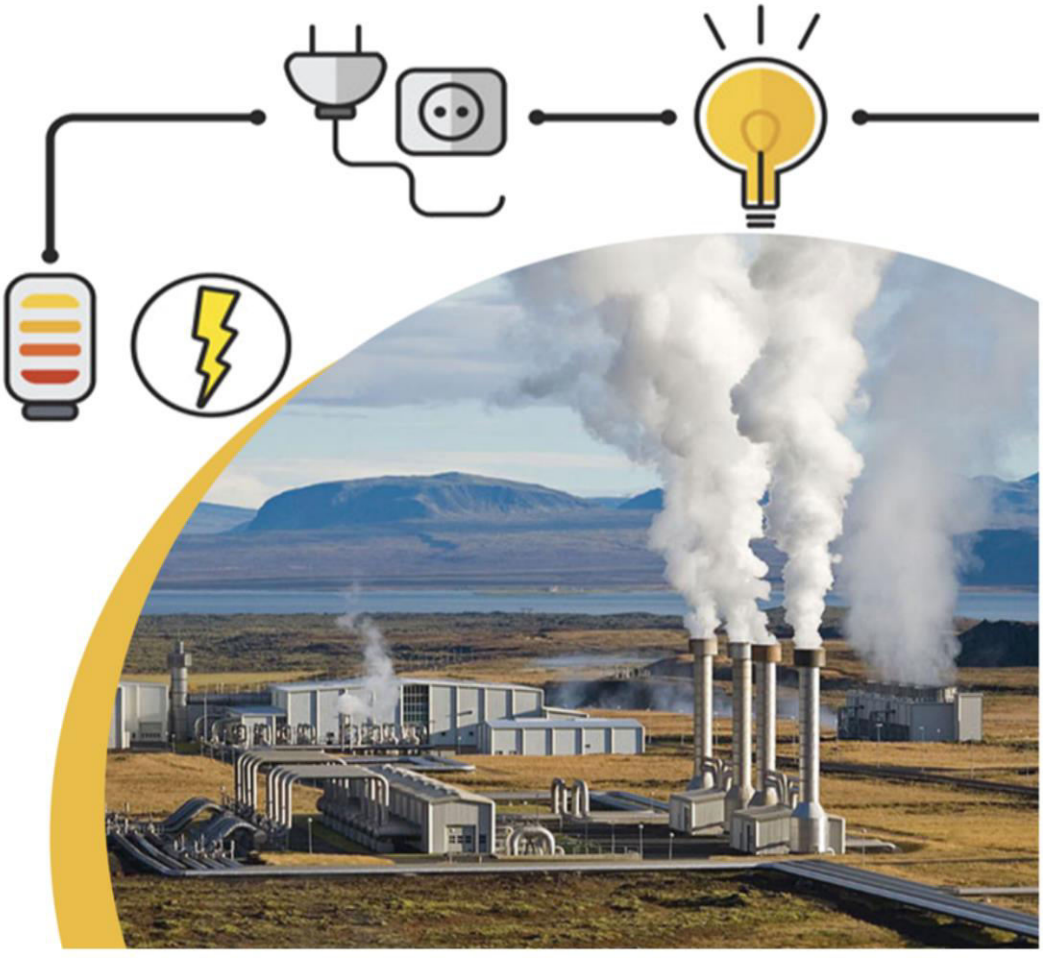
Tulu Moye Geothermal

Socio-Economic Baseline



Socio-economic baseline and traffic survey
January 2019
V. 5

TMGO
TULU MOYE GEOTHERMAL

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ACRONYMS

AWD	Acute Watery Diarrhea
CRGE	Climate Resilient Green Economy
CSA	Central Statistical Agency
DAP	Di-ammonium Phosphate
DHS	Demographic and Health Study
DFID	Department for Foreign International Development
EC	Ethiopian Calendar
ESG	Environmental, Social and Governance
ETB	Ethiopian Birr
FGD	Focus Group Discussion
GoE	Government of Ethiopia
HIV/AIDs	Human immunodeficiency virus/ Acquired Immune Deficiency Syndrome
IFC	International Financial Corporation
KII	Key Informant Interview
MoFED	Ministry of Finance and Economic Development
OLP	Oromiya Livelihood Profile
SPSS	Software Package for Social Science
RVM	Rift Valley Maize
UNFCC	United Nations Framework for Climate Change
WB	World Bank

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EXECUTIVE SUMMARY

This report presents the findings of socio-economic baseline survey and traffic count conducted for propsed Tiro-Moye Geothermal energy power generation project located in Oromia Region. The objectives of the socio-economic baseline survey was to obtain information on demographic and current soci-economic situations with in the survey area. The traffic count was conducted to capture of extent of traffic flow on the dry and all weather road within the project area.

The socio-economic baseline survey employed a two-stage sampling methods where six sample kebeles were seleected randomly as primary unit from intervention woredas and secondary unit selection were households. The sample household size was calculated proportionally to the number of households in each kebele. A total of 1,590 sampled households were surveyed for the study. Mixed mothods of quantitative and qualitatives approaches were used in structured survery as well as interviews for the primary data collection. Twelve focus group discussions with men and females and five Key Informant Interview were also conducted to triangulate the quantitative information. In addition, personal obseravation and pictures were taken during the survey to strengthen and validate the information collected.

Based on the survey the signficant amount of the households or 87% are headed by male, while 13% are women headed. Most of the household head or 41% are between the ages of 21 and 35 years, 38% are between 36 and 50 years. The average age are 39 for Ammude and 37 for Hula-Araba. A significant majorty or 97% of the surveyed households are also married. Islam is also a predominat religion and account for 94% of the popluation and Orthodox Christians are minority. There are also a small number of Protestants in Dewarro and Sheka-Sherera kebleles. Afan-Oromo is a dominant language and is spoken by about 86% of the population, 14% of the survey respondant also speak both Amharic and Afan-Oromo.

The average family size for the study area is six which is above the regional and national average. Approximently 72% of the survery households have family size of three to eight individuals. About 57.6% of the interviewed respodents are literate while 42.4% are illiterate. The highest literate rate is in sheka-sherera kebele with about 70% and lowest in Dewarro with about 35%. Most of the female members of households or 51% have attended elementary school while 44% of male have elementry education. However, the rate become reversed in highschool and while 14% of the male have high school education only 7% of female education beyound elementry school.

When looking at prevalence of diseases in the area, communicable diseases such as malaria is a major problem and about 34% of survey participants indicating it as difficulty. Acute watery diarrhea (AWD) locally known Atet is also a major problem. Access to water is a major challenge in all the selected woredas and 64% of the participant reported that the quality of water is poor. Though almost 70% of the survery participant indicated that they have access to piped water, this is mainly from community water points and that their house are not connected through piped line. Most of the community piped lines are partially available. 10% of participants indicated that they access water through hand pump well, 15% from river and spring and 40% from surface water which is available only during rain season.

Traditional houses classified grass covered with mudwall account to be the main houseing type with about 77% sample households. Most respondient or about 78% also indicated that they see their house to be suitable for living. However, the majority of the houses also lack toilet facility and 51% survery participant use open defect and 49% use pitlatrin. Overwilmingly or 78% of the toilet facility are unhygientic. The most widely used source of energy for households are kerosene (40%) and grid connected electric power (41%). Sheka-Sherea has the higest level of power connectivity with 62% and Ammude the lowest with 20%. Solar energy is also available in approximently 17% of the households. A significant number of the households or 85% also use animal dung and crop residues as energy source for cooking.

During focus group discussions, participants also indicated that environmental problems such as drought and flood major are problems. In

addition, crop and livestock pest are also indicated as problems. The causes of pest problems are largely climate change. These environmental problems have made the area food insecure. Lack of all weather road, sufficient transporatation and indaquate health service facilities are also major problems of the area.

Agricultural practice is a major livelihood strategy for households and 53% of households are engaged in crop production, while 47% practice mixed farming. About 28% of households are engaged in fishing and 7% in petty trade. Additional livelihood strategies include collection of firewood (10%), daily labor (11%), carpenter and masonry (5%). The types of crop grown by the households are teff and maize 22%, teff only 17%, maize and wheat 24%, maize only 23%, wheat, maize and teff 23% and wheat only 53%. Despite the agricultural practices widely carry out in the area, food insecurity remained a crucial challenge in the area. These has been largely due to erratic rainfall, shortage of land, crop pest and disease and low input application. As a result, a significant number of households or 72% eat two times during nine months of the year. About 64% of the households have acquired land through inheritance from family and 33% from the government. The remaining 3% don't own the land. Of those who own land, 23% have land certification.

During the 2017/2018 (2009 Ethiopian Calendar), the majority of the households or 63% had income in the range of 5,001-15,000 ETB. On the other hand, 57% of the respondents spent ETB 2,000-8,000 ETB for consumption of various goods. Wealth status of the households is that about 35% are poor and 27% very poor.[1] Almost all respondents about above 96% are still living in their birthplace. Though divorce rate is very low, women institutional preference for divorce is largely government process with about 67% and 33% prefer sharia.

Almost all respondents or about 96% have been living in their birthplace, and migration has not been visibly noticed. Less than 3% of the people have migrated to urban area. Tero-Moye has the highest migration of 7% and Ammude has the lowest with 3%. However, overseas migration has been

[1] *Poor is measured as income of less than $1 (USD equivalent of 28 Birr) per day.*

relatively higher and local women constitute the highest number of migrants to Middle East. In Seka-Sherea, about 23% of the households indicated that at least one female member of their household has migrated to Middle East, followed by Hulu-Arba and Tero Moye with 12% each.

Traffic survey was also conducted on three routes from Adama-Assela, Mojo-Awassa and Meki to Zeway dugda (Abura town). The result indicated that about 2,172 traffic movements per day on average were recorded on the main asphalt road from Adama-Assela, and 3,184 per day on Mojo-Awassa. The survey on Meki- Zuway Dugda gravel road has an average of 446 traffic per day. The two dry weather roads from Dera town-Ammude and from Eteya-Tiromoye kebeles are heavily damaged and difficult to drive and current movement of vehicles are to be non-considerable. Dera-Ammude road provids public transport (Mid-bus) on dry season only during market day with congested passengers and high fee rates. Horse-cart also provides transport service covering short distance from junction point to nearby Dewarro kebele. Eteya-Tiro Moye subsidiary road is not used at all except government and NGOs owned vehicles that travel to Tiro Moye Kebele for project purpose.

I. INTRODUCTION

I.I. Background

Ethiopia is endowed with a wealth of renewable energy resources. However, these resources have not been adequately developed and utilized to address the burgeoning energy demand of the country. Cognizant of these facts, the Government of Ethiopia has formulated an energy policy that aims to facilitate the development of energy resources and avail to users and consumers as well as export market. Ethiopian energy policy seeks to achieve the accelerated development of renewable energy resources and the promotion of private investment in the production and supply of energy.

The Government of Ethiopia has taken a number of policy measures in the last two decades related to energy as well. The first, policy guideline was developed in 1994 (National Energy Policy) and addressed the household energy problem. The policy focused on promoting agro-forestry, energy efficiency in biomass fuels and facilitating a move towards increased use of 'modern' fuels through renewable sources. The Policy also looked at encouraging private participation in the energy sector development. The GoE vision for energy aimed at improving the security and reliability of energy supply and also become a regional hub for renewable energy. In addition, it also intended to increase access to affordable modern energy as well as promote efficient, cleaner, and appropriate energy technologies and conservation measure.

Ethiopia has recorded double-digit economic growth in the past several years and this has led to an increase in energy demand. At the same time, energy is one of the essential inputs and accelerator of economic and social development of a country. The country's energy demand was 4TWh in 2010 but expected to grow to 75TWh by 2030.[2] The investment required to meet this energy demand is about 38 billion USD. The GoE understands that this investment can't be met by government only and has been engaging private sectors in energy development.

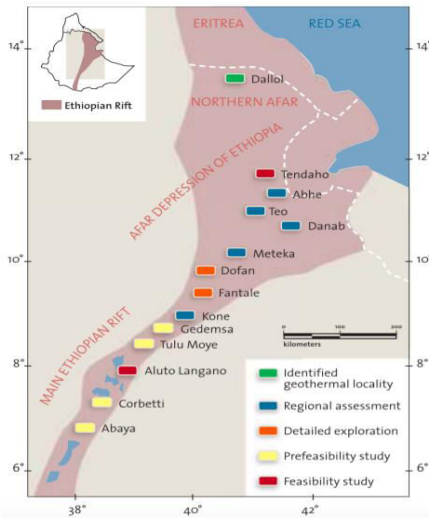
[2] Climate Resilience Green Economy (CRGE) Strategy, 2010.

Government of Ethiopia expects to sustain the economic growth and achieve its target through green economy. Ethiopia's power generation has largely been through hydroelectric which is clean and renewable energy. However, the government plans to expand the renewable energy sources to wind, solar and geothermal. The expansion of green energy expects to offset Ethiopia's greenhouse gas emissions from other sources. By doing so, it will be able to achieve its climate change commitments to Paris Agreement as well as the Climate Resilient Green Economy Strategy.

1.2. Geothermal Potential in Ethiopia and Tulu Moye Geothermal Project

The geothermal potential within Ethiopia has long been recognized. Ethiopia's geothermal potential has been identified in the Rift Valley and Afar Depression areas. The country started geothermal studies and exploration in the 1960's in the Rift Valley areas. The work significantly reached its peaked in the 1980s when exploration drilling was carried out at the Aluto- Langano geothermal field. During the 1980's, eight exploratory wells were drilled, of which four were identifies to have productivity potential. In the early 1990s, exploration was also carried out at Tendaho areas with about three deep wells. The Aluto – Langano area was further explored in the late 1990's for additional production.[3]

The geothermal prospect areas within the Ethiopian Rift Valley



Source: Geological Survey of Ethiopia

The Tulu Moye area is one of the sites identified in the Rift Valley for potential geothermal production. The area is cauterized by volcanism and hydrothermal activity, which reflect its potential for geothermal energy production.[4] A study done in 2014/14 using LANDSAT

[3] Teklemariam, Meseret and Kibret Beyene. *Geothermal Exploration and Development in Ethiopia*. Proceedings World Geothermal Congress 2005 Antalya, Turkey, 24-29 April 2005.
[4] Admassu, Engdawork and Selamawit Worku. *Characterization of Quaternary Extensional Structures: Tulu-Moye*

ETM, DEM (*Digital Elevation Model*), SRTM *(Shuttle Radar Topography Mission)*, Aerial Photographs and other published maps (scale 1:50,000) has indicated that the "surface geothermal manifestations in the area comprise of hot, altered grounds, steam vents and fumaroles, widely distributed by tracing the N-NNE trending extension fractures."[5] The study has also reviled that the area show heat source, cap rock, reservoir rock, and favorable structural fabric for geothermal. An earlier study has identified that Tulu Moye area has three major quaternary felsic centers, which are Tulu-Moye, Bora and Bericha. The area is also characterized by intersection of two tectonic systems.[6]

With a strong potential and prospect for geothermal production and economic development, the Tulu Moye Geothermal PLC has started further field drilling exploration and studies for investment and production of energy from geothermal. The investment aims to build geothermal energy plant and operate at the highest environmental and social standards. Meridiam Investment, which also adheres to a high environmental, backs the project and social standard as indicated in its environmental, social and governance (ESG) objectives and sustainable development charter.

1.3. Objectives of the assignment

The overall objective of this baseline survey was to capture relevant information on the current socio-economic status of target communities residents in the project as well as surrounding geothermal project areas

The baseline survey was designed to address the following specific objectives:

- To collect and analyze data on the socio-economic and other relevant issues;
- Show demography characteristics, health, education, crop and livestock production, water resources, sources of energy, physical

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Geothermal Prospect, Ethiopia. GRC *Transactions*, Vol. 39, 2015.

[5] Admassu, Engdawork and Selamawit Worku. *Characterization of Quaternary Extensional Structures: Tulu-Moye Geothermal Prospect, Ethiopia.* GRC *Transactions*, Vol. 39, 2015.

[6] Teclu, Asfaw and Taffesse Gizaw. *Geochemistry of Tulu-Moye Geothermal Prospective Area*. December 2011.

assets, cross-cutting issues such as HIV/AIDS, gender etc., of the community in target area;

- To explore food security status, vulnerability to climate and other challenges and their adaptation practices;
- To examine the livelihood challenges of the target communities;
- To assess the traffic volume flow on asphalt and unpaved road in the project area; and

1.4. The Scope of the baseline survey

The baseline assessment focused only on socio-economic and traffic survey and it was carried out in six kebeles located in four woredas in Aris and East Shoa Zones of the Oromia Regional State. The areas surveyed are shown in the table below.

Table 1: Project sample woredas and kebeles.

Woreda	Kebele
Dodota	Ammude
Hitosa	Tero Moye
	Shaki-Sherera
Zeway Dugda	Boka
	Hula-Arba
Adama	Dewarro

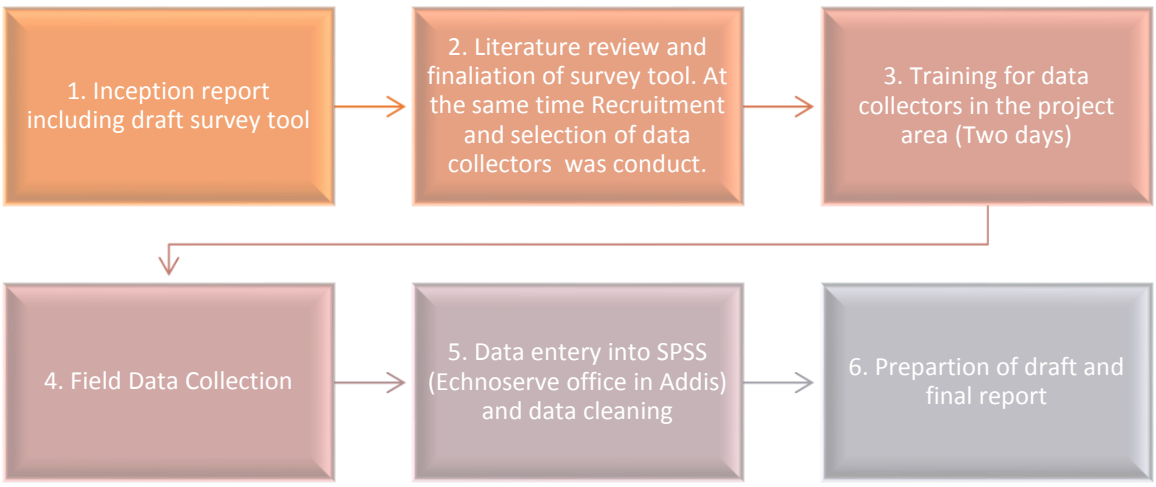
II. METHODOLOGY AND APPROACH

II.1. Approach

The baseline survey was largely prepared from primary information collected through field data collection. Survey, interview, focus group discussion and observations were used for data collection. Secondary data was used for comparative purposes. Literature review was also conducted to develop the data collection tools and look at health, education and water well standards. The field data collection included both qualitative and quantitative approach. Traffic data collection was conducted in primary and secondary roads. Data collection was done by enumerators selected from the investment woreadas but with training and supervision from Echnoserve staff. Woreda and Kebele level experts in agriculture, health and education were selected and recruited and then given two days of intensive training on the tool before they were sent out for data collection. Each team had one supervisor. Key informants' interview, focus group discussions, social service site observations were done by Echnoserve staff.

The steps that were followed in the study were as follows.

Figure 1: Baseline study steps



II.2. Methodology

Combinations of both quantitative and qualitative methods were employed to gather existing socio-economic and traffic data. Quantitative method using household questionnaires was utilized and conducted through face-to-face survey to gather detailed household level data. Qualitative methods used in the assessment included Key Informant interviews, focus group discussions with mixed men and women, as well as men and women separately. Site visits and assessments to social service locations such as schools, health post and water points was also conducted. A total of twelve focus group discussions were done with a wide range of men, women, youth and elders and twenty-four key informants' interview was also conducted with kebele cabinet member, community elders, experts and selected household groups. Observation and photography were also made and captured to triangulate and in depth understanding of the community.

Figure 2: Methodologies used in the study

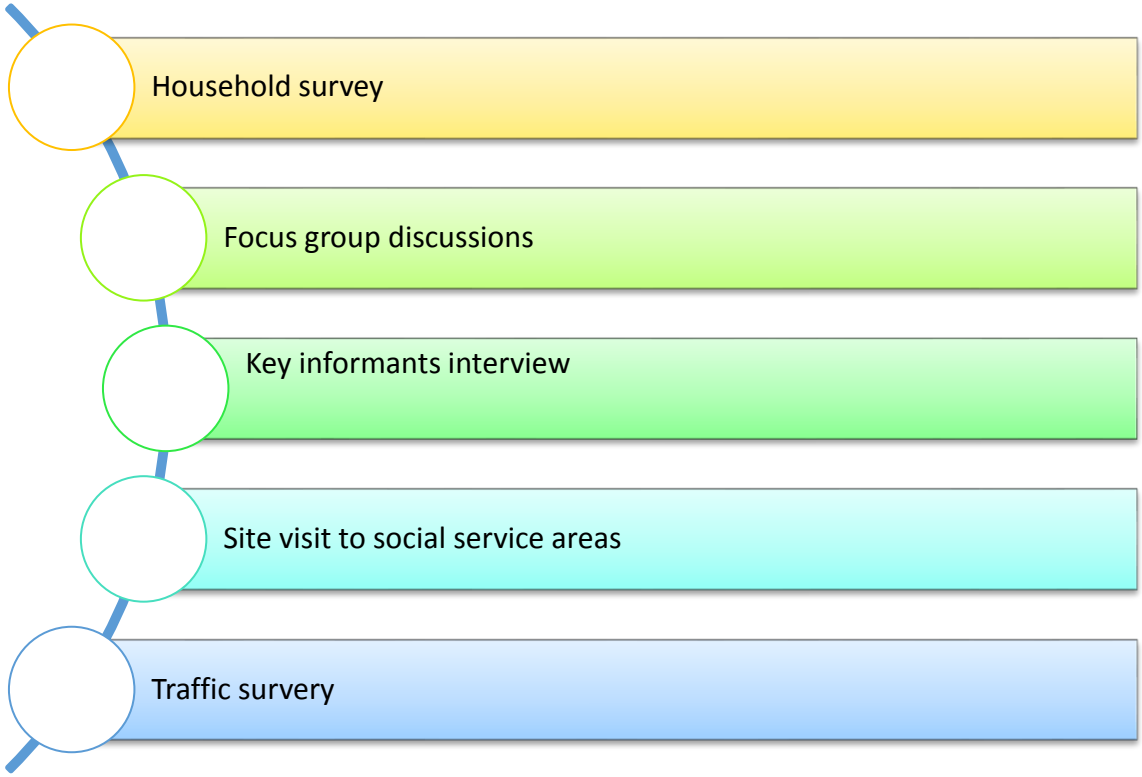


Table 2: List of tools used and definition

Methodology	Number and definition
Household Survey	A total of 1590 household survey was done and the tool-included information on household demography, income, livelihood strategy, assets, agricultural practices and challenges as well access to basic services.
Key informant Interview	A total of 16 key informant interviews were done with the following group of individuals in the six kebeles. The interview questions included experience and perception on socio-economic situation of the woredas and kebeles, social services and challenges encountered by households and communities.
Focus group discussions	A total of 12 Focus group discussions were conducted with different group of men, women, and elderly in the six survey areas. The focus group discussions had members of six to ten individuals and usually lasted for about two hours. Questions discussed included their experiences in climate, health and other challenges, social services as well as community and household interaction among each other.
Site visit to social service areas	A total of 20 visits were conducted to assess quality of services in health posts, educational centers as well as water wells. The site visit was conducted against a set of checklists prepared for health post, health center, water point and school. The checklists were using a national standard set up by Ministry of Health and Ministry of Education. Health checklist included questions on the premises, availability adequate light, water, ventilation in each room; availability of trained professionals; presence of basic equipment; physical facility standards; and practice standards that should be provided at this level. The checklist for educational institutions included basic facilities (such as library, water, toilet, teaching and learning materials, etc) that are expected at minimum according to the national standard. Another checklist, on water points was also developed using guideline prepared by International Institute for Environment and Development for collection of basic data regarding water points, springs and hand dug wells. The tool included information on the location (proximity to source of pollution), pump condition (State and functioning of the pump), concrete slab and the overall drainage of water. Data related to user behavior was included in the tool.
Traffic survey	Traffic survey was conducted primary as well as secondary roads. The traffic survey tool was developed using a guideline developed by Ethiopian Road authority.

II.3. Sampling Techniques and Sample Size

A two-stage sampling method was used for the selection of samples households. Kebeles were first unit of selection, followed by household heads as secondary unit of sample. Sample kebeles were randomly selected from list of woredas. Household heads were selected using Probability Proportional to size based on the household heads identified with in each kebeles.

1. Kebele selection

Sample kebeles from each woreda were selected randomly using a tool called ***research randomizer***. Each Kebele in each woreda was first given a unique ID or number. Then, the system was requested to generate a range of unique number for each woreda. The number is then traced back to the database to identify the selected kebel.

Table 3: Kebeles with unique ID

Woreda	Kebele	Unique ID
Dodota	Tero Desta	1
	Amude	2
Hitosa	Anole Salem	1
	Tero Moye	2
	Wul Argi	3
	Denisa	4
	Hurtu Dembi	5
	Shaki-sherera	2
Zeway Dugda	Bite	1
	Boka	2
	Hula Arba	3
	Meja Shenan	4
	Arba Chefa	5
	Burka Lemafo	6
Adama	Bikora Dewaro	1

One Kebele from Dodota was selected as well as two each from Hitosa and Zeway Dugda. As there is only one Kebele in Adama, its automatically included in the study. A total of six kebeles were selected for the baseline study.

2. Household sample Size

The sample size for household survey was calculated using household as a secondary unit from the total household size from each selected kebeles. Total number of household heads was determined by dividing total Kebele population by average household size, which is five (5) for rural population based on Central Statistics Agency (CSA) data.

The total households sampling frame in the samples kebeles was 7,026 and a sample size of 1,590 or about 23% was determined to increase precision of information from the households. The following table shows name of woreda, Kebele, HH size and distribution of sample sizes.

