UNIVERSITY OF NAIROBI

DEPARTMENT OF URBAN AND REGIONAL PLANNING

THE DISTRIBUTION OF RURAL HEALTH FACILITIES: A case Study of Mumias and Butere Divisions, Kakamega District.

[A dissertation presented in partial fulfilment of the requirements of the Degree of Master of Arts in Planning M.A. (Planning)]

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D E C L A R A T I O N

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

Signed .....
Candidate

This dissertation has been submitted for examination with my approval as University supervisor.

Signed .....
Supervisor

D E D I C A T I O N

This dissertation is dedicated to my mother SELAH NEHONDO for her love and tolerance

AND

My late father OPUKA-AMERE for his great wisdom and guidance. He taught me:-
To always preserve my Dignity and Humanity even in the face of extreme hardships, and
To pursue Justice ..... and Education .....

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I am however responsible for all the ideas, errors of omission and commission in the thesis.

Ahsante saana!!

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A B S T R A C T

The overriding theme in this dissertation is that the present distribution of rural health facilities is imbalanced and that it does not pay sufficient attention to the tenets of the country's physical planning policy.

It is argued that the major cause of this imbalance is the lack of coordination amongst the various agencies concerned with the provision of health services and the physical planning agency in Kenya.

Whilst it is true that religious, community and private endeavours in the provision of rural health services go about their businesses oblivious of the need to avoid imbalances and the importance of spatial planning, it is equally true that the Ministry of Health also has failed in its efforts to provide health services equitably.

The non-governmental agencies locate their services in such a manner as to suit their own needs. For instance, mission health facilities are located in accordance with the areas of influence of the denominations, irrespective of whether there already exist other non-mission facilities there or not. On the other hand harambee facilities are spontaneous and thus occur in response to perceived community needs or leadership influences and ambitions.

Some private health facilities are located on the proprietors' own pieces of land and are basically profit-oriented.

The Ministry of Health (MOH) criteria have certain shortcomings. The MOH does not squarely deal with all types of health facilities. Secondly, their regulation of walking distance to a health facility is not realistic in view of the lack of motorised transport in the rural areas. Thirdly the MOH fails in that it does not use the growth and service centre strategy.

It was also found out that even the mobile health clinic services of the mission hospitals also follow the pattern of influence of the missionary activities.rather than attempt to provide the service where it lacks. Finally, although there exist official referal arrangements amongst government and mission facilities, such arrangements do not exist as far as private and harambee facilities relations with government facilities are concerned.

All the above major shortcomings and others detailed in the text of the dissertation are the causes of the imbalances identified.

For the alleviation of the shortcomings identified, the dissertation makes a number of recommendations. In the first place, it is recommended that a review of the machinery responsible for the provision of rural health facilities is required. This should aim at coordinating all the agencies responsible i.e. the communities,

the government agencies like the DDC, the MOH and even the PPD, the missionaries and the private entrepreneurs.

Secondly, the MOH criteria need to be reviewed with a view to making them more realistic especially in respect of transportation, the growth centre policy and the general designation of the RHUs, and the vital demographic factors such as density and distribution. Community involvement in the planning process is also recommended. Finally a number of specific recommendations regarding the study area in particular are also made.

The dissertation hopes to make headway in the debate on rural health services as well as generate further discussion which would contribute to improvements in the scheme.

CHAPTER ONE

INTRODUCTION

1.1. Problem Statement

In most developing countries, Kenya included, there exist attempts to achieve balanced development, be it between regions or between classes in society. This arises out of a desire to fulfill the people's aspirations and thereby also attempt to justify independence. Implicit in these attempts is the overall goal of improving the quality of life of the people. This goal is characterised by deliberate though not always committed efforts to change the former colonial pattern of so-called development. A pattern whose major characteristic was inequality of regions and races. Development is thus conceived of in terms of providing basic needs, to raise living standards and reduce inequality. For developing countries this implies a desire to develop the rural areas, for it is there that the majority of the people live. In Kenya about 90 per cent of the population lives in the rural areas. Such development efforts call for the provision of certain basic needs - such as will help in the improvement of quality of life in the rural areas and consequently also check rural to urban migration.

Kenya is certainly no exception to the trend outlined above. Rural development is indeed the key strategy around which the themes of the 1970 - 74 and 1974 - 78 development plans were formulated.[1] As already stated, about 90% of the country's

population resides in the rural areas. It is therefore not accidental that government policy finds it inevitable to focus on this part of the country. Hence some efforts that have been made or are still being made aimed at improving living standards in the rural areas. Examples of such efforts include the various projects undertaken under the Special Rural Development Programme (S.R.D.P.) experiment. Under the S.R.D.P. several experiments were made in integrated rural development in various ecological zones of the country. Another example of these efforts is the emphasis put on agricultural extension services and the cooperative movement. In the case of agriculture due regard is paid to the fact that agriculture constitutes the bulk of Kenya's economy. For that matter knowhow, technology and organizational skills are required for the success of agricultural programmes.

There are also programmes for the improvement of the quality of social services in the rural areas. The two key areas of concentration here are health and education services. In education there is a concern to wipe out illiteracy. As part of this programme, the government has undertaken to provide universal free primary education. Currently government efforts have also included a commitment to redress the rural-urban imbalances. In addition to these, efforts are also focused on unemployment and resource conservation. In all these the overall goal is to redress regional imbalances.[2]

A similar policy approach is now being proposed in the field of health services. This can be seen clearly by examining goals and objectives of the government with regard to health programmes in the country. But before this is done it is considered important to discuss how health services have been provided in Kenya before and after independence. Details on the situation in the study are in chapters three and four.

During the colonial period the state of health services was mainly characterised by rampant inequality between regions and races. Service was not free - thus further descriminating against those who could not afford to pay for them. This practice of charging for health services still continues in private and mission hospitals. Interestingly enough, these facilities thrive despite such charges. This can be explained by way of the degree of efficiency and high quality service that is normally associated with profit-making organizations. Government service on the other hand being free and nonprofit-making cannot provide as excellent a service as private hospitals do.

Immediately after independence, government introduced two dynamic policies in the administration and provision of health services. The first was that as per the KANU (Kenya African National Union - the ruling party) manifesto of 1963, medical services in all government financed institutions were to be provided free of charge. Secondly, deliberate efforts were introduced to

redress past regional imbalances in the provision of medical services.

Up to 1970 when central government took over the running of medical services, they were in the Jurisdiction of Local governments. Given the limited and varied nature of the financial situations of these local authorities, it meant that medical services were both poorly run and that the quality of service differed from one local authority to another depending on financial endowments. It was largely due to this lack of competence and the disparities created, that Central Government took over the services from Local authorities. The aim was to increase the number and improve the level of health facilities in the rural areas (see 1970 - 74 Development Plan).

That 1970 - 74 plan recognised that "better health is not only a major objective of social and economic development, but also a significant contributor to that development through its impact on productivity." One of the three priorities the government set for itself during the plan period was to "reduce geographical imbalances in the distribution of hospital beds." It should be added also that, a central concern in the rural areas was the provision of basic health services.

Later in the 1974 - 78 development plan, this emphasis on the development of health services in the rural areas was given further emphasis. Chapter Four of this plan dealing with Rural

Development opens with the following important statement. "The key strategy of this plan is to direct an increasing share of the total resources available to the nation towards the rural areas" (p.409). It was further stated that improvement of rural life would not just be a matter of raising rural income - important through this objective was going to be, but that emphasis would be placed on raising the standard of services, such as education and health, towards those levels which now exist in the urban areas. These statements clearly underscore government concern with the distribution of health services.

1.2. Distribution

The present distribution of hospital facilities varies widely among provinces and districts. At the national level there is a market concentration of health facilities in Nairobi and Mombasa. Conversely a serious scarcity exists in the North Eastern Province. Garissa the provincial headquarters has no private hospital. There is only one government hospital here. For example since the 1960's the city of Nairobi has had nearly six hospital beds per 1,000 people when rural areas have one bed per 1,000 - 2,500 persons. In Nairobi, health expenditure per capita is over Shs.22.60, while in the rural areas the expenditure is roughly 12 cents per person and that is not much for the year.[3]

The long term plan for the reduction of geographical imbalances of services is that the ratio should be raised to one hospital bed for 1,250 persons in all districts. The 1973 total government bed/population ratio was 0.76 per 1,000 people. This shortfall is explainable through shortages of finance and manpower. It is noted in the Kakamega district development plan that the national target figure for bed/population ratio is 1 to 1315.

There is one government hospital in Kakamega district. In addition there are six mission hospitals. All these seven hospitals have between them 809 beds. Thus the hospital bed/population ratio is 1:1220. This is definitely better than the national target. In addition there are 28 rural health centres. Here again the

district's health centre population ratio which stands at 1 to about 30,000 exceeds the national target of one health centre for 50,000 persons.

The government's main objectives for the development of rural health services are to control and prevent, and ultimately to eliminate:-

(i) communicable diseases;
(ii) deficiency conditions;
(iii) environmental health hazards; and
(iv) those hazards associated with child birth and child rearing.

For these it is stipulated that the country requires a well functioning and integrated network of preventive and curative facilities at the local, district, provincial and national levels.

Government policy identifies three major constraints that are at present hampering an accelerated achievement of health goals:

(i) lack of sufficient delivery points;
(ii) inadequate resources and organization;
(iii) a shortage of manpower, particularly of paramedical staff.

Thus in summary it is duly recognised that the greatest immediate challenge in organizing the nation's health services is in the attempts to bring adequate facilities within effective reach of

the rural population (1974 - 78 Development Plan Pg.405). How far this has been achieved is an issue we shall concern ourselves with in the later sections of this paper. For now it is only necessary to have a glimpse of what the envisaged strategies are. According to the 1974 - 78 plan there should be four major areas of concern:-

(i) development of rural health services;
(ii) health training;
(iii) public health services; and
(iv) hospital development.

For our purposes, we shall concentrate on the first of these four. But since the success of the rural health services programme depends on all of them we shall also briefly touch on the other three. The plan (1974 - 78) stipulated that the total number of government operated rural health facilities by 1978 will be increased by new construction as well as taking over of self-help facilities to:

161 health centres;
57 subcentres; and
492 dispensaries.

By 1984, this is supposed to rise to 244, 102 and 692 respectively. For the achievement of these targets, new concepts in the development of rural health services have been brought into operation. There are three basic concepts: Health Unit concept, Health Teams concept and Family Health concept.

In brief, these are supposed to operate as follows:-

Rural Health Unit:-

Under this the following is the expected mode and structure of operation. Rural health facilities i.e. the Rural Health Unit (RHU), will be assigned a population of 50,000. Each health unit is expected to be served by one health centre and four dispensaries. Maternal and child health as well as family planning services will be available at the unit's health centre and at other fixed service points throughout each working day.

Health Team:-

Rural health personnel expected to work as integrated teams under the supervision of the senior health officer in the district. Personnel will be organised as local teams under the technical and administrative leadership of the senior medical assistant in the health unit.

Family Health:-

This is based on the recognition that health is to a large extent a function of living conditions and hygienic practices in family groups and that, health activities in order to be effective should involve not only the individual but the entire family.

In addition to the above strategies, it is stipulated that each level of service will have its particular quantitative

characteristics. For example:-

a Health centre will consist of the following:-

- One preventive and one curative clinic block with supporting services plus an impatient block with twelve beds.
- It will be staffed by one medical assistant, two family planning field workers, one statistical clerk and attendant staff.

In order to effect the above programme, the ministry of health is decentralised in such a way as to allow the local health authorities take decisions at district and provincial levels. Such decisions as affecting staffing, mobile clinics, public health, and reports on the nature of health services in their areas of jurisdiction may be taken. This process is nevertheless not completely independent of process of planning and decision making at the Headquarters of the Ministry in Nairobi. All the major decisions as may concern hospital development, provision of drugs and equipments are invariably taken at the headquarters. This is done in consultation with the Provincial Medical Officer.

Earlier on [see p.5] we mentioned in passing some features pertaining to the distribution of health facilities in Kakamega district. In the next subsection 1.3., we shall highlight on the situations both in Kakamega district as a whole and the study area

in particular. By doing so we shall focus on the inequality in the distribution of rural health facilities, a problem that seems to arise out of the lack of proper spatial planning. D. Katete Olelo[4] has noted that although it is usual to conceive of equality of opportunity in a social context, there are obvious spatial implications, because regional disparities in educational opportunity for instance are likely to create economic and political difficulties. He adds that in this light, it is believed that planning for the distribution of schools on the basis of vague notions of rough justice may not be sufficient to achieve a spatial distribution of facilities in line with policies.

Like education, health is one such a service whose location must be a central issue in rural or regional planning and development.

1.3. An Overview of the Situation in Kakamega District and the Study Area

Kakamega is one of the districts which make up Western province. The others are Bungoma and Busia. The provincial headquarters are located in Kakamega town. According to the 1969 population census, the total population for Kakamega District was 782,586 persons settled in an area measuring 3,520 square kilometres. The average density was then recorded as 220 persons per square kilometre. But densities vary from place to place. For example, in the Southern part of the district, especially Vihiga Division, population density is in excess of 500 per square kilometre, while in the North densities are as low as 130 people per square kilometre.

On the basis of rainfall and soils potential, the district is classified among the high potential areas in the country. The district is basically an agricultural one, there being no significant mineral deposits at all. Industrialization is also not significant. The only idustry of national or even regional significance is the Mumias Sugar Company industry, located at Mumias about thirty kilometres from Kakamega town. Thus in terms of economic opportunities and the growth of urban-like centres that may generate industrial employment, the district is not one of the best endowed in the country.*

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*This conclusion is largely based on the findings of the 2nd year M.A. 1978/79 Studio Project in Kakamega District.

RURAL HEALTH UNITS, POPULATION AND URBAN CENTRES - KAKAMEGA

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But despite this, there are several centres designated as urban by the Physical planning department. This is done in accordance with the Growth and Service Centre Policy, which is the focal point of spatial planning in Kenya. The following is the list of all the designated centres in the district.

TABLE NO. 1:1

DESIGNATED GROWTH AND SERVICE CENTRES IN KAKAMEGA DISTRICT

Level	Number of Centres
Principal Town	1
Urban Centres	6
Rural Centres	10
Market Centres	18
Local Centres	41

SOURCE: - 1974 - 78 Development Plan and Data from the Physical Planning Department.

It is expected that the guidelines for siting public sector investments that go with each level of centre should help in providing a well planned spatial environment. For instance in the case of Health Services the Guidelines state that: A hospital of national standards should be located in the National capital. A provincial hospital in the principal towns or municipalities. A hospital of district standard in an urban centre. A health centre

and a dispensary in Rural centres and local centres respectively.* Whether this really is the pattern will be made clear in our chapter on analysis.

Inspite of any possible shortcomings, we have to bear with the fact that these centres are means through which a properly planned spatial environment can be achieved. They are important points of interaction. Each level of centre is meant to serve a certain size of rural population - within a given area - referred to as the catchment area of the centre.

The principal town - which is the highest to be found in any region's hierarchy of centres, is expected to serve the whole region (say a province in which it is located). Its threshold population is thus expected to be qual to or more than that of the region in which it is located. A high number of residential population is also expected to be in the principal town.

