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**THE IMPACT OF COSTS AND PERCEIVED QUALITY ON UTILISATION OF PRIMARY HEALTH CARE IN TANZANIA: RURAL -URBAN COMPARISON**

**BY,**

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**A THESIS SUBMITTED TO THE HEALTH ECONOMICS UNIT, SCHOOL OF PUBLIC HEALTH AND PRIMARY HEALTH CARE, UNIVERSITY OF CAPE TOWN IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF A MASTER OF PUBLIC HEALTH (HEALTH ECONOMICS)**

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## **Abstract**

Health services utilisation, which is sometimes used as a proxy measure for equity is a complex subject to study. Identifying and explaining the important factors determining health care utilisation is a key to a better assessment of whether countries' health policies address the equity concerns of their populations in a comprehensive way.

It is extensively documented that meeting the health needs of people especially those disadvantaged by such factors as geographical location, joblessness, low income, gender inequalities and lack of education among others, is an important strategy to preventing the increase in poverty and eventually reducing equity gaps. Realising this goal is not easy unless studies are done to establish policy and theoretical arguments related to why some sections of populations are more likely to use/or not to use available health care services than others.

This cross sectional study principally aims at assessing the impact of perceived quality and costs of health care on utilisation of PHC services in rural and urban areas of Tanzania. Using both quantitative and qualitative methods, it intends to explore whether there are differences between rural and urban users in terms of their perceptions of quality of health services and how these perceptions affect household decisions in utilising health services. It further examines the extent to which costs of health care are important determinant in health services utilisation and how rural and urban users are affected by this factor when it comes to deciding to use or not to use government health facilities.

The study concludes that consumers of health care in rural Tanzania are highly responsive to health care costs than they are to quality concerns. As the two categories of rural and urban are

affected differently by costs and their perceptions of quality when it comes to health care utilisation, it is possible that the observed utilisation trends can partly be attributed to these two factors.

Further more, the study highlights that socio-economic variables such as gender, income, education, wealth and household size are important not only in determining users decision making on the amount and appropriate time to seek care but also mitigates effectively on the extent to which costs and perception of quality of care affect rural and urban users of health care services. The study recommends that the government should strive to provide better "quality" information to its consumers .It further recommends that a critical evaluation of important quality aspects be done to see which mostly determine household decisions on utilisation of care among rural and urban users of care. The study has found that the kit system has had some problems, hence the study recommends that government devises mechanisms of ensuring that drugs are available at points of service. Acknowledging the existing geographical inequities, the need to incorporate the private sector in PHC provision and improve quality of health care, the study recommends for more resources to be devoted to research and venture on new opportunities provided by the ongoing reforms

As a way of introduction, chapter one of the study report presents the country background information and how the health system is organised. The remainder of the report is organised as follows. In chapter two, the report presents the literature review whilst chapter three covers conceptual framework and methodology. This is followed by presentation of results and analysis in chapter four before putting forward a brief discussion of the findings in chapter five. In chapter six, conclusions and policy recommendations are presented.

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Finally and very importantly, I would like to sincerely thank all my respondents who unconditionally accepted to participate in the study for I know they sacrificed their invaluable time to listen and respond to my questions. Otherwise all what is in this study report strong or weak as one might perceive , is exclusively my own responsibility.

## ACRONYMS

CO: Clinical Officers

DED: District Executive Officer

DMO: District Medical Officer

HBS: Household Budget Survey

HSR :Health Sector Reforms.

KCMC: Kilimanjaro Christian Medical Centre

LGRP: Local Government Reform Programme

MD: Medical Doctors

MOH: Ministry of Health

MSD: Medical Stores Department

NA: Nurse Attendant

NGOs: Non-Governmental Associations

OC: Other Charges

PE: Personal Emoluments

PHN: Public Health Nurse

PHC: Primary Health Care

RALG: Regional Administration and Local Government

RAS: Regional Administrative Secretariats

SID: Supplier Induced Demand

WHO: World Health Organisation

UNDP: United Nations Development Programme

VAs: Voluntary Associations

**Declaration**

This thesis is entirely mine and has not been submitted to this University or any other institution of higher learning for any award. It is a product of my own original work and study done in Tanzania between December 2002 and February 2003. Other sources are fully acknowledged.

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MICHAEL ALOYCE MUNGA.

Date.....

This thesis has been submitted for examination to the university with my full permission.

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Dr. MICHAEL THIEDE

SUPERVISOR

Date.....

## **Dedication**

I would like to dedicate this thesis to the late my parents Mr and Mrs. Munga who committed themselves and the limited financial resources they had to lay down a foundation for my educational advancement. I also dedicate it to my wife Rose and my daughter Doreen, whose patience, love and constant prayers made it possible for me to finish this course. May God bless them all. Amen.

## CHAPTER ONE: INTRODUCTION

Understanding the underlying process of, and factors determining health care utilisation is a key to a better assessment of whether health policies address equity concerns in a comprehensive way. It is widely appreciated that meeting the health needs of people especially those disadvantaged by such factors as geographical location, joblessness, low income, and lack of education among others, is an important strategy to preventing the increase in poverty.

Much of the international and national health policies have focussed on the identification of interventions to reduce the burden of ill health in most cost-effective way (World Bank, 1993), rather than to the barriers to seeking health care. The assumption behind these policies is that governments have the capacity to implement the policies and make these interventions available to all people. This assumption does not always reflect the real picture especially in a developing country context like Tanzania.

This study is important in a way that its findings can inform policy makers, stakeholders in the health research community in Tanzania and other developing countries to be able to take important and practical measures in addressing the health policy problem of under utilisation of health services and particularly addressing the question why there are existing differences between rural and urban people in the way they utilise health care services, and what can be done to reduce potential equity gaps.

## **1.1 Country Background information**

According to the 2002 census, Tanzania has a population of about 34.6 million inhabitants (URT, 2002a). The country has also about 5433 health facilities (URT, 1996). It is estimated that 90%-95% of the country's residents are within 10 kilometres of a health facility (Abel-Smith 1992, MOH1997a, HBS, 2002).

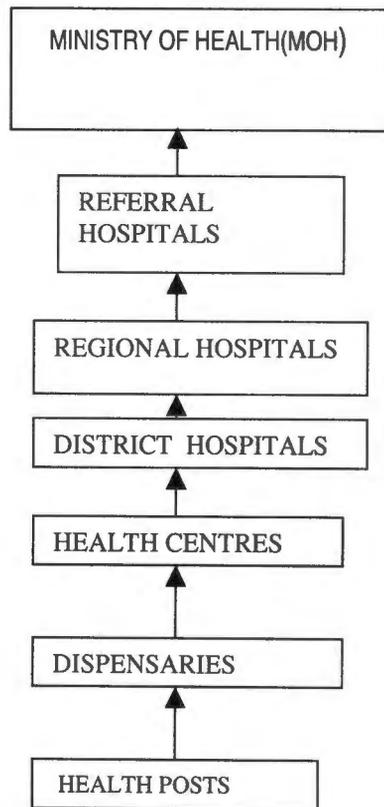
Recently a UNDP (2000) study estimated that about 51% of Tanzanian population live on less than \$1 a day and about half (42%) of these live in absolute poverty on less than \$ 0.75 cents a day. Much of this poverty is rural based as more than 70 per cent of rural people live in poverty (URT, 2002a). The country's population per doctor is 23,000. It is further illuminated that the current urban population is estimated to be 25.7% and the rural population is 74.3% of the total population. The economy of the country is basically agriculture much of which is confined to peasantry.

For a period of almost thirty years, health services delivery has been largely a prerogative of the state; only a limited number of private-for-profit health services were/are provided in major towns of the country. After independence, health care facilities were re-directed towards rural areas and free medical health services was introduced (MoH, 2002).

## **1.2 Organisation of Tanzania health system.**

The Tanzanian health system and especially the government referral system assumes a pyramidal structure. As recommended by the World Bank's health planners, the health system is organised in such a way that the village health post is the lowest level while the consultant (referral) hospital is the highest level in the hierarchy (World Bank, 1993). Diagrammatically, the public health system is organised as depicted in figure 1.

**Figure 1: Organisation of Tanzania Public health system**



**The village health post.**

The village health post is the lowest level of health care delivery in the country. The main prerogative of the health post is to provide preventive, curative family planning and Mother and Child Health (MCH) services, which can be offered to the villagers at the post and even at the villagers' homes when health workers pay visits. Simple laboratory tests such as Haemoglobin tests, and malaria screening are also conducted at this level. Normally each health post has two health workers chosen by the village government amongst the villagers and they are provided with a short training necessary to start providing services (MoH, 2002).

### **The dispensary services**

This is the second level (from below) of health services in the country. The dispensary caters for an average of between 6,000 to 10,000 people and it is at this level where all health posts found in each ward are coordinated (MoH,2002). This is also the focal point of primary health care in the country. All preventive and curative, MCH and family planning services which are provided at the village health posts are also provided at this level. The difference between this level and the preceding one is that it has more qualified staff and it caters for a larger catchment area as compared to the health posts and because of this, they are well resourced in terms of equipment and the amount of drugs they receive at each particular time as specified by the ministry's policies and guidelines.

### **Health centre services**

According to the country's health policy, a health centre is expected to cater for about 50,000 people which is approximately the population of one administrative division (MoH,2002). Like health posts and dispensaries, health centres also provide all preventive care. They provide all services described in the lower levels but they are better resourced in terms of almost all important inputs required to provide PHC services than the levels below.

### **District Hospitals**

The district is a very important level in the provision of health services in the country. Each district is supposed to have a government district hospital. However, there are some districts where there are no government district hospitals. In these areas the health policy has allowed what is called 'District Designated Hospitals'(DDH) whereby the government makes contractual arrangements with the religious organisations to use their hospitals as district hospitals. Under such

circumstances these religious hospitals get subventions from the government to make them run as other district hospitals (MoH,2002).All services provided at the lower levels are also available at this level. The only difference is that they are dealt with by a more qualified health staff guided by few qualified Medical Doctors(MD) available at the district hospital

### **Regional hospitals**

Every region has a hospital. Regional hospitals provide similar services as the district hospitals except that regional hospitals have specialists in various areas and they also offer additional services which are hardly available at the district level and levels below the district(MoH,2002)

### **The Referral/Consultant Hospitals**

This is the highest level of hospital services in the country. As of now there are four referral hospitals namely Muhimbili National Hospital which caters for the eastern zone, Kilimanjaro Christian Medical Centre (KCMC) which caters for the northern zone, Bugando hospital serving the western zone and Mbeya hospital providing services for the southern Highlands zone. The referral level has a wide range of specialists and apart from providing more of curative than preventive services, it is also charged with conducting health related research activities and training of medical personnel. The following table provides the distribution of health facilities in Tanzania.

**Table 1 TANZANIA HEALTH FACILITIES AS OF 2000:**

| Facility                          | Agency       |            |                     |         |        |
|-----------------------------------|--------------|------------|---------------------|---------|--------|
|                                   | Governmentt. | Parastatal | Voluntary/Religious | Private | Others |
| Consultancy/Specialized Hospitals | 4            | 2          | 2                   | 0       | -      |
| Regional Hospitals                | 17           | 0          | 0                   | 0       | -      |
| District Hospitals                | 55           | 0          | 13                  | 0       | -      |
| Other Hospitals                   | 2            | 6          | 56                  | 20      | 2      |
| Health Centres                    | 409          | 6          | 48                  | 16      | -      |
| Dispensaries                      | 2450         | 202        | 612                 | 663     | 28     |
| Specialized Clinics               | 75           | 0          | 4                   | 22      | -      |
| Nursing Homes                     | 0            | 0          | 0                   | 6       | -      |

Source: Ministry of Health Statistical Abstract

### **The flow of funds in the public sector.**

In Tanzania health care services in the public sector are funded at three levels. The MOH directly funds tertiary/referral hospitals as well as vertical programmes. It also provides funding to hospitals run by voluntary Organisations(VA) in the districts. Regional Hospitals are funded at regional level through the regional budgets to the Regional Administration and Local Government(RALG). District hospitals, health centres and dispensaries and health posts are funded by districts<sup>1</sup>. The Tanzania health sectors is funded through seven sources namely, the government/treasury, households, donors, NGOs, districts, private firms and other government ministries. The following table presents annual financial contributions to the health sector and the amount each source contributes.

<sup>1</sup> Tanzania National Health Accounts(Draft) Report,2001

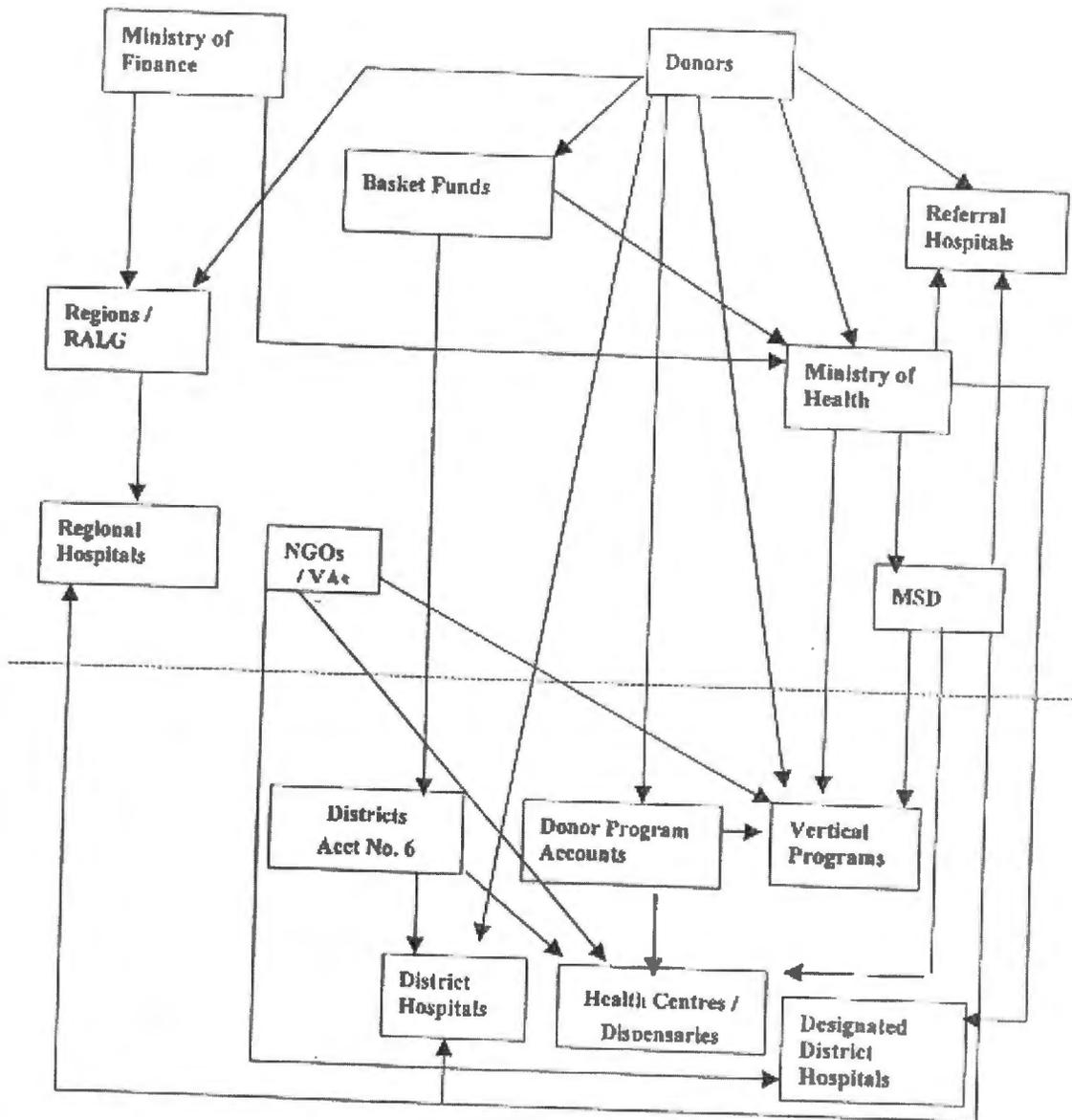
**Table 2. Annual financial contribution to the health sector (Tshs 1999/2000)**

| <b>Financing agent</b> | <b>Total(in Tshs)</b>  | <b>Percentage</b> |
|------------------------|------------------------|-------------------|
| Households             | 130,081,376,585        | 47.21%            |
| Districts              | 53,880,491,652         | 19.57%            |
| MOH                    | 51,480,115,525         | 18.68%            |
| NGOs                   | 18,784,468,337         | 6.83%             |
| Regions                | 11,258,855,062         | 4.09%             |
| Private Insurance      | 6,968,486,246          | 2.54%             |
| Other Ministries       | 2,976,412,368          | 1.08%             |
| <b>TOTAL</b>           | <b>275,530,205,775</b> | <b>100%</b>       |

Source: Adapted(and modified) from NHA(Draft) Report 2001 .

