

M.A RESEARCH PROPOSAL

SOCIO-CULTURAL AND ECONOMIC FACTORS UNDERLYING ANTI-MALARIA HEALTH SEEKING
BEHAVIOUR PATTERN IN MARIGAT LOCATION (PERKERRA IRRIGATION SCHEME) BARING
DISTRICT, KENYA.

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SOCIO-CULTURAL AND ECONOMIC FACTORS UNDERLYING ANTI-MALARIA SEEKING
BEHAVIOR IN MARIGAT DIVISION, BARINGO DISTRICT; KENYA.

1.0 INTRODUCTION.

The message that health and disease problems in developing countries cannot be solved by biomedicine alone is now clear. It is widely accepted by planners, health practitioners and scholars that cultural, social, economic and environmental variables explain patterns of health and disease because what people do and do not do to and for themselves is a product of their socio-cultural practices in a certain techno-economic and environmental setting.

This implies that nothing short of an holistic integrated approach to disease control problems can offer sustainable solutions, yet these variables (cultural, social, economic and environmental) have been considered much less seriously so far despite the significant role which they play. One acceptable way of integrating these variables in a health care system is by involving the community in the planning of health issues. However, this requires that their cultural and religious beliefs and practices be understood from all views points within their context so that their integration in health control can be optimised. Such an understanding avoids possible conflicts between existing behaviors and certain recommendations which are made as part of the proposed intervention.

Considering that all societies are part of the worlds' system, the existing behavior do change with time and indeed, this change can be directed. For academic and practical purposes, the "directing" of change involves monitoring the behavior and its causal factors yet this behavior cannot be monitored unless it is known and the changes in the behavior cannot be directed unless they and their causality are explained. This is because behaviour is in response to a stimuli and to change the health seeking behavior, it is sometimes necessary to change the stimuli that generates it. This study will pursue this approach with regard to the malaria problem among the Tugen and Ilchamus people of Marigat Baringo District, Kenya.

1.1 MALARIA.

Malaria can be defined as "... a systematic disease, acute, sometimes severe and often chronic, characterized by shaking chills, rapidly rising temperatures and a palpable spleen. After an interval free of fever, the cycle is repeated daily or every third day depending on the species of malaria parasite. One of the long term effects is severe anaemia.

(Roberts 1974: 305)

Only anopheles mosquitoes which are sufficiently associated with man are important as malaria vectors (carriers of malaria causing parasite) "man is the only important reservoir of malaria (ibid).

The history of malaria is well known with the disease having reached its peak between 1900-1930 when it affected about 350 million people a year with a case fatality rate of 1 to 2 percent. Today, malaria still remains mans most dangerous parasitic disease (Muthaka 1991) It remains endemic in areas where almost 2200 million people live and it is estimated that the number of new clinical cases each year may be as high as 90 - 100 million people (WHO 1987:7)

In East Africa, it is certain to assert that it has existed in the humid low lying areas of the coastal plains, the shores of most of the major lakes and the banks of the major rivers. P. falciparum is the major type of malaria present in the Rift Valley province Anopheles funestus and anopheles Gambiae are common in Baringo. (Appendix 1 and 2)

Baringo District has been classified as an endemic zone however surface water distribution in the district is highly uneven. In Perkerra irrigation scheme, an increment in the surface ratio of the water over land resulting from the irrigation ditches has given rise to an increased incidence of the disease. Thus malaria cases in the irrigation scheme in the tropics (Mwea Tabere, Bura) have continued rising (Roberts 1974, Hill 1989). It is safe to conclude that transmission in the study area occurs throughout the year.

In the effective control of malaria, surveillance is critical. Surveillance based on mosquito samples, spleenology surveys and malaria cases reported in modern health care facilities are not fool proof considering that people are likely to suffer from the disease and seek remedies other than the modern ones or seek modern care but not in a facility. This study proposes to address itself to the health seeking behavior of the people in an endemic area in response to flaws in facility and biomedical based studies. It will set another front of monitoring malaria eradication.

1.2. PROBLEM STATEMENT

The main causes of morbidity and mortality in Marigat division and particularly the perkerra Irrigation scheme and the areas around Lake Baringo are Malaria, Diarrhoeal diseases, leishmaniasis and Upper Respiratory Tract infection with under nutrition as a major contributing factor. (UNICEF/GOK 1990:112) Malaria remains highly endemic and therefore a major health problem (WHO 1987, Hill, 1989). It is a major hinderance to economic and social progress due to the morbidity and mortality it causes. Apart from the morbidity and mortality directly attributed to malaria, the disease merits concern because of its chronic impediment to the health of rural populations leading to increased deaths from other causes and impairment of physical and mental activity and especially among the young.

This vast load of sickness frequently overwhelms the already inadequate health services of the rural areas. Given the magnitude of this problem not only in perkerria Irrigation Scheme but also the other Irrigation Schemes (Mwea, Bura, Yala) and generally in Kenya, it is important that effective control strategies be developed. The development of such interventions relies heavily on the understanding of the appropriateness of such interventions for the people they are planned for.

Despite knowledge of the aetiology of Malaria and preventive practices that could control the disease, malaria remains endemic and causes major community health problem in many tropical countries. Malaria is endemic in 102 countries placing over half of the worlds population at risk. It strikes some 100 million times (WHO 1987). The celebrated control of this disease was short lived and we are now faced with a resurgence of the same problem with even more complexity for mosquitoes, which transmit the malaria causing parasite have become insecticide resistant or can avoid repellent impregnated screens fixed onto the walls of houses and the parasites have become drug resistant. This worsens the problem.

Recent Malaria control efforts have demonstrated a very important thing that has often been overlooked in most development phases of most control projects. Man has only been considered as a beneficiary of the end product but has not been seen as

contributing to the problem. He suffers from and also, the he can play a great role in eliminating his problem if guided appropriately. Most projects in the past tended to assume that all what was needed for the achievement of the required goals was a radical shift from the existing practices without understanding, them from their contexts, however, recent works agree that this can be a very important starting point.

The focus in the past was on vectors - mosquitoes, their breeding sites, DDT for destroying the breeding sites and so on. Most of the past research was guided by the biomedical model which tends to view health problems from a one sided perspective. It concentrated on the disease transmission cycle where disease is seen as originating from the parasite and man being the host, with the parasite-host model overlooking the role of man in transmitting the disease. The Biomedical model "was frightened with western cultural assumptions and saturated with a particular theoretical and value orientation. It is said nothing of alternative healing systems. Further, it did not account for meanings in the context of sickness, which are an important determinant to health seeking behaviours. (Kleinman, 1980:18)

Vast stores of information about measures useful in solving health problems have been garnered through use of the scientific method of investigation. The scientific arena today has tremendously powerful tools with which to work e.g (laboratory, epidemiological

and statistical techniques for studying diseases as it affects masses of people) however the application of these available health knowledge and techniques is the weakest link in our chain of health protection. Health workers have learned the hard way that it is not easy to persuade a people to make full use of information at hand unless people are aroused by some loud epidemic or other disaster. Malaria is a silent one. Given this difficulty of getting people to change their behavior, many of us have tried to avoid the behavioural change approach and have opted for the easier health approach of chemotherapy or vector biology control using chemicals. This seems to be no longer easier because the vectors are learning new behavior of adapting to insecticides. An understanding of the vector biology and entomology in isolation of cultural, social and economic factors is needless to say a useless undertaking. Despite the scientific developments, people have always used certain control measures. While some of these practices may be useful, others are risk impediments to healthy community. The central theme of this study will be to answer the questions:

- i) What do the people do to prevent contracting malaria?
- ii) What do the people do when they contract malaria?
- iii) What gives rise to this behaviour pattern?

It is indisputable that most of the health problems that man is faced with are preventable and that he plays a major role in their perpetuation. My argument is that it is important to understand

this role from his point of view. It is only through a "bottom to up control approach" that we can succeed and sustain our success.

1.3 STUDY OBJECTIVES.

The objectives of the study are:-

1. To explore the cultural beliefs related to malaria causation.
2. To analyze the differential anti-malaria seeking behaviour in the community and to explain it.
3. To isolate the relative importance of different determinants to anti-malaria care utilization.
4. To assess the community beliefs, knowledge and attitudes towards malaria control techniques.
5. To test the disease system theory advanced by Foster and Anderson (1978)

1.4 RATIONALE OF THE STUDY.

1. To contribute to the understanding of socio-cultural factors, determining the utilization process of health care alternatives by providing systematic ethnographic information which has not been availed by the few ethnographic studies that have been done with a view to developing a biobehavioural approach to disease eradication.
2. Meyer Fortes (1976) sees Anthropological research on health and disease as "having brought to light the fact that there are striking differences in the way human communities evaluate

and explain health and confront diseases". This necessitates posing the question whether there is nothing common to all mankind or to any major division of mankind in the ways they think about and manage problems of health and disease. "The answer to this question lies far beyond. The important task for the time being is to accumulate detailed studies in particular communities testing generalizations as we go along". This is work in this category.

3. Directing intellectual exploration towards this thought in itself is satisfactory as it gives a powerful stimulus to abstract theoretical inquiry.

1.5 DEFINITION OF TERMS.

Behaviour - The manner in which individuals act or perform.

