ASSESSMENT OF FACTORS DETERMINING THE CHOICE OF BIRTH ATTENDANT IN KISAU DIVISION, MAKUENI DISTRICT, KENYA

BY

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Declaration

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

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We confirm that the work reported in this thesis was carried out by the candidate under our supervision.

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Dedication

This thesis is dedicated to Boniface, for he made it possible.

To my angels Travis, Kelly and Trevor, I love you all.

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Operational definition of terms

Skilled Birth Attendant (SBA)

A skilled birth attendant is an accredited health professional such as a midwife, doctor or nurse who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns. Traditional birth attendants trained or not, are excluded from the category of skilled attendant at delivery (The World Health Report, 2005).

Traditional Birth Attendant (TBA)

A traditional birth attendant is defined as a community-based provider of care during pregnancy and childbirth. TBAs are not trained to proficiency in the skills necessary to manage or refer obstetric complications. TBAs are not usually salaried, accredited members of the health system. Although they are usually highly esteemed community members and are often the sole providers of delivery care for many women, they should not be included in the definition of a skilled attendant for the calculation of the Millennium Development Goal 5 target.

Skilled Birth Attendance

Refers to the utilization of a skilled birth attendant operating within an enabling environment or health system capable of providing care for normal deliveries as well as appropriate emergency obstetric care for all women who develop complications during childbirth.

Maternal morbidity

Refers to serious disease, disability or physical damage such as fistula, caused by pregnancy-related complications. Maternal morbidity is widespread, but not accurately reported.

Maternal mortality

This is a Maternal death, which according to the Tenth International Classification of Diseases, is defined as "the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and the site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes."

Maternal mortality rate

The number of deaths per 100,000 women in the 15-49 age group, measure the impact of maternal deaths on the population of women as a whole, not just on pregnant women. The statistic is affected by two factors: the risk of death among pregnant women and the proportion of women who become pregnant each year. The maternal mortality rate can be lowered either by making childbirth safer or by reducing the fertility rate in the population.

Fistula

An injury in the birth canal that allows leakage from the bladder or rectum into the vagina, leaving a woman permanently incontinent, often leading to isolation and exclusion from the family and community.

Abbreviations and Acronyms

ANC	**-**	Antenatal Care
ASALS	**-**	Arid and Semi Arid Lands
CBS	-	Central Bureau of Statistics
CDF	**-**	Constituency Development Fund
CHWs	-	Community Health Workers
EMOC	-	Emergency Obstetric Care
FCI	**-**	Family Care International
NCAPD	**-**	National Coordinating Agency for Population and Development
MDGs	**-**	Millennium Development Goals
MOE	-	Ministry of Education
MOH	**-**	Ministry of Health
SBA	-	Skilled Birth Attendant
TBA	-	Traditional Birth Attendant
UNFPA	**-**	United Nations Population Fund
UN	**-**	United Nations
UNESCO	**-**	United Nations Educational, Scientific and Cultural Organization
UNICEF	**-**	United Nations Children's Fund
UON	-	University of Nairobi
WHO	-	World Health Organization

Abstract

The Kenya Demographic Health Survey (KDHS) 2008 showed that maternal mortality in Kenya is estimated at 488/100,000 live births, and that pregnancy related complications are the leading cause of death (27%) among women of childbearing age (CBS, 2008). Although 92% of women receive antenatal care at least once during pregnancy, a skilled attendant assists only 44% of mothers during childbirth. Therefore, the purpose of this study was to assess the factors determining the choice of birth attendant in Kisau Division, Makueni District. The specific objectives of the study were to: establish the level of utilization of Skilled Birth Attendants (SBAs) and Traditional Birth Attendants (TBAS) in the study population, examine the effects of socio-economic and demographic characteristics on choice of birth attendant, establish the role of TBAs in choice of a birth attendant and determine strategies that can be used to improve skilled birth attendance in the study population. The study adopted a descriptive survey design and the eligible respondents were women who had delivered in the previous 12 months. All women who delivered in health facilities and at homes in the previous 12 months were listed down in a sequential order from the latest to the oldest date of delivery, using records from the health facilities, chiefs, assistant chiefs, Community Health Workers (CHWs) and TBAs. Systematic random sampling method was used to identify participants for the study. Data was collected using interview schedules and Focus Group Discussions (FGD). CHWs, TBAs, religious leaders and the provincial administration assisted the researcher in tracking the study participants in their homes. A total of 315 women from Kisau division were interviewed, and 3 focus group discussions composed of health professionals, TBAs and local opinion leaders conducted. Secondary data was also obtained from health facility records in the study population. Data analysis was done using descriptive statistics and by applying Statistical Package for Social Sciences (SPSS). Data was then organized and presented by use of tables, bar graphs, pie charts and prose forms. The study established that majority of women (52.7%) in the study population delivered with TBAs assistance, and that utilization of SBAs was low (42.9%). A Chi-square test to establish if there was a relationship between household income and choice of birth attendant generated χ^2 =4.229 and a P value of 0.004 at 3 degree of freedom. Education level was also found to be a determinant of choice of birth attendant as the chi square test generated $\chi 2$ =9.886 and a P value of 0.001 at 2 degree of freedom. The study also established a relationship between distance to health facility and women's choice of birth attendant. The chi square test generated χ^2 =2.905 and a P value of 0.001 at 2 degree of freedom. The study established that higher utilization of TBAs was because they (TBAs) lived closer to the women, charged lesser fees and allowed different modalities of payment, including payment in kind. SBA utilization was mainly due to perceived safety for both mother and baby. The study also established that TBAs and husbands to married women influenced the women's' decision on choice of birth attendant. The study recommends that government and other stakeholders introduce intense awareness programmes on the benefits of skilled birth attendance and reinforce the policy on free maternity services at lower levels. The government should also bring maternity services closer to the community and support empowerment of girls and women through education.

CHAPTER 1: INTRODUCTION

1.1 Background to the study

The proportion of births attended by skilled health personnel is one of the two indicators (alongside the maternal mortality ratio) used to monitor progress towards the achievement of the 5th Millennium Development Goal of improving maternal health (World Health Organization 2006). Evidence suggests that the receipt of professional delivery care is strongly associated with a reduction in maternal mortality and morbidity. Conversely, home deliveries in the absence of a skilled care attendant are associated with adverse maternal and neonatal outcomes (Koblinsky *et al.*, 2006). According to WHO (2005), up to 15 per cent of all births are complicated by a potentially fatal condition. Although many of these complications are unpredictable, almost all are treatable. Consequently, skilled attendants are trained to recognize problems early when the situation can still be controlled, to intervene and manage the complication, or to stabilize the condition and refer the patient to a higher level of care, if needed. Skilled birth attendance is also vital to protecting the health of newborns as the majority of perinatal deaths occur during labour and delivery or within the first 48 hours after delivery (UNFPA, 2007).

Broad-based calculations carried out by WHO conclude that the number of skilled attendants in developing countries needs to be increased by 333,000. The lowest levels (of skilled birth attendance) are in Eastern Africa (33.6%), South-Central Asia (37.5%) and Western Africa (39.6%), with much higher levels in South America (84.8%).

Globally, only 61% of all childbirths are attended by a skilled birth attendant (WHO, 2004).

Substantial progress has been made throughout much of the developing world toward improving the proportion of births delivered with the help of medically trained attendants (Stanton *et al.,* 2007). According to an analysis of nationally representative data from 73 developing countries, the estimated proportion of births delivered with assistance from a doctor, nurse or midwife increased from 45% in 1990 to 54% in 2000. Increases occurred in every region except Sub-Saharan Africa and Eurasia. Use of skilled attendants within geographic regions differed by mother's age, parity and wealth (Rosenberg, 2007).

Many programs have been initiated to make pregnancy and child birth safer, mainly through training of Traditional Birth Attendants (TBAs) and improving quality of care at health facilities. Despite the tremendous resources invested in training (TBAs) over the past two decades, scientific evidence from around the world has shown that training TBAs has not reduced maternal mortality (Ray *et al.*, 2004). Any improvement observed when TBA training programmes have been introduced was because of the associated supervision, referral systems and improved quality of essential obstetric services available at first referral level. Conversely, evidence from numerous studies has shown reduced maternal and perinatal morbidity and mortality when women have a 'Skilled Attendant' (UNFPA, 2003).

According to KDHS 2008, maternal mortality in Kenya is estimated at 488/100,000 live births, and pregnancy related complications are the leading cause of death (27%) among

women of childbearing age (CBS, 2008). The DHS 2008 established that although 92% of women receive antenatal care at least once during pregnancy, a skilled attendant assists only 44% of mothers during childbirth. And in many of those cases, the woman does not have access to life-saving emergency care should something go wrong. The World Health Organization (WHO) does not recognize TBAs as skilled health workers and the government of Kenya has also outlawed the utilization of TBAs as birth attendants. Kenya's policy now is to provide skilled care at birth for all women, and its national safe motherhood programs are now focusing on increasing the number of skilled attendants, whether a woman delivers in a facility or at home. This study thus aimed at establishing factors determining women's choice of birth attendant in Kisau division. The study findings also highlight the role of TBAs in choice of birth attendant and suggest strategies that can be used to improve skilled birth attendance in the study population.

1.2 Statement of the problem

It is almost two decades since the initiation of the Safe Motherhood Initiative and maternal mortality is still soaring high in most developing countries (WHO, 2004). In the year 2000, WHO estimated a life time risk of a maternal death of 1 in 16 in Sub- Saharan Africa while it was only 1 in 2800 in developed countries. This huge discrepancy in the rate of maternal deaths is due to differences in access and use of maternal health care services (Boogaard *et al.,* 2008). Skilled attendance at all births is considered to be the single most critical intervention for ensuring safe motherhood, because it hastens the timely delivery of emergency obstetric and newborn care when life-threatening complications arise (UNFPA, 2007). The United Nations General Assembly in 1999,

agreed upon that, globally 80%, 85% and 90% of all deliveries should be assisted by skilled health personnel by 2005, 2010 and 2015, respectively. Unfortunately, in spite of overwhelming evidence on the value of skilled attendants during birth, developing countries have not succeeded in lowering their maternal mortality ratio and sufficient numbers of skilled attendants remain unavailable (Herschderfer, 2004).

For several reasons, TBAs still deliver the majority of women in many developing areas of the world. Evidence has shown that many TBAs do not refer women who get complications during pregnancy or at birth, hence reducing chances of saving both mother and child. In Kenya, the actual level of utilization of TBAs is not known, but is estimated to be high, despite the government outlawing use of TBAs as birth attendants. Previous studies have not given adequate data on the actual levels of TBAs and SBAs utilization in rural areas.

Therefore, this study aimed at assessing factors determining choice of birth attendant by estimating the utilization of SBAs and TBAs during birth and examining the effects of socio-economic and demographic characteristics on choice of birth attendant in Kisau Division. The study findings will assist in designing interventions for improving skilled birth attendance.

1.3 Justification

Although the importance of having a skilled birth attendant during delivery is widely recognized, little is known regarding the mechanisms by which people choose their birth attendants (Judith *et al.,* 2003). The characteristics associated with use of SBAs and TBAs have also been found to vary between countries and within various regions in

countries (Mayhew *et al*., 2008). The actual utilization of TBAs in Kisau division is not known. This study investigated the factors determining the choice of birth attendant in the study population. The study also provides evidence on the levels of utilization of SBAs and TBAs during birth as well as the role of TBAs in choice of Birth attendant. Thus, its findings can play a pivotal role in providing more insight on factors that determine the choice of birth attendant and how such factors can be circumvented in a bid to improving skilled attendance at birth.

1.4 Objectives

1.4.1 Main objective

To investigate factors determining the choice of birth attendant in Kisau Division, Makueni district.

1.4.2 Specific objectives

1. To investigate and document the utilization of SBAs and TBAs during birth in the study population.
2. To establish how socio-economic and demographic characteristics influence the choice of a birth attendant.
3. To establish the role of TBAs in choice of a Birth Attendant in the study population.
4. To establish strategies which can be employed to improve skilled birth attendance in the study population.

1.5 Research questions

The study sought to answer the following research questions:

1. To what extent are SBAs and TBAs utilized during birth among women in Kisau division?
2. What are the effects of socio-economic and demographic characteristics on the choice of a birth attendant?
3. What is the role of TBAS in choice of a Birth Attendant in the study population?
4. What strategies can be employed to improve skilled birth attendance in the study population?

1.6 Significance of the study

The findings of this study have both theoretical and practical implications for the future of skilled birth attendance in Makueni district. Theoretically, the study has contributed to the advancement of knowledge about factors determining the choice of a birth attendant in Makueni district specifically Kisau division. The study also has practical significance in that it has assisted in determining the level of utilization of SBAs and TBAs at birth. The findings may be of immediate benefit to the Ministry of Health in the formulation of future public health policies aimed at integrating TBAs in the health system as agents of change to enhance skilled birth attendance. Similarly, results of this study will enlighten the public especially mothers and spouses on the importance of skilled birth attendance. In addition, this can lead to appropriate interventions by non-governmental organizations and other key stakeholders that have established or intend to establish reproductive health

programs. The study also forms a base on which others can develop their studies based on the gaps identified.

1.7 Delimitation and limitations of the study

Parts of Kisau division are confined within areas where organized public transport is a major challenge. Access to the area therefore depended on the good will and personal assistance of the more knowledgeable residents from the area as well as government officials. The researcher worked closely with the chief's office and elders of the local community in facilitating access to the study areas. The issue of privacy was a potential problem since the study adopted a survey method. Survey method is intrusive and therefore, probed into the lives of the mothers, in pursuit of private and personal information. The TBAs did not readily trust the researcher, as this is an area of economic and social interest to them. The researcher explained the purpose of the study as being purely academic and expressed neutrality in the subject matter in order to gain the trust of the TBAs so as to get information from them. In addition to this, there was the potential of non-response to questionnaires since respondents had the right to participate voluntarily, to refuse to answer questions at any time, and/or withdraw from research altogether. Consequently, the researcher developed well structured questions; treated participants with due respect and asked questions sensitively. A few of the mothers who were initially targeted in the sample were unavailable at the time of data collection. Some respondents also declined to respond unless they were paid a small fee. As a result, the sample size reduced from the initially planned number 323 to 315. Finally the fact that there was no readily available sampling frame was limiting, and the researcher worked together with TBAs, health workers and other leaders to come up with a sampling frame

of women who had given birth in the previous 12 months either at homes or at health facilities.

1.8 Assumptions

In the study the following assumptions were made:

- That reliable responses would be obtained from the respondents even though the study was investigating a sensitive and outlawed practice.
- The level of utilization of TBAs during birth in Kisau division was not known. The researcher aimed to establish the actual utilization of TBAs during the study.
- The poor and vulnerable groups were likely to utilize TBAs during birth. The majority of people (52%) in the study population lived below the poverty line and were assumed to encounter difficulties in affording the cost of skilled care at birth (Ministry of Planning 2005).

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

The proportion of births attended by skilled health personnel is one of the two indicators alongside the maternal mortality ratio used to monitor progress towards the achievement of the 5th Millennium Development Goal of improving maternal health (WHO, 2006). Evidence suggests that the receipt of professional delivery care is strongly associated with a reduction in maternal mortality and morbidity. Conversely, home deliveries in the absence of a skilled care attendant are associated with adverse maternal and neonatal outcomes (Koblinsky *et al.*, 2006). This chapter reviews literature on relevant studies and is divided into different subheadings namely: The level of utilization of Skilled Birth Attendants (SBAs) and Traditional Birth Attendants (TBAs), socio-economic and demographic characteristics of women giving birth, the role of TBAs in choice of a birth attendant and strategies that can be used to improve skilled birth attendance.