The flow of funds (as depicted in figure 2) for health services in the public sector is organised in such a way that there are among other mechanisms, subventions from the central government to district councils aimed at meeting the recurrent expenditure. Under this arrangement the treasury disburses the money directly to the district councils to meet recurrent expenditure such as Personal Emoluments(PE) and Other Charges(OC). A system of block grants had been in place for all 38 phase one councils included in the ongoing Local Governments Reform Programme(LGRP). Under the LGRP the councils are responsible for the delivery of services which were previously provided and managed from the centre.

**Figure 2: Flow of funds In the Tanzania's public health system**



Source: Adapted from National Health Accounts(Draft) Report. Ministry of Health, Tanzania, 2001

The provision of these services are supposed to be financed by five conditional block grants for major service sectors as PHC, primary education, roads, water and agricultural extension services;

and one Un-conditional grant for the less costly community development activities related to health, education, environment water etc. It is however envisaged that the ultimate objective of the government is to have one un-conditional grant for each district council.

Moreover, funds for development expenditure are disbursed via Regional Administrative Secretariats (RAS) and they are voted by parliament to the permanent secretary for the Ministry of RALG as the accounting officer. The treasury disburses funds for the RAS indicating the amount allocated to each district for development activities. The RAS in turn disburses the money to District Council Executive Director(DED) to be spent according to pre-specified needs of the particular district council. Funds for regional hospitals are also channelled through the RAS.<sup>2</sup>

Procurement of health goods is centrally managed. Since 1996/1997 the treasury had been allocating financial resources for the procurement of drugs and hospital supplies to the MOH. The Medical Stores Department(MSD) also offers revolving credit facilities to the MOH. Under this arrangement, medical kits are procured for health centres and dispensaries and are distributed by MSD to each district. The district councils have the responsibility to arrange and distribute medical kits to health centres and dispensaries.

Accordingly, a different arrangement applies to district hospitals. MOH allocates 'block' amount to each district hospital and DMOs In-charge of hospital can procure drugs, vaccines and other hospital supplies from the MSD to a certain allocated amount. The MSD distributes orders to zonal and or regional stores where hospitals are required to arrange their collection. For accounting purposes the MSD maintains an individual account for all district hospitals.

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<sup>2</sup> Tanzania NHA(Draft) Report,2001

Other activities which are centrally managed by the MOH but are implemented in the regions the funds are voted by parliament to the permanent secretary of the MOH. However, the funds are disbursed directly by the treasury to the relevant sub-treasury under instructions from the accounting officer of the MOH.<sup>3</sup>The flow diagram as is previously shown in figure 2, has outlined the flow of funds from the Ministry of Finance(MOF) and the international donor community into the public health care system. It maps the flows to the financing agents namely, the MOH, districts, regions and NGOs- and then to the health care providers such as hospitals, health centres, dispensaries and targeted programmes

### **1.3 Tanzania's Health Sector Reform and the need to improve health care quality and utilisation of services.**

According to the report titled "*Proposals for Health Reforms*" (MoH, 1994), important objectives of Tanzania's Health Sector Reforms(HSR) whose implementation started in the early 1990's were to put in place strategies to improve quality of health care services and increase equity in health accessibility and utilisation, improve efficiency in the provision and financing of Primary Health Care(PHC) and strengthen and re-orient secondary and tertiary service delivery in support of PHC, among others .The reforms in the health sector were meant to touch such aspects as *inter alia*, reorganising the relationship between the central ministry and the local governments, financial reforms such as enhancement of user charges in government facilities, introduction of health insurance and community health funds and creation of conducive environment for the private sector to be an active player in the provision and financing of health care in Tanzania

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<sup>3</sup> Tanzania NHA (draft) report, 2001

The country, as many countries in the world, aimed at realising the goal of 'Health for All' by the year 2000 (WHO, 2000) a realisation which never came to fruition. In an attempt to achieving this goal, the country had tried and embarked on a number of reforms in the health care sector with the aim of improving efficiency and improve coverage of health care services with an emphasis on improving Primary Health Care services.

Evidence regarding whether quality of Primary health has improved or whether there has been improvements in Tanzanians' health status as a result of reforms is lacking. Little is also known about the extent to which costs of health care and perceived quality are important in determining utilisation of PHC services in Tanzania. Before the addition of new financing mechanisms to tax-based financing in the Tanzania's health sector, important costs that were to be borne by the patients were confined to transport, time-off work, waiting times in queues and other psychological factors (Mubyazi, 2000). This was so because patients were getting all of the health services at a zero price at the point of consumption as health was described as a human right and the government which was implementing socialist ideologies under the Arusha Declaration (1967) had to finance it.

Under the spirit of Arusha Declaration on which the principles of "Tanzanian Socialism and self reliance" were based, design and operations of all the productive and social sectors were the prerogative of the state. The assumption was that the economic production, distribution and redistribution could be run efficiently by the state to the extent that the state (government?) would be in a position to provide all basic social services such as health free of charge at the point of service. Within the context of Arusha Declaration health care was believed to be one of the important basic human rights and the only way thought to ensure that all citizens enjoy this right

and get the services free of charge at the point of service, was through direct state involvement in provision and financing .

Following the government's decision to allow the private sector to provide health services in the early 1990's which was also a component of HSR, consumers had had an opportunity to assess the quality of services provided by the public sector relative to that in the private sector as they now had a different provider to compare with what they used to see (Munishi, 1997). This implies that even the perspective of "quality" was broadened. Again with the requirement that patients must incur such costs as paying for drugs and consultation fees at the point of service , meant that the costs to be borne by patients had to also increase. This may have some negative implications in the utilisation of health services in terms of costs posing as barrier to seeking health care services.

#### **1.4 Experiences from Other Developing Countries**

Studies like that of Katung (2001) in one of the Nigeria's rural communities found that the major reasons that cause non-attendance to available health services include high costs of drugs and service charges, easy access to traditional healers and difficulty in getting transport to health facilities. The study further revealed that unfriendly attitudes of the health workers and the wasting of patients' time at the health facility do not constitute serious constraint to utilisation. Leighton (1995) had observed that with increases in drug availability which is one of the key indicators of quality in sub-Saharan Africa, utilisation usually increases and the total drug requirement becomes higher than that associated with lower levels of demand that existed prior to quality improvements.

According to one study in Bangladesh(Santon,1989) it was reported that most of the non-users of health care were found to opt to not seek care because they had the feelings that the costs were

too high for them to afford. The World Bank(1988) had once suggested that an improvement in quality of services would compensate for the negative effects of prices of health care and ultimately improve utilisation. Studies in Ethiopia(Kloos, et al 1987) and in Guatemala(Annis, 1985) have indicated consistent findings with the World Bank's 1988 that, under-utilisation of public health services is directly attributable to poor perceived quality of the services.

In connection to the above observations , one longitudinal study conducted in Zaire(Haddad and Fournier,1995) came to a conclusion that both quality and costs of health care are responsible for increasing or decreasing utilisation of health services. In this study it was found that utilisation of public health facilities increased when facilities were better supplied with equipment such as microscopes. Further more, the authors concluded that increased costs had had effects on the utilisation of health care as they reduced the demand for the services provided by the facility in cases of common illnesses like malaria.

Studies have established that long distances to health facilities can be an important determinant for utilisation of health services in developing countries (see for example, Rahaman et al, 1982).However there are a host of other factors that may influence household choice of utilising health services. For example studies in Kenya and Niger among many others, have demonstrated that socio-economic status of the user , the treatment costs and the quality of care, illness factors such as recognition, severity and cause , gender and age of the user, education, occupation of parents and family size, are also important determinants for the choice and use of available health services( Diop et al 1995, Mwangi and Mwabu 1986)

Moreover, Gupta and Dasgupta(2000) have observed that costs of obtaining medical care along with the fee paid to the doctor, opportunity cost of time spent in travelling and queuing at the health facility can all explain why people utilise or do not utilise health care.

Again Khe et al (2002) in their study in Vietnam observed that low income households are deterred from seeking health care more often than the higher income people, a phenomenon which was explained by their inability to meet the costs of health care. They further highlight that high costs for treatment implies high risks for low income families to fall into 'a medical poverty trap' (Chambers, 1997 and Whitehead 2001).

Accordingly, medical poverty trap refers to a situation where individuals or households are in an unbroken vicious circle of poverty and illness. In other words, sickness creates more poverty especially when an individual/household can not afford the costs of treatment and incur considerable opportunity costs of time off work and time for caring of the sick relatives. In a similar vein, poverty leads to further serious sickness because a poor individual/household is more likely to delay seeking treatment or not seeking it at all, a phenomenon which makes it possible for the costs of treatment to even be higher and unaffordable.( Whitehead 2001)

### **1.5:About the study area.**

Tanzania is in the process of decentralising its health sector in an attempt to devolve powers and responsibilities to the districts and other lower levels of the local government structure. The country has 129 administrative districts divided into 119 districts in the country mainland and 10 districts in the Unguja and Pemba Islands which together, they make up the Zanzibar state. Before the

union of the mainland and the Isles in 1964, the mainland was known as Tanganyika and Zanzibar had all the rights and obligations recognised by the international law as a sovereign state.

The study was conducted in four mainland districts namely Kibaha and Bagamoyo which represent the 'rural' areas, and Temeke and Ilala districts, representing the 'urban' areas. The rural urban classification as it will be argued later in the methodology part, was based on ward boundaries because it was thought before hand that some parts of these areas may overlap and share all of the geographical characteristics meant to differentiate the study populations.

The classification was also thought to provide a glimpse of socio-economic status of people in the study area because poverty is unevenly distributed in the country where we have rural residents carrying a heavy burden of poverty and all its attendant effects on health care utilisation and ultimately health status of the rural population.

The two rural districts in the study had a combined total population of about 362,209 living in 80,836 households with a combined mean household size of 4.5 (URT, 2002a). Among them females total up to about 181,219 while males are 180,990. The urban population on the other hand had a combined total population of about 1.4 million people of which total female population is about 697,925 people while that of males stands at 711,148. The total number of households in the two urban districts is 335,995 with the combined average household size of 4.2 members in each household. The two districts of Bagamoyo and Kibaha are in Coast region while the other two are in Dar es Salaam region. The table below summarises and disaggregates the information by districts.

**Table 3. Demographic information of the study area.**

| District | POPULATION |         |                      | Average household Size |
|----------|------------|---------|----------------------|------------------------|
|          | Males      | Females | Number of households |                        |
| Bagamoyo | 114,699    | 115,465 | 50,359               | 4.6                    |
| Kibaha   | 66,291     | 65,754  | 30,477               | 4.3                    |
| Temeke   | 389,245    | 382,255 | 187,609              | 4.1                    |
| Ilala    | 321,903    | 315,670 | 148,386              | 4.3*                   |

\*National average household size=4.9

Source: Tanzania Central Bureau of Statistics, The Population Census Results, 2002.

### 1.6 Objectives of the study

In keeping with most recent studies on health care utilisation, this study had the following objectives:

#### Major objective

- To determine the extent to which perceived quality and cost of health care services impact on utilisation of PHC services both in rural and urban areas.

#### Specific objectives.

- To determine the differences in users perceptions of quality of health care between rural and urban areas.
- To assess the differential impact of perceived quality and cost on utilisation of PHC services among rural and urban users.
- To provide policy recommendations that may help improve financing and provision of PHC services in a developing country context.

### 1.7 Problem statement.

In developing countries as is with industrialised countries, efforts have been made and emphasis placed on the need for governments to improve equity in utilisation of health services in the

framework of comprehensive PHC as stipulated in the Alma-Ata Declaration of 1978. It is also thought that there are increasing under-utilisation of PHC services in developing countries in these times when most of the countries are undertaking reforms in economic, political and social sectors. It is also acknowledged that the goal of improving utilisation of PHC would be better served by expansion of services and improvement of quality than by maintenance of low prices of health services. There are however conflicting evidences regarding the extent to which costs (in all price forms) and/or quality of health care can impact on utilisation.

From the foregoing, it is important to verify whether the problem of under-utilisation of public health services acknowledged by different studies in many developing countries is a function of price or is determined by people's perception of quality. This study is therefore tasked to determine how these intricate factors operate and their resultant effect on utilisation of PHC services both in rural and urban areas of Tanzania. The major research question is: How and to what extent costs and perceived quality of care influence household decision making on utilisation of health care services in a developing country context like Tanzania?

### **1.8 Justification and Significance of the study.**

There is limited evidence in Tanzania regarding the extent to which costs and users perception of quality of care affect the utilisation of PHC in the country. While different policies designed and implemented under the auspices of Health Sector Reforms loudly pronounce the need to improve equity in access and utilisation of health care services, there are poor (if any) accompanying strategies that addresses the potential geographical inequities that may arise as a result of ongoing decentralisation of the health sector.

Given the fact that there are differences in socio-economic status between rural and urban people when poverty is taken to reflect the socio-economic development and status of rural and urban areas, there is a danger that people will be affected differently by health care costs; and because poverty may impact on other socio-economic variables as education, even quality perception may differ in definitional terms between rural people and urban people, a phenomenon that may lead into different ways in which people are affected by quality and their perceptions and hence different geographical utilisation patterns and inequities. It is on the basis of these rationalisations that the study was to be undertaken.

This type of study and its findings is thought to be important in the following ways: Firstly, it will contribute to our understanding of the complicated processes that may lead to differential utilisation of health services between rural and urban areas.

Secondly, the study will be significant in assisting the future design and current implementation of health financing and provision strategies that will ensure increased access and utilisation of health services to all people regardless of their geographical residences.

Finally but also importantly, the study will contribute to the current debates concerning the appropriate and feasible ways of improving utilisation of health services that suits the goals of comprehensive PHC in the context of a developing country like Tanzania.

### **1.9 Scope and Limitation of the Study.**

In terms of its objectives, the study was limited to determining the extent to which costs of health care and perceived quality of health care by users may impact differently on people of two

geographical areas namely rural and urban. Other factors that may potentially affect utilisation of health care were also looked at, but were not at the centre of objectives of this study.

Tanzania has 129 administrative districts. The selection of four districts for which the findings were based to make conclusions of the study are only a fraction of a huge administrative area, hence the findings are not meant to generalise the situation in Tanzania but tries to at least paint a picture of the magnitude of the problem at hand and provide tentative solutions for future policy actions in line with the ongoing Health Sector Reforms.

The study used household cross-sectional data. As it is for many studies that used this type of data, this study failed to accurately depict the extent to which differences in utilising health care is solely attributable to costs and individual's perception of quality of health care. This is because relying on household responses on measuring such complex aspects as 'quality' provide conclusions which are in most cases subjective. The weak link in the study analysis is that we do not have sufficient objective measures of what respondents view as 'poor', 'fair' or 'good' quality

However, in spite of these limitations the study had made an important contribution in the ongoing policy debates on the determinants of health care use especially how health care users in different geographical areas respond to these influences.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

Research and experience have shown that however the health system is organised, barriers to seeking health care exist. These barriers may be financial, cultural, and institutional (Whitehead, 2001). Financial barriers relate to the fact that people may need health services but they are barred from using it because they cannot afford the costs associated with its utilisation. Culturally, peoples' theory of causation of illness may in most cases be a barrier to seeking care especially in those societies with low levels of literacy. Moreover, health care institutions may shape peoples' perception of quality to the extent that potential users may opt not to use when they perceive it to be of poor quality.

It must be noted at this juncture that establishing an explanation of the determinants of health care utilisation in a developing country context is not an easy task. It has been made clear by some scholars that utilisation of health services is a complex phenomenon which is determined by a complex set of factors (Becker et al, 1993). There may be good reasons for the reader to ask why this study has isolated perceived quality and costs as important determinants for utilisation of health services. The following section provides some justifications.

### **2.2 Why perceived quality and Cost of health care matter?**

Though other empirical and theoretical evidences may provide some critical counterarguments to what we find to be important determinants of utilisation of health services, this study considers two arguments as outstanding in explaining why costs and peoples' perception of quality matters. Firstly, according to one of the recent studies in Burkina Faso (Baltussen et al 2002) it has been demonstrated that patients' perceptions of quality of care is critical to understanding the

relationship between quality of care and utilisation of health services. Based on the experiences from different health systems in the world, Baltussen et al (2002) have concluded that perceived quality of health services has a strong impact on utilisation patterns.