Biobehavioural - The scientific study of the effects of human behaviour on the incidence of illness.

Biocultural - The scientific study of the effects of culture on human beings/living organisms.

Biomedicine - "Clinical medicine based on the principles of physiology and biochemistry" (Dorlands medical dictionary)

Culture - That complex whole involving attitudes, beliefs, morals, laws, arts and all that is acquired by man as a member of society (Tylor, 1870)

Disease - "A definite morbid process, often with a characteristic trait of symptoms (Dorlands Medical Dictionary)

Illness - A condition marked by pronounced deviation from the normal healthy state (ibid)

Sign - An observation physical phenomenon so frequently associated with a given condition as to be considered indicative if its presence. (ibid)

Symptom - Any functional evidence of a disease or patient condition.

Vector - A carrier of the malaria causing parasite.

2.0 LITERATURE REVIEW

2.1 SOCIO-ECONOMIC CHANGES AND DISEASE.

Socio-economic development projects in Kenya just like in many parts of the tropical countries have led to an increment in the incidence of vector borne diseases in general and malaria in particular. (FAO/WHO/UNEP, 1988, Kaseje, 1987, Hill, 1989). The socio-economic activities include:

- i) Irrigation schemes which create ideal habitats for vector breeding, and
- ii) Changes in land use which often include out and in-migrations from certain areas. When non-immune populations move to infested areas, the incidence of vector-borne diseases rises. This also happens when people from infested areas migrate to uninfected areas.

The Perkerra irrigation scheme which is within the area covered by the research is not an exception to this trend. Documented evidence show that between 1956 and 1960, the incidence of vector-borne diseases reported in Marigat Health Centre increased by about 10% per annum. (District Annual Reports 1956-1960) It may be the case that those people who initially were there have become immune to the diseases however, the malaria problem is far from being solved.

This results from a continuous in-migration of non-immune populations as tenants and public workers from the un infested areas to the irrigation schemes as it is confirmed by an analysis of the areas of birth of the tenants in the scheme. Majority of the tenants are Tugen who must have originated from malaria free zones (Mwendwa, 1991).

Most of the diseases arising from socio-economic changes in the third world countries are parasitic tropical diseases.

2.2 PARASITIC TROPICAL DISEASES.

Malaria is subsumed under parasitic tropical diseases and therefore it is important that a discussion of the latter should precede that of the former.

Parasitic diseases which are closely related to malaria in their modes of transmission include schistosomiasis, Leishmaniasis and Filariasis. The eradication of many diseases such as smallpox and

polio can be attributed to vaccination programmes however, the success recorded in developing vaccines against parasitic infections caused by protozoa such as malaria is much lower compared to that of viruses except the HIV. The main reason behind this is said to be the relative complexity of parasites. Efforts to develop vaccines have usually failed because protozoan species tend to develop resistance to chemotherapy. A good example is plasmodium falciparum which causes malaria.

Another complexity is the ability of vaccines to modify the immune response of the host. Muthaka (1991:18) reports that there are over 200 parasitic worms known to infect man, thus determining the specific type(s) of parasite affecting a sick person is usually difficult. Another problem facing the eradication of most parasites is the low mortality and high morbidity associated with some diseases like schistosomiasis, Leishmiasis and Filariasis.

With limited success in developing a vaccine against most tropical parasitic diseases, the behavioural aspects that limit or enhance the man-vector contact must be given high priority because a reduction in this contact would lead to a reduction in the disease incidence. Since the introduction of Biomedical control techniques, which did not prevent the existence of indigenous techniques, there has existed medical pluralism in many Africa societies. Whereas Biomedical practices may be superior to the indigenous ones, they are not directly acceptable. Whereas people may opt for them, there

exists impeding factors which may lead people to stick to indigenous practices. (For example) Lieban (1977:29) reports that:-

- i) Most illness end up in spontaneous recovery. This can lend credence to indigenous cures.
- ii) When therapy for an illness is sought from both physicians and a healer, the physician may cure the patient and the healer gets the credit.
- iii) Purposes as well as results of modern medicines may be misperceived, for example , on the taking of a blood sample for examinations, patients may expect complete healing as it is the case with magic, religion and traditional healing which in addition serve other purposes.
- iv) Economic and opportunity cost factors.

Such complications make it imperative that the people's health seeking behavior be understood and explained. This will open the doors to the mysteries of what needs to be changed, and how it can be changed to acquire the desired results. (see rationale of the study). The control of malaria parasite through behavioural change

* Little , P.D. and Brokensha, D. (1988) (see Bibliography)

can be a stepping-stone to the control of all vector-borne diseases.

Whereas indigenous people are not conservative as the early anthropological literature suggests*, but are rational and may accept modern technique, not all indigenous health care practices are useless. Lieban (1977) reports that ethnomedical therapies in non-literate societies both included magico-religious , mechanical and chemical procedures which are still creditable today and the pharmacopoeia of ethnomedicine included such proven drugs as quinine which treats malaria (ibid) pp.21-22.

2.3 MALARIA CONTROL.

In the recent past, many studies on malaria have been conducted in Kenya. An analysis of these studies and projects undertaken since 1984 reveals that the social aspects of malaria control were generally underplayed with a lot of emphasis on epidemiology, vector biology and control and the problem of drug action and resistance. For example, of the 80 studies on malaria and its control in the UNICEF's Nairobi office documentation center by June, 1991, none paid any serious attention to the social aspects of malaria control and none devoted itself to what individuals do and do not do to and for themselves with a view of controlling malaria. Those studies that focussed on related aspects addressed themselves to the community based control approach with a view to

having village volunteers treat and record malaria. Of all these only 2 studies - Hill, 1990 and Ongere et al, 1989, focussed on the Knowledge, Attitudes and Practices (KAP) of a rural community on malaria and its vectors.

Both of these surveys were conducted in western Kenya (Kano plains and Kisumu). Their findings are that the overall knowledge about malaria illness is good. However, treatment and prevention practices of malaria were found to be poor. Knowledge of modern and traditional methods of prevention of mosquito bites was high but the actual use of the methods was low.

Why should knowledge of malaria be good and actual preventive and treatment practices be poor? The answer to this question lies beyond biomedicine. It belongs to the domain of socio-cultural phenomena. It can only be answered by intensive studies analyzing the perception of malaria and its situational context as well as its influence on the health seeking behavior of the people.

Most of the social-cultural studies on malaria control have been surveys. While surveys have their weaknesses and strong points, the validity of their findings depends a lot on the degree to which they are combined with other techniques like key informants, focussed group discussions and participant observations. This proposal is work in contribution to the existing knowledge by utilizing a multiplicity of data collection techniques whose strong points and weaknesses are expected to cancel each other out for

the attainment of balanced information.

Most of the malaria control research in Kenya has been concentrated in Nyanza and Coastal Provinces. Comparatively, little has been done in Baringo. This is justifiable by the fact that malaria incidence in Baringo is only high in parts of Marigat, namely the shores of Lake Baringo and the Perkerra Irrigation scheme - the area of study.

The only socio-cultural vector control data available in the area is by Bassir, (1990). Her work analyses the farmer perception of the diseases malaria, Leishmaniasis and their vectors in Marigat. Her findings indicate that knowledge towards Malaria is high, probably due to the fact that 96% of the sample report having suffered from Malaria in the past . Only 7.7 % of her sample had not suffered from Malaria in the previous years. 88.6% of her sample considered Malaria to be the most important disease in the study area while 10.4% did not. Her findings further shows the sampled individuals as being well informed about the role of mosquitoes in the causation of Malaria.

Despite the high knowledge level concerning the role of the mosquito in malaria causation, Bassir reports that each respondent gave at least two other causes apart from the vector. In her work, she makes it clear that the vector is seen as only one of the possible cause of malaria. As one elder puts it "nobody knows what

causes malaria, but we are told nowadays that mosquitoes are the cause" (Bassir, 1990:19). Regarding prevention she finds that all the elements of her sample, including those who did not list mosquitoes as the cause of malaria, described methods which would destroy their (mosquitoes) natural breeding places. 66.3% of her randomly selected sample perceive malaria as a disease which kills. This perception is ironically not based on their personal observations but on the information they have received.

These findings reveal an underlying inconsistency between what the people have been told about Malaria, its vector and the degree to which it threatens life on one hand, and what they believe is true on the other. This inconsistency is a reflection of the dissonance created by the imposition of the biomedical model of disease causation, treatment and prevention on the traditional medical system. In a situation where we have a dualistic medical system some people believe in the new one while some stick to the other. Who are the people who are skewed to the traditional model and who are the others who subscribe to the biomedical model in Marigat? Why does each person subscribe to the model he does? Why haven't these people who subscribe to the traditional model shift to the biomedical one?

The answers to these questions lie in the understanding of the people belief systems and the differential effects of acculturation among different categories of people. In step with this assertion,

Bassir, 1990 stresses the need for a more detailed study involving individuals who show detailed knowledge of indigenous medicine in order to gain access to the beliefs and conditions which underlie traditional medicine for the purposes of achieving a more acceptable control strategy.

This study hopes to fill these gaps by observing and explaining the ways in which different people respond to all forms of medical care alternatives.

