

Leave No Woman Behind: Saving Women's Lives Among Pastoralist Communities

Analysis of the Factors Influencing Skilled Birth
Attendance in Afar Region, Ethiopia

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Master in International Health
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A thesis submitted in partial fulfilment of the requirement for the degree of Master in International Health

by

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List of Abbreviations

AMREF	African Medical & Research Foundation
ANC	Antenatal Care
ANRS	Afar National Regional State
APDA	Afar Pastoralist Development Association
ARHB	Afar Regional Health Bureau
CSA	Central Statistical Agency
DHS	Demographic and Health Survey
EmOC	Emergency Obstetric Care
FGM	Female Genital Mutilation
FMOH	Federal Ministry of Health
HDA	Health Development Army
HEP	Health Extension Programme
HEW	Health Extension Worker
HSDP	Health Sector Development Programme
HTP	Harmful Traditional
MaNHEP	Maternal and Newborn Health in Ethiopia Partnership
MDG	Millennium Development Goal
MMR	Maternal Mortality Ratio
MWH	Maternity Waiting Home
NGO	Non-Governmental Organisation
PBF	Performance-Based Financing
QoC	Quality of Care
SBA	Skilled Birth Attendant
TBA	Traditional Birth Attendant
THE	Total Health Expenditure
UN	United Nations
WHO	World Health Organisation

Abstract

Skilled birth attendance is considered the single most important strategy to reduce maternal mortality. Among the nomadic pastoralists in Afar region, Ethiopia, skilled birth attendance is extremely low, the lowest in the country, with only 7% of births being attended by a skilled birth attendant in a health facility.

The aim of this study is to explore the factors, at both demand and supply side, influencing skilled birth attendance in Afar region, Ethiopia, and to recommend evidence-based interventions to improve skilled birth attendance and reduce maternal mortality.

Information was collected through literature review. Findings show many barriers and few enablers for skilled birth attendance at both demand and supply side. At demand side the main barriers are mainly socio-cultural, such as the low status of women, cultural beliefs and perceptions about pregnancy and childbirth dictating women to deliver at home with a traditional birth attendant and low awareness of the benefits of skilled birth attendance. There are also access-related barriers on the demand side, including accessibility and acceptability. The only potential enabler, the health extension programme, is not used to its fullest potential.

On the supply side the main barriers include lack of health facilities and skilled birth attendants in both quality and quantity, lack of financial resources and lack of ownership assumed by the government at various levels.

There is very limited evidence on interventions to improve skilled birth attendance in pastoralist areas and specifically address the needs of nomadic populations.

To achieve an improvement in skilled birth attendance, barriers at both supply and demand side must be addressed and enablers strengthened. For Afar region it seems necessary to tailor policies to the Afar and not the other way around. More research should be done on which interventions are effective for the Afar pastoralist communities and can improve skilled birth attendance. Recommended interventions for further research are: expansion of the health extension programme, including training both health extension workers and traditional birth attendants in clean and safe delivery and introduce community mobilisation; introducing mobile/seasonal clinics to accommodate the nomadic lifestyle; introducing performance-based financing to motivate and retain skilled birth attendants and improve quality of care. To address as many barriers as possible the Federal Ministry of Health should cooperate with other relevant ministries, such as the Ministry of Education and Ministry of Women's Affairs.

Key words: maternal mortality, skilled birth attendance, (nomadic) pastoralists, Afar region, Ethiopia

Word count: 12,707

Introduction

As a doctor in Tropical Medicine and International Health, I lived and worked in Ethiopia for the past three years. I've done three different projects all concerning maternal health, in three different regions of which one was Afar, where I worked and lived for one year. In every project challenges were encountered, but never as many as in Afar region. While buried in work in other regions, in Afar I was often waiting for women to come. And when the women did come for maternal health services, it was often at such a late stage that there was irreversible damage to their bodies or they were beyond saving and died. Even if women would come on time, lifesaving treatment (e.g. a caesarean section or blood transfusion) would be refused or it could take hours to find the right person to give permission for the woman to receive treatment. From the supply side there were also challenges. There were hardly any skilled midwives and essential drugs were often out of stock.

Maternal mortality has been and still is a major public health issue in Ethiopia. But the Ethiopian government is dedicated to improve the situation, decrease maternal mortality and increase the number of births at a health facility attended by a skilled birth attendant. During my modules in the MIH programme, Ethiopia was often cited as example of dedication regarding evidence based initiatives to improve maternal health. Progress is seen in some regions, but not in Afar. When discussing the situation in Afar and the fact that the Afar are a special population, i.e. nomadic pastoralists, with maternal health experts, their conclusion was that some populations are just too difficult, impossible to include in national health plans and basically beyond saving. Having witnessed the suffering of Afar women, this feels absolutely unacceptable to me. Improving maternal health, as was stated in the Millennium Development Goals and now in the Sustainable Development Goals, is not just for some populations. Every woman, no matter where in the world, has the right to skilled care at birth and no woman should die bringing new life into the world.

The main aim of this thesis is to get a better understanding of why so few Afar women deliver in a health facility with a skilled birth attendant and by understanding the factors influencing skilled birth attendance, make evidence-based recommendations on how to improve the current situation. In this way I hope to generate the desperately needed attention for the dire situation of pregnant and labouring Afar women, a largely neglected and marginalised population, and to make sure that they are included in national policies and programmes.

1. Background

Ethiopia, situated in the Horn of Africa, is one of the most populated countries of Africa with an estimated population of just over 90 million in 2015 (Central Statistical Agency (CSA), 2015). The largest part of the population is centred in the central highlands, the peripheral lowlands are less densely populated. Most of the population resides in rural areas (84%), making Ethiopia one of the least urbanised countries in the world (CSA [Ethiopia] & ICF international, 2012). Administratively Ethiopia is divided in nine Regional States and two City Administrations, of which Afar is one. The remainder of this chapter will focus more specifically on Afar region.

1.1 Geography

Afar region is located in the north-eastern part of Ethiopia, sharing international borders with Eritrea and Djibouti (see figure 1).

Figure 1. Map of Ethiopia



Source: Wikipedia, 2011

https://en.wikipedia.org/wiki/Afar_Region#/media/File:Afar_in_Ethiopia.svg

It is a large region with a surface area of 270.000 km². The vast area of the region is flat lowland of which 49.6% is exposed soil, sand and rock; only 7% of the area is considered cultivable land (Afar National Regional State (ANRS), 2010). Afar is characterised by an arid and semi-arid climate with little and erratic rainfall and the

highest temperature in the world was recorded in the region. Due to climate change, Afar is increasingly prone to droughts and flash floods. Because of its location (peripheral), lack of cultivable land, resources and high temperatures the region is often marginalised by Ethiopians from other regions (ANRS, 2010).

1.2 Demographic profile

The estimated population of Afar mid-2015 is 1.723.00 (2% of the total population of Ethiopia), of which 45.1% are women (CSA, 2015). The population density is only 14.59 per km². A special characteristic of the Afar population is that they are (semi-) nomadic pastoralists. A population is classified as being pastoralist if 50% or more of livelihood is dependent on livestock or livestock related activities (Federal Ministry of Health (FMOH) et al., 2011). In Afar region about 90% of the population base their livelihood on livestock rearing (camels, goats, sheep, donkeys) (ANRS, 2010). They are nomadic because they have to move around in order to find grazing land for their livestock. 30% Of the population is nomadic (moving frequently), 13% is settled and the remainder are able to settle for longer time but have to move around occasionally (semi-nomadic) (ANRS, 2010). The mobility is within a radius of approximately 50 km, but is increasing due to prolonged periods of drought (see Annex 1).

The regional language is Afar and few of the Afari understand and speak the national language, Amharic. Because of the cultural-linguistic differences they are often marginalised. They are also marginalised because of their underrepresentation in governmental institutions, thereby lacking political empowerment (Getachew, 2001).

1.3 Economy

Afar is the least developed region in Ethiopia. 59.8 % Of the Afar population is in the lowest wealth quintile (CSA, 2014). The Afar pastoralists' livelihoods depend mainly on cash economy. The primary source of income is the sale of livestock and livestock products (ANRS, 2010). With this income they can pay for basic needs such as medical care. A major barrier to the Afar livelihoods is the absence of a pastoral-friendly market. The Afar people consider towns, where markets are held, as places of outsiders (migrants from other regions), modernity and as a place of political domination by the State. Conversely, the Afar people have a fearsome reputation among the migrants and are regarded as hostile. The State considers the Afar as uncivilised and believes the Afar should adapt to the national market system and not the other way around (Getachew, 2001).

1.4 Gender

Cultural and social barriers to gender equality are strong in Ethiopia, leading to a high prevalence of harmful traditional practices, like early marriage and female genital mutilation (FGM), and gender-based violence. This is especially true for Afar region. Pastoralist communities are patriarchal, meaning that women are subservient to men and have little decision making power (FMOH et al., 2011). 80% Of Afar women are married before the age of 18 and 72.6 % of Afar men admit to have beaten their wife at least once. Also, 91,6% of girls age 14 or younger have undergone FGM (CSA & ICF International, 2012).

1.5 Health status

The major health problems in Ethiopia are largely preventable communicable diseases, HIV, tuberculosis and malaria, and nutritional disorders (CSA & ICF International, 2012). This is similar in Afar region. But the Afar pastoralists are also vulnerable to zoonotic diseases, such as bovine tuberculosis and brucellosis

because of their close contact with animals (FMOH et al., 2011). The increase in natural disasters, like drought and flooding, creates an additional burden on their health. Destruction of crops and animal deaths increase the level of malnutrition; floods have caused outbreaks of malaria and acute water born diarrhoea (ANRS, 2010) .