Table 4: Distribution of sampled kebele and sampled HH

Zone	Woreda	Kebele	Population	Total HH size of the selected Kebele	Sample HH size of selected kebele
Arsi	Dodota	Ammude	7,350	1,470	304
	Hitosa	Tero Moye	3,150	630	175
		Shaki sherera	7440	1,488	295
	Ziway-Dugda	Boka	3,470	694	194
		Hula Arba	4,200	840	192
East Shoa	Adama	Bikossa Dewaro	9,520	1,904	430
		Total	35,130	7,026	1,590

Source: CSA, 2007

II.4. Data collection

Enumerators were selected from the investment woredas, including those that were selected for the study and those that are adjacent to them. The main selection criteria for the enumerators was: knowledge of the locality, ability to speak local language, understanding of the local culture and value systems, educational level, prior experience in conducting socio-economic assessment, communication and listening skills. Prior to data collection, all field enumerators and supervisors participated on a two-day training workshop held in Dodota and Meki towns. A total of 60 enumerators (51 males and 9 females) were trained. Four of the participants were supervisors. The training focused on the objectives of the baseline study, the household sampling procedures, as well as step-by-step overview of the tool and quality control mechanism during the data collection. Echnoserve staff from Addis Ababa conducted the training.

Enumerators' Training at Dodota (Dera) and Meki towns (Photo taken, September 2018)

II.5. Data Entry and analysis

Once the data collection was completed in hard copy, data was entered into SPSS software by trained data encoders in Addis Ababa, Echnoserve office. Echnoserve experts checked the quality of data entry and reviewed completeness before running analysis. Some of the qualitative data gathered through Key Informant Interview (KII) and Focus Group Discussion (FGD) were analyzed using qualitative data analysis approach. Thematic analysis techniques were utilized to triangulate the findings of the quantitative data analysis.

III. OVERVIEW OF THE TULU MOYO PROJECT AREA

III.1. Description

Tulu Moyo Geothermal energy investment area is located at about 175 km to the Southeast direction from Addis Ababa in the main Rift Valley area of Oromia Region. The project area is located between two main all weather road that runs from Adama to Assela and Mojo to Zeway. Geographically Tulu Moye is located between 39^0 00-$39^0$95' east of longitude 8^0 7'30"-$8^0$17' 30" north of latitude. Its altitude is range from 1,900 up to 2,300 meter above sea level (asl). Administratively, the Tule Moye Geothermal Project encompasses four Woredas in two zonal administrations.

The Tulu Moye area has a concentration of tectonic and volcanic activities. Tulu Moye Geothermal Operation project area is situated with Lake Koka to the north and Lake Ziway to the south. The project site is close to Koka hydropower station and the national grid system. TMGO project area covers four woredas in Oromia Regional State. Three of the woredas (Dodota, Hitosa, and Ziway Dugda) are in Arsi zone where as Adama Woreda is in East Shoa Zone. A total of 14 kebeles are expected to be affected by the project[i]. Thirteen of the kebeles are in Arsi Zone while only one kebele is in East Shoa. The facility will be built inside Hitosa woreda. The six sample kebeles were selected based on the criteria identified in section II and the profiles of the kebeles is as follows.

Profiles of sample kebeles

Amude: Amude is a low land kebele found in Dodota Woreda at a distance of about 36 km from the woreda capital, Dhera. The agro ecology of the kebele is dry lowland or kola (in Amharic). The total population of the area is 7,352. The primary crops that are produced in the kebele are maize, teff, wheat, and barley and faba bean. The kebele has poor of natural resources and lack of safe drinking water.

Tero Moye: Tero Moye kebele is found in Hitosa Woreda. It is located at a distance of about 15 km from the Iteya, the woreda capital. The total population of the area is 3,150. The agro-ecology type of the kebele is sub-

tropical or woina dega in Amharic. The commonly produced crop varieties in the kebele are wheat, Haricot bean, maize, teff, and sorghum.

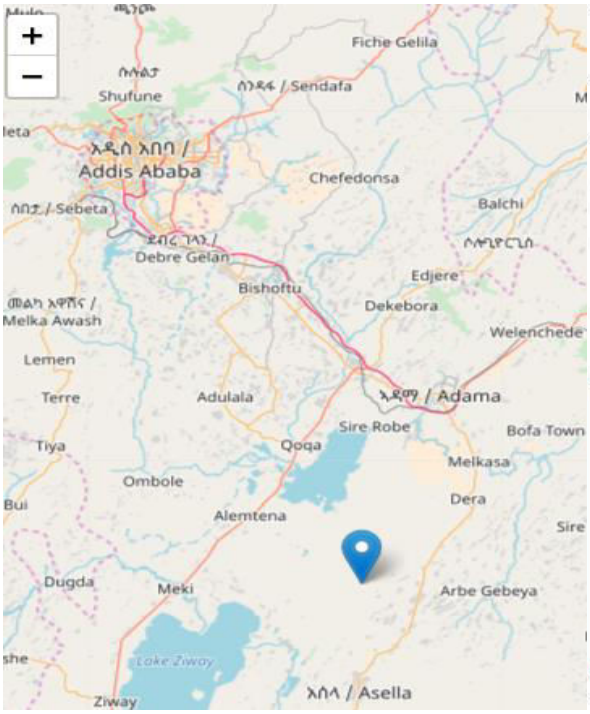
Shaki Sherera: This kebel is located on the road from Iteya to Asela at a distance of 5 km from the main road. The kebele found on the out skirt of semi-urban area. The general agro-ecology of the kebele is dega. The Kebele is known for high crop productivity. Common types crops varieties produced in the kebele are wheat, Haricot bean, maize, teff, faba bean, and sorghum. The total population of the kebele is 7,440

Boka: Boka kebele is located Ziway Dugda Woreda and is characterized by difficult to access by road. The agro-ecology of Boka is kola or low land. The common types of crops produced in this kebele are haricot bean, maize, teff, sorghum, wheat, barley and faba bean.

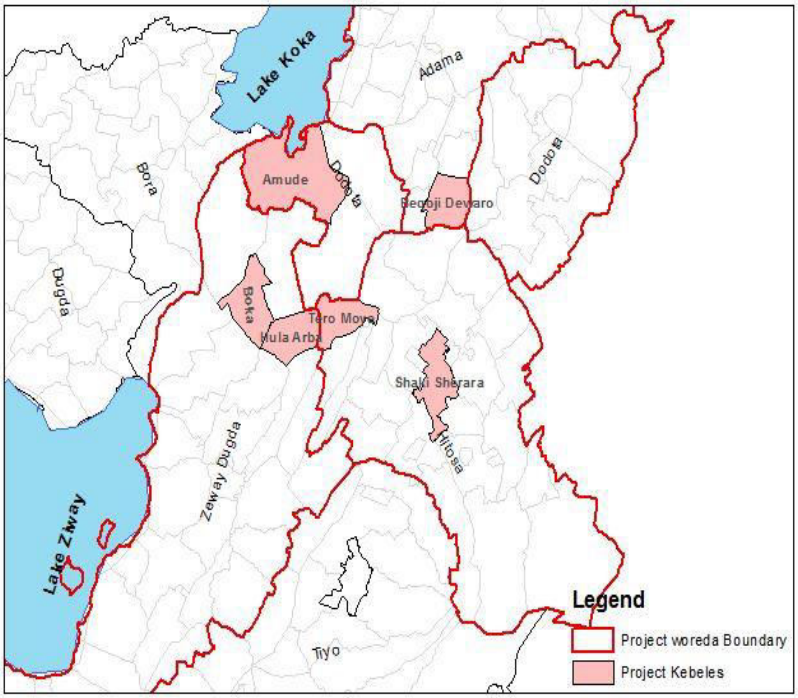
Hula Arba: Hula Arba is found in Ziway Dugda Woreda before Boka kebele. The total population of the kebele is 4,200. Crops that are grown in the kebele are haricot bean, maize, teff, sorghum, wheat, barley and faba bean. The agro-ecology of the kebele is similar to Boka Kebele.

Bikini Dewero: Bikini Dewero kebele is located in Adama Woreda at a distance of 41 km on the south side riverbank of Awash River. Crops that are commonly grown in this kebele are maize, teff, sorghum, wheat, and barley. The agro-ecology of Bikini Dewero is similar to Boka and Hulu Arba.

Figure 3: Project location area and Survey kebeles



Source: Google Map



Source: Mapped by Echnoserve GIS Expert

III.2. Livelihood profile of the study area

The Tulu Moye Geothermal project is located in the Rift Valley Maize and Haricot Bean (RVM) livelihood zone in central Oromia region. The woredas in the investment area includes Shala, Siraro, Shashmene, Arsi-Negele, Adami-tulu, Jido-Kombolcha, Dugeda, Fentale Bora, Ziway- Dugeda, Dodota, Sire, Adama, Aseko, Boset, Jeju and Merti. In these woreda, Acacia, Bush scrub and Grasslands mainly dominate vegetation coverage.

The soil type in the area is categorized as moderately fertile sandy and sandy clay loams. The livelihood zone has bimodal rainfall pattern with the main rainy season locally known as Meher lasts from June-September and a short rainy season locally known as Belg or Afrasa that is in March and April. Some of the woredas are well known as a high potential surplus producing area, while some are in low productivity area. The low productivity areas are part of the Productive Safety Net Program (PSNP) and get government support to address food insecurity. The main economic activities are crop production

followed by livestock rearing. The latter is an important source of family income. The main crops grown in the project target are maize, haricot beans and teff; which are both consumed and sold. The main determinants of wealth are land holdings, livestock ownership and input utilization. Most households cultivate maize, haricot beans and teff. While some better-off household also cultivate wheat. Better-off households also own more than a pair of oxen while very poor households do not own any oxen or cattle.

Teff and wheat Crop land during baseline survey (2018)

Maize crop land (September 2018)

IV. RESULTS AND DISCUSSION OF THE BASELINE

The key finding of this baseline survey are discussed and presented divided into two sections; socio-economic study followed by traffic assessment. The results show both illustrative and qualitative result as well as discussion on the findings.

IV.1. SOCIO-ECONOMIC CHARACTERISTICS THE TARGET KEBELES

Socio-economics study looks at the relationship between economic activity and social life. It employs multidisciplinary methods from sociology, gender, economics, history and environment. Socio-economic study also includes analysis of demographic structure, population dynamics, infrastructure resources, status of human health and economic attributes like employment, per-capita income, agriculture, trade, and industrial development in the study region. Socioeconomic characteristics of a population provides statistically description of a society and household in terms of age and sex distribution, education level, income level, marital status, occupation, religion, birth rate, death rate, average size of a family, average age at marriage.

In this socio-economic study, household demographic characteristics, agricultural practices, economic activity including income and expenditure access to social services (health care, water and education), as well as migration and gender issues have been assessed. The assessments have been conducted through household survey, focus group discussions, key informant interview and site visit.

IV-1.1. Demographic Characteristics

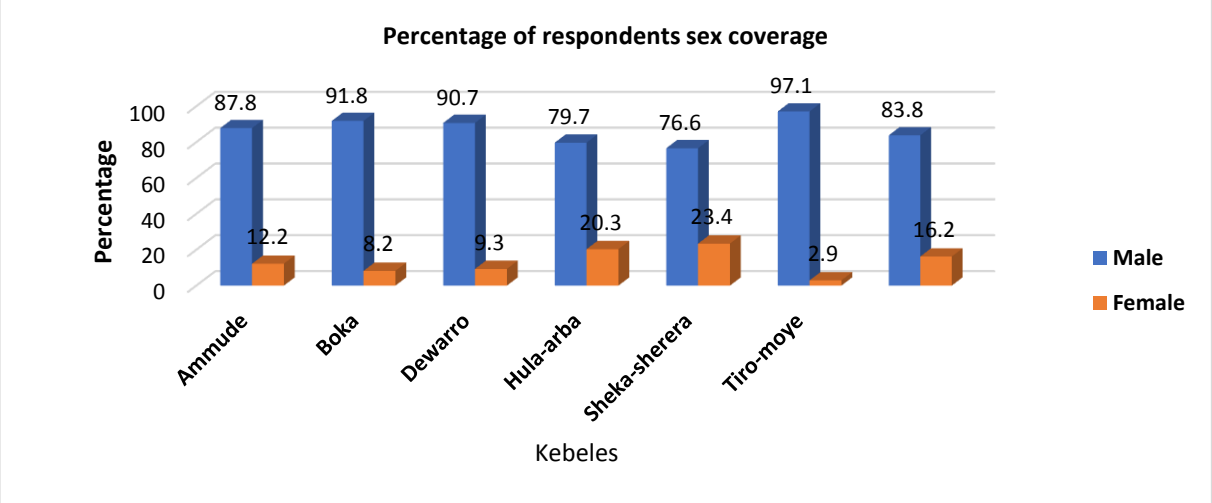
Demography is defined as statistical data about the characteristics of a population, such as the age, gender and income of the people within the population.

IV-1.1.1 Head of household sex composition and marital status

Age, sex, martial status and household composition are important demographic variables. They are often used for demographic classification in vital statistics and censuses. They are also used for policy and program intervention planning. These important demographic variables for the surveyed kebeles are illustrated below and then compared with regional and federal data.

As shown in figure 4 below, out of the 1,590 sample households, 206 or 13% are female-headed households and a significant number (1,384) or 87% are male headed. The female-headed households are usually cases of widowed women or those that are divorced. In Sheka-Sherera kebele, female-headed households constituted about 28% of the sample size, relatively higher than the other kebeles. Tero Moye has the lowest female-headed household or about 3%.

Figure 4: Sex composition of respondents



Source: Computed from baseline survey (September 2018)

Legal marriage is common family structure in Ethiopia. Based on a 2016 study, only 1% of women by age 45 to 49 and 2% of men of same age group have never been married. Two in three (or 65%) women and 56% of men age 15-49 are currently married or living together with a partner. Moreover, women are less likely than men to be single; one in four women (26%) and 42% of men have never been married. Women are more likely than men to be separated, divorced, or widowed as well. The survey assessment has found out that the local marriage characteristic is almost similar to that of national features. Nearly 97% of the total survey participants are married while 1.8% are single and the remaining .5% are widowed respectively. Singled respondents are the lowest in Ammede (0.7%) and the highest in Boka (6.7%). Monogamous or polygamous types of marriage in which respondents are involved were not identified in this baseline survey. Based on the Ethiopia's national 2016 DHS report, about 4% of rural population is single nationally and about 13% in urban area are also single. Therefore, the single population in the project area is less than the national rural average. As the unit of analysis for this study was a household, the marital status of household was expected to be skewed and thus a significant number or 97% are married.

Table 5: Households heads sex composition and marital status

S/N	Sampled kebeles	No of sample HH	Marital status (%)		
			Married	Single	Widowed
1	Ammude	304	99	0.7	0.3
2	Boka	194	93.3	6.7	
3	Dewarro	430	100	-	-
4	Hula-arba	192	97.9	2.1	
5	Sheka-sherera	295	95.9	1.4	2.7
6	Tiro-Moye	175	100		
	Total	1590	97.7	1.82	.5

Source: Computed from baseline survey (September 2018)

IV-1.1.2 Age categories of the sampled Households members

Age is one of the demographic characteristics of the population. Age composition by numbers and percentage of households' members in the sampled kebeles was assessed through categorized in four groups. The groups were age 0-4, 5-14, 15-65 and above 65 years of age. These grouping are made based on standard for demographic study. Children of age 0 to 4 are considered infants and children, age 5 to 14 are school age, 15 to 65 are working youth and adults and above 65 are elderly. Children, both male and female, under five (0 to 4) constituted about 1,374 (14.4%), young age (5-14) are about 3,194 (33.4%), adults or working age group (15-65) accounted to be 4,563 (47.8%) and old age group greater than 65 years of age are about 337 or 3.5% in the study area.

Table 6: Households members with age categories

s/n	Sampled kebeles	Sampled HH	Total members of HH	Households members with age categories in % (Average HH size was computed six)							
				< 5 years		5-14years		15-65 years		>65 years	
				Male	Female	Male	Female	Male	Female	Male	Female
1	Ammude	304	1824	9	8.5	16	15.4	24.4	25	0.7	0.9
2	Dewarro	430	2580	8	6.8	19.6	18.1	22	23.3	1.3	1.5
3	Hula-arba	192	1152	7.2	8.5	16.5	17	24.1	24.5	1.2	1.4
4	Sheke-sherara	295	1770	3.1	4.8	16.2	16.4	24.6	24.5	4.7	5.1
5	Boka	194	1164	8.8	7.2	17.3	16.3	24.8	24.6	0.4	0.6
6	Tiro-moye	175	1050	8.8	8.7	16.6	15.7	23.1	22.8	2.2	1.2
	Total	1590	9540	7	7.42	17	16.48	23.83	24	1.75	1.78

Source: Computed from baseline survey (September, 2018)

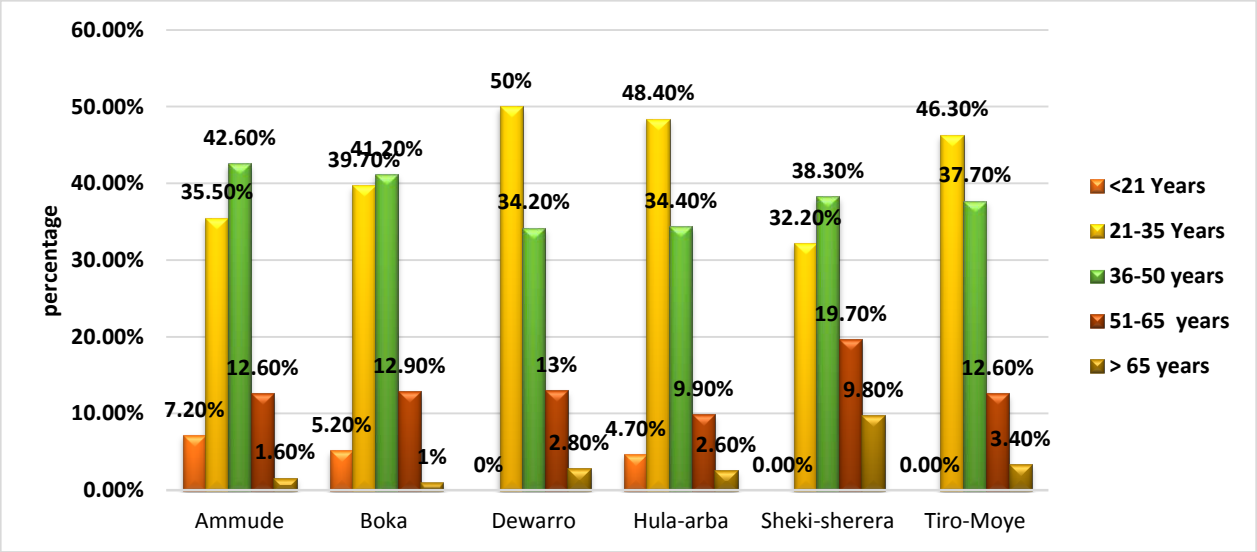
The result of the survey has shown that there isn't a significant difference in each age categories between male and female group across the kebeles. The majority of the age group in all kebeles is those in working age group or 15 to 65. This is an indication that there are high potential sources of labor supply. Similarly, the young age category (0-14) for both sexes are equal across all the kebeles. The older age group or greater than 65 years is insignificant and is estimated to be about 1.75% of male and 1.78% of female.

It is widely known that children with age group (0-14) requires higher investment specially in provision of basic services such as education and health. Having a well functioning and quality educational services allow generation of educated and capable citizens. At the same time, having a well equipped and functioning health centers will reduce infant mortality rate. Therefore, presence of these services is essential for the kebeles.

Based on the 2016 National DHS survey, Ethiopia's age distribution has pyramidal structure as it has large number of children less than 15 years of age. Children under 15 years of age account for 46% percent and 51% of the population is in the age group 15-64 and almost 4 percent are over 65. Children under 4 years are about 16.9% nationally but there is also a rural urban variation with about 12% in urban and 17.9% in rural area. The age distribution of the project area is very similar to national distribution as the under 15 population of the project is 47.9% while national is 46% and 15 to 64 age is 47.8% for the project while the national average is 51%.

Children are frequently contributing to labor market in rural area through delivery of services such as fetching of water, collection of firewood or cattle herding. One of the finding of the study is lack of clean water and use of biomass for energy sources. As families in the survey area frequently access water from water points, lakes and rivers as well as fetch biomass for household energy consumption, children are often tasked for getting water and fuelwood their family. Thus, increasing availability of water and energy will reduce the number of hours children are committing to collection of water and energy.

Figure 5: Characteristics of head of household distribution per kebele



Source: Computed from the baseline survey (September 2018)

Most of the households or 41% are led by individuals of between 21 and 35 age. About 37% of the households are led by individuals between the ages of 36 to 50 years. Less than 2% of the households are led by individuals of above 65 years old. This family head characteristic is similar to that of national data. The mean age of head of households is about 39.

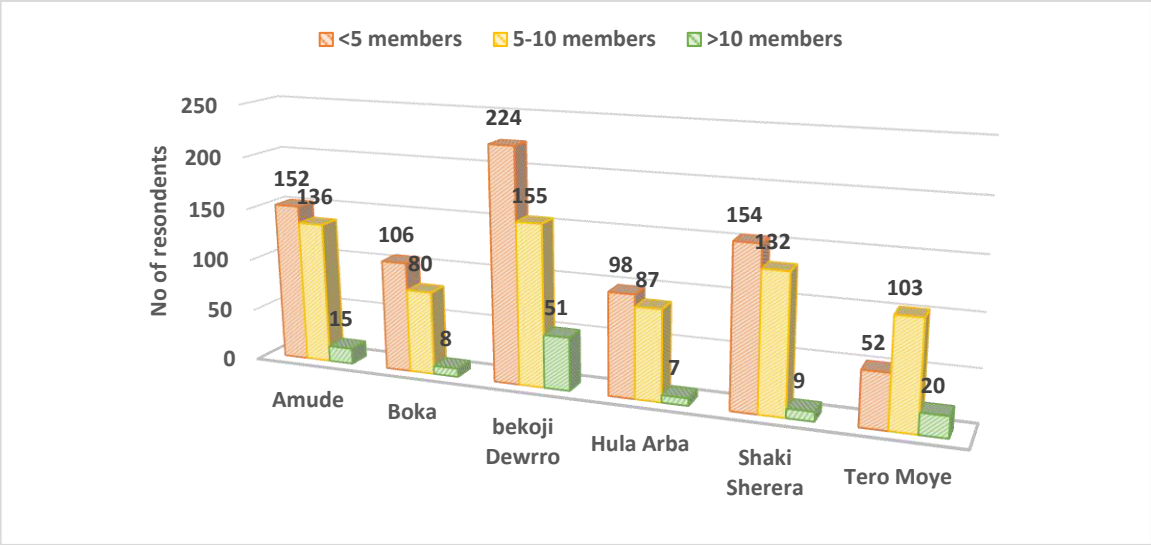
IV-1.1.3 Family size

Households and families are also basic units of analysis in demography. A family is often defined as a group of people who are related through marriage, blood, or adoption. Family size depends on the criteria used for establishing membership. For this study, family size is referred as immediate and related family leaving together in one house. The average size and composition of households are highly sensitive to the age structure of the population.

As shown in figure 6, 786 respondents or 50% have family size of less than five members and 693 members have reported family size ranging between five to ten members. Only 110 respondents have a family size of more than

10 individuals. The average household family size is about six, which is higher than the national average of 5.1 for rural households (Urban area family size is 3.9). Tiro Moye has the largest average size of seven.

Figure 6: Family size with three groups



Source: Computed from the baseline survey (September 2018)

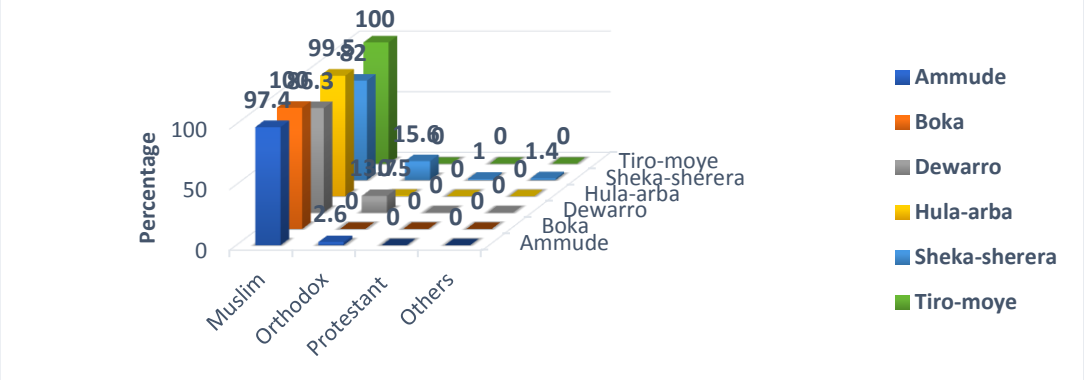
IV-1.1.4 Religion and Language Command

Religious practice and language spoken provide an illustrative picture of an area. They are also key indicators of patterns that show demography changes and migration of a society. Areas that have shown new language and religion than those that have been practiced for a long time in the area indicate that there have been some migrations either inward or outward. Societies show new language and religion when new group of people come or those that have migrated return with new language skill and religion. In addition to migration, economic development also opens doors for new language and religion. Economic development and business as well as technologies introduce new languages and regions to communities. In addition to providing current language and region practiced in the area, the language and religion assessment for the study assessed if there has been a pattern of change in the community.

Based on the assessment, the habitants of the area are predominantly followers of Muslim religion. On average 94% of the Kebele residents are

Muslim and Tiro Moye has 100% Muslim population, while Sheka Sherera has the lowest Muslim followers with about 82%. On average 5.4% of the Kebele population are followers of Orthodox Christian. Sheki Sherera kebele has the largest followers of Orthodox Christian with about 15%. There are no Protestant Christians in all the five kebeles expect Sheki Sherea which has 1% Protestant followers.