Both in empirical and theoretical literature, cost of care has extensively been documented to be an important barrier to accessing and utilising health care. According to Hjortsberg and Mwikisa (2002), cost of access creates “an especially” problematic barrier to the poor people who need to seek care (emphasis added). It is further argued that in developing countries where distances to health facilities can be large, the infrastructures lacking and large number of people live below the poverty line, cost of access is a critical determinant of whether care sought or not.

It is worthy to note that cost of access is not limited to geographical accessibility alone, but things like consultation fees, opportunity cost of time lost for waiting at the facility and costs of drugs are all important in affecting utilisation decisions. It must be refreshed again that perceptions of quality of care are as important determinants of utilisation as factors such as geographical proximity and cost of use which are usually deemed to constitute accessibility. The following sections attempt a discussion (with examples from some developing countries (health systems) of how important these factors are in influencing peoples utilisation of health services .A brief description of the failure of the Tanzania’s health policy to address the redistribute problems created by the ‘health care market failures’ will also be presented.

### **2.3 Perceived quality and costs of health services in relation to utilisation**

In the past ten years, increasing attention has been paid to quality of care as a means to enhance effectiveness of health care systems in developing countries. Consumers perception of care is

critical to understanding the relationship between quality of care and utilisation of health services. Quality of care has generally been understood in two ways namely, the observed quality of care and the perceived quality of care (Baltussen et al, 2002). The former focuses merely on structural and process measures and relates to professionally defined standards of care and refers to whether health care services adhere to these standards. The later, which is of interest to this study relates to the views of consumers of health care (Donabedian, 1988).

Costs of health care on the other hand is as important as users perception of quality in determining consumers utilisation of health care services. Typically costs of health care services may be divided into to broad categories, namely direct and indirect costs. Direct costs relates to expenditures incurred by households in seeking care for the sick member. They include out of pocket expenditures for treatment, fees , drugs and cost of subsistence at a distant treatment site .Indirect costs on the other hand, relates to time costs of sickness/opportunity costs of the wages foregone by a sick person due to sickness. Generally they include travel and waiting time cost of care takers, opportunity cost of healthy household members, time spent on treating or tending the sick or accompanying a sick person to the place of treatment. The following paragraphs attempts a discussion of the relationships between costs and perceived quality on utilisation.

Perceived poor quality of care has been seen to be one of the important barriers to seeking care(Becker et al 1993).Various indicators of poor quality have been used to describe quality of care. For example Khan(1985) had used inadequacies in drug provision. Others like Becker et al(1993) and Key(1987) have used staff attitude and interpersonal relations between patients and health workers to conclude on quality of services.

Although there are many dimensions to notions of quality of health care, evidence shows that patients in sub-Saharan Africa consider the availability of drugs as one of the key indicators of health services (Leighton, 1995). The evidence is also available that patients are willing to bear the costs of drugs if they are assured that drugs will be available at the point of service (Litvak, Bodart 1993). These observations are also supported by McPake et al (1993) who pointed out that perceived quality is the most important since it influences the willingness of the population to pay for health services.

Subscribing to the findings from other studies, Leighton (1995) has acknowledged the evidence of possible negative impact that local variability in, and uncertainty about prices can have on utilisation of health services. These negative effects are more evident in systems where unofficial prices are charged in government health facilities, or consumers do not know whether they will receive an exemption or reduction in price, or where consumers do not know in advance whether drugs will be available or have to be purchased from a private source (Leighton, 1995).

Diop et al (1995) provide evidence regarding the relationship existing between improved quality, costs and utilisation of health services. In one of their studies which was conducted in Niger, they concluded that the observed utilisation increases was due to the net impact of prices and quality changes, with the positive impact of improved quality at the government facilities outweighing the negative effects of the price increase in drugs and fees paid for consulting doctors.

The study further presents evidence which suggests that quality of services had a stronger influence on utilisation more for the poor than the rich (Diop et al 1995). Other studies by

Musgrove (1983), Mwangi and Mwabu (1986) have shown that the low income and the poorest are more sensitive not only to money price of health care but also changes in quality and in time-price of care. Becker et al (1993) have gone further to argue that utilisation of health services is a complex phenomenon which is affected by both demand and supply factors with regard to health care.

Even when we compare socio-economic characteristics of the urban and the rural poor in relation to utilisation of health services, The World Health Organisation (WHO) has documented that globally in developing countries, poor urban dwellers have better access and utilisation of health care than much of the rural population (WHO, 2000). This difference may be due to persistent low incomes of rural dwellers which limit their purchasing power of not only health services but also education which is very instrumental in imparting peoples knowledge to effectively evaluate quality of care, and decide when it is appropriate to use it.

Willis(1993) who did a survey in more than fifty countries in Africa found that with some few exceptions, utilisation decreased when quality decreased and increased when quality increased. It must however be noted at this juncture that fees are only one of several important factors that may determine whether or not people will seek health care. Other factors may be related to for example, time off work and travel costs, perceived benefit of health service, income and education(Leighton,1995). Leighton (1995) has once pointed that; people are more likely to use health services they perceive to be of higher quality than other services.

With regard to the importance of costs in utilisation of health services, the World Bank's Living Standards Survey in Peru and Cote d'Ivoire in the mid 1980's showed that price elasticity of

demand for health services fell with income. It was found further that adults and children's demand for both clinic and hospital care was indicated to be more elastic at lower income levels than at the highest income levels. For example, the adults' and children's demand for clinic and hospital care in the bottom three quarters of the income distribution was in the price-elastic region and those in the top income quartile were well in the inelastic region (World Bank 1985, World Bank 1986)

In connection to the above observation by the World Bank, one study conducted in Ghana reported a dramatic fall in utilisation of health facilities following a rise in fees. After sometime however, urban rates of attendance to health facilities rose again but rural rates did not (Waddington and Enimayew, 1990). Similarly, studies such as those conducted by Klein (1980), Puffer (1986) and Aday and Anderson (1975) have demonstrated that there is a close relationship between access costs and utilisation of health care. Access costs are influenced by such factors as waiting time at the facility, out of pocket payment all of which may not only impact on utilisation but also on the effectiveness of health programmes (Hjortsberg and Mwikisa, 2002).

Abel-Smith (1993) has argued that there is a cumulative deterioration of quality of health services in developing countries. He further pointed out that owing to limited budgets allocated to ministries of health in developing countries, peripheral staff in the public sector are no longer supervised, patient numbers fall when the supply of drugs and other essentials become uncertain. Health staffs respond to the lack of demand and fall in their pay by spending less time at their job (Abel-Smith, 1993). In the long run, these tendencies may affect quality, and declined quality (both perceived and professionally determined) may negatively impact on utilisation.

Responding to the decline in quality of health services those patients who can afford to pay use instead licit or illicit private sector, buy drugs or herbal medicines or make more use of traditional practitioners, with the options chosen varying by income groups(Abel-Smith, 1993).

The fact that there are income differences between rural and urban dwellers in developing countries like Tanzania makes it a case to be argued that there may also be observed differences in utilisation of health services between the two geographical areas even when the private sector health facilities are meant to provide PHC services.

More over , inadequacies in the country health policies to effectively address redistribute issues central to equity in utilisation of health services, deserve to be mentioned here as an attribute of barriers to utilisation. These inadequacies we argue, may impact differently on rural and urban households as the they are socioeconomically different in terms of income levels, wealth and education among other characteristics.

In the preceding sections, an attempt has been made to establish the relationships between costs and perceptions of quality on utilisation of health care. Acknowledging the fact that these two factors are not the only ones, the following sections briefly describe other factors that may pose constraints in household decisions in utilising health care. Also, a brief description of the Tanzania's health policies' failure to address some problems created by market failures is presented.

## **2.4 Opportunity cost of seeking care as a barrier to utilisation**

According to a study done in Burkinafaso (Sauerborn et al, 1996) it was concluded that as is for many developing countries, seasonal rainfalls in Burkinafaso determine the rhythm of life and work of most people in rural areas where agriculture is the single most important economic activity of the households. Accordingly ,it has been established that opportunity cost of time and financial costs involved in seeking health care are critical determinants of health care utilisation (Fabricant et al1999). Sauerborn et al (1996) had made it that seasonal fluctuations in the economy of the household lead to fluctuations of the ability of the household to allocate time and financial resources to health care.

Assuming that in the peak agricultural season, the opportunity costs of time are in deed higher and the availability of cash lower, one would expect that (i)household members will spend less time on seeking care or on attending the sick and that(ii) households spend less on health care, which would imply that(iii) there will be remarked reduction in the use of high cost health care alternatives, such as modern health care services(Sauerborn et al 1996).

## **2.5 Unofficial and official fees as barriers to utilising health care**

Fees whether official or un-official has widely been agreed to be a factor in explaining utilisation of health services .Official fees has been defined by Killingsworth et al(1999) as authorised, formally approved health services charges collected at health facilities under the sanction of a public policy. The authors go on to point out that until an economic model is provided to describe these fees, Unofficial health care fees at government health facilities can be defined as unauthorised fee payments that co-exist with free care and formally approved official health services charges

collected at public facilities. Some of these (unofficial) fees are so integrated into facility work patterns that they are sometimes mistaken for officially authorised ones (Killingsworth et al, 1999).

Apart from contributing to the obstruction of health sector market reforms, increasing the facility resources inefficiencies and facilitating health sector human resources distortions, unofficial fees have been found responsible for reduction of 'merit goods' production and consumption (Killingsworth et al, 1999).

Official user fees like unofficial ones have extensively been documented to be important determinant of utilisation of health services in developing countries(Diop et al 1995, World Bank 1985&1986, Waddington and Enimayew 1990 ).Almost all of these studies have demonstrated a negative impact of fees on utilisation of health services .More importantly however, Leighton(1995) had made it clear that the negative impacts of official user charges are more evident in systems where unofficial prices are charged in government health facilities.

## **2.6 Lack of access to health care as a barrier to utilisation**

The accessibility of health services is often cited as one of the critical determinants of utilisation of services in developing countries(Noorali et al 1999). According to a study done in Guatemala it was found that distance to the nearest government clinic is inversely related to use of biomedical care(Goldman et al 1996).A study done in Pakistan by Noorali et al(1999) has also come with similar results. Lack of transportation especially among the rural populations, the costs of transport and the difficulty of walking for hours to the nearest government facility, have been pointed to be important barriers to utilising health care services in the modern health sector(Stock, 1983).

## **2.7 Socio-economic and cultural characteristics as barriers to utilisation**

Numerous studies in developing countries have demonstrated consistent relationships between socio-economic status and use of health services. Higher utilisation of medical services among more educated women is believed to result in part from better allocation of financial and other resources, more autonomy in household decision-making, greater self-confidence and a stronger demand for satisfactory services from providers (Cadwell 1986, Das Gupta 1990).

A woman's role in household decision-making relative to her spouse and other members of the family may also affect her use of health services (Bloom et al, 2001). Further more, social ties with others may influence her decisions about seeking care by exposing her to different ideas regarding health care and by imparting information about providers. In addition, social ties may provide access to providers that are unfamiliar to the woman either by serving as contacts or by offering material assistance such as cash or transport (Goldman et al 2001). Research has shown that social contacts outside of her community for example large urban areas or abroad, increase the likelihood that a woman holds improved biomedical beliefs about illness causation (Goldman, 2001)

## **2.8 The failure of Tanzania's Health Policy reforms to address redistribution problems created by market failures.**

Among the many problems that the Tanzania health system is blamed to have failed to address is the effect of formal and informal charges that affect negatively the utilisation of health services among the vulnerable groups of population both in rural and urban areas. Mackintosh and Tibandege (2000) have demonstrated some redistribution problems that the current health policy in the country must address in order to ensure equitable provision of health services. Among the

things that the health policy need to reverse in the ongoing HSR as suggested by Mackintosh and Tibandege(2000) are: the exclusionary effects of formal and informal charges and the associated neglect and abuse of the poor users of health care; the lack of government-facility level redistribute commitment demonstrated by the failure of exemption mechanism; perverse interactions between market incentives and responses generating some very poor quality private provision; poor use of scarce resources and social polarisation sustained by (some) donors.

## **2.9 Theoretical foundations of health services utilisation.**

It has become generally accepted in the literature on the demand for health care that utilisation of certain types of these services depends on two different decision processes. In the Grossman tradition, utilisation of health care is essentially seen as the result of patients intertemporal utility maximization and it is primarily patient determined, though conditioned by the health care delivery system(Grossman,1972).

In the agency theory on the other hand, physicians play an important role in determining the amount of services that patients should consume, up to the point of distorting demand according to their own preferences.(Manning et al, 1981) and Ulrich(1995).The Grossman theory and the agency approach on utilisation of health services provide different, despite complementary explanations of utilisation of health care. The following sections look at them in sequence.

### ***The Grossman model***

In this perspective, Grossman(1972) emphasises the role played by patients' choice looking at health and wealth as two interrelated assets the value of which are optimally controlled over time

by individual. In the case of health, the marginal utility of holding a marginal unit of stock has a consumption and an investment component, which together must more often than not be equal to its marginal user cost (Grossman 1972). This, according to Grossman, consists of interest rate, health capital depreciation and a possible change in the value of health capital over time.

Accordingly and in the context of the Grossman's school of thought, the demand for health care is a derived demand, in that services are not consumed per se but serve to maintain or improve upon a certain health status. According to this perspective the demand for and utilisation of health services at a certain time is endogenously co-determined with the variable health status and it is affected by wage rate, price for medical services, individual age, environmental effects and the level of education.

According to Grossman (1972) a higher wage lowers the marginal incentive to hold health as an asset for consumption use, thus depressing the demand for and eventually utilisation of health services. Further more it decreases the opportunity cost of time for sickness and therefore reinforcing the incentive to hold health as an asset. This model highlights among other things the importance of measuring the effect of wage income on medical services.

Studies like that by Ehrlic (1990) have shown better education has an impact on demand for and utilisation of health services. Accordingly, the same study has gone to clarify that apart from the fact that its impact may go in both directions, better education lowers the demand for investment in health because it contributes to lower health stock depreciation

Though the model by Grossman provides some important insights regarding household decision making in relation to seeking care, it may be flawed as it emphasises too much on “individual” as important decision maker when it comes to demanding and eventually utilising health care services. The model assumes that a health care market operates under competitive shades and consumers are well-informed to the extent that they can make rational choices in maximising their health status.

In reality, health care consumers are ill-informed and the health care market is not a perfect “normal” market as assumed by neoclassical theorists (McGuire, 1991.). Again there may be other factors such as social status of an individual caused by inequalities in society that can make some people utilise or not utilise health care as their health care needs require. Self-motivated interests of providers, for example the agency relationships between physicians and patients; and type of health care (including its quality) can all affect utilisation of health care.

As it has been justifiably demonstrated in the previous sections it was not in the interest of this study apart from assessing the influence of perceived quality and costs of care on utilisation, to measure the influence of other determinants of utilisation such as the role of providers of health care in affecting utilisation. We however found it important to provide a theoretical discussion of the role of providers of health care because effective health care provision and consumption is (assumed to be) a rational process requiring shared understandings between users and providers, and carrying meanings of duty, trust, respect and rights (Mackintosh and Tibandegé, 2000).

It is important to note that in the public sector the four aspects of ‘duty’, ‘trust’, ‘respect’ and ‘rights’ are critical in explaining health worker-patient relationship which is an important attribute of

perceived quality of health care that can also affect users decision to use or not to use care. We further argue that though asymmetry of information exists both in private and public sectors, it may lead to over utilisation of health services more in private than public sector, given profit motives of the private providers and the possible negative incentives that may be created by the payment mechanisms.

Further more the discussion of the Agency theory of utilisation is thought to be important to providing some useful insights on the dangers that may surface as a result of possible contracting out of the provision of PHC services which is advocated by many developing countries currently implementing HSR. It is further argued that, the possible over utilisation of services that may be induced by physicians will not only be inefficient as far as scarcity of resources is concerned, but also inequitable.

It is on the basis of this that we found it important to present a discussion of the 'Agency theory' for readers who would want to later on study the over utilisation(if that will happen) of health services in some sectors/among sections of population because over utilisation of services by few/some sections of society in some sectors of health system may be as inefficient and inequitable as is under utilisation. Let us now turn to the basic premises of the Agency theory.

### ***The Agency Theory***

It is worthy to note at this juncture that the Agency model may not be as relevant in explaining utilisation problems in developing countries as it may be in developed countries. This is true given the nature of health care systems in developing countries (largely public) and markets which do not provide sufficient incentives to explain the Supplier Induced Demand(SID) situation that is

prevalent in more developed private health care markets. It is however important to have a discussion of this model given the fact that developing countries' health care markets are now under major reforms with great potentials that in the near future we will have private-for-profit health care sector provision and financing complementing a lot of services which were traditionally provided by the public sector. Let us now turn our attention to the discussion of this theoretical framework.