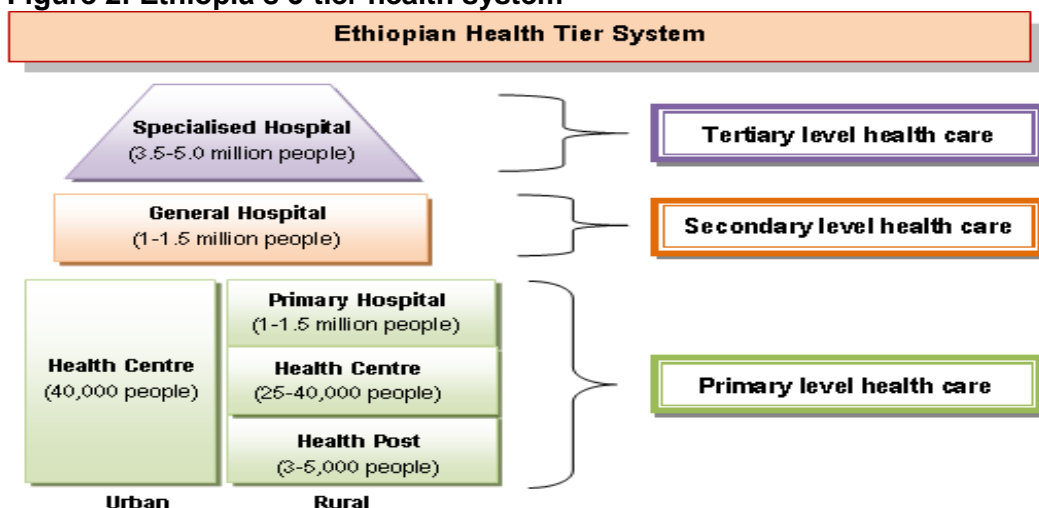
1.6 Health policy

The current health policy of Ethiopia was endorsed in 1993. The core elements of the policy are the decentralisation of services and improving and ensuring access to health care for all segments of the population (CSA & ICF International, 2012). Since 2000 maternal health is one of the priority areas of the national policy. To realise the objectives of the health policy, the Health Sector Development Programme (HSDP) was established. Since the development of the HSDP the Federal Ministry of Health (FMOH) has implemented several strategies. Concerning maternal health these are: free provision of key maternal health services, expansion of the health work force by training and deployment of health extension workers for services including safe and clean delivery at community level and training of Health Officers in Integrated Emergency Obstetrics (FMOH, 2010). The FMOH recognizes the lack of an appropriate health service delivery package for pastoralist communities. In order to address these 'special' populations a board within the FMOH was established under the HSDP, with as main goal to establish an appropriate health service delivery system with tailored packages to pastoralists' needs (FMOH, 2010).

1.7 Health system

Ethiopia's health system is a three-tier health care delivery system. It is characterised by a first level Primary Health Care Unit comprised of a primary hospital, health centres and health posts; the second level in the tier is a general hospital and the third a specialised hospital (FMOH, 2010). For details see figure 2.

Figure 2: Ethiopia's 3-tier health system



Source: FMOH, 2010

Decision making, duties and responsibilities are shared between the offices at different levels. The FMOH and Regional Health Bureaus focus more on policy matters and technical support, while Woreda (District) Health Offices have basic roles of managing and coordinating the operational side of public health services in their district.

2. Problem Statement, Objectives and Methodology

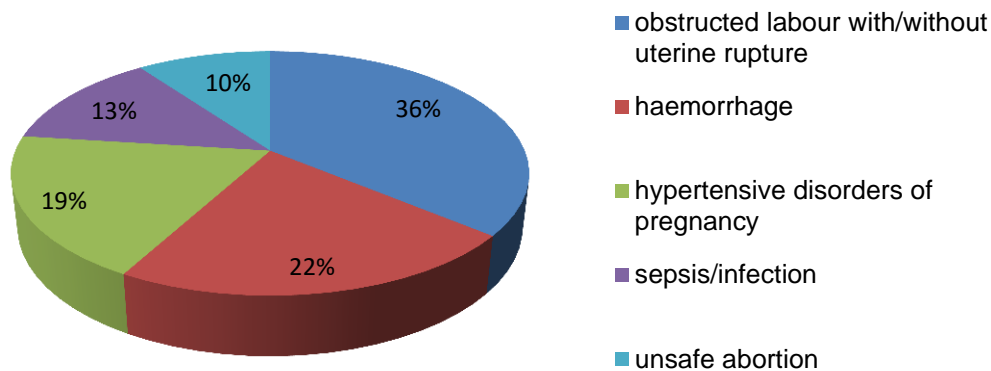
2.1 Problem statement

Maternal health became a priority on the global agenda when it was included in the Millennium Development Goals (MDGs). The goal was, as stated in MDG 5, to reduce maternal mortality with 75% by the year 2015 (United Nations (UN), 2015). Despite not reaching MDG 5, significant progress has been made with a global reduction in the Maternal Mortality Ratio (MMR) of 44% between 1990 and 2015. The highest MMR is seen in Sub-Saharan Africa, with a point estimate of 546 per 100.000 live births in 2015, a decrease of 49% since 1990 (WHO et al., 2015). Most maternal deaths in developing countries are due to direct consequences of pregnancy and childbirth and occur during labour, delivery or in the first 24 hours postpartum (Ronsmans & Graham, 2006). The complications leading to death, if unattended, are largely unpredictable and with this knowledge skilled birth attendance is considered the single most important strategy to reduce maternal mortality. Skilled birth attendance is defined as “the process by which a woman is provided with adequate care during labour, delivery and the early postpartum period” (WHO et al., 2004, p. 2). This definition includes that the process requires a skilled birth attendant (SBA) and an enabling environment. A SBA is defined as “an accredited health professional – such as a midwife, doctor, nurse – who has been educated and trained to proficiency in the skills needed to manage uncomplicated pregnancies, childbirth and the immediate postnatal period and in the identification, management and referral of complications in women” (WHO et al., 2004, p. 1). See Annex 2 for the core skills needed. An enabling environment includes adequate supplies, equipment and infrastructure as well as efficient systems of referral, but can also be viewed more broadly and include the political and policy context (Graham et al., 2001). Globally the percentage of births attended by a SBA has increased to 71%; in Sub-Saharan Africa this percentage is 52% (UN, 2015).

In Ethiopia the decrease in MMR and increase in skilled birth attendance is minimal and only seen in some regions (seen annex 3). Ethiopia’s MMR is estimated to be between 523 – 676 per 100.000 live births (WHO et al., 2015; CSA & ICF International, 2012). And there has been little to no progress; the MMR in 2005 was 673 per 100.000 live births (CSA & ORC Macro, 2006). For the top causes of maternal mortality in Ethiopia see figure 3. Most of these maternal deaths are preventable by timely and adequate intervention. The persistently high MMR has been contributed to the low level of skilled birth attendance. In 2011 only 10% of deliveries were attended by a SBA, with an increase to 16% in 2014 (CSA & ICF International, 2012; CSA, 2014).

Ethiopia has adopted the definition of skilled birth attendance of the WHO and considers doctors, midwives and nurses trained in obstetrics as SBAs. They are assisted by health officers with training in emergency obstetrics. The enabling environment in Ethiopia is within a health facility as there are no SBAs in the home setting.

Figure 3: Main causes of maternal death in Ethiopia, 2002-2012



Source: Berhan & Berhan, 2014

In Afar region the maternal health situation is even worse, with a MMR of 801 per 100.000 live births (CSA & ICF International, 2012). The level of skilled birth attendance in Afar region is the lowest in the country, and no increase has been seen. In 2014 in Afar only 7% of births were attended by a SBA, compared to 6.8% in 2011 (CSA & ICF International, 2012; CSA, 2014). 90% Of all home deliveries were attended by Traditional Birth Attendants (TBAs) (Yousuf et al., 2010). According to the given definition TBAs are not considered SBAs and in Ethiopia they are excluded from the formal health system.

The Ethiopian government recognised the need to increase the level of skilled birth attendance in order to reduce maternal mortality. A target was set, 62% skilled birth attendance by 2015, and two important strategies implemented: free of charge maternal health services and increase of the relevant health work force (FMOH et al., 2011). Besides training more SBAs, the Health Extension Programme (HEP) was launched to fill the gap in the health workforce and reach as many rural communities as possible. 30.000 Young, local females were trained as Health Extension Workers (HEWs) to provide preventative and curative health interventions at the health post level (FMOH et al., 2011). Training included clean and safe delivery. For the pastoralist areas the training of HEWs was adapted and shortened to speed-up implementation and males were included due to a lack of eligible females (Koblinsky et al., 2010). As a consequence of the shortened training period, the pastoralist HEWs only perform preventative health interventions, thus perform no deliveries, and are not directly contributing to filling the gap in the relevant health workforce.

Because skilled birth attendance is one of the key strategies to reduce maternal mortality, it will be the focus of this thesis. As the level of skilled birth attendance in Afar region is extremely low and progress has stalled, it is important to explore why. What are the barriers? What enablers are already in place, or needed, that can improve the level of skilled birth attendance? Because the Afar are (semi-)nomadic pastoralists, interventions to increase skilled birth attendance that work in other (non-pastoralist) regions might not work or work in a different way. Some research has been done to identify barriers and enablers for skilled birth attendance in Afar region, but only from the perspective of the community, excluding the health service level. Assessments have been done to establish the status of health service delivery in the

region, excluding the perspectives of the community. It is unclear whether action is undertaken based on the results of the research and assessments. It is important to address factors at both demand and supply side to provide relevant and effective recommendations to improve the level of skilled birth attendance. If only one side is addressed and the other neglected, sustainable success is unlikely. This thesis will try to fill the existing gap by identifying all major factors influencing skilled birth attendance and provide evidence-based recommendations.

2.2 Objectives

2.2.1 Overall objective

To explore the factors influencing skilled birth attendance in Afar region, Ethiopia, and to recommend evidence-based interventions to improve skilled birth attendance and reduce maternal mortality

2.2.2 Specific objectives

1. To identify and discuss the barriers and enablers for skilled birth attendance at the demand side (community level)
2. To identify and discuss the barriers and enablers for skilled birth attendance at the supply side (health service delivery level)
3. To identify and analyse relevant and effective (evidence-based) interventions regarding improvement of skilled birth attendance in Ethiopia and relevant other settings
4. To make evidence-based recommendations to improve uptake of skilled birth attendance to policy makers at national and regional level, SBAs and Afar communities

2.3 Methodology

This is a descriptive study, exploring and analysing what is already known and filling in as much gaps as possible. Information is collected through literature review of both peer-reviewed and grey literature.

2.3.1 Search Strategy

Peer-reviewed literature was obtained from databases and search-engines such as PubMed, Scopus, and Google Scholar. Further, websites of the WHO and other relevant UN organisations were searched. Policy briefs and other government documents were obtained from several websites of the Ethiopian Government. Of the identified articles the reference lists were also searched for additional articles relevant for this thesis. For the search terms used see table 1.

2.3.2 Selection criteria

Literature from the years 2006 – 2016 was included, to address the most recent issues, trends and evidence. Exceptions were made for the framework, definitions and background information. Only literature in English was included, as my language proficiency is not adequate enough in other languages. Included were articles about factors influencing skilled birth attendance in Afar region specifically and other regions in Ethiopia and interventions showing evidence of increasing skilled birth attendance in Ethiopia and other countries. Due to lack of specific evidence articles about utilisation of maternal health services were also included.