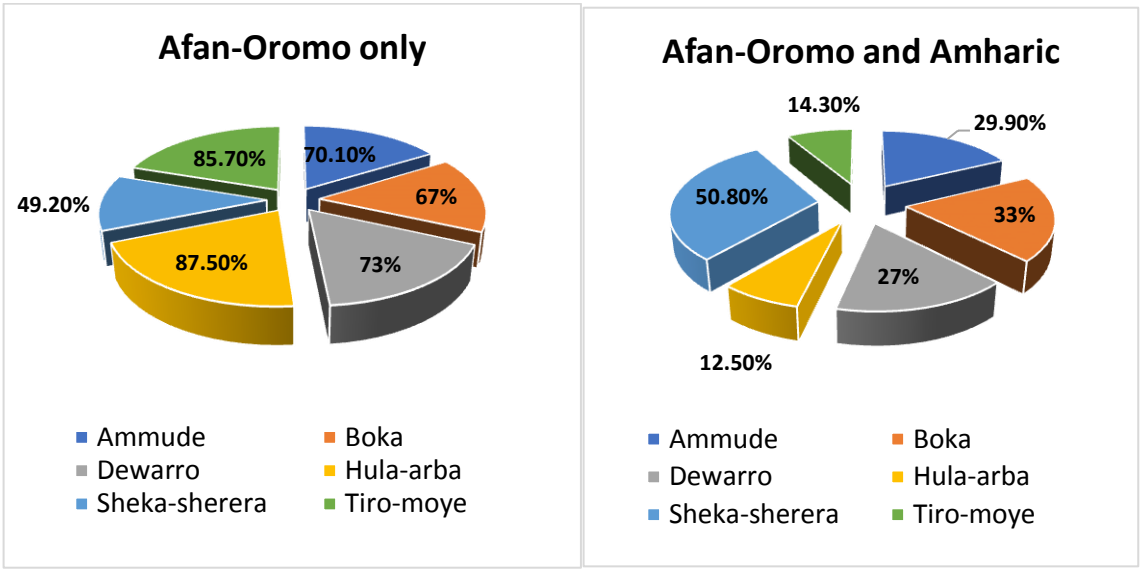
Figure 7: Religion by kebele



Source: Computed from baseline survey (September, 2018)

Followers of Muslim Religion have predominantly settlers of this part of the Oromia Region and it is still evidence that Islam is still a dominant religion in the area. This is a reflection that inward or outward migration has been minimal. The lack of migration pattern in the area is also reflected by the language spoken as a significant number of survey participates or 85% speaks only Afan Oromo. About 14% speaks both Amharic and Afan Oromo. When the data is broken by Kebeles, Hula-Arba and Tiro Moye has the largest habitants who speak only Afan Oromo. These two kebeles also have the largest population who are followers of Islam as well. Sheka Sherera has the largest population of Amharic speakers.

Figure 8: Respondents Language command

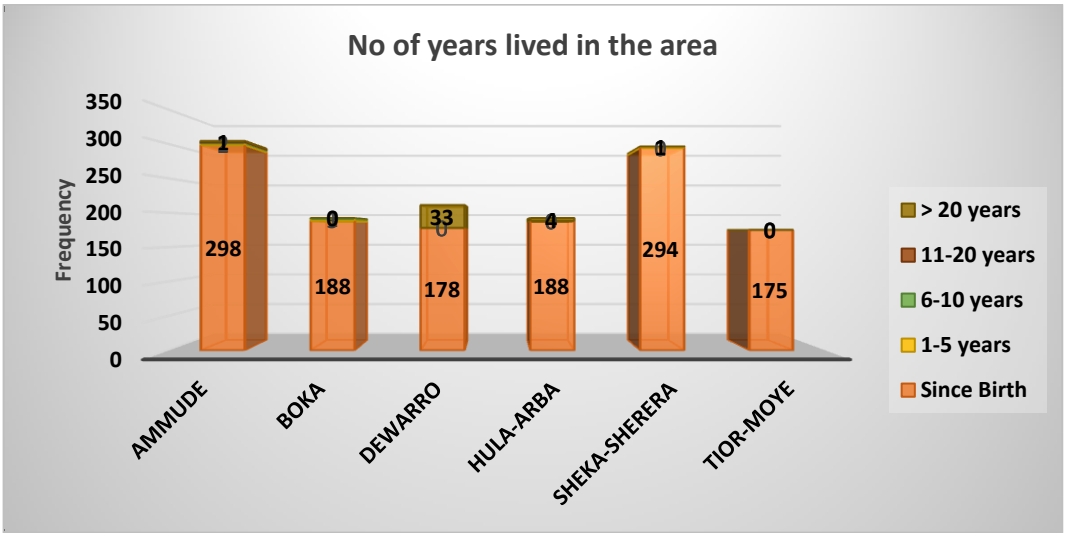


Source: Computed from baseline survey (September, 2018)

IV-1.1.5 Migration Pattern

Local and international migration pattern are also used to show demographic changes. The survey assessed the extent households have lived in the same area as well as urban migration and international immigration. Based on the data collected, a significant number of survey participants or about 95% have been living in the same area. The data in the kebeles is also similar. Dewarro has about 92% of the population who have lived in the same neighboring and the other five towns have about 96% living in the same area. About 7.7% households have been living more than 20 years in the same household.

Figure 9: Households living in the area



Source: Computed from baseline survey (September 2018)

As it is known, migration is deemed to be one of a strategy for elevating oneself out of poverty. Based on the survey assessment, rural- urban migration or immigration is minimal in the area. As indicated in the table below, the highest migrant reported to urban area are from Tiro-Moye with about 7.4% (male with age range of 10 to 14) followed by Hula-Arba 4.7% (male between the ages of 15 and 30). Female (between the ages of 21 and 30) migration to urban area was reported the highest in Dewarro with about 5.1%. The root cause of migration was explained as lack of job opportunities, unfavorable climatic conditions, low crop yield, shortage of land, absence of infrastructure development and food insecurity.

Table 7: Migration status by the households

	Sampled kebeles	No of samples HH	Migration status in %						
			Urban migration			Migration out of country			
			Male	Female	Age	Male	Female	Age	Country
1	Ammude	304	0.3	0.3	31-50	-	0.3	21-30	Middle east
2	Boka	194	-	1.5	10-14		4.1	21-30	Middle east
						1.1		21-30	
3	Dewarro	430		5.1	21-30		1.4	21-30	Middle east
			4		31-50			31-40	
4	Hula-Arba	192	4.7	0.5	15-30	7.8	12.5	21-30	Middle east
								31-40	
5	Sheka-sherera	295	1	-	15-30		23.1	21-30	Middle east
				1.4	10-14	0.3		31-40	Europe
6	Tior-Moye	175	7.4	-	10-14	1.7	12.6	21-30	Middle east
				2.3	21-30				
	Total	1590							

Source: Computed from baseline survey (2018)

There is also some international migration to the Middle East. About 23% households from Sheka-Sherera have female family member between the ages of 21 and 30 that have migrated to Middle East. Tiro Moye and Hulu Arba also have about 12% household who have a female's member migrated to Middle East. The table below shows data on households who have family member currently living outside Ethiopia. A total of 152 individuals from the households currently live outside of Ethiopia. Out this, 131 or 86% of them are females. The respondents indicated that most them live in the Middle East.

Table 8: Household with member who have migrated out of the country

Woreda	Male	Female	Total
Amude	-	1	1
Boka	2	8	10
Bekoji Dewrro	-	6	6
Hula Arba	15	24	39
Shaki Sherera	1	68	69
Tero Moye	3	22	25
Total	**21**	**131**	**152**

Source: computed from baseline survey (September 2018)

The issue of migration was also discussed during the focus group discussions and participants indicated that there is currently some migration going on and it has started to increase in recent months. This has been due to severe unemployment problem in the area for young females and males. The migration has been to Arab countries and urban area in search of job. Women usually go to Arab countries to work housemaid while male largely migrate to urban area to work as laborer. The migration to the Arab world has been both legally and illegally. Some male who had tried illegally migrate to Middle East failed and returned back after losing large amount of money paid to human trafficking agents. On the contrary focus group participants indicated that there is no inward immigrants from other areas to the woredas as there is no pulling factor.

IV-1.2 Social service facilities

The baseline assessment looked at the following service facilities, their capacity and level of quality of service provided. The assessed services were:

- Educational institutions and access to education
- Health care and access to health care
- Clean water services and access to clean water
- Farmers Training Center (FTC), veterinary services, and grinding mills,
- Mobile network and
- Access to market center

IV-1.2.1 Access to education and level of attending

Education is a key social sector investment that can help countries achieve sustainable development. The Government of Ethiopia has been investing heavily in education sector. The education sector budget is about 24% total national expenditure and 4.4% of Gross Domestic Product (GDP) in 2015/16. This budget figure meets the global benchmark of 20% of the national budget spent on education as put forth by the Education for All.[7] Despite the investment made, Ethiopia's educational indicators are still poor and below Sub-Saharan averages. The country is ranked 126 out of 127 countries in the Education for All (EFA) development index.

Ethiopia's primary education enrolment is relatively high and about 85% of school age boys and 80% of school age girls are enrolled in school. The number significantly drops to 39% for boys and 30% girls for secondary school enrolment. Adult's literacy is 42% for male and 18% for female. It is important to also note that these numbers significantly vary from urban and rural areas well. For example, out of school rates for children for ages 7 to 14 in rural areas is 36%, while it is about 13% in urban areas, the national average is 25%. Afar and Somali have the highest children out of school followed by Oromia proportionally. However, Oromia has the largest out of

[7] UNICEF for Every Child: Budget Brief, Ethiopia

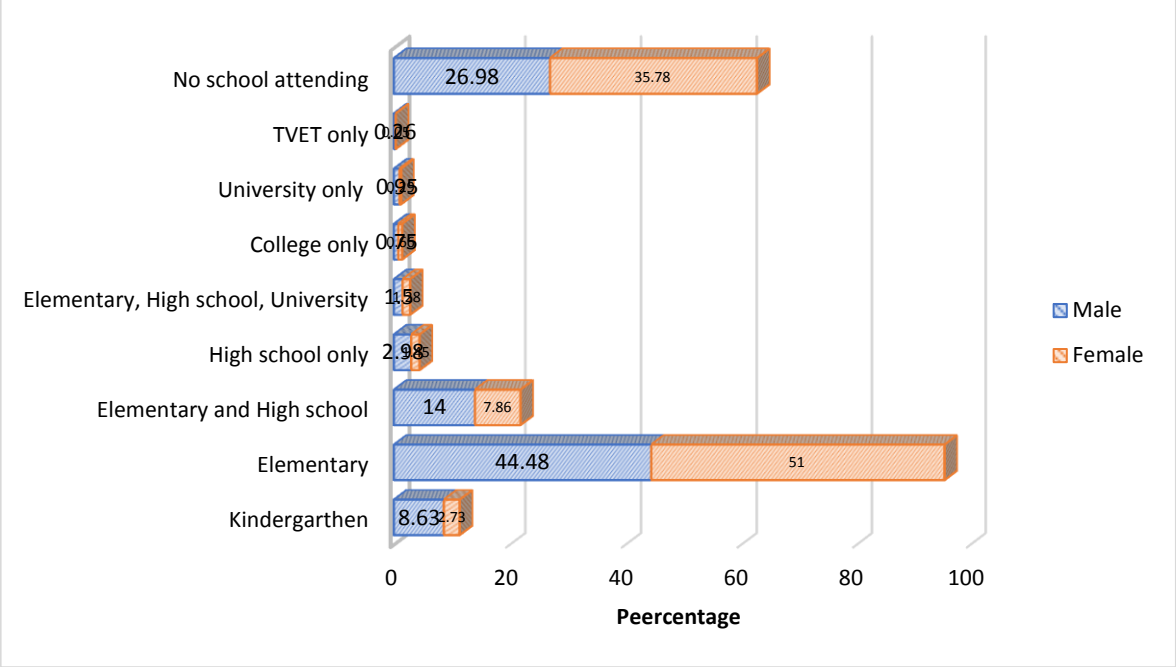
school children in absolute number.[8] The national data also indicates "fewer girls (31% or 2,758,886) are out of school than boys (34% or 3,015,060) in Ethiopia."[9]

The educational trend in the survey woredas reflects that of the national data. Almost 95% of the total respondents indicated that their children have access to at least primary education within their Kebele. The level of enrolment at elementary level is higher than the national average. In addition, female level of elementary education enrolment is slightly higher than male by about 6%. School enrolment significantly drops after elementary school to about 24%. This is lower than the national average of 35% but almost equal to rural secondary school enrolment rate. Contrary to enrolment in elementary school, more male are attending high school than female. However, overall high school level of education declines after elementary school. This is largely due to absence of high school with in close proximity and parents refusing to send their children long distance for high school education. In addition, parents may not afford to cover housing and other living expenses in nearby towns, as the children need to leave in near by town to attend school. Some respondents mentioned that they don't want to send their children, especially girls, to the nearby town fearing exposure to early sexual practices and un-wanted pregnancies.

[8] FHI 360: National Education Profile 2018 Update, computed *for region and income groupings: World Bank 2018*

[9] FHI 360: Education Policy and Data Center. Ethiopia OOSC Profile 2017

Figure 10: Family members level of education



Source: Computed from baseline survey (September 2018)

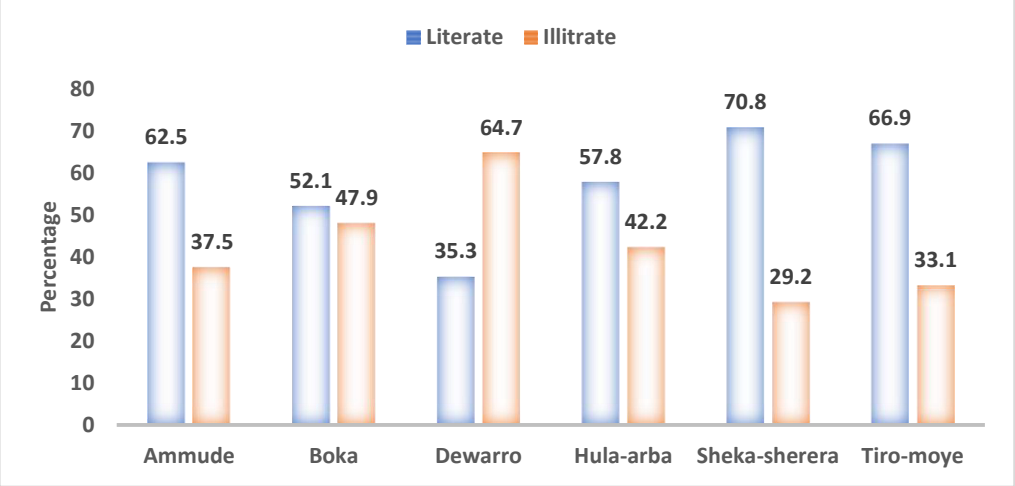
The partaking of both male and female in secondary and tertiary level of education is very small due to dropout of students in search of other opportunities. There are no government run TVET in the survey kebeles but there is one TVET that focus on agricultural extension in Iteya town. This TVET provides training on agricultural services including livestock. The training program ranges from one to three years and provide services for individuals from the area and surrounding woredas. The center has a capacity to train 1,000 individuals but the number of enrolment was low during the time of the survey.

IV-1.2.2. Characteristics of respondent ability to read and write

Ethiopia's literacy rate has been increasing in the past two decade. Based on the recent World Development Indicator, the country's literacy for adults of population over 15 years is 79%. While, literacy for male population is about 87%, female literacy is 71%. Youth population (ages 17 to 24) literacy is 96% and the rate is almost equal for both male and female. The literacy rate for general population of the project area is lower than the national average with about 58% of the total population being literate. The rate is also much

higher for male with about 60% and 42% for female. Literacy rate for female is lower as it is also reflected in declining enrolment rate after elementary school for female population. Sheka-Sherera kebele has the highest male literacy rate of 71%, while at the same time the lowest rate of 29% for female. Dewarro and Hulu- Arba have the lowest literacy rates.

Figure 11: Respondents ability to read and write



Source: Computed from baseline survey (September 2018)

During focus group discussion, participants have also indicated that elementary school is available in all kebeles while secondary school is limited to Ammude, Hula-Arba and Dawarro. However, focus group participant also indicated that their main concern has been the quality of education currently provided. Lack of classrooms, including furniture such chairs and textbooks and other school facilities are mentions as some of the critical gaps in the schools. In addition, participants also indicated that teachers are unwilling to teach due to lack of infrastructure. The concerns of teachers have been absence of transport services and shortage of water. Participants also indicated that lack of electricity; water and road are the primary causes hindering quality of education.

The on-site observations and discussion with key informants and as per school facilities assessment check list has revealed that the primary and junior secondary school in the sample kebeles share the following common constraints and they are

- Shortage of teaching and learning aids such as textbooks;
- Lack of first aid kit;
- No cafeteria/lounge for teachers;
- Shortage of water supply and electricity;
- Toilet facilities are not clean and do not function properly;
- Hand washing facilities are not clean and not functioning properly.
- Absence of water, soap and disposable towels in toilets;
- Lack of computer rooms, laboratory, internet, waste disposal site, suitable room cleaning chemicals, insufficient lab equipment's, insufficient number of chairs, tables;
- Absence of sporting facility (football field, balls nets, playgrounds).

Table 9: Available Schools in survey kebeles

No	Kebele name	# of schools		Total	Remark
		Grades 1-8	**Grades 9-10**		
1	Shakisherera	✓	-	1	High school found in Iteya
2	Tero-moye	✓		1	
3	Ammude	✓	✓	2	
4	Bikosa dewaro	✓	✓	2	
5	Hula-arba	✓	✓	2	
6	Boka	✓		1	

Source: Computed from baseline survey (September 2018)

Elementary school in Bokoji dewarro Kebele

IV-1.2.3. Access to Health Facilities

The Government of Ethiopia has been making an investment in health sector and it has also been one of the social services given priority by the government. This has been done through consecutive phases of comprehensive Health Sector Development Plans (HSDPs). These polices are built on promoting decentralized health care system; developing preventive, and curative components of health care; assurance of accessibility of health care for all population; and encouraging private and NGO participation in the health sector.

Despite the major strides made to improve the health system in the country, the population still faces a high rate of morbidity and mortality and the health status remains relatively poor. Vital health indicators show that life expectancy is about 54 years (53.4 years for male and 55.4 for female), and an Infant Mortality Rate is 77/1000. However, there has been tremendous progress in under-five mortality rate to 101/1000. Although the rates have declined in the past 15 years from a high of 260/1000 in 1990, these are still very high levels. National data also show that the major health problems of the country are largely preventable communicable diseases and nutritional disorders. More than 90% of child deaths are due to pneumonia, diarrhea, malaria, neonatal problems, malnutrition and HIV/AIDS, and often as a combination of these conditions.

In line with the government policy of establishing a decentralized health system and promoting prevention, it was observed that all of the sample kebeles have one Health Post, which is consistent with the national standard. Respondents and the study team have confirmed that Health Centers are located only in Ammude, Dewarro and Hula-arba kebeles and no hospital at all. Nonetheless, most of these facilities do not fulfill the standard requirements set for a Health Post and Health Center by the Federal Ministry of Health.

Tiro- Moye health post

Sheka-Sherera health post

Photo (September 2018)

Based on site visit and review of health facilities against the MoH standard, some of the most common constraints and gaps of Health Posts are as follows:

- Lack of adequate light, water, and ventilation;
- No counseling room, waiting/display area, store, hand washing basins, area for placenta pit, shower;
- No autoclave or any of similar functional equipment and lack of stretchers;
- Absence of laboratory room;
- Not equipped with communication facilities such as telephone, fax, etc.;
- No cleaner and bleaching powder/chlorine-based disinfectant;
- Absence of incineration or sanitary landfill for medical waste disposal.

Another assessment was also conducted to evaluate the status of Health Centers in the sample kebeles and some of the common constraints identified are as follows:

- Lack of sanitary and cleaning materials such as floor wiping brush, hockey type brush, ceiling brush, scrappers, plastic mug, plastic bucket, plastic drum, scraping pump, flit pump, rat trapping cage, gum boots;
- No internet connection, communication facilities like telephone, fax, etc;

- Shortage of medical equipment and supplies such as hemoglobin reagents, Uristick for testing protein;
- Shortage of professionals such as electrician, plumber, maintenance technician, laundry staff, environmental health officer, health assistants, and public health supervisor;
- In adequate light and water in all rooms.
- Absence of separate area inside the laundry room for collection of used linens, washing, drying and ironing, clean linen storage and mending area;
- Nonexistence of adequate space for service such as janitor's closets and cleaning equipment & supplies;
- Lack of newborn nursery room as well as offices, and locker rooms;

Hula-Arba new health center

Health center at Ammude kebele

Health post toilet in Sheka-Sherera kebele

In addition to the site observation and interviews with key informants, data from the health posts and woreda level health bureau were collected to analyze healthcare services provided by Health Center and Health Post. The data indicates that Health Posts largely provide immunization services, preventive measures and pediatric services as well as testing for HIV/AIDS. Health Centers also provide immunization, counseling, HIV/AIDS testing; however, in addition to these services Health Centers also provide treatment particularly for pediatrics, emergency assistance, child delivery services and HIV/AIDS treatment or ART. Nevertheless, based on the data from Dhera Health Center, about 268 women gave birth in the center, and there were approximately 1,000 different visits by pregnant women for services such as antenatal and ANC care, testing for syphilis, and HIV testing. A significant amount of services provided by the Dhera Health Center has focused on HIV testing, counseling and treatment.

While the summarized data form the different health posts and centers are provided below full data is attached in the annex as well.

Table 10: Three months Healthcare delivery report for April -June, 2010 E.C

S/n	Dhera Health Center Monthly Service Delivery Report -April-June 2010 E.C		Ammude, Health post monthly delivery report April-June, 2010 E.C	
	Type of service	No of visitors	Types of service	No of visitors
1	Total new and repeat acceptors, disaggregated by age	237	Total new and repeat acceptors, disaggregated by age	120
2	Total number of premature removals of LAFP within 6-month insertion	85	Total number of premature removals of LAFP within 6 months of insertion	0
3	Total Number of pregnant women that received ANC First visit by gestational week	616	Total number of pregnant women that received four antenatal care visits	49
4	Total number of pregnant women that received four antenatal care visits	56	Total number of pregnant women that received four antenatal care visits	36
5	Total Number of pregnant women tested for syphilis	420	Number of postnatal visits within 7 days of delivery	19
6	Total Number of births attended by skilled health personnel	268	Births attended by skilled health personnel	0
7	EPI (Immunization Coverages)	3349	EPI (Immunization Coverages)	534
8	Number of post abortion/emergency care	10	Number of Infants whose mothers had protective doses of TT against NNT (PAB)	32
9	Pregnant and lactating women who were tested for HIV and know their results	452	TT Vaccination	85
10	TT Vaccination	646		
11	Under-five children with pneumonia received antibiotic treatment	72	Under-five children with pneumonia received antibiotic treatment	2
12	Proportion of children who are treated for Diarrhea	248	Proportion of children who are treated for Diarrhea	4
13	Number of children less than 2 yr weighted during GMP session	1285	Number of children less than 2 years weighted during GMP session	393
14	Total Number of children < 5 years screened for acute malnutrition	580	Total Number of children < 5 years screened for acute malnutrition	1147
15	Number of weights recorded with severe malnutrition by age (Z score below -3)	14	Number of weights recorded with severe malnutrition, by age (Z-score below (-3) : Severely underweight	3
16	Number of weights recorded with moderate acute malnutrition	69	Number of weights recorded with moderate acute malnutrition	196
17	Total number of children aged 6-59 months who received Vitamin A supplementation - by age	0	Treatment outcome for management of SAM in children 6-59months	63
18	Total number of Pregnant women received IFA at least 90 plus	169	Proportion of pregnant and lactating women (PLW) screened for acute malnutrition	300
19	Number of individuals who have been tested for HIV and who received their results	1248	Number of slides or RDT positive for malaria	2
20	Clients receiving HIV test results (at PITC)	951	Total number of Pregnant women received IFA at least 90 plus	12
21	Total number of STI cases in the reporting period	30	Tracer drug availability (enter 1 if drug available whenever needed in month, 0 if ever unavailable when needed).	16
22	Number of adults and children who are currently on ART by regimen type	19		
23	Number of adults and children with HIV infection newly started on ART	10		

Source: Dhera Woreda health Bureau (December, 2018)

Table 11: Three months Healthcare delivery report for April-June, 2010 E.C

S/n	Hula-araba kebele health post monthly service Delivery Report -April-June 2010 E.C		Boka kebele, health post monthly service delivery report April-June, 2010 E.C	
	Type of service	No of visitors	Types of service	No of visitors
1	Total new and repeat acceptors, disaggregated by age	409	Total new and repeat acceptors, disaggregated by age	323
2	Number of children under one year of age who have received BCG vaccine	128	Number of children under one year of age who have received BCG vaccine	80
3	Total Number of pregnant women that received ANC First visit by gestational week	63	Total number of pregnant women that received four antenatal care visits	63
4	Total number of pregnant women that received four antenatal care visits	49	Total number of pregnant women that received four antenatal care visits	49
5	Number of children under one year of age who have received BCG vaccine	128	Number of children under one year of age who have received BCG vaccine	128
6	Number of children under one year of age who have received third dose of pentavalent vaccine	188	Number of children under one year of age who have received third dose of pentavalent vaccine	188
7	Number of children under one year of age who have received first dose of pneumococcal vaccine	128	Number of children under one year of age who have received first dose of pneumococcal vaccine	128
8	Number of children under one year of age who have received third dose of pneumococcal vaccine	188	Number of children under one year of age who have received third dose of pneumococcal vaccine	188
9	Number of children under one year of age who have received first dose of Rotavirus vaccine	128	Number of children under one year of age who have received first dose of Rotavirus vaccine	128
10	Number of children under one year of age who have received 2nd dose of Rotavirus vaccine	177	Number of children under one year of age who have received 2nd dose of Rotavirus vaccine	177
11	Number of children under one year of age who have received measles vaccine	135	Number of children under one year of age who have received measles vaccine	135
12	Number of children received all vaccine doses before 1st birthday	135	Number of children received all vaccine doses before 1st birthday	135
13	Number of Infants whose mothers had protective doses of TT against NNT (PAB)	128	Number of Infants whose mothers had protective doses of TT against NNT (PAB)	128
14	Number of children under one year of age who have received first dose of Polio vaccine	128	Number of children under one year of age who have received first dose of Polio vaccine	128
15	Number of children under one year of age who have received third dose of Polio vaccine	188	Number of children under one year of age who have received third dose of Polio vaccine	188
16	Vaccine wastage rate		Vaccine wastage rate	
17	BCG doses given (all ages)	128	BCG doses given (all ages)	128
18	BCG doses opened	180	BCG doses opened	180
19	Pentavalent (DPT-HepB-Hib) doses given (all ages)	493	Pentavalent (DPT-HepB-Hib) doses given (all ages)	493
20	Pentavalent (DPT-HepB-Hib) doses open	493	Pentavalent (DPT-HepB-Hib) doses open	493
21	Pneumococcal conjugated vaccine doses given (all ages)	493	Pneumococcal conjugated vaccine doses given (all ages)	493
22	Pneumococcal conjugated vaccine doses opened	498	Pneumococcal conjugated vaccine doses opened	498
23	Rota doses given (all ages)	305	Rota doses given (all ages)	305
24	Number of children aged 6-59 months supplemented with vitamin-A	390	Number of children aged 6-59 months supplemented with vitamin-A	390
25	Rota doses opened	305	Rota doses opened	305
26	Polio doses given (all ages)	487	Polio doses given (all ages)	487
27	Polio doses opened	510	Polio doses opened	510
28	Measles doses given (all ages)	135	Measles doses given (all ages)	135
29	Measles doses opened	160	Measles doses opened	160
30	Number of weights measured for children under 5yrs, by age	4791	Number of weights measured for children under 5yrs, by age	4791
31	Total Number of children screened for malnutrition	4789	Total Number of children screened for malnutrition	4060

