

**STUDY TO EXPLORE BARRIERS TO UTILIZATION OF
MATERNAL DELIVERY SERVICES IN KAZUNGULA
DISTRICT**

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45th International Course in Health Development
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Vrije Universiteit Amsterdam

Study to Explore Barriers to Utilization of Maternal Delivery Services in
Kazungula District

A thesis submitted in partial fulfillment of the requirement for the degree of
Master of Public Health

by

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Zambia

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DEDICATION

This thesis is dedicated to my dear
Father, Mr Herbert Shamwanka Shankwaya
And
Mother, Mrs Annie Nanja Shankwaya
And
children Moono and Shamwanka

ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
ANC	Ante Natal Care
ART	Ante Retro Therapy
BEMOC	Basic Emergency Obstetric Care
CBOH	Central Board of Health
CEMOC	Comprehensive Emergency Obstetric Care
CSO	Central Statistic Office
DHMT	District Health Management Team
FGD	Focus Group Discussion
FNDP	Fifth National Development Plan
GRZ	Government of the Republic Of Zambia
HIPIC	Heavily Indebted Poor Countries
HIV	Human Immune Virus
ICDDR, B	International Centre for diarrheal Diseases, Bangladesh
ILO	International Labour Organization
KIT	Royal Tropical Institute
MDG	Millennium Development Goal
MFNP	Ministry of Finance and National Planning
MMR	Maternal Mortality Ratio
MOH	Ministry of Health
NGO	Non-Governmental Organization
NGOCC	Non-Governmental Organization Council
PDPZ	Professional driving project in Zambia
PMM	Prevention of Maternal Mortality
PMTCT	Prevention of Mother to Child Transmission
PRSP	Poverty Reduction Strategic Plan
SMAGS	Safe motherhood Action Groups
TBA	Traditional Birth Attendant
TTBA	Trained Traditional Birth Attendant
UN	United Nations
UNAIDS	United Nations Aid Development
UN	United Nations
UNFPA	United Nations
UNICEF	United Nations Children Education Fund
VCT	Voluntary Counseling and Testing
WHO	World Health Organization
ZDES	Zambia Demographic Education Survey
ZDHS	Zambia Demographic Health Survey
ZK	Zambian Kwacha

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ABSTRACT

Background: Each year about 536 000 pregnancy related deaths occur worldwide, 99% are in the developing countries of these 50% occurring in sub Sahara Africa. Zambia's maternal mortality ratio is 591/100 000 live births. Kazungula is a rural district in Zambia with 20% women using health facilities to deliver yet 40% is the national target. Evidence is that where use of maternal services is low, maternal deaths and disabilities are high as a result of barriers to access health facilities. Why are women not using health facilities to deliver?

Study Objective: To explore health service, cultural and economic barriers to using health facilities for delivery in Kazungula, recommend evidence based best practices applicable to Kazungula in order to improve uptake of health facility delivery services.

Methodology: Literature review using international data bases, national and international sources. Poverty reduction strategic paper and Andersen's 3 Factor Model are used to guide this study.

Findings: Findings of this study show that long distance to health centres, poor roads, and limited transport, shortage of skilled birth attendants, inadequate supplies, equipment and lack of responsiveness to the users needs are health service factors influencing health facility use. Lower than primary education level of women and husbands, traditional beliefs, perception of pregnancy not being an illness, and low family income contribute to non-use of health centres for delivery. Evidence from literature review shows that maternal waiting Homes, skilled birth attendants training, community based financial insurance/loan schemes and improving women's status increases use of health facilities for delivery.

Recommendations: Evidence based recommendations include, to set up community loans/schemes and obstetric emergency transport. Train and maintain linkages with community agents. Improve conditions in maternal waiting homes, train, increase number and retain skilled birth attendants. Provide privacy, respect women, their beliefs and traditions. Advocate improving women's status.

Keywords: maternal mortality, maternal waiting homes, Zambia, low utilization, culture, economic, distance, place of delivery.

Word count 14,299

INTRODUCTION

I have been working for Ministry of Health since 1982 and as the District Director of Health for Kazungula district in Zambia for the past ten years. As a midwife and public health nurse I have keen interest on maternal health. I have had concern over health facility deliveries in Kazungula and how mothers could be stimulated to use the health facility for delivery.

Maternal health is an issue on the global health agenda, because more than 536 000 women die every year from pregnancy related causes worldwide, 99% of these occur in developing countries. About 50% of maternal deaths in the developing countries take place in sub Sahara Africa (UNICEF, 2008). The major causes of maternal deaths include unsafe abortions, eclampsia, bleeding, obstructed labour, infections and sepsis, reflecting poor provision and use of maternal health services. Poor use of maternal health services is a result of barriers to access (van Lonkhuijzen, et al 2009).

In Zambia the maternal mortality ratio is 449/100 000 live births and is not acceptable because most of the maternal deaths could have been prevented (Central statistic office 2008). In Zambia, 40% is the target for rural health facility deliveries. Kazungula is a rural district and 20% of the pregnant women use the health facilities for delivery. It is not clear why most women decide to deliver at home in Kazungula district. I am therefore compelled to explore what factors hinder pregnant women from delivering in the health facilities in Kazungula district. The study is descriptive and information will be collected by literature review.

In chapter one a brief background of Zambia and Kazungula district is presented to give the context in which low use of health facility deliveries occurs. Chapter 2 describes the problem statement and outlines the objectives, study questions and methodology including the conceptual framework. The discussion on health service factors hindering women from delivering at the centres which include, physical accessibility, human and material resources, organisational quality consumer responsiveness, timing and continuity of services technical quality and socio accountability (supply factors) is presented in chapter 3. Chapter 4 presents discussion on the cultural and social-economic barriers (demand factors) to women using the health facilities to deliver. The best practices on improving health facility deliveries within Zambia and other developing countries applicable to Kazungula are presented in chapter 5. The conclusions and recommendations are out lined in chapter 6.

CHAPTER ONE: KAZUNGULA BACKGROUND INFORMATION

This chapter briefly describes the background of Zambia and Kazungula district, geographical, economical, and health system. It provides an overview of the context in which the low use of institutional maternal delivery services exist.

1.1 Background

1.1.1 Geographic profile

Zambia has three distinct seasons, the wet season from November to April. During the wet season most of the roads are difficult or impassable cutting off some places from services, especially in rural areas (Central Statistical Office, 2008).

Kazungula is in the Southern Province of Zambia. It has a surface area of 15,873 square kilometres. It shares international borders with Zimbabwe, Botswana and Namibia and district boundaries with Sesheke, Kalomo, Itezhi-tezhi and surrounds Livingstone district. (See map annex 3)

1.1.2 Demographic profiles

Zambia has an estimated population of 12 896 830, 22% (2 837 302) are women of child bearing age (WCB) (Central Statistical Office, 2008).

Kazungula has a population of 94,289 (Central Statistical Office, 2008). The population distribution is used to set targets that are expected to be reached in a year. For instance the expected number of deliveries in Kazungula is 4903 for the year 2009.

Most people live in the rural area. Women in rural areas have a total fertility rate of 7.5 (see table 1). Women in rural areas of Zambia are of low educational status and have more children compared to women and men in urban areas. Educational attainment is one of the key indicators for analysing women's status. Therefore women in the rural areas are not likely to make their own decisions.

Table 1 Selected demographic indicators Kazungula 2009

Category	Indicator		
Total population	94 289		
Male population	$94289/100 \times 50 = 47\ 145.5$		
Female population	$94289/100 \times 50 = 47\ 145.5$		
Women of child bearing age	$94289/100 \times 22 = 20\ 744$		
Expected pregnancies per year	$94289/100 \times 5.4 = 5092$		
Expected deliveries per year	$94289/100 \times 5.2 = 4903$		
Percent of people living in rural area	56%		
Population density	7.5 per square kilometre		
Total fertility rate	6.5		
	Rural	7.5	
	Urban	4.3	
Crude birth rate	43.6		
	Rural	47.5	
	Urban	36.3	
Growth rate	3.2 %		
Contraceptive uptake	41%		
Education	level	women	men
	No education	10%	5%
	primary	54%	46%
	secondary	30%	41%
	tertiary	5%	8%

Source: Central Statistical Office (2008): Kazungula, 2008-2010 Strategic plan, (2008 b).

1.1.3 Socio-economic profile

Sixty eight percent of the people live below the poverty line in Zambia, in spite of the implementation of the poverty reduction strategic paper (PRSP) (UNDP, 2008). About 53% of these are classified as extremely poor. Poverty in the rural areas decreased from 85% to 78% in 2004 (FNDR, 2006). However, for the ordinary women in Kazungula the decrease in poverty levels at country level does not imply improved livelihood for them.

Zambia depends much on foreign aid to finance development, with a net official development aid of almost 21% of the gross national income in 2004 (UNDP, 2007).

Most people in Kazungula are not in formal employment. Some are curios carvers and cross border traders. The main economic activity is agriculture and the output is influenced by climatic conditions. The mean annual rainfall is about 800mm (Metcalf, 2005). Kazungula has experienced drought since 2004, making agriculture not profitable. Subsistence farmers grow Maize, beans, sorghum and groundnuts. The crops are for domestic consumption and usually not enough to last until next the harvest, thus, food shortages and hunger are common in the area. Food shortage is more in the rainy season when most crops are not ready for consumption.

Some people rear cattle, which is a symbol of wealth. Cattle provide financial security because they could be sold when a need for cash arises in the family. However, stock rearing has had problems due to cattle disease. This left most families extremely poor. Cattle are used for farming and ox cart transport as ambulance.

1.1.4 Political and Social Organization

The district has five traditional chiefs. In Kazungula, the chiefs command more respect and authority than the political leaders. The chiefs over rule political, judiciary and social issues and these are not easily distinctively separated (Phiri, 2006). Traditional rulers are land authorities (Metcalf, 2005). Chiefs play a major role in community social mobilisation and decision-making. They have the power to change women's status in the community. They are a key entry point in matters of health care delivery. They can be very instrumental in changing community behaviour towards use of health facilities for delivery and education of the women. In Kazungula their powers do not benefit most women because of the social organisation that perpetuates silencing women, keeping them in the kitchens as cooks and childbearing instruments.

1.1.5 Road Network and Communication

Most roads in the district are gravel. In some areas of Kazungula there are no roads at all. Some areas are swampy and muddy during the rain season, making them difficult to pass. Some areas are cut off from the district head quarters for almost six months. These roads contribute to difficulties of moving from one place to the other and influence accessibility to some health centres.