2.2 Level of utilization of SBAs and TBAs

2.2.1 Utilization of skilled birth attendants

The target of the fifth Millennium Development Goal (MDG-5) is a 75% reduction in maternal mortality between 1990 and 2015 (United Nations, 2006). Current trends indicate that this target is unlikely to be met in many countries, particularly in sub-Saharan Africa and south Asia. Skilled attendance at birth, backed-up by access to referral-level facilities, is the key strategy to achieve MDG-5. In addition, Obstetric care from a trained provider during delivery is recognized as critical for the reduction of maternal and neonatal mortality. In most low-income countries, huge disparities exist

between women from poor and rich households in their ability to access professional delivery care (Campbell *et al.*, 2006). Use of health facilities for delivery is still very low in low income countries and only 47% of deliveries occur in the health facilities while the remaining more than half deliver at home assisted by unskilled attendants. According to WHO (2004), the major direct causes of maternal death in developing countries are postpartum haemorrhage (46%), obstructed labour (16%), pre-eclampsia (14%), sepsis (12%), abortion (5%), and antepartum haemorrhage (5%) and 62% percent of these deaths occur during the postpartum period. WHO has also established that the major causes of neonatal death are birth asphyxia/trauma (most common), sepsis, low birth weight and premature birth, and hypothermia. Thus, for a healthy pregnancy, safe delivery and a healthy child, a woman needs at least a minimum level of care during her pregnancy, at delivery and in the postpartum period, with timely recognition and treatment or referral of complications (WHO, 2004).

There is growing focus on the skilled birth attendant, particularly the trained midwife, as the cornerstone of renewed global efforts to reduce maternal mortality (Koblinsky, *et al.*, 2006). However, access to SBAs is limited, particularly in countries with the highest maternal mortality. Only 32% of births in sub-Saharan Africa and 35% in South and Southeast Asia, the regions with the highest maternal mortality are attended by a doctor, nurse, or midwife in stark contrast to universal or near universal use of SBAs in the developed world (WHO, 2006).

According to KDHS, a skilled attendant assists only 43% of mothers during childbirth in Kenya (CBS, 2008). This is happening amidst the fact that Kenya has a good network of

health facilities with about 72% of the population residing within 5 km and 90% residing within 10 km of a health facility. Maternal health care services are also provided free of charge in lower level public facilities (Central Bureau of Statistics, 2005).

The level of utilization of skilled birth attendance in Makueni district is not known, but is estimated to be low (Ministry Of Health, 2008). The lack of specific data on utilization of SBAs and TBAs in the study population means that programs cannot plan effectively to address the issues determining the choice of birth attendants. The current study among other things aimed to establish the level of utilization of SBAs in Kisau Division. It also forms a basis for local programming and to ultimately improve skilled birth attendance in the study area.

2.2.2 Utilization of traditional birth attendants

The Maternal and Neonatal Health (MNH) Program (1998) advocates that every pregnant woman seeks care from a skilled provider (one with formal training from a recognized medical, nursing or midwifery school). It also acknowledges the important role of TBAs in providing additional services, practical help, education and counseling to women. Although TBAs cannot substitute skilled providers, they can contribute to the survival of mothers and newborns by facilitating access to needed information, clinical services and support.

Tremendous resources have been invested in training TBAs over the past two decades; however scientific evidence from around the world has shown that training TBAs has not reduced maternal mortality. Any improvement observed when TBA training programmes

have been introduced was because of the associated supervision and referral systems and because of the quality of essential obstetric services available at first referral level (Maxwell and Harding, 2000).

In Kenya, over 88% of women attend an antenatal clinic at least once during each pregnancy, but only 43 % of the women deliver with skilled care (CBS, 2008. Majority of the women (57%) deliver assisted by TBAs. Regional disparities however exist. In Eastern Province, TBAs still attend over 34% of deliveries, whereas a skilled attendant delivers 39% of women. In contrast, a TBA delivers only 6% of women in Central Province while 70% women deliver with a skilled attendant. The continued preference for TBAs in various regions can be attributed to several factors, including the TBAs' proximity to the woman's home, TBAs' respectful attitude for women, regardless of age or parity, and flexible modes of payment (FCI, 2005). Problems can arise, however, when TBAs delay seeking skilled care for women in difficult labour, and it is estimated that 15% of all pregnant women will experience problems and require access to essential obstetric care (WHO, 2006). Many women may also not be aware of the deficiencies in the TBA's skills and the potential risk to both themselves and their baby (Population Council and University of Nairobi, 2003). The lack of data on actual utilization of TBAs in rural areas also poses a challenge in designing appropriate localized interventions to increase utilization of SBAs.

2.3 Socio-economic and demographic factors co-relating to choice of birth attendant

Despite growing attention to women's health needs the world over, the maternal mortality figures due to pregnancy and childbirth have been a cause of concern. One major reason for high level of maternal mortality rate levels is that of lack of medical attention at birth. At present, only one-third of the deliveries in the developing countries take place in a health facility/institution, while the remaining is home deliveries (International Institute for Population Sciences, 2000). In fact, this is part of the problem faced by women in relation to their access to basic and good quality health care services. Women's access is often governed by their age, education, earning, occupational status, and role in the family, coupled with the cost of health care services (Nandraj *et al*., 2001).

An empirical study to establish gender inequality and women's health in India established that Women especially those in rural areas bearing double burden on their shoulders, have never publicly voiced their concern over health needs. Even in urban areas where infrastructures and physical access to public health services is relatively far better, women's general health needs do not get the necessary attention (Sharma, 2007). Gender bias in nutrition and health care in childhood, early marriage and conception, lack of voluntary check on family size, poor state of pre-natal and inability to personally choose where to deliver only intensify women's health problems. The negative effect of poverty is even more acute because of the existing gender bias against women. This, in turn results in the worsening health conditions of women as they do not have the economic power to make health choices (Sharma, 2007).

A study conducted by Boogaard *et al.* (2008) to analyze factors that contribute to the choice of either TBAs or SBAs by inhabitants of Zambia's Lukulu District established that only 42% of women gave birth in a health facility, assisted by SBAs. The study also established that despite that skilled birth attendants are preferred to assist at childbirth, many socio-economic and demographic characteristics were found to challenge women's ability to reach a skilled attendant in time. These included marital status, occupation, education level and age of the expectant mother.

In addition, the choice of birth attendants among women is influenced not simply by age, gender and genetic factors, but also by their environment, including their social and economic circumstances (Bernis *et al.*, 2003). An exploration of the Socio-cultural and Environmental factors impacting maternal health care access among rural Ugandan Women established that the context in which rural Ugandan mothers lived in greatly impacted their maternal health accessing behaviours. The community assessment revealed that socio-cultural factors such as taking herbs during labour, retaining placenta after birth, birthing in various positions and maintaining privacy during birth are some of the critical cultural traditions that can serve as barriers to women accessing formal skilled deliveries. According to the women, grandmothers, mothers, sisters, aunties, elders and other women in their community make up the social support network that is an essential part of a woman's pregnancy and birth process. This is however an aspect not available in institutional deliveries, hence their preference for home deliveries (Sharma, 2007).

The safe motherhood demonstration project by population council in Western Kenya established that some cultural beliefs which influenced seeking of skilled care at birth

was the kindness and "caring" care provided by TBAs in stark contrast to the perceived poor attitudes and behaviours of skilled providers. This overwhelmingly motivated women to continue delivering with TBAs. Some women and families did not seek skilled care first because they believed it will not solve certain problems. There was a strong and widespread community belief that some birth complications could not be successfully treated by modern medical practitioners; hence the TBA was consulted first (Population council, 2003). The project also revealed strong attachments to herbal therapies and traditional practices during birth, which added to the already high stack of explanations for low skilled birth attendance. Misuse of herbal therapies and dangerous administering of herbs such as burning herbs, placing a blanket over a pregnant woman's head and then exhaling herbs with the hope of widening the hips for easier birth were known to cause suffocation in some cases resulting in maternal death.

Additionally, women consider environmental and structural factors such as long distances, lack of transport, and lack of money to cover public transportation and hospital fees as rationale for accessing hospitals and maternity units only as a last resort (FCI, 2005). It is believed that these reasons, in addition to a perceived low priority of attention by rural health districts and government, motivate women to birth at home or with a TBA. Balaji *et al.* (2003) stipulate that the cost of health care affects the economic condition of the household, certainly restricting the choice of birth attendant among the poor. Notable is the fact that TBAs do not provide delivery services for free, but are still able to attract more clients (UNFPA, 2007). They however accept payment in kind, and subsequently do not demand for payment before service provision which may be partly contributing to their high utilization.

The association between marital status and health, first noted by Farr in the 1850s and Durkeim in the 1890s, has been the subject of a more recent study. It is not just risk of adult mortality that marital status is associated with. Young single women are less likely to attend antenatal care and skilled care at birth than older married women, which has implications not just for their health but also the future health of their unborn babies and has been shown in one study to account for over 30 per cent of variation in foetal growth and subsequent birth weight (Johnson *et al.*, 2000). According to Botting (1997), utilization of SBAs in families where fathers are in unskilled jobs is lower compared with those whose fathers are in professional occupations.

In Kenya, there has been commendable progress in improving uptake of antenatal care, and in equipping health facilities to provide skilled birth attendance (MOH, 2008). However, the very low utilization of these services, especially by poor women, is a major impediment to meeting Millennium Development Goal (MDG) 5 in both urban and rural parts of Kenya. The official MDG-5 target of 143 deaths/100,000 live births by 2015 can only be achieved by overcoming socioeconomic inequalities which prohibit utilization of SBAs for the vast majority of Kenyan women. In Kenya, efforts have been put to in place to eliminate financial barriers, hence the government's policy on free deliveries at health centre's and dispensaries. However, there's still much more to be done. The social and economic circumstances need to be looked at in depth, as these greatly influence women's choice of birth attendant. Data on the specific study area is also unavailable.

This study aimed to bridge this gap by assessing the socio-economic and demographic factors that determine the choice of birth attendant in the study population and avails information for local programming.

2.4 Role of traditional birth attendants in choice of birth attendant

Traditional birth attendants (TBAs) are part of the birthing process throughout the developing world, assisting in the births of a substantial portion of the world's newborns (Boogaard *et al.*, 2008). Usually self-taught or informally trained, TBAs also provide advice and practical help in cleaning, cooking and caring for the households of pregnant women and new mothers. Because TBAs generally hold a position of respect and influence within their communities, they are uniquely equipped to inform and assist women and their families in preparing for the birth daughter or daughter-in-law of a neighbour or close friend. She (TBA) assists in childbirth as a favor or good deed and may not expect to be paid, but may receive a gift as a token of appreciation. (American Public Health Association, 2008).

Notable is the fact that conducting deliveries is a source of income for many TBAs; hence they may not refer women to health facilities during pregnancy or even at birth (FCI, 2005). According to FCI, (2005), another reason why women do not seek skilled care at birth is because they do not get reliable estimates of their delivery dates from TBAs. Many women believe that a reliable due date would help them prepare for use of skilled care. These women thus continue visiting the TBA, and eventually end up delivering with the TBAs assistance as they have not planned for a skilled delivery. In addition, even after a complication or emergency is recognized, some TBAs may be

reluctant to refer as they feel the women may lose confidence in them (FCI, 2005). In essence, this implies that TBAs do not encourage women to seek skilled care at birth, and may actually prefer women come to them.

Health planners, healthcare professionals and other members of the formal healthcare system are likely to shun away the importance of TBAs in the community. Nonetheless, there are still many countries where a large proportion of the population does not have access to health services, relying on TBAs (and traditional healers) to meet their health care needs. In these countries, TBAs who have been trained can contribute to improving maternal and child health, as they offer the only means by which women in rural communities can access to a clean delivery (United Nations Population Fund, 1996). This shows that although they (TBAs) cannot be considered skilled providers, they hold a special position in many communities and should be considered part of the community's informal healthcare system. TBAs speak the local languages, allow traditional birthing practices, and often have the trust and respect of the community. For these reasons, many women continue to go to TBAs for services during pregnancy and birth and they (TBAs) may not discourage them. Due to the importance of TBAs in communities, they are in a position to influence women's choice of a birth attendant. Program planners thus need to find a way of engaging TBAs so that they can influence women to seek SBA services during birth. (American Public Health Association, 2008).

Consequently, there is lack of consensus on the role of the TBA in Kenya among many disciplines. While the government has outlawed the use of TBAs as birth attendants, women continue to die in childbirth because they do not gain access to essential skilled

birth attendants. In addition, while many women are aware of the benefits of SBAs, the majority still choose to deliver assisted by TBAs. The current study aimed to establish the role of the TBA in the choice of birth attendant in the study population as well as explored why women in the study population prefer to be assisted by TBAs during birth.

2.5 Strategies for improving skilled birth attendance

Reduction of maternal mortality in developing countries can be addressed. Early awareness of the magnitude of the problem, recognition that most maternal deaths are avoidable, and mobilization of professionals and the community is essential (De Brouwere *et al.*, 2002). Overall success will be determined firstly, by the willingness of the decision-makers to take up their responsibility; secondly, by making modern obstetrical care available to the population (particularly by encouragement of skilled care at birth); and thirdly, by the extent to which professionals are held accountable for addressing maternal health in an effective way (De Brouwere *et al.*, 2002).

It is clear that most women prefer SBAs to assist them during child birth (Boogaard 2008). However, transportation problems, socio cultural reasons and lack of birth preparedness still cause the majority of women to turn to TBAs. According to Boogaard (2008), National intervention Programmes should focus on increasing the number of skilled attendants, whether a woman delivers in a facility or at home, but should not exclude TBAs from skilled birth attendants programs. Governments should implement a transitional strategy towards skilled attendance at birth, backed by a supportive health care system aiming at gradually replacing TBAs with skilled attendants through alternative social support roles for TBAs in reproductive and child health. Consequently

it is of paramount importance for expectant mothers to be sensitized and encouraged to visit health facilities for a routine check up so that they can get accustomed and familiarized to the procedures of skilled birth attendance. The Proportion of women who deliver with skilled care increases with knowledge of danger signs, usually learnt through health education sessions by health providers (Kumbani *et al.*, 2002).

In order to increase the pace towards the millennium development goal targets, Mpembeni *et al.* (2007) recommended the need to; improve coverage of health facilities which provide skilled delivery care, raise the status of women in terms of education and socio-economic status, improve provision of health education to women especially on danger signs during pregnancy and delivery and intensify individual counseling of women on hospital delivery and on individual birth preparedness. Family Care international (FCI) implemented a skilled care initiative in Kenya and Tanzania from 2002-2006 and came up with several strategies that can be successfully implemented towards improving skilled birth attendance. These include;

- **Equipping health facilities with essential drugs, supplies, and equipment**

This equipment range from simple items such as blood pressure gauges to delivery kits, delivery beds, buckets to improve infection prevention and autoclaves for sterilization.

- **Strengthening the referral system**

Due to the vast distances, lower facilities may not have the means to transport mothers to higher facilities in case of a birth complication.

- **Introducing quality improvement approaches**

Some of the reasons why women do not deliver at health facilities include long waiting hours on the queue and the fact that facilities may not be open all the time. The

availability of adequate number of qualified staff in maternities will go a long way towards improving the quality of care provided to maternity clients.

- **Motivating women and communities to use skilled care**

Behavior change is needed to encourage the use of skilled care during pregnancy, delivery, and the postpartum period. Focus should be on birth preparation, use of antenatal care, skilled care at delivery, recognizing (and responding to) obstetric emergencies, and early postpartum care. Programs can explore how they can use the leaders' positions to heighten awareness about maternal health issues and address barriers that prevent women from using skilled care. Involving communities to address critical infrastructural gaps at health facilities provides an opportunity to communicate skilled care messages and involve community members in discussing community-level strategies for ensuring that women have ready access to skilled care during pregnancy, childbirth, and the postpartum period. The current study aims at determining strategies that can be used to improve skilled birth attendance in the study population. In Kenya, the policy on free maternity services at dispensary and health centre level is encouraging, but has not been enforced. A lot more still needs to be done to create awareness in communities as well an enabling environment for providing skilled care in health facilities (FCI, 2006).

In conclusion, literature has shown that there are different factors determining the choice of birth attendant. First, literature has shown that the use of health facilities for deliveries is still very low in Kenya. However, there's no literature showing clearly the actual levels of utilization of SBAs in the study population as available data is estimated as at provincial level. Hence, this study goes a step further to establish the level of utilization of skilled birth attendance in Kenyan rural areas, specifically Kisau Division. Second,

literature review has also shown that TBAs deliver the majority of the women in rural Kenya, despite the government outlawing the same. Literature has also shown that, many women continue to die in childbirth because they do not gain access to Essential Obstetric Care and that TBAs have been shown not to help in the reduction of maternal morbidity and mortality.