Physicians are considered by the agency theorists to be active players in deciding the amount of health services patients should consume. This is possible because of the fact that physicians more often than not act on double roles: Performing checks on the status of the patients' health and, based on these, providing treatments aimed at restoring health stock to a certain desired level.(McGuire,1991).Because of information asymmetry, physicians are at the advantage of influencing demand for and utilisation of health care through their role as health evaluators(Manning et al 1981).In this respect it is common to assume that physicians do not only follow the Hippocratic oath requiring them to maximise patients' health but also derive utility from income.

There has been a huge body of literature concerning the applicability of the Agency model in explaining some important problems in distribution of health care goods and services in an equitable way. Much of them have been devoted to testing the so called 'Supplier Induced Demand'(SID) hypothesis(McGuire,1991).Accordingly, the SID hypothesis states that (McGuire,1991) in the face of negative income shocks, physicians may exploit their agency relationship with patients by providing excessive care.

McGuire(1991)has pointed out three sources of income shocks. The first source is the variation in the physician-population density across areas. It is assumed from this aspect that increased density lowers the income of existing stock of physicians, and it may lead to increased utilisation of medical procedures in an inducement –type model.

The shocks in income may also be as a result of exogenous change in demand due to epidemiological shifts, evolution of needs and variation in tastes. The most important and common source of income shocks is variation in fees paid to physicians, generally by government payers(Ehrlich 1990 and McGuire 1991).A number of studies (for example, Mitchell and Cromwell,1986 and Owings and Gruber,1996) have tried and tested the SID hypothesis. In spite of the fact that each of these testing strategies face some methodological problems they are all quite convergent in concluding that physicians, at least to some measure, do influence demand for, and utilisation of health care services.

The Agency model deserves to be credited here as it alerts theorists and policy makers on the failure of the health care market . We argue that, the level of trust between consumers and providers which may be eroded by information asymmetry, might to some extent be responsible in shaping consumers utilisation patterns. The model also highlights the fact that household decision making in utilising health care may also be a function of other factors outside the household, for example suppliers of medical care. As it has been argued earlier on, physicians, given information asymmetry may have an opportunity to influence consumption levels through their dual roles as producers and suppliers of health care. It must however be remembered again that though the agency theory has highlighted some important issues as far as utilisation of health care is concerned, the study had no intention to test any of the hypotheses expounded by the model.

### ***Concluding remarks***

The empirical literature reviewed has presented conflicting evidences regarding whether it is costs which are more important than perceived quality of health care in relation to households decisions about utilising health care services or may be it is the other way round.

The conceptual and theoretical literatures on the other hand, have even added a special food for thought by presenting conflicting arguments regarding the relationships between consumers and suppliers in the health care market. Though none of the these arguments can sufficiently explain different trends in developing countries, they have provided important lessons on how difficult it is to study complex issues as utilisation of health services

In a nutshell however, the studies reviewed have dwelt much on the relationships between income/poverty and utilisation of health services. Few of these studies have studied the Tanzanian situation, but the depth and breadth of their findings leave some wide gaps for further research. Few (if any) has however, specifically highlighted the rural-urban differences in utilisation of health (PHC) services in relation to costs and quality in a developing country context like Tanzania. It is this last aspect which this study concentrated and attempted to address and provide some policy recommendations.

## **CHAPTER THREE: CONCEPTUAL FRAMEWORK AND METHODOLOGY**

### **3.1 Conceptual framework**

This study was guided by the assumption that utilisation of primary health care services is a function of costs and consumers perceptions of quality of services. Utilisation will increase with increasing quality and vice versa. Utilisation will also decrease if the costs of health care are thought to be unaffordable by consumers.

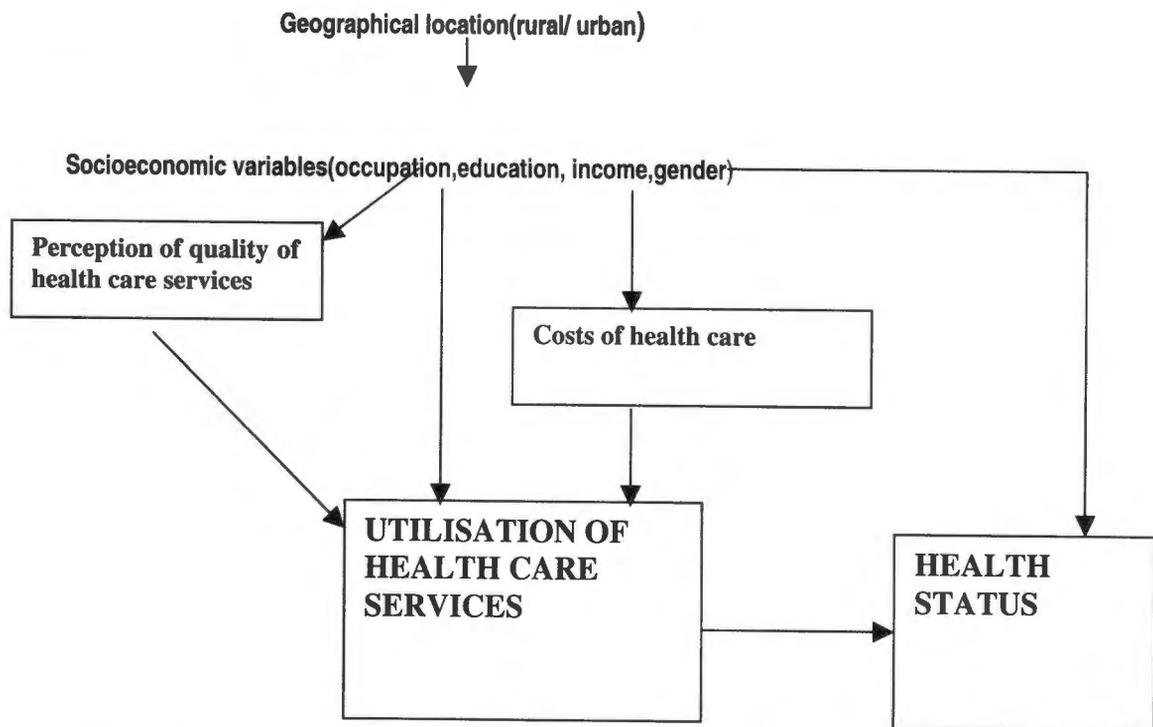
According to Donabedian(1988) in measuring quality responsiveness it is necessary to develop measures of health care quality, a multidimensional construct which does not have a single generally accepted definition. Accordingly, there are at least three components of quality: technical aspects of quality, the interpersonal aspect of quality and the amenities of care (Donabedian, 1988).

The technical aspect of quality refers to how well the medical science and knowledge are applied to the diagnosis treatment of medical problem. The interpersonal aspect of quality is related to the interaction between the patient and the health care provider or the responsiveness, friendliness and attentiveness of the health care provider. The amenities of care includes the appeal and comfort of the health care facility .

Given these different dimensions of quality, the welfare implications of costs and quality are difficult to predict .In this study however, I focussed on the household heads' "perception" of quality and how they thought costs of health care may have affected their decision making in utilising health care services. As it has been put forward by Davies and Ware(1988), whatever quality means to consumers, their perception of quality affect their decision to use health care. Some studies have

also shown that there is a positive relationship between prices on the one hand and quality measured as time spent with the patient and thoroughness of examination on the other (Kowpla, 1984 and Wilson, 1986). The framework discussed in the preceding section is diagrammatically presented below.

**Figure 3. A simplified model of factors affecting utilisation of PHC .**



More over, for the purpose of the study concepts such as utilisation, household, Primary Health Care services and quality of health care were frequently used. Operationally, they meant the following:

**Utilisation:** This refers to the number of times (frequency) members of household have sought health care in times of illness. Malaria is very common in Tanzania. Each year there are about 16 million reported cases of Malaria and there are 100,000 deaths reported annually as a result of the disease (WHO, 2002). It was on this basis that we solicited utilisation information related to malaria

by use of a semi-structured questionnaires. Heads of households were asked on whether they/or any member of household had utilised health care services in the last two weeks before the date of interview.

In order to observe differences between rural and urban areas in the context of this conceptual framework and whether rural and urban people differ in their sensitivity to quality and/or costs, other socio-economic variables such as wealth ,income and education were pegged against utilisation of PHC. Facility records were consulted to see whether a similar picture as that from household surveys is revealed in the two settings(rural and urban)

**Primary health care services:** These are health services which are provided at dispensary level in the public health system. It should be borne in mind that PHC services are also provided in other levels such as the health centre level up to district hospital level as long as there are genuine referral reasons.

**Household:** Refers to all persons who live within the same dwelling, regardless of their relationships.

**Quality of health care:** This refers to the degree or grade of excellence with respect to health services received by patients, administered by government's primary health care providers. To objectively measure this variable, information regarding the drug stock-outs days, and availability of staff for each facility was sought . Subjective measures of quality were solely dependent on the information from responndents' perception of quality of care.

**Costs:** These are expenses that a households incur in their effort to seek health care They include both direct costs(e.g costs of drugs, consultation) and indirect cost such as time spent in waiting room

## **3.2 Methodology**

### **3.2.1 Hypotheses of the study:**

To develop conclusions based on findings, the study was guided by the hypotheses that:

- (i) Rural and urban people have different perceptions of the quality of health care.
- (ii) The costs of health care and peoples' perception of quality have differential impact on utilisation of PHC services among rural and urban users(unaffordable costs of seeking care and perceived poor quality of care affects negatively household utilisation of PHC ).

### **3.2.2 Study type and Methods.**

This was a cross-sectional analytical study using data that was collected over the period between December 2002 and February 2003. Four (4) districts, two urban and two rural, were selected. The Four districts in which the study was conducted are Kibaha district, Bagamoyo district which constituted the rural category, and Ilala and Temeke, which represented the urban category. Since certain parts of these districts are primarily in rural/urban or semi-rural/semi-urban setting, the ward boundaries were used to identify those areas which were in urban or rural setting in order to select the households.

The rural- urban selection is based on the assumption that there may be differences in terms of how the users in these two geographical areas are behaving in seeking health care both in

response to their perceived quality, and/or costs of health care. The study employed both quantitative and qualitative data collection techniques.

### **3.2.3 Sampling:**

Samples of twelve (12) health facilities and 826 households were selected using EPINFO(95% confidence interval) and divided into rural(50% of the sample) and urban(50% of the sample).The researcher employed multistage cluster sampling to select the four districts ,facilities and households. Since certain parts of the study were primarily in rural/urban or semi rural/semi urban, the ward boundaries were used to identify and locate appropriate study areas. This was done in respect of the fact that the technique is efficient, and we also wanted to ensure that the sample is representative of the Tanzanian population

### **3.2.4 Data collection techniques.**

#### **Interviews.**

To solicit qualitative data on health seeking behaviour, people's perception of quality and whether costs matter more than quality, semi- structured interviews with heads of households were conducted. Semi-structured questionnaires were designed for this purpose(see appendices). The heads of households were enquired about *inter alia*, their experiences of health service utilisation during the last illness episode and their general perceptions of quality of services in the area. In order to meet the objectives of the study, a sample of 826 households was surveyed.

Information on health seeking behaviour from heads of households was thought to be relevant for the study to conclude whether it is the perceived quality, costs of health care or other factors that are responsible for increased or declining utilisation of health services in the study populations.

Objective measures of quality of health care were looked at such indicators as number of health workers in health facilities in accordance with standards set by the Ministry of Health, and Drug stock-out days . This information was obtained from health facilities.

### **Documentary reviews**

Much of the quantitative data on utilisation rates, drug stock-outs and number of staff in each health facility were extracted from secondary sources, mainly health facility records. In addition to this, some important documents from the offices of District Medical Officers(DMOs) and MoH were consulted. Relevant studies, both published and unpublished were reviewed.

### **3.2.5 Data processing and analysis:**

After data collection, information was entered into EPINFO data base. Consistency and amplitude errors were searched for by the researcher and corrected. The data base was then converted into STATA 6.0 windows for statistical analysis. Both descriptive and regression analyses were performed so as to be able to assess the impact of selected variables on the utilisation of PHC. Included in the ordinal probability logistic regression analysis were three variables namely education levels of the household heads, gender and household size. Income which is conventionally an important variable in determining health care utilisation was not included in the model because the income data collected could not permit comprehensive analysis of how different income levels can have impact on utilisation.

Accordingly, respondents were categorised into two absolute income groups, namely those who earned Tshs. 30,000/= and above and those who earned below this threshold. The decision to set this threshold as previously argued, was based on the fact that respondents were a bit suspicious

to disclose their earning. It was later known in the analysis stage that assessing the impact of income using only two income groups could not provide sensible conclusions as there may be a lot of overlappings within each income group, and these overlapping income groups could exhibit varying responses when it comes to deciding on utilising or not utilising health care. The results of these analyses are presented in chapter three.

## CHAPTER FOUR: RESULTS AND INTERPRETATION

### 4.1 Descriptive findings

#### 4.1.1 Socio-economic and demographic information of the study area.

Geographical pattern of settlement is fast becoming an important characteristic of the socio-economic structure of the Tanzanian society. The study area was a microcosm of the classification of two major settlements in Tanzania, namely rural and urban. Rurality and urbanicity are important source of variation in socio-economic life. It is this factor among others that might have contributed to diversities in the nature of household headship, and associated modes of life between rural and urban areas throughout the history of modern Tanzania.

The study found that in all the households surveyed and the heads of each household interviewed (N=826) only 13.1 percent of households in rural areas are female-headed as compared to 31.2 percent in urban areas. This observation illuminates some divergences from the findings of the Tanzania Household budget survey (HBS, 2000/2001) which showed that apart from Dar es salaam which accounted for 21 percent of female-headed households, it was found that in other urban areas about 28 per cent of all households are female headed. In rural areas it was only 22 per cent.

These divergences can be explained by differences in sample sizes between this study and the HBS. While this study draws sample from only four districts of two regions of Dar es salaam and Coast regions, the regions which are more or less similar in terms of socio-cultural characteristics as they are both geographically located along the coast of Indian ocean, the HBS drew its sample of 22,178 households from all 119 districts in all the regions constituting Mainland Tanzania .

Notwithstanding these differences however, both studies show consistent trends that there are more female-headed households in urban areas than in rural areas.

Though the findings of this study and those of the Household Budget Survey 2000/2001 show some differences there are observed consistency in terms of pattern, trend and the direction of these differences: that is in general there are more male-headed households than female headed ones and in particular, urban areas have many households headed by women than those in rural areas. The differences between the findings of my study and its comparator may partly be explained by reasons related to demographic transitions due to rural-out migration or increased adult mortality due to HIV/AIDS; and partly explained by study design factors in terms of the differences in the sampling strategies employed, and the size of the sample used in each study population.

In terms of household size the study found marked differences between rural and urban areas. While the national mean household size for Tanzania is 4.9 (URT, 2002a) it was found that the majority of household (42.4 per cent) in rural areas had a total number of household members of between five to nine. The mean household size for all units surveyed in rural population was 4.1 with a standard deviation of 1.99254. In urban areas, about 28 percent of all household surveyed was found to have five or more members. The over all mean for all households with members from one to nine members in urban population was 3.5 with standard deviation of 2.1. The table below summarises these demographic information.

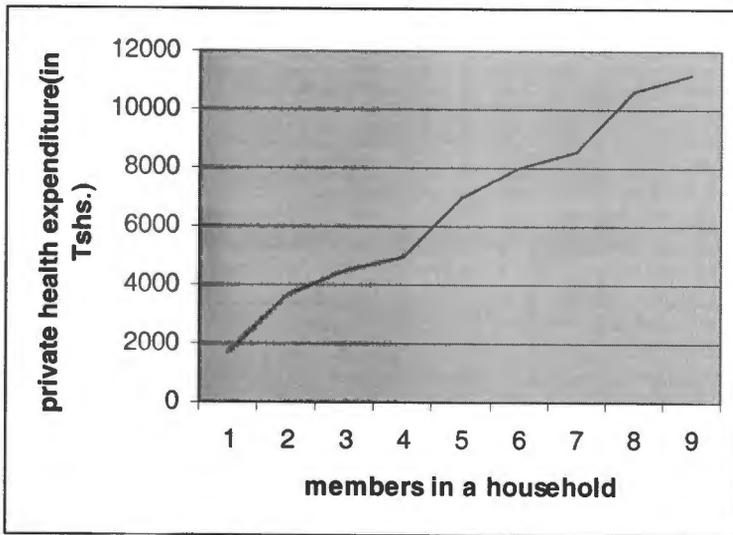
**Table 4. Female headed households (HH) and mean household size between rural and urban populations.**

| Location | % of female-headed HH<br>(N=826) | mean HH<br>size | Standard<br>deviation |
|----------|----------------------------------|-----------------|-----------------------|
| RURAL    | 13.10%                           | 4.10            | 1.99                  |
| URBAN    | 31.20%                           | 3.46            | 2.08                  |

From the above table one can quickly deduce that rural people are more likely to have more household members than urban people. Although the study did not seek to measure the association between household size and utilisation of health services this finding highlights some of the possible implications of the relative size of the household and health care use, a phenomenon which might help us explain some differences in the utilisation of health services. The utilisation results are presented in figure 3.