2.4. PAST AND CURRENT MALARIA CONTROL STRATEGIES IN KENYA.

Planned Malaria control strategies in Kenya date back to 1964. The success of these activities can be judged by their effects on mortality and morbidity which has not reduced remarkably over the years. The strategies include:-

- i) Chemotherapy or the use of anti-malarial drugs. The major problem associated with this is that parasites have become resistant to some drugs especially chloroquine and Fansider. There is no documented evidence for parasitic resistance to such brands as quinine and amodiaquinine.
- ii) Chemoprophylaxis or "the prevention of malaria infections and their associated symptoms with drugs that exert their effect before the parasite enters the blood" (Hill 1989)

Kaseje (1987) finds this strategy to be inappropriate for African countries because

- a) It is toxic to human tissues in prolonged usage,
- b) It may hinder the development of natural immunity,
- c) It accelerates chloroquine resistance

iii) Vector control

Vector control takes several forms. They are residual spraying, biological control, environmental management and the use of larvicide.

Residual spraying with DDT in Kericho 40 years ago interrupted the transmission of malaria till drug resistant highland malaria parasites started appearing in the 80's. This activity reduces the man biting density (Hill 1989). Despite being expensive and useful for a time, malaria comes back (Kaseje 1987)

Vector Control by environmental management has been successful in towns, however, irrigation schemes have worsened the situation (DVBO 1986).*

Larvicide cause a problem of environmental pollution.

iv) Reducing Man - Mosquito contact

There exists various ways of doing this. They are:

* Division of Vector Borne Diseases Ministry of Health, Kenya (DVBD) Annual Report 1986.

in mind (Schofield and White 1984)

- a) Designing the position of housing with mosquito behavior
- b) Putting wads of sisal between walls and the roof(Mac Cormack 1984)
- c) Use of mosquito screens and nets. When the screens are impregnated with permethrin,they become more effective,(MacCormack c.p et.al 1989)

My observations at the research site where field trials of impregnated screens are being conducted is that the mosquitos learn to avoid the screens which are hanged on to the bedroom walls.

They usually sneak in the through the openings in the windows and doors, feed on their victims and sneak back to their new resting places instead of resting on the walls as expected. The fact that the screens are impregnated with the poisonous permethrin makes them less attractive to users. A full study on how people perceive them is needs yet to be conducted.

v) Community based control

This is a recent phenomenon in disease control (WHO 1987)., It involves mobilizing community support from family members volunteers, primary Health care (PHC) staff and traditional birth attendants (TBA). These people are educated on malaria control to a degree that they:-

- a) Recognize suspected symptoms of malaria cases early and deal with them appropriately

- b) They offer preventive medicine to high risk groups
- c) They help reduce prevalence of malaria through reducing man-Vector contact. Perhaps this last strategy has more light at the end of the tunnel.

Despite the wide usage of the above named innovations, Malaria in Kenya continues to be the leading Vector - borne disease associated with high morbidity and significant mortality, an indication that control efforts have not been successful. An estimated population of 19 million Kenyans out of a population of 24 million Kenyans are at risk of contracting the disease (WHO 1987, NCPD 1989, Hill 1989). This is a matter of serious concern in all endemic areas i.e coast, Western and Nyanza provinces and the areas around the irrigation schemes. (Highton, 1970; Roberts, 1974; Kaseje, 1987; Onoge, 1989; Hill, 1989; 1990)

Hill (1989) is confident that effective control measures are available in Kenya, but the successful implementation of malaria programmes are hindered by constraints, which include

- a) Inadequate funds. For example in the 1988/89 financial year, only US\$ 45,000 were available for malaria control in the country. This amount of money cannot possibly meet the cost of equipment, chemicals and running expenses.
- b) More than 90 percent of the health personnel are involved

only in clinical management of malaria with little or no emphasis on transmission control measures.

- c) Many development projects are constructed without a health component, (Hill, 1989) or with an ineffective one (Mwendwa 1991)

All these aspects are particularly true of the study area.

In the preceding discussion, analysis of the side effects of the available measures reveals their weaknesses. Indeed, it appears that the most successful strategy must bank on the behavioural approach because it has less side effects. The availability of resources would be a means to this end.

The attainment of this end, (a behavioural approach to malaria control) cannot preceed an understanding of the peoples knowledge, perception and attitudes towards Malaria, its vector, the mosquito and the available control strategies. Collecting survey data on the above variables is not enough. An understanding of how they are linked with actual health seeking and maintaining behavior is an important addition with practical and theoretical consequences.

2.5. Health seeking behaviour:

Literature on health seeking behavior points to the fact that disease and illness are perceived in various ways cross-culturally. This perception has a lot to do with the action to be taken in case of illness (Thomas 1970, Kennedy 1973, Staiano 1981, Munguti 1986,

Osero 1991) Whereas several studies on general health seeking behavior have been carried out , studies focussing on malaria or other specific disease behavior are very few.

Health seeking behavior refers to what a person does when he is sick. Zola (1973) found out that disease symptoms were often not sufficient to precipitate a consultation. He identifies factors that trigger consultation. They include the occurrence of an interpersonal crisis e.g death in a family, perceived inference with social or personal relations, pressure from others to consult, and the setting of a deadline e.g (if I feel the same next week I will ...) Thus, the decision to seek medical care lies with an individual personal and social circumstances.

A lot of literature on the complex issue of how people enter the sick role and make choices regarding the use or non-use of different kinds of health services in developing countries exists, infact, Kroeger (1983) identified two commonly used model categories that explain this phenomena. They are the Pathway models and Determinants models:

Pathways models describe different steps in decision-making in the process of illness behavior. Foster and Anderson (1978) list the stages individuals follow when they perceive themselves as being ill depending on their interpretation of their symptoms. They are:-

- i) Symptom experience where an individual is confronted with a decision about whether or not something is wrong or whether to accept the symptoms as evidence of illness.
- ii) Assumptions of the sick role which comes after a decision is made to accept the health disorder.
- iii) Medical care contact is the third stage which is entered when professional assistance is sought.
- iv) The dependent patient role stage is entered when both the patient and practitioner agree that treatment is necessary.
- v) Recovery and rehabilitation is the final stage .

Subscribers to the pathways model include Suchman 1965, Fabrega 1972, Geertsen et al 1975, Chrisman 1979 and Igun 1979.

The determinants model focus on a set of explanatory variables or determinant which are associated with the forms of different health services. Determinants model are concerned with the difficulty in seeking and use of different health care facilities. These factors that determine the degree of difficult can be subsumed under three categories namely:-

- i) predisposing factors,
- ii) Characteristics of the disorder and ,
- iii) Health service system factors and enabling factors as the model below suggests.

variable

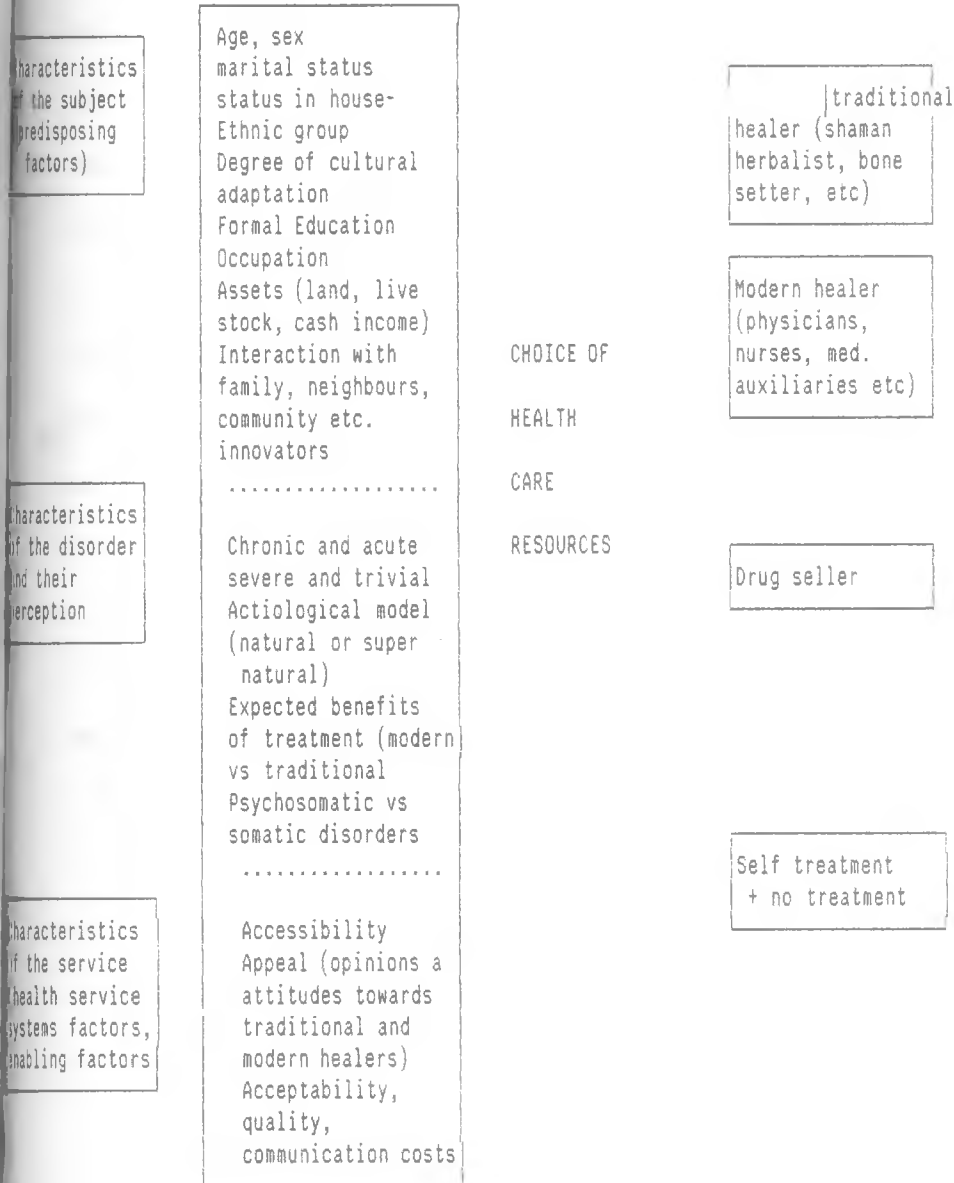


Fig. 1 The choice of healer in relation to various possible explanatory variables.