All the health facilities in Kazungula district can be communicated to by cell phone. Some have telephones or high frequency radios. Apart from the health centres, most of the people in Kazungula are not linked to any communication systems such as phones. The situation has however improved by Zain mobile phone net coverage. Most villages have at least 2 or people with a cell phone.

1.1.6 Energy source

Most (35%) of the health facilities are on hydro electricity power, 30% use solar, 5% diesel generator which is very expensive, and 30% use kerosene (Kazungula HMIS, 2008). Kerosene is a poor source of lighting for procedures such as deliveries and suturing in a health centre. Most homes in Kazungula use charcoal or firewood for cooking. Candles, kerosene put in a tin with a cloth wick producing a lot of soot or grass are used for lighting. These are very poor sources of lighting for home deliveries in the night.

1.1.7 Water and Sanitation

There is piped water in about 35% of the health centres. The rest have hand pump boreholes. 96% of the health centres have ventilated improved pit latrines (VIP). About 4% have water-flushing toilets. About 35% of the population has access to safe water supply. The rest use shallow wells and river water. About 33% use pit latrines Kazungula, 2008-2010 Strategic plan, (2008 b).

1.1.8 Health care system

Health care system in Zambia includes government through the Ministry of Health (MOH) institutions, churches, mining, other industrial companies, private practitioners and traditional healers (MOH, 2008).

The national health strategic plan 2006-2010 defined the framework within which public and faith based organisation of service delivery is organized based on the Zambia Basic Health Care Package (ZBHCP) (See annex1). The ZBHCP is delivered, at tertiary, general, and district hospitals, health centre and health post levels (MOH, Zambia 2005). All the levels conduct maternal deliveries. The health posts and health centres conduct normal deliveries and refer complicated

ones to the district hospital. However due to the poor economic status, shortage of human and material resources, poor civil service conditions of service, poor quality of services are provided in most health facilities including Kazungula.

1.1.8.1 Health centre level

In Kazungula all rural health centres do not have a doctor. The two doctors are at the district office and visit the centres at least twice in a week. The centres have clinical officers, nurses or environmental health technicians, as in charges of health facilities. However due to staff shortages classified daily employees (CDEs) are in-charge of some health facilities. These staffs provide ZBHCP at the rural health centres and out reach health services. They also supervise Community health workers (CHWs), traditional births attendants, (TBAs) and safe mother hood action groups. (SMAGs)

A Rural health centres cater for a population of 10 000 though most cater for 6 000 and below (MOH, 2008 a).

1.1.8.2 Health posts

These are the lowest level of health care; they provide general minor curative care, maternal, child health care and out reach services. They have only one trained staff member usually a nurse or environmental health technologist who has done integrated "competence" training.

1.1.9 Health care Financing

Health financing is by government (GRZ) and is insufficient. There is however substantial aid from international donor organisations. The assistance is directed towards public health facilities. Private health care financing through user fee is the major contributor toward health financing (Mkandawire, 2009) (see annex 2).

Since 2006, maternal health services are provided free in all government health facilities to encourage uptake. Given that the economic conditions are worsening and reduced the ability of government to provide sufficient resources, alternative sustainable health care financing such as health insurance schemes are sort Katele and Musowe (1996). No health insurance schemes are in place, currently.

1.1.10 Provision of Health Services

Kazungula district has 12 health centres and 8 health posts. Health posts in Kazungula provide the same services as a health centre. There are three mission owned health centres (Kazungula DHMT 2008 b). Kazungula district health management team (KDHMT) supports and supervises the mission centres. Basic laboratory services are available. All the health centres provide diagnostic counselling and testing (DCT) services. Mobile voluntary

counselling and testing (VCT) services are provided by non-governmental organisations. Eighteen health centres provide prevention of mother to child transmission (PMTCT) services. Antiretro therapy (ART) services are available in four centres. Blood samples for baseline laboratory examinations for ART are sent to Livingstone general hospital. All centres provide maternal and child health services. Two health centres are supposed to provide basic emergency obstetric care (BEmCO) but due to shortage of skilled birth attendants (SBAs) this service is not provided. Essential obstetric drugs are not in the health centre kit currently. Equipment is not available and one of the centres is still being extended. Community involved is through the neighbourhood health committee members (NHC), CHWs, TBAs, and SMAGs. They work closely with the health centre and health post staff. Kazungula district does not have a district hospital. The district contracts 1st level services from four hospitals. Kazungula supplies drug kits to some of the contracted district hospitals on request.

1.1.11 Maternal Health Policy

The policy is that Maternal health services, such as focused antenatal care, child birth, postnatal, family planning, basic emergency obstetric care (BEmOC) and comprehensive emergency obstetric care (CEmOC) should be provided free of charge in all public health facilities. Women should deliver in a health facility assisted by SBAs. The skilled birth attendants include doctors, nurse midwives, nurses and clinical officers.

Table. 2 Selected Maternal Health Indicators

KEY AREA	2008
ANC services	
ANC first visit	88%
Median gestation age first visit	5 months
Place of delivery	
Health facility	20%
Home	80%
tTBAs	27% (proportion of home deliveries)
Relatives	53% (proportion of home deliveries)
Without assistance	5.9% (Sub-Saharan Africa)
Postnatal Attendance	11 %
Family planning	22% 4592/20 744 (WCB)

Source: (Kazungula HMIS, 2008: Bernis 2003)

Maternal health indicators as depicted in table 2 are all low except for ANC first visit. The table shows that most deliveries take place at home.

CHAPTER TWO: PROBLEM STATEMENT, OBJECTIVES METHODOLOGY

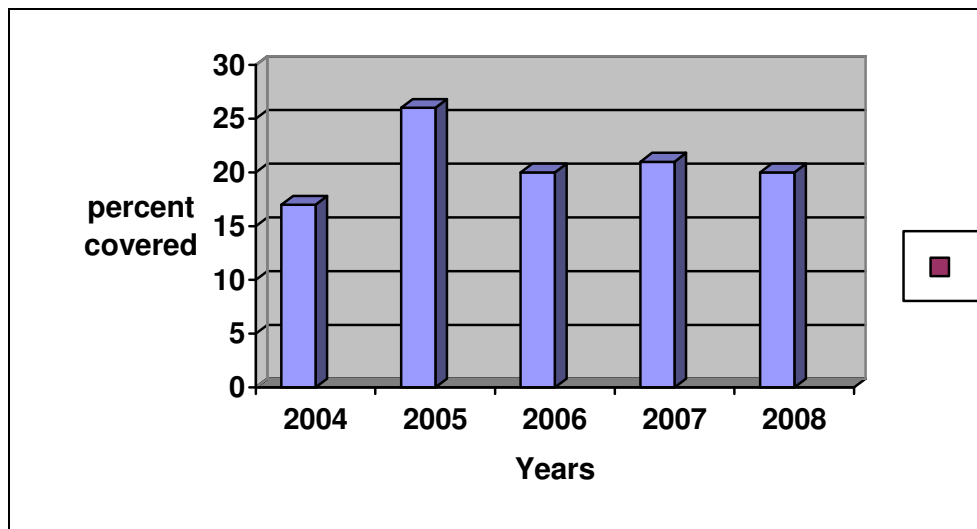
2.1 PROBLEM STATEMENT

Zambia has a health system that is facing an increasing challenge in maternal health care and most women prefer to deliver at home (Maimbolwa, 2004). In places where there is low utilization of maternal health services, there are high maternal deaths. Low use of maternal health services is as a result of barriers to access health facilities, thus, the high estimated maternal deaths of 591/100 000 live births in Zambia (Central Statistics Office, 2008). The major causes of maternal deaths are direct obstetrical causes such as haemorrhage (34%), sepsis (13%), obstructed labour (8%), hypertensive disorders (5%), and abortion complication (4%). The indirect causes include malaria (11%), HIV (10%) and others (17%) (Central Statistics Office, 2008). The total fertility rate is 6.2; antenatal coverage is at 93% while health facility deliveries are at 48% (MOH, 2008). This is lower than the proportion of births attended by skilled health workers in Africa which is 57% (WHO, UNICEF, UNFPA, World Bank, 2005). Zambia is committed to focus on action that can increase coverage on health facility deliveries. This is with understanding that women giving birth in health facilities are attend to by skilled birth attendant (SBA). This is in line with the countdown to 2015 millennium development goals on maternal health (MOH, 2008).

In Kazungula district, out of 4 627 health facility deliveries in 2004 to 2008, there is one maternal death reported to have occurred in the health facilities, contrary to the MMR in Zambia (Kazungula HMIS, 2008 a), There could be under-reporting of maternal deaths in health institutions and secondly, deaths could be occurring in the villages since few deliveries take place in the health facility. Maternal deaths in Kazungula may be referring to women who die during labour only, as Tarimo, (1996), states that, maternal deaths are underestimated usually excluding those that take place in early pregnancy.

Antenatal clinic (ANC) coverage was 88% in 2008. Twenty percent of the expected women for delivery used a health facility to deliver, in 2008 (Kazungula HMIS, 2008). There is a gap between the 20% of health facility deliveries in Kazungula and the 40% national target for rural areas Zambia (Stekelenburg, 2004) (see figure 1). Given that, in Kazungula, there is 20% health facility deliveries and that the district opened two waiting mothers houses, improved on transport for referrals but coverage of health facility deliveries is still low, hence, this study. This thesis aims to review literature to explore the barriers to using health facilities for delivery in Kazungula district.

Figure1: Facility deliveries in Kazungula district 2004 to 2008



Source Kazungula HMIS (2008 a)

Graham, et al (2006) states that, where access and uptake of maternity services is low, it is likely that there may be a proportion of maternal deaths and maternal disabilities due to difficult deliveries taking place in the community. A study in six rural districts in Zambia showed that 59% of women were assisted to deliver by traditional birth attendants (TBAs) or their relatives (WHO/CBOH/CSO, 2003). In Kazungula 80% of the women were assisted to deliver by TBAs or their relatives (Kazungula HMIS, 2008 a). Home deliveries in this context refers to, the whole process of delivery taking place at home.

There are several barriers to use of health facility to deliver. These include geographic, social, economic, cultural and perceptions of poor quality health service at health facilities. (Canavan, 2008: Zulfiqur, at el 2009). It is further stated that for every maternal death, there are 20 who have injuries, infections, disease and disabilities such as fistula, causing lifelong suffering, misery, depression, divorce and neglect. These women are usually still young and productive. Their potential is curtailed by an avoidable situation. This is a violation of women's rights (Sambo, 2004).