Table 1: Search words

Search words	
Broad search	Narrowed search
<ul style="list-style-type: none"> – “Maternal mortality” – “Maternal mortality AND Ethiopia” – “Skilled birth attendance” – “Skilled birth attendance AND Ethiopia” – “Skilled birth attendance AND Afar region” – “Skilled birth attendants” – “Skilled birth attendants AND Ethiopia” – “Place of delivery AND Ethiopia” – “Maternal health AND nomads” – “Maternal health AND pastoralists” – “Maternal health AND Afar region” 	<ul style="list-style-type: none"> – “Skilled birth attendance AND determinants AND Afar region OR Ethiopia – “Skilled birth attendance AND health policy AND Ethiopia” – “Skilled birth attendance AND quality of care AND Ethiopia” – “Skilled birth attendance AND antenatal care” – “Health system AND Ethiopia” – “Traditional birth attendants” – “Traditional birth attendants AND Afar region OR Ethiopia – “Health extension workers AND Afar region OR Ethiopia” – “Access AND maternal health services AND Afar region OR Ethiopia” – “Skilled birth attendance AND maternity waiting homes” – “Skilled birth attendance AND mobile clinics” – “Skilled birth attendance AND performance-based financing” – “Skilled birth attendance AND community mobilisation OR community participation”

2.3.3 Study limitations

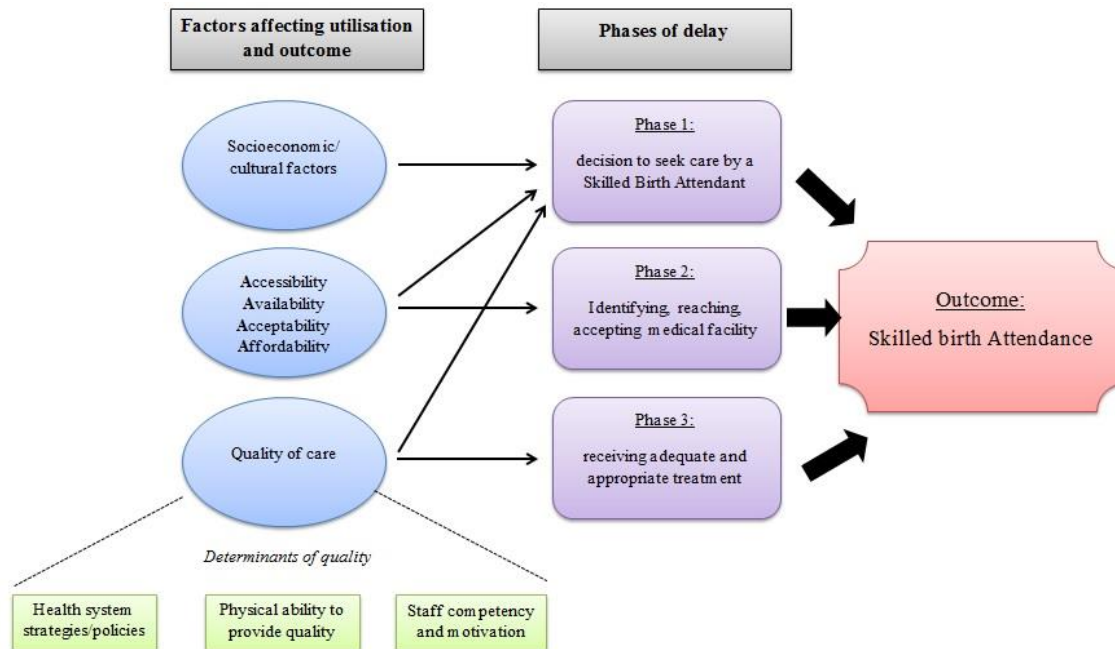
There is little literature specifically about maternal health and skilled birth attendance in Afar region, only some qualitative studies and assessments. There is little published literature about (nomadic) pastoralists in general. Due to restraints in time and resources a literature review was the only method possible for this thesis, whereas primary data collection could have provided more insights.

2.3.4 Conceptual framework

To answer the objectives the three-delay framework, developed by Thaddeus and Maine (1994), was used, mainly to structure the findings. The framework is intended to describe the phases of delay from the time an obstetric complication arises to

reaching a health facility and receiving appropriate care, with as outcome maternal mortality. The framework can be used perfectly to describe the factors influencing skilled birth attendance at three different levels. The framework is adapted for skilled birth attendance (see figure 4).

Figure 4: Adapted 3-delay framework



Source: Thaddeus & Maine, 1994; Dettrick et al., 2013

Below the different phases are described and how they are adapted and used in this thesis.

- Phase I Decision to seek care by a SBA: describing socio-cultural factors that shape the decision where and with whom to deliver, including the identification of a problem that requires action.
- Phase II Identifying, reaching and accepting an adequate health care facility: describing the factors related to access by using the four A's: accessibility, availability, affordability and acceptability
- Phase III Receiving adequate care at the facility: describing factors determining the quality of care. In the original framework this refers mainly to the health facility and the referral between facilities.

In order to address the 'enabling environment' as part of skilled birth attendance as described earlier, it is necessary to include the health system, health policy and health workforce. The framework is therefore expanded by determinants of quality as developed by Dettrick et. al. (2013).

3. Barriers and Enablers for the Decision to Seek Care by a Skilled Birth Attendant

In this chapter the factors influencing the decision to seek skilled care at a health facility will be discussed. These are the barriers and enablers at community level, including characteristics of the population, cultural beliefs/traditions, perceptions of pregnancy and childbirth and awareness of the benefits of delivering with a SBA in a health facility.

3.1 Level of education

The level of education is an important factor associated with skilled birth attendance. In women who are highly educated, i.e. above secondary level, the level of skilled birth attendance was higher than in women with no education, respectively 72% and 5% (CSA & ICF International, 2012). This is also shown in studies done in rural areas in Ethiopia: women who finished secondary school compared to women with no education were two to twelve times more likely to deliver in a health facility with a SBA (Teferra et al., 2012; Mengesha et al., 2013; Alemayehu & Mekonnen, 2015; Arba et al., 2016). The level of education among Afar women is the lowest in the country. 77.1% Of Afar women are illiterate and only 0.4% finished secondary school (CSA & ICF International, 2012; CSA, 2014). Not only the woman's educational level, but also the husband's is an important factor associated with skilled birth attendance. Pregnant women whose husbands had finished secondary school or higher were two to three times more likely to have skilled attendance at birth than their counterparts (Amano et al., 2012; Arba et al., 2016). The level of education among Afar men however is also very low, only 0.6% of Afar men finished secondary school (CSA, 2014).

3.2 Decision making power

There is agreement among Afar women that it is appropriate for men to have the power to make decisions and this is universally accepted in the Afar communities (King et al. 2015). The men's decisions concerning maternal health are crucial for permitting women to go to health facilities as well as for providing money for transport and treatment (Yousuf et al., 2011). Even if some men would permit the pregnant women to go to a health facility, they are often away from home in search of grazing land for their livestock. In pastoralist communities there is therefore an elaborate 'chain of command'. If the husband is away, advice will be asked by the pregnant woman's mother from the TBA if present. As the TBA is always a woman, she will ask advice of religious leaders (Maro et al., 2012). This elaborate process can result in considerable delay in reaching a decision to obtain skilled care. In other pastoralist areas the lack of decision making power for women is also one of the main reasons for delivering at home (Byrne et al. 2016; Ergano et al. 2012; El Shiekh & van der Kwaak 2015). In Ethiopia in general this is less of a barrier, except in some remote rural areas (Roro et al., 2014; Teferra et al., 2012).

3.3 Perceptions of pregnancy and childbirth

Cultural beliefs about pregnancy and childbirth is one of the main reasons for Afar women to deliver at home. 45.6% Of Afar women say it is not customary to deliver in a health facility (CSA & ICF International, 2012). Older women before all delivered at home and this tradition is expected to be followed. Afar women are shy and secretive about pregnancy and birthing. Commonly their pregnancy is hidden and they prefer to give birth at home, in privacy (King et al., 2015). In general, the needs of others

must take priority over women's own needs. Afar women's work is given higher priority than access to health care (Mekonnen et al., 2012). They are responsible for caring for their children, carry water and other domestic duties. It is not acceptable for Afar women to be away from home, even for childbirth. Going to a health facility is only reserved for when someone is ill; pregnancy and labour are perceived as normal and natural. If pregnant women would be seen being transported to a health facility, they would be ashamed, as the community would think they are ill or not capable of delivering a baby by themselves (King et al., 2015; Yousuf et al., 2011). Some abnormalities and complications of childbirth, such as excessive bleeding and breech presentation, are considered reasons to go to a health facility and be attended by a SBA. But there is a tendency to accept prolonged labour, the number one cause of maternal death in Ethiopia (Berhan & Berhan, 2014). Prolonged labour is seen as an evil spirit (jinni) and first requires prayers from the TBA and religious leaders. If this has no effect, eventually a labouring mother will be sent to a health facility. The decision to seek skilled care at a health facility can sometimes be made only after more than three days of labour (Yousuf et al., 2011). The custom to give birth at home, precluding women from attending skilled care during childbirth is also a strong barrier in other remote rural areas of Ethiopia (Bedford et al., 2013). The same applies to other nomadic communities in East Africa (El Shiekh & van der Kwaak, 2015; Byrne et al., 2016).

3.4 Awareness about pregnancy danger signs and benefits of skilled birth attendance

The lack of awareness among Afar women about the benefits of skilled birth attendance and danger signs during pregnancy and delivery is also a major barrier to seek care from a SBA (FMOH & UN, 2014). 45.6% Of Afar women said it was not necessary to go to a health facility at time of labour and delivery (CSA & ICF International, 2012). Few health-related educational programmes have targeted the Afar. Most programmes were not in the Afar language and only delivered in towns, where mostly Ethiopian migrants from other regions live (Both et al., 2013). There are educational programmes about the benefits of delivering in a health facility on radio and television. Women who have access to a television are 2.5 times more likely to utilise a SBA (Mengesha et al., 2013). Besides the fact that most Afar don't own a TV or radio, 95.2% have no electricity and are devoid of educational messages via these media (CSA & ICF International, 2012). The relationship between the Afar and the State has historically been one of mistrust. Educational messages delivered by non-Afari people, will not be accepted and will be seen as another attempt of the State to force a national policy on the Afar, disregarding their cultural beliefs and preferences (Getachaw, 2001). Health education regarding pregnancy and skilled birth attendance is best given by people the Afar are familiar with and to men and women separately, in order for them to be able to speak freely (Both et al., 2013).