Source: Zeway dugda Woreda health Bureau (December, 2018)

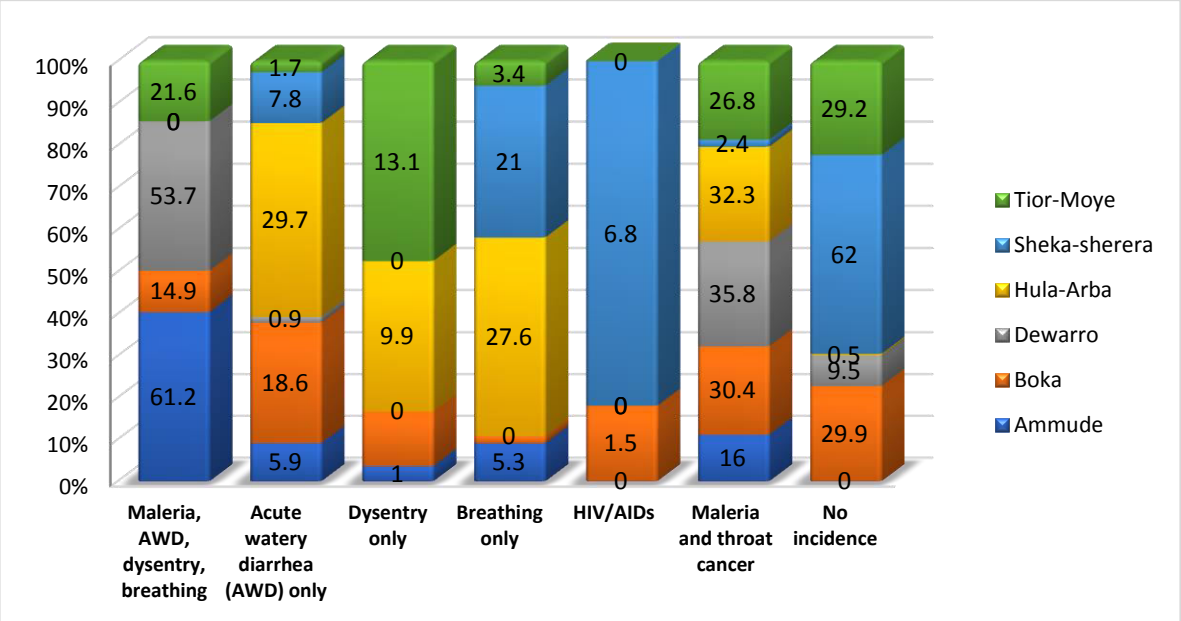
IV-1.2.4. Prevalence of disease and death of the family

According to the 2017 data from Ethiopia Population Reference Bureau, Top 10 causes of death in the country are

1. Diarrheal diseases
2. Neonatal disorders
3. HIV/AIDS & TB
4. Cardiovascular diseases
5. Other noncommunicable diseases
6. Neoplasms
7. Mental disorders
8. Nutritional deficiencies
9. Unintentional injuries
10. Diabetes/Urological/Blood/ Endocrine disorders

The baseline assessment also looked at health problems encountered by the households for the last 12 months prior to the date of the survey. The result shows that most of the diseases in area are identified predominantly communicable illness.

Figure 12: Disease prevalence distribution with in the family



Source: computed from baseline report (September 2018)

Malaria and Acute watery diarrhea (AWD) locally known Atet were reported across all kebeles. Dawarro and Boka kebeles have the highest rate of malaria. Similarly, acute watery diarrhea has the highest prevalence in Hula-Arba followed by Boka. The other diseases identified as problematic include dysentery, breathing system and throat cancer with moderate difference across kebeles. Malaria and Acute watery diarrhea (AWD), dysentery and breathing were reported across all kebeles. Ammude kebele has the highest rate with about 61% followed Dewarro 57%, Tiro-moye 21% and Boka 14.9%. Similarly, only acute watery diarrhea has a high prevalence rate of 29.7% in Hula-Arba followed by Boka 18.6%. Maleria and throat cancer was reported in Dewarro about 35.8% and lowest in Sheka-Sherera with about 2.4%.

HIV/AIDS was the least prevalence in the area, but yet has been given much attention by health posts and centers. This has been largely due to availability of donor funds for HIV/AIDS related activity. Sheka-Sherera has the highest rate of HIV/AIDS prevalence with about 7% and Boka lowest with 1.5%.

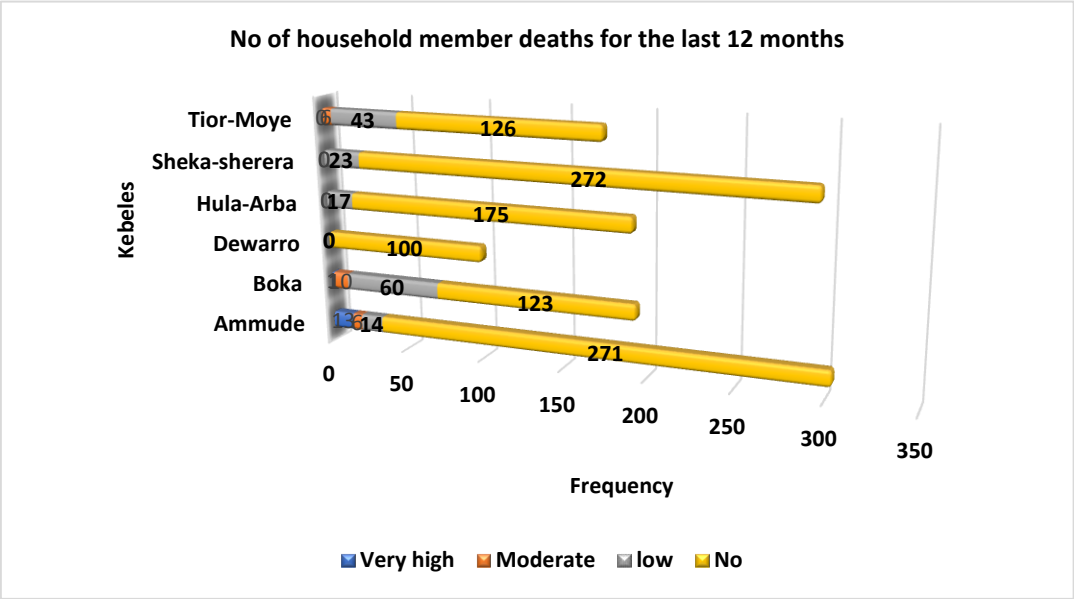
Communicable diseases reported by household as problematic appeared to be correct when data is triangulated based on information collected from focus group discussion and key informant interviews. Participants as clearly stated in FGD and KII, explained about deep-rooted health issues linked principally with shortage of service facilities mainly water and transport. When respondents were asked to evaluate prevalence of diseases and linkages to distress to the family, they indicated that mortality has moderate to low negative impact to family members.

As shown in figure 13 the rate of illness of the family members was reported low across kebeles with lowest level 5.6%, moderate 15% in Tiro-Moye, hightes level in 197 45.8% in Dewarro in terms of evaluating patient's nature of characteristics observed and distressing family members during illness. Likewise, death rate of the family was noted and concentrated at low level in all kebele. Ammude is the only kebele

relatively high death rate reported about 4.3% during 12 months before baseline survey.

In general, the severity rate of illness and death rate for the last 12 months revealed that no significant negative effect have occurred nevertheless major communicable diseases were widely existed in the study area. Hence, this survey has shown clear picture on the study area regarding provision of health care services that has not given much attention and this situation compelled to design a comprehensive rural development intervention plan to be conducted so as to reduce interwoven social and economic difficulties.

Figure 13: Households members Illness and death prevalence rate



Source: Computed from baseline survey (September 2018)

Focus group discussions on services of health post and centers as well as illness were conduced. Participants from all kebeles indicated that there is a prevalence of communicable diseases (intestinal parasites, typhoid, typhus, diarrhea), itching of skin (locally named as “Malwoya”, meaning “what better”) and throat cancer is the most common

occurrence. They also indicated that this is largely due to lack of clean sanitation particularly toilet at household level and the majority of local habitant use open pit.

All participants also stressed that itching skin disease, which is communicable, as a problem. In addition, lack of allows the disease to often come back. Moreover, the group stated that malaria is common problem, particularly in Ammude kebele where Koka Lake is located. The lake creates a favorable breeding site for mosquito's insect. Sexual transmitted diseases such as HIV/AIDs are almost non-existence in all kebeles and participants also confirmed this as well.

Focus group participants also stated that health centers don't provide appropriate services to the inhabitance due lack of medical doctor, shortage of power supply, poor laboratory service, and lack of drugs. They also indicated that the centers have poorly trained and experienced nurses and other health care providers.

Key informant interview

Female FGD in Hula-Arba Kebele

Male FGD in Hula -Arba kebele

Focus group participants also added that the function of health post has been mainly confined only providing child vaccination like polio, and other immunization, oral rehydration solution (ORS), family planning, consultation for pregnant women, as well as awareness raising on sanitation and toilet construction. Guidance on use of mosquito net and prevention of acute watery diarrhea (AWD) is also given at health posts. HIV/AIDS awareness and related services are also common in health posts. Participants indicted that due to poor services provided by government health center, they prefer going private health care center to obtain better treatment though they are requested high payment.

Participants also mentioned that road inaccessibility is a major challenge that hindered ambulance services for emergency care during child delivery time. This problem has forced family members to take patients and pregnant women carrying them using traditional stretcher until they reach nearby town (Dera, Eteya, Abura).

IV-1.2.5 Access to Water Facilities

The Government of Ethiopia, through collaborative efforts with donors has made great strides to improve access to water in the country. It was reports that in 2015, Ethiopia achieved the drinking water MDG target of 57%, successfully halving the number of population without access to improved drinking water since 1990. This means that over 52 million

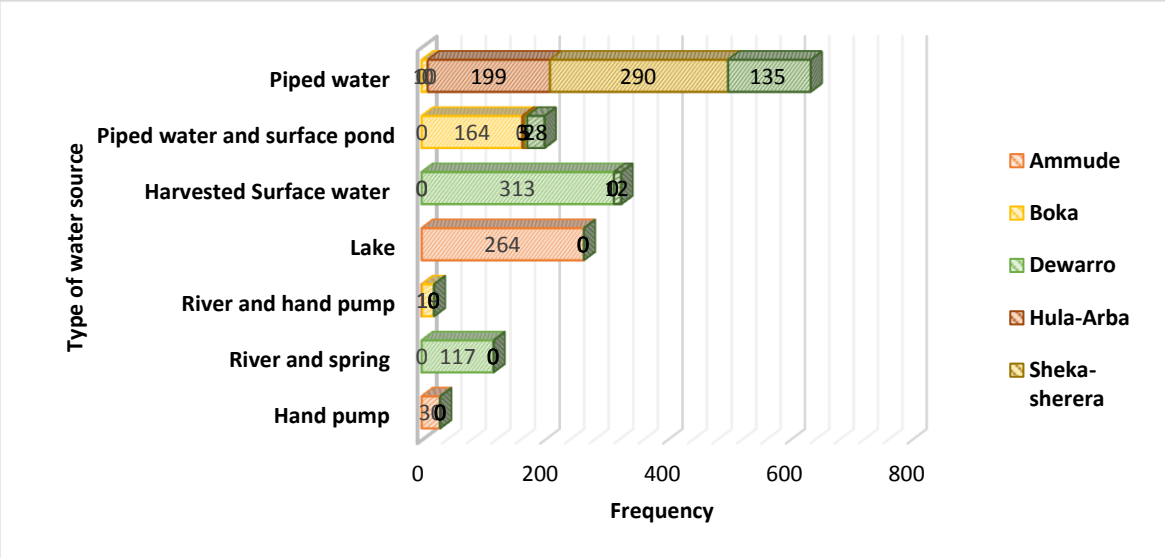
people in Ethiopia now have access to an improved drinking water source (within 1.5 km) as compared to only 6 million people in 1990.[10] Other figures have shown that 75% of the Ethiopian populations have access to improved water source during rainy and dry seasons. However, in rural areas, the figure is about 59%. A quarter of which are connected through piped line. Another major difference in urban- rural water access is that, 77% of households use piped water, compared to only about 15% in rural areas. The most common types sources of water in rural areas are protected springs, tube wells, and dug wells.[11]

Survey participants were asked if they have access to water, source of water as well as quality of water. In addition to the survey, focus group discussions and site observations were used to check on access to water as well as quality of water. While approximately 78% of the participants have indicated that they have access to water, the quality of water, distance and availability varies. It is reported that the primary source of water in Ammude is Lake Koka for about 87% of the population. In Boka Kebele, 85.2% of the households access water from community water points and surface pond, in Dewarro 72.8% access water from harvested temporary surface, river and spring respectively. In Hula-Arba, Sheka Sherera and Tiro Moye, the major source of water is piped community water points for livestock and human consumption respectively. Access to water in the project area seems relatively equal to the national average of 75% and higher than regional average of 66% in Oromia Region. However, it should be important to note that access to water doesn't denote that habitants are satisfied with the quality or distance they travel to access the water.

[10] UNICEF ETHIOPIA WASH CPD. Evaluation of the UNICEF Ethiopia Water, Sanitation & Hygiene (WASH) Country Programme Document (CPD). January 2012 - June 2016.

[11] *Drinking Water Quality in Ethiopia, Results from the 2016 Ethiopia Socioeconomic Survey.* A Report by the Central Statistical Agency of Ethiopia in Collaboration with the Ministry of Water, Irrigation and Electricity (MOWIE), LSMS, World Bank, UNICEF, WHO, and JMP December 2017.

Figure 14: Water sources in the study area



Source: Computed from baseline survey (September 2018)

Lake Koka Main water source for Ammude kebele for livestock and human consumption

Distance travel to access water

Distance traveled to access water is one of the parameters used to assess habitant's satisfaction with their access. Based on national data, currently 74% of Ethiopia's population reported that it takes them 30

minutes or less to collect drinking water.[12] Furthermore of those household members who collected water on the day preceding the interview, 75 percent are female and 25 percent male. [13]

Based on the baseline assessment of the project area, 34% of the respondents indicated that they travel more than 3 km or about one hour to access water. 51% of the respondents travel between 1-3 km or 30 minutes to get water for their livestock. Distance traveled by locals in the area is almost double the national average. Nationally about 25% travel less than 30 minutes while in the survey area about 51% travel less than 30 minutes to access water.

Table 12: Distance to access water for human use

		Distance in Km			
Woreda	**Kebele**	**<1**	**1-2**	**2-3**	**>3**
Dodota	Amude	14	244	11	35
Ziway Dugda	Boka	8	106	48	32
Adama	Bekoji Dewarro	30	152	135	113
Ziway Dugda	Hula Arba	83	69	30	10
Hitossa	Shaki Sherera	43	64		188
Histossa	Tero Moye	53	65	21	36
	Total	**231**	**700**	**245**	**414**

Source: Computed from baseline survey (September 2018)

In Sheki Sherera, 50% of respondents travel more than 3km to access water for their livestock. On the other hand, 57% of respondents in Amude kebele indicated that water points for livestock are located within 1-2 km. About 64% of respondents in Bekoji Dewerro Kebele travel more 1-3 km to get into water sources for livestock. Only 15% of the respondents get water for their livestock water points in less than 1 km distance.

[12] The 2016 Ethiopia Demographic and Health Survey (2016 EDHS) have a different data of 52.6% for rural residents who travel 30 min or less to access water.

[13] *Drinking Water Quality in Ethiopia, Results from the 2016 Ethiopia Socioeconomic Survey.* A Report by the Central Statistical Agency of Ethiopia in Collaboration with the Ministry of Water, Irrigation and Electricity (MOWIE), LSMS, World Bank, UNICEF, WHO, and JMP December 2017.

Table 13: Distance to access water for livestock

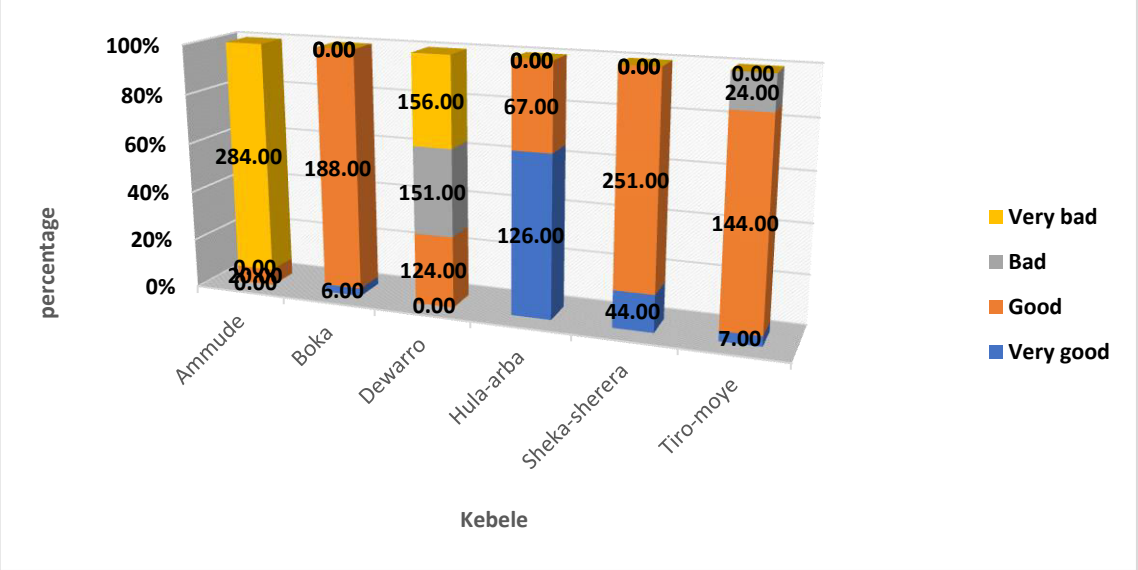
		Distance in Km			
Woreda	**Kebele**	**<1**	**1-2**	**2-3**	**>3**
Dodota	Amudde	14	243	9	38
Ziway Dugda	Boka	6	71	32	85
Adama	Bekoji Dewarro	36	139	138	117
Ziway Dugda	Hula Arba	85	67	30	10
Hitossa	Sheki Sherera	81	67		147
Histossa	Tero Moye	56	65	18	36
	Total	**237**	**585**	**227**	**541**

Source: Computed from baseline survey (September 2018)

Quality of water and methods of drinking

The 2030 Agenda for Sustainable Development Goal has indicated that provision of quality water is one of its goals. SDG defines quality water as water supplied that is free from contamination by feces or specified chemicals. Quality of water can be assessed through laboratory testing as well as through self-reporting, which have been the practical standard used in developing countries. Though direct laboratory tests of water quality provide more accurate information, it is costly. For this study, participants were asked to report quality of water in four categories: very good, good, bad and very bad.

Figure 15: Characteristics of water



Source: Computed from baseline survey (September 2018)

As shown in the above figure 16, the survey result indicated that quality of water in most of the kebeles is characterized as good. In Boka a significant number of 96% indicated that the water is good while the lowest was in Ammude with about 7% only reporting the water to be good. Over all, about 45% reported the water quality to be either good or very good. However, the majority or 55% indicated that the water they have access to be either bad or very bad.

The weakness in quality of water was also noticed during the field observation. Most of the community water points are in poor conditions and some of the flaws noticed were:

- Absence of fence around the water point which allow animals to spoil the water;
- The drainage channel is less than 2m long which results in stagnant water and muddy ground near the standpipe;
- The concrete floor is less than 1m wide around the pump.
- Dirty slab;
- Water wastage in the form of overflow from containers was observed;
- The water containers are found to be dirty.

In addition, though not directly affecting water quality some of the problems of the water points include absence of maintenance program, lack of locally available mechanics to maintain the pump as well as deficiency in appropriate maintenance tools. There is also no fund available for repair of the system.

Community water point in Tiro Moye Kebele

Community water point in Hula Arba kebele

Water point Not functional in Ammude kebele

Community water points in Dewarro Kebele Not functional

According to site observation and local informants, in Amunde kebele, the water point has stopped providing services four years ago. The local communities currently use pond during rainy season and Koka Lake during dry season to access water. Similarly, in Bekoji Dewaro, the water point has not been providing service for the past six years and the local communities are forced to use surface water during rainy season and river during dry season.

It was discussed in the previous section that communicable diseases are prevalent due to lack of quality of water availability for human and livestock. Respondents in Hula-Arba, Sheka-Sherera and Tiro-Moye kebeles have indicated that they drink water directly without treatment. This is one of the causes of the communicable disease such as diarrhea. In Ammude kebele about 64.4% use the water after boiling. About 27% of respondents in Dewarro, 69% in Ammude and 22% in Boka reported drinking water after some form of treatment.

Focus group participants from all kebeles consistently explained that water shortage for human and animal is a life-threatening problem in their locality. However, participants from Shaki-Sharera mentioned that water availability in their locality is better than the other kebeles. This is particularly due to its proximity to semi-urban areas. Nevertheless, they also indicated that there is an inadequate distribution during dry season, which obliged them to travel up to 3 hours in nearby Iteya town, to buy 20 liter of water for 20 ETB. Water accessed from Iteya is usually used for human consumption as well.

Dawarro Kebele rainwater harvested (stay only 2-3 to Months)

Dawarro Kebele focus group participants indicated that their community water points were constructed for livestock and human use, but had only served for 3-4 years. It has stopped due to low volume of water availability from the source. Surface water harvested from rainwater for livestock consumption usually stay for only for 2-3 months annually. Hence, during the remaining months, community members

are forced to travel for nearly 7 hours round trip to access water. They travel to Arsi and Wonji area to fetch water.

The Tiro-Moye focus group participants indicated that piped water supply serves only for 2-3 months and surface water collected from rainwater is used for 6 months. The piped water is considered safe for human consumption. During remaining months, households are forced to travel further distance of about 8 hours and go to Robi River or 6 hours to Katar River to get water. Both rivers are in poor conduction as well. Ammude kebele focus group participants indicated that pipe connected community water points were constructed 1993 E.C, however, all of them are not functional now. Therefore, the only source of water is Lake Koka, which is very polluted and covered by algae (locally known Emboch weeds).

In the Hula-Arba kebele, the focus group participants explained that there are two community water points currently providing service for the whole Kebele. This is also not enough, and hence they spent 4 to 5 hours in long line to get water. They also indicated that since this water is pumped from the ground by generator, the generator stops when there is shortage of fuel and other pumping problem. Thus, water availability is inconsistent. Therefore, local habitants are sometimes required to go to Kormine to get water. On the other hand, Kormine is a very dirty river. This situation is very similar in neighboring kebele or Boka as mentioned by the participants. They noted that shortage of water in all kebeles has impacted their children access to education as children are forced to fetch water during school time.

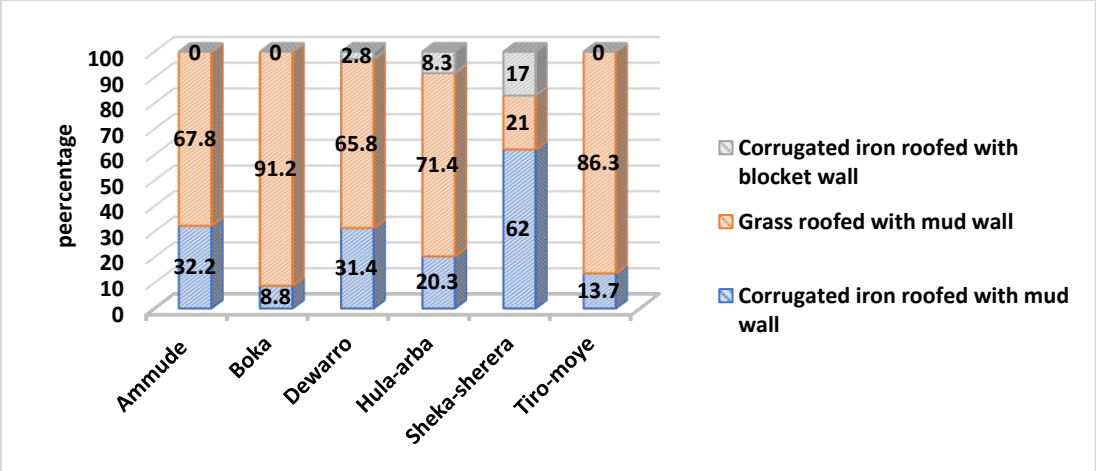

Queue to access water in Hula-Arba kebele

IV-1.2.6 Housing conditions and toilets

The physical characteristics of houses are important in assessing the general socioeconomic condition of the population. Assessment of housing condition includes looking at house construction material and room types, access to electricity and toilet facility.

The housing type assessment was conducted by grouping the housed into three types. The grouping took into account roof coverage, wall type and quality of material and houses as perceived by the respondents. Accordingly, as shown in figure 16, the housing condition varies within and across kebeles. In most of kebeles, houses are predominantly made up of mud wall and grass roof. This type of houses represents about 67% of the survey participants. About 28% of the houses are made of iron sheet and mud wall accounted. Houses with brick wall are about 4.6% int the study area.