Another public health issue to consider when there are more home deliveries than facility deliveries is the human immune virus/acquired immune deficiency syndrome (HIV/AIDS) transmission. Zambia has a high prevalence of 16% (Central statistical office 2008). It is not known what precautions the traditional birth attendants and relatives take to reduce the risks of HIV/AIDS transmission between the baby, mother and the birth attendant. It is an area for future research.

In view of the gap between 40%, the national target for rural institutional deliveries in Zambia, and 20% proportion of health facility deliveries in Kazungula district, it is important to explore the barriers to health facility deliveries in Kazungula district using the outlined study questions below.

2.2 Study Questions

To guide the discussion of the thesis the following questions have been framed:

- What service factors hinder women from health facility delivery in Kazungula district?
- What cultural factors prevent women from health facility delivery in Kazungula district?
- What social economic factors hinder women from health facility delivery in Kazungula district?
- What evidence-based practices are used to improve health facility deliveries in other districts in Zambia and other countries?
- What can be done to improve use of maternal health service in Kazungula district?

2.3 Objectives

2. 3. 1 General Objective:

To contribute, towards improving maternal health by overcoming barriers to safe delivery.

2. 3 .2 Specific Objectives

- Explore service factors that hinder women from health facility delivery in Kazungula district.
- Explore cultural factors that prevent women from health facility delivery in Kazungula district.
- Explore social economic factors that hinder women from health facility delivery in Kazungula district.
- Review evidence based practices that improve facility deliveries in districts within Zambia and other countries.
- Make recommends to community, DHMT, MOH and NGOs addressing barriers to health facility delivery.

2.4 This thesis is intended for:

- Ministry of Health, Southern Province
- Kazungula district health management team.
- District local administration
- Community members of Kazungula district.
- Other government sectors and non-governmental organizations.

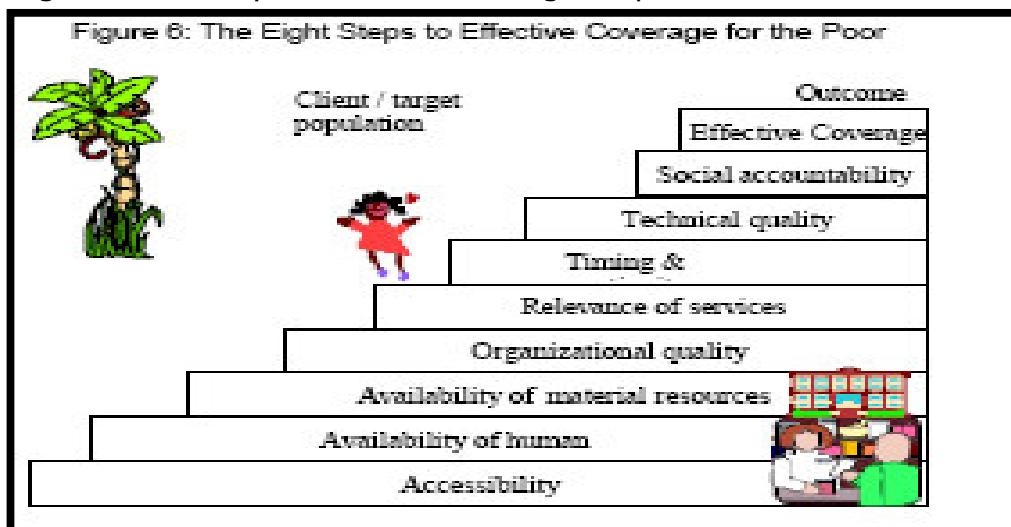
2.5 Methodology

Information is collected by Literature review. The study is descriptive and explorative. Relevant unpublished and published national and international documents will be used.

2.6 Conceptual framework

In order to logically address the health service factors (supply), relevant steps of The Poverty Reduction Strategic Paper model (PRSP) are used. (See figure 2) PRSP model choice is based on the facts that it is used to provide key steps to quality health services for the poor, provides a framework of assessing the performance of the health services with regards to the impact on health outcomes (Claeson, et al 2001: United nations 2006). PRSP model, however, does not address the cultural and economic factors of the clients (demand). Andersen's 3- Factor Model of Health Services Use is used and includes selected predisposing, illness level perception and enabling factors. In this thesis belief concept is modified to refer to traditional beliefs.

Figure 2 Poverty Reduction Strategic Paper Model



Source: (Bradley, et al 2002).

2.7. Search strategy:

Search engines, Google scholar. Databases included Pub Med, Scopus and The Cochrane Collaboration. Information was obtained from WHO, UNICEF, and UNAIDS web sites. Journals and books from KIT library were used in the review.

2.7.1 Selection criteria

Inclusion criteria: Literature pertaining to service, cultural, and social economic factors that hinder women from health facility deliveries were included in the review. I also included in the literature review best

practices that improved uptake of maternal delivery services within Zambia and other developing countries.

Exclusion criteria: literature with no information on barriers to health facility delivery use, best practices that were not aimed at improving health facility deliveries and those not fitting the selected model frame work were excluded from the literature review.

2.8 Study limitations

With in the available data it was difficult to obtain data from Zambia; most of the information is from other developing countries the contexts may not be similar. Therefore applicability may vary contextually.

2.9. Key words:

Maternal mortality, maternal health, community maternal waiting home, mothers shelter, health deaths, Zambia, Sub Sahara, Africa, low utilization, ministry of health, socio culture, PRSP model, socio-economic status, distance, place of delivery.

CHAPTERS THREE: HEALTH SERVICE FACTORS HINDERING WOMEN FROM USING HEALTH FACILITIES FOR DELIVERY IN KAZUNGULA DISTRICT

Low use of maternal health services is due to barriers to access health facilities (van Lonkhuijzen, et al 2009). Utilisation is when an empowered person makes an uninhibited and informed decision to exercise their freedom to use health care (Gilson and Schneider, 2008). Reviewing utilization of health facility delivery services is important because it is the way managers can identify bottlenecks and thus take appropriate action to improve health services (Stekelenburg, 2004). This chapter reviews the available literature to identify barriers to women using health facilities for delivery in Kazungula. As mentioned, PRSP model steps are used to analyse the health service factors review. Included are physical accessibility, human and material resources, organisation quality, timing and continuity, relevancy of services technical quality and socio accountability.

3.1 Physical accessibility barrier to health facility delivery

In this study accessibility will refer to physical access to the health facility. The physical barriers include distance, walking time and cost of transportation from households to the health facilities as defined by Claeson et al, (2001): Thaddeus and Maine (1994). According to Claeson, et al (2001), if services are not accessible, then the issue of whether they are staffed properly or not are irrelevant. Moving to the next step of PRSP model is irrelevant if the previous step has problems. I agree with Claeson, et al (2001) because there is no need for instance, of having a centre, which is well, staffed and well equipped but cannot be accessed by the women for delivery due to high cost. Ensor and Cooper, (2004) states that use of services declined with distance. Therefore the facility must be where women can reach before thinking of staffing numbers. It is the number of women accessing the service that will dictate the number of staff, equipment and how the services will be organised.

Accessible services are the central goal of health systems (Gilson and Schneider, 2008). Low use of health facilities for delivery defeats the purpose of maternal health services. For example, Nepal rural districts have low proportions of health facility deliveries, because of poor physical access (Wagle, et al 2004; Simkhada et al, 2006). Equally, in Kazungula there are 20 health facilities, unevenly distributed and not accessible to some women in the district hence differences in the use of health facilities within the district. The western and northern side are poorly serviced, difficulty to reach during the rains and with 4% to 6% health facility deliveries. Physical inaccessibility is one of the possible barriers making women not to deliver at the health facilities in Kazungula.

Distance between the women's households and the health facilities is a barrier to health facility deliveries. A study in Malawi found that 90% of women preferred to deliver in a health centre but 25% did, distance was the major obstacle, Lule and Ssembatya (1996), cited by Lule, et al 2005). In a Kalabo study, 96% of women wanted to deliver in a health centre, only 45% did, citing distance as an obstacle Stekelenburg, et al (2004). In Kazungula there are some centres situated within the village and their institutional delivery coverage ranges from 67% to 100%. Centres that are far from most of the villages have coverage ranging from 4% to 12% (Kazungula HMIS, 2008). It could imply that women who live far from the health facilities could have used the facilities for delivery if they were nearer the women's homes. On the contrary, some studies showed that physical proximity does not necessary increase use of the facility (Thaddeus and Maine, 1994; Duong, 2005). Similarly, in Kazungula, there is a centre in the middle of the village with 6% coverage of health facility deliveries. This shows that there are other factors that stop women from using the health facilities for delivery. However it is evident from the reviewed literature that distance is a barrier to facility deliveries.

Time taken walking to distant health facility can discourage women from using the centre for delivery. A Nepal study found that living more than one hour away from a health facility is eight times more likely to lead to non-use of the facility for delivery (Wagle, et al 2004).

In a focus group discussion in Nahukahuka village, Tanzania, a mother said, *"I decided to give birth at home because of lack of transport to the nearby health facility, two hours walking distance. It is so dangerous to cross the forest at night; there are wild animals such as lions.* (Mrisho, et al 2007 pp. 866).

In Kasama, Le Bacq and Rietsema, (1997) found that a health facility delivery was more likely for a woman living within walking distance. In Kazungula, some of the villages are far away from the health facilities and about 40% of women intending to use the centre for delivery will need to walk for more than 2 hours to the nearest centre. Apart from distance there are wild animals. Literature shows that long walking time due to distance is a barrier to health facility deliveries. Distance and time are indirect and opportunity costs that influence the uptake of health care in Kazungula.

Transport is linkage for development and access to essential services such as childbirth (PDPZ, 2008). A study in Kalabo found non-availability of transport to have influence on women's choice of health facility delivery (Stekelenburg, 2004). Due to the remote nature of Kazungula district, there is no public transport to most areas. Women can wait for days without getting transport to a health facility. Transporters do not want to drive their

vehicle on poor roads. It takes a 4x4 land cruiser in perfect condition, two hours to cover a distance, which would take only 20 minutes if the roads were good. The only transport usually available is a MOH vehicle. Ox driven cart transport is also rarely available. There is also a train from Livingstone city that goes to a station 30 kilometres from the furthest centres in Kazungula. That train takes four days to get back to Livingstone, It is very unreliable and not very useful in maternal health especially in an obstetric emergency.