3.5 Reliance on TBAs

In Afar region, TBAs are the preferred caregiver for labouring Afar women. Of all Afar women who delivered their last child at home, 90% were attended by TBAs (Yousuf et al., 2010). A TBA is defined as 'a person who assists the mother during childbirth and initially acquired her skills by delivering babies herself or through apprenticeship to other TBAs' (WHO et al., 1992, p. 4). They are admired and respected older women who are completely accepted by the community. In Afar there is a long tradition of delivering with a TBA. TBAs are seen by Afar women as the better way to

protect their privacy, are considered more experienced than SBAs, and give more culturally appropriate care (King et al., 2015; Temesgen et al., 2012). The reliance on TBAs is also seen in other pastoralist areas, but not as strong as in Afar region. Among the nomadic pastoralist communities in Kenya 57% of women delivering at home were attended by a TBA (Byrne et al., 2016). In other rural areas in Ethiopia 10 to 50% of home deliveries were assisted by a TBA (CSA & ICF International, 2012; Teferra et al., 2012).

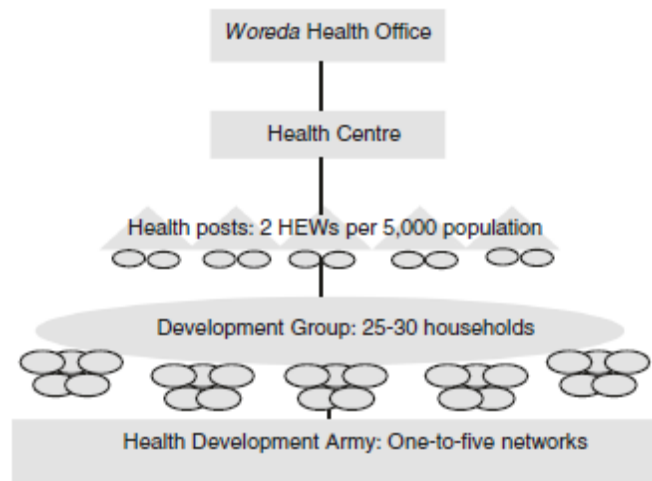
In Ethiopia TBAs are excluded from the formal health system since 2013. Before this time TBAs were trained in clean and safe delivery, recognition of pregnancy and delivery-related danger signs and subsequent referral to a health facility, and the dangers of harmful traditional practises (HTPs) (FMOH, 2010; Temesgen et al., 2012). Between the 1970s and 1990s the WHO promoted the training of TBAs as a strategy to reduce maternal mortality (WHO et al., 1992), but evidence showed no decrease in maternal mortality and this strategy was abandoned and the focus became skilled birth attendance (Sibley & Sipe, 2006; Sibley et al., 2012). A new role for TBAs is now advocated for, in which they are the promoters of institutional delivery in a health facility by a skilled attendant and no longer attend home deliveries (WHO et al., 2004). In many settings this has been successful and an increase in the level of skilled birth attendance was achieved (Jiang et al., 2016; Pyone et al., 2014; Tomedi et al., 2013). However, in Ethiopia TBAs are now neglected: there is no connection between them and the Regional and District Health Bureaus and they are treated disrespectfully by SBAs in health facilities (Busza & Baschieri, 2011). As most deliveries in Afar are still attended by TBAs, complications and even death due to HTPs will continue to exist and institutional delivery will not be promoted. Some of the HTPs in Afar region are: using one knife for several deliveries, leaving the mother to bleed believing that 'bad blood' needs to leave the body, and not washing or using water for up to seven days after birth.

3.6 Health extension programme

With the aim to accelerate expansion of primary health care for all and the health work force, the HEP was introduced and implemented. The HEP includes training of female HEWs and deploying them at district level health posts across the country, to reach all communities (FMOH, 2010). HEWs are recruited from the local community, ensuring they have completed 10-12 years of education, receive one year of training before being placed back in their community. HEWs spend 70% of their time providing health messages, immunisation etc., and the remainder of time at the health post (Koblinsky et al., 2010). Related to maternal health, HEWs treat all pregnancies with the potential for risk, communicating with women and their families about the danger signs and possible complications of pregnancy and childbirth (Caglia et al., 2014). They are also trained in clean and safe delivery. The HEWs are supported by the Health Development Army (HDA). The HDA consist of volunteer community members and they focus on local behaviour change regarding the uptake of maternal health services during monthly meetings with pregnant women (FMOH, 2010; Caglia et al., 2014). The HDA has officially replaced other community-based workers such as TBAs. The HEWs form the link between the community and the formal health system (see figure 5). For pastoralist areas like Afar, the HEP was adapted. The educational attainment criteria was reduced to eight years of education and the training reduced to six months (Busza & Baschieri, 2011). Because there were not enough eligible female candidates, males were allowed to train. Due to the

shortening of the training programme, pastoralists HEWs provide only preventative and no curative services (FMOH, 2010).

Figure 5: HEWs position as link between the community and formal health system



Source: Kok et al., 2015

The fact that HEWs are placed back in their own community, enhances trust and engagement between the HEW as representative of the formal health system and the community (Kok et al., 2015). The identification of pregnant women by the HDA and referral by the HEW to a health facility at time of delivery, increased skilled birth attendance in other regions. Pregnant mothers who were visited by HEWs were two times more likely to deliver in a health facility (Afework et al., 2014; Jackson et al., 2016). This seems promising, but overall the contribution of HEWs to skilled birth attendance seems insignificant. The main task of health promotion and prevention takes up most of their time and they are overburdened with the different components of the HEP (Gebrehiwot et al., 2014; Koblinsky et al., 2010). Despite training they lack knowledge, hands-on experience and confidence in safe delivery. 88% Of HEWs have poor knowledge of danger signs and complication during pregnancy and childbirth (Medhanyie et al., 2012). In Afar region the HEWs only offer preventative services. When the Afar women did visit the health post during labour, they were disappointed not receiving curative care. This diminished the trust in HEWs which was already low. The awareness messages are appreciated, but there is doubt about the skills of HEWs (Mekonnen et al., 2012; King et al., 2015). They are usually young females, who have had no chance to prove themselves and the Afar women have more trust in TBAs. The HEWs complain about lack of support from the Health Bureaus and a condescending attitude of SBAs, diminishing the link between the community and the formal health system (Koblinsky et al., 2010; Busza & Baschieri, 2011).

3.7 Perceived quality of care

Perceived quality of care (QoC) can be both a barrier and an enabler for skilled birth attendance. Afar women who experienced delivery in a health facility with a SBA as comfortable and professional, were likely to attend again and promoted institutional delivery to other community members (King et al., 2015). In other rural areas in Ethiopia women who perceived the QoC as excellent, were six times more likely to

deliver in a health facility with a SBA compared to those who perceived the quality as poor (Wilunda et al., 2015). The majority of Afar women perceived the quality as poor. Poor service, unfriendly and even abusive treatment by SBAs were the main reasons given and deterred women from going to a health facility for childbirth (King et al., 2015; Mekonnen et al., 2012).

4. Barriers and Enablers for Access to a Health Facility with a Skilled Birth Attendant

In this chapter factors related to access are discussed. The concept of access will be explained by using the four A's: accessibility, availability, affordability and acceptability. These include barriers and enablers both at community and health service level.

4.1 Accessibility

Long distance to a health facility and lack of transport is a known barrier for skilled birth attendance (Gabrysch & Campbell, 2009). In Afar region 22-41% of women give as reason for delivering at home that health facilities are too far and that they have no means of transport (CSA & ICF International, 2012; Mekonnen et al., 2012; King et al., 2015). The average distance to the nearest health centre is about 50 kilometres (FMOH et al., 2011). Because a large proportion of the Afar population is nomadic, the distance to a health facility varies over time as facilities are static. Most health facilities are located near roads and settlements, disregarding the moving population. This is reflected in the percentage of settled and mobile communities using health services, respectively 54% and 20% (Dubale & Mariam, 2007). Accessible roads are few in Afar, as the region has been neglected with regards to infrastructural development. The total length of accessible roads in the region is only 1,513 km on a surface area of 270,000 km² and only 10% of the Afar population lives within 2 km of a road (ANRS, 2010). The problem of long distance and few and poor roads is exacerbated by the lack of transportation. Only 0.1% of the Afar population owns a vehicle (CSA, 2014). People resort to walking, camels or donkeys for transport, which is extremely uncomfortable for a pregnant or labouring woman. Distance is also a barrier in other regions in Ethiopia. Women who had to travel less than 30 minutes to a health facility were two times more likely to deliver in a health facility compared to those facing over 30 minutes travel time (Arba et al., 2016; Alemayehu & Mekonnen, 2015; Kebede et al., 2013). But the average distance to a health facility is nowhere as long as in Afar region.

4.2 Availability

The long distance to the nearest health facility is also related to the number of facilities available. And they need to be open and staffed with SBAs.

4.2.1 Availability of health facilities

The number of health facilities providing delivery service has increased rapidly, but are still limited in number. In 2010 there were only 14 health centres and this number doubled to 28 in 2011 (FMOH et al., 2011.; Afar Regional Health Bureau (ARHB) et al., 2010). Further there is one district hospital and one regional hospital (ARHB et al., 2010). The number of health posts is also increasing, but these are not offering delivery services in Afar region. When pregnant mothers did go to a health facility to deliver, 10% found the facility closed (CSA & ICF International, 2012). This is contributing to the perceived poor QoC, deterring women to re-visit the health facility and prompting negative promotion to other women in the community.

4.2.2 Availability of SBAs

Increasing the number of SBAs is one of the key strategies of the Ethiopian government to increase the level of skilled birth attendance. The workforce has increased, but insufficiently (FMOH, 2010). To achieve a 80% rate of skilled birth attendance there should be at least 2.28 qualified SBAs per 1000 people available; in

Ethiopia this number is only 0.03 per 1000 people (Feysia et al., 2012). High-level educated health professionals, like doctors and midwives, are largely skewed towards the urban areas leaving the rural areas underserved. About 45% of doctors and 28% of nurses are working in the capital, Addis Ababa (WHO, 2013). This is primarily due to better promotion opportunities, access to education and dissatisfaction with the rural location and accompanied monetary compensation (Feysia et al., 2012). In Afar region the number of SBAs has rapidly increased: in 2009 there were no midwives at all, but a year later 19 (FMOH, 2010; ARHB, 2010). However, a shortage remains. The HSDP target is to staff each health centre with at least two midwives and one health officer. In Afar region only 21% of health centres reached this target (Busza & Baschieri, 2011). Furthermore, the physician-population ratio is only 1:98,258 and the nurse-population ratio 1:2,577; and they are not necessarily trained in providing delivery care (CSA, 2014).