Figure 16: Housing condition



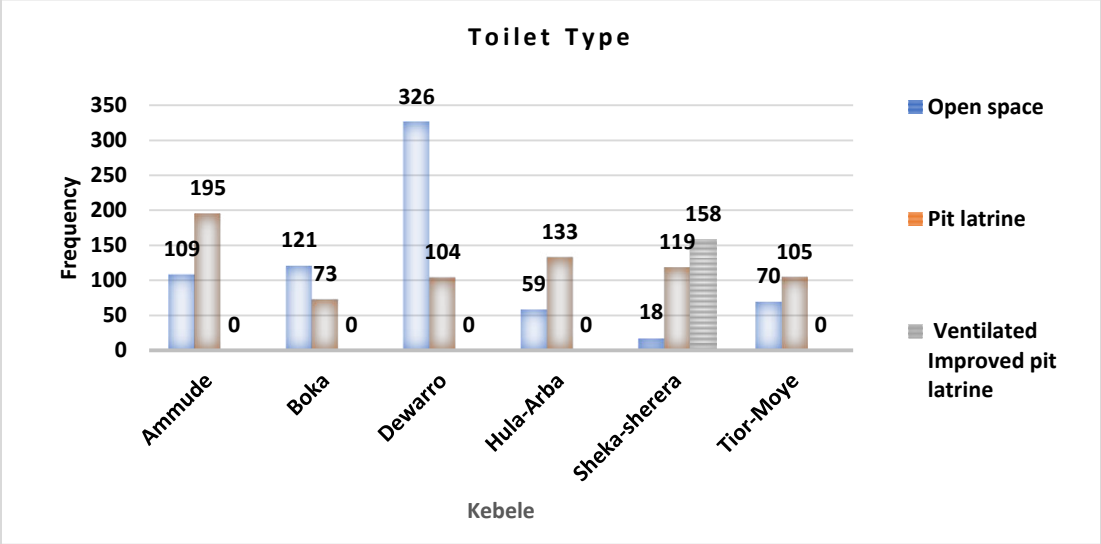
Source: Computed from baseline survey (September 2018)

At kebele level, Boka has the lowest houses covered with iron sheet with about 8.8%, while the highest was reported in Sheka Sherera with about 62%. Significant variation is also observed within kebeles, where grass roofed type houses were widely noticed. This has shown that most of the households could not change their grass roofed to iron sheet due to low income and high cost of corrugated iron. About 85% of the houses (both type) have less than three rooms.

A significant number of households or 78% also indicted that they find their dwellings to be suitable based on their perceptions. About 15.8% indicated that their place is not suitable and a small proportion or 7.4% indicated that their house is very good.

The respondents were also asked about availability and quality of toilets being used by the households. As show in the figure below, the majority of the households use open space (41.9%) and pit latrine (49.2%). Only about 8.9% have ventilated improved pit latrine. Households with ventilated improved pit latrine are reported only in Sheka-Sherera Kebele. About 53.6% use open defection and highest open area users are in Dewarro (76%) followed by Boka (62%) and Ammude (36%). It was reported that about 78.6% of the toilets are unhygienic and unsatisfied in terms of sanitation situation while a small proportion of respondents felt their toilet is hygienic or clean. This accounted to be about 21.3% for the study area.

Figure 17: Toilet availability



Source: Computed from baseline survey (September, 2018)

The national data on availability of toilet show that about 82% of the country's populations do not have access to toilet facility. A small proportion or 17% use traditional pit toilet. Ventilated pit latrines and flush toilets account for less than 1 percent. In urban areas, 70% of households have access to at least one form of toilet, 66% use a traditional pit toilet, 2% of households have a flush toilet, and another 2% use a ventilated pit latrine. More than half or 56% of rural households

use unimproved toilet facilities.[14] While the overall lack of toilet facility in the area is a reflection of the national characteristics, the availability of ventilated pit latrine is slightly higher than national rural average.

IV-1.2.7. Availability of other key services

Farmer's Training Center (FTC), Veterinary service, Grinding Mills, Mobile Network

Public or private facilities for agricultural related services such as training centers, veterinary services or grinding mill as well as infrastructure such as mobile net are key for overall well being of habitants. Respondents were interviewed on the availability of services such as Farmers Training Center (FTC), veterinary services, grinding mills, mobile network and market center in their locality. Accordingly, it was indicated that services such as grinding mills and mobile networks are available in each kebele except market center. However, the FTC and vet services are not delivering sufficient and satisfactory services. Though mobile network is available, it not strong enough and there is a frequent network failure as well. Grinding mill is also available in each kebele but due to power cut and maintenance problems, most of them are not providing regular service.

Proper market for exchanges of agricultural and industrial commodities are absent and only mini market (Gulit) is available for selling and buying of vegetables. However, fist market is available in Ammude kebele. The major hotspot market center for Ammude, Dewarro, Sheke-sherera and Tiro-Moye kebeles are Dera and Etetya towns, while Meki and Zeway Dugda (Abura town) are considered the other market center serving communities in Boka and Hula-Arba kebele.[15]

Banking and saving

Respondents stated that banking service is available in Dera, Eteya and Abura towns. However, no banking service was found within the boundary of samples kebeles. A significant or 80% of the sample households do not have bank account. Among participants, Shaki-Sherera habitants are the most residents who have bank account due to its location, which is near Eteya town. Households in Shaki- Sherera are also

[14] 2016 Ethiopia DHS
[15] Additional information on market is provided in a later section.

wealthier than the others in terms of income. Some of the reason for low use of bank services and saving is:

a. Distance;
b. Lack of modern banking culture; and
c. Low income

Table 14: Banking by households

Woreda	Kebele	Have Bank account	No bank account
Dodota	Amude	8	296
Ziway Dugda	Boka	8	186
Adama	bekoji Dewrro	21	409
Ziway Dugda	Hula Arba	25	167
Hitossa	Shaki Sherera	218	77
Histossa	Tero Moye	40	135
	Total	**320**	**1,270**

Data collection was also done to capture information on borrowing status of the households. It was reported that for the past 12 months, households accessed credit largely from friends, relatives and neighbors. Most of the loans were used to buy livestock, improved seed and daily expenses for household's consumptions. Borrowing from bank was minimal and no one in the survey had borrowed from a bank. This could be due to lending requirement of bank, which require non-moveable collateral and 30% contribution. As most of the households don't have bankable collateral, banks are less likely to lend to farmers taking their houses as collateral.

Table 15: Loan profile for the last 12 months

S/N	Sampled kebeles	No of samples HH	Credit access for the last 12 months %		
			Male	Female	Both
1	Ammude	304	56.5	8.5	35
2	Boka	194	44.4	10.2	45.4
3	Dewarro	430	64.5	5.3	30.2
4	Hula-Arba	192	50.8	9.2	40
5	Sheka-sherera	295	32.5	7.8	59.7
6	Tior-Moye	175	35	8.7	56.3
	Total	1590			

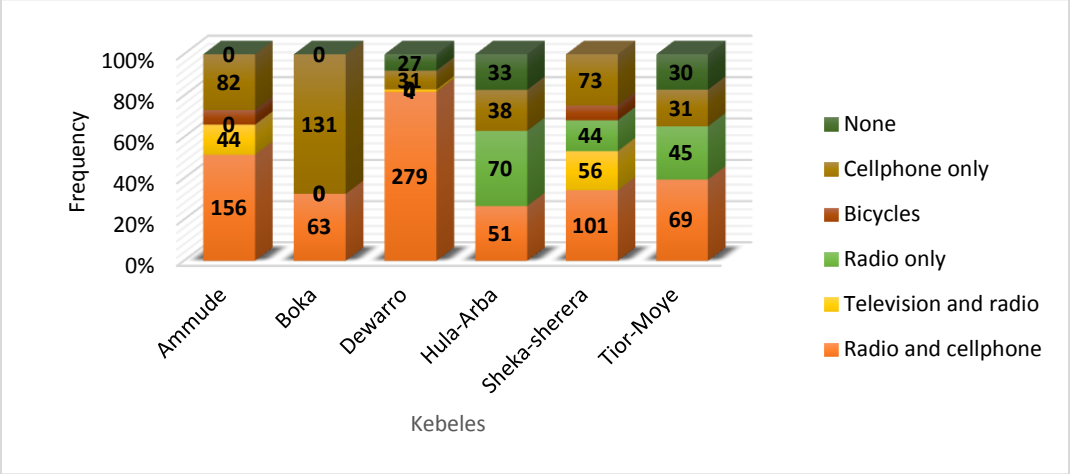
Source: Computed from baseline survey (September 2018)

Basic Communication Asset

Cellphone/ mobiles/ and radio were the most widely used means of communication tools in all kebeles, although significant difference was observed between kebeles. About 45% of the households have cellphone. The highest cellphone usage is in Boka with about 67.5%. The national cellphone ownership rate is about 56%. However, there is also urban-rural vibration. While it is 88% urban area, rural household cellphone ownership is 47%.[16] The cellphone ownership in the survey kebeles is almost equal to the national rural household ownership rate.

Ownership of television is influenced by availability of power. Television ownership is concentrated in Ammude and Sheka-Sherera kebeles due to grid electric power supply service; nevertheless, TV ownership is very low overall.

Figure 18: Means of information and communication tools



Source: Computed from baseline survey (September, 2018)

Security Service

When looking at security services in the kebeles, community police and local armed lia[17] in all kebeles are chiefly safeguarding community in conjunction with community participation. At woreda level security service provision is entirely depends on woreda police station and there is one police station per woreda. The

[16] 2016 National DHS data.
[17] Amharic word for paramilitary

woreda policies have close supervision and monitor the area to maintain safety of the people and ensure peace and stability at sustainable manner. It is important to note that the woreda police stations are located in urban and semi-urban areas and don't cover all the kebeles within the woreda. At Kebele level, there are locally organized militia and community policy that provide security services. The recruitment and selection process of the community polices and militias don't follow any clear procedure but the community members select the individuals in collaboration with the woreda police. The woreda police then train them. In some kebeles there is one trained police office assigned to support the militias but this is not the case for all kebeles. The numbers of militias differs in each Kebele but are between 15 to 40. The militias are supposed to report to woreda police on incidents of violence and other criminal activities.

IV-1.2.8. Access to Energy

Access to modern and clean energy is low in Ethiopia. Based on the 2016 national data, although 87% households in small town use electricity as their main source of light, only 7% in rural areas use electricity as their main source. Wood or biomass is a major source of fuel for cooking in both rural and small town. However, the difference is that most of the rural household collect fuel wood themselves while most households in small towns purchase fuelwood. Charcoal is not common in rural areas and about 15% of rural households use crop residue and manure/ cow dung for cooking.

During the baseline, respondents were asked to list their main sources of energy for lighting and cooking purposes. Accordingly, majority of the households in the survey kebeles or about 59% use a mix of kerosene and hand-held battery for lighting. About 18% also reported that they use hand-held battery as their only source of energy for lighting and additional 15% of households use solar lantern. Only about 14% of the households have access to gird connected electricity. Grid electricity is available in Sheka-Sherera kebele (62%) and Ammude (20%). Boka, Dewerro, Hula Arba and Tiro-Moye don't have access to grid connection.

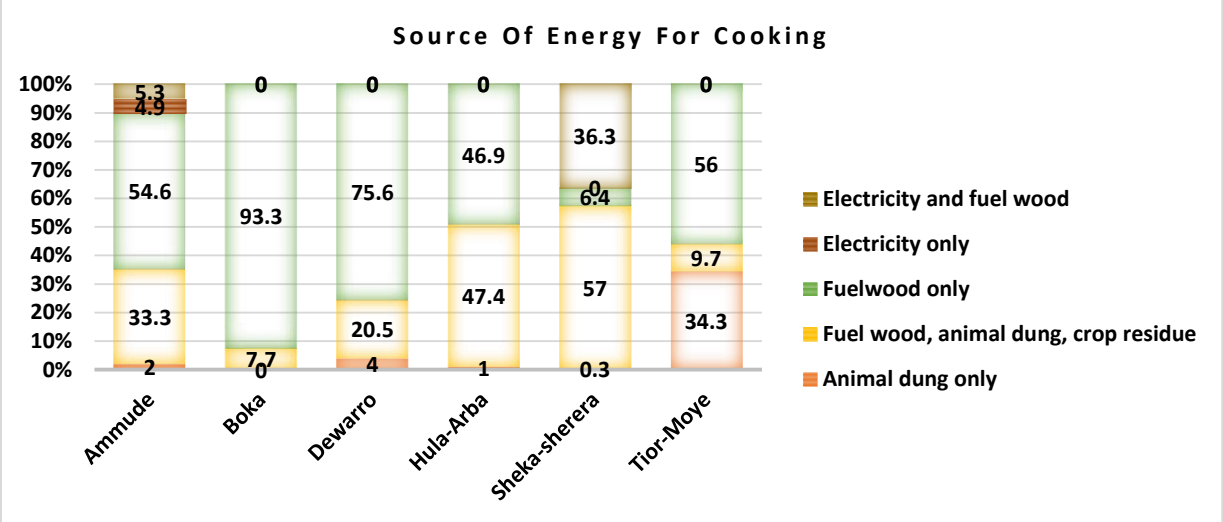
Table 16: Households source of energy for lighting

Wereda	Sampled kebeles	No of sampled HH	Household energy source type for lighting %									
			Solar lantern		Kerosene and battery		Hand held battery only		Electricity		Kerosene and fuel	
Dodota	Ammude	304	54	17.8%	19	6.3%	170	55.9%	61	20.1%	-	
Z-dugda	Boka	194	42	21.6%	69	35.5%	47	24.2%		-	39	20.6%
Adama	Dewarro	430	41	9.5%	358	83.3%	31	7.2%		-		-
Z-dugda	Hula-Arba	192	33	17.1%	150	78.1%		-		-	8	4.4%
Hitosa	Sheka-sherera	295	16	5.4%	59	20%	36	12.2%	184	62.4%		-
Hotosa	Tior-Moye	175	29	16.6%	35	20.0%	22	12.6%			89	50.9%
	Total	1590	232	14.6%	643	40.5%	286	18%	217	13.7%	200	12.6%

Source: Computed from baseline survey (September 2018)

Woody biomass is largely the main source of cooking and is used by about 56% of the households. This is followed by combination of fuelwood, animal dung and crop residue, which is used by about 29% of the households. Electricity and fuel wood is used by about 6.9% of households and animal dug only by 6.8%. As indicated in the figure below mix of fuel wood, animal dung and crop residue are widely used in all kebeles. Electricity and fuelwood are the main sources of energy in Shake-Sherera kebele as it is located close to Eteya town. Animal dung is used most as source of energy in Tero Moye kebele.

Figure 19: Sources of energy for cooking



Source: Computed from baseline survey (September 2018)

The study also looked at the consumption level of households and energy requirement for cooking and lighting purposes. As shown in the table below, significant number of the respondents spend less than 300 Ethiopian Birr (ETB) per month for energy. Less than 5% spend between 300 and 600 Birr per month for energy.

Table 17: Energy consumption expenditure

S/N	Sampled kebeles	No of samples HH	Percentage of Energy consumption per month in ETB			
			<300ETB	300-600ETB	>600ETB	Don't Know
1	Ammude	304	93.1	6.9	-	-
2	Boka	194	97.9	0.5	-	1.0
3	Dewarro	430	94.4	4	-	2.1
4	Hula-Arba	192	71.1	2.1	-	14.1
5	Sheka-sherera	295	93.2	-	-	6.8
6	Tior-Moye	175	85.7	8.5	-	5.7
	Total	1,590				

Source: Computed from baseline survey (September 2018)

Households Social Network or Iddir

Iddir in Ethiopia is an ancient mutual help association experienced in both rural and urban settings. Survey respondents reported that iddir has been playing a key role specially in helping families in time of different shock, such as death, illness and other problems. During these difficult times, iddirs provide money collected from members. As indicated in the table below, iddir association is organized as either mixed male and female or single gender (male or female only).

Table 18: Households Iddir Membership.

S/N	Sampled kebeles	No of samples HH	Household belongs to social relation (Iddir) %		
			Male and female together	Male	Female
1	Ammude	304	100	-	-
2	Boka	194	69	15.4	15.6
3	Dewarro	430	82	8	10
4	Hula-Arba	192	54.7	15.6	29.7
5	Sheka-Sherera	295	67	14.7	18.3
6	Tior-Moye	175	87	5.4	7.6
	Total	1590	76	9	15

Source: Computed from baseline survey (September 2018)

The finding of the survey is that, most of households or about 76% are members of idders where both male and female are members. About 15% of the women are

members of female only idder. 30% of the women in Hulu Arba are members of female only Iddir.

Ikub is another form of self-help association commonly practiced in rural and urban dwellers for financial access. However, ikub is non-existence in the area due to the dominance of Islam and most of the habitant are followers of Islam religion. According to the Islam religion, interests or other forms of financial gain isn't allowed and thus ikub isn't widely practiced in the area. However, small community members in Sheka-Sherera have ikub.

IV-1.3 Livelihood Economic Activity

IV.1.3.1. Crop type grown by the households

Ethiopia's agro-ecological zone classification relies on altitude and temperature and based on this classification the country has five climatic zones. The project area is located in the low and temperate agro-ecological zone.

The Arsi Zone is divided in to four agro-climatic zones as well. These are lowlands (29%), mid altitudes (27%), highland (40%) and frost (4%). The average temperature ranges between 10-25°C and also receives rainfall twice per year (belg and meher seasons) and has an average of 800-1200mm. The land use pattern of the area is as follows: 43.6 % cropland, 17 % grazing land, 10.3 % forest and bush land and the rest 28.65 % for others. Crop production is the major economic activity followed by livestock. Petty trade and handicrafts are less common in all woredas.[18] Cereal crop production is predominant in the area followed by pulses, vegetables, oilseeds and fruit crops. The zone is referred as surplus grain producing areas in the country. Contrarily, some of the woredas such as Ziway Dugda are drought prone area and frequently affected by climate change which impacts crop production.

Based on the survey conducted, teff, maize and wheat are the major cereal crops grown in the area. The study asked participants to identify the varieties of crop they have grown during the last year. The majority of respondents or 38% indicated that they had grown teff and maize, an equivalent of 30% had grown wheat and maize, as well as wheat, maize and teff. About 28% had grown wheat only. Wheat production is concentrated in Sheka-Sherera. Pulse such as haricot beans are produced at a very small scale in Ammude Kebele.

[18] Seed Value Chain Analysis as a means for Sustainable Seed System: A case of farmers based seed production and marketing in Arsi Zone, Oromia Region. FAO. Fikre Mulugeta, Jemberu Eshetu and Olani Nikus.

Table 19: Crop type grown by the households

S/N	Sampled kebeles	No of samples HH	No of respondents reported crop type grown for last year 2009/10 E.C					
			Teff and maize	Teff only	Sorghum and haricot beans	Maize and wheat	Wheat, Maize and Teff	Wheat only
1	Ammude	304	106	91	61	76	0	0
2	Boka	194	71	7	0	47	46	0
3	Dewarro	430	159	80	0	66	33	0
4	Hula-Arba	192	153	0	0	172	15	0
5	Sheka-Sherera	295	0	0	15	0	42	238
6	Tior-Moye	175	34	0	0	26	56	59
	Total	1590	477	136	67	310	303	297

Source: Computed from baseline survey (2018)

Teff and wheat farm land in Tiro-Moye

Maize farmland in Hula-Arba kebele

IV.1.3.2 Crop yield by the households

Agriculture is the backbone of the Ethiopian economy. On average, crop production makes up 60% the sector's outputs, whereas livestock accounts for 27% and other commodities contribute 13% of the total agricultural value added. Small-scale farmers produce 94% of the food crops and 98% of the coffee, the latter being Ethiopia's leading export good. Agriculture also contributes about 38% of GDP and 85% of the country's export earnings. Five major cereal crop (teff, wheat, maize, sorghum and barley) cover one third of the total cultivated land in the country. However, teff has always accounted for the largest share of cereal area cultivated. Over the past five decades the share of teff has declined gradually, while the share of maize has increased by 7.8 percent. Growth in cereal production has been about

7 percent per year from in the past 10 year (with teff, sorghum, and wheat having the fastest annual growth rates), reaching an average production of 10.94 million tons of cereals per year.[19]

Smallholder farmers also dominate Ethiopia's agriculture sector. The Central Statistical Agency (CSA) classifies smallholder farms as those farming in less than 25 ha.[20] The majority of farmers in Ethiopia are smallholder farms, producing mostly for own consumption and generating only a small-marketed surplus. Smallholder farmers cultivated 12 million hectares of land or 96.3 percent of the total area cultivated. When looking at crop productivity of smallholder farmers, it is important to note that soil fertility level, soil moisture retention capacity, climate variability such rainfall and temperature as well as use of appropriate input and technologies affect crop yield. Quality of seeds use as well as farming practices also influence yield.

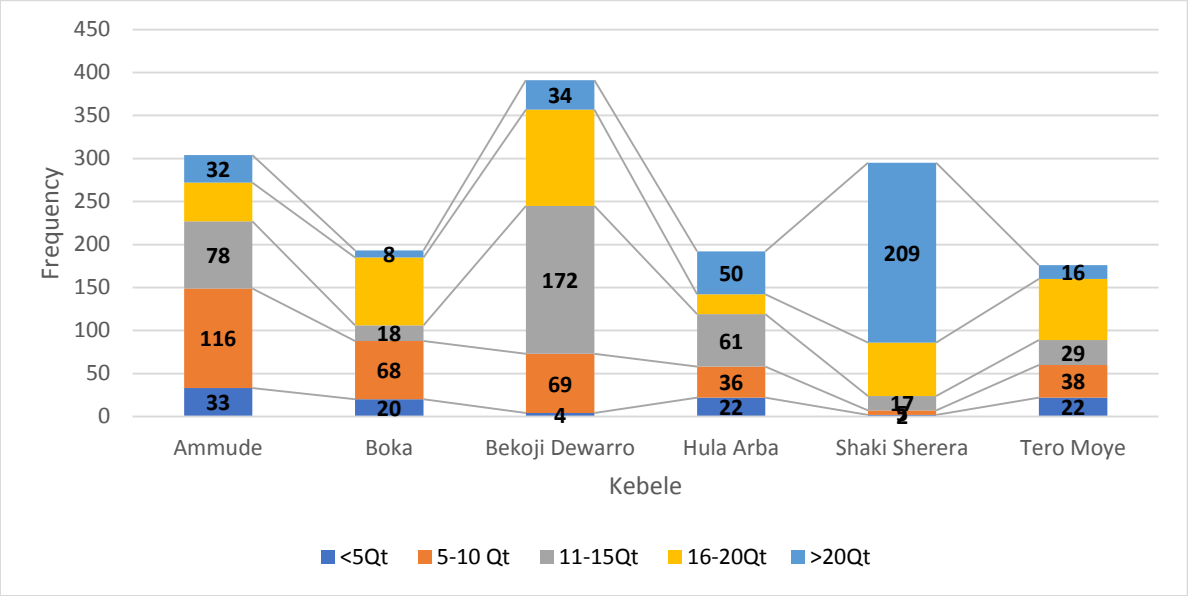
Based on the survey assessment, about 25.8% of households produce between 16-20 quintals of crop annually and about 21% produce 10-15 quintals of crop annually.[21] An equivalent number of 21% produce above 20 quintals of crop annually. The majority of the farmers producing above 20 quintal (71%) are in Sheka-Sherera Kebele. Farmers in Ammude, Boka, Hula-Arba, Dewarro and Tiro-Moye that constitute about 11% each, produce between 5 and 10 quintals annually. Overall about 31% of the respondents have crop yield of less than 10 quintals annually, which implies that household are food insecure.

[19] Crop production in Ethiopia: Regional patterns and trends Summary of ESSP working paper 16 Taffesse, Alemayehu Seyoum; Dorosh, Paul A.; Asrat, Sinafikeh International Food Policy Research Institute (IFPRI); Ethiopian Development Research Institute (EDRI) Addis Ababa, Ethiopia 2015-04-25

[20] Ibid

[21] The productivity of crop is calculated quintal (100kg) per hectare.

Figure 20: Annual crop yield



Source: Computed from baseline survey (September 2018)

The secondary data obtained from Eteya Woreda Bureau of Agricultural shows that post-harvest crop yield is slightly higher than the yield reported from the survey participants. Though the yield result is available for different crops produced in the kebeles, when the average is taken, Sheka Sherea Kebele still has the largest yield while Dewarra and Hulu Arba has the lowest yield. Yield of maize and wheat is also high followed by teff.

Ethiopia's national yield for teff is 15qt per hectare, maize is 40qt and wheat is 32qt[22]. However, the wheat output in central and east-central Oromia is about 40qt, which is relativity high, and the area is referred as wheat belt region. Compared to the national and regional average, about 65% of the farmers in the survey area produce less than the national average while a small portion, particularly farmers of Sheka Sherea Kebele produce above the national average.

[22] Central Statistics Authority 2014/15 Data

Table 20: Agricultural Productivity in quintal/ha of recent years (2009/10 or 2010/11) E.C

S/n	Kebele	Haricot beans	Maize	Teff	Sorghum	Wheat	Barley	Faba bean
1	Ammude (2009/10) E	11	33.6	15	24.3	26	24	N/A
2	Boka (2010/11)	16	36	16	16	44	20	16
3	Dewarro (2010/11)	16	28	12	12	24	14	N/A
4	Hula-Arba (2010/11)	16	40	12	16	40	20	10
5	Sheka-Sherera (2010/11)	24	42	22	32	45	N/A	32
6	Tiro-Moye (2010/11)	19	44	24	26	40	N/A	N/A

Source: Eteya Woreda agricultural office (December 2018)

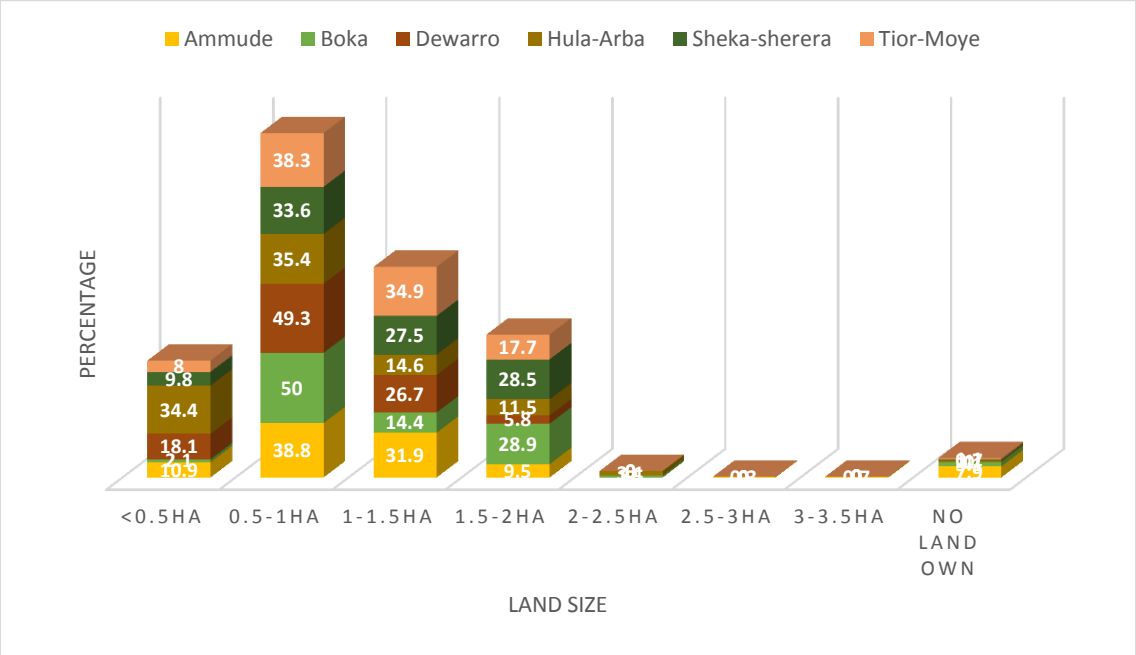
IV.1.3.3 Size of Land holding

It is widely known that, in rural Ethiopian land deemed the most vital asset to maintain agricultural activities. The main source of income for rural population comes from land and it is one of the primary factors to ensure households food security. The survey sought to captures the distribution of land in the study area. The distribution of land was classified in five group categories for ease of understanding.