Transport infrastructure cost, poverty and physical proximity to a health facility are clearly necessary in two of three delay model factors affecting maternal health service utilization (Molesworth, 2005 Thaddeus and Maine, 1994). The three delays are however not discussed in this thesis because the thesis reviews barriers for not using the health facility at all for delivery and not factors delaying accessing health care.

3.2 Human and material resource barriers on use of health facility for delivery

Health facilities can be geographically accessible; however, if human and material resources are not available women are not likely to use the facility for delivery (Claeson et al, 2001). Human and material shortage is perpetuated by poor management and organisation of available resources not due to limited resource (Thaddeus and Maine, 1994). This applies to Kazungula.

3.2.1 Human resource

The Cairo Programme of Action review proposed proportion of deliveries with skilled attendants as a benchmark indicator to monitor progress (Graham, 2002).

"A skilled birth attendant is an accredited health professional such a midwife, nurse, or doctor who has been educated and trained to proficiency in the skills necessary to manage normal deliveries and diagnose, manage, or refer obstetric complications. Ideally, skilled attendants live in and are part of the community they serve. They must be able to manage normal labour and delivery, perform essential interventions, start treatment and supervise the referral of mother and baby for interventions that are beyond their competence or not possible in a particular setting" (Canavan, 2008 p 3).

The target is that there should be at least 2.3 trained health workers per 1,000 population by 2015. This gives 80% coverage of skilled birth attendant (DFID, 2008). This is a challenge to many developing countries due to shortage of human resource. Dr. Lee Jong- Wook acknowledged the shortage of well-trained human resource for health and that the shortage was most felt in countries where the need was most (WHO, 2006). For

instance, in Cameroon, the ratio of health professional is 1 to 4000 in rural areas. Eight five percent of the population in rural Cambodia has 13% of health workers. In Angola, only 15% of the health workers are in rural areas (WHO, 2002). The whole population is included in these ratios because in the rural areas the same staff work in OPD, labour room, out-reach and does administration.

Zambia's vision is *"to provide equity of access to cost- effective quality of health care as close to the family as possible"* (MOH, 1992). Due to staff shortage particularly of appropriately trained midwives, in rural health centres and managers at DHMT level, the vision will take some time to be realised.

A survey in Zambia found that 32% of the women said they would not deliver at a health facility because of staff shortages (Central statistics office, 2008). In Kazungula two health centres have four trained staff to provide health services including deliveries to more than 12,000 inhabitants. Four centres have two trained staff with populations of about 5,300. Fourteen have only one staff each with populations of about 3,500. Two centres have no trained staff. In Kazungula, only two staff was trained in BEmOC. Currently there is none, one died the other one went to school. Sometimes, trained staff has to leave the center then untrained staffs such as sweepers though most have done TTBA training and TTBA's have to conduct the deliveries in the health facilities.

Human resource problems are usually due to poor deployment practices, inadequate resources to provide incentives to staff in rural areas and inadequate training. The issue is not about inadequate resources as Claeson et al, (undated) eludes. It is about the type of professionals who are making decisions for others without involving the affected. Human resource shortage contributes to discouraging women from using the health facilities for delivery. This could be because women know that the chance of skilled attendance during delivery is limited. It is not even feasible to have a 24hrs service at the centres. Therefore shortage of skilled birth attendants is a barrier for women to use the health facility for deliveries in Kazungula.

3. 2. 2 Material Resources

It is a fact that even a competent worker cannot use their skills without, medical supplies drugs and equipment that is functioning well (Caravan, 2008). In Uganda, due to inadequate material resources despite good policies and efforts, use of health facilities for delivery did not increase (Kyomuhendo, 2003). In Zambia equipment, medical supplies and drugs for essential obstetric care was procured and distributed to districts, this resulted in an increase in supervised deliveries (MOH, 2005). On the

contrary the Non Governmental Organisations Coordinating Council, (2008) states that health indicators were declining in Zambia due to, among other causes, inadequate drugs and medical supplies. In Kazungula equipment such as vacuum extractors is not available in all the centres. The district has however bought things such as delivery beds, blood pressure machines, extended some centres to create room for deliveries. Women needing EmOC are referred to another district due to lack of equipment.

From the literature reviewed, it is clear that, a lack of material resource has an influence on health facility delivery in Kazungula district.

3.3 Organizational quality and consumer responsiveness as hindrance to health facility delivery

Organisational quality and consumer responsiveness refers to health centre performance in organising and providing maternal services addressing women's needs and to encourage service use (Claeson et al, 2001). Responsiveness of the health facility to health needs of a community is crucial to facility utilization Stekelenburg (2004).

Staff attitude, space, privacy, cleanliness, comfort of the delivery rooms, opening times, system of payments and referral service efficiency should be "user friendly." Consumers may not be satisfied with the way health services are organised in terms of operating hours and time of waiting before being attended to. (Stekelenburg, 2004;

Claeson et al, 2001), the ideal is that delivery service must be available 24 hours (Campbell and Graham, 2006). This is however currently not feasible in Kazungula due to critical shortage of skilled birth attendants.

In Kazungula the health centres open at 7 30 to 12 30 hours in the morning and 14 00 to 16.00 hours in the afternoon. However, the health worker is not with the woman to monitor labour because of other clinic services. Periodically, the health worker attends to the woman in labour. Women coming in labour, after working hours, have to call the health worker from his/her home. The health provider can take from a few minutes to an hour. Waiting time will depend on what the provider is doing at the time the woman comes in and the stage of labour. Female relatives almost always accompany the woman in labour. This is convenient for the health worker but not satisfying from the users' perspective. Non-availability of delivery service at all times could be discouraging women from using the health facilities for delivery in Kazungula.

The referral system should be well organised and respond quickly to emergencies. An efficient referral system is a requirement for enhanced use of the health services Stekelenburg (2004). Thaddeus and Maine, (1994) argue that not getting adequate care at the right time is a major reason why

women die during child birth in developing countries thus discourage women from delivering at the centres. Cham et al, (2005) states that delay may be due to operational problems. In Kazungula, The district has three land cruisers that can be used as ambulances and for other district purposes. All the health centres can be communicated to through cell phones or high frequency radios. However, it takes about three hours or more get a maternity case to hospital from any of the seventeen health centres in Kazungula district. It is not always that the vehicles are available at the district office. The other option used is that the health centre organises with local transporters where they are available. The district pays the transporters by providing fuel of not more than 20 litres. The second option reduces on time to get to hospital. In general the referral system is good. The major challenge is the time it takes to get the patient to hospital and women refusing referrals to Livingstone.

Impolite staff attitude deters women from health centre delivery (Claeson et al, 2001). A study in Tanzania found that staffs were abusive, not compassionate and reluctant in assisting women in labour. However, one of the women in a FGD said, *"When I went to the health facility for delivery, I was impressed by the midwife who cared for me so much. She was a human, polite and sympathetic."* (Mrisho et al, 2007 pp. 866). Some staff can be very rude to the women, especially those who come after working hours in Kazungula. Patients have complained about staffs that are rude through neighbourhood health committees. However, some women talk good about some health worker nonetheless, it is evident from the literature review that women do not use the facilities for delivery due to rude and disrespectful health workers. In Kazungula the situation is similar.

Space is among the many factors that can prevent health centre delivery (Claeson et al, 2001). In Tanzania, there was lack of privacy in some health centres and a woman said, *"some facilities have no special room for deliveries; the room is small and all treatment for both men and women are taking place in the same room: you can easily be seen while giving birth,"* (Mrisho et al, 2007 pp 866). This happens in six centres in Kazungula. The room used for delivery is the same one used for, general OPD screening. In case of a delivery, every patient has to leave the room; all other activities are stopped and wait until the woman has delivered. Deliveries in some centres are conducted form a narrow firm uncomfortable delivery couch. With in six hours after delivery the woman is discharged home. The community has complained and brought this to the attention of the area member of parliament. Space organisation does discourage women from using the health facility for delivery in Kazungula.

System of payment can discourage women from using the services for delivery (Claeson et al, 2001). Hospital services are said to be free, but there are hidden costs such as medicine and medical supplies.

A study in Bangladesh found that free maternal care includes hidden costs that could contribute to low use of maternal services (Nahar and Costello, 1998 cited by Duong, 2005). On the contrary a study in Nigeria indicated that financial cost for maternity was not a main factor in use of health facility. Similar findings are reported in a study in Ethiopia showing that cost of service was not as important as quality of services. Some studies suggest that government centres are less used because they are free (Auerbach, 1982, cited by Duong, 2005).

In 1998, Zambian government, attempted to broaden the health resource base by introducing cost sharing user fees (MOH, 2005). Kazungula was charging Kwacha 1 500 (US, 25cents) for a clean delivery pack. The pack contains, half of a single bed size plastic sheet to provide for a clean area for delivery, a tablet of soap, pair of gloves, a new razor blade, string cord tie, a box of matches and a candle. This pack is still used and available at antenatal clinic. It is thought that the clean delivery pack did not have any effect on use of antenatal services taking into account that it was not free, due to high antenatal coverage. Women are expected to use this pack whether they deliver at home or health centre. In 2005 government abolished all user fees in the rural areas. However the district continues to provide the clean delivery pack at antenatal clinic. It could be that the clean delivery pack encourages home deliveries because the message at ANC is that the pack can be used even for home deliveries in case the woman does not deliver at the health centre.

Facilities cleanliness is one of the factors that may influence the decision to deliver at a health centre (Claeson, et al 2001). In Kazungula district the health centres are generally clean, and delivery rooms are clean even when visited without notice. The toilets and showers are relatively clean but 18 out of 20 health centres use VIPs and bathrooms are out side the labour room. Women cannot use them freely. They are very inconveniencing both to the health worker and the women in labour. Therefore some women will decide to deliver at home because of toilets and bathroom location in Kazungula health facilities.

The way things are organised in the health facility and the manner in which it responds to women can reduce uptake of services. These include staff attitude, space, privacy, cleanliness and comfort of the delivery rooms, system of payments and referral service efficiency.

3.4 Timing and continuity of services

Timing refers as to whether time sensitive interventions are delivered the right point in time; while continuity looks at whether women get the necessary number of contacts for services that require repeated visits (Claeson, et al 2001).

Antenatal, postnatal and family planning require repeated visits. Increase in use of antenatal services is evident in developing countries. However, it is based on women who received one antenatal contact (Koblinsky et al, 2006). In 2001, World health organisation (WHO) recommended focused ANC (FANC). Four visits are required for each pregnancy and not the 13 visits as it used to be done. FANC focuses on maintaining normal pregnancy, not risk assessments (USAID, 2008), with knowledge that fifteen percent of all pregnancies may complicate during labour except it is not known which ones (DFID, 2008).

