enumeration was inefficient. Thus an the overall immigration from outside the division has not had significant effects on the population growth of the area. The rate of immigration to the division is very negligible, thus not affecting growth significantly.

Hamisi area is in its second stage of demographic transition, (The demographic transition is the historical shift of birth and death rates from high to low levels in a population. The second stage is when the decline of mortality precedes the decline in fertility thus resulting in rapid population growth) and is bound to grow until checked upon.

3:1:2 Distribution Patterns

In Kenya the population distribution is very uneven whereby only a small part of the land is inhabited. Western Kenya is the main population concentration. This pattern of distribution is basically a reflection of the resource endowment of the land.

It has been noted that over 80% of the total Kenyan population live in the core of this region. Kakamega Division is generally densely populated, the district shows a picture of increasing population density as one moves from the northern towards the southern parts of the area. Over the years the densities of the district have continued to increase. Hamisi Division has ranked as one of the highest population density division of the district as shown in Table I (Chapter One).

In 1962, Kakamega District had a population of 600,200 people, a density of 171 persons per sq. km. while Hamisi Division had 310 persons. In 1969 the density had risen to 222 people for Kakamega and 293 for 1979 while 485 and 581 for Hamisi Division respectively as shown in the table 4.

	1962	1969	1979			
Area	35	35	35	4,777	240	1,937
Population	600,200	1,330,000	2,030,000	4,358	314	5,786
Density	171	380	580	4,387	330	6,073
Area	26	26	26	6,906	680	8,211
Population	1,000,000	1,200,000	1,400,000	5,788	521	6,475
Density	385	462	538	4,703	196	5,278
Area	8	8	8	3,406	673	4,079
Population	300,000	350,000	400,000	7,031	580	9,074
Density	375	438	500	5,208	402	6,430
Area	30	30	30	4,406	497	5,903
Population	1,200,000	1,300,000	1,400,000	4,526	448	7,054

Information not available

Distinction made in 1962 and 1979

Population figures

Source - Census Bureau of Statistics

Table 4

Population Distribution

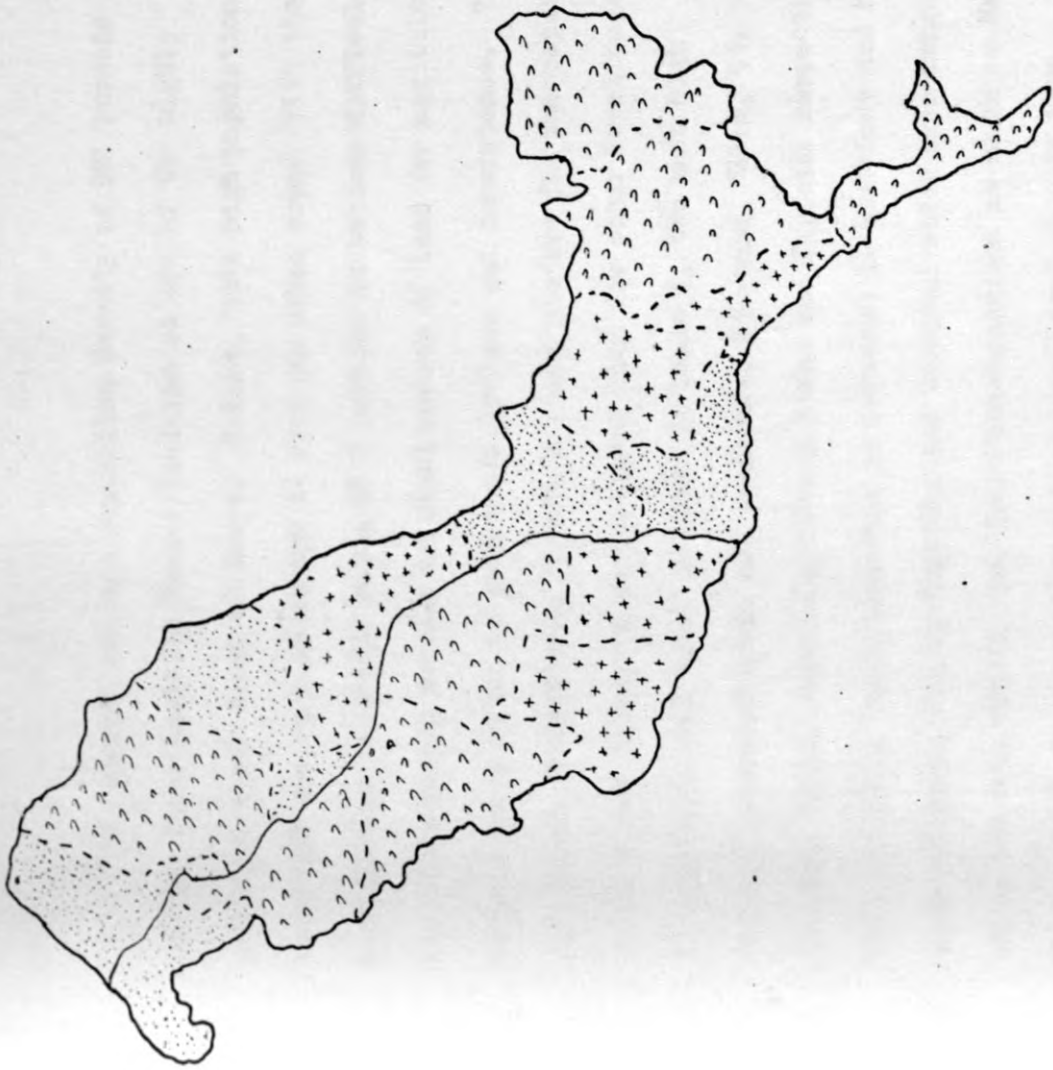
Location	Area in sq. Km	1962		1969		1979	
		Popu-lation	Den-sity	Popu-lation	Den-sity	Popu-lation	Den-sity
Kakamega District	3520	600,200	171	782,600	222	1,033,071	29
Hamisi Division	164	50,906	310	79,591	485	95,330	58
Tiriki Location	112	-	-	56,057	503	67,514	60
Ryang'ori Location	52	-	-	23,132	445	27,816	53
Banja Sub-Location	9	-	-	4,955	550	6,037	67
Hamisi B "	11	-	-	4,341	390	5,117	46
Kapsotik "	7	-	-	3,230	461	4,406	62
Gimarakwa "	9	-	-	3,353	382	3,892	43
Gamalenga "	3	-	-	2,514	838	2,495	83
Ivola "	12	-	-	4,777	398	5,869	48
Tigoi "	8	-	-	4,598	574	5,765	72
Jepkoyai "	15	-	-	4,947	330	6,571	43
Gisambai "	10	-	-	6,806	680	8,158	81
Hamisi A "	11	-	-	5,728	521	6,455	58
Senende "	8	-	-	4,703	589	5,709	71
Serem "	8	-	-	5,406	675	6,108	76
Shamakhokho)	15	-	-	7,831	540	9,553	63
Jeptulu)							
Bulukhoba "	13	-	-	5,266	405	6,436	49
Shiru "	9	-	-	4,466	497	5,000	55
Bumbo "	14	-	-	6,306	448	7,759	55

Information not available

Calculations based on 1969 and 1979

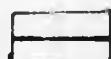
Population Figures

HAMISI DIVISION P.OPULATION



DENSITY — 1979

LEGEND



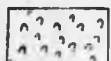
DIVISION BOUNDARY



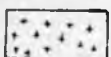
LOCATIONAL BOUNDARY



SUBLOCATIONAL BOUNDARY



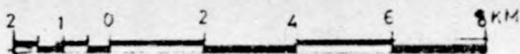
401-555 PERSONS PER SQ KM



556-700 PERSONS PER SQ KM



701-850 PERSONS PER SQ KM



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AND REGIONAL PLANNING
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MA THESIS

MAP 5

The present average population density of 581 persons per sq. km. classifies Hamisi Division as one of the highly populated rural areas of Kenya. Infact, this high population densities are high as though it were an urban area. With the high average household sizes of 7 persons it becomes difficult for these people to rely on small pieces of land for agricultural activities in order to earn their incomes and subsistence. This population distribution depicts a gloom picture for the population which depend mainly on agricultural land for their livelihood.