We also found an relationship between household size and expenditure on malaria treatment especially for those respondents who said to have used private facilities in the last malaria episode. The following figure shows this association.

**Figure 4. Household Size and Expenditure on Malaria treatment in private facilities.**



According to the Tanzanian minister of health, the country spends US\$ 120 million (equivalent to 3.4 per cent of its national income) every year for treatment of malaria. She further noted that each Tanzanian household spends on average some 20 per cent of its income per month for Malaria treatment (The Guardian-Tanzania, 25<sup>th</sup>-March 2003). We attribute much of household expenditure on Malaria treatment to private health facilities because up to now it is only four regions of the country where cost sharing is fully implemented.

#### **4.1.2 Occupation, income, wealth and education levels of respondents.**

As it has been introduced, living in rural or urban areas in Tanzania has a lot to do with people's mode of life and their socio-economic status. Being a rural or an urban dweller may provide a glimpse of the type of economic activities that households are engaged in, their education levels and even their income. In this study we found that socio-economic superiority in terms of levels of education and income is quite marked in urban areas.

Among 141 heads of households who reported to have no formal education in the two studied populations 23 per cent of interviewees in the rural areas reported to have fallen in this category as opposed to only 11.14 per cent in urban areas. Although formal education can not always provide a straight forward measure of literacy it can however give us a rough picture of literacy levels of the society in question. According to Tanzania's Household Budget Survey, the country's national literacy rate is at the rate of 71% (URT, 2002b)

The trend was the same for 129 respondents who admitted to have secondary education and 76 respondents who had post-secondary education . While 13.08 per cent of heads of household interviewed in the urban population reported to have acquired post-secondary education it was only 5.33 per cent for those in the rural areas. The study further observed similar trends for secondary education of the respondents in the two geographical areas. It was found that among all interviewees(n=129) who said they had secondary education the majority were in urban areas(21.07 per cent) as compared to only 10.17 per cent in rural households. For those who said they had primary school education(n=480), the trend was different. We found that about 62 per cent of people living in rural areas had acquired primary education and 55 per cent in urban area reported to have acquired education up to this level. The following table summarises this information.

**Table 5. Education levels of head of household.**

| Level of Education  | % of HHH in Rural | % of HHH in Urban | TOTAL  |
|---------------------|-------------------|-------------------|--------|
| Primary Education   | 61.50%            | 54.72%            | 58.11% |
| Secondary Education | 10.17%            | 21.07%            | 15.62% |
| Post Sec. Education | 5.33%             | 13.08%            | 9.20%  |
| No Formal Education | 23.00%            | 11.14%            | 17.07% |
| TOTAL               | 100%              | 100%              | 100%   |

With regard to occupation of heads of households included in the study it was found that unemployment rate is higher in urban areas than in rural areas with about 28 per cent of the urban respondents reporting to be unemployed as at the time of interview compared to only 19 per cent in rural population.

According to Tanzania's Integrated Labour Force Survey (URT, 2002c), among the currently economically active females 64.4 per cent are employed, 11.2 per cent are unemployed and 21.4 per cent are economically inactive. For males, 71.4 per cent are employed, 9.4 per cent are unemployed and 19.2 per cent are economically inactive.

We also found that rural heads of households are more likely to be confined in peasantry than other occupational activities as more than 30 per cent of the respondents said they were full engaged in small scale farming as at the time of interview. Urban peasantry/farming was reported by about 12 per cent of the interviewees.

Further more, about 24 per cent of all the respondents in urban areas reported to be formally employed in jobs such as teaching, mechanics, nurses and other professional jobs as compared to only about 14 per cent in rural areas. Self-employment was reported to be 36 per cent among urban heads of households as compared to about 35 per cent in rural areas.

As it can be seen here the difference between urban and rural in the aspect of self-employment is not so big probably because of the fact that it has become as difficult to find an employment in rural areas which are disadvantaged in the modern economy as it is in urban areas which before the current wave of reforms and privatisation of the economy, were thought to be capable of providing

formal employment from the industries and other public enterprises which are essentially urban based. Below is a tabular presentation of the occupation status of the interviewees.

**Table 6. Occupation Status of Heads of Household in Rural and Urban populations studied (%)**

| Occupation           | Rural  | Urban  | TOTAL  |
|----------------------|--------|--------|--------|
| 1. Peasant           | 32.45% | 12.35% | 22.40% |
| 2. Formally employed | 13.56% | 23.73% | 18.64% |
| 3. Self-employed     | 34.87% | 36.32% | 35.59% |
| 4. Unemployed        | 19.13% | 27.60% | 23.37% |
| TOTAL                | 100%   | 100%   | 100%   |

The study observed some differences in household ownership of consumer goods which was meant to measure household wealth, and income differences between rural and urban people. Accordingly, it was found that ownership of items such as telephones, Video and Colour TV, was more prevalent in urban areas than in rural areas. Among the respondents who said they own a telephone in the two studied populations, it was only 2.86 per cent in all rural household heads who represented this category while in urban households ownership of this item was represented by 31.24 per cent.

For those interviewees who said they possess electrical items as Video and Colour TV, it was found that 34.5 per cent of respondents in urban areas possess them and they were in working order. It was only 8.53 per cent of rural respondents who reported to have these items.

More over, for those items such as bicycles, radios motor bikes and simple technology agricultural machinery (For example, ox-ploughs) whose use do not require electricity, the study found that rural household heads were more likely to possess them than the urban people. While 43.04 per cent of

respondents in rural areas said they are in possession of an agricultural machine, it was only 1.26 per cent of heads of households in urban areas who gave the same response.

These differences between rural and urban households in terms of the types of items owned with urban people having more electrical items and rural people owning much of the non-electrical items, may be taken as inevitable, given the fact that studies have established evidences regarding limited coverage of electricity grid in rural areas; and limited ability of households in most of the rural areas to afford the costs of electricity, leave alone their inability to buy and maintain them (URT,2002b), and (UNDP, 2000). The following table provide a summary of these findings.

**Table 7. Household Wealth in terms of ownership of selected Items(%)**

| Item                           | Rural  | Urban  |
|--------------------------------|--------|--------|
| 1.Motor bike                   | 32.73% | 18.27% |
| 2.Car                          | 0%     | 4.8%   |
| 3.Bicycle                      | 49.88% | 21.15% |
| 4.Video/Colour TV              | 8.53%  | 34.50% |
| 5.Radio                        | 56.76% | 54.21% |
| 6.Refrigerator/Washing Machine | 22.55% | 19.32% |
| 7.Telephone                    | 2.86%  | 31.24% |
| 8.Agriculture machinery        | 43.04% | 1.26%  |

The findings as seen from the table above show some striking observations. For example, ownership of hitherto electrical items such as a refrigerator is more prevalent in rural areas than in urban areas. This conflicting observation may have been introduced by the inability of our questionnaire to differentiate these items (for example, refrigerators) in terms of the sources of energy to make the items work orderly. It was found that almost all refrigerators owned by rural households were dependent on paraffin oil/kerosene.

Ownership of these household goods may give us an indicator or rather a proxy measure of household wealth. In this regard one may be tempted to conclude that urban people are relatively wealthier than rural people.

In terms of household income, the study sought to tape information in relation to whether income of the head of the household was falling below Tshs.30, 000/= or was equal or greater to Tshs. 30,000/= per month. This threshold was decided based upon respondents' reluctance to provide information on their actual monthly income. We also thought that, based on this income threshold it could be possible to categorise respondents on the basis of those who live on an income of US\$ 0.5 or less a day, as the equivalent of one US\$ dollar at the time of data collection was Tshs. 1000/=. This was done purposely to make the results of this study comparable with other studies of similar nature done in other contexts.

From the foregoing, it was found that the majority (56.76 per cent) of urban respondents had reported an income of Tshs. 30,000/= or more while there was only 48 percent of respondents in rural households who reported to fall in that category. For those who reported to earn an income of less than Tshs30, 000/= a month, the majority (52.12 per cent) were from rural households as compared to 43.24 percent of respondents in the urban category.

From the description of socio-economic status of respondents in the study areas using such indicators as levels of education, ownership of consumables, occupation, income and household headship, one may wish to conclude that geographical location in terms of either being a rural or urban resident, is closely associated with socio-economic status of individuals though not invariably.

### **4.1.3 Knowledge of Malaria**

According to WHO (2002) Malaria is the most important cause of both adult and under five mortalities in Tanzania. For adults, Malaria is second to HIV/AIDS in all adult mortality cases. Tuberculosis is the third. In under fives Malaria is the number one cause of all deaths followed consecutively by Pneumonia and Anaemia.

It is further documented that there are 16million cases and 100,000(24% of all deaths in the country) reported deaths due to malaria, and that between 30-40 per cent of all patients attending hospitals are malaria cases (World Bank, 2000). On the basis of this, we found reasonable to select Malaria as an important disease in looking at households' utilisation of PHC.

In this study respondents were inquired about whether they understood the important symptoms of malaria. The study found that more than 90 per cent of respondents both in rural and urban populations had a full knowledge of the disease in terms of all its common symptoms. For the sake of controlling recall-bias respondents were asked whether they or any member(s) of their household had suffered from malaria in last fourteen days prior to the date of interview. It was found that in the total population sampled (N=826), about 31 per cent of all interviewees reported to have themselves or their relatives living in the same households suffered from Malaria.

Disaggregating the findings into rural-urban categories, among the respondents (n=413) who were interviewed in rural population it was only 24.94 per cent who admitted to have experienced Malaria episodes in their households. In Urban population, it was 36.32 per cent(n=413).The following is the table providing a summary of this observations.

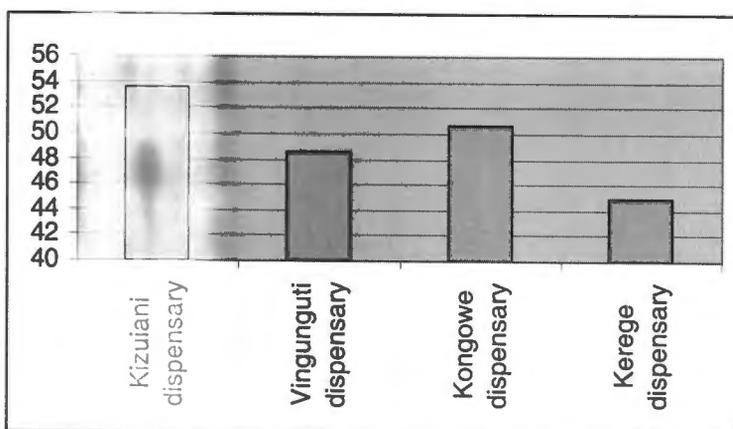
**Table 8. Percentage of households reported to have experienced Malaria episode in the last two weeks.**

| Malaria Status                         | RURAL  | URBAN  | TOTAL  |
|--|--------|--------|--------|
| Had suffered in the last two weeks     | 24.94% | 36.32% | 30.63% |
| Had Not suffered in the last two weeks | 75.06% | 63.68% | 69.37% |
| TOTAL                                  | 100%   | 100%   | 100%   |

Accordingly, the study sought to get some information regarding utilisation of health services by malaria patients from health facilities. Given poor record keeping in most of facilities surveyed, we managed to get only under five utilisation data for only four facilities (two rural and two urban) for the year 2001. Proportions of under five malaria cases reported in four facilities where data was available is depicted in figure 4.

For Kizuiani (Temeke-urban) dispensary it was 53.6 percent and for Vingunguti dispensary (Ilala-Urban) it was 48.5 per cent. Kongowe dispensary (Kibaha-rural) and Kerege dispensary (Bagamoyo-rural) the reported under five malaria cases was 50.7 percent and 45 per cent respectively. The following diagram presents these findings.

**Figure 5. Malaria utilisation from health facility data.**



The data obtained from the facility records could not help us to make any meaningful comparisons between rural and urban utilisation of health services for treatment of malaria. Based on this fact, we can not rely on this information to make generalisation on whether there are significant differences between rural and urban in terms of utilisation of health services. However, the information can in the long run help us answer the 'big picture' questions such as what should be done to reduce under five malaria cases in the country? The study relied much on household survey data to answer specific questions central to the pre-set study objectives.

#### **4.1.4 Household Utilisation of PHC.**

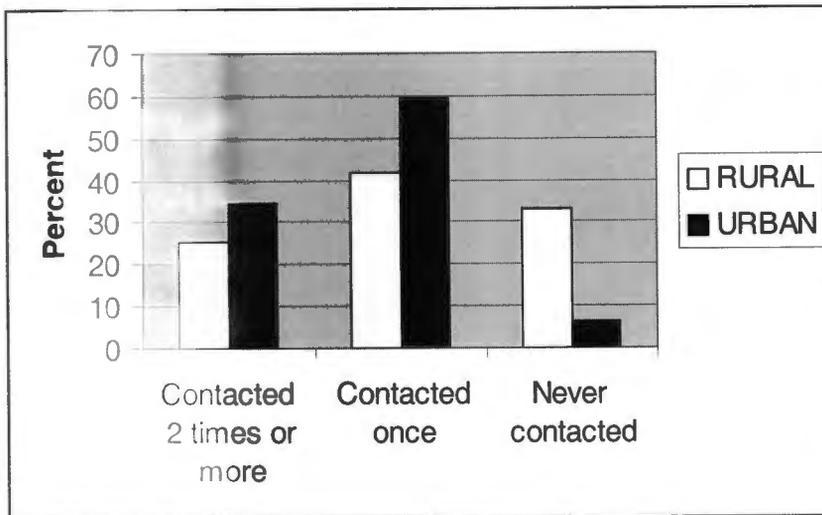
One of the objectives of this study was to see whether there were differences in utilising PHC services between rural and urban areas. Following this, the study sought to establish whether costs or perceived quality of health care may affect the rural and urban people in their decisions to use or not use PHC services in a different way. We looked at utilisation based on the frequency with which the head of household or any member in the household had visited a government health facility.

Among the 253(30.63%) of interviewees both in rural and urban samples who said they had experienced Malaria episodes in their households for the last fourteen days prior to the date of interview, it was only 30.83 per cent of respondents who had contacted a nearby government facility more than two times in their effort to seek Malaria treatment, 52.17 per cent had contacted the facility only once while 17 per cent said they never had attended to the nearby facility to seek treatment.

Probed more as to the reasons for not contacting a government health facility for treatment, majority of them cited differential treatment between those who could afford to pay bribes and those who could not. Others however, pointed out that seeking health care at the available facility in their areas might mean waiting for too long and one might find that the in-charge of the health facility is not around and sometimes one might find that the drugs prescribed by health workers such as nurses are not provided only because the person responsible for the drug store room (in most cases the clinical nurse in-charge of the facility) had not left the key to the store room to his/her juniors when he left the facility.

Breaking down these findings in rural-urban categories, we found that the majority (34.67 per cent) of urban households are more likely to visit the government facility more frequently than rural households(25.24 per cent).The majority of rural households(33.01) however, were found to be more likely to opt for 'no need' to contact the government health facility as compared to only 6 per cent of urban households. This observed difference between rural and urban households in terms of visiting a government health facility may probably be explained by the socio-economic differences of the characteristics of rural and urban households in terms of education, occupation, levels of wealth and income of the respondents( see tables 3,4 and 5).Accordingly, the findings shows that urban people are more socio-economically better off than urban people a reason that can help this study's conclusions that socio-economic status of the head of the household can determine household utilisation of health services. Again the differences in morbidity caused by malaria may also give an explanation of why there are observed differences in utilisation of health services between rural and urban areas.(see table 6) The study also found some marked differences between rural(41.75 per cent) and urban(59.33 per cent) of those who contacted the facility only once. The figure bellow presents the results diagrammatically.

**Figure 6. Frequency of contacting government health facility between Rural and Urban households (proportions).**



The above presentation may help us to establish a possible link between ones place of residence (whether rural or urban) and use or non-use of government health facilities for day to day needs of health care. For we may want to perceive urban households as socio-economically better off when ownership of consumables and levels of education are taken into consideration, it is probable that the higher prevalence of frequent use of government health facilities by urban households may be explained by three reasons.