4.3 Affordability

Since 2005 health facilities in Ethiopia are supposed to provide free maternity services. Unfortunately 65 % of health facilities providing delivery care charge for some aspect of care (Hadis et al., 2014; FMOH, 2010). Indirect costs, such as costs for transport and lodging, are as much a burden to clients as the fees themselves. The labouring woman has accompanying family with her, who also need to be fed and accommodated and she is dependent on her husband providing the money. All these costs are seen as a barrier to skilled birth attendance (King et al., 2015; Busza & Baschieri, 2011). 6.5% To 13.2% of Afar women give costs as a reason to deliver at home (Mekonnen et al., 2012; CSA & ICF International, 2012). Considering that 59.8% of Afar people are in the lowest wealth quintile (CSA, 2014), this is not surprising. And any expenditure not planned for can easily become catastrophic. Thus economic status of a household is an important factor influencing skilled birth attendance. Women in the highest wealth quintile were two to seven times more likely to delivery in a health facility than women in the lowest wealth quintile (Arba et al., 2016; Tekelab et al., 2015; Yesuf et al., 2014).

4.4 Acceptability

Even when health services are available, they are often considered culturally and linguistically inappropriate and as such, unacceptable for the Afar pastoralists. From the supply side there is a lack of understanding among health care workers about how to deal with the pastoralist way of life; from the demand side use of health care services is seen as an obligation to conform to national policies the Afar don't trust (FMOH & UN, 2014; Getachew, 2001). SBAs don't get any training in cultural habits and beliefs, but are trained to abide by international standards and to not deviate from them. A significant barrier for Afar women to deliver in a health facility, is the fact that no female family members are allowed in the delivery room (Mekonnen et al., 2012), while at home they can choose who is present. Women are also not allowed to deliver in the position they prefer and believe speeds-up delivery, a semi-sitting position (Yousuf et al., 2011). The SBAs make them lie flat on their back, legs open and exposing their genitals. Many different health providers do vaginal examinations. Afar women are shy and private about pregnancy and their reproductive organs and to them it is offensive if more than one person will see them and do internal examination (King et al., 2015). There is even more fear for male SBAs to touch their bodies. Labour and delivery are traditionally a woman's domain and neither Afar men nor women want the woman to be attended by a male SBA (King et al., 2015; Yousuf

et al., 2011). Some women are afraid of being treated by non-Afari health workers (Yousuf et al., 2011). At this point in time, most SBAs are male and there are almost no Afari SBAs. An educational level of secondary school is needed to enter midwifery school and other medical studies. And, as discussed before, only 0.4% of Afar women have finished secondary school (CSA, 2014), making it extremely unlikely that the situation of male, non-Afari SBAs will change soon. This also presents a language barrier, as most of the Afar don't speak Amharic, the national language spoken by most SBAs. Not permitting relatives in the labour room and the position of delivery are also mentioned as barriers for skilled birth attendance in other rural areas in Ethiopia (Bedford et al., 2013; Jackson et al., 2016), reflecting the lack of 'cultural training' in the national curriculum of SBAs.

5. Barriers and Enablers for receiving Adequate and Appropriate Care

Factors related to receiving timely adequate and appropriate care will be discussed in this chapter. These are the barriers and enablers on health service delivery level, including factors related to quality of care, the health policy and health system.

5.1 Quality of care

For skilled birth attendance to be effective, i.e. reduce maternal mortality, receiving adequate, timely and appropriate care is essential. In order to achieve an acceptable level of quality of care, the SBA has to be skilled, the drugs and equipment necessary to provide these services need to be available at the health facilities and a proper referral system needs to be in place.

5.1.1 Medical supplies and management in the health facility

One of the main problems encountered in Afar region is the lack of essential drugs and equipment to provide delivery services. Health facilities are depending on local presence of donor supported programmes for the provision of these drugs and equipment. Generally, there is an inadequate budget, a weak drug supply system, poor logistic support for distribution and weak management (FMOH & UN, 2014; FMOH et al., 2011). Under the decentralised health system in Ethiopia, delivery services are organised and integrated at district level. But the district capacity for organisation, planning and management at this level is limited and many aspects of health facility management, which are integral to quality and efficiency, are largely still under the responsibility of government agencies at regional and federal levels (WHO, 2013).

5.1.2 SBA's capacity to provide adequate delivery services

The pre-service education has scaled-up in Ethiopia to increase the amount of SBAs, but there is great concern about the quality and competence of the graduated health workers. The knowledge of midwives is good, but their practical competency is of poor quality as only 30% of them manage to do 20 or more deliveries during their education (Yigzaw et al., 2015). The knowledge and competency of nurses and health officers is quite low. Only 12% of graduating nurses and health officers could plot a partograph, one of the basic and essential midwifery skills (Feysia et al., 2012). The poor competency of SBAs is a barrier for Afar women to go to a health facility and deliver with a SBA. The competency of TBAs is rated higher and therefore they are chosen as the attendant for delivery (King et al., 2015). Besides the low skill level, SBAs in rural areas are unmotivated to provide care and are often absent (Yigzaw et al., 2015). It is also important for SBAs to recognise danger signs and the need for referral to a facility where Emergency Obstetric Care (EmOC) is provided. EmOC is another important strategy that reduces maternal mortality (Paxton et al., 2005). See table 2 for the signal functions used to identify basic and comprehensive EmOC services. In Afar region only 3 nurses/midwives and 2 health officers/doctors had the capacity to identify danger signs and to appropriately identify reasons for referral to an EmOC-facility (ARHB et al., 2010).

Table 2. Signal functions of basic and comprehensive EmOC services

Basic Services	Comprehensive Services
(1) Administer parenteral antibiotics	Perform signal functions 1 to 7, plus:
(2) Administer uterotonic drugs	(8) Perform surgery (e.g. caesarean section)
(3) Administer parenteral anticonvulsants in case of (pre-) eclampsia	(9) Perform blood transfusion
(4) Manual removal of placenta	
(5) Remove retained products	
(6) Perform assisted vaginal delivery	
(7) Perform neonatal resuscitation	

Source: WHO et al., 2009

5.1.3 Referral system

When the level of care at one health facility is inadequate or standard care cannot deal with complications arising, referral to a health facility that can deliver the adequate and appropriate care is necessary and a good referral system needs to be in place. The referral system in Ethiopia is inadequately developed. There is a lack of ambulances, they are not 24/7 available and it is often hard to find one on time due to lack of fuel or ambulance drivers (Bedford et al., 2013; Roro et al., 2014; FMOH & UN, 2014). The lack of ambulances to transport women from their village to a health facility makes it hard for Afar women to deliver in a health facility. If they do reach a health facility and have to be referred, makes them loose confidence in the health system and they often don't wait for the ambulance, but go home to deliver with a TBA (King et al., 2015; Mekonnen et al., 2012).

5.2 Antenatal Care

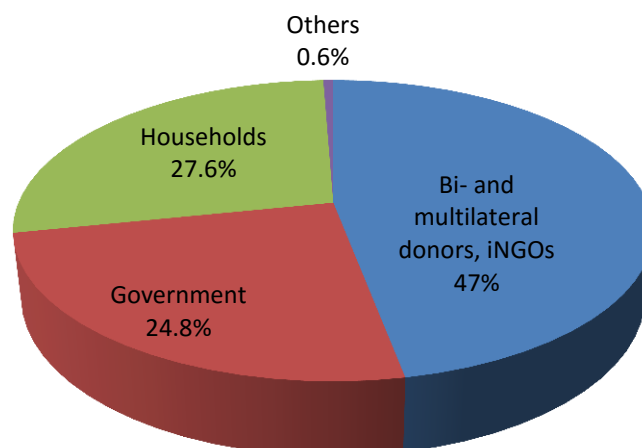
Evidence shows that women who have attended ANC are more likely to deliver in a health facility with a SBA. This is more related to the content of ANC than the number of visits (Adjiwanou & LeGrand, 2013). If ANC contains messages about birth preparedness, benefits of skilled birth attendance and danger signs of pregnancy and childbirth, it can double the level of skilled birth attendance. Birth preparedness means that a woman, or her family, has a plan ready regarding an identified place for delivery, transportation, financial means and company to travel with her when labour starts (Soubeiga et al., 2014). Over 50% of Afar women said they delivered at home because labour progressed fast and there was no time to reach a health facility (Mekonnen et al., 2012). Home delivery could have been prevented by being prepared for birth. Studies have shown that birth preparedness can increase skilled birth attendance with more than 30% (Soubeiga et al., 2014; Karkee et al., 2013; Skinner & Rathavy, 2009). Also in Afar region and other pastoralist areas a significant association was found between ANC-attendance and skilled birth attendance (Mekonnen et al. 2012; Ergano et al. 2012). In Afar region 31% of pregnant women received ANC from a SBA and 2,3% from a HEW, a much higher percentage than the 7% of births attended by a SBA in a health facility (CSA, 2014). This might be

explained by the fact that only 30% of women attending ANC received information about danger signs, birth preparedness and the importance of skilled birth attendance (CSA, 2014; King et al., 2015; Jackson et al., 2016; Roro et al., 2014).

5.3 Financing for maternal health

It has been widely recognised that health care is grossly underfinanced in Ethiopia and strategies have been implemented to increase availability of health care resources in a way that leads to increased equity, sustainability and improved QoC (FMOH, 2010). The total health expenditure (THE) has increased significantly from 1.2 to 1.6 billion USD (or 20.77 USD per capita) (FMOH, 2014). This amount is 5.6% of the country's total government expenditure, thus not meeting the target set in the Abuja declaration of 15 % (WHO, 2011). The same trend is seen in the expenditure on reproductive health. The total reproductive health expenditure has more than doubled between 2008 and 2011 to 224 million USD, 13% of the THE (FMOH, 2014), still leaving major funding gaps for maternal health programmes and strengthening of the health system. International donors contribute to almost half (47%) of the total reproductive health budget and the government only 24.8%. This is not beneficial for sustainability and accountability. For all the financial sources of reproductive health care see figure 6.

Figure 6: Financing sources of reproductive health, 2010/2011



Source: FMOH, 2014

Reproductive health covers a wide range of services of which delivery care is one. Only 11% of the total reproductive health budget is spent on inpatient care, like delivery services, not leaving much for an adequate drug supply and provision of equipment, affecting QoC (FMOH, 2014).