At sub-locational level as shown in table 4, the most high densely populated areas are Gamalenga, Gisambai, Serem, Tigoi, Senende, Banja, Jeptulu and Shamakhokho and Kapsotik respectively. This problem of high densities is worsened in the stony and hilly areas of Banja, Tigoi, Kapsotik and Gisambai which also range among the most densely populated sub-locations as shown on Map 5. This results in a very low agricultural productivity thus leading to low incomes or outmigration to other areas by the people in the working ages for search of employment. The typical rural economic activities like subsistence and cash crop farming cannot be successfully practised in such conditions. Infact these sub-locations with the highest population densities rank as having the highest pressure on land which leads to low farm sizes and farm fragmentation. In effect the available land implies a choice to the type of economic activities which require small parcels of land.

Migration a component of population change is the movement of people across a specified boundary for the purpose of residing. Internal migration occurs at two levels: in-migration and out-migration. Outmigration is important for population distribution as there is usually a correlation between population pressure and out-migration. There is the assumption that high population densities resulting in unaccessibility to agricultural land, land fragmentation and disputes, declining crop yields, food shortage, unemployment and underemployment are 'push' factors for outmigration by the males to the prime centres in search for wage earning jobs. In 1968, about 65% of the adult males of the division were employed outside the division¹. This trend of out-migration has continued and is one major cause of underdevelopment as the area is robbed of the male working ages. This leaves a preponderance of female and child labour for agricultural activities. This reduces the economic output as the males continue to make decisions about their farms in absentia. Migration to the urban centres is a short run solution to problems of population pressure as most of the migrants are on temporary jobs. They are not fully established consequently at one time or other they hope to return to Hamisi (their traditional home).

However, it cannot be ignored that outmigration in Hamisi to some extent has become contagious so that even males who would be better off in their homes migrate to the urban areas in search of jobs for example people from Northern ward of Tiriki.

In-migration within the division is also important, people from the very high population density areas migrate to the new settled areas in the northern Tiriki ward (former forest areas).

The internal migration is facilitated by the fact that while some areas of the division are hilly, stony and overutilized, there is still room in the former forest areas which are fertile and very promising for agricultural activities. Land as a resource in these areas is not a problem.

Various methods can be used to identify population pressure, land carrying capacity in relation to the existing population is one of these methods. Land carrying capacity is defined to mean the maximum point at which land can support specified human activities or natural flora or fauna without deteriorating. If people are in excess in relation to land carrying capacity there is said to be population pressure. The sub-locations in Hamisi like Gisambai and Gamalenga which are stony and hilly and yet having the highest density population figures suffer from the severest population pressure. Thus the high densities and falling sizes of land show how these areas experience population pressure. The average household holding of as low as 0.4 hectares for 7 persons fall far below the calculated optimum size of 3.5 hectares needed for an income of £100p.a. plus subsistence for a family of six in Kakamega District². Besides more recent studies show that £100 - £150p.a. per family in the present societal system are not sufficient to provide more than the basic necessities of life for these people³.

Thus the overall existing situation in Hamisi Division is of very high population densities exceeding the resources available for basic requirements. This is worsened by the fact that the area is mainly inhabited by 2 ethnic groups: Abaluhya (Tiriki and Maragoli) and Kalenjin.

Tiriki Location is mainly inhabited by the Tiriki while Nyang'ori Location is inhabited by the Tiriki, Maragoli and Kalenjin. The majority of these people (Abaluhya) have a strong attachment to land. Besides, the agricultural value for land, possession of land provides them with identity and ties them to their kins. Thus even if one is established in an urban area, they always wish to have some piece of land at their traditional home. Thus when the land distribution is being considered, the male absent population should not be ignored as they have tenure on some of these plots.

3:1:3 Composition

The breakdown of the 1979 population is not available. According to 1969 census of the 79,591 people in Hamisi, 34,990 were adults and 44,601 were children. Of these there were 38,320 males and 41,271 females. Of the 23,175 people in Nyang'ori Location there were 11,189 males and 11,986 females. This was composed of 6,461 male children and 4,728 male adults with 6,444 female children and 5,542 female adults. Tiriki had a population of 56,416 people, 27,131 males and 29,285 females. There were 15,795 male children, 11,336 male adults, 15,901 female children and 13,384 female adults.

On the overall the number of male and female children is almost equal. However the number of female adults is greater than those of adult males. This is partly because of the male outmigration leaving a preponderance of youth and female population in the rural areas.

Calculations based on 1978 population figures for Hamisi⁴ show a preponderance of youth who are mainly in the dependence ratio 54% of the entire population was aged between 0-15 years and about 13% are aged 60 years and above thus leaving only 33% in the working ages.

The age-dependency ratio is often used as an indicator of the economic burden the productive portion a population must carry. The dependency ratio

$$= \frac{\text{Population under 15} + \text{Population over 60} \times 100}{\text{Population aged 15-59}}$$

In actual figures the age-dependency ration for Hamisi Division

$$= \frac{48,700 + 15,580 \times 100}{31,200} = 170$$

Thus the age-dependency ration in the Hamisi area in 1978 was about 170. This means that there were 170 person in the dependant ages for every 100 persons in the working ages. However there are some problems associated with the calculations of dependency ration where more detailed data are lacking. Thus some people defined as dependants are producers and some persons in the productive age are economically dependant. This as a factor should not be ignored in a rural setting like this one of Hamisi.

Table 5

1969 Population Census (Hamisi)

	<u>Number</u>
Male	38,320
Female	41,271
Adults	34,990
Children	44,601

3:1:4 Projection

Basing on the 1969 and 1979 population figures the Hamisi area's population growth rate is 1.8%. Consequently assuming a constant growth rate by the year 2000A.D. the population will be 138,654 people for Hamisi Division, 98,197 for Tiriki Location and finally 40,547 for Nyang'ori Location. With the already existing population pressure and the economic activities in the area such a high population is a big threat to the development of the area.

This calls for a reduction in the population size and expanded provision of infrastructure and social services for the division to serve the population.

3:2 Settlement Pattern

The population of Hamisi Division is distributed over homesteads, villages and service centres.

The individual dispersed homestead is predominant. Thus the individual sites his dwelling unit on his accord and preference. This results in an unplanned nature and haphazardly scattered settlement. The parcels of land in between these homesteads is used for cultivation. This pattern of human settlement is characterized by very small uneconomic parcels of land. Though dispersed these homesteads are concentrated as the dwelling units in the high density places are closely built with very small pieces of land separating the units.

In addition, there is also the village pattern of settlement where various households have dwelling units

concentrated in a central compound, this is usually based on extended family ties where a grand-father, his son and his son's son have their dwelling units in one place. This village type of settlement is being overshadowed by the individual homestead pattern.

The centres also provide some form of accommodation for the people. This is mainly at the urban centre of Kaimosi where there are Institutions like the Hospital, Bible College, Technological College, Girls Secondary School and the Primary School. There is also some low residential accommodation at Hamisi for the Government administrative officers for the divisional Headquarter. Generally the centres mainly have commercial and trading activities which pull people from all over the division during market days. These people go back to their homes by the end of the market days.

Thus land ownership and the fact that the people are predominantly an agricultural group has influenced the type of settlement. Land ownership in this area has gone through transitions like other areas of the nation from communal ownership to individual ownership. Traditionally land was acquired with no strict defined boundaries through rights by first clearance, rights over large grazing areas, rights through marriages and inheritance. This type of ownership was complex with the clan, lineage, family and individual holding rights in a decreasing order. The individual rights over land were minimal, however the land problem was not critical as the existing population did not exceed the available land.

It is this sense of kinship loyalty which led to homesteads being nucleated in one particular place as decided by the elder of the clan. This type of settlement is reflected in the village type of settlement.