The size of the land owned by the respondents varies from less than five hectare to greater than two hectares. Through Government of Ethiopia, Central Statistic Authority define smallholder farmers as those who have less than 25 ha of land, none of the farmers in the area own land more than 2 ha.[23] The finding has revealed that 1,526 or 96% of the respondents own land, which are less than 2 ha. About 870 or 54.7% of the respondents own land which is equal or less than 1 hectare of land. This small size of land implies difficult of producing enough food to feed a family of six individuals. It was observed that the majority of landholding size falls in group 0.5-1 hectare. When the data is broken down by kebeles, it is as followed: Boka 50%, Dewarro 49.3%, Ammude and Tiro-Moye about 38% and in Hula-Arba and Sheka-Sherera kebeles 35.4% and 33.6% respectively.

[23] FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA CENTRAL STATISTICAL AGENCY LARGE AND MEDIUM SCALE COMMERCIAL FARMS SAMPLE SURVEY 2014/15 (2007EC) RESULTS AT COUNTRY AND REGIONAL LEVEL VOLUME VIII. STATISTICAL REPORT ON AREA AND PRODUCTION OF CROPS, AND FARM MANAGEMENT PRACTICES ADDIS ABABA AUGUST, 2015

Figure 21: Percentage of Households land holding size distribution



Source: Computed from baseline survey (September 2018)

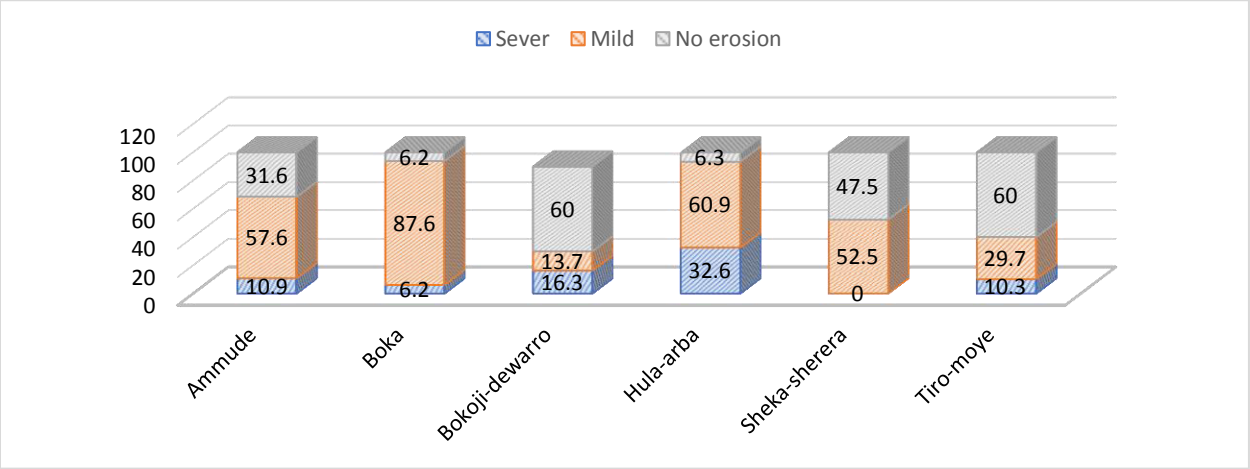
On the contrary it was reported 2.76% of the respondents have no land for farming. The majority of the landless are in Ammude Kebele. Landless individuals practice farming through renting or sharecropping to grow crops at the same time are engaged in non/off-farm activities.

Some households also indicate that they are engaged in farming through renting or sharecropping despite having land. About 5.6% households in Ammude, 2.1% in Boka, 28% in Sheka-Sherara and 13.7% in Tiro-Moye kebeles farm land either by renting or sharecropping.

IV-1.3.4 Agricultural production challenges

Agricultural production is challenged by environmental factors such as climate change, soil erosion and pesticides. Presence of soil erosion directly affects soil fertility through removal of topsoil. In this baseline assessment, the survey also captured the level of soil fertility; rate of erosion and conservation practices adopted in sampled households based on their perception without conducting soil fertility test and erosion rate analysis.

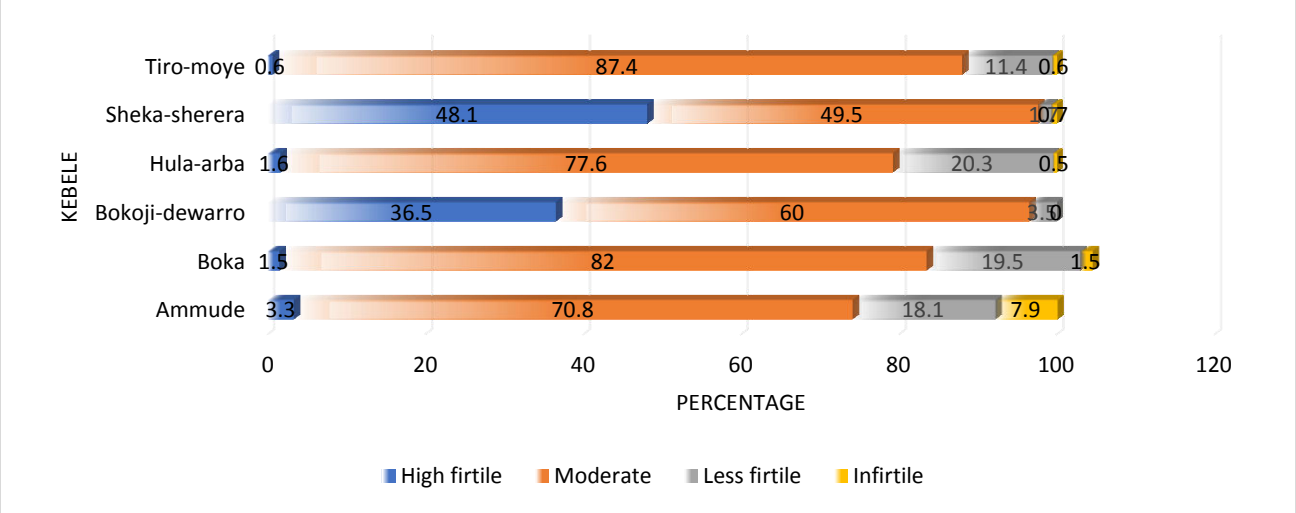
Figure 22: Soil Erosion level



Source: computed from baseline survey (September 2018)

As clearly shown in the above figure mild level soil erosion was reported in all kebele, the highest in Boka with 87.6%, followed by Hula-Arba and Ammude 60.7% and 57.6% respectively. About 74% of the households also indicated that their farmland is moderately fertile, Tiro-Moye has the highest with 87.4%, Boka 82%, Hula-arba 77.6%, Ammude 70.8% Dewarro 60% and 49.5% in Sheka-Sherera. Highest fertile and moderately fertile land is concentrated in Sheka-Sherera with almost 90% of the land being fertile. Sheka- Sherera Kebele also has the highest crop yield and productivity, which is associated with soil fertility.

Figure 23: Soil Fertility level



Source: Computed from the baseline survey (September 2018)

Soil Conservation Practice

Conservation and proper management of land resources have great impact in agricultural production and environmental protection specially in protecting soil erosion on farmland. Households were asked on the type of conservation practices they apply on their farmland. The table below shows the different practices reported by the respondents. The most commonly used practices are soil and stone band, which is applied in all kebeles and at household level. Soil bund practices constitutes about 99.5% in Dewarro, 85% Sheka-Sherera, 83% in Hula-Arba, followed by Tiro-Moye, Ammude and Boka. Planting trees is not widely practiced except in Boka by about 21.6% of households.

Table 21: Distribution of soil conservation practices by the households

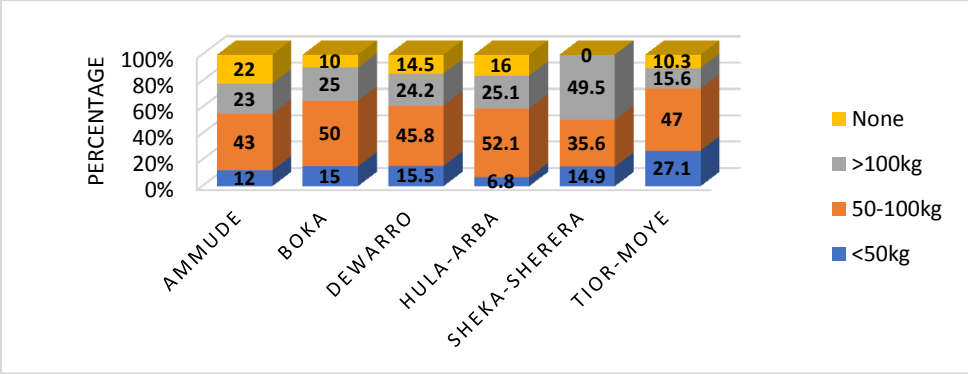
S/N	Sampled kebeles	No of samples HH	Soil conservation type in %						
			Stone bund	Soil bund	Grass strip	Water way	Planting trees	others	none
1	Ammude	304	21.7	50.7	12.2	2	3.6	3.6	6.3
2	Boka	194	10.3	51.5	3.6	8.8	21.6	2.1	2.1
3	Bokoji Dewarro	430	-	99.5	-	0.5	-	-	-
4	Hula-Arba	192	1.0	83.6	-	4.2	7.3	3.1	0.5
5	Sheka-sherera	295	-	85.4	3.1	0.3	-	10.5	0.7
6	Tior-Moye	175	10.9	61.7	2.9	22.9	1.1	-	0.6
	Total	1590	9.1	72.06	4.6	7.5	7	4	1.8

Source: Computed from the baseline survey (September 2018)

Artificial fertilizer utilized

Use of fertilizer increases agricultural production and the practice has also been rising in the country. The baseline assessment looked at amount of fertilizer consumed by the households for the year 2009/10 E.C. As shown in the figure below, fertilizers consumption at the household across the kebeles was significantly different. Hula-Arba has the lowest use with 6.8% of households using less than 50kg, to the highest of about 49.5% using greater than 100kg in Sheke-Sherera. It is important to note that Sheka Sherera also has the highest productivity. Most of the participants reported fertilizers use between 50-100 kg. About 12% survey participants don't use fertilizers due to price, which they indicate as being too expensive.

Figure 24: Level of artificial fertilizers



Source: Computed from baseline survey (September 2018)

Crop production, agricultural and environmental challenges were also identified through focus group discussions. The participants noted that environmental hazards such as flood, frequent drought, deforestation for fuel wood and charcoal production, soil erosion, crop disease mainly worms (locally named as *Wag*) and crop weeds, are common in all kebeles. Discussants indicated that flood coming from highland (Hitosa) had previously damages crop fields and displaced people living in flood vulnerable area such as Dawarro and Boka kebeles. In 2017/18 farming cycle, rainfall declined and farmers expect that crop production will be deteriorating. Crop disease is serious problem and farmers are expected to spray their crop fields 2-3 times. The main challenge they expressed is the high cost of chemicals and pesticides (800 Ethiopian Birr/liter for weeds and 1000-3000 ETB /liter for Wag). In addition, they also mentioned that sometime the chemicals and pesticides are ineffective. Focus group participants also indicated that that flood hazard is still a major threat in all kebeles during rainy season. There is also an erratic rainfall experienced in almost all kebele (relatively better in Shaki-Sharera). On the other hand, remedial actions such as tree planting have been implemented successfully.

Female and Male FGD in Sheki-Sherera kebele

IV.1.3.5 Livestock Assets

Recent Central Statistical Agency (CSA) data shows that the total cattle population of Ethiopia is about 52 million, of that about 24.2 million are sheep and 22.6 million are goats, poultry population is estimated to be about 45 million chickens. The livestock sector contributes 19% of the GDP, and 16–19% of the foreign exchange earnings of the country. From the agriculture sector, it contributes some 35%.[24]

Livestock holding and rearing is one of the livelihood means for households in the project area. Based on the survey conducted, plough oxen, heifer, cows and donkey are owned by most of the households. Tiro-Moye, Dewarro, and Sheka-Sherera households own most of these animals. Sheep and goats are also owned by some households but in a smaller proportion in three Kebeles: Hula-Arba, Tiro-Moye and Boka. About 21% of the respondents do not own any livestock and most of the household with no livestock are in Sheka Sherera, which also has the most fertile and productive land. It is possible to conclude that most of the households in Sheka Sherera are engaged in farming rather than livestock rearing. It is also important to note that the households that own livestock are also engaged in farming and that there are no households that exclusively relay on livestock for livelihood.

Table 22: Type of livestock owned by the households

Sampled kebeles	No of samples HH	No of respondents owned livestock								
		oxen, sheep, goats only	oxen plough, sheep and donkey	Sheep and goat only	Oxen plough, cows, donkey	Oxen plough heifer and cows, donkey	Goat, poultry only	Cows, horse, poultry	Oxen plough only	No livestock
Ammude	304	15	14	-	91	82	24	-		82
Boka	194	-	45	19	44	60	-	-		26
Dewarro	430	26	52		43	215	9		21	64
Hula-Arba	192	29	59	15	-	33	-	-		56
Sheka-sherera	295	-	44	-	35	103		9	-	104
Tior-Moye	175		52	14		88		-	8	18
Total	1,590	68	306	68	197	556	25	2	25	334

Source: Computed from the baseline survey (September 2018)

[24] Ethiopia livestock sector analysis Developed by the Ethiopia Ministry of Livestock and Fisheries and the International Livestock Research Institute Livestock master plan team October 2017 Barry I Shapiro1 , Getachew Gebru2 , Solomon Desta2 , Asfaw Negassa1 , Kidus Nigussie3 , Gezahegn Aboset3 and Henok Mechale

Most of the livestock owners reported that lack of livestock feed, severity of water shortage and disease. There is also lack of veterinary services in the area. Shortage of water and feed constituted about 52% and 37% respectively of the challenge in the study area. In all kebeles water shortage was reported as a primary problem followed by feed deficiency.

Table 23: Major challenges of livestock production

Woreda	Kebele	HH who own livestock	Major livestock Challenges		
			Shortage of Feed	Shortage of Water	Disease due to lack of veterinary services
Dodota	Ammude	226	120	160	24
Ziway Dugda	Boka	168	57	120	17
Adama	Bekoji Dewarro	366	182	230	18
Ziway Dugda	Hula Arba	136	54	114	24
Hitossa	Shaki Sherera		120	135	40
Histossa	Tero-Moye	191	65	68	42
	Total	**1249**	598	827	165

Source: Computed from baseline survey (2018)

IV-1.3.6 Households Farming assets

The study also looked at ownership of farming tools and as shown in the table below most households own farming tools. Winnower, plough and yoke are owned by about 55.2% household followed by plough and yoke by about 32.3% of households. Manual chemical spray and winnower are owned by less that 5% of households. However, about 15.4% of the households indicated that they don't own any farming tools. Farming tools constraints has its own impact in productivity in the course of farming and after harvesting.

Table 24: Respondents possession farm tools and machinery

S/N	Sampled kebeles	No of samples HH	Respondents owned type of tools and machinery by %					
			Winnower	Plough and Yoke	Winnower, plough and yoke	Manual chemical spray	Generator	None
1	Ammude	304	1.6	69.1	-	0.3	0.3	28.6
2	Boka	194	2.6	7.7	77.8	5.7	-	6.2
3	Dewarro	430	11.2	7	52.3	5.3	-	24.2
4	Hula-Arba	192	4.2	29.7	49.5	3.1	-	13.5
5	Sheka-sherera	295	-	18	82	15.4	-	-
6	Tior-Moye	175	2.9	62.3	14.8	5.4	-	4.5
	Total	1590	3.7	32.3	46	5.8	-	12.8

Source: Computed from baseline survey (September 2018)

IV-1.4. Households sources of income and expenditure

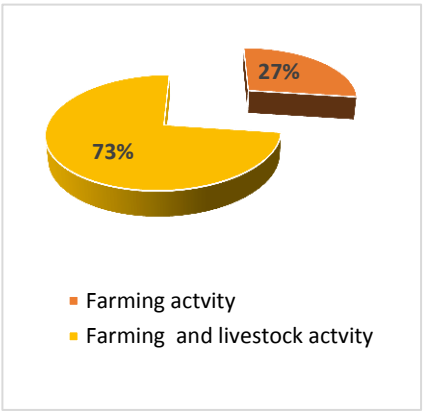
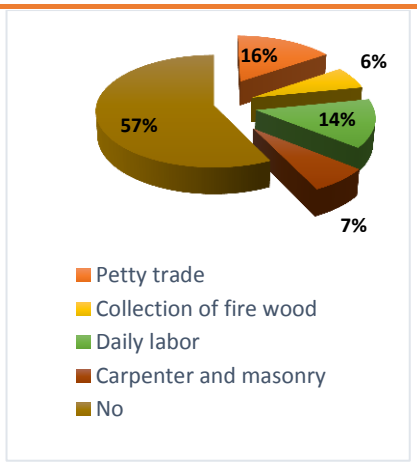
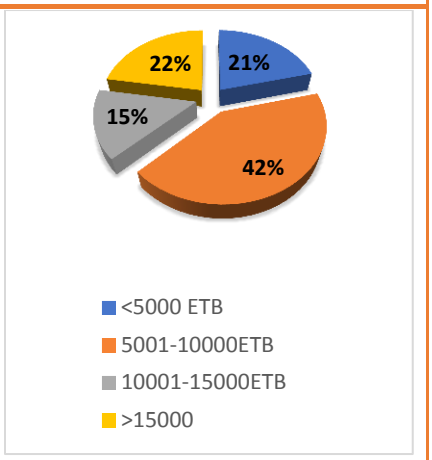
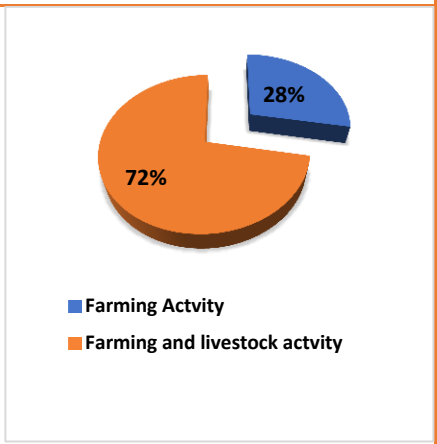
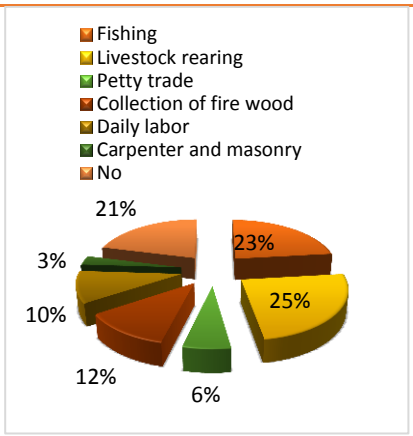
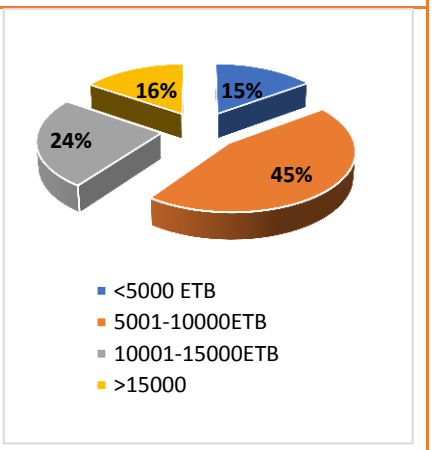
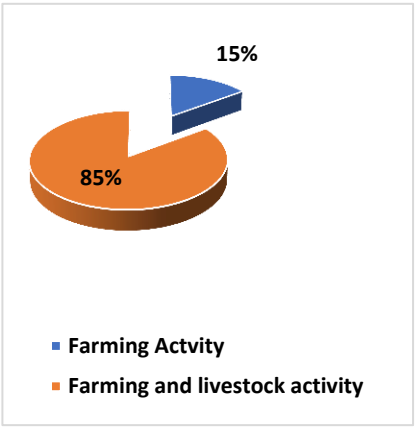
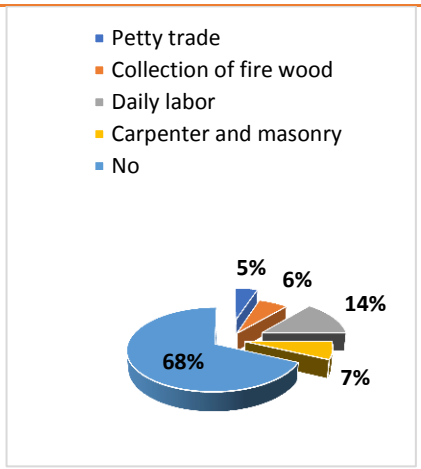
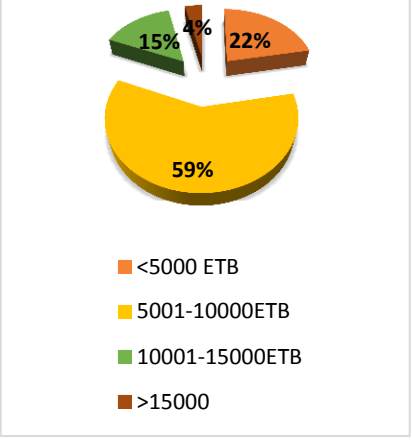
IV-1.4.1. Sources of Income

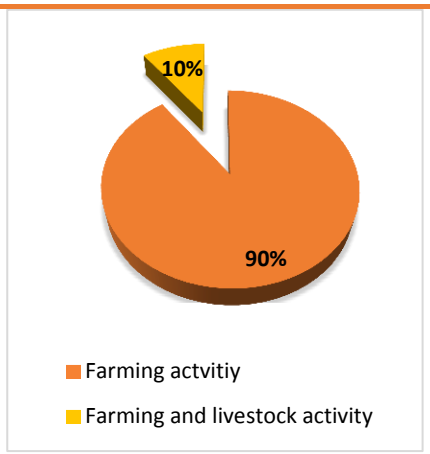
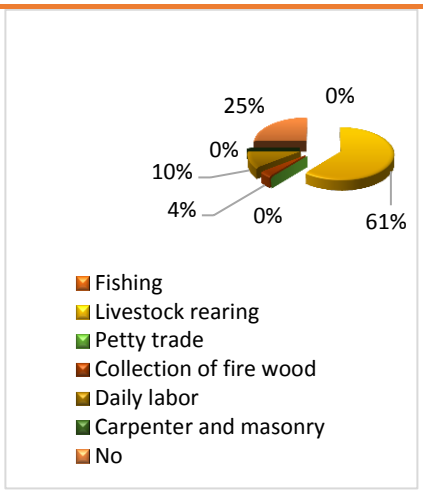
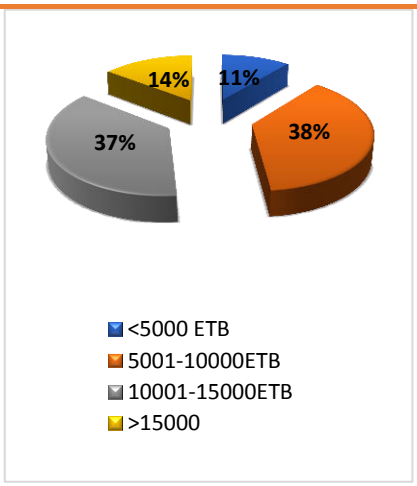
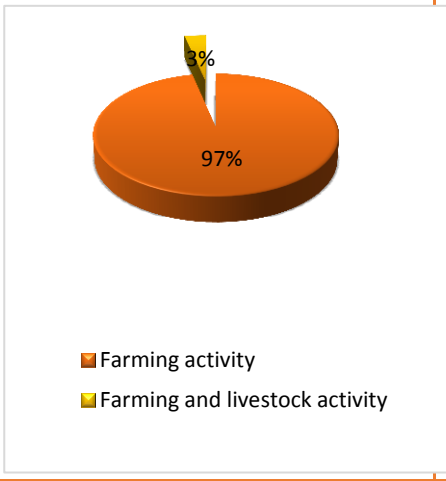
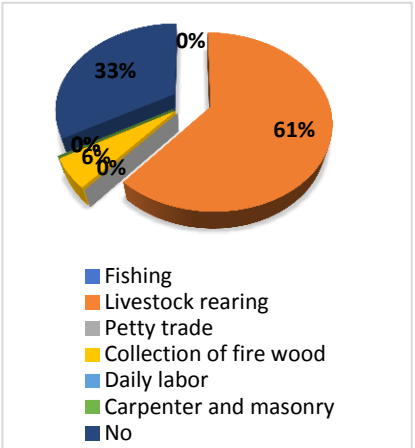
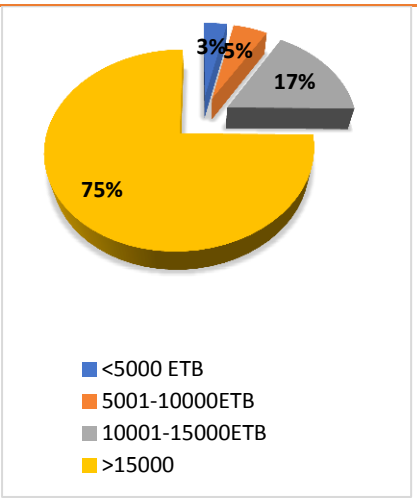
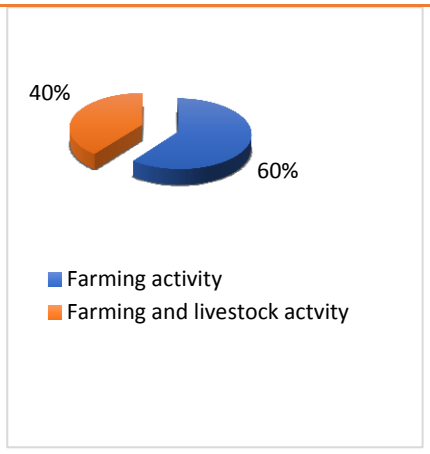
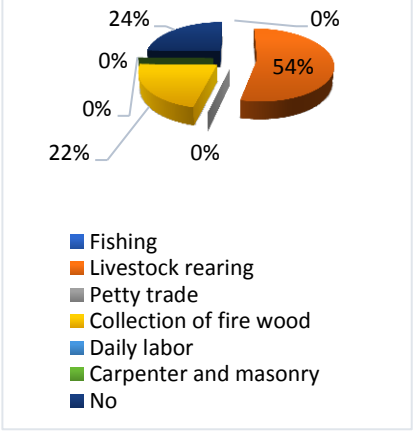
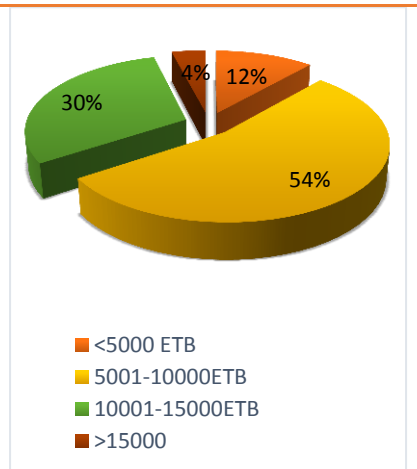
Agricultural practice is the main sources of livelihood for households in the area. In addition, the agriculture is entirely dependent on rainfall during the main rainy season (Meher) and restricted to growing largely cereal and few pulses crops. The area is characterized by moisture stress, high variability of rainfall and most vulnerable to repeated drought. The main and minor sources incomes in each sample kebele are presented in figures (25) below.