5.4 Partnership with non-governmental organisations

One of the main aims of the national health policy is the cooperation with non-governmental organisations (NGOs) (FMOH, 2010). There are currently two NGOs working in the field of maternal health in Afar region: the African Medical & Research Foundation (AMREF) and the Afar Pastoralist Development Association (APDA). AMREF trains TBAs in safe delivery and provide medical supplies to health facilities. APDA also trains TBAs and they have their own women extension workers, all trained in safe delivery and they provide delivery kits to both groups (Busza & Baschieri, 2011). The NGOs have a different policy than the government, as the latter does no longer train TBAs and have excluded them from the health system. In the

APDA model Afari people are in charge of programme implementation and health promotion. They have been working in Afar region for over 25 years and have developed effective partnerships with the most hard-to-reach communities (Yousuf et al., 2011). Integrating APDA's expertise within the formal health system could be feasible, considering the distrust of the Afari people towards the government (Getechaw, 2001). A first attempt to cooperation is established and combined teams have been formed composed of a APDA health worker, a government HEW and a kebele (lowest administrative unit) liaison person (Busza & Baschieri, 2011).

6. Relevant and Effective Interventions to Improve Skilled Birth Attendance

In this chapter evidence-based interventions will be discussed that can improve skilled birth attendance. The main focus will be on interventions from pastoralist areas and relevant interventions from other non-pastoralist regions in Ethiopia.

6.1 Interventions from pastoralist areas

There is little evidence about interventions to improve skilled birth attendance in pastoralist areas or improving access to health care in general. Two case examples found in the literature will be discussed.

6.1.1 Mobile clinics

In Afar region mobile clinics and health teams have been used, but only in crisis situations. An assessment of health care provision to the Afar pastoralist communities, shows that they are positively viewed, especially when curative treatment is offered (WHO et al., 2011). Among pastoralist communities in Kenya, a form of mobile clinics has been used to improve skilled birth attendance: the Ng'adakarini Mamocha intervention. This intervention introduced freight container clinics, who were strategically located along migratory routes to ensure the pastoralists were always within walking distance. The container clinics are only operational when the communities have migrated within its vicinity. The clinics are operated by a community nurse trained in delivery care and a community health worker. After opening of these container clinics the number of deliveries in a health facility by a SBA significantly increased from 6.2% to 16.5% (Jillo et al., 2015).

6.1.2 "One Health": combining human and animal health services

Livestock is extremely important for pastoralists, as their livelihood depends on it. With this in mind, a program was set up among the pastoralists in Chad, combining vaccination campaigns for both humans and animals. This program led to a significant increase in uptake of vaccination and other public health services, was cost-effective and increased satisfaction about health services among the pastoralist population (Schelling et al., 2005; Schelling et al., 2007). There is no example, and thus no evidence, whether "One health" can lead to an improvement of skilled birth attendance, but it does create an opportunity to reach a large portion of the Afar pastoralists, as 90% depends on livestock for their livelihood (ANRS, 2010); and an assessment has shown that the Afar would be more interested in using health services if veterinary services would also be provided (FMOH et al., 2011).

6.2 The Maternal and Newborn Health in Ethiopia Partnership (MaNHEP)

The MaNHEP was a 3.5 year project supported by an international donor and operated under the leadership of the Ethiopian FMOH in two non-pastoralist regions in Ethiopia. The main aim of the programme was to improve maternal and neonatal health in rural areas by strengthening and expanding the existing HEP (Barry et al., 2014; Dynes et al., 2013; Koblinsky, 2014). The two main components of the project will be discussed.

6.2.1 Combined Training of TBAs and HEWs

An important part of the project was the training of TBAs and HEWs in clean and safe delivery. The idea behind the training was two-fold. Because there is a lack of SBAs and health facilities, TBAs and HEWs are trained to act as SBAs at community level. They are trained together to establish a better working relationship between TBAs

and HEWs (Dynes et al. 2013; Koblinsky 2014). Pre-training scores show little knowledge about safe and clean delivery and danger signs, but both TBAs and HEWs showed excellent knowledge and skills after training (Dynes et al., 2013).

6.2.2 Community Mobilisation

The core element of the MaNHEP is community mobilisation, which is a capacity building process enabling people to organise themselves, recognise opportunities, identify their collective potential, and utilise available resources to realise a shared goal (USAID, 2006; Rosato et al., 2008). In the project this was achieved in family meetings, in which the trained TBAs and HEWs shared their obtained knowledge and skills with pregnant women and their families. Besides sharing knowledge and awareness-raising, barriers that prevent women from seeking and obtaining health services were identified and after identification communities worked to develop and implement locally relevant solutions to these barriers (Barry et al., 2014; Dynes et al., 2013). At the end of the project a significant increase was seen in women using a SBA in a health facility, from 6 to 17%, and an increase of women delivering with TBAs and HEWs from 12 to 40%, while the births attended by family and other unskilled providers decreased significantly (from 77 to 23%) (Spangler et al., 2014; Sibley et al., 2014). Community mobilisation has also shown to be effective in increasing skilled birth attendance in other countries, with an increase from 15 to 71% (Lee et al., 2012; Mushi et al., 2010; Wangalwa et al., 2012).

6.3 Maternity waiting homes

A maternity waiting home (MWH) is a temporary shelter for pregnant women, located near a hospital or health centre (WHO, 1996). They are available to pregnant women from rural areas to bridge the barrier of distance (Lori et al., 2011; Van Lonkhuijzen et al., 2012). Ethiopia has more than 30 years of experience with MWHs, with nine facilities across five different regions having MHW services (Gaym et al., 2012). The evidence is inconclusive, but findings are encouraging suggesting that MWHs can increase skilled birth attendance: an increase from 30 to 85% has been reported (Van Lonkhuijzen et al., 2012; Lori et al., 2011). There are barriers to the use of MWHs, similar to the barriers for skilled birth attendance in Afar: lack of privacy, inability to use traditional birthing practices, being away from home and not being able to take care of family as well as financial barriers (Kelly et al., 2010; Van Lonkhuijzen et al., 2012). Evidence is also inconclusive whether MWHs reaches the target group, namely women living a far distance from a health facility. In Ethiopia it did reach women living up to 400 km from a health facility (Gaym et al., 2012), but in another setting increase in skilled birth attendance was only significant among women living within 5 km of the health facility (Wild et al., 2012).

6.4 Performance-Based Financing

Performance-based financing (PBF) is 'the transfer of money or material goods conditional upon taking a measurable action or achieving a predetermined performance target' (Eichler, 2006, p. 5). This can come in many different shapes and forms, both at supply-side and demand-side. As the previous mentioned interventions are mainly focused on the community and access, focus here will only be on health service level. PBF in the form of supply-side financing is a mechanism by which health providers are funded on the basis of their performance. The funding may be paid to a health facility or directly to a health care provider (Meessen & Sekabaraga, 2011; Gorter et al., 2013). In Rwanda a PBF-model was implemented, wherein funds were provided to health facilities on the basis of performance contracts

(Bucagu et al., 2012). An increase of 42,7% in facility deliveries attended by SBAs was seen (Curtis et al., 2013). In Cambodia the Government Midwifery Incentive Scheme was implemented, through which cash incentives were paid directly to midwives based on the number of deliveries they attended. Facility-based deliveries by a skilled attendant increased from 18,6% to 56,7%. (Ir et al., 2015). PBF can secure motivation of health providers, reduce the brain drain and encourage health providers to stay in remote rural areas and it can stimulate equality in distribution of the health workforce, by introducing higher payments for staff for services delivered in remote areas (Meessen et al., 2011). The increased motivation among SBAs and can lead to improved QoC (Bucagu et al., 2012; Ir et al., 2015). QoC might also be enhanced indirectly, by motivating providers to improve quality to attract patients (Morgan et al., 2013). In Rwanda PBF led to a reconsideration of roles and functions in the health system. Health facilities had a great autonomy to allocate incentive payments according to perceived need, hereby strengthening decentralisation (Curtis et al. 2013). A disadvantage of PBF is the risk of corruption (Meessen & Sekabaraga, 2011).

7. Discussion

Skilled birth attendance is low in Afar region, with only 7% of deliveries in a health facility attended by a SBA. To decrease the MMR in the region it is of vital importance to improve skilled birth attendance. To be able to achieve this, it is important to understand what deters Afar women to not deliver with a SBA and what the barriers for skilled birth attendance are at health service level. However, it is equally important to know what enablers are already in place in the region, which can be built on and strengthened to improve skilled birth attendance. Using the conceptual framework as a guiding tool, the literature was thoroughly reviewed and analysed to arrive at an understanding of the factors influencing skilled birth attendance in Afar region and to identify effective interventions that serve to improve the current situation. The framework was very useful for identifying relevant literature and structuring the findings and did cover all factors found in the literature. A limitation of the framework might be, that the interaction between the different levels of factors is reflected in a too limited way. Interactions are only shown from the access and QoC factors to the decision to seek care factor, while socio-cultural factors also interact with access and QoC. Reciprocal arrows could therefore be added between all the different levels.

There is plenty of published literature on maternal health and skilled birth attendance in Ethiopia, but Afar and other pastoralists areas in Ethiopia are grossly underrepresented, which is important to realise as they represent a different context from Ethiopia at large. The same applies to pastoralist areas in other countries. This presents a limitation for this study. Despite the limited available literature a relatively thorough overview could be given of the factors influencing skilled birth attendance in Afar region. Meanwhile, the rather limited evidence about interventions specifically aimed at increasing skilled birth attendance in pastoralist areas, makes it difficult to arrive at evidence based recommendations to improve the current situation in Afar region. It can only be reasoned and argued, backed by limited evidence, which interventions could address the barriers and increase skilled birth attendance. In the remainder of this chapter the main barriers and enablers will be discussed, plus which interventions found in the literature could tackle these barriers.