Currently with the cash crop economy and high population density individualization of land ownership is predominant. Individualization of land ownership is done by granting title deeds to household heads and others who qualify for ownership. The registration of land ownership was encouraged as a government policy which was supposed to serve for security and certainty thus reducing land use conflicts. Land titles would mortgage agricultural loans and credit for individual farmers. In Hamisi, S.R.D.P. opened several schemes to speed up the process of registration so that farmers would qualify for credit schemes that were availed for the Pilot Projects. Registration of land has implications on the type of human settlement. For example the Hamisi area's type of homestead settlement is on individual owned land. Ownership is entitled to those with title deeds. With land consolidation and adjudication the owners have tenure over land, right to hold and use land unchallenged. This problem of land shortage is expected to increase with the current procedure of land sub-division where all sons are heirs to their father's land. Mbithi⁵ says

"Thus one sees the continuity of the family and family name through a system of inheritance of a piece of land "great-grandfather settled here, he is buried here, my grandfather farmed this land. I will continue to hold it for my children."

This conception of inheritance of land results into a higher

concentration of homesteads as more structures are put up by members of the family who gain from the sub-division of plots to members of the family. This rural population is supposed to be served by the designated service centres. These centres are significant for development as they are supposed to provide service levels of administration, social and commercial for the rural population. These centres are also supposed to be catchment areas for the overspill population who would otherwise migrate to the prime urban centres or continuously subdivide their farms due to population pressure. To act as alternative areas of employment the centres need to be well equipped with the required facilities: markets, post office, educational, health, banks, sanitation, power, telephone and so forth to attract activities for rural development.

There are various centres in Hamisi area of which 8 are designated as follows:

- | | | | |
|-----|----------------|---|----------------------------------|
| 1.. | Urban Centre | - | Kaimosi |
| 1 | Rural Centre | - | Hamisi |
| 2 | Market Centres | - | Serem and Gambigi |
| 4 | Local Centres | - | Banja, Kinu, Senende and Jeprook |

(The actual location and distribution is shown on Map 2). However as shown in Table 6, the level of services is low, some centres lack the essential services. Service centres would cater for a large size of population without experiencing pressure if non-agricultural activities were created. If the anticipated services were provided then Hamisi Division would not experience the acute population pressure. Kaimosi the urban centre would

Table 6

Hamisi Division Service Centres, Infrastructure and Services

Service Centre	Divisional Hq.	Chief Sub Chief	Police Post	Judicial	Local Govt. -	Bank	Library	Cinema	Electricity	Sewerage	Water D.D. other	Health Hospital Health Centre Dispensary	Posts & Teléc. Post Office Sub P.O.	Phone	Bus Service Frequency	Education T.F.C. Secondary Primary V.P.
<u>Urban</u>																
Kaimosi	-	-	-	-	-	-	-	-	x	-	x	x x x	- x	x	x	x x x -
<u>Rural</u>																
Hamisi	x	x	x	x	-	x	-	-	-	-	-	- x x	- x	-	x	- x x -
<u>Market</u>																
Serem	-	-	x	-	-	x	-	-	-	-	-	- - x	- x	x	x	- - x -
Gambogi	-	-	-	-	-	-	-	-	x	-	x	- x x	- x	x	-	- - x -
<u>Local</u>																
Banja	-	-	-	-	-	-	-	-	-	-	-	- - x	- -	-	-	- - x -
Senende	-	-	-	-	-	-	-	-	-	-	-	- - -	- -	-	-	- x x -
Kinu	-	-	-	-	-	-	-	-	-	-	-	- - -	- -	-	-	- - x -
Jeprok	-	-	-	-	-	-	-	-	-	-	-	- - -	- -	-	-	- x -

- None

x Available

Source: Field Survey

be catering for the 95,330 and even the neighbours without problems as an urban centre is to cater for 120,000 rural population. Similarly the other centres would also cater for the people. Hamisi a rural centre catering for 40,000, Serem and Gambogi for 15,000 each and finally Banja, Jeprok and Senende local centres would cater for every 5,000 rural population. For this to be achieved there is need for a developed efficient and reliable transportation network to connect the centres to the rural population.

3:3:0 Social Services

The provision of social services is of vital importance in many ways. For humanitarian purposes services are to improve the welfare of the rural population. The economic reasons for introducing services are shown in the sense that better health reduced domestic chores and higher levels of education can contribute to increase in agricultural productivity through increases in quantity and quality of labour⁶. The social services being considered are education and health.

3:3:1 Educational Services

Educating human beings to be most productive is a significant element of rural development. This involves the distribution of education facilities of all levels. Currently in Hamisi Division there are about 21 nursery schools, 81 primary schools and 16 secondary schools (9 at Form II, 6 at Form IV and I at Form VI level) etc.

A consideration of the educational situation shows that

the main problem is that of inadequate and poor spatial distribution.

Nursery schools are very inefficiently and inadequately distributed consequently all sub-locations fall short of the needed situation. The problem is more critical in sub-locations like Jepkoyai, Hamisi B, Hamisi A, Ivola, Bulukhoba and H Shamakhokho where there are no nurseries available. Basing on the distance to be travelled by the school goers and the number of these school goers the Hamisi D.D.C.⁷ proposed 83 nursery schools as the adequate number for children in the area as opposed to the existing 21 nursery schools.

The primary schools consist of 795 streams and accomodates about 24,585 pupils. Currently there are about 38,132 primary school going age children thus showing that the present number of streams is not adequate basing on the enrollment of 35-40 pupils per class. There is need to increase the streams to about 1,000 streams to accomodate these children. The increase should take into account the distance to be travelled by these children besides the number to be accomodated. With the Free Primary Education Scheme all children should be accomodated in bid to help wipe out illiteracy.

The existing secondary schools are Government aided, assisted and unaided. Currently four schools, 2 for boys and 2 for girls are Government aided.

There are 2 Government assisted schools 1 for girls and the other mixed.

Finally there are 10 unaided schools of which 1 is a Girls' school and the rest are mixed schools.

The present number of secondary schools is adequate, however the standard is very low with only 6 schools going upto Form IV level and one of Form VI level. The schools need to be improved on their general standards and levels. The poor standards (staff, levels, etc) has resulted into the dying of Muhundu Secondary School as it lacked students, a phenomena likely to happen to Givogi and Museywa Secondary Schools unless improved upon.

Of the 3 teacher training colleges in Western Province, one is located at Kaimosi, it is fully aided by Government and trains teachers of the P.3, P.2 and P.1 levels. There is a polytechnic in Gisambai sub-location, more of these polytechnics are needed as dictated by the Primary and Secondary school leavers.

Finally with the campaign for adult education as a Government Policy there are about 30 adult education classes, even though attendance is not constant. Attendance is influenced by labour demand seasons in the region. Thus, the most underdeveloped sector of education is lack of technical skills to cope up with the labour requirements of rural industrialization.

With the form IV and Form VI school leavers and graduate teachers the educational institutions generally do not lack staff. However, the nursery schools and technical institutions if expanded would require staff to be trained for the purposes. This as a sector of training needs to be developed to serve the nursery and technical schools. The aim here is for the

existing population to be efficiently served in consideration of the school-goers and the distance they can travel, the staff and the educational institutions of all levels to satisfy the population's requirements.

3:3:2 Health Services

Health facilities are a necessary component of rural development complimentary to educational facilities in necessitating productive human beings for the efficient utilization of resources.

The division has 1 hospital located in the northern part at Kaimosi with 132 beds and 2 health centres at Hamisi and Banja with 30 beds and 2 dispensaries at Serem and Shiru. These health services are located in the Central, Eastern and Northern parts of the division. This exposes a poor spatial distribution of these services, there is need to build more health facilities to serve the Southern and Western parts of the division which are deficient of the health services. These services need to be located in service centres with improved roadnetwork, the population would have easy access to these services. These services should be coupled with increased training of skilled manpower to man the institutions.

The health facilities expose a poor spatial distribution of the services which are located in the Eastern, Central and Northern parts leaving the Southern and Western areas without these facilities. There is need to have health facilities distributed evenly all over the division to serve the area efficiently.