Respondents stated that mixed farming and livestock activities are the major source of income for Ammude (73%), Boka (72%), Dewarro (85%). Farming is a key activity in Hula-Arba (90%), Sheka-Sherera (96%) and Tiro-Moye (60%). Off-farm activities account for about 22% in the area. These include petty trade (3.6%), daily labor (7.3%), fire wood collection (8.9). About 35% of the respondents are not engaged in any off-farm activities.

About 40.5% of the households are in income group of 5001-10,000 ETB annually. About 23% are in 10,001-15,000 and a smaller number or 22% above make aober 15,000 per year. 75% of the respondents in Sheka Sherea kebele earn over ETB 15,000 from farming activities and the Kebele has the wealthiest households.

Figure 25: Major and minor sources of income during the year 2009/10 E.C

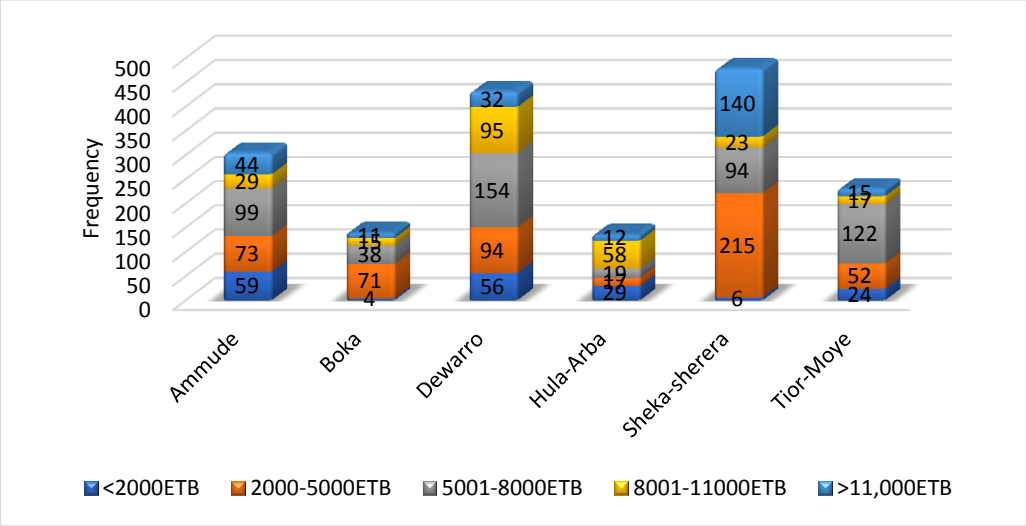
kebeles	Major sources of income %	Minor sources of income%	Annual income in ETB
Ammude			
Boka			
Dewaro			

kebeles	Major sources of income %	Minor sources of income%	Annual income in ETB
Hula-arba			
Shaki-shera ra			
Tiro-moye			

IV.1.4.2. Households expenditure

Household's expenditure has predominantly focused on non-food items. As households get their food consumption from their farm production, they tend to spend their income on non-food items. The non-food expenditures are mostly for school, health, transport, social relation, clothes etc. As the figure below shows, households spent between 5,001-8,000ETB annually on non-food items. The highest expenditure was reported in Boka. On average 890 or 56% of respondents spent between 2,000-8,000ETB and 31% of them spent greater than 8,000ETB, about 10% spent less than 2,000 ETB. Highest expenditure above 11,000ETB was reported in Sheka-Sherera Kebele.

Figure 26: Households expenditure for the year 2009/10 E.C



Source: computed from baseline survey (September 2018)

IV.1.4.3. Household wealth status

Respondents were also asked to express their wealth status based on their perception during the survey. Most of them or about 40% group themselves as middle income, followed by poor (35.33%) and very poor (22.6%). Only about 3% think of themselves are wealthy. A significance difference is also observed across kebeles. Respondents were asked to explain about income change for the last two years and a significant number of them indicated if their income has changed. However, households in Sheka Sherera signaled that they have seen an increase in their income.

IV. 1.4.4. Commodity market price

The commodity prices of major food and non-food items was assessed on market center found in nearby areas such as Eteya, Dehera and Haboura towns to capture information on the characteristic of the market, size, facilities, goods and commercial services traded. As indicated in the table below, selected retail price items of major stable cereals, livestock, construction materials etc., was also collected for various seasons in Dehera town market. For others market commodities prices list are attached in the Annex.

Market commodities in all three markets area are predominantly linked with socio-economic characteristics of inhabitants living there. Most packed or processed food and electronic materials like TV and radio are not available in the area. All the three market areas assessed are characterized by having shelter (shades) and non-shade market. However, they don't have electric and water facilities within the market center. Dehera market center is relatively better than Eteya and Haboura town market centers as it has stores which is also connected grid electric power. Furthermore, Dehera livestock market is deemed to be the second largest livestock market center in Arsi-Zone in terms of influx of livestock trade but it doesn't have basic utilities except being fenced by wall and gate.

Dehera town Market Place with and without shade as well as fenced livestock market (December 2018)

Table 25: Commodity Market price list for Dehera town market area

Product Market	Items	Unit	Current market price in ETB	High production season		Low production Season	
				Months	Amount in ETB	Months	Amount in ETB
Agricultural food crops	Teff(red)	Qt	2100	Oct-Feb	1700	Jun-Sept	2200
	Teff (white)	Qt	2500	Oct-Feb	2300	Jun-Sept	2500
	Maize	Qt	745	Oct-Feb	600	Jun-Sept	950
	Sorghum	Qt	940	Oct-Feb	650	Jun-Sept	1000
	Wheat	Qt	1320	Oct-Feb	950	Jun-Sept	1250
	Beans	Qt	1750	Oct-Feb	1200	Jun-Sept	1600
	Chickpeas	Qt	1950	Oct-Feb	1300	Jun-Sept	1800
Food and non-Food Items	Milk	Liter	18	Oct-Feb	18	Oct-Feb	18
	Cheese	Kg	N/A	Oct-Feb	-	Oct-Feb	
	Egg	Pieces	3.50	Oct-Feb	3.50	Oct-Feb	3.50
	Food oil	Liter	69	Oct-Feb	69	Oct-Feb	69
	Raw meat	Kg	190	Oct-Feb	140	Oct-Feb	160
	Red onion	Kg	16	Oct-Feb	12	Oct-Feb	22
	Garlic	KG	30	Oct-Feb		Oct-Feb	
	Potato	Kg	10	Oct-Feb	1.5	Oct-Feb	2.5
	Carrot	Kg	10	Oct-Feb	6	Oct-Feb	10
	Red paper	Kg	70	Oct-Feb	-	Oct-Feb	-
	Cabbage	Kg	9	Oct-Feb	-	Oct-Feb	-
	Pasta	KG	20	-	-	-	-
	Etc., See annex						
Livestock	Oxen	Per head	12169	Oct-Feb	11686	Oct-Feb	11000
	Sheep	Per head	2453	Oct-Feb	3494	Oct-Feb	3000
	Cow	Per head	8793	Oct-Feb	10500	Oct-Feb	8000
	Goat	Per head	2400	Oct-Feb	3700	Oct-Feb	3500
	Chicken	Per head	200	Oct-Feb	170	Oct-Feb	150
Rent	Bedroom in Hotel	Single	80				
	Room in compound	Single	400				
	House/with compound	Independent	1500				
Education fee	School fee	Per head	15				
	Exercise book	Piece	15				
	Students bags	Piece	150				
	Pen	Piece	5				
	Pencil	Piece	3				
	Eraser	Piece	5				
	Sharpener	Piece	6				
	Copy paper	Pack	!70				
Student clothing	Children uniform	Complete/student	450				
	Women		400				
	Male		700				
Construction materials	Reinforcement bar (10')	Pieces	N/A				
	Cement	Sack(50kg)	150				
	Window	Piece	1500				
	Door	Pieces	3000				
	Chair	Pieces	800				
	Blocket	Pieces	8				
	Construction sand	Cargo, $18m^3$	4000				
	Stone	M^3	111				
Labor	Daily labor	Daily rate	120				
Fuel wood	Wood	Bundle	100				
	Charcoal	Sack(big)	600				
Land rent	For growing vegetables	Kert(1/4 of hectare	3800-6000				

Source: Commodity market assessment (December 2018)

Eteya town market center

Haboura Town market center

Wood fenced Haboura livestock market center

IV-1.5. Gender Analysis

Gender analysis in study included examining roles and responsibilities of women in household work, farming and livestock activities, access to and control over land resources, exercises of decision-making during divorce and land utilization for both men and women.

IV-1.5.1. Households workload

When looking at household's workload distribution between men and women, there is a significantly different among households and across kebeles. While about 71% of female are engaged in water fetching, only about 7% male do the same work. Female do approximately 73% of flour grinding, while about 5.8% of male do the same work. About 62% of female are engaged in fuel wood collection and 11% of male do the same work. Childcare activities is done by women and only 7% of male shared this responsibility.

Table 26: Household work load by gender

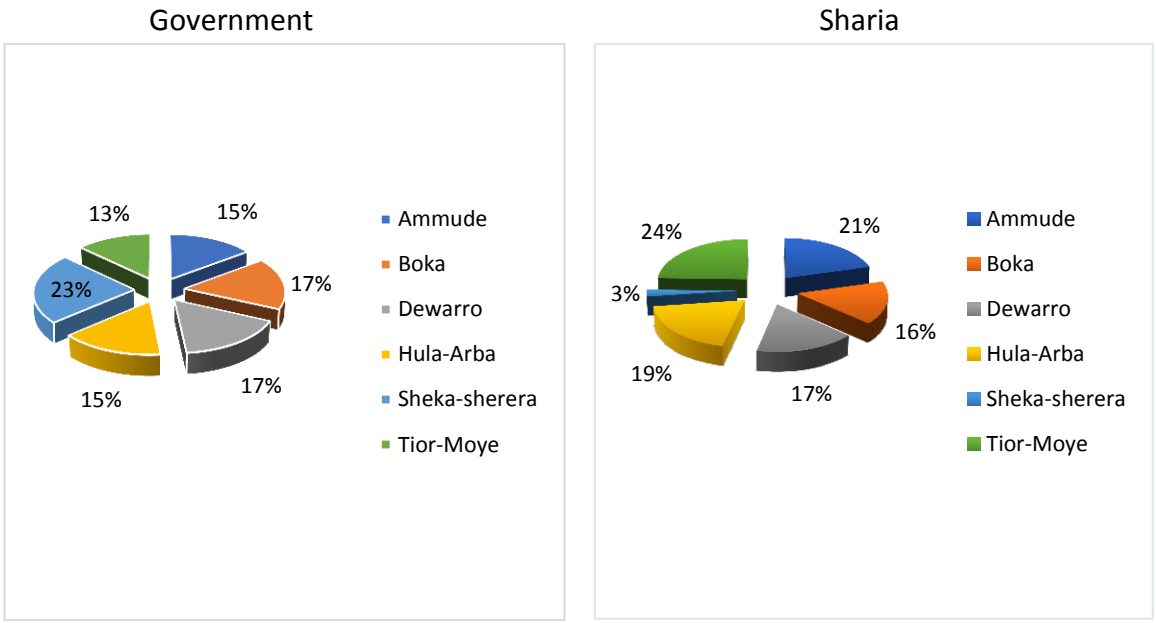
Sampled kebeles	No of samples HH	Total household work load %														
		Water fetching			Floor grinding			Fuel wood Collection			Child care			Livestock and farming activity		
		M	F	Both	M	F	Both	M	F	Both	M	F	Both	M	F	Both
Ammude	304	5	75	20	-	90	10	7	80.5	12.5	6	70.5	23.5	10	34.2	55.8
Boka	194	9	70	11	-	93	7	8	75	17	9	70.2	20.8	9	28	53
Dewarro	430	9	60.9	30.1	3.5	75	21.5	5	83	12	8	41.4	50.6	12	23	65
Hula-Arba	192	6	75	19	5.8	83	10.9	15	75	10	12	65	23	11	22	67
Sheka-sherera	295	-	82.2	17.8	6.7	34	59.3	22.7	7	70.3	-	49.3	50.7	20	15	65
Tior-Moye	175	9	65.7	25.3	19	63	18	11	52	37	9	55	36	25	20	55
Total	1590	6.3	71.5	20.5	5.8	73	21	11.4	62	26	7.3	58	34	14	23.7	60

Source: Computed from baseline survey (September 2018)

IV-1.5.2. Marriage and Women Preference to divorce

As indicated earlier, a significant number or 97% of the survey participants are married and most are headed by men. Civil marriage, traditional (Shiera) and family marriages are practices in the area. There are no monogamous or polygamous types of marriage in the area. In addition to marriage, the baseline also looked at divorce practices in the area; however, there is no local data available to capture status of divorce. National studies have shown that divorce now is growing in urban and rural area throughout Ethiopia. Current national divorce rate is 6% while rural divorce rate is 2.6%. Oromia Region has 1% divorce rate.[25] Survey participants were asked their preference for either government institutions (court) or sharia if they have to go through divorce. About 67% have indicated that they prefer government institution while 33% prefer Sharia.

Figure 27: Institutional Preference for women divorce



Source: Computed from baseline survey (September 2018)

[25] Ethiopia Rural Socioeconomic Survey (ERSS)

IV. 1.5.3. Land holding source and certification

The Federal Democratic Republic of Ethiopia (FDRE) Constitution indicates that land is a common property of the government and shall not be subject to sale or other means of exchange. On the basis of the mandate given from FDRE and Federal Rural Use and Land Administration Proclamation (2005), regions can perform land administration activities like land certification for those holding land and provision of land for landless people.

Based on the assessment, most of the households own land certication. A significant number of them have benefited from Land Investment for Transformation or LIFT Programme. LIFT is 6.5 years (2014 to 2020) Programme funded by the Department for International Development of the United Kingdom (DFID) working in the land certification. As shown in the table below (28), 74% of the respondents indicated that they possess land certification, irrespective of the size of the land. Out the total of 23% of households who don't have land certificate, 62% of them are located in Hula Arba kebele.

Most of the households reported that they obtained there holding through inheritance from their parents and small number g from the government. In Boka and Hula-Arba kebeles more than 91% inherited their land. Dewarro and Sheka-Sherea have the largest number of households who received land from government.

Table 27: Households land ownership sources and certificate distribution

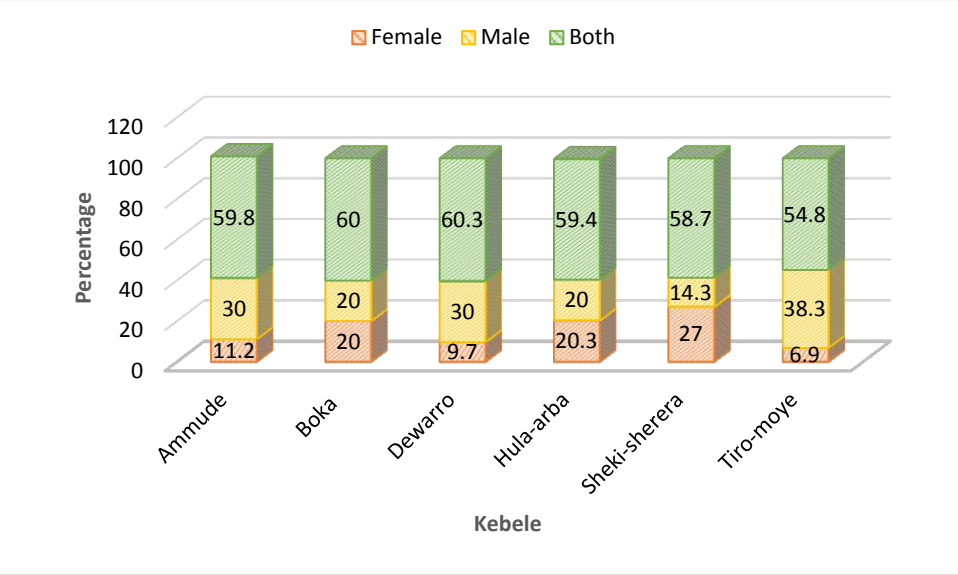
S/N	Sampled kebeles	No of samples HH	Sources of land %			Land certification		
			Government	Inherited	Land less	Certified	Not certified	Land less
1	Ammude	304	42.8	49.3	7.9	76	16.1	7.9
2	Boka	194	5.7	91.2	3.1	88.6	8.3	3.1
3	Dewarro	430	55.8	44.2	-	80.0	20.0	-
4	Hula-Arba	192	7.3	91.7	1.0	36.9	62.1	1.0
5	Sheka-sherera	295	66.4	32.9	0.7	97.9	1.4	0.7
6	Tior-Moye	175	22.3	76.6	1.1	65.8	33.1	1.1
	Total	1590	57.2	64.3	2.3	74.2	23.1	2.3

Source: Computed from baseline survey (2018)

IV.1.5.4. Land Title

The survey has also identified that the majority of the land certification has been issued to both the husband and wife. Land certification to female is the lowest in Tiro-Moye kebele and account for 7%.

Figure 28: Land titling by sex



A topic of land certification and ownership was raised during focus group discussion as well. Participants in all kebeles emphasized that population growth has aggravated shortage of land for youth and this has further contributed to deteriorate means of livelihood. As far as land certification is concerned, they indicated that all farmers have completed the requirement to get land certification; however, some have got certificate but the rest are waiting for their certificate.

They also confirmed that previously women were not allowed to inherit land from their parents due to cultural attitude. However, government land administration law which has given equal right for men and women has allowed women to own land and women now have equal right to men to inherit land from their parents. Women sometime go to formal court if they are refused to inherit land as per the law.

IV.1.6. Food security

The definitions of food security as explained by FAO (1996) is that "food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and health life." The study captured the overall picture about the sources of food, food intake by the households per day, months of the year when food shortage occurred and type of strategies taken by the respondents.

IV-1.6.1. Major and minor food sources

Households were asked whether the major and minor sources of foods were available from their own production or accessed from any other sources during last two years. The table below shows that crop production and livestock rearing are the main source of food for household. Crop production is reported as main source of food in Sheka- Sherera (97.2%), Hula-Arba (87%), Tiro-Moye and Dewarro (80%). Respondents look for alternative source when they are challenged to get enough food from their agricultural production. They address their food shortage through sale of livestock and livestock product. They also seek relief food aid and participate in food for work.

Table 28: Major and minor food sources of the households

S/N	Sampled kebeles	No of samples HH	Households major source of food %		Households minor food sources			
			Own crop production only	Own crop production and livestock rearing	Relief food aid	Own livestock product	Food for work	Fishing
1	Ammude	304	63.5	36.5	-	58	-	42.0
2	Boka	194	20.1	79.9	40.7	16	43.3	-
3	Dewarro	430	82	18	23.9	21.9	50.8	3.4
4	Hula-Arba	192	87	13	19.3	66.7	14.0	-
5	Sheka-sherera	295	97.2	2.8	-	100	-	-
6	Tior-Moye	175	82.3	17.7	18.3	74.3	5.7	1.7
	Total	1590	72	27.98	17	56.17	18.9	7.85

Source: Computed from baseline survey (September, 2018)

IV-1.6.2. Households food intake

Poverty and food insecurity are widely spread in rural Ethiopia and it is still the main challenges due to environmental degradation, erratic rainfall, soil fertility degradation, and population growth. Food insecurity is now further aggravated by

visible climate change impact, especially for smallholders' farmers who are entirely depend on rainfall.

As shown in figure below, the majority of the respondents are in food insecure area except Sheka Sherera Kebele where all respondents reported as having enough food throughout the year. This was also confirmed during Focus Group Discussions. Sheka Sherera Kebele also has suitable environment for crop production.

The survey shows that there are differences among households and across kebeles in terms of food intake per day. As indicated below, 74% of households eat twice a day and 40% eat three times per day. Likewise eating time focus on breakfast (38%) and dinner while normal eating three times a day (breakfast, lunch and dinner) constituted about 36%.

Figure 29: Households food intake per day and time of eating

Source: Computed from baseline survey (September, 2018)

IV-1.6.3. Period of food shortages and copping strategies

Respondents were asked to state in which of 12 months of the year they have difficulty satisfying food needs of the family. Most of the respondents indicated that food shortage is persistent during the months of June-August. Households has the least food shortage in the months of September to December which is also harvesting period. Respondents expressed that food shortage usually occurred due to lack of production from their own farmland. Moreover, they explained that lack of

infrastructure development (road, water, transport) aggravate the food insecurity as they can't access aid or attempt to purchase food.

Table 29: Months of food shortage

S/N	Sampled kebeles	No of samples HH	Months for Shortage of food %			Sale of asset in times of food shortage %	
			June-August	September - October	November - December	Sometimes	No
1	Ammude	304	100	-	-	78.9	21.1
2	Boka	194	91.8	2.1	6.1	15.4	84.6
3	Dewarro	430	76	19.4	5.6	92.1	7.9
4	Hula-Arba	192	72.9	8.7	19.4	42	58
5	Sheka-sherera	295	-	-	-	-	-
6	Tior-Moye	175	88	12	-		
	Total	1590	85.74	10.55	10.36	57.1	42.9

Source: Computed from baseline survey (2018)

Enquires were made to assess the coping strategies used by the households to overcome food shortage. As indicated in the table below, most households reduce food consumption to cope with shortage, followed by seeking support from relatives and friends.

Table 30: Copping strategies during shortage of food

S/N	Sampled kebeles	No of samples HH	Copping strategies during shortage of food %				
			Less preferred food, reduce intake and skipping meal	Reducing food intake and skip meal	Use of credit for consumption	Sale labor	Relative and friends support
1	Ammude	304	34.2	-	19.4	31.6	14.8
2	Boka	194	20.1	2.1	24.8	16	37.1
3	Dewarro	430	20.1	2.0	6.2	34.6	37.1
4	Hula-Arba	192	26.6	8.9	12.5	21.9	30.2
5	Sheka-Sherera	295	-	-	-	-	-
6	Tior-Moye	175	44.6	5.7	13.7	16.5	19.4
	Total	1590	29.12	4.67	15.32	24.12	27.72

Sources: Computed from baseline survey (2018)

One of the major challenges discussed during Focus Group Discussions in all kebeles was food security situation in their locality. All group participants from all kebeles

explained that availability of enough food through crop production is very difficult due to lack of rain and rain variability. They firmly stated that this year (2018/19), rain has stopped early (August) and there has also been crop disease, further aggravating crop yield. Participants indicated that households eat twice a day and during the months of June to September, they eat once a day. However, Shaki Sherara Kebele, where the environment is suitable for agriculture, food security isn't a major challenge and households eat three times a day throughout the year. Farmers also have difficulty getting improved seeds and when it is availability, it is also expensive. As indicted by participants input goods that used to cost 300 to 400 Birr for 50Kg are now over 700 Birr. There are no government suppliers except private companies and individual traders as well. These situations impact food productions.

Lack of consumer goods also aggravates food insecurity in the area. Participants indicated that they have difficulty-getting goods such as cooking oil, sugar, white industrial flour etc. Interventions by Non-Governmental organizations in the study area are very limited. As per the discussions held with Eteya woreda health bureau, nutrition project coordinator, only two NGOs (SOS Sahel and Good Neighbor) are working in all sampled kebeles. The NGOs are involved supporting woreda development activities, particularly health services and nutrition for pregnant women and children. Agricultural productivity improvement is the other area of support given by these NGOs.

IV.2 Road traffic Assessment

Availability and accessibility of road plays significant role to facilitate economic development. In particular road transport provides the means for the movement of people, utilization of land and natural resources, improve agricultural production and marketing. Transport services also impact access to social services and opportunities for sustainable growth. Absence of road infrastructure is often considered as the main impediment to attract new investment and limit potential utilization of resources.