Focused antenatal, postnatal and family planning services are provided at all health centres in Kazungula. FANC is still not well understood by most health workers. The services are provided on specific days of each week. The health centres with the DHMT conduct monthly out reach clinics, each centre prepares clinic schedules. However, health workers in Kazungula concentrate on abdominal palpation, poor brief history taking and immunisations, health education is limited to those who have "at risk conditions" such as high blood pressure, first pregnancy, previous caesarean section thus women with out "at risk factors" are not informed that every pregnancy is at risk. This could also be attributed to, inadequate orientation to FANC. Urinalysis and weight are usually not done. The rest of the drugs and tests are done. Some times fansidar for malaria prevention is out of stock. The district is supported by Boston University in prevention of mother-to-child transmission of HIV and ANC. The quality of care is sub standard there fore continuity of care may be broken at ANC. Women will not come back to deliver at the centre because they are not told that care continues even up to labour, referral to the hospital if needed, postnatal and family planning. Care does not end with ANC.

Timing is crucial in EmOC, many a times it is provided at the wrong time or too late (Claeson, et al 2001). Timely response to emergency obstetric care will build trust of women towards health workers and thus encouraged to use the centre when they have difficulties. This is not related to opening and closing time of the centre. The centre can be opened at the right time but the health worker may fail to provide timely response to EmOC.

The opportunity of using ANC as platform for continued care such as advocacy for health facility delivery is missed in Kazungula.

3.5 relevancy of service

Relevancy of services is provision of health services addressing the health needs of the population, especially the poor (Claeson, et al 2001). In India EmOC is one of the national rural health mission activities without clear strategy or focus (Mavalankar, 2008), yet it is an important health need for the poor women. The situation in India is similar to Kazungula. The health care package at health centre and health post level is well defined and relevant to the community served (See annex 3). However, BEmOC drugs and other medical supplies are not part of the current health centre kit because it was not part of the health centre package initially and has not been revised to meet the relevant services. This service is nonetheless very relevant to the health needs of women in labour, given that women in Kazungula are in the habit of seeking care when they experience complications. Since BEmOC is not provided at the centre, women are referred to the hospital. This makes the women lose confidence in the health centre and not seek care in future. Relevancy of care provided can thus influence the health seeking behaviour of the women such as health delivery at the health facility.

3.6 Technical quality

Technical quality refers to the highest achievable prescribed standard. Technical quality relies on effective provider training and supervision, availability of appropriate case management guidelines, adequate input and workload of the providers (Claeson et al, undated; World Bank, 2001). Many reports show that quality of maternal care is poor in health centres, for instance, in Ghana, only 17% of primary level delivery units had good practice. In Nigeria and Cote D'Ivoire unqualified midwife assistants conducted deliveries without supervision with inappropriate management of complications further, In Benin, Rwanda and Jamaica health providers' knowledge and skills are not adequate (Koblinsky, 2006) therefore were likely to provide sub-standard quality of care. The women using delivery services cannot assess the quality of care. Nonetheless information collected from interviews gives vital ideas on what the women feel about the services provided (Cham et al, 2008).

In Kazungula, most health workers have low knowledge and skills in midwifery and BEmOC. Environmental health technicians, cleaners with TBA training and TTBA's conduct deliveries in the health centres with poor technical skills quality. My observation is that staffs with inadequate knowledge and skills tend to refer maternal cases to the hospital more often than midwives and women resent referrals to the hospital only to end up with a normal delivery. It is an added cost to women because the ambulance will not take them back home. Women who experience such will most likely shun use of the health facility for delivery in future. Thus poor technical

quality becomes a barrier to health facility delivery. Information about how women feel about the service is rarely sort for by health workers in Kazungula.

One of the important skills required in monitoring a woman in labour is use and proper interpretation of the partogram. A partogram is a tool used to monitor labour, maternal and foetal well being. Nurses and clinical officers are not able to use the partogram due to inadequate midwifery knowledge. However, in Kazungula, even some midwives who have been trained on use the partogram will usually not use it. The partogram is a useful tool, used to make life saving decisions, for instance referral in good time. Guidelines on use of the partogram, infection control, and referral protocols, integrated guide for frontline health workers are available in all the centres. Since, most health workers in Kazungula are in the habit of not reading therefore they continue providing poor quality care. It is however better to refer the mother to hospital if the health worker is in doubt than to end up with a maternal death. Unfortunately that is not the user's perception. A referral to the woman is failure to solve a problem leading to not using the centre even by other women who are observing the care provided.

Quality is further compromised in Kazungula because some of the centres have no running water, further as mentioned in the background information some centres have no electricity. Procedures such as suturing, examinations of the mother and baby are straining to the eye and may not be properly done due to power lighting. This is frustrating to the health care provider and consequently may lead to impoliteness to the women, discouraging women from using the facility the next time they are in labour.

In Kazungula monitoring of quality of services is supposed to be done by the district office as need arises and as routine once per month. Sometimes it is not possible. There is also a maternal death audit committee meeting in the district and with the hospital quarterly. However a lot needs to be done because the meetings are not appreciated. They are taken as faultfinding meetings yet the objective is to learn from the experiences so as to avoid similar preventable deaths. A Maternal death is likely to create mistrust in the facilities competence and discourage women from choosing a health facility delivery.

3.7 Social accountability

Social accountability in this context refers to the health worker being answerable to the community they are servicing (Claeson et al, 2001). In Kazungula the health workers feel they are not accountable to the community. Their salaries being paid from central government perpetuate this. Abolishment of district health boards and user fees put the women on

the receiving end. There is tendency of not demanding for quality maternal delivery services. The community thinks the health workers are doing them a favour by providing health services. However, some communities have complained about some health workers on telling the users how fortunate the users are to even have that particular health worker at the health centre. The community in Kazungula is nonetheless involved in planning and deciding through the neighbourhood health committees as mentioned in the background information of this paper. Activeness of the committees varies from health centre to health centre. Some are very active while others are not active. The neighbourhood committee members are part of the performance assessment team. In this way some of the community suggestions are shared. Lack of accountability can create non-responsiveness to the needs of the users among the health workers in Kazungula.

Increasing maternal services and improving the quality of care provided is necessary but it is not enough to stimulate women to use the health facility for delivery. It is therefore important to understand why women choose not use the available health facility quality improved (Lule et al, 2005), hence exploring of demand factors in the following chapter.

CHAPTER FOUR: CULTURAL AND ECONOMIC BARRIERS TO HEALTH CENTRE DELIVERY (DEMAND FACTORS)

Cultural and social economic factors are demand side barriers to use of health facility for delivery that do not depend on provision and price of health services. (Ensor and Cooper, 2004), Andersen's 3- factor Model as already mentioned in the methodology is used to structure the demand factors. However, the inter-relationship of the factors is complex such that utilisation of services still cannot be adequately addressed using this model (Stekelenburg, 2004). Predisposing, illness level perception and enabling are the demand factors discussed in this chapter.

4.1 Cultural barriers

4.1.1 Predisposing factors

Predisposing factors are circumstances that are likely to cause the pregnant woman deliver at home. These include demographic, social structure and beliefs (Bradley, et al 2002; Andersen, 1995).

4.1.1.1 Demographic factors.

Several studies show that woman's age, marital status and parity can influence choice of place for delivery. Women in Kenya, Malawi, Ghana, and Burkina Faso, with more than one child and older were more likely to deliver at home. On the contrary, a Uganda study after multivariate analysis showed that age, parity and education level of the mother were not significant causes when compared with fathers occupation and the woman's socio-economic class (Nuwaha and Amooti-kaguna, 1999). A study in Botswana on the other hand showed that teenagers often did not use health facilities for delivery (Letamo and Rakgoasi, 2003). In Zambia, 55% of women delivering in health facilities are young and 65% are those having their first baby (Central Statistics Office, 2008). Women above 35 years and those with more than five children are more likely to deliver at home. They consider themselves experienced requiring no health provider assistance. Similarly, in Kazungula, young women consider themselves at risk because they have never delivered before and emphasised at the ANC so they use the health facility more than the older women. Women in Kazungula, 35 years and older and women who have delivered more than twice often opt for home deliveries. Some married women will depend on husbands to decide where the delivery will take place. Therefore from the review it is found that age, marital status and parity are barriers to using health centres for delivery in Kazungula.

4.1.1.2 Social Structure

The decision to use a health facility for delivery or not is rooted in the social structure (Andersen, 1995). A perpetual gender inequality within the family and society is sustained by large educational differences between men and women. Larger gender gaps in education are conditioned by society's level of socio-economic development (International labour organisation, 1995 cited by Central Statistics Office, 2008). One of the key indicators for analysing women's status is their educational attainment. The most important determinant for health service use is maternal education (Ensor and Cooper, 2004). It is noted from various studies that more educated women are more likely to use skilled birth attendants than the uneducated. (Bernis, et al 2003: Letamo and Rakgoasi, 2003). A study in Bangladesh by Anwar, et al (2007) found that 74% of women with ten or more years of education compared to 18% with no years of education used skilled birth attendants. Eighteen percent of women married to men with no education used skilled birth attendants compared to 64% of women married to men with 10 years or more of education.

There are various barriers to women empowerment in Zambia, such as inequality to access education, discrimination in employment and occupation. Only 5.4% rural women can make decisions over their husband's earnings (Central Statistics Office, 2008).

In Zambia, forty six percent of the men decide on the number of children they will have without women having a say (Central Statistics Office, 2008). However, it was found that 61% of the rural women are able to decide to seek health care on their own (Central Statistics Office, 2008). Women with higher education level, make their own independent decisions than women with lower education. Only, 5% of the women with tertiary education cannot make decisions in the home (Central Statistics Office, 2008). Women in the rural areas such as Kazungula are disadvantaged because most of them have primary or below level of education and will not make decisions affecting them. Additionally, women married to men of primary and below levels of education are not likely to use the health facility for delivery. Women who are educated in Kazungula are mostly civil servants found in schools, community development offices and will usually use the centres for delivery. The literature reviewed shows that low levels of female and male education are barriers to health facility delivery.

4.1.1.3 Beliefs

Traditional beliefs and knowledge society has on childbirth influence women to deliver at home. It tailors the way individuals perceive their own health (Stephenson, et al 2006). Study results in Benin found that women who delivered at home were admired (Kyomuhendo, 2003: Stephenson et al., 2006).