Source: Kroeger, A (1983).

Research on health seeking behavior in developing countries is of both theoretical and practical relevance. It analyses concepts of origin and management of illness. It provides an insight into the utilization of health care alternatives and it contributes to reveal perceptions regarding health care in particular settings.

There exists a lot of literature in explaining the model outlined above. Kroeger (1983), Leslie (1986) and Muhondwa (1989) all explain how much each of these factors affects health seeking behaviour, however, none of them goes ahead to:-

- i) show the factors that are better predictors than others,
- ii) discuss the relationship between and among the variable as concerns health seeking behaviour.

They ignore the role of women as health care providers.

2.6. DISEASE CAUSATION.

In explaining the presence of disease, Foster and Anderson (1978:53) categorized the major belief systems into two namely personalistic and naturalistic medical systems.

Personalistic systems are the ones in which "illness is believed to be caused by the active" purposeful intervention of a sensate agent who may be a supernatural being (a deity or god) a non human being (such as a ghost, ancestor or evil spirit) or a human being (a witch, a sorcerer, an evil eye, mana, vital force). The sick person literally is a victim, the object of aggression or punishment directed specifically against him, for reasons

that concern him alone" (ibid)

Naturalistic medical systems explain illness in impersonal, systemic terms. Foster and Anderson (1978) argue that naturalistic systems conform above all to an equilibrium model, "health prevails when the insolate elements in the body, the heat, the cold, the humors or "dosha", the yin and yang are in balance appropriate to the age and condition of the individual in his natural and social environment when this equilibrium is disturbed. (ibid)

Such dichotomisation has been put forth by other scholars under different names like the supernatural for personalistic and non-supernatural for naturalistic. A cause effect relationship cannot be observed in naturalistic disorders. The medical beliefs and practices under personalistic systems include causation factors such as :-

- | | |
|---------------------|-----------------------|
| 1. Witchcraft | 8. Deities |
| 2. Evil eye | 9. Vital forces |
| 3. Sorcery | 10. Adultery |
| 4. Spirit intrusion | 11. Oath |
| 5. Ghosts | 12. Incest |
| 6. Angry ancestors | 13. Curse |
| 7. Gods | 14. Theft of the soul |

Personalistic and naturalistic causation systems are not mutually exclusive for the people who invoke personalistic causes to explain most illness, usually recognizes some natural, or chance causes. People for whom

naturalistic causes "predominate almost invariably explain some illness as due to witchcraft or evil eye. Foster and Anderson quote several examples to support this claim. I have personally observed it among the Akamba. Nyamwaya (1983) in the study area, observes that the Tugen have both a personalistic, and a naturalistic system of disease causation. For naturalistic, they believe cold weather causes headaches and wind causes fever or Malaria. For personalistic, adultery, ancestral spirits, evil eye, oaths and curses are the major disease causes.

The Ilchamus likewise believe in both systems of disease causation (Ibid p.204). Malaria to them is caused by naturalistic agents. Traditionally there was a clan "Murtanat" whose function was to deal with the control of mosquitoes and malaria. One way of doing it was by burning substances e.g. herbs or cow dung. Ceremonies were also performed to expel mosquitoes. To them the concept of preventive medicine also exists. This is an area which requires a keener understanding in terms of its role and present status. Nyamwaya (1982) on Pokot disease causation finds that they do not have a germ theory and that they conceive most illness as stemming from physiological pathology but capable of extending to embrace other facets of human existence. The Pokot explain causes of illness from three categories namely biological, interpersonal and spiritual. In (1987), He adds that the Pokots concept of illness causation influence the use of both indigenous and western form of therapy and that there is differential perception of both forms of therapy among different categories of Pokot. This is expected among the people of Marigat Division.

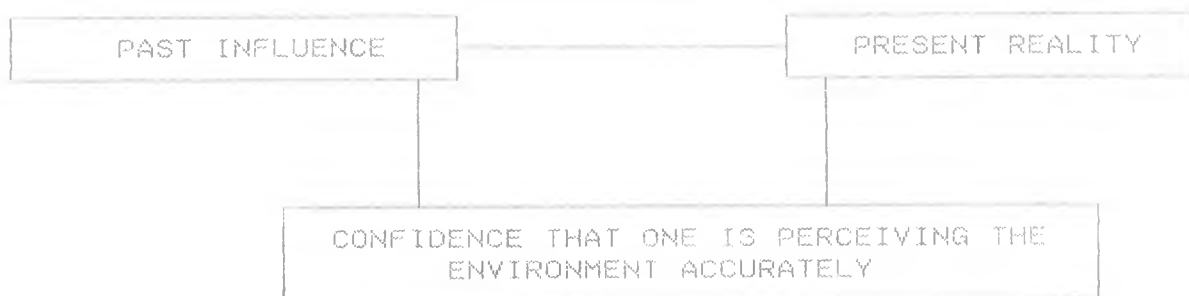
McElroy and Townsmend (1985:15) sum up the causation debate by arguing that

- 1) There is no single cause of disease. the immediate clinically detectable stimulus for disease may be a virus, vitamin deficiency, or an intestinal parasite but disease itself is ultimately due to a chain of factors related to ecosystem imbalances.
- 2). Health and disease are part of a set of physical, biological and cultural sub-systems that continually affect one another. Thus, an holistic approach accounting for as many of the variables mentioned above as possible would certainly be ideal. The influence of disease causation theories on the choice of health care resources in Marigat still remains unclear.

2.7 PERCEPTION

Perception is one of the key concepts in human behavior (Durana 1980) They constitute a major intervening variable between stimuli and action. Perception gives structure and order to a cause of action. Perception of past experience influences perception of present situation. Rich and full perception of the present enables better, more substantive decision making on the therapeutic choice. I will present a simple model of perception.

Figure 2.



Thus, perception is an important variable when it comes to explaining behavior towards current situations. When people perceive a disease as important or as dangerous, they are expected to act in accordance with the most highly effective perceived way.

2.8. WOMEN AS HEALTH PROVIDERS.

There exists a lot of literature pointing to the fact that women are the most crucial providers of health care to children and families (Leslie, 1985), UNICEF/GOK, 1989). This important role is often constrained by the environment, their occupation and social circumstances. The situation analysis of women and children in Kenya (1989) admits that the constraining factors need special attention with a view to understanding them.

It is often argued that since the mother makes over 80% of the health seeking decisions in rural Kenya, (Olenja, 1991), the health care alternative she chooses has a direct consequences on the health of the child and family. The status of the mother in the household vis a vis that of men as members of the society, in terms of decision making and availability of resources and exposure has a direct bearing to outcomes in malaria situations .

Leslie (1985), Blumberg (1989), UNICEF/GOK (1989) and Fleuret and Fleuret (1991) document this relationship with particular reference to nutrition. Is it the same case with malaria and other diseases? It is expected that the mothers with high status vis a vis to their husbands in term of exposure, economic independence and decisions making power are more likely to use

biomedical preventive and curative alternatives.

2.9 FOCUS OF THE STUDY

This study will take the following into consideration:-

1. There is inadequate medically skewed socio-cultural and ethnographic information available on malaria control generally, and on the study site specifically.
2. It is an agreed upon fact that the therapeutic choice is a product of a multiplicity of factors subsumed under enabling, predisposing and health systems; (Kroeger, 1988) however, it is not clear how important each of this categories and factors are in predicting health seeking behavior. Of equal importance is an understanding of the dynamic relationship between and among all these factors.
3. The choice of medical care has a lot to do with the perceived cause of disorder as is asserted by Foster and Anderson (1978). This position calls for replication at the face of conflicting evidence.
4. Most of the scanty socio-cultural data on Malaria control has been collected through surveys. Surveys have their shortcomings. They therefore need to be complemented with other techniques to make them more valid and reliable.