3:4 Summary

The area has had a population increase over the years for example from 1962 to 1979 there was an increase from 50,900 people to 95,330 respectively, projected to grow to 138,654 people by 2000A.D. This increase is due to improvement in health services, so that there is a decline in mortality coupled with high fertility rates. Similarly the area has high family sizes averaging 7 people per household, and high population densities averaging 581 persons per sq. km as though it were an urban setting. The population densities range from 432 - 831 people per sq. km., all the sub-locations have experienced an increase in the population distribution over the years. The population distribution depicts a gloom picture for the population which depend mainly on agricultural land for livelihood as the population exceeds the resources available. This is more severe in the very high density and similarly stony and hilly areas. The effect is low agricultural yields thus leading to low incomes, outmigration to industrial towns in search of employment or migration within the division to the former forest areas by people from the more densely populated areas.

Out-migration to the prime centres is only a temporary solution to the problem of pressure on land, as the migrants still have a claim to the land in the rural areas. Similarly it has negative implications on the economic activities as the area has a preponderance of females and children. These children are school-goers and the women are responsible for providing labour for household chores besides agricultural labour.

On the overall the population composition of the area shows a high dependence ratio.

The type of settlement is predominantly of individual dispersed homesteads with a few cases of villages and service centres. Though dispersed these homesteads are concentrated as the dwelling units are closely built with very small pieces of land separating the units. This problem of land shortage is expected to increase with the current procedure of land sub-division where all sons are heirs to their father's land.

The educational and health services meant to serve these people are mainly of poor spatial distribution and inadequacies for example the absence of nursery schools in Jepkoyai, Hamisi A, Ivola, Shamakhokho and Bulukhoba sub-locations. Similarly problems of inadequacies are shown in sub-locations like Jeptulu, and Hamisi A with only one nursery school to serve the whole population. There is only one polytechnic in the whole division.

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CHAPTER FOUR

4.0. INFRASTRUCTURE

Adequate and efficient infrastructure is necessary for rural development, as they form part of the significant interdependent sectors that aid the rural economy's functions broadly. The infrastructure considered here are communication, water supply and energy.

4:1 Communications

This refers to several means that enable exchange, transportation of messages, information, people and goods ranging from mass media, postal services and technical transport modes. The study considers postal services and transportation in Hamisi Division.

4:1:1 Post and Telecommunication Services

This includes the telephone, telex, telegram and letter dispatch services. These postal services are associated with cost-reducing effect as they transmit messages and commodities at reduced costs.

4:1:1:1 Postal Services

The highest hierarchy of postal services in the division is the sub-Post Offices level found at Kaimosi (an urban centre) Hamisi (rural centre) and Gambogi and Serem (market centres) which distribute letters and telegrams. In addition Kaimosi

also has a Post Office Savings Bank where the local people invest their money. This is a good form of savings as the business can be transacted at any Post Office Savings Bank in the Republic of Kenya: the initial deposit could be as low as 40/- while further deposits of as low as 5/- are allowed.

The Sub-Post Offices have privately owned boxes serving some of the individuals at the rate of 80/- per annum. Besides, the Sub-Post services, there are post office services being offered through agencies at individual or institutional levels. These agencies are mainly used to distribute letters of the rural population that do not have direct access to post office services. Services offered by these agencies are usually coupled with inefficiency and inadequacy. The agencies do not supply the letters to the individuals unless in few cases where the agencies are known to these people. Alternatively the letters pass in different hands before reaching the owners and thus the letters take too long before reaching the owners or may be lost in the process. Similarly the agencies can only dispatch ordinary mails, telegrams and registered articles must be transacted at post offices. This situation shows the inefficiency and inadequacy in postal services as the majority of the people are served by these agencies. To help solve these shortcomings there is need for post offices in all the designated centres of which currently the local centre: Senende, Kinu, Banja and Jeprok still lack these services.

4:1:1:2 Telephone Services

Telephone exchange services are connected at Kaimosi,

Gambogi, and Serem. Hamisi the only rural centre lacks a telephone connection, however the new exchange for the area is to be introduced by May 1981.¹ The telephone exchange in the division are in service from 8a.m. to 8p.m. The connection is basically for institutions and private individuals, the public has 1 booth located at each Sub-Post Office for use. Telephone services in the division are still insufficient. For the rural population to be served adequately there is need to expand the telephone exchange services for the public.

4:1:2 Transportation

A developed, efficient, adequate and reliable transportation system is necessary for rural development. The transportation network is significant as it connects areas in a region for varied functions. The principal form of transport in Hamisi Division is the roadnetwork. The distribution of the roadnetwork as classified by Ministry of Works is shown in Map 6.

The division is by passed by the international trunk road from Kisumu through Kakamega to Webuye (A1). The distribution of roads in Hamisi are as follows:

- 1) Chavakali - Kapsabet C39, is a primary road which joins the Kisumu to Webuye international trunk road at Chavakali. This is the major road for the division. This road passes through Shamakhokho, Jeptulu, Bumbo and Shiru Sub-locations. The road is regularly serviced by matatu's and buses on transit from Kisumu to Eldoret. It is an all weather road intensively used by the local people in transporting some of their agricultural produce to Eldoret, Kisumu, Kakamega and Kapsabet.

This road is a significant produce outlet for the division. Thus along the road at Shamakhokho, Jeptulu (Kaimosi) the local people intensively sell bananas and vegetables.

- 2) Shamakhokho to Serem D292 is a secondary road which joins the C39 (Kaimosi to Kapsabet) at Shamakhokho. This road is regularly serviced by buses and matatus from Kisumu whose destination is the Serem market. The road is not bitumized it is a seasonal road, thus it is dusty during the dry season and almost impassable during the rainy season. This road requires improvement as it connects people to one major market in the division. This road is an important road that is supposed to serve the farmers in transporting their produce and inputs to Kisumu and their farms respectively. This road D292 also connects Gambogi market from Serem market through Banja and Jeprok. At Gambogi it joins the Kisumu-Webuye international trunk road. This D292 road is a significant road as it connects centres, and joins both the C39 road to Eldoret and AI road to Kisumu and Webuye. If adequately maintained it would have a big positive impact on the marketing of the produce from all over the division.

- 3) Majengo (Gisambai) to Serem E291 is classified as a minor road which joins the AI road at Majengo; it is a seasonal road in very poor condition. The road is impassable during the wet season and very dusty during the dry season. The mode of transport on this road is mainly cycling and walking. The matatu services are usually available on Saturdays and Wednesdays (market days for Serem Centre).