The current study aimed to establish the utilization of TBAs and their role in choice of birth attendants in the study population. This will in turn help establish a healthy link between TBAs and health workers as TBAs are in a position to influence women towards utilization of SBAs. Thirdly, literature has shown that socio-economic and demographic characteristics like age, marital status, occupation, education level and attitude towards SBAs may determine one's choice of birth attendant. However, there's no literature on the local context especially in the rural areas, and therefore this study attempts to fill this gap by conducting a pilot study in the local context of Kisau Division. Finally literature has shown that there are several strategies that have been used to improve skilled birth attendance in various regions. This study also aimed at determining strategies that can be employed to improve skilled birth attendance in the study population.

CHAPTER 3: METHODOLOGY

3.1 Introduction

This chapter presents a detailed description of methodological components. These are: the conceptual framework, research design, variables, location of the study, target population, sampling techniques and sample size, research instruments, pilot study, data collection techniques and ethical considerations.

3.2 Conceptual framework

The conceptual framework of this study is shown in figure 3.1 below.

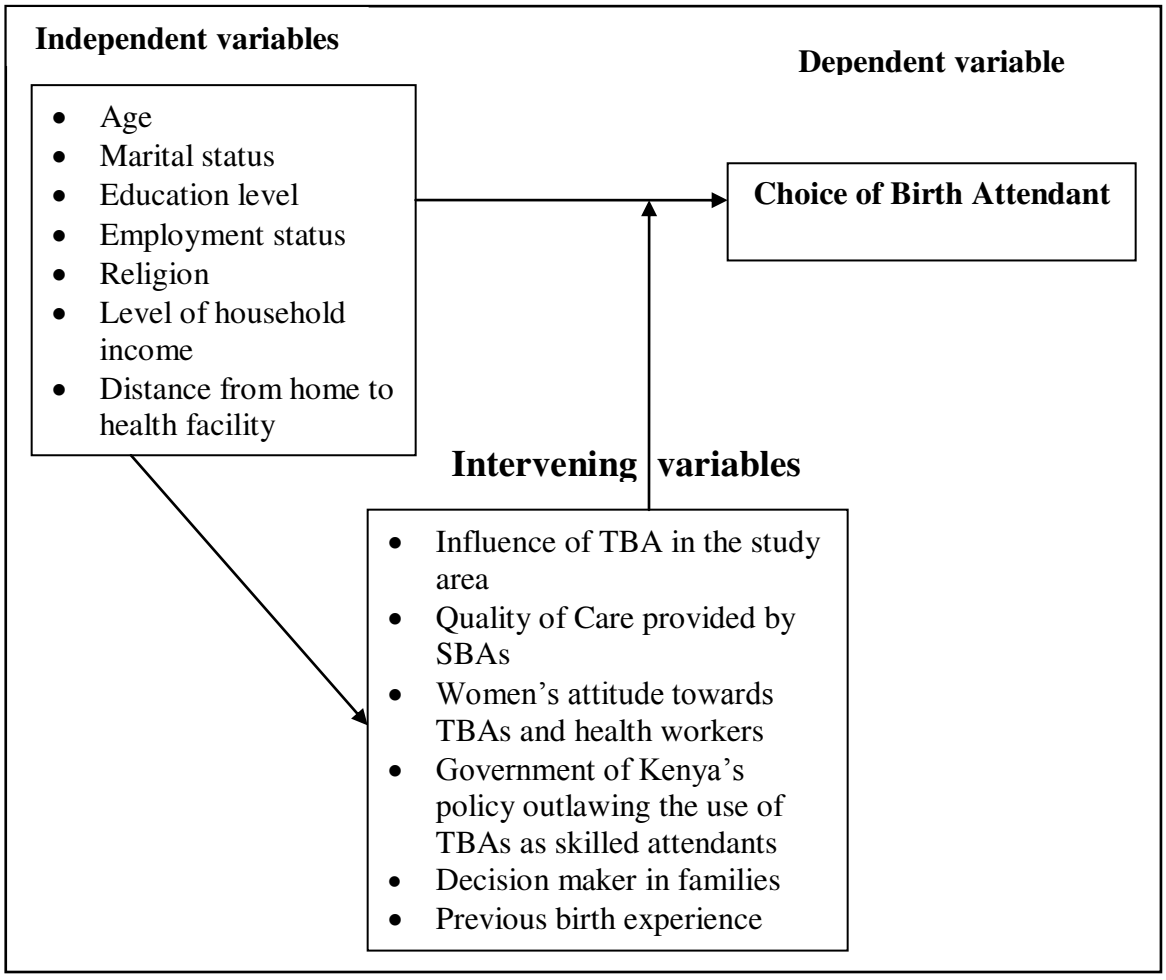

Figure 3.1: Conceptual framework

3.3 Research design

A descriptive survey was used to obtain information needed to describe attitudes and views of mothers, health providers, TBAs and local opinion leaders on factors determining the choice of birth attendant. The advantages of selecting an explorative descriptive survey design is that the researcher needs to collect information from a fairly large sample population thereby many respondents are questioned fairly quickly. Consequently, survey research has been found to have less bias compared to other designs such as depth case study (Gilbert, 2005).

3.4 Variables

The dependent variable of this study was choice of birth attendant. The independent variables include the principal factors that directly impact on the choice of birth attendant, and intervening factors that impact on the principal factors to influence choice of birth attendant (see table below).

Table 3. 2: Variables

Variable		**Type of variable**
Principal variables	Age	Nominal
	Marital status	Nominal
	Religion	Nominal
	Education level	Ordinal
	Employment status	Nominal
	Level of household income	Nominal
	Distance from home to health facility	Ordinal
Independent variables	Influence of TBAs	Ordinal
	Quality of care provided in health facilities	Ordinal
	Governments policy outlawing use of TBAs as birth attendants	Nominal
	Women's attitude towards health providers	Ordinal
	Decision maker in families	Nominal
	Previous birth experience	Nominal

3.5 Location of study

The study was conducted in Kisau Division, Makueni district in the Eastern province of Kenya. Makueni district is vast and comprises of sixteen (16) Divisions with sixty six (66) locations and a population of 938,605 persons according to the 1999 census. Poverty is a major development challenge in the district. Kisau Division (the study area) has an approximate population of 50,510 and comprises of three locations namely Kisau with a population of 18,760, Kiteta with a population of 23,253 and Waia with a population of 8497 (CBS, 1999). There are 3 health facilities that offer maternity services in Kisau division. These are Mbumbuni dispensary in Kisau location, Tawa health centre in Kiteta location and Waia dispensary in waia location. The 3 facilities are within a radius of about 30 km. The number of women who seek skilled care at birth in Makueni district has not been established, but is estimated to be low (Ministry of Planning Kenya, 2005).

3.6 Target population

In explorative descriptive survey studies, two categories of respondents are crucial namely informed specialists and consumers. The consumers in this study were the mothers who had given birth within the previous 12 months. This period was selected so as to get a manageable study population and get latest information from the mothers, bearing in mind their ability to recall. This study also targeted health professionals (doctors, midwives and community health workers), TBAs and local opinion leaders. The researcher required a sampling frame consisting of women who delivered at health facilities (obtained from the maternity register) and those who had delivered at home (obtained from TBAs, CHWs, provincial administration and religious leaders).

3.7 Sampling techniques and sampling Size

3.7.1 Sampling techniques

The study was carried out in the 3 locations of Kisau division. Probability samples require the selection of respondents from a sampling frame (Gilbert, 2005). The researcher developed a sampling frame from five main sources: health facilities, TBAs, chiefs, assistant chiefs Community Health Workers (CHWs) and religious leaders. From these sources the researcher was able to identify women who gave birth in the previous 12 months in the study area. Their names were written down in a sequential order and it was possible to work out a sampling interval for the systematic selection of a fixed number of participants for the study. With assistance from TBAs, CHWs and the provincial administration, the researcher was able to identify the study participants at their homes.

3.7.2 Sample size

The researcher required a sample size for the women who had delivered in the previous 12 months. According to WHO *et al.* (2006), it is estimated the number of deliveries per year in a population is about 4% of the total population. Since the total population in Kisau Division is estimated to be 50,510 (CBS, 2002), the estimated number of deliveries in Kisau division is therefore 2,020 per year (Ministry of Health, Kenya, 2008).

Gay *et al.* (2003) have offered the following formulae for sample size calculation.

$$ss = \frac{Z^2 * (p) * (1-p)}{C^2} = 384.16$$

Where:

Z = Z value (1.96 for 95% confidence level)
p = percentage of picking a choice (0.5)

C = confidence interval (0.05)

For a known population:

$$\text{New ss} = \frac{SS}{1 + \frac{SS-1}{Pop}} = 323$$

Where: pop = population. The population in this case was 2,020, the estimated number of deliveries in Kisau division. From this calculation, the required sample size for the study was 323.

3.8 Research instruments

The researcher used two research instruments to collect primary data from the field. These were interview schedules and focused group discussion guides. The research instruments were designed in tune with the research questions bearing in mind the study design as well as the major variables of investigation. This process was critical in order to

ensure validity of the results. An interview schedule was developed containing at least four questions per objective. After pilot testing the schedule, the researcher administered the interview schedule to a sample of 315 women participants in Kisau Division. The interview schedules were used to obtain detailed information on factors determining the choice of birth attendants.

3.9 Focus group discussions

Focus group discussions were used to collect primary data from various key persons so as to supplement the interview schedules. A focus group discussion guide was used to interactively gather information from 3 groups namely health professionals, TBAs and local opinion leaders. The researcher was the facilitator who led the group and guided the discussion. It is recommended that a focus group should be a maximum of 12 participants and a minimum of 4 participants (Gilbert, 2005).

3.10 Pilot study

The research instruments were piloted using a sample size of 10 respondents, who were not part of the sample size. The respondents were purposefully selected at locations convenient to the researcher. The researcher administered the interview schedule to 10 women to establish whether they had difficulty understanding any items. The researcher took note of the questions that posed a problem to the respondents and later made the necessary changes. The purpose of pre-testing the research instruments was to check for validity and reliability in order to ensure quality of the data collected.

3.11 Data collection techniques

The interview schedules were handled by trained interviewers. The interviewers carried a letter of authority from Kenyatta University. The interview schedule had a brief introduction stating who the interviewer was, which organization he or she represented and the purpose of the interview. Confidentiality and anonymity were stressed.

The study employed a face-to-face interview survey method. The interview was guided by an interview checklist, which consisted of both pre-coded and open-ended questions. The moderator performed a guiding role in the discussion, ready to interject, ask questions and probe for further information when necessary. Secondary data on the utilization of skilled birth attendance was obtained from health facility records in the study area. For quality control purposes, the researcher and supervisory teams carried out spot checks and cross checked some of the filled questionnaires to ensure there was no major discrepancy. Thorough training was also provided to the research team to ensure that data collected was valid, complete and accurate.

3.12 Data analysis and presentation techniques

Data was analyzed by the use of the descriptive statistics that permitted the researcher to meaningfully describe many scores with a small number of indices. Statistical Package for Social Sciences (SPSS) was also used. It involved coding the responses according to appropriate scales, keying in the responses against the scale and generating the necessary statistics. Frequencies were generated for all variables from which percentages were computed. Tables and graphs were used to ease the discussion of the various findings. Probate analysis was done to establish the most frequent effects explaining the choice of

birth attendant in the study population. Chi-square test was used to test for statistical significance of the associations between each of the independent and the dependent variables. This was done when the variables were in a contingency table:

The Chi-square statistic is computed as: $\chi^2 = \frac{\Sigma(O-E)^2}{E}$

Where:

O is the observed frequency for a cell

E is the expected frequency for a cell

Σ (Sigma) means sum

As pertaining data from the Focus Group discussions, analysis took place alongside data collection to allow questions to be refined and new avenues of inquiry to develop. Data was preserved in its textual form and indexed to generate or develop analytical categories and theoretical explanations. Initially the data was read and reread to identify and index themes and categories: these centered on particular phrases, incidents, or types of behavior. Key themes or categories for further investigation were then selected, to confirm and generate theoretical explanations.

3.13 Ethical considerations

In accordance with the principles governing research involving human participants, the researcher undertook the following steps to uphold respondents' ethical rights as well as attain approval to conduct the study:

1. Approval was obtained from the Department of Public Health, School of Health Sciences, Kenyatta University and the Ministry of Health.

2. All participants were required to give informed consent prior to participating in the study. An informed consent form was given to each participant, which was read with/for him/for her. Those who did not wish to participate were excused from the study. Consent was indicated by a signature or thumb print on the form.
3. The interviewers were trained in order to be equipped with knowledge and skills on ethical research procedures. All data collected as part of this study was handled with utmost confidentiality. After data collection, any identifying information was separated from the body of the questionnaire and only coded identifiers were used. All reasonable efforts to ensure that confidentiality is not breached were made.

CHAPTER 4: RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the data analysis and discussions of the findings of the study. The study sought to address the following objectives;

1. To investigate and document the utilization of SBAs and TBAs during birth in the study population.
2. To establish how socio-economic and demographic characteristics influenced the choice of a birth attendant
3. To establish the role of TBAs in choice of a Birth Attendant in the study population.
4. To establish strategies which can be employed to improve skilled birth attendance in the study population.

4.2. Response rate

Interview schedules were administered to 315 mothers in Kisau division of Makueni district. In order to get a statistically acceptable study population and get latest data from them, the study targeted mothers who had given birth in the previous 12 months prior to the study. After identifying the respondents, they were assured of confidentiality and the importance of the study was stressed. This was necessary in order to increase the response rate to an acceptable level. Of the 323 mothers who were targeted in the study, 315 (97.5%) responded to the interview schedule. The American Association for Public Opinion Research, (2000) recommends academic researchers to aim to get responses from at least 80% of survey recipients. Therefore, the obtained response rate is within the acceptable levels.

4.3 Profile of the focus group discussions

The focus group discussions were arranged to target three different groups including health professionals, TBAs and local opinion leaders. Among the health professionals were 4 nurses, one clinical officer and one CHW. Eight TBAs and one nurse who is in charge of reproductive health services in one of the health facilities participated in one FGD. The FGD with local opinion leaders consisted of a chief, 4 assistant chiefs, one pastor and one village elder. The FGD discussions were used to supplement the study findings.

4.4 Socio-economic and demographic characteristics of the Study Population

This section provides a brief description of the study population in Kisau division of Makueni district. It provides an understanding of the socio-demographic factors that may have a bearing on choice of birth attendant.

4.4.1 Age of respondents

The study revealed that majority of the mothers (92%) in Kisau division were young (aged 33 years and below). Figure 4.1 shows that most of the respondents (48.9%) were aged between 18-25 years, followed by respondents, 36.2% who were aged between 26-33 years. At least 10.1% of the respondents were aged between 34-41 years while 3.5% respondents were of ages below 18 years. Having the majority of the respondents being young implies early sexual experience and early child bearing in the study population. It also shows there are a significant number of teenage mothers in the study population. This finding is important given that young women who begin childbearing early in life

are less likely to attain adequate education than women who delay childbearing until their late 20s (McCauley *et al.,* 2005). It is also likely that young mothers may not have the economic capability to afford costs associated with skilled deliveries and may also not be aware of the benefits associated with skilled care at birth, and risks of attendance by TBAs during delivery.

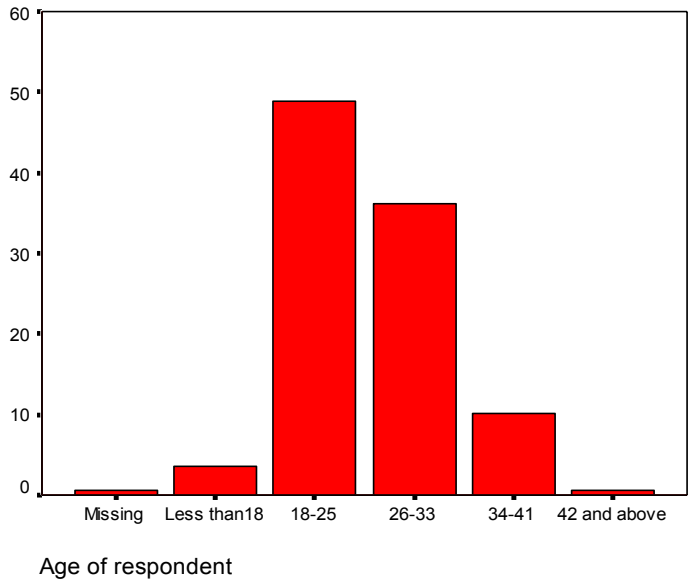

Figure 4.1: Respondent's age

4.4.2 Age of youngest child

The researcher investigated the age of the youngest child of the respondents. This was important as the study targeted women who had delivered in the previous 12 months. The 12 month period shows that the women were in a position to recall as the events around the birth experience were still fresh. Table 4.1 shows that about 35% of respondents had their youngest children being newborns, while 34% were aged between 1-6 months and 30% at ages between 6-12 months. The study findings show that all respondents had

their youngest children being of the required age category and that there was little variation among the various ages of youngest children of the respondents.