Urban Centre:-

This is the next highest level of centre in the designated growth centre hierarchy. Urban centres are also expected to have a resident population - in this case of 2000 or more people. In fact for any centre to qualify for the title URBAN it must have a population of 2000 or more. The Urban centre is expected to serve a rural population of 120,000. This is its catchment area.

SOURCE: 1978 - 83 Development Plan (Kenya) p.518.

Rural Centre:-

The rural centre is expected to have a resident population of below 2,000, but this is not compulsory. The most important factor here is the services that ought to be located in the centre (e.g. health centre as earlier indicated) and its catchment area. For the catchment area of a rural centre, the population is 40,000.

The two lower levels of centres:-

The market centre and the Local centre are not expected to have a resident population. Their significance lies in the fact that they certainly are the ones closest to the smallest rural units such as sublocations or locations. The market centre is supposed to serve a rural population of 15,000. The local centre is supposed to serve 5,000. It is clear from the hierarchy of centres that the catchment areas of the various levels correspondingly diminish as one goes down the ladder. The same is the case with the facilities expected to be located in these categories of centres.

There are 14 Rural Health Units in Kakamega district (see map). Also there are 14 sub-centres/dispensaries. The above are only those institutions run by government. This too is the problem with these official statistics. They often ignore those facilities run by nongovernmental organizations. But it must be acknowledged that such facilities play an important role in the dispension of health services in the rural areas. For that matter, in planning for the distribution of health facilities in the rural areas, one must take

cognizance of the role of the private sector too. It is thus prudent that we deal with all types of health facilities available.

When the above factors are taken into consideration together with the criteria used by the Ministry of Health (MOH) in deciding where to locate health facilities one should be able to arrive at optimal locations of health facilities. According to the MOH the following are the criteria used:-

(i) catchment area i.e. population to be served;
(ii) population density;
(iii) communication network;
(iv) walking distance;
(v) topographical conditions;
(vi) current distribution of health facilities;
(vii) homogeneous population characteristics.

We intend to utilise the criteria used by MOH to a large extent in our discussion on the distribution of rural health facilities in the study area. This will be done critically with a view to proposing improvements and adjustments in the system.

For the purposes of this study, two divisions in the South Western part of Kakamega district were chosen. These are Mumias and Butere. These choices were made on the basis of certain considerations. Firstly, the writer's knowledge of the area is an advantage. This knowledge arises out of the fact that this is

the author's home area. Secondly given the obvious constraints of time and finance, it was found plausible to opt for an area where it was possible to minimise time and money expenditure. A third reason is that there are already two designated urban centres in the two divisions. These are Butere and Mumias urban centres two of the six in Kakamega district. Such important levels in the hierarchy of human settlements provide convenient analytical bases for our study which is concerned with the physical planning policy of Kenya - based as it is on the growth and service centre strategy earlier alluded to.

According to the 1969 population census, Butere town had a population of 286. Estimates for 1975 were 1,000 and for 1980, 2,000. Mumias town in 1969, had a population of 697, while estimates for 1975 and 1980 were 7,000 and 10,000 respectively. The average annual population growth rate for Butere division i.e. the town as well as the rural areas is 6.1%. The division covers an area of 350 square kilometres. There are two locations, Kisa and Marama. Population density is 394 per square kilometre. The 1969 census put the division's population at 103,462 while the estimate for 1975 was 138,000.

The average annual growth rate for Mumias division inclusive of the urban centre was 6.2%. The division covers an area of 597 sq. Km. In 1969 the population was 80,000. The estimate for 1975 was 108,000. There are three locations in the division, East, North and South Wanga locations.

In total then, we are dealing with an area of 947 sq. km. inhabited by 184,465 persons as per the 1969 population census. The average density of this whole area is 287 people per sq. km. The situation regarding the distribution of Health facilities which is the subject of this thesis, will be discussed in later chapters.

1.4. Scope of Study

The study deals with spatial and non-spatial factors that influence the distribution of rural health facilities. In the case of the former, the focus is on the spatial distribution of the various health facilities in the area. In the later we shall look at the influence of various factors such as religion, population density and such other socially determined factors on the distribution of these facilities. In dealing with the issue of distribution, critical factors such as manpower, equipment, number of health facilities in a given area are to be considered. This way one gets a clear picture of deficiences and sufficiences in the area of study. Critical in this whole study is the growth and service centre policy. It is around this policy as we have already explained, that we must look at the pattern of spatial development in our country. The distribution of rural health facilities or indeed any other public purpose facilities must therefore be studied in the context of this policy. This way we shall then come up with a meaningful inquiry as to the major factors that influence distribution and how these can be manipulated in order to arrive at rational and sound guidelines for spatial development.

Although the study is restricted to the two divisions that constitute our area of study, it should be seen as being aimed at a wider area. This is in view of the fact that the area of study is taken to be accurately representative of the situations in other rural areas of Kenya, particularly those with similar climatic and geographical features.

1.5. Significance of the Study

We can best illustrate the significance of this study by offering an overview of the problems that afflict the rural areas as far as living standards are concerned. As is clear in our summary of the situation and policy in earlier sections, the overall problem is briefly that:- there is a need to improve the quality and quantity of rural health services and thereby contribute to an improvement of the quality of life in the rural areas. Such improvement will go along way towards helping to check rural-urban migration and generally improve standards of living in the rural areas. This too is a significant contribution to the development of this country. Critical in the improvement of rural health services is the issue of accessibility of services to the population. It is recognised that such access can best be achieved through a more rational system of the distribution of available facilities.

The regional physical development plan for Western Province (May 1970) makes the above point clear. It states the problem as being that of uncoordinated and irrational siting of development relative to the needs of the people. This then results in a serious imbalance of the standard of services (including health) available in the districts and the lack of concentration of development to form viable service centres (p.ii). With regard to health facilities in particular, the document points out that the general distribution of hospitals is uneven. To this we should add that such unevenness seems to pervede the system as a whole be it in hospitals, health

centres, dispensaries or private clinics. Thus it is significant that a study aimed at rectifying these dhortcomings be undertaken.

1.6. Objectives

The objectives of this study derive from the overall need to analyse the existing situation regarding the distribution of rural health facilities and consequently critically make necessary proposals for change and improvement. Thus in the end we should be able to make recommendations for a more rational and coordinated distribution of rural health facilities. It is hoped that our choice of an area of rapid population growth and above average densities should conveniently help us to generalise for the other areas in Kenya where population is a significant issue in planning and development.

In summary, our objectives are:-

(i) to find out the existing pattern of distribution and location of rural health facilities;

(ii) to establish reasons as to why they are so located;

(iii) to analyse the problems inherent in that pattern of distribution and location;

(iv) to make proposals and recommendations for improvement and change;

(v) to propose a physical approach for the distribution of rural health facilities.

It is partly also in view of the above broad objectives that we feel our study is justified and significant. Further justification also derives from the many shortcomings that are clearly admitted in Government policy statements earlier summarised. It is our conviction that this study will contribute some answers to the problems of the distribution of rural health facilities.

1.7. Methodology

The bulk of this study relies on data from secondary sources. Of particular importance here is data from official government documents and statistics. Data on the number of health facilities available in the area, their quality, population served and distribution of these facilities was collected from secondary sources. From other sources, data such as on disease patterns, transportation and the availability of other community facilities was gathered. Interviews were conducted with various officials and community leaders as well as the ordinary citizens. Full use of participant observation was also made.

Surveys of the following were intensively conducted.

- all the physical structures - e.g. facilities existing and upcoming;
- equipment in the various health facilities;
- manpower in the various health facilities;
- locations of the facilities;
- demographic factors such as; population size, density, and distribution;
- transportation;
- other community facilities e.g. water supply, electricity etc.

- relationship between health facilities - e.g. mission and government, lower-level and higher level facilities;
- growth and service centres;
- studies of district development plans and other approaches.

1.8. Literature Review

There exists a concern in government policy that the solution to problems of rural development and rural to urban migration lies in improving standards of living in the rural areas. It is reasoned that improvement in this sphere will improve the quality of life in the rural areas, such as to help in narrowing the gap between rural and urban standards of living. This entails as we showed earlier, designation of various service and growth centres for purposes of taking advantage of economies of scale.

According to the Physical Planning Department, services should be located in certain levels of centres such as to correspond to certain threshold populations. Among these services is that of health. On the strength of this approach, we consider it prudent to peg our study to a very large extent on the relationship between the growth centre strategy and the development of rural health services.

As Kimani and Taylor note in their study, Growth Centres and Rural Development in Kenya[5], "for purposes of rural development, the concept of growth centres must include both economic and social elements." The authors strongly propose the use of a small urban place - a vital interface in order to allow the development of a spartial strategy of rural development. Their justification for this is that, such a vital interface has advantages of accessibility and that it can help us get away from the false dichotomy of rural

problems and urban problems and therefore concentrate on the interlinkages. Our conviction is that the concentration of services in rationally selected centres will provide solutions to some of the problems of rural development, especially that of inaccessiblity to basic services such as health.

The study Towns of Ghana[6] considered other factors. The authors noted that it is the cultural leadership of the major centres that sets the pace of progress for their regions. But the major shortcoming of this proposition is that it ignores the problem of unfair distribution of development resources. We should however not ignore the authors' advice that the "art of regional planning is to balance all the factors so that the optimum pattern is achieved." This is the same advice that is contained in another more or less similar study - The Western Province Physical Development Plan of 1970. This plan did point out the lack of coordination and rationality in the siting of public service facilities and investments. The consequence it pointed out is that the people for whom such services are meant do not get proper access to them.

Oiro Obwa notes in a paper[7] on the growth centre strategy that the one seemingly insurmountable task is that services cannot be adequately provided to the rural areas while the system of land tenure and the nature of population distribution still remain as they are presently. This is an argument to which we shall

adequately respond in our fourth chapter. R.L. Hodgart[8] has noted in a paper that "the problem of locating a given number of facilities such as clinics or public libraries, so that the population concerned enjoys the best possible geographical access is one of the biggest in regional planning. Thus he notes that a decision to locate any public facility is essentially a decision to distribute certain benefits and costs among different groups and people.

The debate in regional planning as discussed by such authors as Friedman, Glassons, Hagget and Kuklinski revolves around the need to improve standards of living in the rural areas by improving access to opportunities and services. The basic strategy for this is invariably proposed as that of the nature of the distribution of services and facilities. Since access to the facilities is of crucial importance it no doubt calls upon the services of physical planners.

CHAPTER TWO

GOVERNMENT POLICY AND RECENT DEVELOPMENTS

2.1. Rural Development

As was stated in chapter one, the government is concerned about rural development. It is its prime objective not only to improve living standards in the towns, but also in the rural areas. Indeed the level to which the quality of life in the rural areas is improved, is itself a reasonable measure of development especially in the Third World. But what is the scope of rural development in Kenya? In a nutshell it is stated that; Development is taken to be the process of the transformation of a society's socio-cultural values, motivations and the economic systems through the introduction, adaptation and assimilation of desired socio-technological innovations required to facilitate the enhancement of the quality of life enjoyed by a community consistent with the environment.* Thus the purpose of development is to develop and make better off the people in a given area be it an urban, a rural or a pastoral settlement.

The strategies that the Government has adopted for development have been geared to:-**

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*This definition is adapted from a paper by E.D. Ndegwa D.U.R.P. still in preparation. It considered to be a fair summary of the development debate as is dealt with in the context of Kenya.

**from same paper.

(a) elimination of shortages of domestic capital and skilled manpower;

(b) modernization of agriculture;

(c) development of the country's industrial base;

(d) the development of basic infrastructure;

(e) equitable distribution of the benefits of economic growth.

Number (d) and (e) above are explanatory of what goals and objectives obtain in the arena of the development of rural health facilities. In a different context[8] this is seen as follows:- that the overall plan strategy of emphasis on dispensing opportunities and services throughout the rural area require that development should be equitably distributed between different parts of the rural areas. The issues inherent in the spatial distribution of services and other development investments are the ones to which physical planning addresses itself.

In Kenya physical planning is couched in the Growth and Service Centre Strategy; to which we made reference in chapter one. The policy consists of a system of building up a network of selected centres throughout the country, in a rational distribution pattern which will enable government services to be provided to all people of Kenya on as equitable a basis as possible.[9] This strategy seeks

not only to regulate and control the activities of individuals and groups in such a way as to minimise the adverse effects that may arise, but also to encourage planning on a more systematic and efficient level for the provision of economic and social services such as schools and health facilities. Thus the system should work in such a way as to limit duplication and scattering of physical structures and arbitrary location of investment and to promote better performance of the physical environment.[10]

The physical development plan for Western Kenya[11] noted that a hierarchy of service centres does already exist in the region. But it noted that a large proportion of the facilities which do exist are inconveniently located in relation to their potential market area and are randomly scattered so that they do not contribute to the development of viable rural communities. It is clear that by discussing a lack of viable rural communities, this plan was in effect referring to a lack of improvement of the quality of life of the rural areas. Given that the rural areas are characterised by a scattered population patterns as against the kind of concentration we find in the urban areas, it is important that services and facilities be concentrated in well selected centres so as to render service in an efficient way to a given rural population threshold. To this end government policy prescribes guidelines for the location of facilities in such a way that certain levels of services should be sited in corresponding levels of centres. This we have already discussed in chapter one.

This strategy does not only limit itself to guidelines for health facilities alone. It is comprehensive and offers guidelines for overall physical development and planning. Thus all other services such as transportation education and water supply are fully cattered for. It should be stressed that the strategy aims at taking advantages of economies of scale. To locate and concentrate community in such selected centres in order that the rural population has the best access to them. On the issue of accessibility and particularly in its relation to health facilities it should be emphasised that transportation is a very important variable. It is accordingly stipulated that certain classes of roads should link certain levels of centres. The overall aim here is to improve connectivity in the rural areas and thus facilitate movement of people and goods from one point to another. But it is true to state that the majority of the people in the rural area go from place to another on foot. Rural traffic is basically pedestrian traffic.

The mere provision of roads does not in itself solve transportation problems. There must be vehicles. In the rural areas vehicular traffic is rare if not completely insufficient. This is the reason why pedestrian traffic is so predominant. The adequacy or inadequacy of vehicles for passenger transportation will be discussed in more details in a later chapter.

In summary then, we can say that government policy has set goals. The overall goal of this policy is for the improvement of quality of life in the country, particularly so in the rural areas. The provision of basic infrastructure and services is strategically selected centres following the guidelines provided in the growth centre strategy is aimed at achieving efficiency and improvement of quality of life.

2.2. Recent Developments in the Area of Rural Health Services

In terms of planning and strategies for improvement of rural health services the Ministry of Health which is the responsible agency has made some strides. These developments have arisen from government concern to improve services in the whole country and reduce the rural-urban disparities that were previously rampant during the pre-independence era. To this end a Rural Health Section (Unit) has been established in the Ministry of Health (MOH). This unit headed by a Deputy Director is charged with the duty of sufficient dispensation of services in the rural areas particularly in the preventive and curative areas. The provision of basic health services in the rural areas is the chief goal here.