Traditionally childbirth is seen as a normal occurrence, therefore does not require health facility service because it is not a disease (Liamputtong, 2003). Complications are seen as a result of the contrary to custom behaviour of the birthing woman not a problem needing health facility care. (O'dempsey, 1998; cited by Liamputtong, 2003). In Tanzania, labour is kept secret because if a complication develops it means the woman is adulterous. As remedy a woman is made to mention all the men that have slept with her. (Mrisho et al., 2007). It is tradition in some Peru communities to bury the placenta and cord in the house so that the baby does not leave the house early (Amnesty International, 2006).

In Kazungula, it is believed that the placenta must be buried in a certain manner for the woman to continue bearing children. It is said (Luzyalo lula nsinka in tonga) fertility will be closed if the placenta ritual is not followed. At the health centre the placentas are incinerated contrary to cultural belief. It could be reason why women do not to use the health facility for delivery. However women who ask for the placenta are allowed to take it.

Communities in Kazungula believe that women must endure labour pains, never to cry or shout and that shedding tears in labour will kill the baby. Men should not hear a woman in labour shouting from pain. That is an embarrassment to the woman, her mother and mother in law. Out patients department (OPD) is only separated by a wall in some centres and women may be heard crying. This could be discouraging women from delivering at the clinic. At their homes men including the husband are not expected near the room where a woman is giving birth.

In Kazungula, labour is kept a secret. It is believed that some people use black magic and cast spells and cause difficult labour and even death. If the woman in labour has to go to the clinic, no one should know about it. The mother, grandmother of the woman in labour and the mother in law are the only ones to be informed.

4.1.1.4 Perception of illness level factor

Illness level need relates to what an individual perceives as illness thus seeking care starts with an individual recognising danger signs (Thaddeus and Maine, 1994).

The decision to seek care is a behavioural response to a perceived need related to knowledge on previous experience at the health facility. It is not due to health facility accessibility, women's ignorance, illiteracy, poverty or superstition as perceived by providers' states Thaddeus and Maine (1994). This may be right to a certain extent; I however think illness level perception

among the women in Kazungula does contribute to low use of health facility deliveries. Delivery perceived as a natural event taking its course and not an illness. For instance in Kalabo only 15% of the women who visited ANC knew the risk factors and danger signs of pregnancy (Stekelenburg, 2004). Given that women in Kazungula are socialised that pregnancy is not an illness it is most likely that they will not notice the danger signs of pregnancy or labour and will not use the health centre for deliveries.

As evidenced in the literature review, even in Kazungula labour is seen as normal for instance a 21years old lady with a high blood pressure and swollen legs was advised to go to the centre. The lady said it was harvesting time, if she went to the clinic the husband would term her as being lazy and besides pregnancy was not an illness. It is believed that if she dies then, that is Gods wish; there is nothing any one can do about it.

The literature review found that beliefs and perception of pregnancy and labour not being an illness is a barrier to use of the health centres for delivery in Kazungula district.

4.2 Socio- economic factors

4.2.1 Enabling Factors

4.2.1.1 Family income

Enabling factors refer to the means that make it possible for the woman to use the health facility for delivery. Socio-economic factors have a strong influence on whether the woman will give birth in a health facility or not (Stephenson, et al 2006; Zakareishvili, 2007). Economic status increases the use of health services (Thaddeus and Maine 1994). In Nepal the lower the economic status of the women the more likely they are to deliver at home (Wagle, 2004). Similarly, in Nigeria, women still deliver at home despite the availability of maternity services and cited fees and low income as reasons for not using the facility (Mrisho, et al 2007). In Tanzania, women from almost all the villages delivered at home because they did not have money to pay for the delivery pack, transport money and food. They opted for home delivery, which cost about \$0.5 for gloves and a razor blade. One of the women in the FGD said, *"There is no reason for me to pay for a bed at a health facility while I could give birth for free at home."* (Mrisho, et al 2007 pp 865).

House ownership, occupation and income are used to measure economic status in Ethiopia (Thaddeus and Maine 1994). "Wealthier" women are more likely to use skilled birth attendants (Bernis et al., 2003). In Bangladesh rich women are ten times more likely to access skilled birth attendance during labour and postnatal (DFID, 2008).

Most of the women in Kazungula health centre catchment area have family income of about US \$600 per month and they deliver at the health centre. The income enables them to prepare and decide to deliver at the health facility without difficulties of transport, food and other costs. On the contrary, as stated in the district background information some women are not economically empowered and are in extreme poverty in some areas of Kazungula. Some women are engaged in farming in addition to housework but husbands make decisions over the wives earnings, the family low income leaves the women with no choice but to deliver at home. It is clear from literature that low family income could be a reason for not delivering at the health facilities in Kazungula

CHAPTER FIVE: BEST PRACTICES: ON INCREASING HEALTH FACILITY DELIVERIES

This chapter focuses on latest literature reviews and selected examples for evidence based practices and lessons learnt and illustrate the most useful for Kazungula. The lessons learnt are both positive and negative out comes of practices from Zambia and other countries. The interventions include waiting mothers' homes, improvement of roads and skilled birth attendants. Community based programmes, increasing responsiveness of health services use of modern technologies in communication, community emergency loans, insurance and incentives for seeking care.

5.1 Health Services

5.1.1 Maternity waiting Homes (MWH)

The objective of WMH is to increase accessibility to skilled birth attendants, thus reducing maternal mortality (van Lonkhuijzen et al., 2009).

MWH is a house provision, within a hospital or health centre premises, which provides emergency obstetric care (EmOC). Women are encouraged to stay in the MWH at the end of nine months until labour starts, then they move to the delivery room. (van Lonkhuijzen et al., 2009).

The latest literature reviews show that MWH increases use of health facility for delivery. Lessons learnt from the review show that MWH is a potential strategy to increase health facility deliveries especially among the very poor (van Lonkhuijzen et al, 2009; Nuwaha and Amooti-Kaguna, 1999). For instance, in Peru families were allowed in the MWH, the use of the facility for deliveries increased from 6% to 67% (Amnesty International Peru, 2006; Hunt, Bueno De Mesquita undated). In Malawi women were allowed to lodge in the antenatal wards, more than half of the women were satisfied with MWH. The MWH had advantages of accessing skilled birth attendants, ANC and making new friends (van Lonkhuijzen et al, 2009). In Cuba MWH contributed to increased facility deliveries from 63% to 99% because women who were not accessing the facility due to distance were able to deliver in the facility (Lule et al., 2005).

In Nyanje, Zambia, women with "high risk" pregnancies and women who lived far away from the health facilities used the MWH. A fee of Kwacha 1000 (USD 3\$) was charged per stay. The midwife provided ANC and health education weekly and food was provided. The referral system was working well because women who developed complications during labour would be referred from the facility without delay compared to if the woman was in the village far away from the health facility. (van Lonkhuijzen et al., 2003; Bhutta et al., 2009).

On the contrary, lessons learnt based on the literature review show that lack of careful assessment and planning in the local context leads to failure of MWHs. For example, some women did not use MWHs due to over crowding, shortage of water, firewood, poor hygiene and lack of transport for referrals (Van den Heuval cited by van Lonkhuijzen et al., 2009). In Zaire, women were not using the MWH because there was no food and no help provided for cooking. In Ghana, the cost for MWH was higher compared to home delivery. Further more the MWH was away from the hospital, at night transport was difficult and health staffs were not available. In Nicaragua and Peru, being away from the family was reason for not using MWH. (van Lonkhuijzen et al., 2009: Amnesty International, Peru 2006). The review shows that careful planning is required before opening MWHs

Experience of MWH established in Zambia is the ones in Nyanje already referred to in the literature review of (van Lonkhuijzen et al., 2003: Bhutta, et al 2009), and recent ones established in Nyawa and Makunka in Kazungula district. In addition to the review this experience shows the following:

- Referral from MWH to the hospital works well. It is easier to get transport from the health centre to the next level than from the village to the centre when the woman is in labour.
- In some areas women are willing to pay Kwacha 1000 per stay, in Kazungula this would exclude a large group of the poorest women so the MWHs are provided free of charge.
- The availability of a female health worker and responsiveness to the needs of the community influenced the use of the MWH in Nyawa.
- The occupants of the MWH are responsible for keeping the house clean. They are allowed to come with a relative for support.

Based on the lessons learnt from the literature review, MWH is a feasible strategy in Kazungula if implemented with careful planning and with community involvement; it could contribute to increased use of health facilities for delivery

5.1.2 Transport and Road improvement

There is evidence that improving the roads has positive results on use of health centres for delivery. In Kenya, construction of the road leads to cost reduction due to increased competition in public transport thus an increase in health facility utilisation (van Lonkhuijzen, 2003).

In Kazungula the roads are very poor and public transport is barely available. Lesson learnt from the Kenyan experience is that, improving roads could increase uptake of health facility delivery services. It is nonetheless a

challenge in Kazungula because it requires political commitment from all levels.

5.1.3 Skilled birth attendants' (SBA) interventions

It is evident from the literature reviewed that skilled birth attendants have the potential to provide quality care and increase the use of health facilities for delivery. For instance in Nepal the number of deliveries increased from 1078 (2003/2004) to 1753 (2005/2006) (Chaudhary, 2008).

Experience shows that it is possible to have SBA in most facilities, provided that the sufficient number of SBA is trained on midwifery practices as well as training facilities are put in place (Bhutt, et al., 2009). For example, Nepal developed a midwifery-training centre and was accredited by the national training centre; almost all the auxiliary nurse midwives were trained. In fact in Nepal, SBAs provide 24 hours delivery of CEmOC and BEmOC services. In addition, there is evidence that some skilled providers have low knowledge on basic obstetric care (Bhutta et al., 2009). In Nicaragua, for instance, 16.7% had knowledge on management of third stage of labour (Caravan, 2008). Nepal experience shows that a one-month midwifery refresher course can upgrade the skills of birth attendants. Lessons learnt are that, learning needs assessment of SBA is important so that the training is tailored to address specific knowledge and skills gaps. SBA should constantly attend knowledge and skills refresher courses.

There is evidence that the government and non-governmental organisations have important support roles to play in improving the quality and uptake of delivery services. For example, Nepal government with assistance from UNICEF constructed a birthing centre and operating theatre (Chaudhary, 2008). This improved the coverage of SBA.