10. THEORETICAL FRAMEWORKS.

Several theoretical frameworks will be used to inform this research. They are:-

2.10.1 DISEASE THEORY SYSTEM

This conceptual framework is presented by Foster and Anderson (1978:37) A disease theory system embraces beliefs about the nature of health, the causes of illness and the remedies and other curing techniques used by doctors. disease theory systems deal with such crucial issues as causality, the explanation given by people to account for loss of health such as breaches of taboo, theft of the soul, an upset of the hot-cold balance within the body or the failure of a human organisms immunological defenses against pathogenic agents such as germs and viruses. Foster and Anderson (ibid) see a disease system as "an ideational conceptual system, as an intellectual construct and part of the cognitive orientation of the members of the group. It deals with classification, explanation and cause and effect. All disease causality system are in larger part, rational and logical to the members of the societies from which they stem. However, disease causation systems can be thought of as irrational by people in other societies who belief that the premises underlying explanation are wholly or partially contrary to facts.

A disease theory system differs from a health care system because the later is concerned with the ways in which societies organize to care for the sick and to utilize disease "knowledge" to aid the patient. Medical systems are:-

- i) Integral part of cultures
- ii) Define illness culturally, because it is a social or a culture that defines illness
- iii) Have both preventive and curative sides

iv) Have multiple functions e.g restores health, fulfills a wish to gain attention, releases psychological and social pressure and can be a device to gain control other people's behavior.

Likewise, a disease theory system goes beyond simple explanation of illness causation for:-

- 1) A disease theory system provides a rationale for treatment e.g if illness is thought to be due to the intrusion of an object by a sorcerer, extraction of the object is essential to returning the patients to health.
- 2) A disease theory system explains questions like why did a mosquito bite me at this time in this place? Why do I have malaria while person B is not having?
- 3) A disease theory often play a powerful role in sanctioning and supporting social and moral cultural norms. This is particularly true when illness is attributed to sin, taboo violations and other forms of wrong doing. Among the Bukusu of Kenya for example, malnutrition is caused by a mother getting pregnant when breastfeeding. This serves to control births . (NIBR 1989)* people fear getting sick so they will adhere to societal regulations to remain healthy.

* NIBR - Norwegian Institute for Urban Research 1989.

- 4) A disease theory system may provide the rationale for conservation practices. This can be seen in Roy Rappaport's work, "pigs for ancestors" where pigs were only consumed at a certain time of the season and other kinds of animals the other time (Rappaport 1973)
- 5) A disease theory system may serve to control aggression. For example, when ghosts cause fear to people, it might help to reduce aggression against society as Spiro (Kaplan and Manners, 1972: 56) reports for the Ifaluk people.
- 6) Traditional medicine often plays an important role in the development of nationalistic pride, since it may symbolize the antiquity of the country/society concerned and the high levels to which culture had evolved in ancient times.

A disease theory system is the basis of the argument that people's choice of health care resources is the function of the perceived cause.

10.2 SITUATIONAL THEORY

Another widely used framework in explaining human behavior is the situational approach theory. The situational theory was expounded by Thomas and Znaniecki (1974) and has been used by Munguti (1986) Osero 1991 and Gwako (1991). Central to the theory when applied to social medicine is:-

- i) The idea of crisis
- ii) The definition of the situation, socialization and attitudes
- iii) The concept of social disorganization.

Situational theory holds that human behavior occurs only under certain conditions. It further holds that there is nothing to define when people act as anticipated; but that when new influences appear to disrupt existing habits, when new stimuli demand attention, when a group is unprepared for an experience then the phenomenon assumes the aspect of "crisis" where a crisis is seen as a threat, a challenge a call to new action (Volkart 1981)

On the event of a "crisis" the decision to seek health and who to consult depends on the perceived crisis and the acceptance of the control measure. However, all "crisis" need not have positive effects but almost always in times of "crisis" social definitions are weakened giving rise to a need for redefinition. (Munguti 1986)

The central argument of the situational approach theory is that behavior is situationally determined. The human situation is seen to depend on:-

- A) Biological
- B) Socio - economic
- C) Psychological, and
- D) Cultural factors

which singly or collectively determine subsequent behavior (Ibid)

The human environment includes factors which are common to the actor and the observer for example:

- i) The physical environment
- ii) Relevant social norms
- iii) The behavior of others; as well as factors which exist only to the

actors viz

- i) How they perceive the situation
- ii) What it means to them
- iii) What their definition of the situation is.

In the case of malaria , the perception of each specific incidence on the part of the actor and the community necessitates one to seek or not to seek medical attention. This perception is usually in terms of mortality and morbidity.

The definition of the situation is begun by parents through socialization and is continued by the community. At the end of the socialization process, the individual internalises the group definitions of the situation. The group definition is only one element in the situation that confronts the individual. The efficiency of these definitions depend on other factors such as unlearned psychological and biological factors which are hard to determine. Others are education, age, sex exposure and generally predisposing enabling and health system factors that may influence ones definition of the situation especially a disease situation.

Health seeking behavior is a product of our attitudes knowledge and beliefs concerning both the disease and the health care alternatives. This is culturally defined. For example, a society may require people suffering from malaria to consult a medicineman. However, people may over time realize that the medicineman cannot cure the disease but the hospital can. This realization may lead to the redefinition of the situation such that if the same disease is suspected, the same person is taken to the hospital for

treatment thus, past experience can lead people to form certain constellation of attitudes as the situation demands. It must be noted that the change of attitudes is not necessarily smooth.

The situation approach theory sees human behavior as adjustable and human beings as always attempting to come to terms with or adjust to the situation in which they find themselves. The theory however holds that adjustment is not entirely a mechanistic process in which cause and effect can be isolated simply by knowing the objective condition and then observing the objective behavior.

In a situation where people find themselves confronted with a disease, their health seeking behavior does not necessarily stem logically from the known scientific aspects of the disease. Although, what people think causes the disease may be illogical to the observer, it makes sense to the actor (Foster and Anderson 1978)

The preceding discussion alludes to the disease theory system and the situation approach theory. The disease theory system holds that people's understanding of disease greatly influences what action is take in reference to that disease in addition; it helps us to comprehend different behavior in relation to disease. The situational approach theory sees behavior as an outcome of the definition of a particular situation. By helping us to understanding the situations in which certain behavior is contingency upon, the situational approach is an important contributor to the understanding of behavioural processes.

2.11 HYPOTHESES

This research proposes to collect data adequate for the testing of the following hypotheses. All the hypotheses refer to the residents of Marigat Location.

1. The people's utilization of biomedical malaria control innovations is related to their acceptance of a biomedical model of malaria causation.
2.
 - a) The perception of malaria causation is affected by ethnicity.
 - b) The choice of health care resources is contingent upon the socio-economic status of the household.
 - c) The choice of health care resources is contingent upon the perception of malaria signs and symptoms.
3. The ranking of malaria symptoms' severity is related to the process involved in seeking health.

In addition comprehensive ethnographic data will also be generated.

3.0 METHODOLOGY AND RESEARCH DESIGN

3.1 METHODOLOGY

a) RESEARCH SITE

The study will be carried out in Marigat Location, Marigat Division, Baringo District; Kenya. Baringo District covers an area of 10,949 sq. Km and lies between Longitude $35^{\circ} 30'$ and $36^{\circ} 30'$ east and latitude $0^{\circ} 35'$ North. Its altitude varies from approximately 3,000 to 1,000 metres above sea level. The District's topographical pattern resembles quite closely the

whole formation of the East African Rift Valley. Its drainage system consists of various seasonal streams, all of which drain into the Kerio valley and Lakes Baringo and Bogoria. (GOK/UNICEF 1990*, MPND 1989-93)**

On the average, Baringo is classified as a marginal district.(ibid) This does not hold for a few elevated areas which have a modified tropical climate and well drained soils. These highlands areas are Kabarnet, Kabartonjo, Tenges, Londiani and Ravine.

Rainfall varies between 1000 to 1500 mm in the highlands named above and 600 mm in the semi-arid north-eastern parts (Marigat, Kapendo Nginyang, Lake Baringo). The Perkerra Irrigation Scheme, the study site, records 652 mm of rainfall annually (Akong'a 1986).

Temperatures are high in Perkerra Irrigation scheme. Sometimes, they even rise to over 35° C (ibid). The area is dominated by woody vegetation of acacia trees and shrubby habitats with thorny bushland.

The soils most frequently found in Marigat are the imperfectly drained, deep very dark greyish brown, strongly cracking clays, or black cotton soils, classified as vertisols which usually develop from basic igneous rocks.

The population of Baringo was reported to be 305,643 people in 1988 (GOK/UNICEF, 1990). Of the 305 643 people, 151 905 are male while 153 738

* GOK - Government of Kenya and UNICEF (see Bibliography)

** MPND - Baringo District Development Plan 1989-93

are female. 51% of the population are children below the age of 14 years

while above 4% are above 60 years (ibid)

It is important to note that population distribution in the District correlates with the land potential. The most densely populated areas are the high potential zones of Kabarnet, Kabartonjo, Eldama Ravine and Tenges Divisions. Marigat, the study site is sparsely populated .

The research site includes the Perkerra irrigation scheme which was started on 1952 by the colonial government in an effort to:-

- i) settle the landless pastoralist who inhabited the region and
- ii) to increase the productivity of the arid and semi-arid lands.