The latest development in this Unit is the awareness there now exists concerning the role of physical planning and its potential advantages and abilities in effecting an efficient rural health programme. This recognition of physical planning has lately led to the employment of two physical planners in the Rural Health Unit (Section). Few and overbudened though they may be, these planners have to ensure that a sound spatial distribution of health facilities is achieved in the country - and particularly so in the arid areas - the least served regions.

The problems the ministry has to deal with include poor and inadequate physical facilities, understaffing and unsatisfactory standards of services. Crucial in this case is the emphasis the

MOH lays on the training of paramedical staff. This is justified on the grounds that it is this level of manpower that is relatively cheaper to train in large numbers. It is also argued that this cadre is more easily mobilisable and can thus be deployed in the remote rural areas. To this end the MOH has embarked on the establishment of Rural Health Training Centres (RHTCs). These institutions are provincial level ones catering for purely paramedical staff and helping to reduce the burden on the National Teaching Hospital at Nairobi. The main objectives of the RHTCs is to "acclimatize" the paramedical staff with the kind of conditions with which they are to deal in the rural areas. Six such RHTCs were to be implemented during the period 1973 - 76 to provide manpower for the rural health services through to 1984.[12]

Thus a desired rural health services system for Kenya is expected to constitute the following:- 244 health centres, 102 subcentres, and 692 dispensaries by 1984. These are to be staffed with the priority staff to be trained at the RHTCs namely; Medical Assistants, Community Nurses and Health Assistants.[13] Of course the existing rural health facilities consist of health centres, subcentres and dispensaries, offering primarily curative, restorative and symptomatic relief services. Preventive services, especially immunisations are predominantly delivered through intermittent mass mobile operations. The definitions of the terms "health centres, subcentres and dispensaries" is primarily a matter of staffing pattern of which details have already been given in chapter one.

The rural health programme does not exist in isolation of the main stream of the machinery for rural development. Thus working in close co-ordination with the District Development Officer (DDO), it is expected that the District Medical Officer of Health will effectuate a suitable balance in the distribution of health services. Further liaison exists between the District Development Officer (DDO) and the Rural Planning Section of the Ministry of Economic Planning. This ministry provides an inventory of health facilities and what they ought to constitute. The circle is not completed until there is further liaison. This is with Department of Physical Planning (DPP), which is the chief planning authority in the country as far as physical planning is concerned. This way an efficient spatial network of services is expected to be achieved. This gives us a sum total of multi-strategy, multi-input, inter-agency coordinated programmes. For the achievement of an efficient rural health programme, the incorporation of the Rural Health Unit (RHU) concept earlier referred to is used.

All these recent developments are geared towards providing a viable alternative, an improvement to the past. In the past, other than health services being controlled and financed by local authorities, least attention was paid to the notion of distribution. The outcome was the disparity that now exists in the pattern of distribution of health services. Such disparities are as has been mentioned evident at inter-regional levels as well as within regions. By region here is meant, province, district or division. Details on the nature of such disparities will be discussed in later chapters.

2.3. Summary of Criteria used by MOH

To end this chapter it is necessary to summarise what to us is the core of recent developments in the rural health programme. This is contained in the criteria used by the Rural Health Section in planning for the distribution of rural health facilities.

One of the objectives of the Rural Health Programme is clearly stated by the MOH as:- to formulate stretegies for satisfying basic health needs in the rural areas offered by the governmental and non-governmental organizations. In doing this, the guiding principles have been, population distribution, and accessibility. In this process it is worth mentioning that an attempt has been made to avoid writing-off already existing facilities. This therefore implies that in some cases inequality is already permenent unless efforts may be made towards building facilities.

The selection of the type of facility and its location in respect of Health Units will depend on; population density, disease panorama, communications and distance to existing health facilities. In selection of sites such factors as topography, infrastructure and site formalities are considered. For instance the availability of water must be ascertained before a site is finally selected. Electricity although highly desired is said not to be absolutely necessary for the functioning of Health Services. This appears contradictory to the efforts government is

putting in the rural electrification programmes. Indeed electricity as a source of energy is one of those public purpose facilities most desirable for overall rural development programmes, expensive though it is. With respect to health services in particular, electricity is of vital importance in view of the need for lighting refrigeration and the preservation of specimens even if one may be talking of basic health services. We need not fall victim of of those who imagine rural areas are for the lowest standards or perhaps sub-standards.

Finally it is stated that choice of site should be done with a full understanding of existing and future patterns of development and human settlements, patterns which might affect medical functions.

As has already been mentioned, the focal point of the rural health programme is the RHU. It is therefore logical that the criteria used in delineating the RHUs is in itself also the criteria that governs the dispensing of rural health services in general. A knowledge of these criteria is a necessary prerequisite in the understanding and study of rural health services. This is why this section has had to deal with this issue. To end it is worthwhile summarising in a tacit and brief way what these criteria are. They are as follows:-

(i) population density;

(ii) walking distance;

(iii) communication network;

(iv) current distribution of health facilities; and

(v) homogeneous population characteristics.

In later parts of this thesis it will be established whether the above criteria are sufficient, and if so to what extent they actually govern the rural health programme.

CHAPTER THREE

INVENTORY OF EXISTING SITUATION IN STUDY AREA

3.1. Background

We discussed the area of study at some length in our first chapter. We already know its size and to some extent its population as well. In this section we want to show in a broader way the geographical features of the wider region into which our area of study is located. Broadly this wider region is the Lake Victoria basin of Kenya which is comprised of Nyanza and Western provinces. Our area of study falls within the Kakamega District (3520 square kilometres) of Western Province which is 8,223 square kilometres.

In this broad region the major geographic feature is the Mount Elgon which rises to a height of 4,321 metres at the northern apex of Western Province. The whole region forms an undulating plateau, gradually sloping westwards from an altitude of 2,000 - 2,235 metres in the highlands that border the central rift of Kenya to the shores of Lake Victoria. Geologically the rocks of Western Kenya are of pre-cambrian age. Occasional intrusions of granite rocks occur, thus being economically important as they are connected with the gold and copper deposits which have been found at Kakamega and Macalder. The soils of the region are of three

main types; the red laterized volcanic soils which are usually very fertile and thick as found on the slopes of Mount Elgon. The pick grey soils formed on granite and the fertile but difficult to work Black Cotton soils occur on the alluvial flats.

Rainfall ranges from over 2,000 mm per annum under 750 mm. Long rains occur from March to June and the short rains from October to December. One of the three areas of heavy rainfall is a belt between Kakamega and Butere, and the Mount Elgon area. More than 1500 mm. per annum may be expected here. For example in 1977 the Bukura Rainfall station recorded 2,263.00 mm. of rain.

Land categorization goes as follows:- Over 93°/o of the land is Trustland; the great bulk of which is either farmed under traditional tribal land tanure customs or in the form of small-holdings where land consolidation and registration has been carried out. 821 square kilometres is under forest, less than 600 square kilometres is under plantation or large scale farming and 0.2°/o is urban. Kakamega district is however, a fully registered area.

3.2. Demographic Factors

Between 1962 - 1969, the overall rate of annual population growth in Western Kenya was 3.8°/o. Kakamega district had a population density of between 200 - 500 people per square kilometre according to the 1969 population census. One striking feature of the district is that it has hitherto traditionally been a region of out-migration rather than in-migration. According to 1977 statistical abstracts, it is estimated that the 1975 population of the District was nearly one million. On the other hand the density will increase as the population grows. The district covers an area of 3520 square kilometres.

Although a repetition we need to mention again, that, Butere division covers an area of 350 square kilometres. Population density is 394 per square kilometre. The 1969 census put the division's population at 103,462 while the estimate for 1975 was 138,000. Annual average growth rate is 6.1°/o. Mumias division which covers an area of 597 square kilometres had (according to 1969 census) a population of 80,020 while the estimate for 1975 was 103,000. Density is 180 per square kilometre while the growth rate is 6.2 per annum. Mumias division is the area where the Giant Mumias Sugar Company factory is located. This has caused a settlement pattern that is typical of land-consuming crops. The population map shows the pattern of distribution in the whole district. This is to help us in understanding the comparability between the study area and the rest of the district.

3.3. Distribution of Service Centres

It is important to know the distribution of service centres as they are the ones in which services and infrastructure must be located. Moreover our study concerns itself not merely with the distribution of rural health facilities, but also more importantly with the relationship between these facilities and the service or growth centres. The hierarchy of growth and service centres has already been discussed in chapter two. Our task here now is to present the existing service and growth centres in the specific area of study leaving the rest of them in the district out of focus.

The highest level of centres in the study area is Urban. There are two designated urban centres - Mumias and Butere. Mumias had an approximate population of 9,000 while Butere's was roughly 2,000 according to the 1969 census. The next highest level is Rural centres. There are two Rural centres i.e. Khwisero and Shianda in Butere and Mumias divisions respectively. Following this level are the market centres. In this category there are three centres, namely:- Bukura, Kilingili and Eshibinga. Bukura and Kilingili are on Locational boundaries as can be seen on the map. Then the lowest order of designated centres are the Local level. In this area of study, there are over ten such centres. They are clearly shown on our map. It should also be mentioned that there are many more centres which unfortunately are not designated by the Physical Planning department. Some of these are very useful as will be made clear in later sections.

3.4. Transportation Network

The network of transportation in development need not be overemphasised. We know that it is the connectivity and accessibility provided by transportation networks that accelerates traffic movement and the movement of goods for various purposes connected with development aspects. Indeed the way transportation links one centre to another or one service to another in hierarchical terms is significant as far as the efficient provision of services is concerned. With respect to the provision of Rural Health Services, it is significant to note that access to a given level of services is very much dependent on efficient means of transport. It is for these reasons that we devote this section to delving into transportation networks in our study area. It is argued that the ideal location of a health facility must take into consideration the availability or lack of transportation.

The dominant mode of transportation in the area of study is Road transport. It is by this mode that the area is linked not only to the District and Provincial headquarters but also to other neighbouring districts and province. The hierarchy of road network here ranges from the lowest to the one next to the highest. Being an area within the sugar scheme, some of the roads here are under the category of Sugar Roads. The rest are under the authority of the government, while a few are taken care of through Harambee (selfhelp) programmes. The road transport system is supplemented by a railway line which traverses two locations of Butere Division.

This line stretches from Butere through Luanda in Vihiga Division to Kisumu town on Lake Victoria. At present the whole of Mumias division and for that matter the rest of Kakamega district has no rail transport at all. However, plans are afoot to extend the railway line from Butere town to Mumias through to link up with the other end of the line at Bungoma. This will give the people of this area access to not only Bungoma district but also to such other towns as Eldoret and of course to Uganda by rail. Such a connection is not there presently.

Air transport is not of significance in Western province. There is an airfield at Kakamega. There is also an airstrip at Mumias which serves the Sugar Company. But the frequency of flights to these areas is confined to official company or government business alone. For this reason air transport is as yet of little or no value to the ordinary citizen in the district and more so in the study area.

The biggest problem in road transportation in our study area can be said to be twofold. One, there is a definite lack of road maintenance. This makes most of the roads in the area completely impassable either throughout the year or as is more often the case, during rainy season. Two, even if some roads may be passable, one encounters a lack or deficiency of public transport vehicles on the roads. This point is illustrated in our traffic flow map well as the one showing the existing road network.

Given the uncertainty of road transportation inspite of its dominance, we may conclude that access to rural health and other communal facilities is not that easy. This point will be developed further in a later sections perticularly in our fourth chapter.

To end this section, we should mention that the road classification used in Kenya is as follows:-*

(a) International Truck Roads - are roads which link centres of international importance and across international boundaries, or terminate at international airports Class A;

(b) National Truck Roads - all roads linking nationally important centres. Class B;

(c) Primary Roads - are roads linking provincially important centres to each other, as well linking these centres to higher classified roads. Class C;

(d) Secondary Roads - provide linkages to local centres and to main roads - C.

(e) Minor Roads - are roadway segments linking minor centres, these are generally unclassified. They constitute integral components of the development programmes.

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* From the 4th National Development Plan 1979 - 83 page 59 of Part II.

Rural access roads are part of minor roads intended to link markets, farms and health centres within rural areas in selected districts in Kenya. D & E.

Class A above runs to a length of 2,501 km in Kenya. B is 858 km. Class C of Primary roads runs to 1046 km, while the others go to 1475 km.

3.5. Health Facilities in the Study Area

In this section we intend to give an inventory of the existing health facilities. The aim here is not merely to offer the inventory per se but infact to illustrate how they are located vis-a-vis each other and in what centres. As well it is our intention to illustrate the location of these facilities in relation to other community facilities as well as the transportation infrastructure in the area. The section will first of all show how many mission and government facilities exist in the whole district, then come down to details to show all the facilities in the study area. Having done this, it is believed our analysis and critique which follows in the next chapter will be easier than it would otherwise be.

As was briefly indicated in our first chapter the district is said to have a fair proportion of health facilities, as measured by health centre population ratio and bed population ration [see chapter one]. In all, there are seven hospitals in the district. Of these only one is a government hospital. This is the Provincial General Hospital at Kakamega. The other six are all mission hospitals. These are all shown on the relevant map. Of these mission hospitals two are situated in our area of study viz; at Mumias and Mwihila. There are nineteen Health Centres in the District. Of these four are in the study area. Then there are

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* These figures were obtained from the data at Ministry of Health Headquarters.

three Sub-health Centres. Two of these are in the study area - at Bukura and in Mumias Sugar Company premises. Then there are 15 dispensaries out of which six are located in the study area. It is also recorded that there are eleven self-help health institutions under construction. Their categories are very varied. This so far is the situation as it generally obtains in the district. We shall now go into more details to show the situation in the study area.

3.6. Government Facilities

The highest level of government facilities in our area of study is the Health Centre level. There are four such facilities in the study area. One is located within Mumias division at Matungu. The other three are located in Butere division. Specifically these are at Butere, Kilingili and Khwisero. The next level of facilities is the health subcentre, and the demonstration clinic. This is a level meant to serve a catchment population of between 50,000 - 70,000. There is one such a centre in the study area located at Bukura. As can be seen on the map Bukura and Kilingili are on locational and divisional borders. This means that their catchment areas go far beyond the boundaries of their administrative units. As a matter of fact the Bukura facility is actually outside Butere division, but being in an active centre such location factor is not in itself prohibitive at all.

Next in hierarchy is the dispensary level. At this level we find that the number of facilities is relatively less than at the higher levels discussed above. In all as is contained in the records, there are four dispensaries in the study area. Of these only two are in Mumias division, while the other two are in Butere division. The ones in Mumias division are Shianda dispensary and Mumias dispensary. The ones in Butere division are Shinyalu and Namasoli. Mention should be made here of the fact that the Shinyalu dispensary is actually obsolete, while the Namasoli one

which was started to cater for maternity purposes functions only halfway.

Also in discussing government health facilities, we cannot ignore one very important level. This is actually the lowest and perhaps most widespread if not accessible to the majority of the people. The Mobile Health Service. Government as well as mission hospitals, offer mobile clinic services to some of the remote small centres in the rural areas. Centres mostly catered for in this case are market level centres. Community health services are partly incorporated in this. In some cases as in Tiriki location [outside our area of study], special efforts are underway to involve the people in the exercise of public and community health programmes*. This however, is not the subject of our thesis.