7.1 Main barriers and enablers at community level

At community level there are many socio-cultural barriers in Afar. Many of these factors have existed for centuries, are deeply embedded in Afar society and will be difficult and take time to change. One of the major factors is the low status of Afar women as this not only makes them last in line in the decision-making process, but also leads to few Afar women and girls attending school resulting in the highest illiteracy rates in Ethiopia. Education is a key determinant of individual opportunities, attitudes and economic and social status. Better educated women are more likely to express what they want, have better financial resources to access health care and more awareness of the benefits of skilled birth attendance. Not only are the Afar women dependent on their husbands and others deciding on the place of delivery, but also to provide them with money for transport and care, adding to the financial barrier. This barrier shows that addressing skilled birth attendance in Afar calls for a multisectoral approach with not only an emphasis on health and health care needs, but also on gender equality and education. With the husbands, followed by other prominent members of the community, being the main decision makers, it is important to not just reach the pregnant women, but include all formal and informal

community leaders in awareness-raising programmes. Lack of awareness about pregnancy and delivery risks is another main barrier, as almost half of the Afar said to be unaware of the benefits of delivering in a health facility with a SBA. Few awareness-raising programmes have reached the mobile pastoralist communities, the communities that need it most, and because of distrust towards non-Afari people and national policies the Afar will hardly accept information and counselling from 'outsiders'. To reach as many Afar men and women as possible, health education should be delivered by Afari people who are trusted and in a way that interests the Afar. A role in this could be played by the NGO APDA, which is led by Afari and has created effective partnerships with the most hard-to-reach communities. A role could also be played by TBAs, who are respected members of the community and attendants at birth most trusted by Afar women. This brings us to another major barrier: perceptions and cultural beliefs about pregnancy and childbirth. These cultural beliefs and traditions dictate Afar women to deliver at home, in privacy, with a TBA. In Ethiopia TBAs are recently excluded from the formal health system and no longer trained and provided with delivery kits. They are also not used for the new role advocated for by the WHO, namely as promotors for skilled birth attendance. This leaves Afar women in a dangerous situation: no clean and safe delivery and potential death due to HTPs performed by untrained TBAs with no link to the formal health system. In response to this, a possibility would be to include the TBAs in the HEP, a potential enabler for skilled birth attendance. Under the HEP, HEWs formally replaced the TBAs, including when it comes to delivery services. However, the pastoralist HEWs only provide preventative services, leaving pastoralist areas like Afar with a sudden gap in delivery care at community level. Cooperation in the community between TBAs and HEWs could increase the trust in HEWs, create a new role for TBAs and establish a link between the community and the formal health system. This would also include pastoralist HEWs performing deliveries, as the under the HEP is the intention in the rest of Ethiopia.

Other interventions to address barriers at community level

"One health", an approach that combines human and animal health services, could be a way to reach a large portion of the Afar population, tackling the barrier of lack of awareness about the benefits of skilled birth attendance. This way the Afar men could be reached with education, which is important as they are the main decision makers in the Afar household. One way to achieve this would be to provide ANC as part of the "One health" service, as this can take place any time during pregnancy and is more flexible in planning compared to labour which has a unpredictable onset. In order to have the best chance of increasing skilled birth attendance, a prerequisite should be to improve the quality of ANC, thus including messages about birth preparedness and the benefits of skilled birth attendance.

The MaNHEP could address the exclusion of the TBAs, by including them in the HEP, training them together with the HEW and let both work alongside in the community. Under this programme awareness raising can be expanded to community mobilisation. The distrust that exists regarding national policies, seen by the Afar as imposed by the State, might be diminished if community meetings are led by the well trusted TBAs and if the community has an active say and involvement in the actions taken and decisions made. The MaNHEP could certainly be implemented in Afar region, building on the fact that NGOs in the region are already training both TBAs and HEWs. A note should be made about the fact that there is no evidence

available about the effectiveness of the training provided by the NGOs. The training would have to be more extensive, as the pastoralist HEWs did not have training in delivery care and its danger signs before. It is also important for the NGOs and the government to agree on and align policies to achieve better effectiveness, especially on the type and extent of tasks performed by TBAs and HEWs.

7.2 Incompatibility between demand and supply side

There is an apparent incompatibility between health service delivery and the needs and preferences of the pastoralist communities. Besides the insufficient availability of health services, they are also static while a large part of the Afar population is mobile. This only increases the problem of distance to health facilities, one of the major barriers for skilled birth attendance in Afar region with up to 40% of Afar women giving this as reason for delivering at home. The lack of transport, or availability of uncomfortable transport for pregnant and labouring women, calls for the need to have health facilities within walking distance. Another apparent incompatibility and major barrier is the culturally unacceptable care given in the health facilities, as perceived by the Afar women. The curricula in medical and midwifery schools don't include training in cultural awareness, resulting in a mismatch between care offered by SBAs and care expected by Afar women. Many cultural habits during labour and delivery aren't harmful, such as having a family member present or delivering in a squatting position, and it would be a good idea for SBAs working in the region to acquire knowledge of these habits and allow them in health facilities. There is also a mismatch between SBAs available, Amharic men, and SBAs preferred by the Afar, Afar women. However, the above section regarding community-level barriers and limited access of Afar women to education makes it clear that it will take time to change this situation. The lack of culturally acceptable SBAs, combined with the exclusion of TBAs from the formal health system, pastoralist HEWs not providing delivery services and change taking a long time, leaves the Afar women in a kind of vacuum when it comes to skilled birth attendance. The burning question is how to fill this vacuum in the best way possible, given that the current national policies do not provide solutions specifically addressing the pastoralist areas. One solution would be, to train both TBAs and HEWs (together) to proficiency in clean and safe delivery and provide them with the necessary materials as was done in the MaNHEP. This might be easier said than done, as this implies a reversal of the current policy in Ethiopia and may find political barriers on its way. It is also different from the role of TBAs recommended by the WHO, namely as advocates for skilled birth attendance, as there is no evidence training of TBAs can reduce maternal mortality and morbidity. However, in selected regions with 'special' populations where the dependence on TBAs is extremely high and there are many other barriers for skilled birth attendance, this might have to be reconsidered. Yet there is no evidence that this approach can actually reduce maternal mortality and only further research will tell whether, for specific populations like the nomadic pastoralists, this intervention is effective. On the positive side, the MaNHEP was implemented with support of the FMOH, showing the FMOH to be open for other options than those currently in the national health policy. It has also been argued that investing in or focusing on community health workers, takes resources away from investments in SBAs. However, in Ethiopia the HEP is already implemented and TBAs in the region were trained by local NGOs, so not many resources would be needed to expand on the HEP. A prerequisite would have to be to always establish/maintain a link with the formal health facilities, including referral systems.

Other interventions to address the incompatibility between supply and demand side

As the migratory routes of the Afar pastoralists are largely known, a way to accommodate the mobile communities and tackle the barrier of distance is the introduction of mobile clinics as was tried and successfully tested among the pastoralist communities in Kenya. Mobile clinics have been used in Afar in emergency situations and were positively received. In Afar, where there is so much distrust against the State and national policies, an intervention viewed positively by those aimed to benefit from it, should really be considered for implementation. The question is in what form these mobile clinics should be implemented, as there is only one example from the literature. This example can be followed or actual moving clinics can be used, as was done before in emergency situations. This last form might not provide full coverage, but can reach more women than is now the case. Another question is who should be the SBAs in these clinics. Should they be midwives, nurses or trained HEWs? Only further research can show what the most effective way and form is.

Another option to tackle the barrier of distance are MHWs. Despite promising results concerning an increase in skilled birth attendance, a lot of barriers for skilled birth attendance in Afar region are similar to the barriers for the use of MHWs. Though MWHs might take away the pressure of finding money and transport when labour starts, eventually they add to the financial barrier as living in a MWH is more expensive and family members need to be accommodated as well, while they are as static as the health facilities.

7.3 Main barriers and enablers at health service level

When working towards increasing the demand for delivering in a health facility with a SBA, the supply side must be able to meet this increase. An adequate number of SBAs and well equipped and stocked health facilities must be available and offer good QoC. At this point in time there are barriers at the supply side that preclude achieving an excellent QoC. Though the efforts of the Ethiopian Government to increase the number of SBAs are commendable, the absolute number in Afar region is as yet insufficient, their skill level is inadequate and their motivation to perform their duties is weak. Their access to essential drugs and proper equipment to provide good quality services is inadequate. Besides the culturally unacceptable care, these health system weaknesses influence the QoC as perceived by current and potential clients, deterring Afar women from coming to a health facility for delivery care. The Ethiopian government should be careful in their fast up-scaling of training of SBAs. Though it is essential that the number of SBAs increases, it is important for the quality of education to be ensured. The term skilled birth attendant implies a certain skill level, as included in the definition of a SBA by the WHO, and the question is whether the birth attendants currently graduating are actually skilled or just competent. A good skill level is necessary to be able to provide quality care, save lives and to win the trust of the Afar women.

Other interventions to address the barriers at health service level

An intervention to tackle some of these barriers is PBF. PBF has not been applied in Ethiopia, but is a good option to retain staff, motivate them and increase the QoC. This will increase trust in the health facilities and SBAs and this in turn may motivate Afar women to deliver in a health facility with a SBA. PBF might also strengthen

Ethiopia's decentralised health system, which currently has many aspects of health facility management and financing largely under the responsibility of government agencies at regional and national level, leading to further shifting authority and responsibilities to district level and a better supply and logistics system. This would mean a change in the nature of decentralisation from deconcentration to devolution and it is unclear if the Ethiopian government will support this change. PBF does entail a risk of corruption and therefore proper, transparent management of the financial component is important. There should be a strong monitoring and evaluation system in place and strong political commitment and leadership. An additional benefit of PBF is that it can lead to greater technical efficiency in the health sector by increasing the quantity and quality of services delivered for a given amount of money, which might relieve some of the pressure on the underfinanced health care system.

8. Conclusions and Recommendations

The aim of this literature review is to explore the factors influencing skilled birth attendance in Afar region in Ethiopia, and after analysing the barriers and enablers at demand and supply side, recommend evidence-based interventions specifically aimed at the (nomadic) pastoralist communities to improve skilled birth attendance and reduce maternal mortality. Conclusions will be presented following the specific objectives of this thesis, within the limitations of this review; recommendations follow thereafter.

8.1 Conclusions

After extensive literature review and analysis it can be concluded that there are many barriers and only few enablers at both demand and supply side for skilled birth attendance in Afar region. These factors need to be addressed in order to be able to improve skilled birth attendance.

On the demand side there are many socio-cultural factors, deeply embedded in Afar society, that act as barriers for skilled birth attendance, such as the low status of women, cultural beliefs about pregnancy and childbirth and lack of awareness about the benefits of skilled birth attendance. Besides socio-cultural factors there are also access-related barriers on the demand side, including accessibility and acceptability.

At the supply side the Federal Government of Ethiopia has made commendable efforts to improve skilled birth attendance in the country, but Afar region seems not to have benefited as much as other regions and important barriers remain. Most importantly, these include the shortage of SBAs both in quantity and quality, the lack of essential medical supplies and lack of ownership assumed by the government at various levels.

This literature review shows that there is very limited evidence on how to improve skilled birth attendance in pastoralist areas and specifically address the needs of nomadic populations. In general they seem neglected and marginalised.