Table 4. 1: Respondent's age of youngest child

Age of youngest child	Frequency	Percent
> 1 month	112	35.5
2-6 months	108	34.2
7-12 months	95	30.3
Total	315	100

4.4.3 Marital status

The study revealed that most of the respondents were married. Figure 4.2 shows that majority of the respondents (83.8%) were married while 14.3 % who were single. The finding that majority of women were married implies that the decision on birth attendance may not have been made by the woman on her own but in consultation with mothers, mother in laws or husbands. In many African marriages, it is the husband who has the upper hand in deciding on use of family resources. Consequently, many married women who desire to deliver assisted by a SBA may not do so because their husbands may have a different opinion and different priorities over use of the family resources (Anwar *et al.,* 2008). In a study on use patterns of maternal health services and determinants of skilled care during delivery in Southern Tanzania, Mpembeni *et al.,* (2007) established that a significantly higher proportion of women who are single deliver with a skilled attendant compared to their married counterparts.

Figure 4. 2: Respondent's marital status

4.4.4 Comparing age and marital status

The study sought to establish if there was any relationship between age and marital status. Table 4.2 shows that 81.8% of the respondents aged less than 18 years were not married, while 18.2% were married. About 85% of respondents aged 18-33 years were married, clearly indicating that many women get married at a relatively young age. All respondents aged 34 years and above were married. Many societies condemn unmarried young women who bear children, regarding as fitting the emotional or economic suffering experienced by many (Palma and Quilodr, 2005). In addition, many African girls are also married off while still young to avoid the risk that a girl becoming pregnant before marriage and bringing shame to the family (Chege and Sifuna, 2006). Consequently, young unmarried mothers may not be in a position to decide on birth attendant as they may not be aware of the risks for home births and may also lack economic capacity to afford costs involved (NCAPD, 2003). In addition, young married mothers may also not be in a position to make a decision on choice of birth attendant, as

this is left to the husband, mother or mother in law (Chege and Sifuna, 2006). A Chi-square test to establish if there was a relationship between age of mother and marital status gave the result $\chi^2 = 2.464$ and a P-value of 0.001 at 3 degrees of freedom. This P value is less than the alpha level of significance of 0.05 adopted for this study hence the study concluded that there was a relationship between the age of the mother and marital status.

Table 4. 2: Comparing age and marital status

Age of respondent		**Marital status % within Age of respondent**				Total
	Frequency	Married	Co-habiting	Separated /divorced	Not married	
Less than18	11	18.2%	0%	0%	81.8%	100.0%
18-25	154	79.9%	0%	1.3%	18.8%	100.0%
26-33	114	90.4%	1.8%	1.8%	6.1%	100.0%
34-41	32	100.0%	0%	0%	0%	100.0%
42 and above	2	100.0%	0%	0%	0%	100.0%
$\chi^2 = 2.464$		P= 001			df=3	

4.4.5 Religious affiliation

The study revealed that majority of the respondents were Christians. Table 4.3 shows that majority of the respondents (63.8%) were Protestants while 35.6% of the study population were Catholics. A small percentage (0.6%) were traditionalists. Previous studies have also shown that religion is not a determinant of birth attendant (Mpembeni et al. 2007).

Table 4.3: Respondent's Religious affiliation

Group	**Frequency**	**Percent**
Catholic	112	35.6
Protestant	201	63.8
Other	2	.6
Total	315	100.0

4.4.6 Education level

The study revealed that majority of the women had low education levels (up to primary level or no formal education at all). Figure 4.3 shows that 67.6% had attained primary level education, 24.7% secondary education and 2.3% college education. The finding that most of the women in the study population lack adequate education has negative implications as low education has been found to hinder the success of health interventions (Tlebere *et al.,* 2005). In addition, women with low education may not fully understand the dangers of home births assisted by TBAs and may also feel intimidated by health workers in health facilities. Indirectly, lack of education lowers women's chances of economic empowerment, hence reduces access to skilled care at birth due lack of money for transport, maternity fees and supplies required at health facilities. Siziya S. *et al.* (2000) attests that women with low education are more likely to be delivered under the supervision of TBAs.

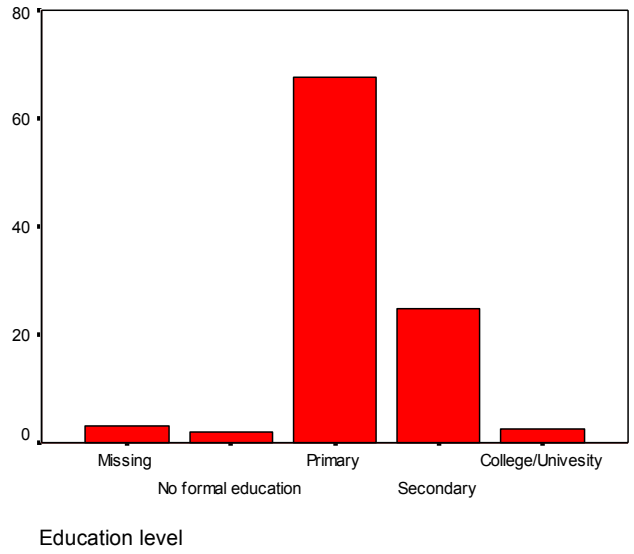

Figure 4. 3: Respondent's education status

4.4.7 Comparing age and education level

The study investigated the relationship between age and education status of the studied women. Table 4.4 shows that the majority of respondents (63.6%) under 18 years had only attained primary level education. The study findings also showed that 68% of the women aged 18-33 had only attained primary level education, with 29.8% having attained secondary education. In the age category 34-42 years, the study revealed that 87.5% and 12.5% of the respondents had attained primary level and college education respectively. The study findings show that most young mothers (18-33) in the study population had not schooled beyond primary level. These study findings concur with (Klepinger, *et al.,* 2005) that young women who begin childbearing early attain less education than women who delay childbearing until their late 20s. Kenya's Adolescent Reproductive Health and Development Policy reiterates that girls who become pregnant while in school be allowed to rejoin school after delivery and that guidance and counseling in schools by teachers and female role models should be intensified (NCAPD, 2003). However this is not always the case, as many girls are forced to leave school because they are pregnant (Chege and Sifuna, 2006). A Chi-square test to establish if there was a relationship between age and education level of respondents revealed χ^2 =7.817 and a P-value of 0.001 at 3 degrees of freedom. As such, the study established that there was a relationship between age of the respondent and education level.

Table 4. 4: Comparing age and education level

Age of respondent	**Education level % within Age of respondent**				Total
	No formal education	Primary	Secondary	College/ University	
Less than18	18.2%	63.6%	18.2%	0%	100.0%
18-33	1.6%	68%	29.8%	0.7%	100.0%
34-41	0%	87.5%	0%	12.5%	100.0%
42 and above	0%	100.0%	0%	0%	100.0%
Total	2.0%	70.3%	25.7%	2.0%	100.0%
χ^2 =7.817	P= 001		df= 3		

4.4.8 Comparing education level and marital status

The study sought to establish if there was any relationship between the level of education and marital status. Table 4.5 shows that all respondents with no formal education were married. About 85% and 80.8% of those with primary and secondary level education respectively were married and 12.2%, 19.2 % unmarried respectively. The study also revealed that 75% of those with college education were married and 25% unmarried. Findings from other sources have shown that once a woman gets married, chances of continuing with education are low as childbearing also begins (Camey *et al.,* 2000 and Herschderfer, 2004). In developing countries, schoolgirls who become pregnant rarely return to school, whether they are married or not. In Kenya alone, nearly 10,000 are forced to leave school every year because they fall pregnant (Mc Cauley *et al.,* 2005). In addition, if a young woman becomes pregnant before marriage, she may be driven from her home or sent away by her parents or forced to get married (Klepinger *et al.,* 2005). The MOE in Kenya has put in place a policy to ensure girls who become pregnant get a chance to go back to school. Non adherence to this policy coupled with lack of support for the pregnant girl at family and community levels leaves many girls with no choice but

to get married (Mc Cauley *et al.,* 2005). A Chi-square test however established that there was no relationship between level of education and marital status.

Table 4. 5: Comparing education level and marital status

	Marital status (% within Education level)				Total
Education level	Married	Co-habiting	Separated/ divorced	Not married	
No formal education	100.0%	0%	0%	0%	100.0%
Primary	85.0%	.9%	1.9%	12.2%	100.0%
Secondary	80.8%	0%	0%	19.2%	100.0%
College/university	75.0%	0%	0%	25.0%	100.0%
Total	83.9%	.7%	1.3%	14.1%	100.0%
$\chi^2 = 6.491$	P= .690		df=4		

4.4.9 Employment status

The researcher sought to establish the respondents' employment status in order to ascertain the means of livelihood. The study revealed (as shown in figure 4.4) that Majority of the respondents were self employed (about 90.2 %) while 7.9% were un-employed and 1.9% were in formal employment. Many women in the study population engage in small scale farming, but returns over the years have been poor as this is an ASAL area and rains have been inadequate (Ministry of Planning, 2005). These findings shows that employment in Makueni district is a major challenge among women and the population as a whole, which partly explains the high poverty levels in the district (Ministry Of Planning, 2005). Consequently, being in self employment and specifically agriculture is not sufficient for these women to meet basic needs and afford basic social services including health care. Lack of income implies that most women may not seek SBA assistance at birth due to lack of money for transport, supplies and any other fee which may be required. Women with no source of income are thus likely to seek TBAs

assistance as they (TBAs) allow payment in installments, and in kind such as goats, water and firewood. Data from other studies has shown that women who are not in employment are less likely to receive professional medical care (Kruk *et al.,* 2008). In a study on determinants of skilled birth attendance utilization in Afghanistan, Mayhew *et al*. (2008) established that wealth was the strongest determinant of skilled birth attendance use and the poor were at stark disadvantage.

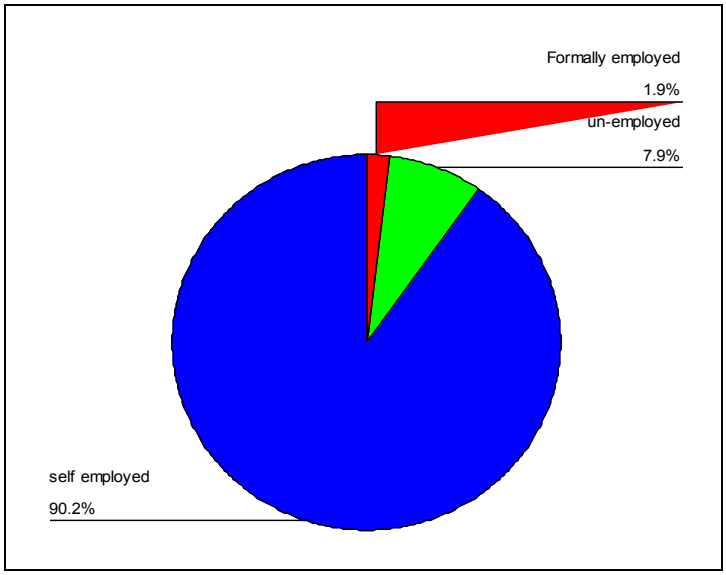

Figure 4. 4: Respondent's employment status

4.4.10 Level of household income

The researcher investigated the respondents' household monthly income. This was important in order to ascertain their capability of meeting cost of health care. Table 4.6 shows that about 78% of the respondents' households had a monthly income of less than Ksh. 1000. About 15% of the respondents earned between Ksh. 1001-5000, while only 5.5% of households earned over Ksh. 5000. The number of households earning over Ksh. 10,000 was insignificant (0.6%). These findings show that most households under study

earned less than one dollar in a day and are faced with the challenge of meeting family needs, as well as the cost of health care. The major indicators of poverty in Kenya are unemployment; low coverage in water supply services; a general decline in access to health services; increased pressure on the environment and increased number of people receiving below minimum level of dietary energy consumption (Ministry of Planning and Vision 2030, 2008). The number of people living in absolute poverty is now 56%, hence majority of Kenya's population are unable to access basic social services including health, housing and clean water (Ministry of Planning and Vision 2030, 2008).

As a result of low or no income at all, majority of women in the study population may not afford the costs associated with formal health care. Evidence has shown that a woman with an adequate source of income is likely to make her own decision or be involved in the decision of where to deliver the baby (Kruk *et al.,* 2008). A Community-based situation analysis of maternal and neonatal care carried out in South Africa to explore factors that impact utilization of maternal health services established that women with an adequate income were more likely to be delivered by SBAs compared to those with a low income (Tlebere *et al.,* 2007).

Table 4. 6: Respondent's household monthly income

Approximate income per month (in Ksh.)	**Count**	**Percent**
Below 1,000	246	78.0
1,001-5,000	50	15.8
5,001-10,000	17	5.5
10,000- 15,000	2	0.6
Total	315	100

4.4.11 Distance to health facility

The study investigated the distance to the nearest health facility that offered maternity health services and compared it by the time taken in hours by respondents to walk to the facility. This was important in order to ascertain whether distance was a barrier to accessing SBAs. As shown in the Table 4.7, about 68% of respondents reported taking more than 3 hours to walk to health facility while 26.7% reported taking between 2 and 3 hours to walk to the health facility. About 5% reported taking less than an hour to walk to the facility. From the findings, it's clear that access to the health facility was poor for the majority of respondents, because about 94% took over 1 hour to walk to the health facility. Tlebere *et al.* (2007) established that TBA utilization was higher in areas where health facilities were far and inaccessible. This implies that women living far away from health facilities are likely to deliver with TBAs than those living closer to health facilities.

Table 4. 7: Respondent's distance (in walking time) from health facility

Duration to reach facility (by walking)	Frequency	Percent
<1 hour	14	5.0
2-3 hours	91	26.7
>3 hours	210	68.5
Total	315	100

After examining the response profile, the subsequent sections highlight and discuss the findings of the research presented under the various themes of the investigative questions.

4.5 Utilization of SBAs and TBAs

This section shows findings to the objective that sought to determine to what extent SBAs and TBAs are utilized during birth among women in Kisau division, Makueni district. Findings to this objective are discussed next.

4.5.1 Utilization of SBAs and TBAs

The researcher investigated the utilization of TBAs and SBAs in the study population by enquiring who assisted during the birth of the respondent's youngest child. Findings are discussed below.

Table 4.8: Birth attendant at birth of youngest child.

Birth Attendant at birth of youngest child	Frequency	Percent
SBA	135	42.9
TBA	166	52.7
Mother in law	14	4.4
Total	315	100.0

Table 4.8 shows that 52.7% of the respondents gave birth assisted by TBAs as compared to 42.9% who gave birth assisted by SBAs. All other respondents (4.4%) reported being assisted by their mother in laws during delivery. This finding concurs with that of KDHS 2008 which stipulates that on average, a skilled attendant assists about 44% of mothers during childbirth in Kenya, whereas 56% are delivered at homes assisted by TBAs and relatives (CBS, 2008). In addition, the findings imply that mother in laws are the key persons involved where relatives assist during birth. The study findings showed that about 57% of all births in the study population are assisted by unskilled persons, meaning

that these mothers and their unborn babies are at great risk should complications arise during birth.

4.5.2 Opinion about utilization of Skilled Birth Attendants

Given the low utilization of SBAs, it was important to establish women's perception on utilization of SBAs. The researcher investigated the respondents' opinion on utilization of SBAs by enquiring whether they approved of SBAs utilization or not. Table 4.9 showed that most women (93%) approved of SBAs assisting women during birth.

Table 4.9: Opinion about utilization of SBAs

Expressed Opinion	Frequency	Percent
Approve	294	93.3
Neutral	6	1.9
Disapprove	15	4.8
Total	315	100.0

In addition, focus group discussions with health professionals, TBAs and local opinion leaders concurred with the mothers on approval of SBAs to assist women during birth. TBAs approval of utilization of SBAs was significant given that many would be expected to promote their own practice. A likely reason may be the fact that government policy outlaws TBAs from assisting as birth attendants hence many do not want to seem to go against the law. Contrary to these findings, TBAs assist majority of women at birth in the study population. From these findings it's clear that there's discrepancy between attitude and practice because whereas most of the people agree on the importance of utilization of SBAs at birth, the majority of women were still attended by TBAs during birth. This finding supports findings by Boogaard (2008) that though SBAs are preferred to assist at

childbirth by majority of the women, transportation problems, socio-economic reasons and lack of birth preparedness still cause the majority of women to turn to TBAs.