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* Community health programmes led by Dr. Miriam Were of Nairobi University.

3.7. Mission Facilities

Missionary efforts appear to be mostly concentrated in the establishment of high level facilities. In most cases we find hospitals under the potronage of missions rather than health centres or dispensaries. Attached to these hospitals however are networks of mobile health clinics which in most cases stretch quite far beyond the administrative units in which the hospitals are located. We earlier noted that there are seven mission hospitals in Kakamega district. Not all the divisions in the district are blessed with mission hospitals. It is thus interesting to note that Mumias and Butere divisions each has one mission hospital. Therefore two out of the seven in the district are located within our area of study. Specific locations are at Mwihila in Butere division and at Mumias in Mumias division. At Malindi, a few kilometres from Mwihila in Kisa location, there is a mission dispensary, which is specifically referred to as a church dispensary. Just for the sake of further information it should be mentioned that these mission facilities go along with religious influence in a given area. For example the Mumias one is a Catholic supported institution in a predominantly catholic area while the Mwihila one is for the same reasons a Church of God patronised hospital.

The areas to which mobile clinics extend also seem to follow the same pattern of religious affinity. The Mumias mission

hospital for example renders its mobile health services mostly within Mumias division e.g. at Shianda dispensary and towards Busia district - to areas such as Nambale. Busia district unlike the neighbouring Butere division in Kakamega district is a predominantly catholic zone. There is a distinct catholic influence in say Ikolomani division, but here too there exists a strong catholic hospital at Mukumu near Kakamega town. For Mwihila mission hospital such mobile health services extend to areas such as Ingotse, Kabras, Isukha and Kisa. Again here the pattern follows a district church of God affinity.

3.8. Private and "Harambee" Facilities

A distinct difference exists between private and harambee facilities. Private health facilities are profit-making privately owned ones. On the other hand harambee or self-help facilities are community initiated and owned mainly with the aim of alleviating the lack of government or mission facilities in a given community. The private facilities are thus discriminative in view of the profit motive behind them. On the other hand, harambee facilities if they ever function at all follow the government policy of rendering free medical services. A common feature between the two types of facilities is their 'freedom' to locate where they want. They are extremely spontaneous. Private health experts wishing to establish a health facility do so following market mechanisms. A community that perceives the need for a health facility simply thinks of locating in their immediate area to enhance access to medicine. Notably one finds there are usually many private health services in urban areas, due to the incomes and attitudes found there. Harambee facilities are generally found in the rural areas, where communities are cohesive socially and geographically; and such cohesion leads to the perception of a need for medical facilities. But overall, one does not find many private or harambee health facilities in many areas, our own study area not being an exception to this rule. Yet government policy encourages communities to start their own harambee projects, which may thereafter be taken over by government for the sake of improving service-quality.

We should nevertheless know how many private and harambee facilities exist in our study area. In Butere there is a private dispensary at Eshianda. This is located on somebody's own piece of land. The same is the case with the other two private dispensaries at Inaya and Emalindi. Of these three the one that is doing most thriving business is the Inaya one. Here there is even an impatient block with about ten beds. Infact it now acts as a real relief to the people of the area needing what they call better-quality-though-paid for services. Private health services on the other hand seem not to be common in Mumias Division. And on the basis of the fact there is a huge sugar scheme in this division generating high incomes, we think this is an unexpected phenomenon. This is even more so considering that there are less government facilities here than in Butere division. There is only one private facility. This is the Mumias Sugar Company clinic. It is private in the sense that it only caters for the employees of the company - a profit-making venture.

Of the harambee health facilities, again one does not find many. In Mumias there are efforts (but at standstill) at Makunga. In Butere division there is activity at Shiraha, Doho and Manyala. Note should be made that in fact none of these facilities is actually functioning todate. They are either actively or inactively under construction. Harambee efforts in the area of health facilities have to a large extent been thwarted by the evident lack of government assistance. Such assistance is supposed to range from

providing money and materials during the construction period, to providing qualified personnel and equipment in order that the computed facility may consequently function to the benefit of the immediate community. Examples of constructed but dormant buildings such as at Makunga and in other divisions like Ikolomani discourage would be enthusiastic harambee efforts. But we have had to mention these dead facilities for one reason. This is that when we come to analysis and critique [our next chapter], they will infact act as indicators of deficiency. Otherwise why should a community within reasonable reach of a functioning facility put up another?

3.9. Related Community Facilities

In this brief subsection we intend to highlight the relationship of the health facilities discussed so far with certain related key community facilities. Public utilities such as water supply, electricity and sewarage are as we know important in matters of public health. But significantly, the case in the developing countries is that such facilities may even pass as 'luxuries' to the Rural Human Settlements. It still remains the case however that, Health facilities will definitely require such and other community facilities. On the other hand it is common knowledge that public institutions such as schools require in their vicinity some level of health service or care. This symbiotic kind of coexistence is so to speak the goal of most physical plans, as all seem to aspire to take advantage of economies of scale.

Mumias and Butere are as we showed earlier designated urban centres. Electrivity and Watersupply exists. Sewarage is however, not urban type. The dominant type here is the septic tank system. As for transportation, we have already indicated in an earlier subsection what the situation is. In brief we can state that the present level of community facilities in Mumias and Butere is such that it permits the establishment of any level of health facilities. This is why the Mumias mission hostpiral has no problems with regard to water and electricity.

At Mwihila the water supply is not a problem, so is electricity. But a few kilometres away at Khwisero where there is a government health centre, there are problems of poor water supply, no proper sewarage system [they use pit latrines], and no electricity. However, there was recently installed a 12 hour telephone service at Khwisero. This serves Mwihila as well. Telephone services have of course been at Mumias and Butere for a long time. At Bukura telephone, water and electricity exist. This is largely due to the national importance of Bukura as an Agricultural Institute. But the situation is not so good in places where smaller or harambee and private facilities exist. In the majority of cases, there is a total lack of such community facilities, the further into the rural area one goes.

TABLE 3.1. NUMBER OF HEALTH FACILITIES IN STUDY AREA

PATRON	LEVEL OF SERVICE			
PATRON	HOSPITAL	HEALTH CENTRES	HS CENTRE	DISPENSARY
GOVERNMENT		4	1	4
MISSION	2			1
HARAMBEE*		3		
PRIVATE				4

*All the Harambee health facilities in the study area are not yet functioning see details in subsection 3.8 pp.53 - 55.

CHAPTER FOUR

ANALYSIS AND CRITIQUE

4.1. Introduction

In this chapter, we shall critically analyse the factors that explain the pattern of the distribution of rural health facilities in our study area. The goal is to understand how the present pattern has come about and how our proposals would fit into or help to modify the existing situation. In the previous chapters attempts were made to expose the situation as it exists, hence the need to analyse the situation in this chapter.

In chapter two we presented a summary of the criteria used in determining the location of rural health facilities. But certain weaknesses or shortcomings are clearly identifiable in these criteria. We shall begin by identifying possible weaknesses of the criteria used before we analyse the existing situation.

We need to emphasise again that we are dealing with all types of rural health facilities. This includes government, mission, private and harambee facilities. We believe this is a realistic approach in view of the fact that in the rural area as is recognised by government, the most important aspects of medical requirements are preventive and basic in nature. Access to a health

facility for the alleviation of basic maladies and the prevention of epidemics are necessary prerequisites for the existence of a healthy Rural population. This is all the more important in view of the shortage of manpower and resources to be deployed in the administration of medical care in our country.

4.2. Distribution of Government Sponsored Health Facilities

In discussing the pattern of distribution of rural health facilities, certain salient factors have to be considered. In our case the main factors to be considered are as follows:- Manpower, Equipment, Accessibility, Proximity to each other, and in broad terms, the levels of service as well as the extent of such service. It is our basic consideration that we can best see the levels of disparities by actually going into the details of the above - enumerated factors. This is necessary because the planner has to deal not only with the problems of physical location but more so, the issue of a rational distribution of resources and services with a view to getting them within reach of the people they are supposed to serve.

Staffing levels and the qualifications of such staff vary relative to the size of the facility i.e. its grade as designated by government. This is not absolute however. It also depends on the support a given facility receives from the government and in the case of non-governmental facilities, the proprietor's ability to improve their services. We shall first of all look at the staffing situations in government facilities. As we noted earlier, the highest level of government health facility in our study area is the health centre. There are four such facilities in the study area.

The following tables show the nature of staffing and the variations thereof.

Table 4.1. STAFF IN HEALTH CENTRES (HCs)

GRADE OF STAFF	NUMBER IN VARIOUS HEALTH CENTRES			
	BUTERE	KHWISERO	MATUNGU	KILINGILI
Registered Clinical Officers	1	1	1	1
Enrolled Midwives	1	2	1	2
Enrolled Nurses	1	2	2	1
Unqualified Nurses	3	2	-	-
Community Nurses	1	-	1	-
Health Visitor	1	-	-	-
Field Health Educator	1	-	1	1
Statistician	-	-	-	-
Patients' Attendants	-	-	2	-
Public Health Technician	2	1	1	1
Driver	1	1	1	1
Watchman	1	1	1	1
Gardener	1	1	1	1
T O T A L S	14	11	12	9

SOURCE: Records of Public Health Nurse Kakamega district & The Health Centres'.

The above table shows that there exists disparity in the distribution of health facilities as per staffing at more than one level. First there is disparity amongst the health centres. Secondly, we can look at the disparity as between regions. In the first case, we notice that even though all the health centres are of equal levels this is not reflected in the staffing. This defies government policy that health centres should be equally staffed. In absolute terms, Butere health centre leads with 14 staff followed by Matungu which has 12 then Khwisero 11 and lastly Kilingili 9. But the staff in which we should have the most interest is the paramedicals. All the centres are equal on the issue of registered clinical officers. But there are variations on the rest of the grades. It is also interesting to note that of all the health centres, only Matungu has patients' attendants. All the health facilities are however equal in the case of the non-medical staff. In all cases each health centre has one driver, one watchman and one gardener.

The second level of disparity is the spatial distribution of health centres. For our purposes we have made comparison between Butere and Mumias divisions. These two being administrative units, second rank to the district, do offer us a reasonably accurate basis for comparison of health facilities. Of the four health centres in the study area only one is located in Mumias division. One of them, the Kilingili health centre is though located on the border of Butere division and two other divisions to the East, more or a Butere facility than of any other divisions, since it's closely

associated with Kisa location. Thus we at once recognise that Butere division with its two locations is better off than Mumias division with its three locations.

This disparity is seen more clearly when one looks at the population and geographical sizes of the two divisions. As noted in chapter one, Mumias division which covers an area of 597 square kilometres has a population of 80,020 persons giving an average population density of 180 persons per square kilometre. On the other hand, Butere division covers an area of 350 square kilometres with a population of 103,462 persons. Thus the density of population is 394 per square kilometre.

Using Health Facility/Area Ration used by the MOH we find that Mumias which has only one health centre to its 597 square kilometres comes out with a ratio of 1:597 Km^2. On the other hand, Butere division has three health centres to its 350 sq. Km. emerges with a ratio of 1:117 Km^2. There is no doubt then that Butere division is better supplied with health facilities than Mumias division. According to the MOH the desirable Health Facility/Area ratio is 1:148 Km^2. Anything falling short of this is considered to be suffering from "Out of Reach Effect."*

The other basis on which analysis of need is done is Health Facility/Population Ratio. Here the desirable ratio is 1:45,700 people - i.e. 45,700 people to one health centre. This closely

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*MOH Rural Health Section's proceedings of a conference held at Nyeri in 1978.

approximates to 50,000 - 70,000 people for whom a Rural Health Unit is meant. With respect to the Health Centre/Population ratio index, Mumias division comes out with a ratio of 1:80,000 (approx.), while Butere division has a ratio of 1:34,433 (approx.) Again on the basis of this criteria it is clear that Butere division is better placed than Mumias division.

We have used the HCs as measures of need and disparity because of their key role in government's attempts at delivering medicine to the rural population. We shall also examine the other levels of health facilities in order to find out what degree they compound or alleviate the disparity so far observed. It should be emphasised that the above ratios show that Butere division does not suffer from the 'Out of Reach Effect' (ORE), particularly in relation to the Health Facility/Population ratio, which is 1:34,433 compared to the desirable 1:45,700.

We noted in the introductory chapter what manpower was required for a Health Centre. This is confirmed in the latest Development Plan 1979 - 1983 as being one clinical officer, four enrolled nurses, one health technician, two field health educators, one statistician, three attendants and four supporting staff. In comparing these requirements with what we observed in the field, we discovered that none of the health facilities in the study area either satisfies the minimum staff requirements or the proper staffing of various categories as per guidelines. For instance

the average total staff for a Health Centre should be 16. But in our study area only Butere Health Centre closely approximates to this with its total of 14 staff. Matungu, the only Health Centre in Mumias division has only 12 staff. Table 4:2 shows average staffing needs in Government Rural Facilities.

Comparing tables 4:1 and 4:2 we find that along with shortages of various categories of staff, there is haphazardness in staffing conditions. For instance one finds cases of unqualified nurses and community nurses etc, whose presence does not appear to be developing towards the desired situation as shown in table 4:2. The implication of such a situation is that planners may not satisfactorily identify disparities in staffing among other things. It is the premise of this paper that such details are in themselves a necessary prerequisite to the proper identification of the pattern of distribution of health facilities.

Government services at the dispensary level are as was earlier noted less intense. This is an unhealthy trend for certain obvious reasons. First, it is the dispensaries that along with the Health Centres, supposed to form the RHU. Four dispensaries serving a selected HC constitute on RHU. Even when Bukura Sub-Health centre is taken into account we still find that there are only 6 dispensaries in the study area. It should further be pointed out that some of these six dispensaries are actually dysfunctional.

TABLE 4:2 Average Staffing Needs in Govt. Rural Health Facilities

FACILITY	Clinical Officers	Enrolled Nurses	Health Techns.	Family Health F. Eds.	Statistical Staff	Attendants	Others	Totals
Health Centres	1	4	1	2	1	3	4	16
Health Subcentres	1	2	1	1	-	2	3	10
Dispensary	-	1	1	-	-	1	1	4
Mobile Health Unit	1	1	1	1	-	1	1	6
T O T A L S	3	8	4	4	1	7	9	36

SOURCE: 1979 - 83 Kenya Development Plan p.129.

Shinyalu and Namasoli both in Butere division are representative cases. Another of these six is in actual fact a church dispensary - but there is considerable government interest in it. This is the Emalindi church dispensary.

We should also recognise the maldistribution of dispensaries. Of the six dispensaries, only one - Bukura can really be said to be effectively serving Butere division. Mumias division too has only one effective dispensary located at Mumias town, thus serving an urban population of 9,700 persons. For an urban centre, this level of government health facility is certainly not adequate considering the guidelines earlier alluded to. We shall deal with this question of level of services vis-a-vis the service centre policy in a later section.