8.2 Recommendations

In order to achieve an improvement in skilled birth attendance, barriers at both supply and demand side must be addressed and enablers strengthened. For Afar region it seems necessary to tailor policies to the Afar and not the other way around. In addition to continuing the steps already taken by the Ethiopian Government, i.e. making maternal health services free of charge and up-scaling the number of health facilities and SBAs, the following recommendations are made, based on this study's findings:

Federal government:

- Improving skilled birth attendance requires a multisectoral approach to address the main barriers. Not only the Federal Ministry of Health should be involved, but also the Ministry of Education, Ministry of Transport and Ministry of Women's Affairs; as well as these ministries' regional representatives in Afar. Regular meetings should be held to formulate and implement a joint policy and to keep the different ministries updated on the progress made.

Federal Ministry of Health and Afar Regional Health Bureau:

- Expand on the current prevention-focused pastoralist HEP by: training the pastoralist HEWs in delivery service, as is done by HEWs in other regions of the country, and including TBAs in the HEP and provide them with the same training as the HEWs. The latter would require a policy change. Before this change is introduced, a pilot project could be carried out as was done with the MaNHEP in two other regions to find out if this has the same outcomes of increase in skilled birth attendance in Afar. This provides also an opportunity to enforce the policy concerning the forming of partnerships with the local NGOs, as they are well established in the region and have experience with training both HEWs and TBAs.
- Together with the Ministry of Education make a curriculum for medical educational institutes, that ensures quality and an adequate skill level of the graduates. This includes gaining more practical experience during the training years and better monitoring and evaluation during these years. After graduating, SBAs should be supervised and/or monitored to assess whether they are capable of performing their duties to satisfaction. The curriculum should be expanded with cultural awareness training.
- Explore ways to increase financial resources and reduce funding gaps for maternal health. Research should also be done on the way the available money is spent and who is responsible, to ensure an adequate drug and equipment supply, this way tackling part of barrier of inadequate QoC.

Afar District Health Bureau:

- With support of the FMOH and ARHB introduce seasonal clinics as a trial in one or two districts in the region. Follow the limited evidence available and use containers placed strategically along the migratory routes. Staff them with specially trained nurses during relevant weeks/months of the yearly migratory cycle, assisted by a HEW to ensure a link between the community and the health system.
- With support of the FMOH and ARHB introduce performance based financing as a trial in pre-selected health facilities. The focus should be on the health centres as they are the main facilities for basic obstetric care. A trial is necessary to be able to assess whether PBF is financially feasible, whether the FMOH and ARHB are willing to change the decentralisation-approach from deconcentration to devolution and the district bureaus are able to cope with these responsibilities, and whether the desired effect (retention and motivation of staff and improved QoC) is achieved.
- Expand awareness-raising, as is currently done under the HEP, to community mobilisation. Hold quarterly meetings between representatives of the local health system and influential community leaders to share and discuss issues arising, regarding maternal health and skilled birth attendance, and act on

these and to create an enabling environment for open communication and mutual respect between the community and the health facilities.

Non-governmental organisations:

- Cooperate with the FMOH and ARHB in the recommended expansion of the HEP. NGOs should be willing to agree on a uniform policy with the FMOH and ARHB concerning the training of HEWs and TBAs and the extent of their tasks.

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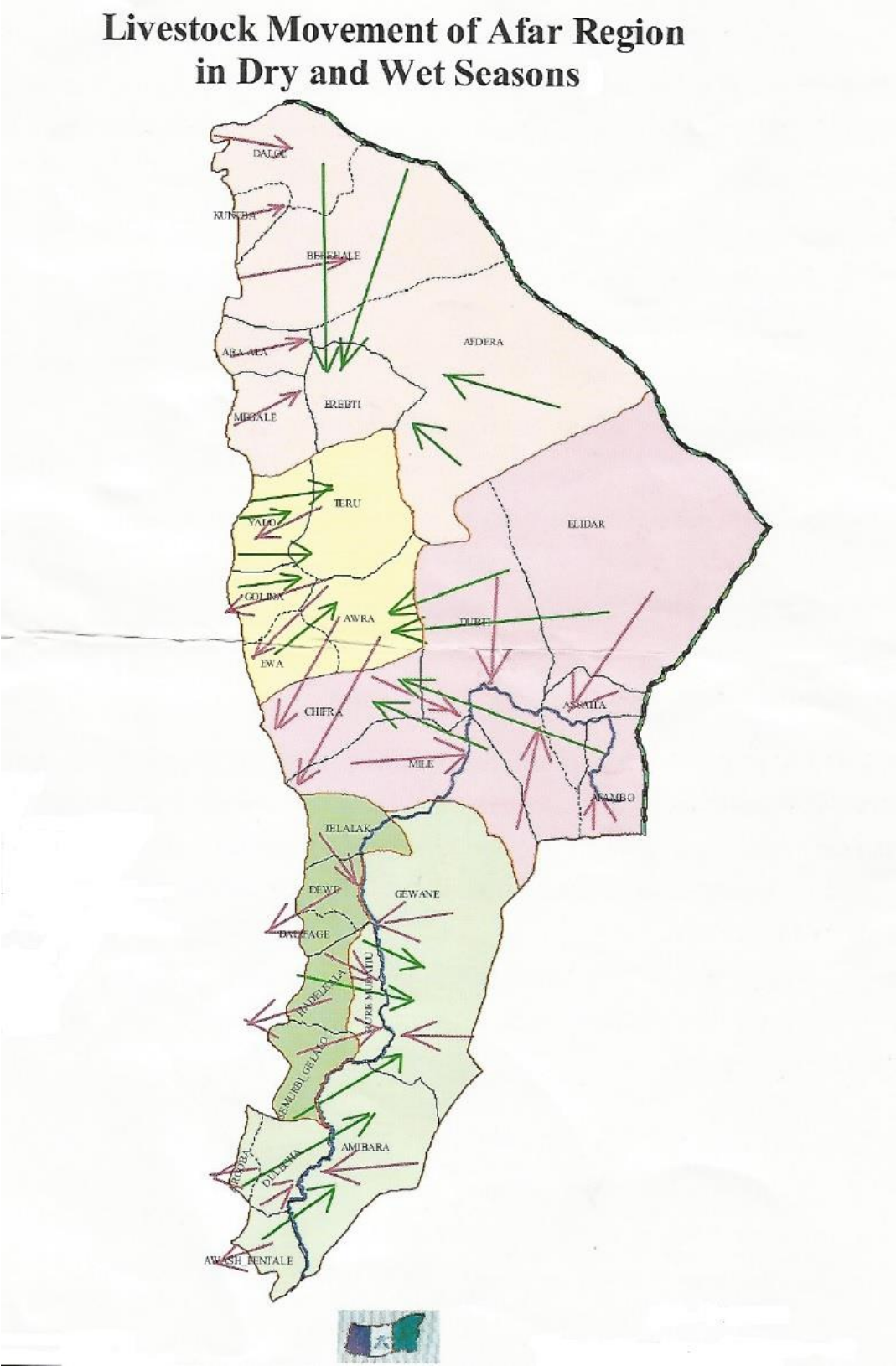
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Annex 1. Migratory routes in Afar region, 2010



Source: ANRS, 2010



Annex 2. Core skills of skilled birth attendants

All SBAs
<ul style="list-style-type: none">- Cross-cultural communication to provide holistic women-centred care- Detailed history taking, provide individualised advice and guidance, calculate EDD, perform voluntary counselling and testing for HIV- Assist in making a birth plan, including place of delivery- Educate women (and their support group) in self-care during pregnancy, childbirth and postpartum- Identification of illnesses detrimental to health during pregnancy, provide first-line management and make arrangements for referral- Perform vaginal examination- Identify the onset of labour- Monitor maternal and foetal condition during labour and record this on a partograph- Identify maternal and foetal distress and take appropriate action, including referral when required- Identify delayed progress of labour and take appropriate action, including referral when required- Manage a normal vaginal delivery- Manage third stage of labour actively: use oxytocic drugs, clamping and cutting the cord, applying controlled cord traction- Assessment of the newborn at birth and provide immediate care- Identify life threatening conditions in the newborn and take life-saving measures- Identify haemorrhage and hypertension in labour, provide first-line treatment, make an effective referral when necessary- Provide postnatal care to women and their newborns- Assist women with and educate them in exclusive breastfeeding- Identify illnesses detrimental to the health of women and/or their newborns in the postnatal period, provide first-line treatment, make an effective referral when necessary- Supervise non-skilled attendants, including TBAs, to ensure a sound quality of care- Provide advice on family planning and birth spacing, prevention of STDs and HIV- Collect and report relevant data and collaborate in data analysis
SBAs at primary level in remote areas
<ul style="list-style-type: none">- Use vacuum extraction or forceps in vaginal deliveries- Perform manual vacuum aspiration for incomplete abortions- When no access to safe surgery, perform symphysiotomy for management of obstructed labour
Selected SBAs working in a referral facility
<ul style="list-style-type: none">- Perform Caesarean sections- Manage complications during pregnancy and childbirth- Administer blood transfusions

Source: WHO et al., 2004

Annex 3. Selected maternal health indicators for all Ethiopian regions, 2011 and 2014

Region	National	Afar (pastoralist)	Somali (pastoralist)	Gambela	Tigray	Amhara	Oromiya	B-G	SNNP	Harari	Addis Ababa	Dire Dawa
At least 1 ANC visit	43%	28.7%	25.3%	57.7%	65%	40.9%	39.5%	41%	40.8%	59.5%	94.6%	61.3%
	58.6%	33.3%	22.1%	65.4%	79.8%	63%	50.9%	56.7%	62.5%	77.7%	94.6%	85%
Home deliveries	90%	92.8%	92.4%	71.6%	87.8%	89.3%	91.5%	81.9%	93.5%	67.3%	17.2%	60%
	84%	90.1%	83.2%	66.4%	72.6%	87.1%	85.8%	78.1%	83.7%	54.4%	13.5%	39.6%
Deliveries attended by TBA	28%	75.9%	81.2%	12.1%	12.5%	28.5%	33.7%	27.9%	14.2%	63%	5.9%	49.7%
	27%	82.4%	57.1%	10.5%	9.1%	28.3%	31.2%	23.9%	17.4%	48.9%	5.9%	33.8%
Deliveries attended by SBA	10%	6.8%	8.4%	27.4%	11.6%	10.1%	8.1%	8.9%	6.1%	32.5%	83.8	40.3%
	16%	7%	15.3%	29.1%	26.2%	11.7%	13.1%	16.3%	11.7%	45.5%	86.1%	59.1%
Postnatal check received	8%	10.8%	7.4%	21.3%	16.7%	7%	6.2%	10.7%	6.8%	34.1%	53.7%	21.9%
	13%	10.1%	5%	22.4%	32%	12.1%	16.8%	27.7%	15.4%	42.2%	82.8%	58.8%

*  2011,  2014

Source: CSA & ICF International, 2012; CSA, 2014