4.5.3 Respondents' opinion on utilization of traditional birth attendants

In order to understand the high utilization of TBAs in the study population, the researcher sought to establish the respondents' opinion on utilization of TBAs. The study revealed that majority of the respondents disapproved of TBAs as birth attendants. Table 4.10 shows majority of the respondents (66.3%) did not approve the utilization of TBAs while 27.6% approved. This finding shows that many respondents do not wish to be assisted by TBAs during delivery, but other factors leave them with no choice but to turn to the TBAs Focus group discussions with health professionals and local opinion leaders concurred with the mothers and disapproved of TBAs assistance, indicating that they (TBAs) were not qualified to handle complications at birth. This shows that there are other extrinsic factors that prevent women from utilizing SBAs causing the majority to result to TBAs.

Table 4.10: Opinion about utilization of TBAs

Expressed Opinion	Frequency	Percent
Approve	87	27.6
Neutral	19	6.1
Disapprove	209	66.3
Total	315	100.0

When asked whether they could recommend TBAs to assist mothers at birth, all health professionals and opinion leaders stated that they would not recommend them, reason being that TBAs were not qualified to handle birth complications. Contrary, TBAs stipulated that they were able to assist mothers at birth, but went on to add they preferred

to assist those mothers who were having their second or third baby and those with no history of complications such as a caesarian section.

4.5.4 Comparing opinion on utilization of SBA and choice of birth attendant

Given that over 90% of the respondents expressed approval of utilization of SBAs, the researcher investigated whether there was a relationship between the respondents' opinion on utilization of SBAs and their choice of birth attendant. Table 4.11 shows that about 40% of respondents who approved of SBAs utilization got assistance from SBAs during the birth of their youngest child, while 54% were assisted by TBAs. About 70% of those disapproving SBAs assistance at birth were assisted by TBAs while 30% were assisted by SBAs. It is clear that despite wide approval of SBAs as birth attendants in Kisau division, the majority of women do not utilize them at birth. These findings support what has been published elsewhere that many women deliver with TBAs assistance not by choice, but due to other factors beyond their control such as long distances to health facilities and high costs of SBA services (Leslie and Roman, 2007). A Chi-square test however established that there was no relationship between opinion on utilization of SBAs and the choice of birth attendant.

Table 4.11: Comparing opinion on utilization of SBAs and choice of birth attendant

Opinion on utilization of SBAs	**Birth Attendant. % within Opinion about using SBA**			**Total**
	SBA	TBA	Other	
Approve	40.5%	54%	5.4%	100.0 %
Neutral	0%	100.0 %	0%	100.0%
Disapprove	30%	70.0%	0%	100.0%
$\chi^2 = 21.671$	P = 0.006		df=8	

4.5.5 Respondent's perception of SBAs attitude

In an aim to further understand why many women did not deliver with skilled care, the study sought to establish the respondents' perception of attitude displayed by SBAs. This is because some studies have cited the harsh and unfriendly attitude displayed by health workers to women in labor as a contributing to low skilled birth attendance (FCI, 2005). Table 4.12 shows that most of the respondents (55.5%) felt that the attitude of SBAs was good while 15.2% felt that SBAs' attitude was poor. About 29.2% of the respondents said that they had not been assisted by a SBA hence could not determine their attitude. Some studies have shown that the perceived attitude of SBAs does not influence utilization of skilled care at birth.

Evidence from home based SBA programmes in Bangladesh by Anwar *et al.* (2008) established that SBAs attitude did not contribute to low utilization of SBAs, but rather long distance to health facilities and high cost of health services. However, other studies (FCI, 2005, Population Council and UON, 2003) have shown that the unfriendly attitude portrayed by SBAs makes pregnant women prefer assistance by TBAs who are perceived to be more caring. The safe motherhood demonstration project by the Population Council in Western Kenya established that some beliefs which influenced seeking of skilled care at birth was the kindness and caring attitude provided by TBAs in stark contrast to the perceived unfriendly attitude and behaviour of SBAs (Population Council, 2003). According to FCI (2005), the continued preference for TBAs in various regions can be attributed to several factors including TBAs' respectful attitude for women regardless of age or the number of children they have and lack of compassion by health workers when

handling women at birth. The study findings imply that the poor utilization of SBAs in the study population may be attributed to other factors, other than SBAs attitude.

Table 4.12: Respondents perception of SBAs attitude

Expressed Opinion	Frequency	Percent
Poor	48	15.2
Good	175	55.5
Don't Know (no experience)	92	29.3
Total	315	100

4.5.6 Comparing respondent's perception of SBAs attitude and choice of birth attendant

A comparison was done between the respondent's perception of SBAs attitude and choice of birth attendant at birth of youngest child. This was important in order to establish whether the perceived attitude influenced the women's choice of birth attendant. Table 4.13 shows the result.

Table 4.13: Comparing Respondents perception of SBAs attitude and choice of birth attendant

Perceived health provider attitude	Birth attendant at birth of youngest child			Total
	SBA	TBA	Other	
Poor (15.2%)	16.3%	77.1%	6.5%	100.0%
Good (55.5%)	67.1%	31.7%	1.2%	100.0%
Don't know (No prior experience) (29.3%)	85.7%	0.0%	14.3%	100.0%
$\chi^2 = 18.283$	P = 0.007		df=8	

Table 4.13 shows that 77% of those who perceived the SBAs attitude to be poor utilized TBAs while 16.3% utilized SBAs. In addition, about 67% of those who perceived SBAs attitude to be good utilized SBAs while about 32% utilized TBAs. A Chi square test

however established that there was no relationship between respondents' perception of SBAs attitude and choice of birth attendant.

4.5.7 Reason for choosing a traditional birth attendant

The researcher sought to establish the respondents' reasons for choosing a TBA at birth of the youngest child. This was important in order to understand the respondent's preference for a TBA. The analysis is shown below:

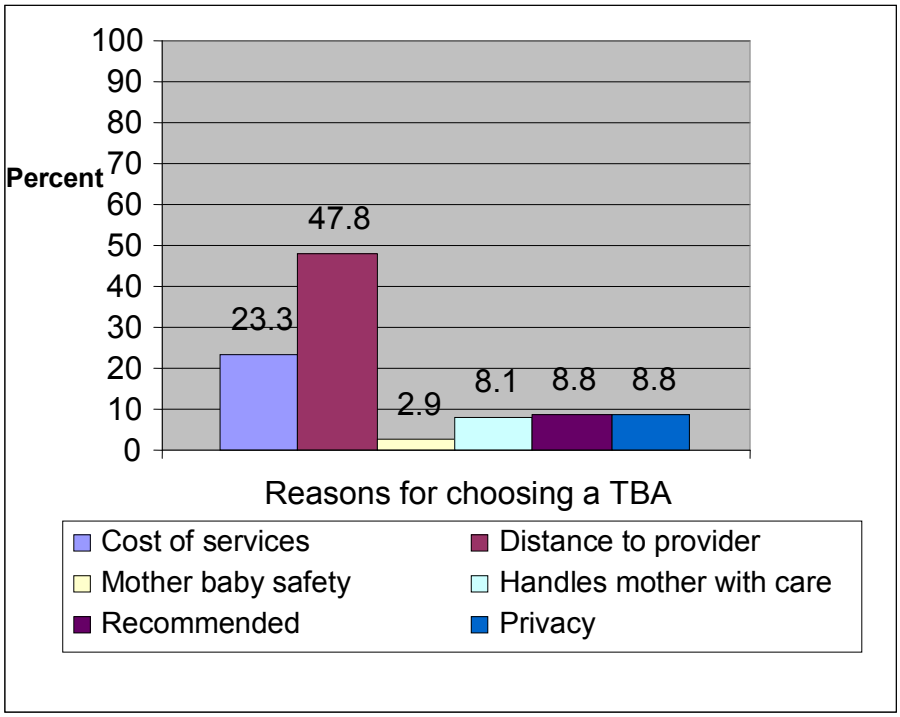

Figure 4. 5: Reasons for choosing a TBA

The study findings showed that shorter distance to the TBAs was the major factor determining this choice. As shown on figure 4.5, about 48% of the respondents gave distance as the main reason for choosing a TBA, with about 24% giving the cost of birth attendant services at as their main reason. The women went ahead to explain that TBAs

lived closer to them, and would be called at short notice when labor began, while on the other hand health facilities were far away. Respondents felt that TBA services were cheaper because they allowed flexibility in payment as well as payment in kind such as goats, food or water. Recommendation by family, privacy during labor and the caring nature of TBA s when handling women in labor where each given as major factors by about 9% of the respondents. The fact that health facilities in Kisau division are not adequate in number and are far apart partly (about 30km apart) explains why mothers were unable to access skilled care at birth. Other reasons given included safety for mother and baby and flexibility in birthing positions. Lindgren *et al.* (2008) established that the main factors affecting women's utilization of skilled care at birth included accessibility to services, care provided by birth attendants and the cost of maternity services. The FGD with TBAs reported that TBAs were preferred because they allowed different birthing positions such as squatting which were not accepted in health facilities.

4.5.8 Reason for choosing a killed birth attendant

The researcher sought to establish the respondents' reasons for choosing SBAs during the birth of their youngest children. This was important in order to understand their motive, as this could be used for advocacy to the rest who were not utilizing SBAs. The analysis is shown below:

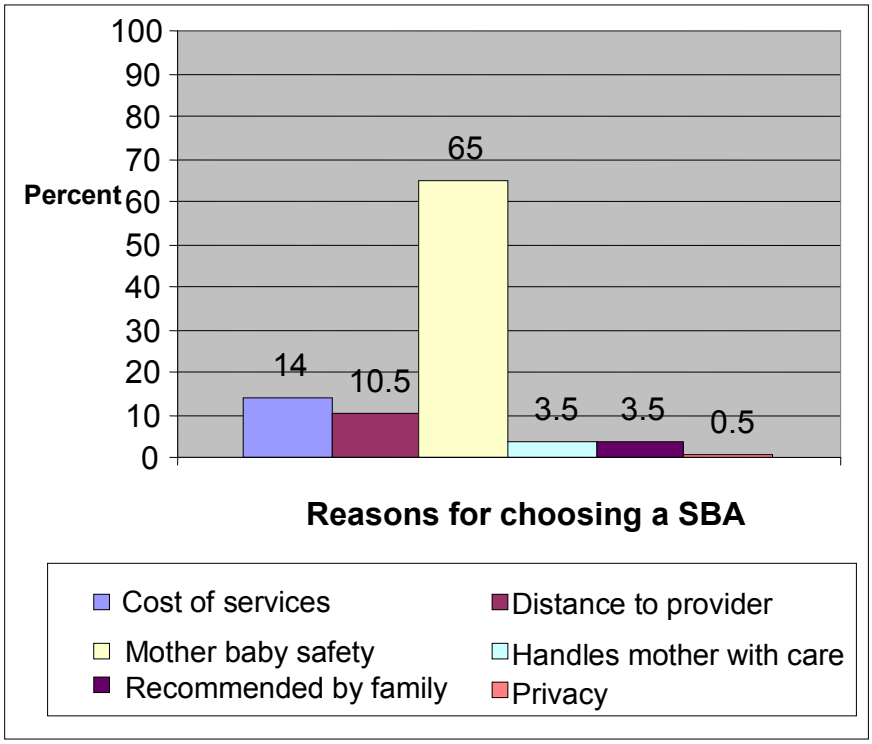

Figure 4. 6: Reasons for choosing SBAs

Figure 4.6 shows that majority of respondents (65%) utilized SBAs due to perceived safety of both mother and baby. About 14% gave cost of services as their main reason while 10.5% chose SBAs due to short distances to the facility. This finding shows that women who chose SBAs understood the benefits of SBAs and were confident that both mother and baby would be safe. Recommendation by family, handling of mother during labor and delivery and privacy came at bottom list at below 3%. Lindgren *et al.* (2008) established that the main factors affecting women's utilization of skilled care at birth included accessibility to services, care provided by birth attendants and the cost of maternity services.

4.5.9 Previous utilization of TBAs

The study sought to establish whether the respondents' had previously utilized TBAs (excluding the birth of the youngest child). Table 4.14 shows the result to this question.

Table 4. 14: Previous utilization of TBA

Response	Frequency	Percent
Yes	189	60.0
No	126	40.0
Total	315	100.0

The study findings show that a majority of the respondents (60%) previously given birth assisted by a TBA while 40 % had not. This finding clearly shows that TBAs continue to assist in subsequent deliveries in the study population. All of the focus group discussions agreed that majority of women in Makueni district had been assisted by TBAs during birth over the years. Boogaard *et al*. (2008) stipulate that TBAs are part of the birthing process throughout the developing world, assisting in the births of a substantial portion of the world's newborns.

4.5.10 Comparing previous utilization of TBAs with choice of birth attendant at birth of youngest child

A comparison was done between previous utilization of TBAs and choice of birth attendant at birth of youngest child. This was important in order to establish whether there was a trend in utilization of TBAs which would give an insight on how deep-rooted the TBA practice was in the study population. The comparison was also done in order to establish whether previous successful utilization of TBAs encourages women to utilize them. Table 4.15 shows the results to this question.

Table 4. 15: Comparing previous utilization of TBAs and choice of birth attendant

Previous utilization of TBAs	Birth attendant during the birth of youngest child			Total
	SBA	TBA	Others	
TBA (60%) 189	20.4%	76.4%	3.2%	100%
SBA (40%) 126	79.6%	18.4%	1.2%	100%
$\chi^2 = 19.601$	P = 0.007			df=5

The findings show that about 76% of respondents who were previously assisted by TBAs, delivered with TBAs assistance during the birth of youngest child, while 20% were assisted by SBAs. On the other hand, about 79% of respondents who were previously assisted by SBAs at birth delivered with SBAs assistance at birth of youngest child, while 18% delivered assisted by TBAs. These findings imply that women who utilize TBAs at birth at one point in time are likely to utilize them again. A likely reason may be if they did not get a complication during the initial birth. The findings concur with results by Siziya *et al.* (2000) that women who may have had previous non-eventful deliveries may be complacent and expect that TBA assisted deliveries are safe. Siziya *et al.* (2000) also stipulate that first time pregnant mothers are less likely to be delivered by TBAs because they may not have been sure of their pregnancy outcome, and would have liked to be attended by professional skilled persons during delivery. A Chi square test however established there was no relationship between previous utilization of TBAs and choice of birth attendant at birth of youngest child.

4.6 Socio-economic and demographic characteristics

This section shows findings to the questions that sought to determine the effects of socio-economic and demographic characteristics on the choice of a birth attendant. This section

is divided into seven sub sections that is, the effects of age, marital status, religious affiliation, employment status, education level, level of household income and distance to health facility on choice of birth attendant.

4.6.1 Association between age and choice of birth attendant

The study investigated the relationship between the age of the respondents and the choice of birth attendant. This was important in order to understand the age categories likely to utilize SBAs or TBAs. Table 4.16 shows that all respondents (100%) aged less than 18 years and those above 42 years gave birth assisted by a TBA. This can be attributed to the fact that for teenage mothers, the decision on birth attendant may lie with their mothers, grandmothers or the TBA (Mayhew *et al*., 2008). There is also the likelihood that teenage mothers do not know the benefits of assistance by SBAs.