There are three designated Rural Health Units in the study area, located at Butere, Makunga and Bukura. For each of them four supporting dispensaries are planned to complete the set up for an RHU. But this is only as far as the expected goes. Otherwise it is evident that the area of study is extremely deficient of lower-level services which would help in effecting a reasonable dispensation of medical services. According to health facility/ population ratio there ought to be twelve dispensaries and only four as is the case now.

Another important element in the distribution of health facilities is that government health centres should be ten miles apart.* There is no doubt that this is not the case in our study area. Mumias division with only one health centre is a case in point. Furthermore in Butere division this is not the rule either, since the two HCs Kwisero and Butere are more than twelve kilometres apart.

We have so far identified basic shortcomings in government's approach. First the emphasis on population ranges, rather than distribution undermines the system's basic goal of rendering health services within reasonable access of the population. The RHU concept also has shortcomings in that it is by its nature supposed to be supported by auxilliary facilities - which in the shortrun may not be easily achieved. The case of our study area proves that the RHU is an ambitious dream that is made worse by its failure to take into consideration non-governmental health facilities. The third major weakness is the distance planned to separate HCs. Ten miles [12 Km] is not a short distance by rural standards. This is in view of the fact that, the predominant mode of traffic in the rural areas is pedestrian. The distance proposed thus does not conveniently correspond with the other proposition that RHUs be within walking distance of the rural population.

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* MOH Rural Health Section.

The last and perhaps major shortcoming is that government's approach does not take into consideration two other vital factors. Firstly, there is evidence that, the country's physical planning policy is largely ignored. Failure to effectively make use of the growth centre policy renders alot of weakness in the MOH's rural health programme. Secondly, mission and private health facilities have not been considered in deciding on the location of government facilities. This is so despite the criteria that deals with the existing facilities. Evidence of failure to use this criteria is the Khwisero/Mwihila and Mumias cases, where duplication of services resulting in oversupply is the order of things.

4.3. Mission Health Facilities.

The missionary factor in the provision of rural health facilities is of no mean significance. Indeed most of the hospitals encountered in the rural areas [our study area included] have been provided by various missionary groups. Even the government pays due tribute to this contribution by missionaries.* For this reason there is active government encouragement and participation in missionary efforts in the field of rural health services. However, much is not known as to what extent the government has control over the distribution and location of missionary health facilities. Infact according to the authorities in Kakamega there is a great latitude for missionaries to locate their services wherever they please. We discussed this issue briefly in chapter one and pointed out how religiously polarised the existing mission facilities in our study area are.

We shall now discuss the distribution of the existing missionary facilities in order to identify the inequalities or otherwise that are inherent in the system. More importantly, the relationship between mission facilities and those provided by the government has also to be discussed. This will help us to effectively highlight the nature of their distribution in a regional contert as well as shedding light on our earlier claim that government planning for the distribution of rural health facilities ignores the missionary factor - thus tending to enhance inequalities in the distribution of health facilities in general.

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*In all Development Plans since 1963.

Along with this inquiry, we shall also examine the issue of private and self-help services. Though the latter are not of much significance in our study area, it is important that we at least discuss them, since as was noted earlier, their very existence denotes an inadequacy.

There are two mission hospitals in the study area namely Mwihila and Mumias. Mwihila hospital has 150 beds, 1 X-ray and 1 landrover. There currently exists strong government assistance to this hospital. But it is above all a mission hospital run by the Church of God.

Mumias hospital has 147 beds, 1 portable X-ray, and two vehicles. Government assistance to this hospital is only as far as the reference of patients to the Provincial Medical hospital is concerned. This is markedly different from Mwihila which for now gets assistance in the form of grants-in-aid and even a vehicle. But of the two hospitals, Mumias is the older. It was established in 1910 by Catholic missionaries. Foreigner's penetration into this area was rather early due to the influence and fame of the Nabongo (King) of Wanga who ruled the Abawanga prior to the advent of colonial administration.

From the point of view of the number of missionary hospitals, the two divisions, Mumias and Butere, are equal. This equality displayed by mere numbers, is nevertheless not sufficient evidence to lead us to conclude that there is no disparity. For this reason,

it is worthwhile going into details to pinpoint the nature of disparity that exists between the two hospitals. This, we analyse as we did with HCs, by way of detailing such issues as of manpower and in this case even equipment. It is also worth finding out the strains that may possibly exist on these few highly-placed facilities by examining their range of services. Table 4:3 below compares staff at Mwihila with that at Mumias.

TABLE 4:3 STAFF AT MWIHILA AND MUMIAS HOSPITALS

	MWIHILA	MUMIAS	
Doctors	1	3	
Clinical Officers	1	2	
Qualified Nurses	5	17	
Community Nurses	4	*	*Included in the 17 nurses.
Unqualified Nurses	6	27	
Laboratory Technicians	2	1	
Laboratory Assistants	-	1	
Drivers	1	1	
Administration	3	6	
Supporting Staff*	14	19	
T O T A L S	37	71	

* e.g. cooks, laundry men etc.

TABLE 4:4 "WARDS" AT MWIHILA AND MUMIAS HOSPITALS

	MWIHILA	MUMIAS
Maternity	1	2
Children's Wards	1	1
Female Wards	1	2
Male Wards	1	1
Private Wing	1	1
T O T A L S	5	7

TABLE 4:5 "EQUIPMENT" AT MWIHILA AND MUMIAS HOSPITALS

	MWIHILA	MUMIAS
Beds	150	147
X-rays	1	1 (portable)
Pharmacy	1	1
Theatreroom	1	1
Laboratory	1	1
Vehicles	2	1
T O T A L S	156	152

NB: In both cases there are outpatient dispensaries.

Note: Expansion to the Maternity and Private wing is underway at Mumias hospital.

It has already been pointed out that there is a definite religious or denominational polarity that goes with the mission health facilities. In Mumias we saw the strong Catholic influence while in Mwihila the Church of God wields the axe. The pattern of services especially in the case of mobile clinics is largely influenced by this religious factor as well.

Tables 4:3, 4:4 and 4:5 clearly show the differences between these two facilities, although in some cases equality is recorded. On the whole it is recognisable for instance that Mumias Mission Hospital has 71 staff while Mwihila has only 37. The critical issue in the staffing is that of the medical or paramedical personnel. Again in this case Mumias outshines Mwihila in a fairly significant way. For example, whereas there are 17 qualified nurses in Mumias, in Mwihila there are only five. Mumias has three doctors while Mwihila has only one, who in addition to his role as doctor has also to attend to a lot of administrative work. It is thus clear that Mumias hospital is better staffed than Mwihila and is better placed to serve the people living in Mumias and the surrounding areas.

The trail of inequality continues through such factors as of equipment and wards. With regard to hospital wards, Mumias hospital is again better off having seven as against Mwihila's five. Furthermore, it was evident during fieldwork, that a lot of extension work was underway at Mumias hospital. Conversely, Mwihila hospital was

found to have suffered some definite decline in the recent past such as forced it to discontinue its nursing school programme.

Looked at in isolation, the picture painted above of Mumias beating Mwihila may be misleading. In fact from the point of health facilities requirements as earlier discussed, it is evident that Mumias will need to have more personnel and equipment in order to cope with its workload. This is particularly so in view of the inadequacy of government health facilities that was identified in the previous subsection. The degree to which the mission facilities are strained is identifiable from this viewpoint as well as in terms of attendances. Before this is shown, we should first look at the fees charged, since this is in itself an important factor in determining attendance trends. Table 4:6 below compares the fees charged at the two mission hospitals.

TABLE 4:6 : FEES CHARGED AT MWIHILA AND MUMIAS HOSPITALS

TYPE OF SERVICE	MWIHILA	MUMIAS
Out patients per child	Shs.3 - 5	Shs.1
Out patients per adult	Shs.8 - 10	Shs.2
In patients per child per day	Shs.5	Shs.5
In patients per adult per day	Shs.8	Shs.10
Special wards per day	Shs.45	Under construction
Maternity		Shs.55

continued .../ 76

TABLE 4:6 (continued)

Charges on Diseases:

TB per day	-	Shs.3
Measles per day	-	Shs.5
Malnutrition cases	-	Shs.60 for a month
Doctor's fees [to see doctors]	-	Shs.10 for 3 months.

SOURCE: 1978 Data at Mwihila and Mumias hospitals.

TABLE 4:7 : AVERAGE PATIENTS' ATTENDANCES AT MWIHILA AND MUMIAS HOSPITALS

	MWIHILA	MUMIAS	PERIOD
Outpatient Ward	1,074	5,000	per month
Inpatient Ward	6,959	7,600	per year
Deliveries	118	150	per month

SOURCE: 1978 Data at Mwihila and Mumias Hospitals

Relating the fees charged with attendances in both hospitals, certain factors emerge. Firstly, the fees differ. While Mumias charges one and two shillings for outpatients per child and adult respectively, Mwihila's averages are much higher, being KShs.3 - 5 and KShs.8 - 10 respectively. Monthly outpatient attendances

at the two hospitals are averaged at 1,074 and 5,000 for Mwihila and Mumias respectively. Outpatient attendances are a good indicator of the range of service, the possible strain on the health facility and even in a more subtle way, a measure of need. This is particularly important in view of such factors as walking distance and the population to be served, that are considered by the MOH in their Rural Health Programme.

For a start we can say that the lower level of fees charged at Mumias is a significant factor in encouraging people to flock to the hospital. This is further facilitated by the fact that Mumias hospital is within a monetary economy dependent on the lucrative sugar scheme. We should however, not lose sight of the fact that people value good health above money. Therefore, sugar-cane or not, in the absence of government alternatives, the local population has no choice but to attend the Mumias mission hospital. The low fees charged by Mumias hospitals are in a way also evidence of a lack of desire by the proprietors of the hospital to cash in on the lucrative money flowing in the region. It would thus appear they are trying to be philanthropic. But these should not obscure the more important fact that, as a missionary venture, there is conscious effort to evangelise, and so by offering medical services so cheaply in the face of so much money around, they secure themselves a way to winning more adherents to Catholicism.

Another picture that emerges from the comparison of attendances at the two hospitals is that there is a serious disparity in government facilities between Mumias and Butere divisions. Mwihila hospital is only two kilometres from the nearest government health centre - Khwisero. Four kilometres to the East of these two there is yet the Bukura health subcentre. The existence of these well established government facilities where free services are provided so close to Mwihila is a valid reason to dissuade would be attendants from the mission hospital where the minimum charges are KShs.3.00 and the maximum KShs.45.00. It is not being argued here that Mwihila hospital is not attended. In fact relative to the fees charged and the existence of nearby government facilities, patients still flock to the hostpital. The argument is however, that Mumias and Mwihila differ in terms of patients who attend them because of Mwihila's proximity to other facilities. This is not quite the case for Mumias hospital.

In view of the above factors a number of conclusions can be arrived at. One is that the high outpatient average attendance at Mumias hospital is due to two factors:- First the low charges and secondly the lack of highlevel government facilities. A third reason is as was gathered from informal conversation with some of the patients that, 'private' hospitals give better service than public facilities. It is therefore worth sacrificing a few shillings to get these services. It should also be noted that Mumias mission hospital caters for a region far beyond the confines of the

divisional borders. The sister-in-charge noted that apart from their mobile clinics operating as far away as Teso in Busia, their patients come from all over the province.

The trend is such that there is evidence of many patients from Butere division flocking to Mumias mission hospital. This trend experienced a hike due to the recent deterioration of services at Mwihila. Finally, it can also be concluded on the basis of outpatient attendances that Mumias appears heavily overloaded.

The fees charged for inpatient services are not very different. At Mwihila the charges are Shs. five and eight per child and per adult respectively. At Mumias this is five and ten shillings respectively. In both cases these are charges per day. It appears though that with respect to inpatient charges, Mumias hospital has relatively higher rates. This is particularly so in comparison to the outpatients' fees. This could be the soundest explanation for the small gap between the two hospitals' inpatient attendances. In this case they compare quite favourably. At Mwihila the average attendance per year is 6,959 while at Mumias this is 7,600. Relative to the wide gap in the case of the outpatients, the difference here seems negligible.

Considering that Mumias has seven wards as against Mwihila's five, it can be concluded that Mwihila is rather hard pressed as far as the case of outpatients is concerned. In the case of

hospital-beds, a contradiction emerges. Mwihila with 150 beds as against Mumias' 147 receives less patients than Mumias. It seems the Mumias authorities discharge their patients as soon as possible so as to create space. This then automatically swells the numbers of patients on a monthly basis.

Mobile clinic operations or safari clinics as they are referred to at Mumias are a clear indicator of how far out a given facility extends its services to the outlying areas. It is also a measure of degree of mobility and an indicator of the pattern of distribution or spread of services. Mumias hospital operates mobile clinics at Khalaba 20 Km away, Mung'ang'a 15 Km, Buchifi 12 Km and to the Mumias factory, 6 Km away. It is noted that two doctors go to the factory's dispensary - Monday till Saturday from 8.30 a.m. - 10 a.m. and 10.30 a.m. till 12 noon except on Saturdays. In addition, two full time nurses are made available by the mission hospital to work at company helping the factory's employed medical assistant.

Mwihila hospital which has two vehicles operates mobile clinics to the following locations. Butsotso, Kabras, Isukha on Mondays. Kisa on Wednesdays and Nambale and Teso on Fridays. Mwihila has a more or less permanent clinic at Ingotse. A dispensary is run here. This compares with the 'permanent' clinic that Mumias hospital runs at the sugar factory. The mobile clinic service of Mwihila is certainly more widespread than that of Mumias. This is manageable because the hospital has two vehicles one of which is actually a government one.

4.4. Private and Harambee Health Facilities

The distribution of private and harambee health facilities is not even either. In the case of private facilities there exists the highest degree of irregularity of distribution. This is dictated first by the capitalist ethic of individuals' desires for maximum returns in commerce. Secondly, it is determined by land tenure. Land having been adjudicated in the study area, parcels of land are individually owned. This means that an entrepreneur wishing to set up a private health facility will most likely locate it on his own parcel of land-in order to:

(a). keep it as close to himself as possible and thereby avoid travelling say to the local centre to sell his services; and

(b). to avoid payments of land rates to the county council or house rents to landlords.

This more or less free will to locate wherever one wishes is also enhanced by the lack of specific guidelines regarding the location of private facilities. Government policy here seems simply to ascribe to the notion of free enterprise which is the creed in Kenya's economic lifestyle. This lack of a clear policy on such private enterprises tends to defy the country's general policy on Physical Planning and Development as enunciated by the PPD.

Desirable as such guidelines are, it is surprising that they are neither in the Rural Health Section of the MOH nor in the guidelines of the Provincial Medical Officers.

The claims made above can be substantiated by looking at the locations of the existing private health facilities in our study area, one after the other. First there is the Mumias Sugar Company dispensary. As was earlier stated (see chapter Three) that this facility acquires private status in so far as it is meant to cater for only the employees of the company alone. Its location was necessarily therefore dictated by the requirements of this private firm. It is part and parcel of the company. No doubt this facility helps to alleviate the health problems of the more than 3,000 employees of this firm, who would otherwise be a real numerical burden on the already far strained Mumias mission hospital and the dispensary in the town. Yet still the mission hospital cooperates with the company facility by way of providing some of their own personnel to help the company.