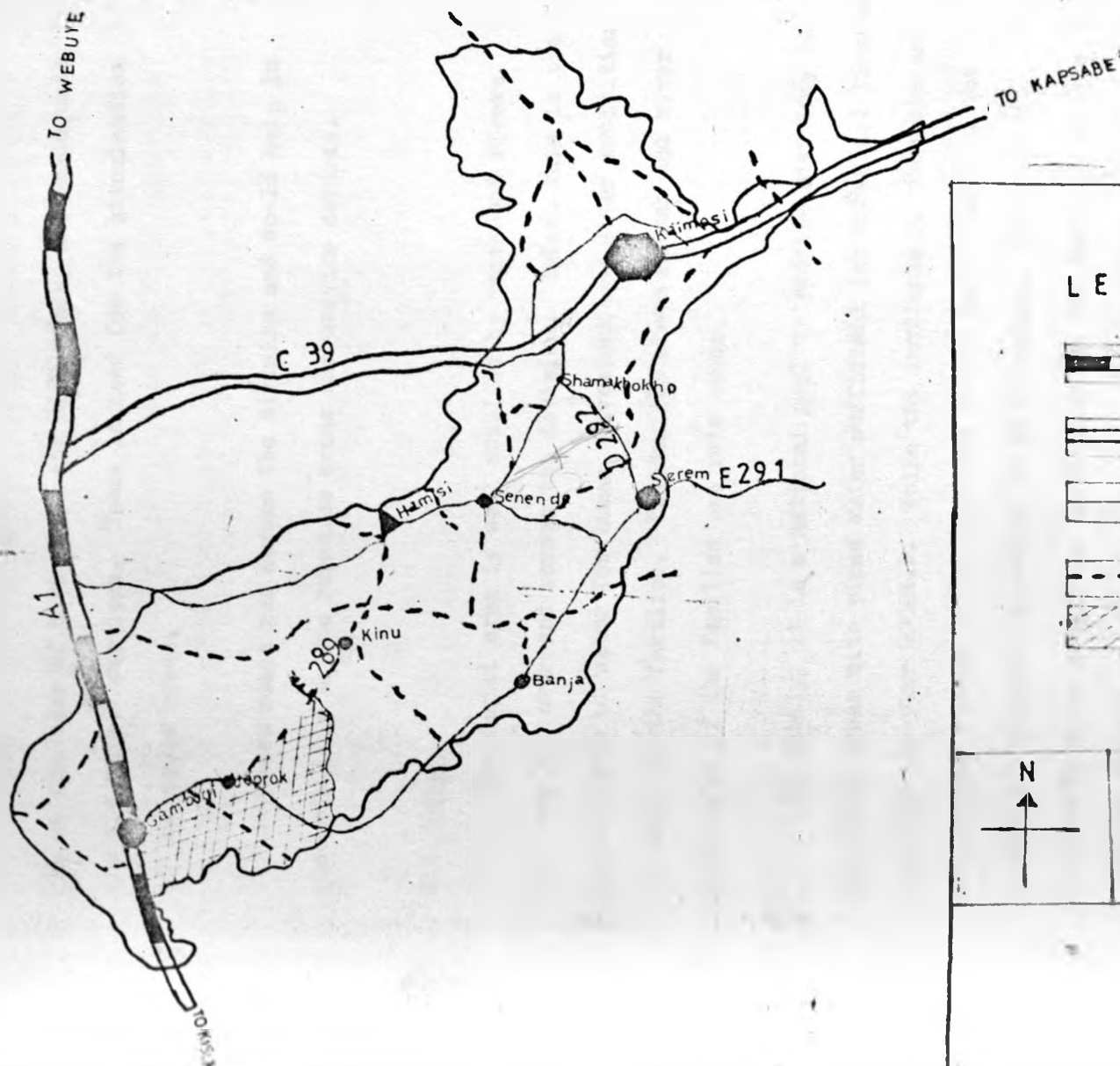
People who are serviced by this road are at a disadvantage as their perishable agricultural products cannot reach the market in time. Those people who insist on carrying their produce for example bananas and vegetables to market not only waste a lot of time in walking but they only manage to carry a little of their produce to the market. The road is a priority in need of bitumization, to be used as a produce outlet for the people along this road.

E289, a minor road from Hamisi to Gambigi falls in the same category as the E291. The poor conditions of the roads have resulted in the absence of regular services of buses and matatus.






The division being a tea area and a former S.R.D.P. area many access roads were opened consequently most the region is accessible by road. However some areas lack roads that can easily connect them as in the case of Hamisi B and Banja Sub-Locations even though they are adjacent to each other.

On the overall, transportation is identified as a major problem in the Hamisi due to the poor conditions of the roads which have partly resulted in the absence of regular services of buses and matatus. This results in predominance of walking as the mode of transport for the area. Walking as a mode of transport is neither adequate nor efficient in transporting products for marketing. Infact Hamisi Division being an agricultural area, the road network is necessary for transporting the cash crops and other products for sale and carrying consumer goods from the manufacturing centres to the people. Currently the division faces the problem of poorly maintained roads

HAMISI DIVISION TRANSPORTATION AND WATER



LEGEND

-  International Trunk Road
-  Primary Road
-  Secondary Roads
-  Minor Roads
-  Area without water Projects



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MAP 6

(as in the case of D292, E291 and E289 roads) and inadequate bus and matatu services. There is need for the bitumization of the above roads.

These roads run across the division and could help in accessibility to the resource areas and service centres.

4:2 Water

The Hamisi area is well supplied by permanent rivers that run all over and across the division. Infact this is the basic source of water for human, livestock and other activities for most of the families. Besides the above stream and river water a few of the families use rain water.

Currently, it is a national goal to provide everybody in the rural areas with piped water sufficient for human and livestock needs by the year 2000A.D. While the incidence of droughts and water-borne diseases in the division is not acute there is the problem of distance travelled to fetch water. Similary the division's water supply is inefficient as the majority of the families depend on untreated water. Consequently there are some water schemes in the division meant to improve on the situation of water source and supplies. There are 5 water schemes in the division².

- 1) The Hamisi Water Project which covers the Division Headquarter, the D.O.'s staff houses, Hamisi Judicial Department, Agricultural Department, Health Centre and market. There are plans of extending it to wananchi of Hamisi A and Hamisi B Sub-Locations.

It is a Government project by the Ministry of Water Development.

- 2) Sosiani Water Supply - This covers the Tigoi market and school, Gamalenga and Gambogi. It is a joint Government and Harambee Project.
- 3) The Senende Water Scheme still in process is a UNICEF and Ministry of Health project. It is to serve the Senende School and the whole Senende Sub-Location. It is in the process of construction.
- 4) The Goibei Water Project is on Harambee basis meant to extend and serve Banja Sub-Location.
- 5) The Bumbo-Shamakhokho Water is the biggest water project in process and is supposed to cover 6 Sub-Locations, Bumbo, Jeptulu, Shiru, Serem, Shamakhokho, and Kapsotik.

On the overall, when completed these water schemes will solve the water problems of the division. Gimarakwa sub-location still remains to be served by a water project. However, the anticipated problems in such a situation is the problem of maintenance as the people being used to free and natural water, it takes time for them to see the necessity for paying to get a share of it or for the water's maintenance.

4:3 Energy

Wood, fuel and electricity are the sources of power in the area. Wood is used to provide building materials besides being used for heating and cooking. Infact there is overdependence

on wood as the main form of energy in form of firewood or charcoal. However due to high population densities people have cleared former forest areas for settlement and agricultural, thus limiting the available timber resulting in shortage of energy supply.

Consequently there is need to provide alternative means of energy. Fuel, which is used for cooking and lighting is relatively expensive as the oil prices keep hiking. Oil is also an exhaustible and immutable resources consequently its not a solution for energy in the long run. Electricity is connected to Kaimosi and Gambogi centres only. The generation is mainly for institutional use, a very negligible number of individuals have electric connections. Rural electrification is a feasible alternative source of energy as the Lwandoni and Galagoli rivers can be utilized for generation of power. There is need for man-power with technical know-how on how to generate electricity given the available resources.

Besides the above forms of energy there is need to consider other means of harnessing all forms and source of energy and thus conserve the energy in the area. This involves a look into the use of biogas and solar energy and where possible afforestation or reafforestation to rehabilitate the deforested area. Similarly energy saving charcoal stoves should be encouraged in the area. Thus power is greatly needed if the rural activities are to be diversified. Electricity is significant for large scale industrial activities like paper industries, quarry projects, saw mills and other rural activities.

4:4 Summary

Infrastructure is the backbone on which rural development depends. There are some shortcomings experienced in the Hamisi area in this sector. A consideration of the communication network shows that the postal services are inadequate as not all the people have direct access to post office services. Similarly the telephone exchange connections are only limited to a small portion of the division, thus there is need for expansion if the lines should adequately serve the public.

Roadnetwork is the principal form of transport in the area. Generally being a tea area and a former S.R.D.P. region most of the area is accessible by road. However transportation still remains a major problem in the area due to poorly maintained roads, unserviced with buses and matatus. For example the D292, E291 and E289 roads are not all weather roads, they are impassable during the rainy season and very dusty during the dry season. This poor condition of the roads have resulted in the absence of regular services of buses and matatus.

In bid to provide everybody with piped water by 2000A.D. there are schemes covering all the sub-locations in the area except Gimarakwa. The problems to be considered in this respect are the successful distribution of water to the families when the schemes are completed.

Finally energy is the least developed resource in the division and yet the most needed for rural industrial activities.

Consequently there is need to research into means and ways of developing and conserving energy resource.