Table 4. 16: Age and choice of birth attendant

Age of respondent	Birth attendant during the birth of youngest child			Total
	SBA	TBA	Mother in law	
Less than18	0%	100.0%	0%	100.0%
18-33	45.8%	49%	5.2%	100.0%
34-41	31.3%	68.8%	0%	100.0%
42 and above	0%	100.0%	0%	100.0%
$\chi^2 = 2.464$	P = 0.016			df=3

About 49% of participants in age category 18-33 delivered with TBAs assistance while 45% delivered under SBAs assistance. The study results are consistent with findings from other studies. On the other hand, older women who may have previous non-eventful deliveries may be complacent and expect that TBA assisted deliveries are safe (Siziya *et al.,* 2000). Findings from the 3 FGDs indicated that teenage girls and older women are

often wary of hospital staff. It was reported by older women that nurses were not caring and did not treat them well when they visited the health facility especially for delivery services. In addition to this, older women expressed confidence due to previous successful delivery experiences assisted by TBAs. A Chi-square test however established that there was no relationship between age and choice of birth attendant

4.6.2 Association between marital status and choice of birth attendant

A comparison analysis between marital status and choice of birth attendant during the birth of the youngest child was done. Table 4.17 shows that majority of married mothers (52.2%) gave birth with TBAs assistance while 42.7% gave birth assisted by SBAs. Similarly, majority of mothers who were single (58.8%) gave birth assisted by SBA while 41.2% gave birth assisted by TBAs. This finding indicates that single women are more likely to deliver with SBAs assistance than married women. This may be because for the married woman, the decision on birth attendant is not entirely hers and may be made in consultation with mothers, mother in laws or husbands (Anwar *et al.,* 2008).

Table 4. 17: Marital status and choice of birth attendant

Marital status	**Birth Attendant**			**Total**
	SBA	TBA	Other	
Married	43.6%	51.1%	5.3%	100.0%
Co-habiting	0	100.0%	0	100.0%
Separated/divorced	0	100.0%	0	100.0%
Not married	44.4%	55.6%	0	100.0%
$\chi^2 = 8.072$	P = 0.233		df=4	

In the FGDs, local opinion leaders stipulated that young mothers who were not married shun health facilities as they may be perceived as being promiscuous by health workers. This finding supports Boogaard *et al*. (2008) who argue that despite that skilled birth attendants are preferred to assist at childbirth, social reasons like marital status of the

expectant mother still cause majority of women to turn to TBAs for assistance during birth. A Chi-square established that there was no relationship between marital status and choice of birth attendant.

4.6.3 Association between religious affiliation and choice of birth attendant

In order to understand whether religion influenced the choice of birth attendant, the researcher investigated the relationship between religious affiliation and the choice of birth attendant. The study established that 67% of Protestants delivered with TBAs while 60% delivered with SBAs assistance. In addition, about 38% of the Catholics delivered with SBAs assistance while 32% delivered with TBAs assistance. FGD with health professionals pointed out that traditionalists are likely to choose TBAs due to their cultural beliefs. The study findings showed that religion did not influence the choice of a birth attendant. The study findings concur with findings from a community based survey on use of antenatal services and delivery care among women in rural western Kenya which established that religion was not a determinant factor in use of ANC and delivery services (Van *et al.,* 2006). All FGDs affirmed that religion did not influence the choice of birth attendant in the study population. A Chi-square test established that there was no relationship between religion and choice of birth attendant.

4.6.4 Association between education level and choice of birth attendant

Given the variations in education level among the respondents, the researcher sought to establish if there was any relationship between the education level of the respondents and the choice of birth attendant. The analysis is shown below:

Table 4. 18: Education level and choice of birth attendant

Education level	**Birth attendant**			**Total**
	SBA	TBA	Other	
No formal education	0	100.0%	0	100.0%
Primary	34.7%	61.5%	3.8%	100.0%
Secondary	60.3%	34.6%	5.1%	100.0%
College/University	100.0%	0	0	100.0%
$\chi^2 = 9.886$	P= 0.001		df=2	

Table 4.18 shows that all the respondents who had no formal education gave birth with TBAs assistance. In addition, majority of respondents (61.5%) who had primary level education gave birth assisted by TBAs. While majority of respondents (60.3%) who had secondary education gave birth with SBAs assistance, all respondents with college education gave birth with SBAs assistance. These findings show that women with higher level of education utilized SBAs more than those with lower levels of education. Focus group discussions with health professionals also supported this finding that educated women were more likely to deliver with SBAs assistance since they knew the benefits of skilled birth attendance.

The study findings show a clear indication that education level is very significant on the choice of a birth attendant. This finding concurs with results by Mpembeni *et al.* (2007) that women with low education are more likely to be delivered under the supervision of TBAs. The higher likelihood of TBA deliveries by women with low education may also be associated with limited appreciation by the women on the need for professional supervision during delivery (Mayhew *et al*., 2008). On the contrary, focus group discussions with TBAs and local opinion leaders explained that the role of mothers' education level was not significant on the choice of a birth attendant. TBAs argued that

some educated women gave birth at home with their (TBAs) assistance. The explanation by TBAs may be because they may not be able to determine the actual education status of their women clients to be able to make this conclusion. It is evident that majority of the mothers who participated in the study schooled up to primary level and this partly explains the high prevalence for TBAs assisted deliveries. A Chi-square test to establish if there was a relationship gave the result $\chi^2 = 9.886$ and a P value of 0.001 at 2 degrees of freedom hence the study concluded there was a relationship between education level and choice of birth attendance.

4.6.5 Association between employment status and choice of birth attendant

The study investigated the relationship between employment status and the choice of birth attendant. Table 4.19 shows that majority of the respondents (83.3%) in formal employment gave birth assisted by SBAs while 16.7% were assisted by TBAs. About 84% of those unemployed gave birth with TBAs assistance.

Table 4. 19: Employment status and choice of Birth attendant

Employment status	**Birth attendant**			
	% within Employment status			
	SBA	TBA	Other	Total
Formally employed	5 (83.3%)	1 (16.7%)	0 (0%)	6 (100.0%)
Un employed	4 (44.0%)	21 (84.0%)	3 (2%)	25 (12.0%)
Self employed	119 (41.9%)	154 (54.2%)	11(3.9%)	284(100.0%)
$\chi^2 = 8.311$	P value= 0.091		df=4	

All of the focus group discussions attested that employment status had a role to play in the choice of birth attendant. The group of health professionals stipulated that the employed mothers are knowledgeable about the benefits of skilled birth attendance and can afford hospital services. The FGD on local opinion local leaders stipulated that

working mothers went to health facilities because they were influenced by their colleagues and wanted to maintain the status of working mothers in the society. A study on user costs of maternity services in rural Tanzania established that women who are not in employment are unlikely to utilize SBAs as they are unable to meet the costs associated with skilled deliveries (Kowalewski *et al.,* 2002). However, a Chi-square test established that there was no relationship between employment and choice of birth attendant.

4.6.6 Association between levels of household income and choice of birth attendant

The study investigated the relationship between the level of monthly household income and choice of birth attendant. This was important in order to ascertain whether families were able to meet cost of maternity services. Table 4.20 shows that 70% of the respondents whose households earning was less than Ksh. 1,000 were assisted by a TBA at birth, while 22% were assisted by a SBA. About 72% of households earning between Ksh. 1001-5000 were assisted by a SBA, while 10% were assisted by a TBA. In addition, over 90% of those earning over Ksh. 5,000 were assisted by a SBA during delivery. Tlebere *et al.* (2007) established that families with a high level of income were more likely to be delivered by SBAs compared to those with lower levels of income. A Chi-square test to establish if there was a relationship arrived at $\chi^2 = 4.229$ and a P value of 0.004 at 3 degrees of freedom. The study hence concluded that there was a relationship between the level of household income and choice of birth attendant.

Table 4. 20: Household income and choice of Birth attendant

Approximate household income per month	**Birth Attendant**			
	SBA	TBA	Mother-in -law	Total
Below 1,000	70 (22%)	168 (70%)	8 (2%)	246
1,001-5,000	36 (72%)	10 (20%)	4 (8%)	50
5,001-10,000	16 (94%)	1(6%)	0 (0%)	17
10,001- 15,000	2 (100%)	0 (0%)	0 (0%)	2
Total	124 (39%)	179 (56%)	12 (5%)	315
$\chi^2 = 4.229$	P= 0.004	df=3		

4.6.7 Association between distance to health facility and choice of birth attendant

The researcher sought to establish if there was a relationship between distance to health facility (in terms of time taken to walk to health facility in hours) and utilization of birth attendant. As shown in the Table 4.21, 71% of those who reported to taking less than 1 hour to walk to the facility utilized SBAs while 29% utilized TBAs. About 54% of those who reported that the facility was between 1-3 hours walking distance were attended by TBAs while 46% were attended by SBAs. A similar pattern was observed for those who reported taking more than 3 hours to get to the facility. About 63% utilized the TBA while 37% utilized the SBA. Challenges to skilled care provision are compounded by the fact that many the study area has difficult terrain and poor transportation infrastructure (MOH, 2008). Van *et al*. (2006) established that many women in western Kenya preferred TBAs as they lived closer to them and health facilities were far away. A Chi-square test arrived at $\chi^2 = 2.905$ and P value of 0.001 at 2 degrees of freedom. The study

therefore, established that there was a relationship between distance to health facility and choice of birth attendant.

Table 4. 21: Comparing distance to facility and Birth attendant

Time taken to get to facility (in hours	**Birth attendant**	
	SBA	TBA
<1 hour	10 (71%)	4 (29%)
2-3 hours	42 (46%)	49 (54%)
>3 hours	77(37%)	133 (63%)
Total:	129 (41%)	184 (58.4%)
$\chi^2 = 2.905$	P = 0.001	df=2

4.7 Role of TBAs in choice of a birth attendant

This sub section shows findings to the questions that sought to determine the role of TBAs in choice of birth attendant among women in Kisau division, Makueni district. Findings are discussed next:

4.7.1 Decision maker on birth attendant

Given that most women utilized TBAs in the study population, the study sought to establish the role of TBAs in choosing a birth attendant by enquiring who made the decision when the respondents where choosing a birth attendant. The study revealed that TBAs had a major role to play when mothers were choosing a birth attendant. As shown in table 4.22, the decision on birth attendant was made by the TBA among 49.3% of the women and by their husbands in 35.5% of the cases. Mother in laws made the decision among 6.3% of the respondents.

Table 4. 22: Decision maker on choice of birth attendant

Decision maker on birth attendant	Frequency	Percent
Self (Mother)	25	7.9
Husband	112	35.5
Mother in law	20	6.3
TBA	155	49.3
Missing	3	1.0
Total	315	100.0

4.7.2 Comparison between the decision maker and choice of birth attendant

The researcher conducted a comparison analysis between the decision maker on birth attendant, and the birth attendant at birth of youngest child. This was important given that TBAs were found to be the key persons influencing the decision in choice of a birth attendant. The analysis is shown below:

Table 4. 23: Comparing Decision maker and choice of birth attendant

Decision maker on birth attendant	Birth attendant at birth of youngest child			Total
	SBA	TBA	Mother in law	
Self (Mother)	60% (15)	40%(10)	0% (0)	100.0% (25)
Husband	19.7 (22)	80.3% (90)	0% (0)	100% (112)
Mother in law	20.0% (4)	60.0% (12)	20.0% (4)	100.0% (20)
TBA	43.2% (67)	54.2% (84)	2.6% (4)	100.0% (155)
Missing	25.0% (1)	75% (2)	.0%(0)	100.0% (30)
χ^2 =7.817	P = 0.043	Df=3		

Table 4.23 shows that where decision was made by the TBA, 54.5 % of the women delivered assisted by the TBA, and 43.2% by a SBA. It also shows that 60% of the women delivered with SBAs when the decision on birth attendant was made by woman herself. In addition, where the decision was made by the husband, 80.3.7% of the births were assisted by the TBA and 19.7% by the SBA. The study findings imply that among the majority of the women, the decision on birth attendant lies with other people, mainly the TBA and husband. This finding concurs with findings from other studies which have

shown that husbands have a role to play in the decisions to utilize maternal health services, and should therefore be targeted when designing reproductive health programs (Kowalewski et al., 2002). The findings also show TBAs played a major role in choice of birth attendant, and that most TBAs did not encourage women to deliver with skilled care. (Boogaard et al. (2008) stipulate that TBAs generally hold a position of respect and influence within their communities who feel that they are well equipped to inform and assist women and their families in preparing for the birth of their children or grandchildren.

Focus group discussion with health professionals concluded that TBAs had a role to play in choice of birth attendant as the communities trusted them. In addition health workers in the study population had recognized that the biggest barrier to accessing SBAs was the long distance to health facilities. The health workers therefore supported TBAs with monthly updates and basic supplies to conduct safe deliveries where a mother was not able to reach the health facility. The TBAs and health workers had an understanding that any complication be referred on time, and that the TBAs accompanies the mother to the health facility. According to the health professionals, this effort had saved women's lives as TBAs are able to communicate to health workers without fear. A Chi square test gave the result χ^2 =7.817 and a P value of 0.043 at 3 degrees of freedom. As such the study concluded that there was a relationship between the decision maker on birth attendant and choice of birth attendant

4.8 Respondents suggestions to improve skilled birth attendance

This section shows findings to the questions that sought to determine strategies to improve skilled birth attendance in Kisau division, Makueni district. Findings are discussed next:

4.8.1 Suggestions to improve skilled birth attendance

The study enquired from the mothers what can be done to improve skilled birth attendance in Kisau division, Makueni district. This was important so as to obtain suggestions from the respondents that can be used to guide programming to design interventions aimed at increasing SBA utilization in the study population. As shown in Table 4.24, most of the respondents (33.3%) suggested that more health facilities should be established and brought closer to where people live. There are 3 facilities which offer maternity services in Kisau division and within a radius of 30 km. Coupled with poor road networks many mothers may not be able to make it to health facilities during labor. There is need for more collaboration between the ministry of health and the managers of the Constituency Development Fund (CDF) to construct and build more health facilities in the study area. About 23% of the respondents suggested that awareness programmes should be introduced. The respondents reiterated that awareness on the importance of skilled care at birth, and risks associated with home births attended by TBAs is likely to improve skilled birth attendance. About 24% of the sample population suggested that the government should provide free services for expectant mothers.

Table 4. 24: Suggestions to improve skilled birth attendance

Suggestions	Frequency	Percent
Increase health facilities	105	33.3
Awareness programmes	66	20.9
Provide free services	73	23.2
Other	42	13.3
NR	29	9.3
Total	315	100

In the year 2005, the government of Kenya declared that maternal and child services be provided for free at health center and dispensary level. This information may not have reached all intended beneficiaries as cost came up as a big barrier in accessing SBAs. Many facilities may not be adhering to this policy and continue to charge for maternity services. The splitting of districts led to immediate elevation of health centers to district hospitals; hence user fees on maternity services were introduced. Since no new low level facilities are functional, the people in the study population may not be benefiting from this free services policy. Other costs have also proved to be too high for most rural poor people as mothers are often asked to bring items such as jik, gloves, water and some medicines when coming to deliver in the health facility. The free maternity services policy needs to be enforced. Other suggestions given by women to improve skilled birth attendance included: improvement of the attitude by health workers who handle pregnant women and improving road transport to ease access to health facilities.

When asked what can be done to improve skilled birth attendance, the 3 FGDs gave suggestions such as strengthening health education on skilled birth attendance, creating awareness campaigns on importance of SBAs and providing incentives to mothers to deliver in health facilities. Other suggestions given included provision of free maternity services as well government support to the already trained TBAs so that they encourage

women to seek skilled birth attendance. The suggestions for improving skilled birth attendance provided in this study concur with those established by a study on determinants of skilled birth attendant utilization in Afghanistan which include: removing financial barriers to skilled care, creating awareness on birth complications and bringing skilled birth attendants to the community level (Mayhew *et al*., 2008).

4.8.2 Respondents' awareness of policy on skilled birth attendants

The study investigated the respondents' awareness of governments' policy on skilled birth attendance. This was important in order to understand whether lack of awareness of this policy may have contributed to the low SBA utilization in the study population. The analysis is shown below.