Back in Butere division there are four private facilities. Two are in Kisa location while the other two are in Marama location. These are Emalindi, Khumusalaba (Kisa) and Inaya, Eshianda (Marama). Emalindi clinic is at Emalindi village just four or so kilometres away from the Khwisero - Mwihila "complex" of facilities. It is separated from these by a major physical barrier - the River Yala. It is perhaps this more than any other thing that could be said to justify Emalindi's existence, private profiteering not

withstanding. Even though, this distance factor should not hold much water in view of the existence of a class 'C' road reasonably well-served by a number of public transport vehicles. The one disadvantage of having such a private clinic so close to a government facility is that it tends to undermine the people's confidence in government services. This is due to the widely-held belief by most people that private facilities provide better and more efficient services than government institutions.* This is true to some extent given the efficiency with which private individuals out to make profit take care of their businesses. On the other hand government services, because they are provided free tend to be strained. Demand simply outstrips supply and consequently result in a deterioration of services.*

Claims of poor services in government facilities may be only relative in some senses. Emalindi clinic which is located on an individual's farmer's land is owned and operated by a former clinical officer retired from government service. There really is no better service here than is at Khwisero HC. Moreover the Emalindi clinic caters for outpatients only.

Khumusalaba is another of the private clinics. But unlike the others, it is not located on private land. It is located at a small centre which has yet to be designated by the PPD. The clinic belongs to the current MP for Butere who himself is a former medical assistant with the Ministry of Health. This clinic can

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* Most of the people I interviewed informally expressed this view.
**Recent press reports (e.g. Nairobi Times 11.5.79) indicate this.

at least be said to be fairly conveniently located, considering the lack of any immediate alternatives within the vicinity. It is in itself an indication of need and deficiency of services. The people around here are expected to go to either Khwisero, Ekilingili or Mwihila even Butere. But the snag is poor communication facilities. The Khumusalaba clinic also caters for outpatients only.

In Marama location, there are two private clinics. Inaya in the Eastern part of the location and Eshianda in the West. The Inaya clinic suffers from the same shortcomings as those pointed out in respect of the Emalindi clinic - in Kisa location. Inaya is only two kilometres from the Bukura health subcentre. It is located on the owner's own piece of land and it has a six-bed inpatient block. When contacted, the proprietor was most unwilling to disclose his financial position, his future plans or how and why he operates an inpatients service. It was however apparent that the gentleman, a retired medical assitant is making some good money. Moreover the clinic is situated adjacent to a primary school and thus easily finds a good number of patients from this school.

It is the fees charged by these private clinics that discourages would-be customers. For example it is the standard practice in all those in our study area that they charge every adult shillings 10 - 15 per injection and Shs.5 - 7 per injection for a child. In most cases the patients never know why the injection is preferred above other methods of treatment. Thus the injection has come to be considered a sure solution for all maladies.

Eshianda private clinic located in the owner's home compound is about four kilometres from Butere Health Centre. Like Emalindi, Eshianda is separated by a physical barrier from the neighbouring government health facility. This is the Efiratsi River. But in this area, there is serious need for public transportation. This is so despite the fact that there is a class 'C' road which was recently taken over by the Sugar Roads Scheme. The proprietors of this clinic husband and wife are both well in their late 40s and are retired medical personnel. They retired at the paramedicals' ranks. They have for the past fifteen or so years been in this business.

At the time of our fieldwork this clinic had just had its inpatient block closed down by the authorities on grounds of public health. It was alleged that the owners of the clinic had not been licenced to keep patients in their home. It was also alleged that the premises were not clean. What remains on now is the outpatient "department". The clinic provides badly needed services to the population of the three sublocations surrounding it, namely Shiatsala, Eshianda and Manyala. It is our view however that if we had a policy on these facilities, the Eshianda clinic would have been better located say at Shiatsala. Details on this will be given in the last chapter on recommendations.

In conclusion we can say that there exist rampant arbitrariness in the distribution of private health clinics.

This constitutes a state of affairs which is evidence of:-

(a) the dire need for health facilities in certain communities and therefore defying the planners' argument of health centres being located ten miles apart and one health centre for 50,000 - 70,000 people.

(b) lack of control machinery in matters of location of private health facilities - thus resulting in a maldistribution of health facilities altogether.

The characteristics of the distribution of private health facilities are more or less similar to those of harambee health facilities. The one major difference is that the private health facilities are generally profit-oriented and individually operated, while the harambee health facilities are communally organised and are not profit-making. Indeed the very existence of a harambee facility in a given community say a sublocation is strong evidence of a lack of government or missionary facilities and therefore indicates community need for health facilities.

The major shortcomings of the self-help health programme is that none of them ever really gets off the ground. Spontaneous as they come, some harambee activities simply die before getting off the ground. This is also applicable to health facilities.

And it is so despite the fact that government policy encourages communities to launch their own programmes at least by putting up the physical structures, before it (government) may come in to offer aid in the form of personnel and medicine as well as equipment. It should however, be pointed out that there are cases like that of Makunga Self-help Clinic in Mumias division, which only exists in the form of buildings and has yet to receive such aid as the government pledges. This is critical in view of the evident lack of government health facilities in Mumias Division. It is hoped though that the MOH's current disigration of Makunga as a RHU headquarters will solve this problem.

There are five harambee health facilities in the study area. All are still unoperational. Some of them like Manyala and Shiraha are still undergoing construction. There is little we can discuss about facilities that are not yet operational. Their only significance is as was earlier noted that they are indicators of need.

Two of the harambee facilities are located in Mumias division, at Makunga and Khalaba. At Makunga it was found out that government has risen up to the occasion and seen the need of the community. This was largely due to the pressures of that community as demonstrated by their construction of a self-help clinic. Plans are underway to establish a demonstration centre at Makunga.

Khalaba is another case. That need exists here is not only evidenced by the self-help efforts underway, but more importantly

by the fact that the Mumias Mission Hospital operates one of its mobile clinics at this centre, which is twenty kilometres away.

The other three self-help "facilities" are in Butere division. There is one at Manyala in the extreme Western part of the study area bordering Siaya district. Manyala is about ten kilometres from Butere. The second health facility is at Doho in Kisa Location. The third is at Shiraha. In all cases these facilities are located far away from any nearest government or mission health facility. Except Makunga which is a Local centre, the rest of these harambee "facilities" are located in undesignated centres. This raises questions regarding the suitability of some of the centres designated by the physical planning department. Some of them seem not to pass the test of relevance or usefulness - or else why should facilities keep cropping out in undesignated centres. This cropping up is common in the case of private, mission and harambee facilities. Details on the relationship between health facilities and the growth centres will follow in a later section.

TABLE 4:8 : PRIVATE AND HARAMBEE FACILITIES IN STUDY AREA

PRIVATE	HARAMBEE	DIVISION
Eshianda Malindi Inaya	Manyala Doho Shiraha	BUTERE
Mumias	Makunga Khalaba	MUMIAS

4.5. Interlinkages Amongst the Health Facilities

To wind up the discussion on the pattern of the distribution of all the health facilities in the study area, we shall now briefly look at the "functional linkages" that exist amongst the facilities. This will then help us in determining the trend in the provision of health services. This is necessary as it is not sufficient to deal with each facility as if it exists in isolation of others.

First we shall look at the relationship between mission and government facilities in general. During fieldwork it was amply evident that there exists a certain degree of cooperation between mission and government facilities. This is in the area of referring of patients from mission to government hospitals. In our area of study it was found out that such reference is a one-way traffic exercise. It is the mission hospitals that refer complicated cases to the Provincial General Hospitals. This clearly indicates both the role of the provincial hospital in health service and the level of services it renders - superior as they are to those of any other in the whole province. The process of reference of patients is an official arrangement which binds the mission hospital to take care of the patient until he/she is safely delivered to the government hospital. As a matter of fact, the mission hospital often keeps an eye on the patient up to the time he is discharged. The mission hospital regards such a patient as theirs until such a time.

There is also an administrative relationship. This was particularly evident in the case of Mwihila mission hospital. Government aid and interest in the administration of the hospital was effected at a time when Mwihila was on the verge of collapse. This meant that they had to take up certain tasks that were burdensome to the mission hospital. These included the financing of the training [nursing] school on an interim basis and the provision of a government vehicle to help in the transportation of patients referred to the Government hospital at Kakamega. The vehicle is also used in the operations of the mobile clinic whose zone as we have already indicated is very wide in scope. Finally, there may be a few cases of lower-level government facilities such as dispensaries "referring" their patients to mission hospitals. This is however insignificant and rather difficult to work out. The complications here are that in dispensaries treatment is free. This therefore means that their patients may not go to places where payment is required. Secondly, the reference system is there between government facilities, as is elaborated in the following paragraph.

There is a definite relationship between lower level government facilities and those of a higher level. It is infact this relationship that is implied by the organization of the rural health unit concept. For instance, dispensaries are expected to refer their patients to health centres or in some rare cases straight to hospitals. Health centres in their turn refer patients beyond their control to the District or provincial hospitals. It should be pointed out at this stage that while outpatient services at

government hospitals are completely free of charge, inpatients are charged a bed fee of Shs.15.00 which is standardised for the whole country. Reference to an inpatient ward may thus be hampered by this in some cases. But it is nevertheless government policy that nobody may be denied health services on account of his/her inability to pay the ward fees.

The important feature observed in this web of interlinkages is that wherever there is either a mission or a low-level government facility within reach of a community, this means that such a community has in a way, access to a higher level government facility. The access is there in the sense that the lower facilities will take the responsibility of transporting patients to the higher level facilities. This will however depend on the availability of vehicles either in the form of public means or privately owned by the health facility. In this latter regard, the mission facilities are better off than the low-level government facilities like dispensaries which rarely ever have vehicles anyway. Thus in defining access to health facilities there is a definite need to take into account the pattern of interlinkages that exists amongst them.

There is also a relationship between higher and lower level mission facilities. For instance the mobile clinic is directly operated by the hospitals. More importantly, we must recognise the fact that mission dispensaries such as Ingotse, Kima and Shianda

(in Mumias) have links with their mother hospitals. This is religiously determined. For example the doctor at Mwihila hospital visits Kima every Thursday. He also visits Ingotse. In the case of Mumias such arrangements also exist between the mission and its affiliated dispensaries such as the one at Shianda market. In fact even the existence of mobile clinic services in itself helps in the alleviation of deficiency - at least to some extent.

Such interlinkages do not officially exist in so far as the relationship between private health facilities and government or mission facilities in the rural areas is concerned. To a large extent the private health facilities do not receive any patronage from the government. The only evidence of government's involvement is that like all businesses the private facilities must receive a licence from the government. The private health facilities in the rural areas are usually small clinics, who have as the only qualified staff member a medical assistant. The rest are untrained. And in nearly all cases the medical assistant is usually also the proprietor of the "business". The only possibility of interlinkage identifiable is where the private "doctor" may advise his patients to proceed to a mission or government facility.

The above is not the case with regard to self help facilities. In the first place all the self help facilities are not yet functional. One cannot therefore identify what pattern may exist at all. One thing is nevertheless indicative of what may come to be the system of interlinkages. In a way we have already pointed

out that some already established mission or government health facilities are currently extending to areas where self-help facilities are under construction or waiting to be opened.

The Mumias mission hospital operates a mobile clinic at Khalaba where harambee efforts are up to establish a clinic. On the other hand government is planning to establish a demonstration centre at Makunga a centre where buildings have already been constructed for health facility purposes. In Butere division, a mobile clinic is occasionally operated at Manyala - the site of another harambee health facility in the making.

For these reasons it may be concluded that there is likely to be a strong and very helpful relationship between government and mission facilities on the one hand and the self-help health facilities on the other. Such a relationship is also predictable on the grounds that, government policy encourages communities to put up their own facilities, so that they may later receive government assistance. The assistance to be offered is expected to cover staff salaries and the provision of equipment. Evidence that such help will be offered is that even at the construction stage government aid may come in though not in all cases. There is the example of the Manyala Health and Maternity harambee clinic which recently received roofing materials valued at over KShs.20,000. A DDC grant is also in the pipeline.*

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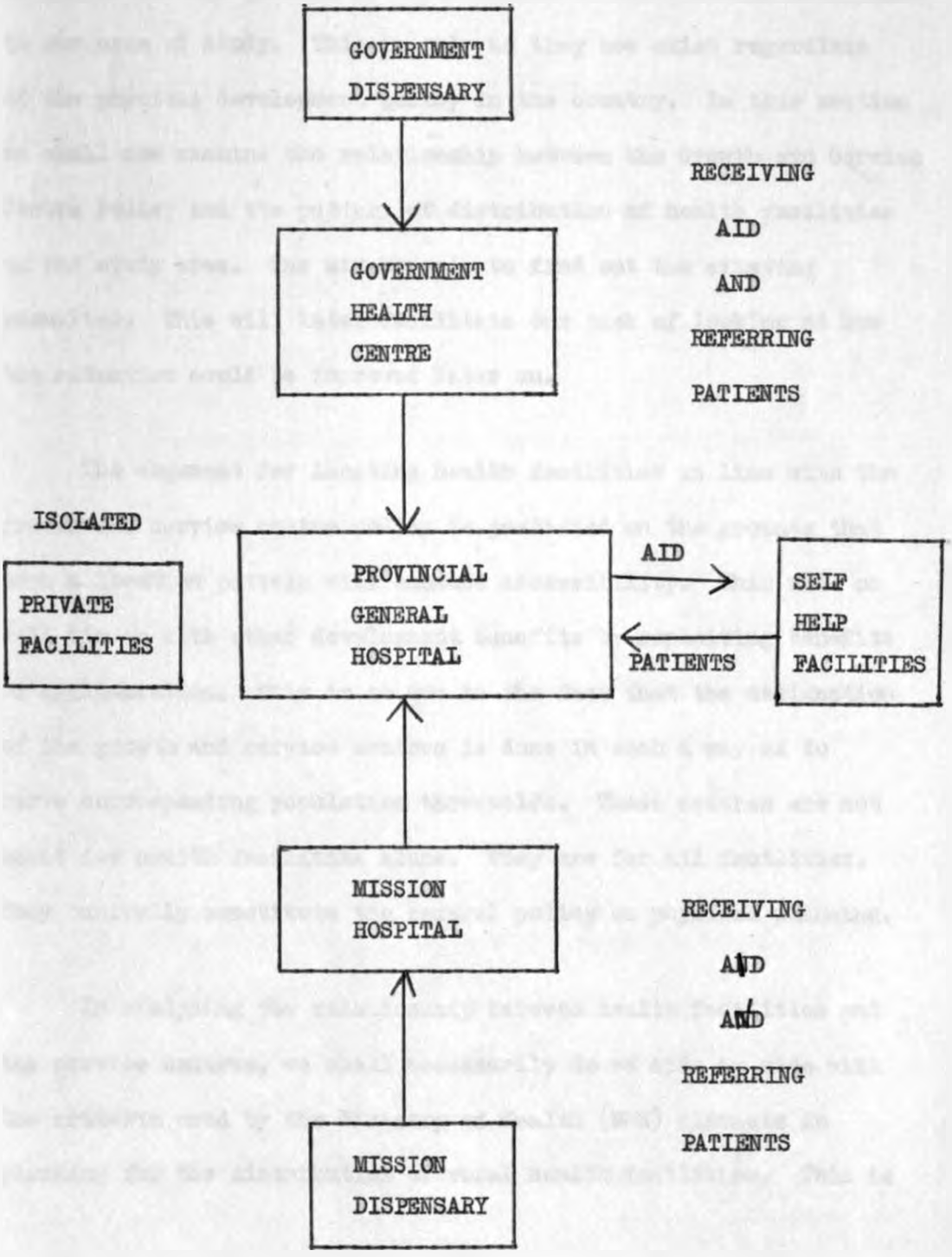
* From the minutes of the Committee meetings of the Manyala Health and Maternity Clinic 1979.