- 1. Source - District Headquarters Office
- 2. Source - Field Survey by various

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1. Source - Kaimosi Sub-Post Office
2. Source - Field Survey by author

This chapter presents the major findings, planning implications, policy recommendations and conclusions of the study. The study examined the impact of population pressure and other related factors on development in Baringo Division, thereby suggesting planning approaches for the area with regard to the existing situation as shown by the findings.

1.1. Major Findings and Their Planning Implications

The study revealed that population pressure is experienced in the area due to factors related directly to the population density and attributed to the population factors.

Considering the social situation, there is the indication that the area has had a population increase over the years. The population is high population densities averaging 500 people per sq. km. (ranging from about 450 to over 800 people per sq. km. at sub-locational level). These densities are high as though the area was very rich with industrial, commercial and other non-farm activities that require small pieces of land and yet are able to support large populations. In the reverse people in Baringo Division resort to farming activities, in fact over 90% of the population rely on agriculture for their livelihood. The ever increasing population faced with fixed land has resulted into low yields of less than 1 hectare and non-plant sub-divisions of the land into economic sizes.

CHAPTER FIVE

5.0 PLANNING IMPLICATIONS, POLICY RECOMMENDATIONS AND CONCLUSIONS

This chapter presents the major findings, planning implications, policy recommendations and conclusions of the study. The study examined the impact of population pressure and other related factors on development in Hamisi Division. Finally suggesting planning approaches for the area with regard to the existing situation as shown by the findings.

5:1 Major Findings and Their Planning Implications

The study confirmed that population pressure is experienced in the area due to factors related directly to the population dynamic and others external to the population factor.

Considering the social situation, there is the indication that the area has had a population increase over the years thus resulting in high population densities averaging 581 people per sq. km. (ranging from about 430 to over 800 people per sq. km. at Sub-locational level). These densities are high as though this area were urban with industrial, commercial and other non-farm activities that require small pieces of land and yet are able to support large populations. On the reverse people in Hamisi Division insist on farming activities, infact over 90% of the population rely on agriculture for their livelihood. The ever increasing population faced with fixed land has resulted into low holdings of less than 1 hectare and constant sub-division of the lands into uneconomic sizes.

This in effect results in the existing population exceeding the land carrying capacity for agricultural activities. The productivity in the area as a result is very low so that it falls below subsistence level. This has various effects of which migration is significant. The able-bodied men migrate temporarily to industrial and commercial urban centres in search for employment to supplement the low incomes from their small plots. Similarly there is in-migration from the most densely populated areas of the division to the less populated areas of the division. Migration is extended to the Nandi District where land still remains idle and undeveloped by the inhabitants. The high densities are coupled with high family sizes averaging at 7 persons per household having a preponderance of the dependency ratio. This gives a heavier economic burden to the working population. The existing population is mainly due to a decrease in death rate, sustained high birth rate which results in a large youthful structure.

External to the population factor the physical and economic factors have also contributed to an increase in population pressure. The physical characteristics form the backbone of the economic base of the area, with land constituting the major natural resource. The Hamisi area falls within the star grass zone a potentially fertile area with outstanding capacities to support varied agricultural activities. However, there are constraints to this agricultural potentiality namely: outcrops of rocks and steep slopes, overutilization, fragmentation and heavy use of land without fertilizers.

The outcrops of rocks and steep slopes reduce the actual landsize holdings for cultivation thus increasing pressure on land. This experience is widespread in the Southern part of the division. Soil erosion is greatly experienced in these areas as people insist on cultivating the hilly and stony areas. This results in poor agricultural yields thus worsening the population problem. A clear example is seen in cases where most of the farmers have holdings of less than 1 hectare as opposed to over 3.5 hectares needed for sufficient income and subsistence for these families. This results in problems of poverty and lack of employment. Infact the maximum area suitable for cultivation has been reached in most of the sub-locations of the division.

Thus in planning for such an area there is need to show that persistence on agriculture has negative effects there is need to diversify the economic activities. Similary the agricultural policies in the area should be on increasing productivity and not increasing the area under cultivating. Land as a resource should not be used narrowly, non-agricultural economic activities should be intensified for example small scale industries (quarring brickmaking and pottery which are currently not developed).

In an interrelated manner the main issues of population pressure in the area arise due to demographic factors and other constraints like low-level innovation and lack of diversified forms of agricultural and non-agricultural activities and rugged topography.

Finally infrastructure and social services are significant, in affecting rural development.

However, the services and infrastructure expose inefficiency and inadequacy that need improvement. For example the road network which is significant for economic activities showed the pitfalls in the sense that the Eastern, South Eastern and Central parts of the division lack all weather road networks. The situation needs improvement so that all areas of the division are accessible all year round.

All these problems unless checked upon have detrimental effects on the development of the area for example the economic base unless widened will continually result in downward transition or underdevelopment. Similarly if the population continues to increase, faced with fixed land and other undeveloped and limited resources, the population will continually apply brakes to development as most of the people will lack sources of income and employment and thus the ultimate situation is one of poverty for the majority of the population.

In such a situation the problems to be solved are those related to population and thus resulting in population pressure and others external to the population variable and still result in population pressure. The planning policy in such an area is to fight population pressure caused by the type of population distribution. An improvement on the economic base so that the resources are used as economically as possible to achieve the greatest and maximum outputs and reduce loss of valuable resources for example the stones and clays in the division. A solution of these problems is a way of relieving population pressure for proper rural development.

5:2 Policy Recommendations

The basic aim is to suggest and recommend possible planning approaches that take into account the factor of population pressure as seen in its social, economic, infrastructural and physical context. Consequently an attempt to solve the identified problems is necessary for rural development in Hamisi Division. The recommendations meant to check the above problems are: reduction of household sizes, resettlement programmes, diversification of agricultural production and provision of adequate and efficient infrastructure and social services. Thus the reduction of the number of people to cope with the available resources is only a step to development. Consequently the resources need to be utilized properly for maximum returns at the least cost. It is at this level that the recommendations are proposed considering the population, economic, infrastructural and social situation all significant interrelated factors of development.

5:2:1 Reduction of Household Sizes

The average household size of 7 persons is high, the fact that these persons are to rely on a piece of land (less than 1 hectare) calls for a reduction of these household sizes. To have the household sizes reduced there is need for family planning programmes. Family planning programmes were initiated by the Kenya Government in 1967, thus advocating the spacing and control of children. The Ministry of Health in liason with UNICEF sponsored research groups have been working in some of the Tiriki Sub-locations on family planning issues.

This has met cultural and communication constraints. The cultural constraint springs from the fact that the people believe God gives children and is responsible for their sustenance no matter what the number. Consequently it is a delicate issue that needs to be communicated carefully especially to the people of low formal education. Despite the constraints family planning campaigns need to be intensified and integrated into the peoples' culture. The local people should be made to appreciate family planning from the grassroot level. It becomes significant and necessary to recruit indigenous family planning educators and other charismatic leaders from organisations who have accepted family planning. These are the appropriate family planning agents. The failure of implementing reduction of birth rate is not due to lack of effort, however its due to poor communication. There are problems in approach in the sense that people with large families are depicted as social failures through films. They can do nothing about their large families, consequently they are alienated and thus completely ignore issues of family planning. Given a better approach these are the people who would convince the younger generation to have fewer children after being made to understand the problems of having too many children beyond one's capacity to manage and care.

The Ministry of Health and mass media should train the extension agents of change to know the role of national census from which basic population data is acquired. Similarly explain the causes and consequences of rapid population growth in the relatively underdeveloped rural areas to relate to varying family sizes, nutrition, resource base and general rural development.

This should accompany examples from overpopulated places of the world like India and underpopulated areas in Kenya. The overpopulated places should illustrate that there are those who only have 1 or 2 children if not none. Therefore having 4 or 3 children is a privilege and a responsibility for parents. Taking proper care of these children should be the prime concern and not having more than these children. On the overall the family planning educators on their part should be trained sufficiently in public relations techniques to convince and mobilize the people in accepting the campaign for family planning.

This recommendation is proposed for the whole of the Hamisi area with special reference to Gamalenga, Tigoi, Kapsotik and Banja Sub-locations which rank among the most densely populated areas and also among the most rugged areas of the division.