Partly, this tendency may be due to relatively higher levels of education acquired by urban heads of households as compared to most of those living in rural areas. Accordingly, we may be tempted to argue that educated people are more likely to perceive malaria as a serious health hazard than those without education. As it has been shown previously (See table3) urban heads of households had exhibited better education levels than rural heads.

Again, the observed tendency may be due to their possible ability to meet all the necessary official costs and unofficial costs such as bribes. As it has earlier on argued in this report, household ownership of consumables such as electrical items is a proxy measure of how wealthy it is or it is not. We thought that being wealthy, makes it possible for households to easily cope with such uncertain events as Malaria episodes as they can mortgage the items they have to ensure they get treatment.

More over, the observed phenomenon may be explained by existing different Malaria morbidity rates between urban households and rural households (see table 6) as we found that more people in urban households are more likely to suffer from Malaria than those in rural households.

It was interestingly found that 17 per cent(see table 6) of those households that reported to have experienced Malaria episodes both in rural and urban areas had never contacted a government health facility for treatment. Breaking this into rural-urban picture, 33.01 percent(n=103) in rural and 6 per cent(n=150) in urban did not use the nearby government health facility. This finding adds support to the emerging theme of the study that, those who need care may not necessarily use it even though it may be available and accessible.

#### **4.1.5 Reasons for not using nearby government health facilities**

The study presents a small number of respondents among those who reported to have suffered from malaria and who never had contacted a nearby government health facility(see table 6). We think that this small number could not give us rich information when the need of asking “ why one did not use” arise. Because of this, we dealt with prospective users of health facilities(n=573): those who reported to have not suffered from Malaria in the last two weeks prior to the interview.

The respondents were asked whether they will use any nearby government health facility if they would have been attacked by Malaria in the near future.

Out of all 573 respondents who were asked this question in the two studied samples 53% said they would go to a nearby government health facility if attacked by Malaria in a near future and about 47 per cent said they would not have gone to seek malaria treatment in a government facility even if attacked by the disease in the near future.

Broken down into rural-urban categories it was learnt that more than 40 per cent of interviewees in rural households found government health facilities as an option for malaria treatment as opposed to 57.41 per cent in urban households. About 47 per cent of the respondents in the studied households said they would not have gone to the nearby government health facility as an option to seek Malaria treatment. Following is the tabular presentation of these findings.

**Table 9. Proportions of those who will opt for government health facility if attacked by Malaria.**

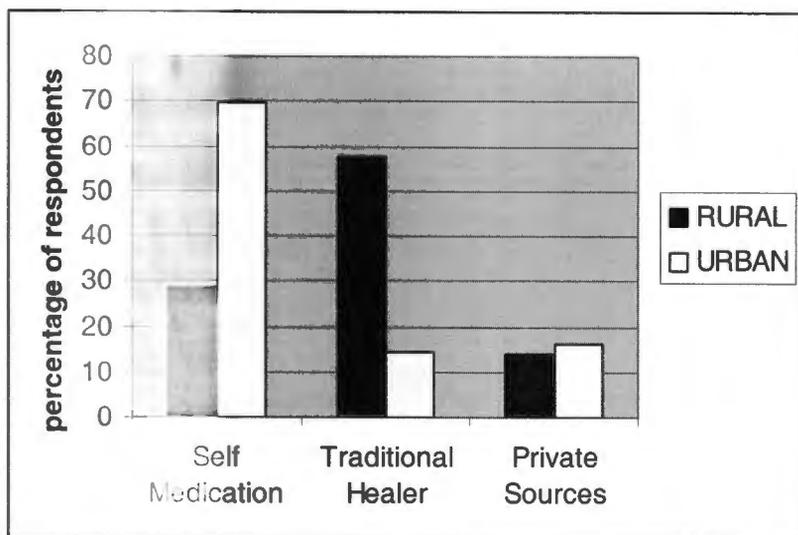
| Will you go? | RURAL  | URBAN  | TOTAL  |
|--------------|--------|--------|--------|
| Yes          | 49.35% | 57.41% | 53.52% |
| No           | 50.65% | 42.59% | 46.48% |
| TOTAL        | 100%   | 100%   | 100%   |

#### **4.1.6 Sources of Malaria treatment among Non-users of government facilities.**

Among the interviewees (n=157) who responded to this question in rural households, about 29 per cent of them had self medication as a preference to going to nearby government health facility, 57 per cent said they would rather go to traditional healers than going to the available health facility and only 14 per cent had private health facility services as an option.

In urban households on the contrary, out of 112 respondents who provided answers to the question asked more 60 per cent found self medication as an option. This could perhaps be due to the vast infrastructure of drug shops and private pharmacies and clinics which are more prevalent in urban areas than in rural areas .We further found that 14 per cent and 16.07 per cent of respondents in urban households had traditional healers and private sources of medical care as their options respectively. The following figure presents the findings diagrammatically.

**Figure7. Sources of Malaria treatment among non-users of government facilities.**



Respondents were then further asked to give reasons that led to their decision not to use government health facilities for treatment of malaria. Though we acknowledge the fact that utilisation of health care is a function of a complex set of factors(Becker et al 1993) our interest was to determine the extent to which health care costs(money prices) and perceived quality of care(in terms of availability of drugs, staff attitude/relationship with patients and cleanliness of the health facility) are important in household decision making to seeking medical care in government facilities.

Accordingly, it was found that a large proportion (52.87 percent) of respondents in rural households did not go for care in a nearby government facility because they could not afford the costs related to consulting health workers and purchasing drugs. This is an interesting finding because according to the discussions we held with health research coordinators at the DMO's offices in the surveyed areas it came to be known that cost sharing in PHC (in village health posts, dispensaries and health centres) was not implemented countrywide up to this current phase (phase iv) of policy implementation.

To date when the cost sharing policy is in phase IV, it is only four regions of Dar- es- salaam, Tanga , Kagera and Mbeya where the policy is operational<sup>4</sup>. According to Ilomo (1995) cost sharing for all health services including PHC started to be implemented in district hospitals in the third phase of the policy which took off effective from July 1997.

The large proportion of respondents who said lack of money to buy drugs was the reasons for them not seeking care in the rural households of our study (which are not in the phase four implementation as they are in Coast region) may perhaps be due to unofficial costs such as bribes that patients are subjected to when seeking care in government facilities, or their lack of knowledge on whether they are supposed to pay for PHC services or not.

In urban households however, lack of money was cited to be a problem by only 29.46 per cent of the respondents. For those who said poor services provided at the facility was the reason for not using health services, it was about 47 per cent in rural and about 71 per cent in urban households.

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<sup>4</sup> Personal communication

This study could not find the objective measures of quality of care in alternative sources such as the private sector so as to use it to compare with the public sector. However, according to a recent study in Tanzania (see for example, Sahn et al 2002) it was found that raising the quality of doctor care from low to high increases utilisation of health care more in the private sector than in the public option. The study found further that improving the quality of drugs availability at public clinics from low to high improves the probability of choosing care at public facility by 0.11, mostly as a result of a decline in demand in the private sector.

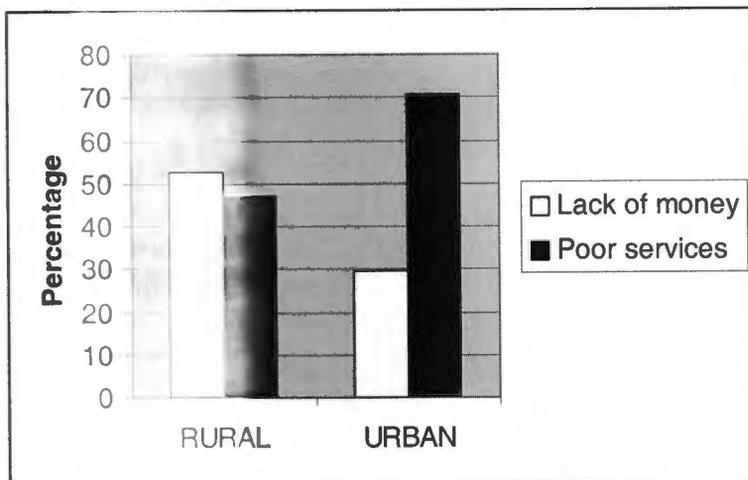
Again one study by Mackintosh and Tibandege (2000) has demonstrated that most of private for profit facilities are facing severe financial constraint and in most cases they struggle to remain in the market. Because they want to accrue profits mainly from charges for tests and drugs, most of them are faced by dangerous incentives to slide into a lethal mix of using unqualified staff, over prescribing drugs of doubtful provenance, prescribing inappropriate drugs on the basis of faked diagnosis and staff reluctance to refer when problems are beyond staff competence (Mackintosh and Tibandege, 2000).

Based on this finding, one can argue that some users reluctance to use public facilities and instead use other options as private facilities may not be due to high quality of care measured objective measures as availability of drugs or staff competence, but it may largely be explained by their subjective perceptions of quality.

When a t-test was conducted for two sample (rural and urban) regarding to whether lack of money or poor services was important in deciding to use or not use government health facility, we found a

very significant difference ( $P < 0.001$ ) between rural and urban households in terms of how these two factors are independently important in influencing household decisions to use PHC. The figure below summarises these descriptive findings.

**Figure 8. Reasons for not using nearby government facility between proportions of rural and urban household heads.**



To explore further on the utilisation of PHC services respondents both in rural and urban households were asked to indicate whether there was a time in the last illness episode (Malaria related) when they or any member of the household wanted treatment but delayed seeking it. It is widely acknowledged that if treatment of any sickness is sought promptly after the onset of the basic symptoms, chances are that the costs of managing the illness is reduced and hence the costs-effectiveness of managing it increases.

The vice versa of the above conclusion is true given the situation when treatment is delayed for whatever reasons. More over households may incur both financial and economic losses due to time off work to seek hospital care for themselves or other members of the household, and the household (if it is poor) may even further be exposed to the possibility of being trapped into vicious circle of poverty and illness or what Chambers (1997) called "the Ratchet effect".

For those who delayed seeking care, a question was asked whether it is lack of trust on quality of care or they were worried about the costs of care. Operationally, delaying seeking care was taken to mean those who stayed for between 1 to 3 days and those who waited for a week after the onset of the illness before seeking treatment.

Among those who delayed seeking care for between one and three days, it was only 34.95 per cent of rural respondents as compared to 65.33 percent of interviewees in urban households. More over, about 50 per cent of rural households had sought care after a week following the onset of all important symptoms of Malaria. In urban households, it was found that only 14 per cent of respondents had delayed seeking care for a period of one week. The following table presents a summary of these findings.

**Table 10. Proportions of households who reported to have delayed seeking malaria treatment.**

| Time after onset of illness to seeking care | RURAL   | URBAN  | TOTAL  |
|---|---------|--------|--------|
| Less than a day                             | 15.53%  | 20.67% | 18.58% |
| 1 to 3 days*                                | 34.95%  | 65.33% | 52.96% |
| A week*                                     | 49.51%) | 14.00% | 28.46% |
| TOTAL                                       | 100%    | 100%   | 100%   |

Note: \* represents "delaying care"

Respondents were further asked on the reasons for their delaying treatment: whether it was lack of money to meet health care costs or they might have perceived the health care provided at the government health facility as of low quality. It was found that about 55 per cent of household heads among the rural respondents said lack of money to meet the health care costs was the main reasons for them to delay treatment, while it was about 33.30 per cent of respondents in the urban households who indicated lack of money to be a determining factor in delaying seeking care .

It was found further that more urban respondents were sensitive to quality than rural respondents as about 65 per cent of heads of households in urban population said lack of trust on quality of services provided at the government facility was the major reason which made them to wait and see if the illness would have turned serious before contacting a health facility. Among rural household it was only about 45 per cent of respondents who were worried about quality concerns.

**Table 11. Pearson Chi-Squared test\* for the association between rural/urban and sensitivity to quality and costs of health care services (in relation to attending government facilities)**

| Reason                   | Rural  | Urban  | Total |
|--------------------------|--------|--------|-------|
| Lack of money            | 71.55% | 28.45% | 100%  |
| Lack of trust in quality | 48.37% | 51.63% | 100%  |

\*PearsonChi2(1) =14.5957., P<0.05

A Pearson-Chi squared-test was conducted and the results shows a significant association( $P<0.05$ ) between being a rural/urban household head and the extent to which costs of health care and perceived quality are important in determining households' decisions to use government health facilities. Results of the test are depicted in table 11. This finding confirms the explanation advanced previously based on the descriptive statistics (see also figure 5).

**Figure 9: Reasons for delaying seeking treatment**

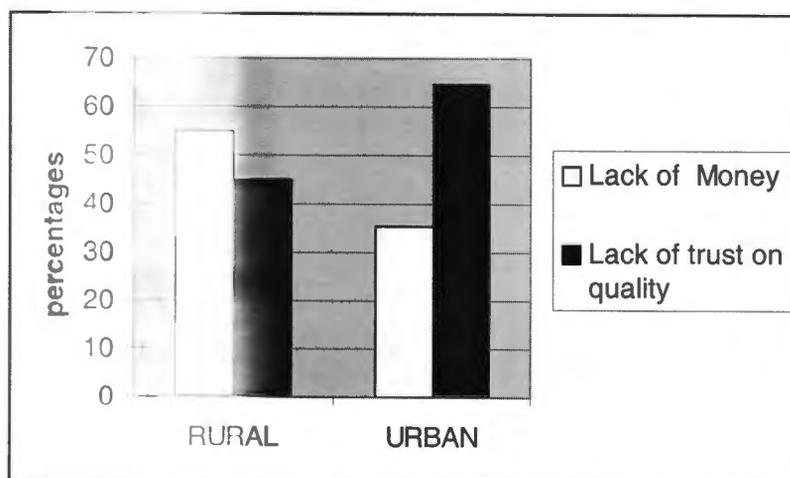


Figure 8 shows that there is a close association between household location and the extent to which costs and perceived quality of health care are important in utilising health care services. As it is shown, rural people are more influenced by costs than urban people but they are less sensitive to quality concerns. This phenomenon may help us to explain why there are observed utilisation differences in terms frequencies of utilising (and delaying treatment) government facility for malaria treatment between rural and urban households.

#### **4.1.7 Perception of quality of health services in relation to utilisation.**

Except for the quality aspect of staff attitude/relationship with patients there were significant differences ( $P < 0.05$ ) between rural and urban respondents when their perception of quality in terms drug availability and staff cleanliness were ranked as 'good' poor or fair. Quality of services measured based on drug availability showed that 69 per cent of respondents in urban households ranked this aspect as good compared to only 21 per cent in rural households.

The researcher also visited health facilities to collect information on the objective measures of quality such as the availability of staff and drugs to be able to confirm what was provided by respondents in the household survey. At least for six(6) dispensaries for which this information was consistently properly kept for the years 2001 and 2002, no health facility was found to have shortage of required staff.

Staff requirements are determined by the type of services the dispensary offers. For non-bedded dispensary the health workers required are two Clinical Officers(CO), one Public Health Nurse

(PHN), one Nurse Attendant(NA) and one security guard ; For a bedded dispensary on the other hand the requirements are: three COs, three PHNs, one NA and a security guard<sup>5</sup>.

Although some respondents in the household surveys ranked drug availability as an important aspect of quality to be poor, facility records reviewed in all facilities for which data was available showed zero-drug stock out days for the years 2001/2002. The ranking of these interviewees may help us explain the problems related to administering the Kit system of supplying drugs to be used in health facilities around the country.

It came to be known that there is lack of 'decision making flexibility'<sup>6</sup> regarding when is it appropriate to open the drugs kit. According to the regulations regarding the administration of drugs in dispensaries the kits are supposed to be open at the beginning of each month regardless of the fact that contexts may demand they be opened even at the middle of the month. This calls for something to be done to ensure that quality of services measured in terms of timely availability of drugs do not fall victim of the ongoing HSR in the country.

Proportionately in terms of staff attitude and their relationships with patients as another aspect of quality, the study found that 33.01 per cent of rural respondents rated this aspect as good, about 50 per cent and 17 percent ranked it as fair and poor respectively. For urban respondents on the other hand, 25 per cent said quality of health care in terms of attitude of staff and their relationships with patients was good while 50 per cent ranked it as fair and about 25 per cent ranked it a spoor.