Today, the scheme is run by the National Irrigation Board (NIB) and covers an area of 480 ha although it can be expanded to occupy the gazetted 680 ha acres.*

Majority of the 385 tenants are affiliated to the Ilchamus and Tugen ethnic groups.

Thus, like in some other parts of the Rift Valley, the study site is a recent planned settlement which brings together people of different ethnic background. The scheme currently has 385 tenants with each occupying 3-4 acres of irrigated land. There are 102 tenants who are

* Oral interviews with the management of the scheme.

affiliated to the Ilchamus/Njemps ethnic group. 251 of the tenants are

Tugen. 13 are Pokot while another 13 are Turkana. There are 3 Kipsigis, 2 Kikuyu and 2 Nubians in the scheme. One concern of this inquiry will be to establish if there is any pattern in health seeking behaviour according to ethnic affiliation.

Previous studies have found a high correlation coefficient between ethnic affiliation and health seeking behaviour pattern. (Foster and Anderson, 1978; Kroeger, 1983). This is due to the fact that illness or sickness are socially defined and illness behaviour to a large degree depends on a society's socialization process and its unique experiences. If a disease is very common in a society, people might regard it as normal. An example can be seen in areas where schistosomiasis is so prevalent that traces of blood in human waste is regarded normal (Foster and Anderson, 1978). Patients' response to pain and health care service utilization has also been found to correlate highly with ethnicity (ibid).

b) REASONS FOR CHOOSING THE AREA.

1. Malaria is a major problem in the irrigation scheme. Figures that exist on malaria endemicity are either for Baringo as a whole or Baringo District combined with Laikipia. Malaria is a vector-borne disease and high the distribution of surface water over land is only found in Marigat. Therefore, is an island deserving special attention.
2. The irrigation scheme is composed of people from varied ethnic backgrounds. Thus, it presents an important opportunity for analyzing sickness and illness behaviour cross-culturally.

3 Most of the tenants in the study site once practiced or still practice nomadic pastoralism. This mode of production is mainly found in arid areas with low malaria incidence and high incidence of malaria in the irrigation scheme offers an unique opportunity for analyzing how the two pastoral communities have culturally adapted to malaria.

RESEARCH DESIGN

The study is designed to identify the health seeking behaviour of the people of Marigat Location, with respect to malaria and to explain it. By identifying the behaviour, the study hopes to establish where various people are likely to seek health care for various levels of symptom severity. The study hopes to explore the underlying patterns that give rise to the observed behaviours. Questions concerning this aspect will be raised with the respondents by the use of a questionnaire. The study will also make use of other data collection techniques namely participant observation as well as non-participant observation. Key informants focussed group discussions and written records will also be utilized heavily.

Data will be collected at three levels, namely; the individual, the household and the community level, however, alot of emphasis will be attached to the household level which is central in the sense that it is the decision making unit as far as health seeking behaviour is concerned. The individuals live in households and households make up the community, indeed the individual is both a product of the household and the community. Thus whereas the unit of data collection will be the household head, the researcher will collect information from community leaders and bot

traditional and modern health care attendants as key informants. In addition attention will be focussed on a sample of hospital patients suffering from malaria, people purchasing anti-malaria drugs, people visiting traditional healers and people seeking home remedies. Special attention will be paid to those who display wide knowledge of the indigenous medical system. As earlier indicated, data will be collected using different types of instruments in order to maximize and cross verify the data collected. Questionnaires for the main sample, and for guiding key informants will be pretested and adjusted accordingly before the actual data collection phase commences. Both internal and external validity will be treated seriously during the instrument development stage because of the implications they have on the accuracy, relevances, consistency, replicability and the generalisability of the data to similar situations.

THE POPULATION OF STUDY

It has been stated in prior discussions that the Perkerra Irrigation scheme emerged and was sustained by the colonial administrators desire to settle the landless nomadic pastoralist mainly from the Tugen and Ilchamus ethnic groups. The population of study will therefore be the tenants of Perkerra Irrigation , who are mainly affiliated to the two ethnic groups as well as the other minority groups. It will also extend to the neighbouring Njemps location where the inhabitants are predominantly Ilchamus, living in their natural setting practicing a pastoral mode of production close to its original form. The population size is approximately 3000 people.

The large majority of the population of the study is made up of low

educated unskilled farmers who produce food crops in the scheme or who are engaged in the pastoral mode of production. A small proportion of the population live in or near Marigat town and are expected to have benefitted from socio-economic change most. The income of the population is expected to be low although a disparity is expected between farmers in Njemps Location and Marigat town.

SAMPLE SIZE

Out of a population of approximately 2000 people, a sample of 200 respondents will be selected. Knowledge of the study area will be used through stratification to increase the precision of the sample. A sample of 200 respondents out of a population of about 2000 is expected to be representative.

SAMPLE SELECTION

Sample selection will be governed by the principle of randomness. To ensure representativeness, the proportionate stratified random sampling technique will be ideal, however such a technique requires a complete listing of the units of observation in the study area. Owing to the absence of a complete sampling frame, the study will adopt the WHO (1978) recommended cluster technique:

- i) The study area will be divided into four strata:-
 - a) Marigat town
 - b) Left hand side of the scheme
 - c) Right hand side of the scheme
 - d) The outlying areas

The limits of each will precisely be defined.

ii) A central location in each stratum, which is its approximate geographical center will be selected

iii) With the aid of a random number table, the direction in which the first household would be located will be randomly selected (eg. 1 - East; 2 - West; 3 - South; 4 - North.)

iv) Once the direction is selected, the number of households existing along the directional lines from the central location will be listed.

v) The second random numbers between one and the total number of households along the directional lines selected will be drawn from each village. The numbers which will be selected will identify the first houses to be visited.

According to the WHO, this cluster sampling technique meets the following standards of reliability:-

a) The data which results from the survey will have a level of accuracy of plus or minus 10

b) Nineteen out of twenty times, the data which results from the survey will be within the stated level of accuracy

METHODS OF DATA COLLECTION.

After a brief survey of the study area and literature from on-going researches, malaria has been confirmed to be a major problem in Perkerra Irrigation scheme and the areas around the lakes in Marigat. Community awareness, knowledge of malaria and its vectors has been found to be high among the farmers (Bassir, 1990) but utilization of biomedical techniques in preventive activities as well as the health seeking behavior has not been

documented. Data related to these issues will be collected using the following techniques:-

1) Standard questionnaire

In the standard questionnaire, both closed and open ended questions will be included. The closed - ended questions are useful in measuring the indices of anti-malaria health seeking behaviour whereas the open-ended questions permit in depth probing. The quality of data in each questionnaire will be improved by consistency checks. The questionnaire will be kept flexible with additions and corrections deemed necessary being made here and there.

i) For the first hypothesis; people's utilization of biomedical malaria control innovations is related to their acceptance of a biomedical model of malaria causation. questions on malaria causation will be posed. These questions will aim at categorizing the responses in two, namely:- biomedical and naturalistic or personalistic (traditional model)

a) Biomedical model

This model sees mosquitoes as causing malaria by infecting humans with the malaria parasites through bites. It views with the interruption of the transmission cycle by clearing mosquito breeding places and avoiding man/mosquito contact as important in the control of malaria. Once infected, the model holds that a patient should be treated in an hospital by a doctor, or should take the publicized "over-the-counter" remedies. Prophylaxis is an important factor in creating immunity to vulnerable groups.

It views malaria as preventable by:-

i) prophylaxis ii) mosquito nets iii) permethrin impregnated screens iv)

insecticidal sprays, v) mosquito coils and vi) people suffering from malaria to be treated in a health center by a doctor either through an injection or an oral dose or by both. The treatment works by helping the human body to kill the malaria causing parasite.

Respondents will be probed for knowledge and treatment of malaria.

b) Traditional model.

The traditional model of disease causation views malaria as naturalistic or personalistic. It is viewed as being caused by one or more of the following:

- | | |
|-------------------|--------------------------|
| -witchcraft | - wind |
| -evil eye | - bad weather |
| - curse | eating bad foods |
| - Angry ancestors | - drinking unclean water |
| - black magic | - weakened vital force |

When individuals suffer from malaria, this model holds that victims can be cured by a reversal of the curse.

Biomedical innovations refer to the biomedical model of malaria causation and its techniques and instruments in malaria control.

Respondents will be probed and cross-checked with a view to finding out which model they believe in, and which they adhere to in incidents.

Data collected for testing this hypothesis will be measures at the nominal and ordinal scales and will be amenable mainly to qualitative analysis..

The second hypothesis is divided into three sections:- The first section is aimed at finding out if the model of malaria causation in the study area is uniform or varies along criteria like ethnicity. relevant questions will be generated.

The second and third sections are aimed at isolating the major predictor of health seeking behaviour in the area - socio-economic status or perception of disease signs and symptoms? the following information will be sought.

<u>Socio-economic rank</u>	<u>perception of signs</u>
- education	- mild - extremely high
- income	- moderate
- capital equipment	- high
- housing	- severe
- sources of fuel	- chronic

In the third hypothesis "people's ranking of symptoms severity is related to the process they undergo seeking health", respondents will be asked for the action they usually take if they suffer from various intensities of malaria.