There should be some divisional training centres where the family planning educators are trained. These people should meet at divisional level to assess their failures and successes for the ultimate success of the programme.

This as a measure is to be implemented in a short run period and to be continued as a long run measure. The target is to gradually reduce the family sizes from the average household size of 7 people to 6 people and finally 5 people or less in the long run. Currently there are about 15,000 households, consequently there would be an anticipated decrease of 15,000 people or 30,000 or more respectively. This is to help relieve population pressure by having a constant decrease in the population growth rate and thus have a decreasing population size in the division.

The agencies of implementation for this programme are the Family Planning Association of Kenya, Ministry of Health in collaboration with the Divisional Development Committee and local manpower. The aspects of implementation to be stressed is the allocation of funds for the programme and training manpower for communicating the ideas effectively to the people.

5:2:2 Resettlement Programmes

The national census figures indicate that some areas are overpopulated and there is bound to be an overspill population. The issue of resettling the overspill population is a national issue, to resettle the landless in the unoccupied areas anywhere in the republic. Within Kakamega District there are 3 scheduled settlement complexes, Nzoia, Soy and Chekalini in the Lugari Division. These schemes offer no major solution to the problem of population pressure in Hamisi Division. The alternative areas of resettlement are within the division. The northern part of Tiriki Location: Shiru, Bumbo and Bulukhoba sub-locations (former forest areas) are fertile areas which could accommodate some more families. The families to be accommodated would be mainly from the southern part of the division: hilly and stony areas with very high densities for example Gamalenga, Tigoi and Gisambai sub-locations.

Similarity in Nyang'ori Location, the inter-ethnic problem of Kalenjins and Abaluhya has facilitated the sale of land by Kalenjins who thus move to Nandi District. Though at a small scale, this would be an alternative area of settlement by the overspill population. Similarly some Luhya from the Hamisi Division

also find the Nandi District as an alternative area of resettlement." This should be encouraged as the Nandi District is fertile and still has idle land.

Thirdly through the District Officer for the Hamisi Division, names of the landless should be availed to the District Commissioner so that in case of any resettlement programmes in the nation, these people can be accommodated.

The overspill population to be resettled includes the landless who have no other source of income, the underemployed and unemployed whose positions cannot be improved given their present immediate resources. This resettlement programme relieves population pressure by decreasing the population densities."

The agencies to effect the programme are the local people with funds, able to afford the available plots for sale in Nandi District or the Northern ward of the Hamisi Division. The Office of the President through Sib-chiefs, Chiefs and District Officer can avail names to the District Commission for national resettlement programmes.

The major constraints to the success of this programme are: lack and limited funds for buying plots and attachment to ancestral land by some people. The attachment to ancestral land is expected not to be long-lived in a desperate situation of landlessness, as has been shown in other overpopulated areas of the nation for example people from Central have settled in Coast Province. As a short run measure to lack of funds some people would hire idle pieces of land and practice some farming as they look for alternative means of non-farm activities."

The recommendation should be effected in the whole division to serve as a short run solution to problem of population pressure before the family planning programmes take effect.

5:3.0 Intensification of Agricultural Production

This involves a package of factors: extension services, inputs and marketing all aimed at the economical use of the available agricultural land for maximum returns at the least costs. This programme is to be implemented in the whole division.

5:3:1 Extension Services

Extension Services is the most significant aspect of the package of factors for the intensification of agricultural production. Extension services are broad, they are supposed to equip farmers with knowledge on proper agricultural practices. These services are supposed to cater for problems of lack of agricultural advice and guidance on crop and livestock diseases, excessive use and exhaustion of soils, lack and shortage of land and finance.

On the issue of land shortage the extension services should educate and encourage farmers to practice activities that occupy small pieces of land. In Hamisi, poultry keeping and horticultural farming to be encouraged should be of labour intensive to involve most of the members of the family; the enemployed and underemployed. The Extension Service Officers should be able to give the precise details to these people on how to manage the poultry keeping and horticultural farming.

The other duty of extension workers as agents of the Ministry of Agriculture is that they should encourage soil conservation measures in the Southern part of the division which is hilly and stony. The Soil erosion is intensified due to the fact that people insist on cultivating these areas as they experience land shortage. The anti-erosion measures to be used in the area are terracing and afforestation.

Finally, the extension workers should be thoroughly trained in the various fields of crop and livestock production. This would form the basis for proper agricultural production very important for farmers if higher productions are expected. This agricultural education covers aspects of credit, planting, storing of crops, keeping livestock and so on. Extension services are supposed to reach all farmers through pamphlets, handouts, radio programmes, barazas, demonstrations and home visits. In addition it would be more beneficial to farmers if there were information centres in each service centre for consultation on agricultural issues. According to the Government's requirements these extension workers are to know all areas of service and be able to know the physical and economical constraints of the same. They should not be biased towards some farmers.

However from the questionnaire administered 65% of the respondents indicated that they have never been visited by the extension workers. There was a bias towards cash crop farmers - over 50% of those visited have cash crops. This should not be the case, all farmers should be visited especially the poor farmers who need the extension services most so as to improve their sources of living.

The Extension Service Department has an efficient organisational system (adherence to this organisational arrangement would reduce biases of choosing who is to be visited and who is left out).

Thus at district level there are officers to deal with the different agricultural aspects: District Agricultural Officer, District Crops' Officer, District Animal Production Officer, District Specialist and District Programme Co-ordinator. While at Divisional level there is the Divisional Extension Officer and down the structure there are various Locational Extension Officers who are to reach the farmer or the pastoralist as an individual.

5:3:2 Inputs

The factor of inputs is part and parcel of the extension services. The extension services should enable farmers to know the proper planting materials, fertilizers, insecticides, packing materials and implements for land preparation. If credit is to be acquired, then the extension officers should educate the farmers on the proceedings of such facilities. The whole purpose of the extension services is to exploit the potentials of the areas for maximum outputs at minimum cost.

5:3:3 Marketing

Marketing is abroad concept however for this study it is limited to storing transportation and delivery of farm products. If agriculture is intensified there is bound to be surplus for sale.

In Hamisi Division only coffee and tea have clear markets. There are 2 coffee factories at Jeprok and Lwandoni where the coffee is pulped and marketed.

There is no tea factory in the area the tea produced in Hamisi area is marketed to the neighbouring tea factories in Nandi District. The introduction of a tea factory in the area would be an incentive for the farmers to increase their production. This in turn would accomodate some of the unemployed and underemployed as tea is a labour intensive crop. Other horticultural crops that do well in the division lack market besides the Manyatibu Cooperative. There is need for 3 more cooperatives, 2 to operate for Tiriki Location and 1 for Nyang'ori Location this would be responsible for marketing and primary processing of the crops grown by the small scale farmers who find it impossible to market their products. The cooperatives could find ready market in Kisumu, Kapsabet, Eldoret and Kakamega towns besides various institutions. In addition the cooperatives would decide on industrial activities given the quality and quantity of their crops for example bananas and pineapples which are intensively grown but there is no organised marketing system could be used as raw materials for industrial expansion. Some of the horticultural crops for example vegetables which do well in the area are perishable products consequently quick market services are needed. If Cooperatives are well established they would have vehicles and collecting centres for these products. Similarly the non-perishable goods like maize and beans should be encouraged as they do not have acute storage problems.

5:5 General Recommendations

Infrastructure and social services perform a crucial and vital role in the economic development of any region. Consequently, there is need to provide adequate and efficient infrastructure and social services for rural development in Hamisi Division. A consideration of the existing situation shows pitfalls that need to be improved upon. The inadequacies and inefficiencies of the postal services would be reduced with the provision of Sub-Posts to provide letter, telegram and telephone services at all the designated service centres. The implementing agency of this proposal is the Posts and Telecommunication Department of the Ministry of Transport and Communication.

Transportation network though vital for rural development is identified as a major problem in the study area due to poorly maintained roads which in effect cause irregular bus and matatu services. There is need to upgrade some of the roads in the area: D292 Shamakhokho to Serem Road, E292 Jeprook to Serem Road and E291 Gisambai to Hamisi Road, these roads which run across the division should act as significant produce outlets for the area. Besides, the rural access roads within the division should be adequately availed. This can be achieved through the D.D.C. and local initiative.