The implication for Kazungula is, increasing the number of SBA in the district by training the existing nurses. The feasibility of implementing such interventions in Kazungula however is not without challenges. Kazungula has no training centre for midwifery skills. The refresher course is mainly theoretical with no practice because there are no sufficient deliveries for practice. Therefore SBA practice for competence can be done from other districts. It is important to preferably have all the health workers upgrade their midwifery skills. This will ensure increased coverage of quality care and uptake of delivery service, it is attainable but it requires commitment from the district and MOH learning from successful experiences in Cuba, Egypt and Sri Lanka (Bernis, 2003).

5.1.4 Roles of the community in stimulating use of health facility for delivery

There is growing evidence that community involvement can improve utilization of health facilities for delivery (Costello, 2004; Chowdhury, 2007). For example TBAs in Guatemala, Indonesia and Brazil were trained to recognise complications in pregnancy and antenatal. They were additionally informed of importance of referring women immediately they observed a complication (Caravan, 2008; Bhutta et al., 2009). The health workers recognised TBAs as part of the team and improved the attitude towards the TBAs (Bernis, 2003). The result was increase in referrals from the TBAs by 313% (Bhutta et al., 2009).

Experience from Nepal shows that community watch group's link with government health facility services and provide outreach services at community level. They identify danger signs of complicated pregnancy; keep track of all the pregnant women in their catchment area and keep records of the women. Watch groups send women for ANC and postnatal checkups. They also give advice on iron tablets and tetanus toxoid (Chaudhary, 2008).

There is evidence that training TBAs improves behaviour related to intra partum practices. In Tanzania, trained TBAs were more knowledgeable on danger signs during pregnancy and childbirth and were more likely to refer complications to the facility than the TBAs without training (Hussein, 2005). In Bangladesh trained TBAs were 45% more likely to perform clean deliveries than 19% of TBAs not trained (Goodburn et al., 2005 cited by Caravan, 2008).

There is evidence from Tanzania that TBAs can be trained to recognise abnormal bleeding after delivery and give drugs to stop the bleeding (Rasch, 2007).

There is ample evidence that community participation and training of TBAs contributes to use of health facility deliveries. There is however evidence from some literature that TBA training has no marked effect on TBAs referral behaviour and use of maternal health service (Sibley et al., 200; Sibley et al., 2009). It is clear from the literature that studies still need to be conducted in the area of TBAs training curriculum and benefits.

Evidence shows that practitioners and policy makers appreciate the role TBAs play in the community. For example, in India, Honduras, Zambia and Peru emphasise that tandem with SBA, TBAs still play an important role (Costello, 2004; Lule et al., 2005; Wiebenga, 2007), given that in Sub-Saharan Africa 54.9% women deliver without SBA (Bernis, 2003; Lule et al., 2005). Nonetheless, literature shows that TBAs are not an acceptable

replacement for SBAs but rather a short term plan while strategising for long term SBAs (Kamal, 1998 cited by Caravan, 2008).

In Kazungula, community participation is feasible because already there is community involvement. For instance, the TBAs CHWs and safe motherhood action groups (SMAGs) are involved in out reach maternal health services. TBAs still conduct home deliveries. The SMAGs roles are similar to the Nepal watch groups roles already mentioned.

In Kazungula TBA, CHW linkage with the health centres does already exist while in others there is a break in the link. This is due to inadequate support. Lessons learnt from Nepal experience is that these linkages must not be broken because TBAs, CHWs and SMAGs assist women in accessing health facilities and referrals. In Kazungula there is need to develop linkages with TBAs, CHW and SMAGs. Given that 80% of women do not deliver at the health facility and no feasible quick solution to increased coverage of SBAs, it is better to have "TTBAs" than no assistance for women in labour at all.

In order to stimulate the TBAs CHWs and SMAGs to refer women to the health facility for delivery they have to be motivated. Mindful that TBAs lose payment when they refer a woman to the centre. Therefore since SBA is of benefit to the community and government at all levels, it should be feasible to pay the TBAs CHW and SMAGs for their efforts. TBAs, CHWs and SMAGs who are committed, performing well and are able to learn can be offered training to upgrade to SBA.

Lessons learnt from the review is that TBAs are able to give drugs to stop bleeding after delivery is worth exploring and they still play a vital role. The challenge is in developing appropriate learning material for TBAs and enumeration.

5.2 Best practices on reducing cultural and socio economic barriers to health centre maternal delivery (demand factors)

5.2.1 Increasing responsiveness of health services.

There is evidence from the literature that better communication between the provider and the users, promoting user participation in planning, monitoring and evaluation of services, respecting women and incorporating good cultural practices and those that do not cause harm in the provision of delivery services improves uptake of delivery service (Wiebenga, 2007). For example in Peru, health workers improved communication with the community, promoted user participation in planning and making decision (Amnesty International Peru, 2006).

In Peru, drawing curtains during care provision provided privacy. Further, a bed with a sturdy rope used for gripping during delivery so that women could give birth in an upright or squatting position depending on their preference was provided (Amnesty International, Peru 2006). A family member delivered the placenta and women were allowed to stay for eight days after delivery. The health works ensured that information on the new maternity services was disseminated in workshops, posters and radio programmes using local language. Facility deliveries increased from 6% to 67% (Amnesty International Peru, 2006; Hunt, and De Mesquita, undated).

It is possible to increase responsiveness in Kazungula. For example, already female relatives are allowed in the labour room. From the lessons learnt, it is feasible for relatives to take the placenta home. There is usually one woman in the labour room and postnatal room at a time in most health centres in Kazungula, hence the feasibility to keep women for eight days after deliver. This further responds to the cultural norm of postnatal women staying in doors until the umbilical stub heals. Centres without labour rooms, may require additional resources to construct the rooms. This may improve the uptake of health facility deliveries and in fact may improve postnatal care at six hours and six days because the mother will not need to walk from home to the centre for postnatal care.

5.2.2 Use of modern technologies in communication

The use of modern technology in communication as a behaviour change strategy is growing. For example, in Uganda a behaviour change strategy, "text to change (TTC) pilot programme was introduced. TTC provides information using mobile phone text messages. The messages were tailored to encourage participants to access services, The TTC pilot is said to be a success in voluntary counselling and testing. Mobile phones are used on a large scale for an educational purpose is evidence that the concept works (van Beijma, 2009). However there is no review on TTC use in maternal health.

Now that there is some evidence that text messages have indicated good response with VCT. It is also possible that such a programme could be used in Kazungula to promote institutional deliveries since some villages in Kazungula have cell phones. The texts could be sent in local languages. This may assist in reminding women on birth and emergency preparedness. Messages such as, "deliver at health the centre," can be sent by short messages service. However it will need an exploratory study on who has access to cell phones and the feasibility of implementing such a service.

5.2.3 Emergency loan/insurance funds and financial incentives for seeking care

Literature review shows that providing funds for emergency care increases use of health facility for delivery. (Bernis, 2003: Lule et al., 2005). For example, in Nepal, strategies in rural areas to address financial barriers to accessing delivery services include community emergency loan and insurance schemes (Bhutta et al., 2009: UNICEF, 2008). The community pool and manage the schemes themselves. The money is used to pay user fees, transport, and medication, follow up care and opportunity costs. The Loans must be paid back. Insurance schemes charge is fixed prepayment and is paid back in part or full cost of service if the woman attends ANC, delivery or postnatal care at the health facility (Bhutta et al., 2009). These schemes save the family from financial catastrophic effects. In Benin, the household could pay up to 26% of their annual income if they are not on a scheme (Filippi, 2006). In Bangladesh a family could pay almost nine times higher if they are not on a scheme (Bhutta et al., 2009). In Nigeria twelve clans out of thirteen clans succeed and collected donations amounting to US\$793 and 80% was from the community members, they also set up an emergency transport system and a loan fund of US\$ 20,500 (Bhutta et al., 2009). In the Democratic Republic of Congo the insurance scheme increased skilled attendance delivery seven fold in the members compared to those who were non-members (Bhutta et al., 2009). In Bolivia a national social insurance scheme increased the proportion of skilled birth attendance from 24% to 34% (Lule et al., 2005).

Local government in Mauritania sponsors and administers the obstetric insurance programme and waives costs for the poorest women (Bhutta et al., 2009).

It is feasible to set up an obstetric emergency fund because already there are community-based incomes in Kazungula. However, none of it is used for maternal health. Besides chiefs receive community funding from timber investors and hunters, part of community incomes could be used for maternal health. Possibilities of extending these funds to emergency obstetric care can be explored especially that local government and the state have no medical schemes in place as yet.

5.2.4 Financial incentives for care seeking

Financial incentives have been set up to reduce financial barriers to care seeking, avoid catastrophic costs of obstetric emergencies and create demand for maternity services among poor and marginalized women (Lule et al., 2005).

Conditional cash transfer give funds to individuals or families with an agreement that they will attend ANC, delivery and postnatal care at a health facility Conditional cash transfer reduces the long term debts because the money the women get after using the service is used to repay emergency loans to the lender (UNICEF, 2008).

A fairly new strategy is the voucher schemes. These are used to stimulate demand for using the service. Women are given vouchers at community level and can use them for specific services such as ANC, delivery or postnatal care at contracted health facilities (UNICEF, 2008).

India introduced a national incentive programme in 2005. It promotes facility-based deliveries and gives money to poor rural pregnant women when they deliver and postnatal for first and second pregnancy (Bhutta et al., 2009). There is also additional cash for emergency transport and caesarean section. Use of skilled care and facility based services increased by 2.74 million beneficiaries from 2005/2006 to 2007/2008. A similar program is in place in Nepal, government funds facility based deliveries, gives conditional cash transfers to women who seek care at facilities and their care providers (Chaudhary, 2008).

The voucher system is a good strategy but will be a challenge in Kazungula. However it is worth implementing because it would save them from catastrophic financial difficulties. The Nepal cash transfer strategy could be the best quick wins for Kazungula, based on fact that it provides an incentive for the SBAs and the woman delivering. It nonetheless requires careful planning so that it will not be used to favour some women known to the health workers.

Most of the evidence-based strategies discussed are feasible in Kazungula. However, there will be challenges but careful planning using available resources some interventions will be implemented.

CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS.

Conclusions and recommendations for community based health care, the health centres; DHMT and MOH for intervention that will improve uptake of health facility use for delivery based on best practices from other districts in Zambia and other countries applicable to Kazungula are out lined.