Before respondents can talk of their experience with malaria, they will be subjected to questions aimed at determining whether they can accurately identify the disease, through observing symptoms correctly.

Data will be measured at the ordinal scale. Further, a seven item likert scale will be constructed to measure decision according to the level of

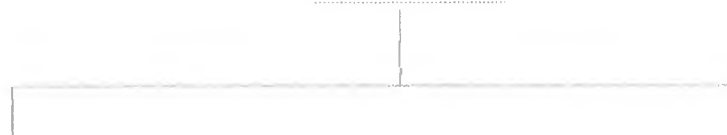
symptom severity.

In addition, I propose to generate on the process people undergo when their choice of health care resource does not solve their problem.

THE DEPENDENT VARIABLE.

Health seeking behaviour, the major dependent variable refers to the participation in control of malaria and the utilization of health care alternatives for the curing of malaria.

PERCEPTION



traditional measure for
preventing malaria

- burn cow-dung*
- Architectural design (housing)
- Animal products*

Biomedical measures for
preventing malaria

- use impregnated screens
- use of mosquito nets
- prophylaxis
- mosquito coils

UTILIZATION



Traditional

- Home remedies herbs (muarubanne) etc
- animal products
- Visit a herbalist/diviner/faith healing/prayer
- Use natural substances

Biomedical measures

- patent drugs/over the counter
- chemotherapy*
- visit a clinic/health centre/hospital

others.

Eat certain foods/avoid other foods/rest/avoid certain people/abstinence from certain activities or duties.

2. INFORMAL TALKS AND KEY INFORMANTS.

Informal talks with non-sample members of the population and key informant will be done in social centres (shopping centres, church) and where the key informants (local leaders health workers, traditional healers and so on) are based. The aim will be to solicit additional detailed information on the people's health seeking behaviour against malaria. "A key informant is more than someone who controls a lot of information about his culture and is willing to talk to the researcher" (Bernard, 1988). (In this particular case, people conversant with the community. Health and illness and their related outcomes).

The information gathered in these talks will be amenable only to qualitative analysis. e.g The opinions of each on malaria control.

iii) Ethnographic material and secondary sources of data.

These sources will be used to understand the past and help link it with the present with respect to past and present behaviours, practices and beliefs as well as philosophies.

iv) Participant observation and non-participant observation. Participant and

non-participant observation of both disguised and undisguised form will be used. This method has superiority over others in describing process. The biggest advantage of participants observation is that it has high marks in internal validity (Russell-Bernard, 1988:46) It will be employed especially in sickness episodes. This technique mainly generates information that is amenable to qualitative analysis.

v) Focussed group discussion.

The focussed group discussions will be held at the venues of women groups meetings and youth association meetings. These will also be occasions for the researcher to determine the viability of organized groups (especially involving women and the youth) as channels for the dissemination of malaria control information.

With a combination of these methods of data collection, hope to collect both quantitative and qualitative data which will be adequate for testing my hypotheses, achieving my study objectives and understanding the research problem better. These techniques are complementary in the sense that some will collect qualitative while others will gather quantitative information. All these will enable me to achieve a balanced and reliable set of

information.

DATA ANALYSIS

In view of the fact that I hope to generate data that is both qualitative and quantitative, data analysis techniques will be both qualitative and quantitative.

Quantitative analysis will be used to search for patterns in data and for ideas that help explain the existence of these patterns. It will involve presenting data in quotes, using matrices and tables, using causal flow charts, decision making tables and trees, Taxonomies and componential analysis. Qualitative analysis will be the only way of handling those aspects of data like observed behaviour, information from group discussions and from key informants will mainly be amenable to this type of analysis. This will be helpful in the testing of hypothesis.

QUANTITATIVE ANALYSIS.

Hypothesis 1.

Correlate the use of biomedical innovations with the acceptance level of biomedical innovation using the spearman rank order correlation and the Pearson's r. Data will be measured at both ordinal and interval level. Ordinal level data will be subjected to the Spearman rank order correlation while interval level data will be subjected to the Pearson's r. a high correlation will mean an acceptance of the hypothesis.

Hypothesis 2

- a) A chi-square and t-test will be computed to find out if the various ethnic groups are associated or differ in their models of disease causation respectively. A low level of the obtained chi-square will mean acceptance of the hypothesis while a big difference from the T-test will mean acceptance of the hypothesis.
- b) Health seeking behaviour will be correlated (Pearson's r) to socio-economic rank with a view to finding out their degree of association. The higher the degree of association, the more the acceptance of the hypothesis.
- c) Health seeking behaviour will be correlated to the perception of signs and symptoms with a view to establishing their association. The higher it will be, the more the hypothesis will be acceptable.

Efforts will be made to establish which method is a better predictor or by partial correlation. When all determinants to health seeking are correlated, the ones with a high coefficient will be the better predictors.

Hypothesis 3.

Peoples ranking of malaria symptoms severity and the process they undergo seeking health will be correlated (Pearson's r) to find out how much associated they are. High association will mean the acceptance of the hypothesis.

"Word perfect" word processing software package will be used for the thesis write-up.

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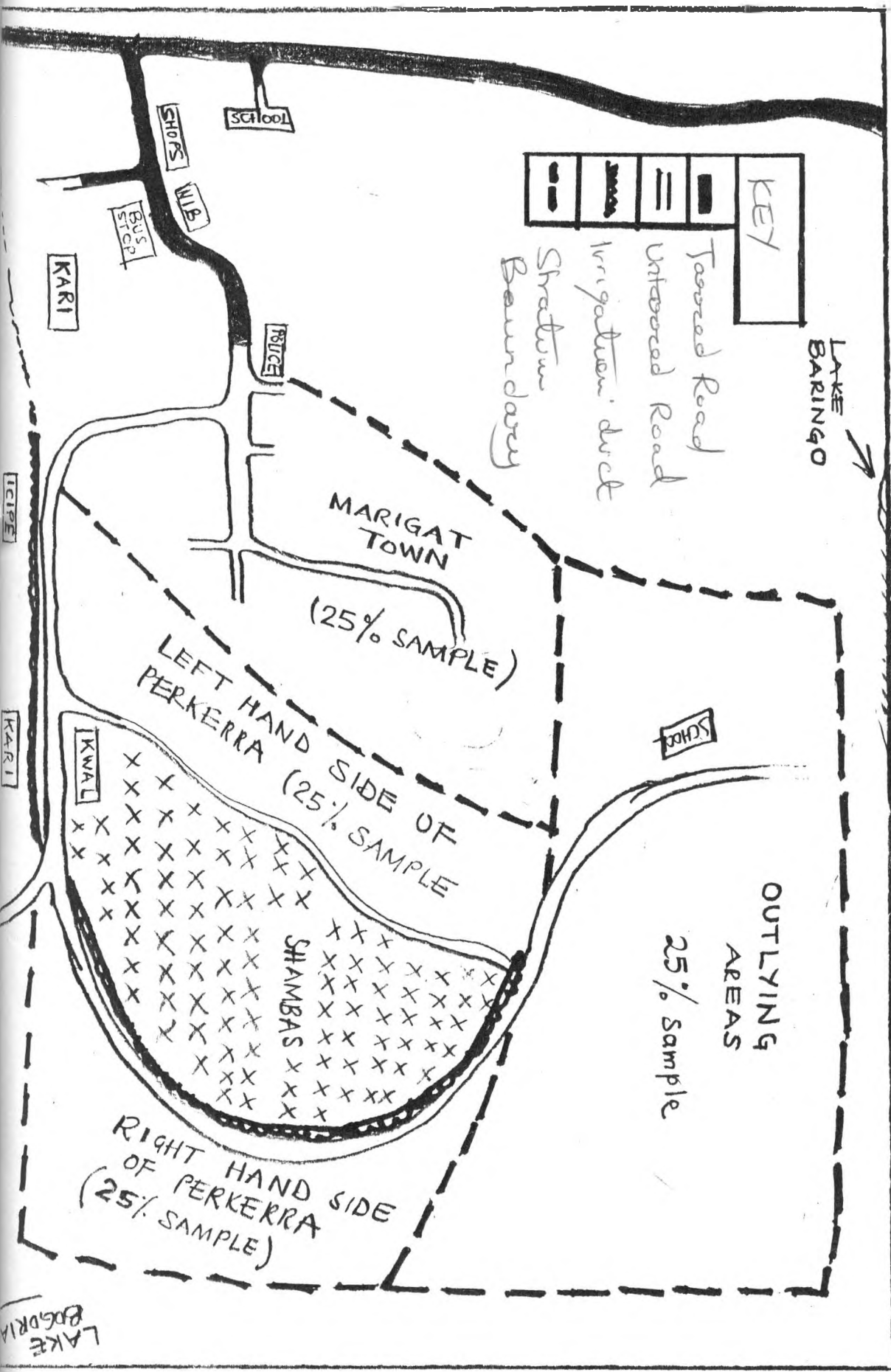
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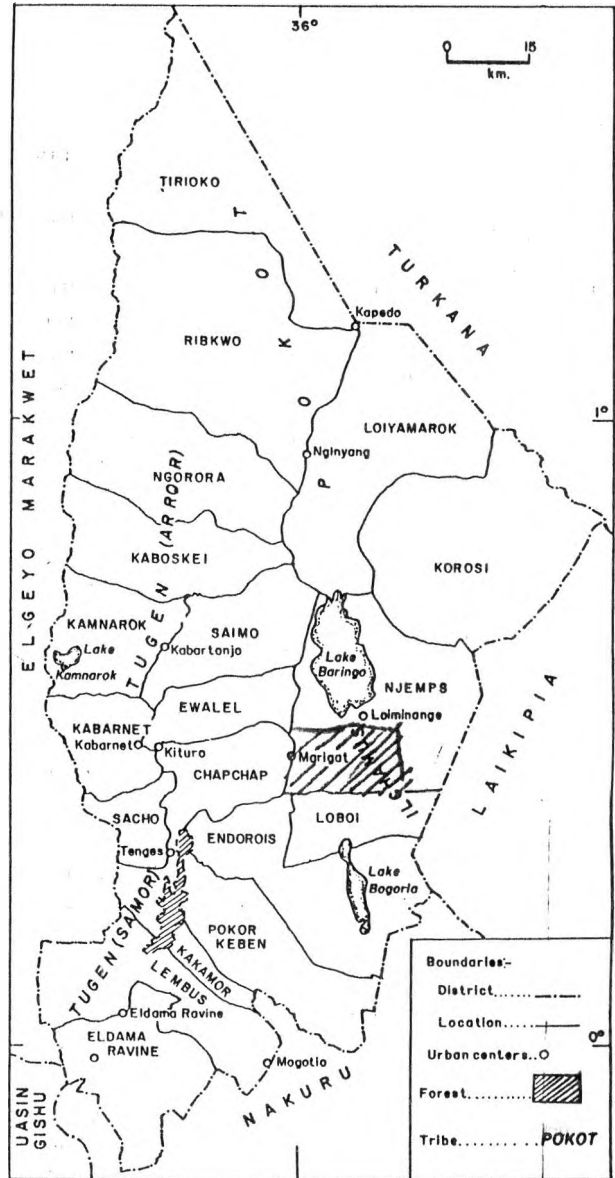
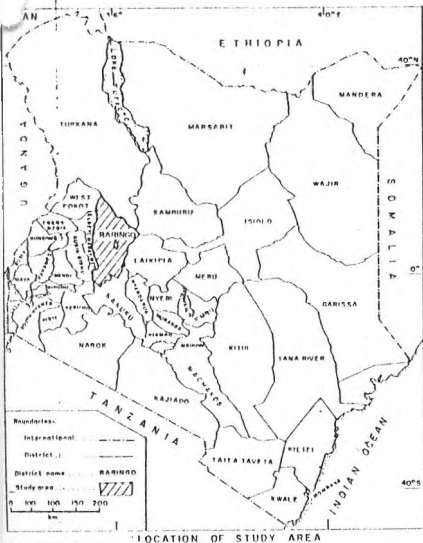
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APPENDIX II
A SKETCH MAP OF THE PROJECT SITE