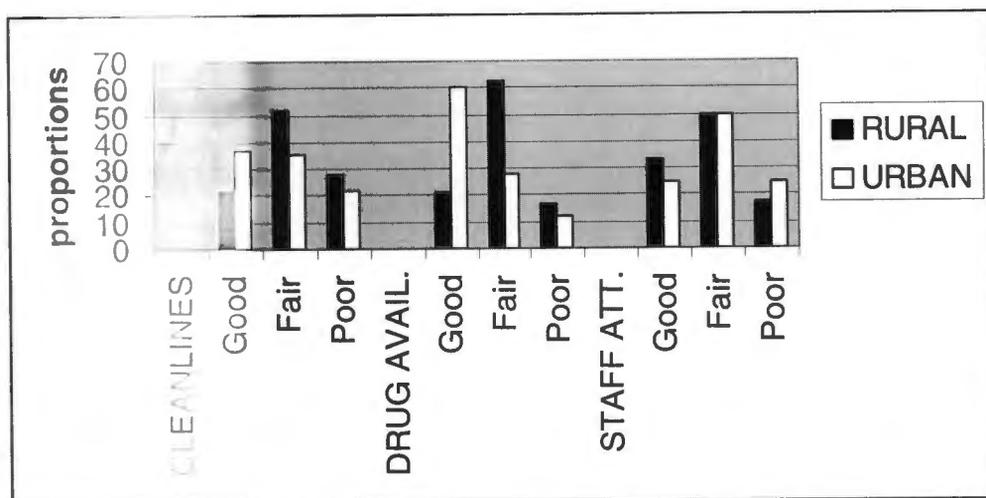
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<sup>5</sup> Personal communication with officers at the DMO's offices in the four districts where data was collected

<sup>6</sup> Personal communication with clinical officers In-charge of the facilities visited

For cleanliness as can be seen in figure 7 below, it was found that 22 per cent of respondents in rural households ranked this aspect as good compared to 36.67 percent of urban interviewees. Among those who ranked cleanliness of facility as fair(adequate), 52 per cent was from the rural households while 35.33 was from households in the urban sample. Accordingly, 28 per cent of rural respondents ranked it as poor as compared to 22 per cent of urban interviewees. The following figure presents a summarised presentation of these findings.

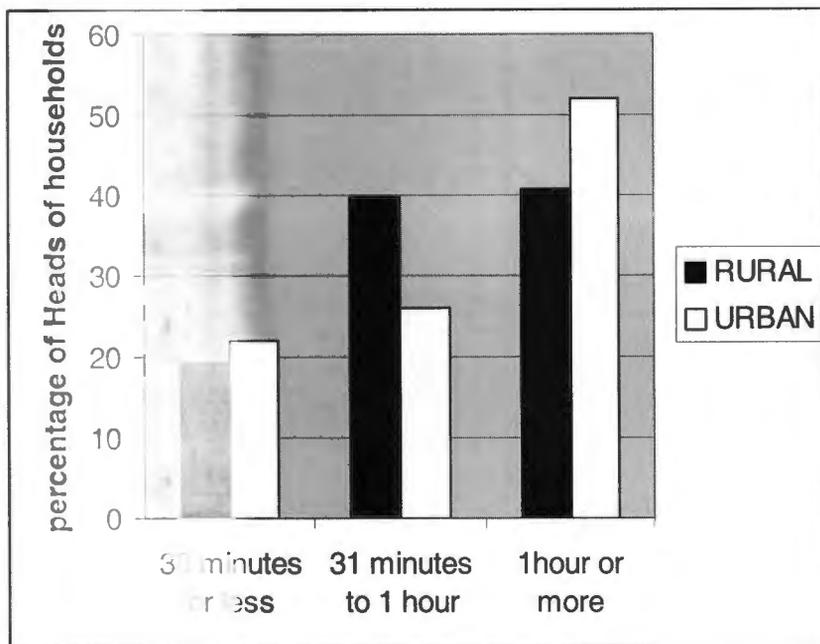
**Figure 10. Proportions of respondents and their Perceptions of Quality of health services**



**4.1.8 Waiting time and its impact on utilisation of services.**

Waiting time at the health facility was not found to be a significant factor ( $P > 0.05$ ) in determining differential utilisation of health services between rural and urban areas of the study. This was so because more than 70 percent of respondents both in rural and urban households reported to have spent an average of between 31 minutes to one hour or more at the facility waiting to be seen by the health worker. figure 10 elaborates more about this finding

**Figure 11. Time spent at the government facility waiting to be attended by the health worker.**



Though the proportions may paint a picture illuminating differences in the extent to which waiting time may be a non-financial barrier to utilisation of services, a statistical t-test for two samples was conducted and no significant differences ( $P > 0.05$ ) were found in terms of amount of time rural and urban respondents spend waiting for care. To this end, it is reasonable to make a contention that any observed differences in utilising health services between rural and urban households can not be attributed to waiting times at the facility. Other attributes such as lack of money, perceived poor staff attitude or unavailability of drugs can better explain this phenomenon.

#### **4.2 Regression results of the influence of selected socio-economic variables on utilisation of health services.**

Though this study was centrally designed to assess the influence of costs and perceived quality of care on utilisation of PHC, it was later became important to also look at the mediating effect of

socio-economic characteristics on utilisation of health services. The dichotomous use of PHC and some selected socio-economic characteristics of heads of households was further analysed using an ordinal probability logistic regression technique.

The use of the ordinal probit model is necessitated by the nature of the dependent variable “frequency of utilisation”. The variable “frequency of utilisation” has three categories:

- ‘1’ for those who did not visit any health care facility when sick
- ‘2’ for those who visited a health facility once
- ‘3’ for those who visited twice or more.

Although the variables are measured in terms of increasing intensity, the distance between one category and the next is not the same. The most appropriate model to use therefore is the ordered probit model. The probit model is used in econometric estimation where the dependent variable has a finite number of outcomes, and is measured in strictly an ascending/descending order, where the distance between one category and the next is not necessarily the same, or cannot be quantified numerically. Table 12 below presents the regression analysis results in summary.

**Table 12. Output of Ordinal Probit Model: Impact of selected variables on utilisation**

| Frequency of visits  | Coefficients | Standard Error | Z-values               | P-values |
|--|--------------|----------------|------------------------|----------|
| No formal education  | -2.468509    | 0.3897371      | -6.334                 | P<0.05   |
| Secondary education  | 2.559753     | 0.3095524      | 8.269                  | P<0.05   |
| Post secondary education   | 2.288116     | 0.4102115      | 5.578                  | P<0.05   |
| Gender   | -0.7770961   | 0.3185398      | -2.440                 | P<0.05   |
| Household size   | -0.1680806   | 0.0466784      | -3.601                 | P<0.05   |
| _Cut 1   | -2.728933    | 0.4025212      | (Ancillary parameters) |          |
| _Cut 2   | -0.3510038   | 0.3986395      |                        |          |
| Number of obs=293, LR Chi2(5)=284.11, Prob>Chi 2=0.0000, Pseudo R2 =0.5541 |              |                |                        |          |

The result of the ordered probit model shows clearly people are likely to visit a health care facility more often with increases in educational levels. The results shows that as people become more educated ("no education to primary education"... "Secondary to post-secondary"), they will utilise a health care facility more often when they are sick. The variable 'gender' has a negative sign, which means that females visit health care facilities more often than males when they are sick (Gender = 1 for males; Gender = 2 for females).

Household size also has a negative sign, which implies that households with more members are likely to visit a health care facility less frequently than households with fewer members. The values for '\_cut 1' and '\_cut 2' represent the threshold values of the unobserved dependent variable. These are the points after which individuals decide to visit a health facility once, or visit a health facility twice or more, respectively. The coefficients of the variables are all statistically significant at the 5% level. The chi2 value of 0.000 indicates the 'goodness of fit' of the model and it also tells us that there is a statistically significant association between the selected variables and utilisation of PHC.

Income was however not included in the model due to income data's lack of compatibility with the requirements of the model. During data collection exercise, respondents were inquired on whether they fall on two categories: Tshs 30,000/= and above or below this amount. It later became important and thereby noted that there may be a lot of differences in a number of income categories below or above the set threshold, the differences which could not have been captured by way in which the question was designed. So far, the descriptive analysis has shown that income is an important determinant of health care utilisation.

To be specific with each independent variable selected, it is observed that the relationship with utilisation of health care services is in the study's expected direction. Gender of the head of household for example, is found to be statistically significant determinant ( $P < 0.05$ ) of health care utilisation. As it has been pointed out earlier, female headed households are more likely to use health care services more often than male headed ones.

Earlier on in this study, it was shown that urban people utilise health care more often than rural households and that there are more female headed households in urban areas than in rural areas. This might perhaps be explained by the fact that households as governance structures in Tanzania may be gender biased to the extent that men and women play different roles in the household health care production, with women devoting much more resources going to producing household health care. These resources may be in form of *inter alia*, opportunity costs of time borne by women to take care and seek care for the sick household members.

This observation is also in line with a widely shared view that, women in developing countries not only carry a double burden of poverty and ill-health but also endure much of the corresponding consequences of ill health and poverty for themselves and other members in poor households. The observation can further be used to confirm that apart from the impact of perceived quality and costs, the differences in utilisation between rural and urban areas can also be explained by such variables such as gender especially in terms of household headship..

Education levels of heads of households are also shown to be statistically significant ( $P < 0.05$ ) determinant of utilisation of health care services. The regression model highlights that at a 95%

confidence interval, low levels of formal education reduces chances of utilising health care. Further more, it is shown that heads of households who have secondary or post secondary education are more likely to frequently use health care services than those without this level of education. Primary education was dropped by the model due to collinearity with secondary education. There was no collinearity between other independent variables. It can be deduced from here that, with increased levels of education there has been observed possibilities that utilisation of health services will go up. Education equips users with relevant tools to effectively evaluate the important aspects of quality and can even positively shape the users perception of severity of sickness and their perception of care.

The model further highlights the importance of household size as a statistically significant variable ( $P < 0.05$ ) in determining household utilisation of health services. It is pointed out that the smaller the household size, the more are the chances to make more use of health care services. This may perhaps be explained by Becker's (1965) 'budget constraint hypothesis'. According to this view, other household expenditure and consumption needs may take precedence over health care needs when resource allocation decisions are to be made in a poor household with many non-income earning members

At this point, one can concussively say that costs and perceived quality of health care are important determinant of household health care utilisation decisions. Their impact however, become equally strong when they are mitigated by other household socio-economic variables as it has been shown in the descriptive and regression analyses.

## CHAPTER FIVE: DISCUSSION OF RESULTS

### 5.1 Introduction

This study seeks to explore and describe the importance of costs and perceived quality of care on utilisation of PHC. It also aims at sorting out whether there are differences between rural and urban households in terms of how costs and their perception of quality affect their decision to utilise health care. Acknowledging the fact that perception of quality and costs are not the sole determinant of health care utilisation, some socio-economic characteristics of the heads of households were looked at so as to be able to stage a description of their influence on, and or their association with household decisions to (or not to) use care.

### 5.2 Perceived quality and utilisation of PHC services

To explore the possibility users' perception of quality as being responsible for increased or decreased utilisation of health care both in rural and urban areas, a descriptive analysis of data was performed and it gave some statistically significant results in terms of how rural and urban households respond to these factors in relation to their decisions to use care. In accordance with the analysis, the study highlights that perceived quality of health care services is a strong determinant of health care utilisation and it has a differential impact on utilisation of health services when rural and urban users are compared. We conducted a t-test for two samples (rural and urban) and the results show that there is a statistically significant differences ( $P < 0.05$ ) in terms of how perceived quality of care impact differently between rural and urban users.

While poor quality services is cited to be a reason among 47 per cent of rural respondents, the majority of urban households (71 per cent) indicated that poor services provided at the government

health facilities was the reason for not using health care services. The study further shows that urban households utilise health services more than rural ones. When utilisation is looked at in terms of frequency with which a household contacts a nearby government health facility, the study findings indicate that the majority(34.7 per cent) of urban respondents are more likely to seek services at a nearby health facility than rural households. The majority of rural households(33 per cent) seems to be more likely to opt for no care than urban households(6 per cent).

In terms of delaying seeking care as another criterion the study uses to assess utilisation, the findings illuminate more or less similar trends as those exhibited by frequency of using care. Accordingly, the study shows that the majority of respondents in urban households(65 per cent) are more responsive to quality concerns of health care services than those in rural households(45 per cent). A test of association namely, Pearson-Chi squared-test supports our earlier hypothesis that perceived quality of care has a differential impact on utilisation of health care services between rural and urban users. The tests shows statistically significant( $P < 0.05$ ) association between been a rural or urban dweller and how one's decision to delay seeking care in the nearby government health facility is affected by quality concerns.

An interpretation that can be deduced from this finding is that perceived quality of care may increase demand for and eventually utilisation of health care services. It is shown that in terms of frequency in using care, urban households use health care more frequently than rural ones; and lack of money is not as important as perceived quality not only in relation to frequency in using nearby health facilities, but also to their delaying seeking care.

This may probably be explained by not only low levels of education that may hamper rural peoples access to information necessary to assess the quality of services, but also different malaria morbidity patterns between rural and urban areas. The findings further suggest that different malaria morbidity patterns between rural and urban dwellers is also partly responsible for the observed differences in utilisation of government health services looked at both in terms of delaying and frequency of using care. Accordingly, the study shows that it is only 24 percent of rural respondents who reported to have experienced malaria episode fourteen days prior to the date of interview as compared to about 36 percent of urban respondents(see table 6)

Further more, the preceding finding may further be explained by the fact that rural households are socio-economically inferior as compared to the urban ones .Low levels of education, income and little ownership of consumables reflects this socio-economic inferiority. Because of these factors, it may be argued that the observed under utilisation of PHC services among the rural households as compared to urban users is due to their inability to meet both official costs such as consultation fees and unofficial costs such as bribes, which was cited to be one of reasons for not seeking care as there are differential treatment among health services' users with those who can not afford unofficial fees been more disadvantaged .

Low education levels exhibited by the majority of rural heads of households may amount to lack of sufficient and necessary capacities required to provide an appropriate definition of quality of health care and may even contribute to failure of households to effectively evaluate the severity of illness and when to contact a health worker for prompt treatment.

According to the findings of this study, it is highlighted that more than 20 per cent of rural interviewees have no formal education as compared to only 11 per cent in urban respondents. Moreover, the study indicates that about 5 per cent of interviewed respondents in rural areas have reported to have not acquired post-secondary education as compared to 13 per cent of respondents in urban heads of households. In addition to this, about 21 per cent of urban interviewees said they had secondary education while it was only 10 per cent in rural households.

In equating quality of health care and its influence on utilisation the study acknowledges the weak link in the analysis of data as we do not have any objective measure of what respondents viewed as 'poor', 'fair/adequate' or 'good' quality. While the findings on quality are of great interest, their value in terms of providing policy guidance is limited since we can not determine the prices of quality improvements that are required to enhance increased utilisation of PHC services both in rural and urban areas.

### **5.3 Monetary and opportunity costs of waiting time on utilisation of health services**

In connection with low education levels that may impact on users ability to effectively evaluate the quality of care, much of the surveys in developing countries (See for example, Leighton 1995, Litvack and Bodart 1993, Becker et al 1993) have shown that rural peoples' lack of capacity to pay for *inter alia* medicines, is one of the major reasons for delaying and or not seeking treatment.

The above observation is supported by the findings of this study, which indicates that as compared to urban households the proportion of rural households delaying seeking malaria treatment (herein referred to as socio-economically inferior to urban ones) was found to be higher than that of urban households. Though the difference between rural and urban in terms of delaying care was not

statistically significant ( $P > 0.05$ ) it was proportionately found that 50 per cent of rural households stayed for a week before seeking care as compared to only 14 per cent in urban households.

On reasons which were attributed to delaying seeking malaria treatment the study shows a statistically significant difference ( $P < 0.05$ ) in terms of how lack of money affects rural and urban users differently. Proportionately, 55 per cent of rural households cited money to be a major problem as compared to only 33 per cent in urban households.

Furthermore, this study demonstrates that waiting time at the facility has an important bearing on differentiated utilisation of health care between rural and urban households. This is consistent with the finding in such studies as Aday and Anderson (1984). Though these scholars did not intend to assess rural urban differences, they attempted to show to what extent opportunity costs of time may be important in affecting peoples decision making in utilising health care. Our findings demonstrate that the majority of rural households spend much more time at the facility while waiting to be attended than urban users of health services.

The above phenomenon may discourage users of health services in the rural areas to the extent that we may be tempted to attribute waiting time to the observed health care utilisation differences between rural and urban users of government health services. Though the study findings do not show statistically significant differences ( $P > 0.05$ ) in relation to the influence of waiting time on differential utilisation between rural and urban users, it is proportionately shown that rural households spend more time waiting for care than urban households.

Accordingly, it is indicated that more than 50 per cent of rural users had spent an hour or more at the government health facility waiting to be attended during the last malaria episode as

compared to about 40 per cent in rural households(see figure 6 ).This shows that, though waiting time is not a significant determinant of health care utilisation as has been shown by the findings of this study, it may partially explain the observed divergent utilisation trends between rural and urban users, with urban households utilising health care more than the rural ones.