6.1 Conclusions

Barriers limiting women to access health facility deliveries continue to exist, thus, the 20% health centres deliveries in Kazungula. Barriers to health facility deliveries include health service, cultural and socio-economic factors.

The literature review found that health service barriers in Kazungula include long distance due to uneven distribution of health centres, lack of transport hence long walking hours to the health centres. There is shortage of skilled birth attendants resulting in unqualified staff providing technically poor quality care, inadequate drugs, medical supplies, inadequate midwifery skilled supportive supervisory visits to health centres and lack of staff accountability to women delivering in the facilities.

The study found that in Kazungula there is poor organisation quality and lack of responsiveness to maternity facility delivery user needs. These include impolite staff, inadequate space in some centres, lack of privacy and uncomfortable delivery rooms, long waiting hours before the women are attend too and inefficient referral services. There is poor timing and continuity of service delivery such as ANC postnatal clinic and immunisation schedules. There is lack of relevant services such as BEmOC in the health centres. These discourage women from using the health facilities for delivery.

Literature review shows that in Kazungula most women of low status are not empowered to make a decision on where to deliver. Further the perception of pregnancy influenced by traditional beliefs and lack of awareness of danger signs during pregnancy and labour prevent women from using the facilities for delivery.

Best practices such as maternity waiting homes in Nyanje, and Peru is evidence that with careful planning maternity waiting homes are likely to increase use of health facilities for delivery. Nepalese and Bangladesh health centre, post and community strategies is evidence skilled birth attendance can be increased by training health workers and supervisors in midwifery skills and Emergency obstetric care. CHWs, TTBA's and other community workers are valuable when trained in recognising danger signs in pregnancy labour and post natal. Essential drugs, medical supplies and equipment for basic emergency obstetric cares at health centres are important inputs in

improving quality of care. Community loans/insurance schemes and emergency obstetric transport managed by the community have proved to increase health centre deliveries.

6.2 Recommendations

In my capacity as district director of health for Kazungula I will work to ensure that these recommendations are implemented.

6.2.1 Recommendations to community leaders, CHW, TBAS and SMAGs

- Women to set up and manage community loan/insurance scheme funds for obstetric care with support from local leadership.
- Organise local ambulance transport from villages where vehicles cannot reach to the health centre.
- Apply to donors for a vehicle that will be managed by a non-governmental organisation.
- Local political leadership must vigorously address the poor road network.
- Safe motherhood support groups should hold advocacy meetings on the importance of SBA with chiefs, headmen and elderly women so that they will encourage their subjects to use the health facilities for delivery.
- TTBA, SMAGS and CHW should keep record, follow up pregnant women, provide information, on danger signs of pregnancy and labour, birth preparedness and referral.

6.2.2 Recommendations to health centre committees

Enhance linkages with TBAs, SMAGS and CHWs.

- Explore the commitment of NGOs to support community awareness programmes.
- Health workers should recognise the TBAs, SMAGs and CHWs as valuable team members in creating awareness on importance of delivering at the health centre and recognition of danger signs and timely referring women in case of complications.
- Provide support and supervision visits to TBAs.

Enhance communication between the health workers and community.

- Organise quarterly meeting with the chiefs, headmen local politicians at village level.
- Health workers should explore the feasibility of keeping cell phone numbers of pregnant women and send text messages promoting SBAs and other usages.
- Promote user participation in planning and monitoring maternal health services.

Respond to user needs.

- Enhance privacy, respect and be polite to the women.
- Explore feasibility of incorporating community traditional beliefs in maternity care, keeping women for eight days after delivery. This will also create opportunity first six hours and sixth day postnatal care.
- Allow relatives in the labour room and give them the placenta if they want it.
- Provide food, beds and beddings in the Maternity waiting homes.

Support improvement women's status.

- Strengthen partnership with stakeholders such as local political leadership, local chiefs and advocate for community insurance scheme/loans and male involvement since they are the key decision makers in money issues.
- Support for women about delivery and advocacy for Women and Gender Ministry at local level.

6.2. 3 Recommendations to district health management team

Increase number of SBA and technical quality

- Organising training in SBAs for supervisors and nurses and clinical officers.
- Organise up grading in SBA refresher courses for doctors and midwives.
- Arrange for quality supportive supervision to the health centres by competent SBAs from hospitals.
- Apply for donor support in retention of staff, for example, staff house rehabilitation, health centres, and installation of piped water providing solar or hydro electricity and should include the activities in district plan.
- Strengthen referral system.
- Allocating a vehicle to the health centres on the Northern side of the district.
- Ensure timely distribution and availability of obstetric drugs, medical supplies and non-medical supplies at the health centres.
- Promote SBA by supporting health centre and community organised workshops, posters and radio programmes using local language.

6.3.4 Recommendations to Ministry of Health

- Establish training facilities for comprehensive and basic obstetric care in each province.
- Explore the feasibility of including basic emergency obstetric care in the rural health centre kit.

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Annex: 1 THE BASIC HEALTH CARE PACKAGE

Health Post	Health Centre	1st level Hospital
Curative services.	Curative services.	Curative services.
<ul style="list-style-type: none"> ▪ Out patients management of simple diseases 	<ul style="list-style-type: none"> ▪ Out patients and in patients management of simple diseases 	<ul style="list-style-type: none"> ▪ In patients management of cases referred from health post and health centre
Preventive services	Preventive services	<ul style="list-style-type: none"> ▪ Maternal health ▪ All referred cases ▪ Supportive services ▪ Laboratory ▪ Radiology ▪ Pharmacy ▪ Physiotherapy
<ul style="list-style-type: none"> ▪ Child health ▪ Maternal health ▪ Family planning ▪ Antenatal care ▪ Delivery care ▪ Postnatal care ▪ Vaccinations ▪ Communicable diseases ▪ Epidemic preparedness ▪ Information education and communication 	<ul style="list-style-type: none"> ▪ Child health ▪ Maternal health ▪ Family planning ▪ Antenatal care ▪ Delivery care ▪ Postnatal care ▪ Vaccinations ▪ Communicable diseases ▪ Epidemic preparedness ▪ Information education and communication 	

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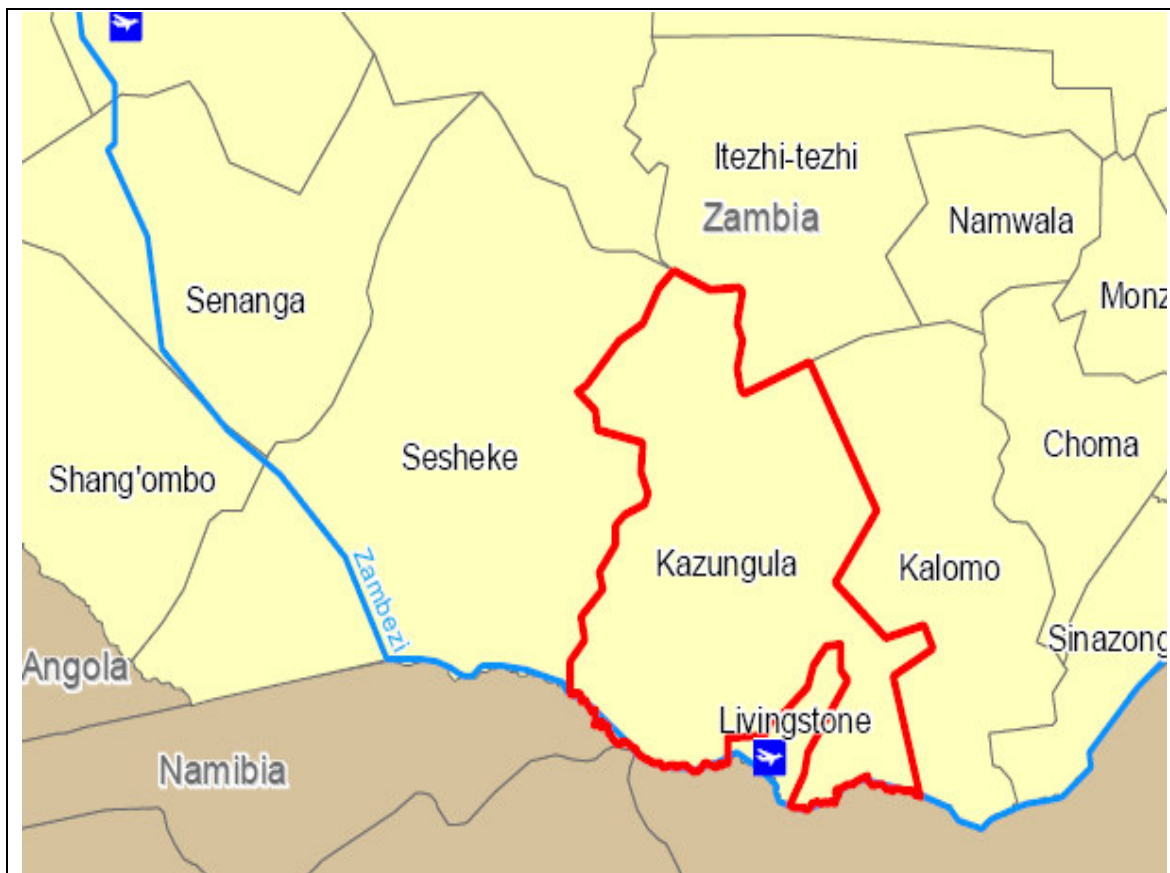
Annex 2: Financing of Health Facilities 2002-2004 (ZK:Billions) exchange rate

US\$1 to ZK 4353 as of 26th April 2007

Facility type	MOH/CBOH	Other GRZ	Households	Employers	Other private	Donors	Total
MOH Tertiary Hospital	5252.4	0	33.5	0	38.3	0	324.1
MOH Secondary Hospital	120.5	0	8.0	0	10.5	0	139.5
MOH District Hospital	808.7	0	17.8	0	48.4	0	874.9
For Profit Hospital	2.3	0	490.4	281.2	23.5	11.0	808.3
Mission Hospitals	19.1	0	0.6	0	4.5	8.8	32.6
Ambulatory Care	57.7	0	0.5	0	1.7	14.6	74.5
Other providers	37.9	0	13.3	0	7.8	73.6	132.6
Other Institutions	5.9	34.1	3.4	0	1.0	293.9	338.2

Source: Picazo O., F. and Zhao, F. 2008

Annex: 3 Map of Kazungula District



Source: Metcalfe, S (2005)

Annex: 4 Map of Zambia

ZAMBIA



kviii | Map of Zambia

Source: Ministry of Finance and National Planning, (2006)