It is clear from the assessment of the trends of cooperation that there exists such linkages as have been identified above. What we may conclude from this is that for every health facility be it missionary or lower-level government facility, there is a corresponding interest in the government geared towards aiding them. This is also true of self-help facilities. The only exceptions to this 'rule' are the private health facilities.

The following diagram I, shows by way of illustration of the patterns of interlinkages amongst health facilities.

I: DIAGRAMATIC ILLUSTRATION OF THE PATTERN OF INTERLINKAGES AMONGST HEALTH FACILITIES



4.6. Health Facilities and Service Centres

In the foregoing sections of this chapter, we have attempted to illustrate the pattern of distribution of rural health facilities in our area of study. This is only as they now exist regardless of the physical development policy in the country. In this section we shall now examine the relationship between the Growth and Service Centre Policy and the pattern of distribution of health facilities in the study area. The aim here is to find out the existing anomalies. This will later facilitate our task of looking at how the situation could be improved later on.

The argument for locating health facilities in line with the growth and service centre policy is justified on the grounds that such a location pattern will enhance accessibility. This will as well tie up with other development benefits by exploiting benefits of agglomeration. This is so due to the fact that the designation of the growth and service centres is done in such a way as to serve corresponding population thresholds. These centres are not meant for health facilities alone. They are for all facilities. They basically constitute the general policy on physical planning.

In analysing the relationship between health facilities and the service centres, we shall necessarily do so side by side with the criteria used by the Ministry of Health (MOH) planners in planning for the distribution of rural health facilities. This is

so that we may gain a thorough understanding of both. Some of these criteria theoretically resemble some of the factors used in designating growth and service centres. Once a move a summary of these criteria is necessary. The major factors are:-

- catchment area i.e. population to be served;
- population density;
- walking distance;
- disease panorama;
- communication; and
- topography and current distribution of health facilities.

On the other hand, the service centre policy revolves around the twin issues of population factors and the spatial distribution of these centres. In the selection of growth centres, the idea is to locate services within reasonable reach of the people they are meant for. It is further stated that such services should be located in such a way as to correspond to the levels of the centres.

Since the rural health programme is strongly centred on the Rural Health Unit (RHU) it is not usually easy to know for what population thresholds are meant. But the Rural Health Unit is meant to serve a population of between 50,000 and 70,000. It has as the apex a Health Centre supported at the bottom by four dispensaries. The health centres should not be more than 10 miles apart. To find out how many people the supporting rural health

facilities are supposed to serve, it is necessary to go a little beyond the RHU concept. For this purpose we should look at guidelines for the locations of health facilities as provided by the physical planning department, as well as the designated catchment areas for health facilities as provided by the Ministry of Health.

Tables 4:8 and 4:9 show these designations. Analysing the categories side by side with the corresponding demographic factors, it becomes clear that the various levels of health facilities are supposed to render services to the following population thresholds. The provincial hospital is expected to serve a threshold more or less equal to that of a province. The district level hospital because it is supposed to be located in an urban centre is expected to serve a population threshold of 120,000. The health centre - the apex of an RHU is designed to serve the population mentioned in the previous paragraph i.e. 50,000 - 70,000. But the rural centre is designated to serve a population threshold of 40,000 persons. The proposal for the RHU is thus not widely off the mark. The 1970 Regional physical development plan for Western province strongly recommended that in future, the establishment of rural health facilities should as much as possible follow the guidelines of the growth and service centre policy.

It is worth looking at the situation nine or so years later to find out what the position is. Table 4:8, 4:9 and 4:10 relate to the issue of the health facilities in our study area. From them, we shall identify the anomalies in the present pattern.

TABLE 4:8 : HIERARCHY OF CENTRES AND THE CORRESPONDING HEALTH FACILITIES

CENTRES	HEALTH FACILITIES
1. PRINCIPAL TOWNS - National Capital - Municipalities	 National Hospital Provincial Hospital
2. URBAN CENTRES Rural Pop. 120,000	District Hospital
3. RURAL CENTRES Rural Pop. 40,000	Health Centre
4. MARKET CENTRES Rural Pop. 15,000	Dispensary Family Planning Service
5. LOCAL CENTRES Rural Pop. 5,000	None

SOURCE: 1979 - 83 Dev. Plan Kenya.

TABLE 4:9 : HEALTH FACILITIES: CATCHMENT AREAS AND NUMBERS OF BEDS. GUIDELINES

LEVEL OF FACILITY	POPULATION CATCHMENT AREA	NUMBER OF BEDS
National Hospital	13 millions	900 to be extended to 1700 by 1979
Provincial Hospital	1 - 2 millions	250 - 800 by 1984
District Hospital/) Subdistrict Hospital)	1/4 million	150 - 300 100
Health Centre	50,000-70,000	12
Health Subcentre	50,000-70,000	No Beds
Dispensary	10,000	2 - 4 Holding Beds in Remote Areas.

SOURCE: MOH Rural Health Section.

TABLE 4:10 : COMPARISON OF HEALTH FACILITIES WITH THE CENTRES IN WHICH THEY ARE LOCATED

HEALTH FACILITIES	LEVELS OF CENTRES
HOSPITALS	
1. Mumias Mission	Urban Centre
2. Mwihila	Rural Centre
HEALTH CENTRES	
1. Butere	Urban Centre
2. Khwisero	Rural Centre
3. Matungu	Local Centre
4. Kilingili	Market Centre
DISPENSARIES	
1. Mumias	Urban Centre
2. Namasoli	Local Centre
3. Bukura	Rural Centre
4. Malindi Church Dispensary	Not Disignated
5. Shianda Mission	Market Centre
PRIVATE CLINICS	
1. Mumias Sugar Co. Disp.	Urban Centre
2. Inaya Private Clinic	Undesignated
3. Emalindi Private Clinic	Undesignated
4. Eshianda Private Clinic	In the Owner's Home
5. Khumusalaba Clinic	Local Centre

continued .../ 102

TABLE 4:10 (continued)

HEALTH FACILITIES	LEVELS OF CENTRES
HARAMBEE 'CLINICS'	
1. Makunga Self-help Clinic	Local Centre
2. Khalaba Self-help Clinic	Not designated
3. Manyala Health & Maternity Centre	Not designated
4. Shiraha Clinic	Not designated
5. Doho Dispensary	Not designated

SOURCE: Field Data.

Analysis of Table 4:8 and 4:10 reveals certain basic anomalies. It is quite clear that there is lack of coordination in the siting of health facilities. This is so despite the existence of a well-defined policy whose sole aim is to ensure rational siting of community facilities. Thus the same complaints raised in the 1970 Western Province physical development plan against the poor siting of community facilities, health facilities included are still valid to date.

Of the two hospitals, Mumias and Mwihila, Mumias hospital is located in the right place. Going by the guidelines earlier discussed, we find that the location of Mumias Mission Hospital in Mumias town - a designated urban centre is good enough. Mwihila's location is however not in the right place. A hospital of its

magnitude should not be located in a Rural centre. Moreover, the exact location of the hospital is some four kilometres from the exact site - Khwisero. This is precisely where it should have been located. Novertheless the hospital still provides much needed service in Butere division and other neighbouring division, but its location must still be criticised in light of the growth centre policy. Of course, as had been mentioned earlier, these mission institutions follow religious or creed influences. Besides they were constructed before the growth and service centre policy - was evolved in the country. Thus we would not expect the church of God Mwihila Hospital to have been located at Butere urban centre, since Butere or Marama location for that matter is a predominantly protestant area. This raises a contradiction between government policy on freedom of worship and the control necessary for guidance of location of community and investment facilities. This "contradiction in coexistence" tends to assume permanence since government policy again stresses that the already existing facilities cannot be re-located.

But the situation is no better with regard to government facilities. It is clearly stipulated in the guidelines that health centres should be located in Rural centres. Of the four health centres in the study area, only one is correctly located i.e. in the corresponding service centre. This is Khwisero. The others, Butere, Matungu and Kilingili are not correctly located.

Butere is in an urban centre. The word 'urban' need however be applied to Butere with some restraint since in the true sense Butere is no more of a town than some rural centres in Kakamega district. It nevertheless remains an urban centre since it is designated as such as per the physical planning policy of the country. Moreover Butere is growing - a little faster than say Khwisero. Matungu health centre is located in a local centre, and Kilingili in a Market centre.

The above contradictions require an explanation. It would appear that in the present circumstances, the only plausible explanation may be historical and/or political. This is that the growth centre policy and the establishment of the facilities under discussion did not come at the same time. The facilities preceeded the policy. Secondly it is possible that political influences may have led to the present pattern of the distribution of health facilities both mission and government ones. The problem then is that the policy may have to follow the facilities once more and in so doing upgrade the centres in which they are located or relocate some of them altogether.

The present location of Health centres still raises further questions especially when viewed against the criteria used in the siting of rural health units (RHUs). Among these criteria, those of walking distance and of the distance from one RHU to another seem to hold no water in view of the prevailing system. Firstly, some of these rural centres are more than twelve kilometres apart.

One thus finds difficulty in having to reconcile the anomalies in distances between existing service centres and required to separate the RHUs. Besides most people in the rural areas depend on walking there being little or no motorised transport facilities. And twelve kilometres is not the sort of distance we should expect a sick person to walk. Secondly, the only level of centre that is truly meant to serve people within walking distance is the Local centre. It is therefore necessary the RHU should view the issue of walking distance in such a manner as to provide well-located facilities, of its bottom within walking distance of the rural communities.

Thirdly, the criteria of the population to be served i.e. 50,000 - 70,000 is deceptive, in that it does not take into account such factors as density and distribution of population, topography and road network etc., and even the strains the designated population thresholds will exert on the facilities. Going by such criteria, Mumias division would on the basis of the 1969 census have only one Rural Health Unit. The difficulties and even impossibilities inherent in such a situation need not be emphasised.

Further down the ladder of the government health facilities, we have dispensaries. Again looking at tables 4:9 and 4:10 we realise definite anomalies. Of all the dispensaries in our study area, only one is correctly located. This is the Shianda mission dispensary in Mumias division located at Shianda market. The others

are located as poorly as follows. Mumias dispensary in an urban centre! Bukura dispensary which is referred to as a health subcentre is located in a rural centre. Moreover, there are plans to make Bukura dispensary a demonstration centre. Namasoli although on the dying list is located in a local centre. This partly goes to explain its continuing decline. Further explanation is that Namasoli is more or less sandwitched between Butere and Khwisero between which there exists a fairly well-operating public transport systems, thus enhancing access by road to either of the centres.

Finally, there is the Emalindi Church Dispensary located at a place that has not yet been disignated by the physical planning department. Perhaps this is a typical case of the missionary zeal to explore the "unknown" and go deep into the hinterland to render services to the smallest centres. Evidently, there has been very poor coordination of the siting of both mission and government facilities. It is apparent that some of the mistakes already made cannot be undone. Our role should therefore be seen to be useful only in so far as the future is concerned.

The case of the private and self-help facilities is worse. As was earlier noted, this category of facilities has such a wide latitude in their choice of location that they simply distort the would-be planned environment. This is so although we have yet to know exactly what for instance some of the harambee facilities will be in status. The majority of the ten private and harambee

facilities are located in centres that are hitherto undesignated. The only exceptions are Makunga, Mumias and Khumusalaba. Mumias is an urban centre. Makunga and Khumusalaba in local centres. Of the remainder one is peculiar in that it is located in the owner's home. The rest are all in undesignated centres. That mistakes of location have already been committed, and that they will need correction in the near future is a matter of certainty here. Here is a case where government policy should be on the offensive if only to save an already bad situation from getting worse. Precisely what should be done will be dealt with in the next chapter.

To conclude this chapter, it is necessary to point out in a summary form some of the basic shortcomings of the criteria used by the Ministry of Health (MOH) in their planning for Rural Health services and also the limits of the Growth and Service centre strategy.

There is little doubt that the Growth and Service centre strategy is a fairly sound mechanism for effecting rural physical planning. But like all policies it too suffers from certain mishaps. The one major limitation that it suffers from is that it came rather late. This was clearly illustrated earlier especially in view of walking distance. This meant that some of its recommendations such as we have pointed out in relation to the distribution of rural health facilities seemed out of place since those facilities already sited could not be re-sited. The second shortcoming has to do with

the legislation ragarding physical planning. These are in actual sense merely a set of regulations and are so weak that they cannot reasonably control development. In most cases, the local authorities in their bid to earn some revenue hurriedly use their own offices and in so doing undermine the all important role of physical planning. The situation is as it seems so lax that physical planners tend to concentrate more on urban planning than on the coordinated locations of community facilities such as health facilities, in the small centres in the rural areas. Finally, there is evidence that both government and private agencies conveniently avoid laid down guidelines of physical planning when it comes to locating new facilities. The emphasis appears to be on construction of facilities and little on where to rationally locate the same. This is largely due to the weaknesses of the physical planning department as is evidenced in manpower shortage and the complete inability to oversee and control the location of physical structures especially in the rural areas. And to finish, it is necessary to add that, perhaps a revision of the regional physical development plans is long overdue.

As for the MOH's criteria, the first and major shortcoming is that these criteria, do not even spell out clearly what their view of the growth and service centre policy is. They seem to work in complete isolation, again conveniently ignoring the laid-down guidelines. This means that there may either occur conflict or in some cases variances in the implementation of rural health

programmes vis-a-vis the physical planning policy. Secondly, the MOH criteria are more or less limited to only those facilities that are patronised by the government. This is the cause of the sort of duplications such as exist at Khwisero and Mumias. It is also the cause of poor siting of rural health facilities. By poor siting here, we are referring to some of those facilities that are sited either in centres higher or lower than the corresponding levels of the facilities or those sited in undesignated centres.

A policy meant for rural health services has to be all-embracing and should deal with all rural facilities, regardless of whether they are mission, private, self-help or government facilities. This is the only way to achieve a balance in the distribution of facilities and avoid a situation whereby religious polarities or communal abilities or individual desires for profit, undermine the country's physical planning policy altogether.

Finally, the Rural Health Unit concept needs to be revised so as to tail it with the growth and service centre policy, taking into consideration the fact that there already are major anomalies on the ground.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1. Introductory Remarks

In this chapter an attempt will be made to bring together the basic conclusions of this study, and thereafter to make recommendations on how problems identified could be solved. Both the conclusions and the recommendations should in our view be regarded as initial reactions to the problems identified. It is also hoped that they should set the ball rolling towards the goal of perfection. It is therefore our hope that these will provide a reasonable basis for future academic as well professional discussions on the issue of the improvement of rural health services in our country and thus also contribute to the great and yet unresolved debate on rural development.