A MAP OF KENYA SHOWING THE POSITION OF BARINGO DISTRICT AND MARIGAT DIVISION



ANTI-MALARIA HEALTH SEEKING BEHAVIOUR STUDY

1991

STANDARD QUESTIONNAIRE

HOUSEHOLD IDENTIFICATION

LOCATION			
SUB LOCATION			
STRATUM NUMBER			
HOUSEHOLD NUMBER			
ETHNIC AFFILIATION			
NAME OF CLAN			
DATE OF INTERVIEW			
NAME OF HOUSEHOLD HEAD			

MEDICAL HISTORY AND THERAPEUTIC CHOICE:

During the past 6 months, has any of the members of this household suffered from Malaria?

If yes, go to 4

If no, go to 5

NAME	Frequency within the past 6 months	What treatment was sought for the first time 1) Hospital/HC 2) Patent medicine 3) Traditional healer 4) Herbalist 5) Herbs from wild 6) Prayer 7) Food Taboos 8) None 9) Others	Was it sufficient? (Tick one Y N)				If you suffer from Malaria in the future, what treatment will you seek?
			Second	Third	Fourth	Others	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

How does a traditional healer treat Malaria?

What herbs are best for treating Malaria?

a) _____ b) _____ c) _____

In the past 6 months, have you done either of the following with an intention of healing

Malaria or other ailments?

If yes, specify.

	MALARIA		OTHERS	
Eaten Certain foods	Y	N	Y	N
Avoided certain foods	Y	N	Y	N
Avoid certain people	Y	N	Y	N
Avoid certain behaviours	Y	N	Y	N

a) CAUSATION

What do you think causes Malaria? _____

How does it cause Malaria? _____

When does it cause Malaria? _____

How can it be prevented? _____

What is the best treatment for people suffering from Malaria?

(tick one)

- How dangerous is Malaria as a disease?
- 1. Very very Dangerous
 - 2. Very dangerous
 - 3. Dangerous
 - 4. Average
 - 5. Not dangerous
 - 6. Not very dangerous
 - 7. Not very very dangerous

What is the most important illness here In terms of

Mortality? 1) _____ 11) _____

Morbidity? 1) _____ 11) _____

NO	Can the following (Tick One) cause Malaria?	If Yes, how can Malaria caused this way be treated?	Can they cause other diseases? If yes, specify.	How can these other diseases be treated?
1	Witchcraft Sorcery		Y	
2.	Evil eye			
.	Angry gods/ ancestors breaking Taboo oaths			
.	Adultery/ Incest curse			
.	Weather changes Cold weather Warm weather			
	Stagnant Water			
	Mosquitoes			
	Others (Specify) _____ _____			

15. What are the signs/symptoms of people suffering from Malaria?

01	
02	
03	
04	
05	
06	
07	

16. Are there any other diseases with the same/similar signs/symptoms?

	Disease	Symptoms
01		
02		
03		
04		
05		
06		
07		

	Can you identify these objects	What is their use	How effective are they	Have you used it before?	When/How long?
01	Impregnated				
02	Net(Mosquito)				
03	Coils				
04	Tablets				
05	Insectidal Spray				
06	Repellant body oil				
07	Doctor				
08	Hospital/HC				

18. If all these were made available, which one would you prefer? _____
- b) Why _____
20. What are the advantages of using a permethrin impregnated screen?
- 01) _____
- 02) _____
- 03) = _____
- 04) _____
21. What are the disadvantages of using a permethrin impregnated screens?
- 01) _____
- 02) _____
- 03) _____
- 04) _____
19. Are you currently using any of the above items? Specify
- 01) _____
- 02) _____
- 03) _____
- If No why
- 01) _____
- 02) _____
- 03) _____

FEMALE STATUS

22. Who takes care of the sick in the household? _____
23. When someone is suffering from Malaria, who makes decisions on where treatment should be sought? _____
24. What is the :-
- 1) Mothers occupation _____
- 11) Marital status _____
- 111) Years of education _____
25. Who makes day to day decisions concerning the running of the household? _____
26. Is the mother in the household
- a) A member of a womans group? _____
- b) A current or past official of the group? _____
- c) A community Leader? _____
27. Does the mother in the household
- a) Listen to the radio? _____
- b) Read Newspapers? _____
- How often does the mother in the household
- i) Go to church? _____

iii) Attend womens groups meetings? _____

28. Do you have a friend or a relative who is Y " N

i) A school teacher? _____

ii) A doctor? _____

iii) A traditional healer? _____

SOCIO ECONOMIC RANK

29. Housing (observe materials and record)

Wall	_____	Cement/stone/soil
Floor	_____	Cement/soil
Roof	_____	grass/iron sheets
Window Types	_____	Glass/wooden/sticks/ none
Door Types	_____	Glass/wooden/sticks

30. Household goods.

31. Do you own any of the following? If yes, how many?

a) Household goods		Animals
Item	Number	
TV Set		Grade Cattle
Radio		Indigenous Cattle
Spring bed		Cross breed Cattle
Cupboard		Goats
Watch		Shæep
Stove		Chicken
paraffin lamp		Camels
charcoal burner		Others

32. What is your source of fuel?

Electricity
Oil
Firewood

33. What is the source of your household water? _____

34. How do you travel to Marigat town? (tick one).

Personal car, Bicycle, Matatu, Motor cycle,

Donkey, Foot, Others

ETHNIC ATTACHMENT

38. How many languages can you speak? -----
39. What is your attitude towards inter-ethnic marriages? -----
40. Are women still being circumcised in this area? -----
41. Would you allow your daughter to get circumcised? -----
1. Disagree very very strongly 2. Disagree very strongly
 3. Disagree strongly 4. Disagree 5. Neutral 6. Agree
 7. Agree strongly 8. Agree very strongly 9. Agree very very strongly.
42. What foods are generally good for people who are sick?

43. Are there certain foods that are not supposed to be eaten by the following categories of people?

CATEGORY	Y	N	FOOD	WHY
Sick people (Malaria)			i) _____ ii) _____	
Pregnant Mothers			i) _____ ii) _____	
Nursing Mothers			i) _____ ii) _____	
Women			i) _____ ii) _____	
Men			i) _____ ii) _____	
Children			i) _____ ii) _____	
Others/Everybody			i) _____ ii) _____ iii) _____	

Thank you for your co-operation.