In providing piped water for the local people, the basic task is to make them realize their role as beneficiaries who should be responsible for the proper utilization and maintenance of these water projects.

An improvement of the roadnetworks which run across the division and help in accessibility to the resource areas and service centres is an important component of the marketing system.

5:4 Diversification of Economic Activities

The economic activities in Hamisi are biased towards agriculture, however given the fact that the population of the area exceeds the land carrying capacity for efficient agricultural activities, there is need to diversify the economic activities beyond the narrow base. The main gap exists in the area of small scale rural industries.

These rural industries are a significant aspect of rural development as they help in enlarging employment opportunities, raising rural incomes, diversifying rural occupations, reducing rural-urban migrations and eliminating regional economic imbalances.

Rural industries supplanting agricultural activities should be based on available local agricultural and non-agricultural raw materials. For proper rural industrialization there is need for prior assessment of the general organisational accessibility to the raw resources. This involves the appropriate technology, proper transportation network and marketing outlets. Similarly the service centres should be properly serviced with all the infrastructure necessary for industrialization, provision of energy is very important for industrialization.

Besides the above requirements there needs to be training institutions for skilled labour in the various industries.

Currently there are 3 developed industries in the area: 2 coffee factories at Jeprok and Lwandoni and a Papain Factory at Gambogi. This shows that the area has a gap in the area of industries which needs to be filled by expanding rural industries. This recommendation for industries is to be implemented in the whole division, but the precise sites will be determined by the availability of raw materials and the population to be served in terms of the already designated centres. The proposed industries for the area are given in Table 7 and Map 7.

The proposal for industries in Hamisi Division does not assume that the area is an island of its own in all aspects, there are other industries in the adjacent regions that process raw materials from the Hamisi area for example the sugarcane is processed in other divisions in Kakamega and Nandi Districts. These areas also serve as catchment for the unemployed and underemployed.

On the overall in the area of industries there is need for an intensive research on the potentiality and means of achieving the ideal situation for the area through expansion of various small scale industries. Kaimosi, the urban centre is proposed to have the larger scale industries due to the presence of the Galagori river capable of generating power for these industrial activities.

Table 7

Proposed Industries for Hamisi Division

Type of Industry	Raw Materials	Proposed site
Tea factory	Tea leaves	Senende
Block and Brick Industry	Stones, mud and sand	Banja, Kinu Serem, Hamisi
Maize crashing plants	Maize seeds	Senende, Serem Banja, Gambogi
Coffee factory	Coffee berries	Kaimosi
Honey processing	Beehives	Jeprok Hamisi
Poultry <i>Pottery</i>	Clay	All service centres
Dairy collecting centres	Milk	All service centres
Starch	Maize and cassava	All service centres
Sawmill and paper factory	Conferous species	Kaimosi

HAMISI DIVISION — PROPOSED SITES FOR INDUSTRIES



LEGEND

- DIVISION BOUNDARY
- LOCATIONAL BOUNDARY
- SUBLOCATIONAL BOUNDARY



DEPARTMENT OF URBAN
AND REGIONAL PLANNING
UNIVERSITY OF NAIROBI
SHIBADU G. C.
M A THESIS 1979/80

5:5 General Recommendations

Infrastructure and social services perform a crucial and vital role in the economic development of any region. Consequently, there is need to provide adequate and efficient infrastructure and social services for rural development in Hamisi Division. A consideration of the existing situation shows pitfalls that need to be improved upon. The inadequacies and inefficiencies of the postal services would be reduced with the provision of Sub-Posts to provide letter, telegram and telephone services at all the designated service centres. The implementing agency of this proposal is the Posts and Telecommunication Department of the Ministry of Transport and Communication.

Transportation network though vital for rural development is identified as a major problem in the study area due to poorly maintained roads which in effect cause irregular bus and matatu services. There is need to upgrade some of the roads in the area: D292 Shamakhokho to Serem Road, E292 Jeprok to Serem Road and E291 Gisambai to Hamisi Road, these roads which run across the division should act as significant produce outlets for the area. Besides, the rural access roads within the division should be adequately availed. This can be achieved through the D.D.C. and local initiative.

In providing piped water for the local people, the basic task is to make them realize their role as beneficiaries who should be responsible for the proper utilization and maintenance of these water projects.

The available energy is inadequate consequently there is need to consider alternative forms of energy and means of conserving energy in the area. Substantial scientific and technological innovations are necessary.

The health and educational services show problems of poor spatial distribution, inadequacies and inefficiencies. The improvement of the health services should incorporate the following; services should be based within effective reach of the peoples' homes, need to have proper trained manpower for the use of effective methods of preventive and curative measures, and finally the local people should know how to make use of all the available health services. This involves raising the number of facilities and staff according to local need.

Finally the educational services should be distributed to adequately and efficiently serve all school going age children and the school leavers who need to be trained to be self-reliant. This should be achieved through the Ministry of Education in liason with the local initiative.

The provision of infrastructive and social services is meant to aid in improving the levels of living of the people socially and economically.

5:6 Conclusion

The study set out to examine the effect of population pressure on the development of Hamisi Division and thus suggest possible planning approaches based on the findings.

It was noted that the Hamisi area experiences population pressure created by interrelated social, physical and economic factors. The area is potentially rich and highly fertile able to support varied range of agricultural activities. However, this is limited as most of the land in the southern area of the division is hilly and stony, people insist on cultivating these areas and thus encourage soil erosion which is already highly experienced in the division. There is evidence of high pressure on land in these regions as some of the most hilly and stony areas have very high population densities. This in effect results in low levels of productivity and thus continuous underdevelopment of the division. The agricultural production is dominated by low outputs mainly of subsistence crops. Agriculture accomodates the majority of the population, with the economic activities skewed towards agriculture especially crop production despite the problem of land shortage.

The main problems in the agricultural sector besides land shortage and poor topography are poor transportation network, no clear market outlets, lack and limited finance and inadequate extension services.

There are small isolated cases of rural industrial activities which are not well developed to significantly supplement agriculture. The need to diversify economic activities is crucial as it is

expected to increase income generation and maximise the employment opportunities in the area. This should be accompanied by training of technical manpower for the non-agricultural activities in case of their introduction.

It was also seen that the area is experiencing population pressure due to high population densities, with high families having a preponderance of the dependency ratio. The population cannot be adequately supported by the limited resources unless the resources are efficiently utilized.

In addition infrastructure and social services are necessary for rural development in raising the standard of living of the rural population.

Having noted the above problems, the recommendations given are the reduction of family sizes through Family Planning Programmes and resettlement programmes with special emphasis to the most rugged sub-locations and the highest densely populated sub-locations.

There are also proposals to increase the farm production which involves intensification of the agricultural activities. This should be able to expand the agricultural output trends. Farmers are to be introduced to and constantly encouraged to practise agricultural activities that need very small pieces of land for example poultry and vegetable cultivation. Similarly the non-farm employment should be expanded by diversifying the economic activities through maximum use of land as a resource for example: quarrying and brick making industries. This would involve research on the available undeveloped resources so that their potentiality is fully exploited.

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APPENDIX

SOCIO-ECONOMIC QUESTIONNAIRE

1. Household Head Male/Female
2. Age
3. Household characteristics:

<u>Sex</u>	<u>Age</u>	<u>Occupation</u>	<u>Income</u>
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 - 1.
 2. etc.
4. Are all members of your family staying with you? _____
5. If elsewhere specify? _____
6. For how long have they been away? _____
6. What is the acreage of your farm? _____
7. What type of farming do you practise? _____
8. What crops do you grow? _____
9. How do you sell your crops? _____
10. Do you experience any problem in marketing these crops? _____
11. What type of livestock do you keep? _____
12. How often does the extension officer visit your farm? _____
13. What are your main agricultural problems? _____
14. What other non-agricultural activities are you involved in? _____
15. What is your main source and income? _____
16. What problems do you generally face in your village, sub-location, location and division that slow down development? _____