But above all it should be emphasised that the gist of this thesis not just in this last chapter, but more importantly on the previous chapters. It is in those chapters that problems have been clearly identified and diagnosed. For this reason any reliance on this final chapter is if anything only for the purposes of having a speedy and convenient glance at some of the preeminent issues identified in the study and what we propose as possible solutions to the same. For a clearer picture of the issues it is highly recommended that the reader should also rely on the illustrations.

5.2. Conclusions

The overriding theme in this thesis is the concern with the way rural health services are dispensed. Directly implicit in this is the view that to achieve efficiency in the dispensation of rural health services the country must opt for appropriate spatial systems capable of ensuring that health facilities will be distributed with due regard to certain basic factors. Chief among these factors is the demographic aspect that concerns itself with population distribution and density. Secondly, there is the all important factor of the existing or planned pattern of growth and service centres. Thirdly, there is the factor of other community facilities as they relate to and indeed aid the efficient functioning of health facilities. Finally, there is topography.

Above all it should be emphasised here again that the means by which planners will achieve efficiency in rural health services and the overall improvement in the quality of life in rural areas is through the growth and service centre policy. The policy advocates the concentration of health as well as other social and economic activities in designated service centres. It thus seems inescapable that any analysis of the aspects of physical planning must take this policy into due consideration.

On the strength of the factors enumerated above, it is possible now to go back to the previous chapters and then attempt to offer a summary of the main issues raised.

It has been shown that the distribution of all types of health facilities is very uneven. Indeed the situation is such that in the case of government facilities not much attention appears to have been paid to the spatial distribution of the health facilities. By population distribution criteria alone, we would have expected that there should have been at least two health centres in Mumias division. These should consequently have been supported by eight dispensaries. But above all the distribution of these facilities should adequately respond to population density. This case of poor distribution is even made worse when one takes into consideration the total stock of health facilities in the study area. The fact that such agencies as the missionaries are seemingly at will to locate wherever they wish gives rise to a state of affairs such as of duplication of services. A good example here is the Mwihila/ Khwisero case and the Mumias case. And this is occuring even in the face of a sound policy that provides clear guidelines as to what is to be located where!!

It is this that raises our second and perhaps most important conclusion. A look at all the health facilities be they government or private, mission or self-help, proves that there exists enormous anomalies in the locations of these facilities, vis-a-vis the government policy for spatial planning. Evidence of these anomalies are clearly documented in our previous chapter. The cause of these may either be the shortcomings on the part of the policy or that it may as well be the mistakes of the Ministry of Health and the other agencies that provide health services in the rural areas.

The policy is held responsible on account of its "lateness". It was proved that some of the mistakes did occur because by that time the government had not yet come out with the present physical planning policy and guidelines. It should be remembered that this policy was first clearly defined in the 1970 - 74 development plan and for Western Province, the 1970 Regional physical development plan. The existing mission and government health facilities were built way back before independence in 1963. But this historical accident alone does not amount to a fully fledged excuse, such as to exonorate the policy. One other weakness (and perhaps a more disturbing one) is that there exists a very embarrasing lack of implementation machinery. This is such that there occur major shortcomings even in the face of a well-documented policy. An example of such shortcomings is to be found in the anomalies we identified in respect of the more recently built private and self-help facilities in particular. With regard to missionary facilities, it was clearly identified that, there exists a very strong degree of religious polarity in the manner in which they are distributed. [That is to say that the existence of missionary facilities, be they hospitals or mobile clinics can directly be traced to the strong influence of a given mission in that area]. The result here is that a large part of Marama location including Butere town is completely underserved by missionary facilities. The reason is that most of these areas are under protestant influence, and it so happens that the protestants did not take a keen interest in the

establishment of health facilities, in the course of their evangelisation.

The weaknesses thus so far identified can also go to explain some of the shortcomings inherent in the "New Approach" as found in the Rural Section of the MOH. The insistence upon a population range of 50,000 - 70,000 for the RHU is identical to the same range of population that is proposed for a Rural Centre. The problem here is that despite taking density into consideration, this insistence on the above figure fails to take care of the salient features of the distribution of health facilities, such as we discussed earlier. In our view the more crucial issue in the provision of rural health facilities is the factor of walking distance. Yet on their part, the RHU planners propose that health centres should be 12 kilometres apart. Those who have the experience of the pattern of rural transportation know that the dominant mode there is walking. And one can appreciate the problems facing a rural community transporting a patient on foot or by bicycle for six kilometres.

The availability of other related community facilities such as water, electricity, telephone, and road network-cum-transportation is one issue that must be closely dealt with. As for our area of

study, it was established (see Chapter Two) that water as it exists in its natural form in rivers, streams and wells is not a problem at all. Furthermore there is ample rainfall. It is in the area of pumped or piped water, that inadequecy was identified in respect of the lower level centres such as the local and market centres.

Thus water or the availability of it should not be reason for a lack of health facilities anywhere in the area. It is probably this too that can be used to explain the apparent spontaneity of self-help and private facilities. This does not however, preclude the more important reason of "need" or "out of reach effect" as may be felt by a given community. The next most important facility is the one to do with transportation. As was pointed out the road-network in the area is not the problem. Rather the problem is that of lack of vehicles especially on the lower-class roads. What this implies for the provision of rural health facilities is that the planner must try his best to locate them as close to the community as possible. The factor of walking distance does assume more importance in this case, but not within the same context as proposed in the RHU system. What matters here is the distance a given population has to cover to reach the nearest health facility. For, as it was found, the most crucial issue is not the level of facility available, but rather the availability of any facility for that matter.

Electricity grid lines exist in the study area, but they only cover those higher levels of centres in most cases. Telephones are also available as was indicated in the analysis section. What concerns us here is to what extent should we attach importance to these apparently luxury facilities to the rural folk. Our conclusion, based on the premise of what matters more, is that emphasis should be put on the provision of health facilities. This is particularly so with regard to those facilities of the lower cadre, which should be located in the lower level centres.

The idea is that it was found out, the need for health facilities overrides the need for telephones and electricity as far as the rural areas are concerned. For this reason it is concluded that, the availability of these facilities does not necessarily lead to the availability of health facilities. Put in another way, health facilities do not have to wait for electricity or telephones in order that they may come up. It was found out that self-help facilities can be established in as a remote a place as Manyala six kilometres from the nearest telephone and electricity supplies at Butere town.

The low ranking of electricity as a prerequisite for the establishment of a rural health facility particularly those of a lower level, seems to match with the ranking of topography. It would seem that local communities simply donate a piece of land and set up health facilities without consulting any planner.

Indeed the extent to which the physical planners actually direct or cooperate with the various agencies that provide health services, particularly the non-governmental agencies is neglible or probably nil. To the best of our knowledge, such a relationship was not detectable. To what extent then topography can be an issue in this matter remains a matter of conjecture.

5.3. Recommendations

The thesis so far has addressed itself to the issue of the distribution of rural health facilities. The primary concern has been to identify the pattern of distribution and the anomalies attendant to it. It is now necessary to make a number of recommendations, which we believe may contribute towards the improvement of health services in the rural areas.

Firstly, it is strongly recommended that for improvement in the system of provision of rural health services, the agencies concerned should adobt an integrated approach. This has nothing to do with the existence of other services since we know such services are usually considered. The integrated approach we are concerned with here has to do with the health services themselves. As we saw in our earlier chapters, health services can be categorised into private, harambee, missionary and government services. It was also recognised that each of these categories is reasonably instrumental in the provision of health services in the rural areas. For an efficient effectuation of services in the rural areas, it is therefore necessary that the planners should concern themselves with all the types of services available. This should be done in such a way as to ensure that the location of any one type of service is done according to plan. This way we should be able to avoid situations of over supply and under-supply such as we found in the area of study. Duplication of services will thus be avoided.

Secondly, on the issue of some of the criteria used by the Ministry of Health (MOH) in planning for the provision of rural health services, it is our considered opinion that a number of them require re-evaluation. For example, it was clearly seen that the criteria of walking distance is not properly spelt out by the MOH. Such a distance we feel should be considered in close association with the service centre policy. Along with this should also go the issue of the distance between health centres. The proposed twelve kilometres is simply unacceptable in view of the predominance of poor communications in rural areas. Our recommediation is that the distance should be left to be flexible relative to the prevailing conditions of transportation, topography etc. in a given area. Furthermore, the twelve kilometre distance is simply too long considering the lack of public service vehicles in most of our rural areas.

Thirdly, there is the designation of Rural Health Unit to serve 50,000 - 70,000 people. Such a population criteria should also be flexible. Of great importance here, are the twin considerations of population distribution and its density. In some cases the designation of 50,000 - 70,000 may coincide with too wide a geographical space, to be sufficiently served by one rural health unit. This may be the case in say the arid areas. In the densely populated areas [such as our area of study], the designation may prove unworkable in view of density.

With regard to the RHU perse, it is recommended that its supporting facilities - the dispensaries, should be located in the local centres. This will provide these facilities within walking distance of the rural population, since it is only the local centres that are designed to actually serve their immediate communities within walking distance.

On the issue of identification of need and its analysis, we feel that the system used by MOH also requires some modifications. Of particular importance here is the existence of harambee and private facilities. These should not be ignored. It is our conviction that their very existence in any given place is at least an indication of need for health services. The MOH thus needs to use these to acually verify whether or not there is need and on the strength of such verification plan for the provision of rural health services. If there is to be anything close to community involvement in the planning process in this sector, then the private and especially the harambee facilities must be regarded as useful means of achieving planned for health services in the rural areas. They definitely are very useful judicators of the "need" for health services in the rural areas.

Of great importance to the eventual success of the rural health programme is this country's policy on rural development in general and physical planning in particular. It is our conviction that so far the evidence available could indicate, the rural health programme in the MOH is neither strongly attached to the physical

planning department nor to the physical planning policy prepared by that department. We are not questioning the notion of sectoral planning here. Rather our concern is that sectoral planning devoid of guidance by the relevant authorities may create serious problems in the system as it were. For this reason we emphatically recommend that the MOH planning unit should work in much closer cooperation with the physical planning department. It is our belief that the MOH should in fact make use of the PPD officers in the various regions before they (the MOH) designate areas for their sundry levels of health facilities. Again it should be repeated here that, the growth and service centre policy should be regarded by the MOH as a very useful source of guidance in the sphere of regional planning in general, which is what their efforts in rural health services is all about. With a few modifications here and there, a sound pattern of rural health service delivery points should be achievable, thus enhancing access of the rural population to health facilities.

The above are so to speak general recommendations in so far as they touch on the overall approach to the rural health service programme, and the country's policy for the improvement of the quality of life in the rural areas. There are some specific recommendations to be made. These address themselves to the specific area of study as it were.

In the first place a review of the system is urgently required. This ought to be in the sphere of private and harambee facilities in particular. For the former, relocation and improvement in the levels of service is required. And for the latter, guidance is required on matters of location in order to avoid a situation whereby mere community pre-entire motives undermine a would-be balanced provision of health facilities. Much as they indicate need, we know that private as well as harambee facilities usually occur in a spontaneous manner, and this is certainly not a healthy state of affairs in view of the need for planning. In the case of missionary hospitals, it is recommended that in their efforts on mobile health clinics, they should adhere more to need rather than religious/denominational considerations.

With regard to the organization of the RHU the following modifications are proposed. The present arrangement is this. There are three RHUs in the study area; namely Bukura, Butere and Makunga. These correspond with the following health subcentres, Khwisero, Mumias and Matungu respectively. As can be seen on the maps this is definitely a very faulty arrangement. One would expect say Khwisero to correspond with Butere and Matungu with say Mumias not Makunga. For this reason a reorganization is necessary.

In this reorganization, Mumias should be upgraded to the status of a health centre and be made a rural health unit headquarters.

In that case Makunga should be one of the four supporting facilities of this RHU. Semanzi, Shianda and Mayoni should be the others. Khwisero too should be made a headquarters. This will serve the whole of Kisa location. Kilingili should remain a health centre but it ought to be attached to a strong RHU headquarters at say Chavakali. This should provide reasonable access of the patients to the provincial facilities at Kakamega since Chavakali is on the Kisumu - Kakamega truck road. Butere should be the apex in Marama location. Auxilliary dispensaries ought to be located at Manyala or Shiatsala, in the West, Shiraha in the East. These along with Bukura, Manyulia and the proposed Musanda should provide very convenient services to the people of this location. Mumias division will require say three RHUs in view of the rather sparsed population characteristics. In this light Koyonzo market centre should be given due consideration. This should create a health centre at the expense of the Matungu one which in our view ought to be downgraded to the status of Koyonzo's auxilliary.

REFERENCES

1. Republic of Kenya: 1974 - 78 Development Plan see also 1970 - 74 and 1978 - 83 Development Plans.

2. Kabiru Kinyanjui : The Distribution of Educational Resources and Opportunities in Kenya IDS DP 128.

3. Kakamega District 1974 - 78 Development Plan.

4. Katete-Olelo, D. BA Dissertation Department of Geography 1977.

5. Kimani and Taylor : Growth Centres and Rural Development in Kenya 1973.

6. Grove and Huszar : The Towns of Ghana pp.8 - 9 Ghana University Press Accra 1964.

7. Oiro-Obwa : The Effectiveness of Growth and Service Centres' Policy as an Instrument for Rural Development in Kenya pp.16 - 19. IDS WP 317 July 1977.

8. R.L. Hodgart in Progress in Human Geography. Vol. 2 Number One 1978.

9. Ministry of Economic Planning - District Planning Guidelines on Spatial Planning p.1.

10. Physical Planning Department. Ministry of Lands & Settlement Regional Physical Development Plan May 1970 p.III - 3.

11. Ibid

12. Op cit

13. Republic of Kenya 1974 - 78 Development Plan.

14. Ibid.

BIBLIOGRAPHY

Physical Planning Department (Kenya) - Human Settlements in Kenya 1978 edition.

Boudeville J.R. - Problems of Regional Economic Planning 1966.

Hillhorst J. - Regional Planning 1971.

Morgan R. and Alden R. - Regional Planning - a comprehensive view 1974.

Republic of Kenya - Development Plans 1970 - 74, 1974 - 78, and 1978 - 83.

Department of Urban and Regional Planning UON - 1978 - 79 year MA II Studio Project - Kakamega District Study.

Physical Planning Department - Regional Physical Development Plans for the various Provinces especially Western.

Ministry of Health - Annual Reports also Reports and Papers from the Rural Health Section.

Kakamega District - Various Development Plans and District Annual Reports.

International Journal of Urban and Regional Research Volume 2 No. 2 June 1978.

International Journal of Human Geography 1978 (all issues)

McLoughlin, J. Brian - Urban and Regional Planning - a systems approach Faber & Faber London 1969.

United Nations Environment Programme - Human Settlements and Habitat 1977.

Doxiadis Constantinos, A. - Existics: an introduction to the science of Human Settlements. Hutchinson London 1968.

Were M.K. (Mrs. Dr.) - Community Health Programme in Tiriki/ Isukha Locations (on going).