Table 4. 25 Respondent's awareness on government policy

Awareness of government policy on SBAs	Frequency	Percent
Yes	237	75.2
No	78	24.8
Total	315	100.0

As shown in table 4.25, majority of the respondents (73.5%) reported being aware of government policy on SBAs while 24.8% reported not being aware. This is a clear indication that most expectant mothers in Makueni district were aware of government policy that all women should deliver with skilled care in health facilities. However, there might be other intervening factors that prevented women from to seeking skilled birth attendants. Lesly and Romano (2007) concur with this finding that many mothers are aware of the benefit to deliver with skilled care at birth, but are unable to so due to factors beyond their control such as distance to health facilities and high cost of maternal

health care. All members of the three focus group discussion groups reported being aware that all women should deliver with skilled care available in health facilities. Despite this high level of awareness, the majority of the women in the study population were still assisted by TBAs at birth. This may be due to the heavy presence of TBAs in the study population, as well as poor access to health facilities

4.9 Chapter Summary

The current study aimed to establish factors that determine the choice of birth attendant in Kisau division, Makueni district. The study revealed that majority of the respondents (54%) were assisted by TBAs at birth of youngest child while SBAs assisted about 41% of the women. The study also established that most of the women (94%) approved of SBAs assistance as birth attendants. Despite this wide approval, majority of the women still delivered with TBAs assistance. Most of the respondents (55.5%) felt that the attitude of SBAs was good while15.2% felt that SBAs' attitude was poor. A Chi square test however established that there was no relationship between respondents' perception of SBAs attitude and choice of birth attendant. The researcher sought to establish the respondents' reasons for choosing a TBA at birth of the youngest child. About 48% of the respondents gave distance as the main reason for choosing a TBA, saying TBAs lived close to them with 24% citing cheaper cost of TBA services at as their main reason.. Majority of respondents (65%) chose to go to SBAs due to perceived safety of both mother and baby. About 14% gave cited affordable cost of SBA services as their main reason while 10.5% chose SBAs because they lived close to the health facilities. The study also established that majority of the respondents (60%) had previously given birth assisted by a TBA while 40% had not. The study examined the relationship between

various socio economic and demographic characteristics and choice of birth attendant and established that there was a relationship between education level, level of household income, distance to the health facility and choice of birth attendant. The study findings showed that majority of respondents (78%) whose households earned less than Ksh. 1000 delivered with TBAs assistance. About 72% of those earning between Ksh. 1001-5000 were assisted by a SBA, while 10% were assisted by a TBA. Majority of respondents (61.5%) who had primary level education gave birth assisted by TBAs, while majority of respondents (61.5%) who had secondary education gave birth with SBAs assistance. The study findings showed that 71% of those who reported to taking less than 1 hour to walk to the facility utilized SBAs while 29% utilized TBAs. On the other hand, 63% of those who reported taking more than 3 hours to get to the facility utilized TBAs while 37% utilized SBAs. The study sought to establish the role of TBAs in choosing a birth attendant by enquiring who made the decision when the respondents where choosing a birth attendant. The study results showed that the decision on birth attendant was made by the TBA in 49% and by husbands in 35.5% of the cases. Only 7.9% of the women made the decision on their own. Where the decision was made by the TBA, majority of the women (84%) ended up delivering with TBAs assistance. Majority of the respondents (73.5%) were aware of government policy on SBAs while 24.8% reported not being aware. Most of the respondents (33.3%) suggested that more health facilities should be established and brought closer to where people live. About 23% of the respondents suggested that awareness programmes should be introduced while 24% of the sample population suggested that the government should provide free services for expectant mothers.

CHAPTER 5: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary, implications of the findings, conclusion, recommendations of the study and makes recommendations for further research.

5.2 Summary

The crucial need for skilled attendance during a woman's labour and delivery is widely acknowledged (WHO, 2004). The United Nations General Assembly in 1999, agreed that, globally 80%, 85% and 90% of all deliveries should be assisted by skilled health personnel by 2005, 2010 and 2015, respectively. Unfortunately, in spite of overwhelming evidence on the value of skilled attendants during birth, developing countries have not succeeded in lowering their maternal mortality ratio and sufficient numbers of skilled attendants remain unavailable (Herschderfer, 2004). The percentage of women who deliver with assistance by skilled birth attendants is 44% in Kenya and 43% in Eastern province (CBS, 2008). Based on this low utilization, the current study aimed at investigating the factors determining the choice of birth attendant in Kisau division, Makueni district, Kenya. This was achieved by estimating the utilization of SBAs and TBAs during birth, examining the effects of socio-economic and demographic characteristics among women giving birth, establishing the role of TBAs in choice of birth attendant and determining strategies that can be used to improve skilled birth attendance in the study population.

An explorative descriptive survey design was used to obtain information needed to describe attitudes and views of mothers', health providers, TBAs and local opinion leaders. The study was conducted in the 3 locations of Kisau Division, Makueni district, Eastern province. All women who delivered in health facilities in the previous 12 months were listed down using records from health facilities, TBAs, CHWs, Chiefs and assistant chiefs. Systematic random sampling method was used to identify the number of participants required for the study. Interview schedules were administered to 323 women who had given birth within the previous 12 months. Focus group discussions with health professionals, TBAs and local opinion leaders were held to supplement findings from the mothers. Data was analyzed by the use of descriptive statistics and SPSS. The Chi square test was applied to determine association between the dependent and independent variables.

The study revealed that the majority of the respondents in the study population (54%) gave birth assisted by TBAs while 41.9% were assisted by SBAs. The study findings concur with that of KDHS that a skilled attendant assists about 44% of mothers during childbirth in Kenya, where as 56% are delivered at homes assisted by TBAs and relatives (CBS, 2008). This low utilization of skilled attendants at delivery represents a great challenge to achieve the MDG's by 2015. In the study population, a number of socio economic and demographic factors were examined to determine their influence on choice of birth attendant. The study established that there was a relationship between level of education, level of monthly income, distance from health facilities and level of household income and women's choice of birth attendant. The study established that women with higher levels of education utilized SBAs than those with low levels of education. This

may be because educated women understand the benefits of skilled birth attendance and risks of delivering with TBAs assistance. The study revealed that TBAs had a major role to play when mothers were choosing a birth attendant as the decision on birth attendant was made by the TBA among 49.5% of the women and by the women's husband in 35.5% of the cases. Only 7.9% of the women chose a birth attendant on their own. The study established that the respondents' main reasons for choosing TBAs were because they lived closer and their services were affordable. On the other hand, SBAs were preferred because respondents felt that both mother and baby would be safe. The study findings also showed that the majority of the respondents (73.5%) were aware of government policy on SBAs which states that all women should deliver with skilled care in health facilities. Suggestions given by respondents on what can be done to improve skilled birth attendance and these included increasing the number of health facilities, increasing awareness programmes on skilled birth attendance and providing free maternity services. These recommendations have been given by various others researchers (Kruk *et al.* 2006) and (Siziya *et al.* 2000).

5.3 Implications of the Findings

Increasing the proportion of births assisted by skilled birth attendants is a central strategy for improving maternal and child health in Kenya. The researcher sought to assess the extent to which SBAs and TBAs are utilized, to determine socio-economic and demographic characteristics determining choice of birth attendant, to establish the role of TBAs in choice of birth attendant and strategies to improve skilled birth attendance in the study population. This section highlights the main study findings and their implications in relation to current and future programs on skilled birth attendance.

The study revealed that TBAs assisted in the majority of the births (54%), while SBAs assisted in 41% of the births. The study also provides new insight into the actual utilization of TBAs in the study population. This new information can be used to develop more effective interventions to improve skilled birth attendance in the study population.

The study established that there was a relationship between level of household income, distance to health facility, education level and women's choice of birth attendant. The study also revealed a substantial number of teenage pregnancies (3.5%), the majority of whom were delivered with TBAs assistance. To address this challenge, there's need to introduce awareness programs targeting the youth on the social and health risks associated with early child bearing, as well the benefits of skilled care at birth. Schools are feasible areas of intervention to increase adolescent knowledge on consequences of early child bearing. Evaluations of the impact of educational programmes targeting adolescents in formal and informal school settings have shown that these interventions have been successful in improving knowledge about reproductive health issues (McCauley *et al.,* 2005). The study also established that most women who delivered with TBAs assistance had limited or no formal education at all. The government of Kenya has provided free primary and secondary education, but the culture of girls' education has not been embraced fully in the study population. One avenue would be to use the provincial administration to reinforce the free education policy. Evidence has shown that women with high education are more likely to utilize SBAs than those with limited education (Siziya *et al.,* 2000). The study findings showed that households with a high source of income utilized SBAs more than those with low or no income at all. One way of

empowering women socially and economically is through formal education (McCauley *et al.,* 2005). In addition, fostering programs that improve girls' education is bound to improve their social and economic status, which positively influences the utilization of SBAs. The study established that for majority of women in the study population, more than 3 hours of travel time is required to access a skilled birth attendant. More health facilities which offer maternity services should be constructed closer to where the people live, so that pregnant women can access them easily.

The study revealed that TBAs and husbands had a major role to play when mothers were choosing a birth attendant. Program planners need to realize the important role TBAs and husbands play in influencing the choice of a birth attendant and incorporate them as change agents towards promoting skilled birth attendance. In poor resource settings, TBAs can be supported to assist mothers at birth as they may be the only available option (MacArthur, 2009).

Most of the respondents reiterated that far distances from health facilities left women with no choice than to turn to TBAs. One priority of the Ministry of Public Health and Sanitation Kenya aimed at addressing the barrier imposed by distance to health care is increasing the supply of trained midwives who practice in rural health facilities and midwives who provide community outreach (Ministry of Health, 2008). In collaboration with the MOH, the CDF can be utilized to construct health facilities in the study area. Enforcing the policy on free maternity services will remove the financial barriers to accessing SBAs. It's also important to launch effective strategies to make accurate and relevant information available in formats that are accessible to most of the women in the

study population. Improving provision of health education to women especially on danger signs during pregnancy and delivery and intensifying individual counseling of women on individual birth preparedness is crucial towards increasing skilled birth attendance (Mpembeni *et al.,* 2007). Interpersonal communication strategies through community opinion leaders such as chiefs, village leadership groups, health workers, or CHWs may be necessary for reaching poor households (Mayhew et al., 2008).

5.4 Conclusion

The study revealed that only 41.9% of all deliveries are attended by skilled personnel while TBAs assist 54% of the births in the study population Findings from this study indicate that having delivery supervised by TBAs was strongly associated with low levels of education, low levels of household income and long distance to health facility. According to the respondents, the major factors determining their choice of birth attendant included proximity (distance) and cost of services. TBAs and husbands of the married women were also found to greatly influence women's choice of birth attendant. Suggestions given by respondents on ways of improving SBA utilization in the study population included increasing number of health facilities so that they are closer to where people live, creating awareness on skilled birth attendance, enforcing the policy on free maternity services, improving road transport to ease access to health facilities as well as sensitizing TBAs on benefits of assistance by SBAs. These factors should be considered in designing interventions aimed to promote professional delivery with the consequent aim of reducing the proportion of deliveries assisted by TBAs. This may result in the reduction of maternal and neonatal morbidity and mortality rates.

5.5 Recommendations of the study

The researcher makes the following recommendations:

- The government should reinforce the policy on free maternity services so as to remove the financial barrier faced by majority of the women. This free service should include not only user fees but other supplies which health facilities demand before attending to women during delivery such as gloves and disinfectants.
- The Ministry of health and partners should create awareness on skilled birth attendance through sensitization programs on importance of SBAs and dangers of home births attended by unskilled persons by targeting both men and women involvement in birth preparation in order to ensure support is provided to women to access SBAs.
- The government should construct and equip more health facilities that offer maternity services closer to the community, and improve road infrastructure to minimize delay in transportation in rural areas.
- The government and key players should continually support and monitor progress of existing efforts targeted at raising women's status in terms of education and socio-economic levels. Increased enrollment, retention and completion of education for girls as well as appropriate transition to tertiary levels will help in reduction of early child bearing.

5.6 Areas for Further Research

The research study was limited to establishing the utilization of both SBAs and TBAs and comparing the determinants of choice of birth attendants. Further research is required in several related areas in order;

- To establish the actual impact of TBAs and SBAs on maternal and neonatal mortality.
- To investigate level of utilization of SBAs in families who have experienced adverse outcomes such as maternal and/or neonatal deaths.
- To investigate how TBAs can be effectively integrated into the formal health programs for the benefit of women and newborns.
- To determine effective strategies which generate demand for skilled birth attendants and reduce barriers for poor women seeking professional care at birth.

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Appendices

Appendix 1: Interview Schedule for mothers (change all to format of objectives)

Good morning/afternoon/evening, I am (Name) …….. From Kenyatta University, department of public health. We are conducting a survey on factors determining choice of birth attendants in Kisau Division, Makueni, to find out the views of mothers, health professionals, TBAs and local opinion leaders. A representative sample of persons in Kisau Division has been selected for interview in this survey. We would like to get your opinions on this issue through an interactive discussion. This will give you the opportunity to 'have a say' and your taking part will make a great contribution to the study. Everything you say will be treated confidentially. No names will be attached to any information you provide. The interview will take about 30 minutes.

If the potential agreement is shown:

Would it be convenient to carry out the interview now, or if preferred, I could come back at another time? When would be most convenient?

If consent is given, proceed with the interview

Section A: Level of utilization of SBAs and TBAs.

Level of utilization of SBAs

Q. 1 Who was your birth attendant during the birth of your youngest child?

SBA ☐

TBA ☐

Other (specify)……

Q.2. What are you're reasons for choosing the above named individual to assist you during birth?

a) Was affordable ☐
b) Was accessible ☐
c) Handles mother with care ☐
d) Was recommended/chosen by family ☐
e) Provides privacy..... ☐
f) Others (specify)…….

Q.3 a) What is your opinion about using Skilled Birth Attendants to assist during birth?

Strongly approve ☐
Approve ☐
Neutral ☐
Disapprove ☐
Strongly disapprove ☐

b) Please explain the reason for your answer above…….

Level of utilization and Role of TBAs

Q. 4 a) Have you ever given birth assisted by a traditional birth attendant?

Yes ☐
No ☐

Other (Please specify) ……

b) What are your reasons for choosing attendance by a TBA during delivery?

i) Was affordable ☐
ii) Was accessible
iii) Handles mother with care ☐
iv) Was recommended/chosen by family ☐
v) Provides privacy..... ☐
vi) Others (specify)…….

Q. 5 a) What is your opinion about using traditional birth attendants to assist during birth?

Strongly approve ☐
Approve ☐
Neutral/don't know ☐
Disapprove ☐
Strongly disapprove ☐

b) Please explain the reason for your answer above……
…….

Section B: Socio-Economic and Demographic Characteristics

Please provide the following details:

Q.6 Age ☐☐

Q 7 Marital status

Married ☐
Cohabiting ☐
Separated/divorced ☐
Widowed ☐
Not married ☐

Q.8 Religious affiliation

Catholic ☐

Protestant ☐
Muslim
Other (Please specify) ……

Q.9 Education level
No formal education ☐
Primary ☐
Secondary ☐
College/University ☐

Q.10 a) Are you in a paid employment?
Yes ☐
No ☐
b) If yes:
What is your occupation? …….

Q.11 a) Are you in self-employment?
Yes ☐
No ☐
b) If yes:
What is your business? ……

Q. 12 Please state your households approximate income per month (In Ksh)……

>1,000 ☐
1001-5000 ☐
5001-10,000 ☐
10,001-15,000 ☐
>15,000 ☐

Q. 13 Who decides where you will deliver the baby?

Husband and Self ☐
Mother in Law ☐
TBA ☐
Other (specify)……

Q 14. How long (in hours) does it take you to walk to the nearest health facility that offers maternity services?
> I hour ☐
1- 3 hours ☐
> 3 hours ☐

Q 15. What is the age of your youngest child (in months)?

☐

< 1 month
1- 6 months ☐
6-12 months ☐

Section C : Role of TBAs in choice of a Birth Attendant

Q. Q.16 a) In your opinion, do the think TBAs encourage/assist women to seek skilled care at birth?

Yes ☐
No ☐

b) Explain your answer above……

17 Traditional birth attendants are a potential risk to both mother and their baby.

Strongly agree ☐
Agree ☐
Neutral ☐
Disagree ☐
Strongly disagree ☐

D: Strategies to improve Skilled Birth Attendance.

Q. 18. a) Are you aware of any governments' policy on skilled birth attendants?

Yes ☐
No ☐

b) If yes to the question above, explain your answer……..

Q.19 Please give suggestion(s) on what can be done to improve skilled birth attendance in Kisau Division. ……

Thank you for taking time to answer these questions

Appendix 2: Focus group discussion guide for health professionals (doctors/ nurses/midwives), and Community Health Workers (CHWs).