In a nutshell the study shows that opportunity cost of time lost when patients wait for care at the facility and monetary costs such as those related to consultation fees and purchasing of drugs affect utilisation of services much more for rural than urban households. It can be deduced from this observation that if cost is a barrier to PHC use, one direct effect is that the cost effectiveness of interventions such as the Tanzania Malaria Control Programme(MCP) will be reduced and the costs of Malaria intervention will in the long run increase. According to Hjortsberg and Mwikisa (2002) reduced effectiveness of health care interventions is attributed to among other things, existing barriers that prevent consumers from using health care.

These observations further imply that policies such as user fees and subsidies/exemptions may have a much greater impact on utilisation of PHC among users in rural households than those in urban households because rural households are more responsive to cost of health care than the urban ones. As it has been shown by the findings of this study, the urban households are more socio economically better off than the rural counterpart in terms of income levels, education levels and wealth. Even when we compare the urban and the rural poor, the World Health Organisation (WHO,2000) has pointed out that in almost all developing countries poor urban dwellers have better access of health care than much of the rural population.

It is on the basis of the above revelation that all health policies related to the improvement of provision and financing of health care should be designed and implemented in a way that acknowledges that there are even potential differences in access to and utilisation of health services even within otherwise homogeneous groups as 'poor households'.

In terms of the impact of peoples perception of quality on utilisation, the findings of this study gives us reasons to conclude that drug availability is an important predictor of quality of health care. In terms of perceiving it to be 'good', there were significant differences ( $P < 0.05$ ) between rural and urban respondents. Proportionately it was reported that 69 per cent of urban respondents have ranked this aspect of quality to be good as compared to only 21 per cent in rural households. This tendency may also help us to explain why there are differences in utilisation of PHC services between rural and urban areas of the study.

From the foregoing it is reasonable to argue that maintaining a reliable supply of drugs and make sure that they are affordable in those areas where cost sharing of PHC services has started to be implemented, is critical to the success of the country's health policy in its effort to assure equity in utilisation of PHC services. As it has been shown by a number of studies in developing countries (see for example, Leighton 1995, Mwabu et al 1993, Litvack and Bodart 1993, Waddington and Enyimayew 1990), people tend to use health services as they are rest assured that tangible products such as drugs will be available.

From this discussion one can deduce that demand factors are as important as supply factors in as far as utilisation of health services is concerned. While costs and users perception of quality were isolated to influence utilisation, household socio-economic characteristics such as income,

education, gender and household size were analysed and seen to be associated with household increased or decreased utilisation of services.

#### **5.4 Socio-economic characteristics of households and utilisation of health services**

The differences between rural and urban households in terms of visiting a government health facility may probably be explained by the socio-economic differences of the characteristics of rural and urban households. Accordingly, the findings shows that urban people are more socio-economically better off than rural people, a reason that can help this study's conclusions that socio-economic status of the head of the household can determine household utilisation of health services. As it has been shown earlier on, urban households utilise more health care than rural households.

In terms of socio-economic status measured by levels of income and wealth between rural and urban interviewees, the study shows that the majority (57 per cent) of urban respondents had reported to be earning an income of Tshs 30,000/= or more as compared to 48 per cent of rural household heads. Ownership of consumables which is a proxy measure of wealth (see URT, 2002b) draws a similar picture with urban households exhibiting superiority over the rural households. The study found that urban households are more likely to own more electrical goods than rural people. While it is only 8.53 per cent of rural households who reported to have ownership a Video colour TV, about 35 per cent of respondents in the urban households who reported to have ownership of these items in working order as at the time of interview.

The study indicates some striking observations with regard to ownership of hitherto electrical items such as a refrigerator. The study shows that 22.55 per cent of respondents in rural households

owned refrigerators that were in working order as compared to 19.32 per cent in urban households. The Tanzania Household budget Survey (URT, 2002b) and UNDP (2000) have established that it is inevitable for one to expect that more electrical items are owned by urban people than by rural dwellers given the evidences regarding the limited coverage of electricity grid in rural areas and the limited ability of most of rural households of not only being able to afford the costs of electricity in places where the grid is passing, but also their limited financial capability to buy and maintain otherwise luxury electrical items.

It is therefore imperative to indicate at this juncture that the conflicting observation regarding ownership of electrical items (for example, refrigerators) where rural households tend to outshine the urban ones, may have been introduced by the inability of our questionnaire to appropriately capture the required information taking into account that for a refrigerator to be in working order it can be dependent on electricity or kerosene/paraffin. Accordingly, this study found that almost all refrigerators owned by rural households were not using electricity as a source of power but they used kerosene/paraffin instead.

On the basis of the above it is hereby concluded that, the differences in socio-economic status measured in terms of education levels, income levels and wealth between rural and urban household and the differences in morbidity caused by malaria may help to give an explanation of why there are observed differences in utilisation of health services between rural and urban areas. These factors may also have a mediating effect on the extent to which the perceived quality of care and costs impact differently upon rural and urban users decision to use, not use or delaying treatment in government health facilities.

To further assess how important each independent socioeconomic characteristic of a household head is important in affecting his/her decision to utilise PHC services, we regressed these variables against utilisation. The study employs an ordinal probability logistic regression model to isolate three important socioeconomic characteristics of heads of households perceived to be important in influencing household decision making to utilising health care. The results shows that as household size increases frequency of utilising health care decreases. This can perhaps be explained by Becker's (1965) 'budget constraint' hypothesis'. According to this point of view other household expenditure and consumption priorities may outweigh the importance of seeking care even when it is badly needed. In other words 'health care needs' and 'perceptions of severity' of sickness may be diverged in response to other 'perceived' important household expenditure and/or consumption needs, especially when heads of households are the sole providers of all day to day necessities in households with relatively many household members who are not income earners.

Education levels are shown to have an impact on utilisation of care. With increased levels of education there has been observed possibilities that utilisation of services will go up. Education equips users with relevant tools to effectively evaluate the important aspects of quality and even can positively shape the users perception of severity of sickness and their perception of care. Gender is also shown to be related to utilisation of health care services.

Female-headed households are more likely to use health care services more frequently than male-headed households. This observation should be handled with care. That is, women's tendency to utilise care more frequently than men must not be taken to mean that they easily access health care services. It may be because of the way much of African families are organised and may be

because of the well known fact that women carry a heavy burden of poverty and ill health in almost all developing countries and they live in households where much of the decisions including those which affect their health are determined by conservative patriarchal governance structures. In most cases the women devote more time and attention to seek care for other members (for example, children) of the household

In this discussion, the importance of different variables that affect the utilisation of health care in a developing country context is underscored. While the present Tanzanian health system is dismally inadequate, the challenge that the government faces to provide equitable and cost effective PHC services for the growing rural and urban population is higher. In other words, while costs and users perception of quality of care are herein isolated as important determinant of utilisation of health care services, household socio-economic characteristics such as income levels, education and household size are also seen to be closely related to 'a good' though not 'sufficient' explanation of utilisation differences between rural and urban dwellers

As utilisation of health services is affected by a complex set of actors (Becker et al, 1993) it is imperative for the ongoing HSR to carefully address all the factors that may be a barrier to utilising health care with the same level of value as that attached to implementing the so called 'cost-effective health interventions'. In other words it is important to strike a fair balance between the importance of equity and efficiency concerns in the design and implementation of health policies.

## CHAPTER SIX: CONCLUSIONS AND POLICY RECOMMENDATIONS

### 6.1 Conclusions

Tanzania seems to be segregated along socio-economic status, with the important barriers to seeking health care services being quite different when low and high socio-economic households are compared. This socio-economic segregation has manifested itself in geographic segregation in terms of clustering households in rural and urban categories.

This study has explored and discussed how important costs and peoples' perceptions of quality and household socio-economic characteristics can impact on users decisions to utilise health care, adding to the limited number of studies in this area. Analysis of the study findings leads to the following conclusions.

Though our 'quality data' is dependent solely on respondents' subjective values, the study gave us some evidence (limited, though) that perceived quality of care is an important determinant of care and it is more influential to urban than rural users.

Further more, our analysis leads the study to conclude that consumers of health care in rural Tanzania are highly responsive to health care costs than they are to quality concerns. As the two categories of rural and urban are affected differently by costs and their perceptions of quality when it comes to health care utilisation, it is possible that the observed utilisation trends can partly be attributed to these two factors.

Apart from quality and cost effects of health care utilisation, it is hereby concluded that socio-economic variables such as income, education, wealth and household size are important not only

in determining users decision making on the amount and appropriate time to seek care but also they mitigate effectively on the extent to which costs and perception of quality of care affect users. We have seen that even on the basis of these socio-economic characteristics of households, there are marked differences between rural and urban households .It is partly because of these differences that our findings have shown differences in utilisation of PHC between rural and urban households.

## 6.2 Policy Recommendations.

- To the extent that some consumers are quality insensitive as it is the case for rural households, the government through the MOH may need to provide better 'quality information' and educate consumers so as to ensure adequate and informed assessment, and eventually cost-effective use of PHC.
- Especially in the internal markets which has been the focus of our study, it would be essential for providers in the public sector to understand which quality aspects rural and urban consumers are most sensitive to, since these will be the attributes that may cause differences in utilisation and they will be the basis on which providers of PHC in the public sector and also in the private sector will compete.
- However, any policy intervention that aims at improving quality which will then improve and sustain utilisation (equity?) caution must be taken. It is possible that users both in urban and rural areas may be more responsive to aspects of quality that enhance health outcomes. Under such circumstances the government should create a supportive

environment for all sectors(public and private) and rely much on the market to assure the quality of PHC services.

In other instances consumers may be more responsive to quality aspects that are more expensive but they do not have substantial effects on health outcomes. Under such a situation government direct intervention through regulation may not only be necessary but also desirable. In other words, any attempt to improve the quality of PHC to ensure equity in utilisation between rural and urban dwellers should be cost-effective.

- Further more, government should make sure that there is an insured drug availability at the health facilities by reviewing the existing 'rigid' drug supply policies. The kit system has been pointed to be a problem as the dispensaries are not allowed to open it until the beginning of each month regardless of need for drugs at any time of the month<sup>7</sup>.
- Again, policy makers should not be obsessed by, and focus on technical aspects of quality alone but should also respect consumers perceptions to deliver effective improvement in the quality of care and thereby increase utilisation of health care in the country in a more equitable way.
- It is also imperative for the government to make sure that the ongoing HSR are paralled with a constructive minded review of the pre-reform geographical inequities and the potential inequities that might be as a result of the implementation of HSR policies as any policy implementation process may end up with intended and unintended outcomes. The specific activities to be undertaken may include identification of monetary and non-

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<sup>7</sup> Personal communication with clinical Officers In-charge of the facilities visited.

monetary costs barriers that may hamper households' utilisation of PHC; critical evaluation of the existing health programmes, for example the MCP, both in utility and monetary units so as to be able to know whether the costs of their implementation has increased and why?. This will help policy makers to know even the utility values of these programmes and take appropriate policy measures.

- As the government is the major institutional PHC provider in the country, it is important for substantial resources to be devoted to further research and opportunities and challenges of fully involving the private sector in the provision of PHC. By creating the supportive environment for, and the full involvement of private sector in the provision and financing of PHC, the government will stand better chances to improve quality and eventually utilisation of services<sup>8</sup>.
- Increased numbers of users of PHC in sources other than the government, signals an important point. This calls for health researchers and policy makers to take a closer look at what are other determinants of users provider selection before making any policy or plans aimed at promoting utilisation of PHC in the government facilities.

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<sup>8</sup> We assume that involvement of the private sector to compete with the public sector will help improve quality of services which in turn may act as a catalyst to increased utilisation.

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**APPENDIX 1**

**QUESTIONNAIRE FOR HOUSEHOLD INTERVIEWS.**

DISTRICT \_\_\_\_\_ (RURAL \_\_\_/URBAN \_\_\_\_\_)

HOUSEHOLD SIZE \_\_\_\_\_ (NUMBER OF PEOPLE IN THE HOUSEHOLD)

HEAD OF HOUSEHOLD: MALE \_\_\_\_\_ / FEMALE \_\_\_\_\_

**SOCIO-ECONOMIC INFORMATION OF THE HOUSEHOLD**

**1. Occupation of the head of household:**

Peasant/Farmer \_\_\_\_\_ yes/no

Formally employed i.e teacher/nurse/doctor/ mechanic etc. \_\_\_\_\_ yes/no

Self employed \_\_\_\_\_ yes/no

Unemployed \_\_\_\_\_ yes/no

**2. Education of the respondent**

Primary education \_\_\_\_\_ yes/no

Secondary education \_\_\_\_\_ yes/no

Post secondary education \_\_\_\_\_ yes/no

**3.A: approximately how much did you earn in the last month**

Tshs 30,000/= and above \_\_\_\_\_ Yes/no

Tshs 30,000/= and below- \_\_\_\_\_ yes/no

**4. Which of the following does your household have in working order (read out and tick YES or NO as appropriate)**

| ITEM                                      | YES | NO |
|---|-----|----|
| Motor Bike(1)                             |     |    |
| Car(2)                                    |     |    |
| Bicycle(3)                                |     |    |
| Video/Colour TV(4)                        |     |    |
| Radio(5)                                  |     |    |
| Refrigerator/washing machine(6)           |     |    |
| Telephone(7)                              |     |    |
| Agricultural Machine(for rural people)(8) |     |    |
|   |     |    |

### QUALITY OF HEALTH CARE AND COSTS.

1. Can you please tell me the common Symptoms of Malaria? Tick the following items as the respondent mentions what he/she knows.

Headache \_\_\_

Vomiting \_\_\_

Pain in the joints \_\_\_

Fatigue \_\_\_

Loss of appetite \_\_\_

2. Have you or any member of this household suffered from Malaria in the last two weeks? YES/NO \_\_\_

3. (If the answer to question # 2 above is Yes), How many times you or any member of the household has visited the health facility in the last two weeks?

Twice or more \_\_\_ YES/NO

Less than 2 times \_\_\_ YES/NO

None \_\_\_ YES/NO

4.(If the answer to question # 2 above is NO,) If it happens that you are attacked by Malaria in the near future, will you go to the nearby facility to seek medical care? YES/NO\_\_\_\_\_

5.( If NO, explain why and what you will do instead \_\_\_\_\_ )

6.Have you consulted any one/facility for treating this illness/injury? YES/NO\_\_

7.How long was it between the point you felt ill and when -----(Read out the following items in the table below)

| Time after onset of illness(malaria) to seeking care |  | Contact health worker in a health facility/traditional healer |
|--|--|---|
| Less than a day                                      |  |   |
| 1 to 3 days  |  |   |
| A week   |  |   |

8.Where did you go for treatment:

Government facility-----YES/NO

Private facility\_\_\_\_\_YES/NO

Traditional/Healer\_\_\_\_YES/NO.

Other (specify)\_\_\_\_\_

9.Would you decide on not going to the nearby health facility?

Did not meet the quality of care.\_\_YES/NO\_\_\_\_

Did not have enough money to pay for services\_\_\_\_YES/NO\_\_\_\_

Other reasons (specify)\_\_\_\_\_

10. About how long would you say you spent in total at health facility waiting to see and being treated by a health worker during the last Malaria episode?

Less than 30 minutes \_\_\_\_\_ YES/NO \_\_\_\_\_

30 minutes or less \_\_\_\_\_ YES/NO \_\_\_\_\_

31 minutes – 1 hour \_\_\_\_\_ YES/NO \_\_\_\_\_

1 hour or more \_\_\_\_\_ YES/NO \_\_\_\_\_

**11.** How much did the whole last illness (malaria) cost you/any member of the household \_\_\_ (Put figures in Tshs.) \_\_\_ (for those who say they used private health services)

**12.** Did you delay seeking medical care the last time you had malaria? \_\_ YES/NO

**13.** If the answer is YES what were the reasons for you delaying seeking medical care? \_\_\_\_\_  
\_\_\_\_\_

**14.** If the answer to question #12 is no, what did you do when you first started feeling the symptoms of malaria?

**15.** What is your opinion on the service provided by the facility you (often) last visited. (Rank your opinion on the scale of 1-3, 1 being excellent and 3 worst.)

Drug supplies and a problem \_\_\_\_\_

Communication between doctor or nurse/Staff patient relationship/Attitudes of some staff in the facility to the community/patients. \_\_\_\_\_

Cleanliness of waiting rooms, consultation rooms and premises \_\_\_\_\_

**16.** How would you judge your judgement on the quality of health care services in the facility you last visited \_\_\_\_\_

Good quality \_\_\_\_\_ YES/NO

Adequate/fair \_\_\_\_\_ YES/NO

Poor quality \_\_\_\_\_ YES/NO