Good morning/afternoon/evening, I am …….. from Kenyatta University, department of public health. We are conducting a survey on factors determining choice of birth attendants in Kisau Division, Makueni, to establish the views of mothers, health professionals, TBAs and local opinion leaders. A representative sample of persons in Kisau Division has been selected and interviewed in this survey. We would like to get your opinions as specialists in this field on this issue through an interactive discussion. This will also give you the opportunity to 'have a say' and your taking part will make a great contribution to the study. Everything you say will be treated confidentially. No names will be attached to any information you provide.
The interview will take about 1 hour 30 minutes.
If the potential agreement is shown:
Would it be convenient to carry out the interview now, or if preferred, I could come back at another time? When would be most convenient?
If consent is given, proceed with the interview

Section A: Level of utilization of TBAs and TBAs

Level of utilization of SBAs

Q. 1 a) In your opinion, are SBAs well or poorly utilized in this region?
……
b) Explain your answer
……
Q.2. a) What factors do women in your area consider when choosing a birth attendant?
……
b)Explain ……
……
Q.3 a) What is your opinion about using Skilled Birth Attendants to assist during birth?
……
b) Please explain the reason for your answer above……
……

Level of utilization and Role of TBAs

Q. 4 a) Are Traditional Birth Attendants well or poorly utilized in this region?
……..
b) Explain your answer
……
……
Q. 5 a) What is your opinion about using TBAs to assist during birth?
……
b) Please explain the reason for your answer above…….

Section B: .Socio-Economic and Demographic Characteristics

Q.6 What is the role of mothers' age on choice of birth attendant in the study population?
……
Q.7What is the role of mothers' marital status on choice of birth attendant……..

Q.8 What is the role of mothers' religious affiliation on choice of birth attendant?
……
Q.9 What is the role of mothers' education level on choice of birth attendant?
……
Q.10 What is the role of mothers' occupation on choice of birth attendant?
……
Q.11 a) In your opinion, who in the family decides where a woman will deliver her baby in Kisau Division? ……
b) Explain…….
……
Q 12 What is the role of level of household income in choice of birth attendant?
……
Q 13 What is the role of walking distance to health facility in choice of birth attendant?
……

Section C: Role of TBAs in choice of a Birth Attendant

Q.14 a) In your opinion, do TBAs encourage women to seek skilled care at birth?
……
b) Explain your answer above…….
……..

Q.15 a) Would you recommend a traditional birth attendant to assist mothers at birth?
……
b) Please explain your response above…….
……

Section D: Strategies to improve Skilled Birth Attendance.

Q. 16 a) Are you aware of any governments' policy on skilled birth attendants?
……

b) If yes to the question above, explain your answer……

Q.17 Please give suggestion(s) on what can be done to improve skilled birth attendance in Kisau Division.
……

Thank you for taking time to answer these questions

Appendix 3: Focus group discussion guide for Traditional Birth Attendants

Good morning/afternoon/evening, I am …….. from Kenyatta University, department of public health. We are conducting a survey on factors determining choice of birth attendants in Kisau Division, Makueni, to find out the views of mothers, health professionals, TBAs and local opinion leaders. A representative sample of people in Kisau Division has been selected and interviewed in this survey. We would like to get your opinions in this field on this issue through an interactive discussion. This will also give you the opportunity to 'have a say' and your taking part will make a great contribution to the study. Everything you say will be treated confidentially. No names will be attached to any information you provide.
The interview will take about 1 hour 30 minutes.

If the potential agreement is shown:
Would it be convenient to carry out the interview now, or if preferred, I could come back at another time? When would be most convenient?

If consent is given, proceed with the interview

Section A: Level of utilization of TBAs and TBAs

Level of utilization of SBAs

Q. 1 a) In your opinion, are SBAs well or poorly utilized in this region?
……
b) Explain your answer
……
Q.2. a) What factors do women in your area consider when choosing a birth attendant?
……
b)Explain ……
……
Q.3 a) What is your opinion about using Skilled Birth Attendants to assist during birth?
……
b) Please explain the reason for your answer above……
……

Level of utilization and Role of TBAs

Q. 4 a) Are Traditional Birth Attendants well or poorly utilized in this region?
……..
b) Explain your answer
……
……
Q. 5 a) What is your opinion about using TBAs to assist during birth?
……
b) Please explain the reason for your answer above…….

Section B: .Socio-Economic and Demographic Characteristics

Q.6 What is the role of mothers' age on choice of birth attendant in the study population?
……
Q.7What is the role of mothers' marital status on choice of birth attendant……..

Q.8 What is the role of mothers' religious affiliation on choice of birth attendant?
……
Q.9 What is the role of mothers' education level on choice of birth attendant?
……
Q.10 What is the role of mothers' occupation on choice of birth attendant?
……
Q.11 a) In your opinion, who in the family decides where a woman will deliver her baby in Kisau Division? ……
b) Explain…….
……
Q. 12 What is the role of level of household income in choice of birth attendant?
……
Q. 13 What is the role of walking distance to health facility in choice of birth attendant?
……

Section C: Role of TBAs in choice of a Birth Attendant

Q.14 a) In your opinion, do TBAs encourage women to seek skilled care at birth?
……
b) Explain your answer above…….
……..

Q.15 a) Would you recommend a traditional birth attendant to assist mothers at birth?
……
b) Please explain your response above…….
……

Section D: Strategies to improve Skilled Birth Attendance.

Q. 16 a) Are you aware of any governments' policy on skilled birth attendants?
……

b) If yes to the question above, explain your answer……

Q.17 Please give suggestion(s) on what can be done to improve skilled birth attendance in Kisau Division.
……

Thank you for taking time to answer these questions

Appendix 4: Focus group discussion guide for Local Opinion Leaders

Good morning/afternoon/evening, I am …….. from Kenyatta University, department of public health. We are conducting a survey on factors determining choice of birth attendants in Kisau Division, Makueni district, to find out the views of mothers, health professionals, TBAs and local opinion leaders. A representative sample of people in Kisau Division has been selected and interviewed in this survey. We would like to get your opinions in this field on this issue through an interactive discussion. This will also give you the opportunity to 'have a say' and your taking part will make a great contribution to the study. Everything you say will be treated confidentially. No names will be attached to any information you provide.

The interview will take about 1 hour 30 minutes.

If the potential agreement is shown:

Would it be convenient to carry out the interview now, or if preferred, I could come back at another time? When would be most convenient?

If consent is given, proceed with the interview

Section A: Level of utilization of TBAs and TBAs

Level of utilization of SBAs

Q. 1 a) In your opinion, are SBAs well or poorly utilized in this region?

……

b) Explain your answer

……

Q.2. a) What factors do women in your area consider when choosing a birth attendant?

……

b)Explain ……

……

Q.3 a) What is your opinion about using Skilled Birth Attendants to assist during birth?

……

b) Please explain the reason for your answer above……

……

Level of utilization and Role of TBAs

Q. 4 a) Are Traditional Birth Attendants well or poorly utilized in this region?

……..

b) Explain your answer

……

……

Q. 5 a) What is your opinion about using TBAs to assist during birth?

……

b) Please explain the reason for your answer above…….

Section B: .Socio-Economic and Demographic Characteristics

Q.6 What is the role of mothers' age on choice of birth attendant in the study population?
……
Q.7What is the role of mothers' marital status on choice of birth attendant……..

Q.8 What is the role of mothers' religious affiliation on choice of birth attendant?
……
Q.9 What is the role of mothers' education level on choice of birth attendant?
……
Q.10 What is the role of mothers' occupation on choice of birth attendant?
……
Q.11 a) In your opinion, who in the family decides where a woman will deliver her baby in Kisau Division? ……
b) Explain…….
……
Q. 12 What is the role of level of household income in choice of birth attendant?
……
Q. 13 What is the role of walking distance to health facility in choice of birth attendant?
……

Section C: Role of TBAs in choice of a Birth Attendant

Q.14 a) In your opinion, do TBAs encourage women to seek skilled care at birth?
……
b) Explain your answer above…….
……..

Q.15 a) Would you recommend a traditional birth attendant to assist mothers at birth?
……
b) Please explain your response above…….
……

Section D: Strategies to improve Skilled Birth Attendance.

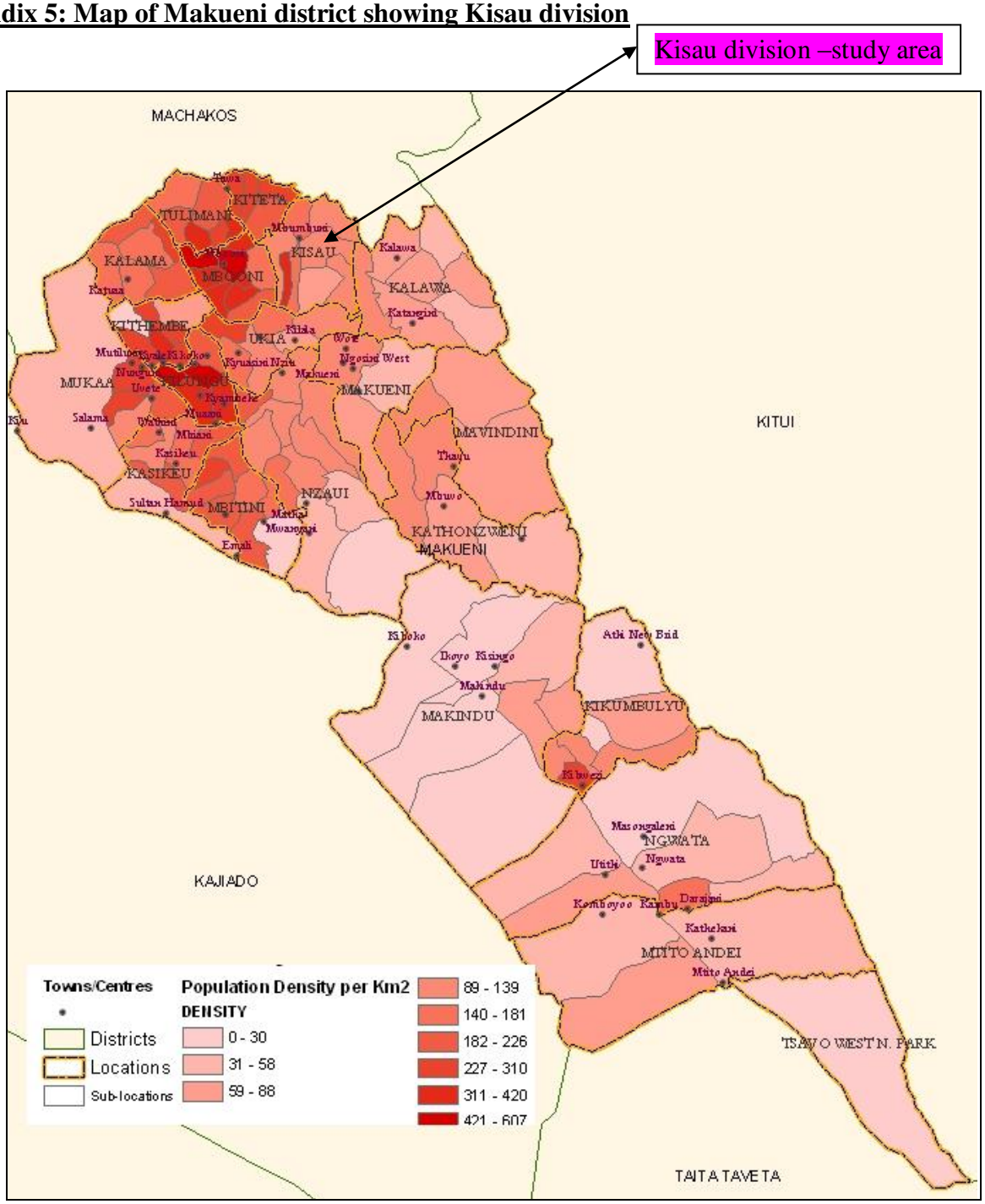
Q. 16 a) Are you aware of any governments' policy on skilled birth attendants?
……

b) If yes to the question above, explain your answer……

Q.17 Please give suggestion(s) on what can be done to improve skilled birth attendance in Kisau Division.
……

Thank you for taking time to answer these questions

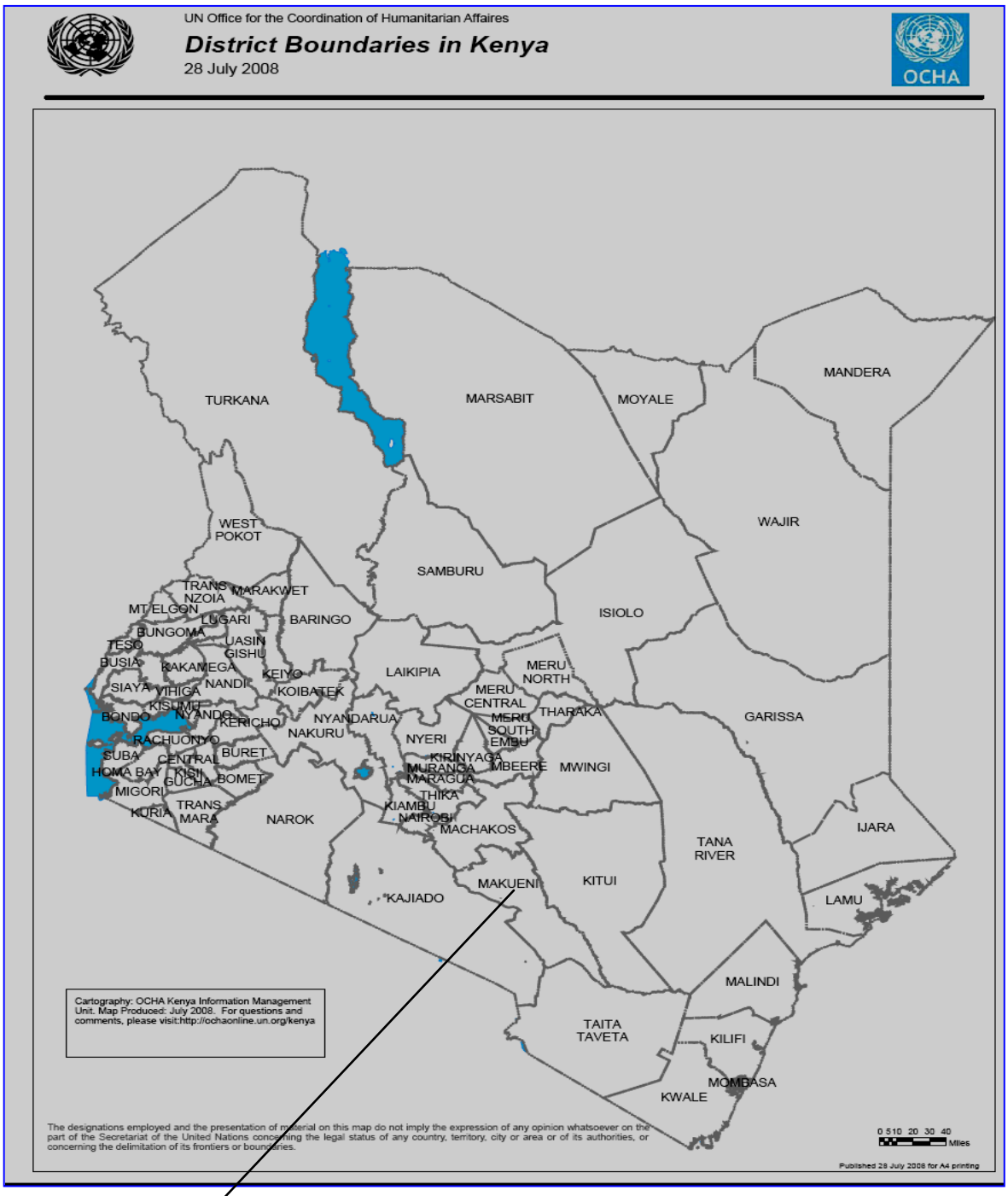
Appendix 5: Map of Makueni district showing Kisau division



Source: Ministry of planning Kenya, 2005.

NB: Due to creation of new districts in Kenya in 2009, Kisau division has now become part of Mbooni–East district, and not Makueni district as was the case during the study.

Appendix 6: Map of Kenya showing Makueni district



Source: United Nations Office for Coordination of Humanitarian Affairs 2008.

Appendix 7: Profile of participants in the focus group discussions

	Composition	**Number**	**Total**
FGD 1			
Health Professionals	Clinical officer	1	
	Nurse	4	
	Community health worker	1	
Sub-total			**6**
FGD 2			
TBA	TBAs	8	
	Nurse	1	
Sub-total			**9**
FGD 3			
Local opinion leaders	Chief	1	
	Assistant chief	4	
	Pastor	1	
	Village elder	1	
Sub-total			**7**
TOTAL			**22**