IV.2.1 Traffic Levels

According to Ethiopia Road Sector Development Program (1996)[26] Average Daily Traffic (ADT)[27] on the roads is relatively high in Ethiopia compared to many Sub-Saharan African countries. On the paved trunk roads, ADT generally ranges from the maximum of about 2,878 on the Addis - Debre Zeit road section, to a minimum of about 74 on the Yabello-Moyale road section. The road sections of Debre Zeit-Nazareth, Modjo-Awassa, Nazareth-Awash, Addis-Ghion, Dengego-Dire Dawa and Addis-Ambo are the most heavily trafficked roads in the country. Traffic on the unpaved trunk roads varies considerably, but seldom exceeds an ADT of 300. ADT on regional roads is usually below 50, but on Modjo-Ejere (301 vehicles per day (vpd), Mazoria-Durgi (215 vpd), Dessie-Wegeltena (110 vpd) and Mukature-Alemketema (174 vpd) roads traffic is substantially higher, while on unclassified roads including tracks and trails, traffic is seasonal and/or minimal. African Development Bank Group (2013)[28] study noted that the existing Modjo-Awasa road traffic volume was estimated about 3,000 Annual Average Daily Traffic (AADT) and by 2030-34 the volume is projected to be over 10,000, which cannot be accommodated by existing road.

Tulu Moyo Geothermal project area is surrounded by two all-weather asphalt roads, which run from Modjo to Zeway and Adama to Assela. Both roads are providing service for various slow and fast-moving vehicles, mixed motorized, non-motorized

[26] Road Sector Development Programme (1997-2007), The Federal Democratic Republic of Ethiopia, Ethiopian Road Authority, 1996.

[27] Annual average daily traffic (AADT) counts represent the average 24-hour traffic volume at a given location averaged over a full 365-day year.

[28] Environmental and Social Impact Assessment and Resettlement Action Plan Summary, Mojo-Hawassa Road project Phase I, African Development Bank, Ethiopia, 2013

means of transport. However, non-motorized means of transports in these main roads significantly reduce efficiency and also cause accidents that take away human life and leads to considerable loss of resources. There are also three subsidiary roads network within the project area. The road from Iteya to Tiro-Moye Kebele is the shortest distance from the main trunk road. The road from Amigna (Dodota) to Dewarro crosses Ammude kebele. All-weather road that runs from Meki to Asella is about 65 km long and crosses three kebeles within the project target area.

IV.2.2 Traffic flow counting

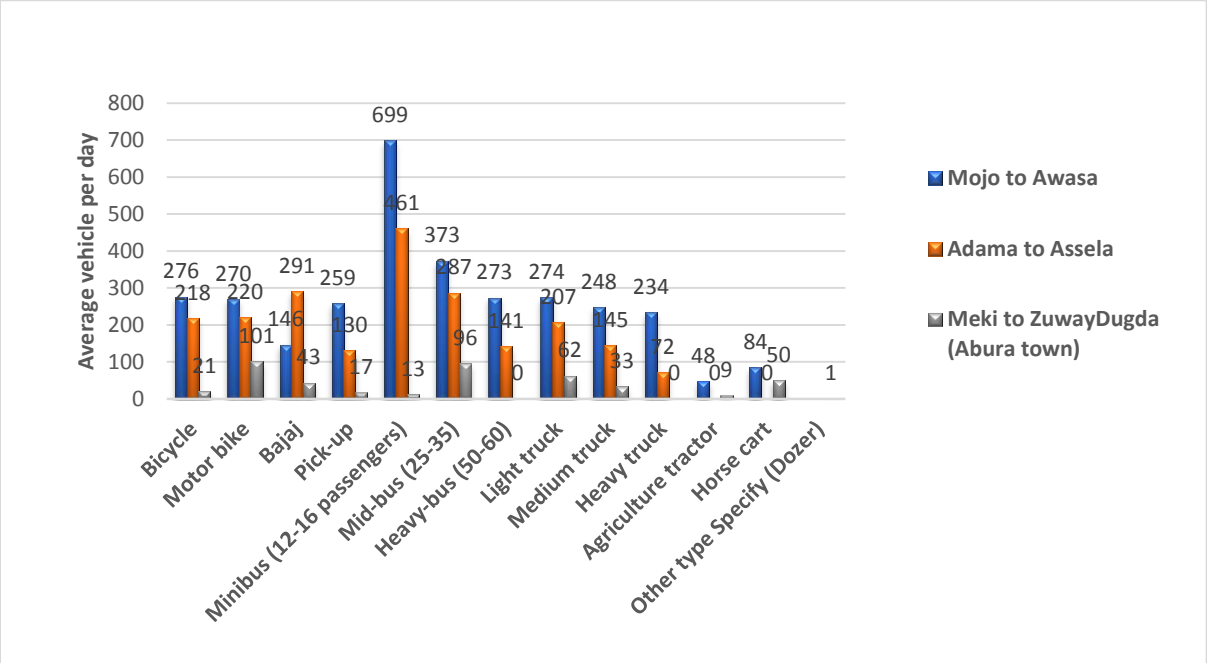
The traffic flow counting was conducted manually for 5 consecutive days for 12 hours (6:00 AM to 6:00 PM) on the main Mojo-Awassa road and on gravel road from Meki town to Abura town. Another traffic counting was done at Dera Town on the Adama- Assela asphalt road. The counters recorded each passing vehicle during the counting hours on a pre-prepared format.

IV.2.3 Results of traffic survey

The traffic counting during the baseline study was conducted at two major asphalt roads that passes from Adama-Assela and Mojo-Awassa, one all-weather gravel road which links Meki-Zeway dugda (Abura town) and two dry weather road from Iteya town-Tiro-Moye kebele and Dodota (Dera town) to Ammude Kebele. It was found that vehicle flow on the dry weather road from Iteya town -Tiro-Moye kebele was very low and used by government and NGOs vehicles occasionally passing over to perform field visit and community discussions related with their development interventions in the respective Tiro-Moye kebele. However, there are bajajes and carts also using the road.

As indicated in the figure below the traffic counting on the Adama-Assela road had 2,172 various categories of transportation as daily average vehicles. In terms of the type of traffic commuting per day, mini-buses constitute 21% followed by bajaj 13.3% and mid-bus 13.2%. Heavy truck is the least counted category with 3.3%. Similarly, the traffic survey from Mojo-Awassa road has shown that 3,184 different vehicles used the road on daily average. The categories were minibus 22%, mid-bus 12%, bicycles 9%, heavy-bus 8.6%, motorbike 8%, horse-cart accounted for 2.6%.

Figure 30: Average Number of Vehicle/days per category on three roads way



Source: Computed from baseline survey (September 2018)

The other traffic flow counting was conducted on road that passes from Meki-Zuway Dugda (Abura town), which can be used by the project after upgrading existing road and further expansion until project site. The total vehicle per day was about 446 comprised by different categories. Motorbike was found the highest proportion accounted to for 23%, followed by mid-bus with 21% and light truck about 13.9%.

It was observed that traffic density on gravel roads that connect small towns and rural kebeles is very low. For instance, only four vehicles were recorded on a market day on the gravel road that connects Amigna (Dodota) and Ammude Kebele. In terms of traffic category, horse-carts and motorbikes are most common on roads that connect two rural towns or a rural kebele. To give an example, about only 4 transports mid-bus were reported providing transport services during market day, and 60 horse-carts and 40 motorbikes were used to provide transport services. Horse-carts were used for shorter distance and motorbike for longer distances.

Donkey-cart transport (One of access to project area) Mid-bus transport from Meki-Zuwaydugda Woreda (abura town)

Photo taken (During survey, 2018)

The existing dry weather roads within the project area are in a very poor condition due to heavy erosion and overload from trucks carrying sand. It was also observed that most of the roads within the project area lack periodic maintenance from the respective local administration and road sector offices. Key informants and focus group discussion participants indicated that the poor and deteriorating road condition has limited their access to health care services, agricultural inputs market and resulted in high price of factory products and consumables. They also indicated that they pay high rate of transportation fee for motorbikes.

During the focus group discussions, it was indicated that inaccessibility during dry and rainy season has made livelihood difficult of most households. As mentioned by participants, public transport service for Ammude, Dewarro, Hula-Arba is only accessible during market day in which fees are very expensive (30ETB from Ammude, Dawarro to Dera town) and vehicles are overloaded and vulnerable for accident. Participants from Ammude also indicated that there is fish harvesting practice in nearby Koka Lake, but due to market and transportation problems they could not supply products with reasonable price to consumers in Eteya and Dera towns. Sheka Sherera kebele is relatively better than others since it is located in the vicinity of Eteya town and also border highway road, which passes through Adama to Assela town.

Major horse -cart transport center at Dera town to dewarro and ammude kebele

FGD Ammude Kebele (Photo,2018)

Discussants from Tero-Moye kebele also said that road linking the kebeles is entirely damaged and difficult to use. The worst kebele as mentioned by the group is Boka. In Dawarro, Sheki-Sherera, Hula-Arba transport services are provided by privately owned cart and motorbike with fees (15 to 20ETB for cart, 50 to 150ETB for motor bike per individual) during dry season. Transportation services aren't available during raining season.

It was observed that the existing subsidiary road needs serious maintenance and up grading so that they carry heavy trucks, transport equipment and machinery to project area. Such action can also improve the livelihood and socio-economic circumstances of people living in the project area and enhance a broad-based rural development.

Horse-Cart transport service from junction Amigna – Dewarro kebele (photo taken during survey, 2018)

Dry access road from Abura-town to Hula -Arba

Temporary optional access to Dewarro and Ammude Kebele (photo taken during survey, 2018)

Collapsed bridge on dry access road near Dawarro Kebele due to collapsed bridge as indicated on the next picture

Dry weather access road from Iteya to Tiro-moye kebele

No, Public Transport even Horse-Cart on this road

IV.2.4. Transportation fee in the study area

As stated in the previous section transport services are a major bottleneck for production and distribution agricultural and industrial goods. The table below shows the transportation fee in the surrounding project area set by transportation office at Eteya Woreda. The public transport fee is the same for all types of vehicle. However, as mentioned earlier due to poor road network and transportation facilities in the project area transport service for local people is only available during market day charging passengers beyond tariff set as listed transportation fee below in Ethiopian Birr (ETB).

Table 31: Public Transportation tariff set by the local government for

No	Start	End	Km	Level 1(ETB)	Level 2(ETB)	Level 3(ETB)
1	Dhera	Adama	25	12.59	11.01	9.48
2	Dhera	Awash	8	4.02	3.52	3.03
3	Dhera	Asela	50	25.17	22.02	18.96
4	Dhera	Dodota	12	6.04	5.28	4.55
5	Dhera	Bollo	41	21.89	19.37	17.25
6	Dhera	Dewaro	16	8.54	7.62	6.73
7	Dhera	Amude	37	19.75	17.63	15.60
8	Dhera	Iteya	25	12.58	11.01	9.48
9	Dhera	Tero	36	19.22	17.15	15.15
10	Iteya	Adama	50	18.62	17.60	16.52
11	Iteya	Dhera	25	9.31	8.80	8.26
12	Iteya	Asella	25	9.31	8.80	8.26
13	Iteya	Tero	18.2	8.55	8.27	7.98
14	Ogolcho/Haboura	Hula arba	15	7.45	7.20	6.95
15	Iteya	Anole	9	4.22	4.08	3.94

Source: Eteya woreda transport office

Though the above figures are rates given by the local government authority, the actual fees are much different. Based on the interview and discussions gathered, the actual fees paid locals for transportation services are shown below.

Table 32: Transportation fee based on interview

#	Transport mode	Beginning station	Destination kebele	Average Transport fee (Birr)
1	Motor bike	**Iteya** (Hitosa Woreda)	Tero moye	50-150*
2	Motor bike	**Dhera** (Dodota Woreda)	Amude kebele	50
3	Motor bike	**Dhera**(Dodota Woreda)	Bekoji dewero kebele	40
4	Motor bike	**Habura** (Ziway Dugda)	Hula arba kebele	100
5	Motor bike	**Habura** (Ziway Dugda)	Boka kebele	100-150**
6	Horse cart	Amigna junction	Nearby villages	3-10

*depends on the season: dry season as low as 50 birr and wet season as high as 150 birr

** depends on the season: dry season as low as 100 birr and wet season as high as 150 birr

Note:

- Horse carts do not give long distance transport
- Transport tariff of motorbikes and horse cart is not set by public body

IV.3.1. Crime

It was not possible to get crime data from all the kebeles and woredas; however, crime data from Arsi Zone Police office was acquired. Based on the data, different types of crimes were committed in 2010 E.C. The most common types of crimes reported were offense (harassment), economic crimes such as vandalism, and social crimes. The top crime in the zone was harassment. 135 males and 19 females, total of 154 committed this crime. The second most crime committed in the zone was "not abiding by law." It was committed by 84 men and 9 women, for a total of 93. Economic crime such as theft was committed by 43 male and 3 female. Rape of underage girls were reported 8 times and 9 men were apprehended for the crime. Based on the data, the number of crime and people didn't match one to one as some crimes were committed by more than one individual.

Table 33: Crime reported to police, Arsi Zone

Type of crime	# of crime	Suspects		
		Male	Female	Total
Taking public money	1	2	-	2
Organized murder	2	2	-	2
Trying to commit organized murder	4	7	-	7
Offense(harassment) and disable (akal magudel)	87	135	19	154
Organized house burning	2	1	1	2
Robbery and kidnapping	2	5	-	5
Different types of stealing (economic crimes)	35	43	3	46
Hiding lost and found property	4	5	-	5
Fooling people and creating conflict	5	5	2	7
Distrustfulness	4	4	-	4
Rape (underage girls)	8	9	-	9
Rape (adult women)	1	3	-	3
Carrying illegal weapon	2	2	-	2
Different types of social crimes	10	12	-	12
Not abiding by law	62	84	9	93
Total	229	319	34	353

Source: Arsi zone police department

V. CONCLUSION AND RECOMMENDATION

V.1 Conclusion

The socio-economic baseline survey conducted in the Tulu Moye Geothermal investment focused on socio-economic characteristics of the sampled households as well as traffic count. The major demographic finding is that male household headship is significantly higher than female-headed households. While most of the households are also married, there are few households that are single and widowed. A significant number of the habitants are also followers of Islam Religion and speak Afan-Oromo. There are also some households that speak both Afan-Oromo and Amharic.

When looking at educational status, enrolment rate at elementary level is better than secondary and tertiary level. Female enrolment at elementary level is also higher than male but significantly group after that. Overall educational training beyond elementary school is low in all kebeles. High incidences of communicable diseases such as malaria, breathing system, diarrhea, and throat cancer, acute watery diarrhea are also major challenges for the community. In general Infrastructures problem like poor road access, scarcity of water, lack of transport services, shortage of cereal grinder and environmental degradation are reported as fundamental problems that have negative effected households.

The major livelihood strategies being used currently as means of living for the households are crop production, followed by livestock rearing with few engagements in off/non-farm activities. The major crops grown in area are maize, teff, wheat and sorghum. Crop yield is low due to shortage of rain, crop pest and diseases, low soil fertility, soil erosion, and low input utilization. Livestock rearing is becoming a challenge due to shortage of fodder and water scarcity. The major incomes for households are crop and livestock product and their expenditure for household is dominated by food. Crop and livestock diseases are also problems that have been affecting agricultural sector. Food insecurity is a serious problem in five kebeles except in Sheka-Sherera where all respondents reported food insecurity is not a threat even during bad year where there is smaller rain. The others key challenge identified are limited source of energy for lighting and cooking which has forced households to seek energy from fuelwood by cutting trees. These exacerbate environmental degradation.

The fundamental bottleneck in the baseline area is lack of accessible road during dry and rainy season, which affects communities in accessing market to sale and buy products at reasonable price. Poor road network in the area has resulted in communities being isolated. Majority of the people in the area are far away from infrastructure facilities such as market, credit facilities, banks, better health facilities and chance of getting non-farm activities.

The problem of water accessibility for human and livestock is a critical challenge for drinking, food preparation and sanitation and it was perceived as one of the causes for communicable diseases frequently occurred in the area. Though health center and health post are available at a Kebele level, they are not providing sufficient services due to lack of facilities, absence of water, energy and manpower. Malaria epidemics are found to be one of challenges for the households affecting their activities.

Crop diseases and pests in the study area are one of the challenges that reduces crop yield on the contrary anti-pest and diseases chemicals are too expensive and unaffordable to buy by majority of farmers. Deforestation for fuelwood and charcoal production in the area has contributed for overall environmental degradation, soil erosion, and disappearance of spring and river flow and exacerbate desertification in the local area.

Majority of the respondents noted to have access to extension services at various level. Government still is the key player in providing extension service along with other partners such as NGOs. The quality of education services as reported by the respondents is low due to insufficient and lack of education material facilities, shortage of room and absence of teachers during class period.

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Annex I. House Hold Survey Instrument (A1)

Socio economic baseline survey instrument for the Tulu Moye Geothermal operation (2018)
Household Survey questionnaire Introductory statement "This survey is carried out by Echnoserve Consulting PLC to collect Socio-economic baseline information on the present situation of the potential geothermal energy exploration project areas. The baseline will focus on the current socio-economic situation of the household
General Information Survey No: _____ Date of interview (Ethiopian Calendar) _____ Time _____ Name of Interviewer: _____ Signature _____ Name of supervisor: _____ Signature _____ Name of woreda _____ Name of Kebele _____

I. Household Demographic characteristics

1. Name of the Household head (respondent) _____
2. Gender 1. Male 2. Female
3. Age of the respondent: _____
4. Marital status: 1. Single 2. Married 3. Widowed 4. Divorced
5. Educational Status of the Household head 1. Literate 2. Illiterate
6. Religion: 1. Protestant 2. Orthodox 3. Muslim 4. Other, specify_____
7. How many years did you stay at current place of residence
   1. Since birth 2. 1-5 years 3. 6-10 years 4. 11-20 years 5 . Above 20 years

II. Household composition

	Total No	<5years		5-14 years		15-64		>64	
		M	F	M	F	M	F	M	F
1. Members of the HH									
2. Members of the HH engaged in HH work (farming and others activities)									
3. How many of them cannot work due to disability and illness?									

III. Educational Background of the Member of the Household

S/n	Level of education	**Total No.**	**No. of male member of the HH**	**No. of female member of the HH**
1	University degree			
2	College diploma			
3	TVET			
4	High school			
5	Elementary			

IV. Household Livelihood strategies

1. Would you please state your basic livelihood activities?
   1= crop production 2= crop and livestock production
   3= Non -farm activity (other than agriculture) 4= off-farm activity (Paid work on other farm land)
2. Do you have land? 1. Yes 2. No
3. If yes, would you mention the size of the land you have in hectare/timad/kert_____.
4. If No what options have been followed for your livelihood?
   1. Rent in ha /timad/kert _____ 2. Share cropping in ha/Timad/kert_____
   3. Off-farm activity 4. Non-farm activity 5. Livestock rearing and fattening
5. Do you have your own grazing land? If yes state the size in Hectare/timad/Kert_____.
6. What type of farming system(s) practiced in the area?
   1. Crop production 2. Livestock rearing 3. Both
7. What is your cropping system?
   1. Rain fed only 2. Irrigation and rain fed 3. Both

8. Major crops produced by the Households during the last two years

s/n	Types of crop type	Specify according to major to minor	Production obtained in KG/quintal
1	Teff		
2	Maize		
3	wheat		
4	Sorghum		
5	Beans		
6	Haricot beans		
7	lentils		
8	Cheek pease		
9	Zengada		
10	Others Specify		

9. Did the household used agricultural inputs in Meher and Belg season 2009/10 E.C. production year?

s/n	Agricultural inputs	Yes/No	Amount used in Kg	Equivalent cost in Birr	If No why, 1=too expensive 2=no credit 3=not available 4=came to late
1	Fertilizer used (DAP, Urea)				
2	Improved seed (crop, vegetables)				
3	Livestock breed (sheep, Goat				
4	Improved Beehives				
5	Other specify				

10. How long has the household been involved in farming activities?
    1. < 5years 2. 5-10 years 3. 10- 15 years 4. 15-20 years 5. Above 20 years

11. Do you have livestock? 1= Yes 0= No

s/n	Types of livestock	TLU	No. of livestock owned
1	Oxen		
2	Oxen plough		
3	cows		
4	Bulls		
5	Heifer		
6	Calves		
7	sheep		
8	Goats		
9	Horses		
10	Donkey		
11	Mules		
12	Camels		
13	Chickens		
	Total		

12. What are the main problems in livestock production in the area? Circle multiple
    1. Shortage of feed 2. Shortage of water 3. Diseases 4. Lack of Veterinary service

13. Land characteristics

	Fertility of soil 1. highly fertile 2.Moderatly fertile 3. less fertile	Erosion type exist 1.no 2.mild 3.sever	Type of soil conservation implemented 1.Soil bund 2.Stone bund 3.FanyaJuu 4.Grass strip 5: Water Way 6.Planting tree 7.Ploughing along the contour 8: Others speify	source of land own land holding 1.Inherited 2.Given from the government, 3. others	Land Certified 1.Certified 2.not certified	Purpose of land Use 1.own use 2.renting for others 3.sharecropping	if rented what is the annual rent ETB	If Share cropped, what is your share%	Distance from home stead (Km)
Land holding characteristics									

V. Social service availability

14. Water supply system

Source of water	For human		For livestock		Seasonal /length of use in Months. 1. 1-3M , 2. 3-6M, 3. 6-9M 4. For 12 months	Water quality 1.Very good 2. Good 3. Bad 4.very bad	Drinking situation 1. Directly 2. After boiling 3. After treatment with adding tablets 4. Sometimes with boiling and treatment	Estimated quantity per day in the household consumption in liter/jar	Is there a fee for water use 1. Yes 2. NO	If yes how much paid in ETB(birr) per month
	Distance		Distance							
	Km/M		Km/M							
River										
Spring										
Pipe water										
Hand pump wells										
Surface pond										
Other specify										

15. Do you have water storage facilities for crop and livestock production at household or jointly?

Water storage Source type	Type of owned	Year established	If borehole/well, depth in m, if reservoir capacity in m^3 estimate (4, 10 , 15 above 15m (10, 15, 20, >20m^3)		Who owns? 1.Household 2. Jointly owned with other households/farm entities 3. Farmer association 4. . water user association	Purpose 1. irrigation of crops 2. irrigation of garden 3. livestock watering 4. drinking water 5. other	If you need to pay for usage, how much per m^3? [including government charges]
			In M	In M^3			
hand-dug borehole/well							
drilled borehole/well							
pond/lake							
micro reservoir/dam							
barrel/ cistern							

16. Do you have access to electricity

_____ *[yes = 1; no = 0]*.

17. If not, do you have solar home system

_____ *[yes = 1; no = 0]*.

If yes, indicate capacity_____

18. Source of Energy Consumption

s/n	Source of Energy for lighting and cooking	Unit	Quantity consumed per year	Cost consumed per year
2	Fuel wood	Tonne		
3	Animal dung	Tonne		
4	Kerosene	Liter		
5	Diesel (Nafta	Liter		
6	Gasoline	Liter		
7	Gas (LPG/natural	Kg		

19. Types of service the HH received during the last too years 2009 and 10 E.C

s/n	Types of service	1. yes, 0. N0	Type of service provider service (Gov't, NGO, private/ Community Organization	Level of service (1= Strong, 2= moderate 3=low 4= Non	Distance to get service. (1hr, 2hr, 3-5hr, half a day, full day)
1	Extension support				
4	Transport service				
5	Financial service				
6	Agricultural input supply				
7	Credit service				

VI. Livelihood Assets

Physical Capital

17. Type of Asset	1:Yes; 2: No	How many?	Remarks
1. Bicycle			
2. Motorbike			
3. Vehicle			
4. Radio			
5. Television		`	
6. Cell phone			
7.Residence house			
8.Type of house			
8.1 Grass covered			
8.2 Corrugated iron (wall type mud or bricks)			
9. Toilet availability			
12. Other, specify			

s/n	Tool/Machinery/Implements	1:Yes; 2: No	How many?
	Farming tools:		
1	Winnower		
2	Plough and yoke for animals		
3	Manual sprayer (chem./fertilizer)		
4	Wheelbarrow		
5	Carts (hauling)		
6	Other Light Machinery (please specify)		
7	Tractor		
8	Thresher		
9	Generator/Diesel Pumps		
10	Harvester		
11	Other Heavy Machinery (please specify)		
15	Other Animal Power (pls. specify)		

Human Capital

20. Did you get agricultural training /awareness rising for the last two years? Explain what kind of training who provided the training?

Financial Capital

21. What are the main sources of income on average in a normal year (consider year 2009/10 E.C):

s/n	**Principal sources of income**	**Earning /month in Birr**	**Earning /year in Birr**
1	From sales of own produced grain crops (Total production)		
2	From sale Livestock production/animal trading		
3	From retail trade nonagricultural goods		
4	From sale of coffee, chat, inset, vegetables (carrot tomato, potato, honey etc.		
5	From livestock products (milk, eggs, butter, chickens, honey, etc.)		
6	From sale of firewood, charcoal, cow dung cake		
7	From non-farming activities (pottery, weaving, spinning, handicrafts, masonry, wage labor etc.)		
8	Women household activities (tella, Areke, tej, kolo, bread selling)		
9	Off-farm work (daily and farm labour)		
10	Remittance income from relatives		
11	Land rent		
12	From traditional healing and religion teaching		
13	Others (specify)		

22. When you evaluate your sources of income for the last two years, does it change? _____ *[yes = 1; no = 0]*.

23. If **yes** how is the change of your own income? Decreased _____ Increased _____ please use tick √ symbol.

24. Reason for the change of your own income.

1= availability of market; 2 = Government support; 3 = price change; 4 = availability of improved raw materials for my business; 5 = availability of finance to borrow; 6 = others (specify)

25. If crop income has increased for the past two years, what was the reason?

s/n	Reason	Write yes/no
1	Favorable climate (sufficient rainfall for the crops);	
2	Because of government support	
3	Price change	
4	Availability of improved inputs	
5	Other specify	

26. Did you borrow money for the last year 2009/10)? if yes indicate source of loan and reason. If no put why.

Reason for loan	**Source of loan**	**Total amount borrowed**	**Interest rate**	**Reason for loan**
1. No need for loan	1. Money lender/Arata			1. To buy farm or other tools /implements
2. Tried to get loan but was refused	2. Relative			2. To buy inputs, e.g seeds / fertilizers/pesticides
3. No-one available to get a loan from	3. Friend /Neighbour			3. To buy livestock
4. Expected to be rejected, so did not try to get one	4. From Equip			4. To pay for hired labour
5. I have no assets to get collateral	5. From Edir			5. To pay rent /taxes
6. Afraid of losing collateral	6 . From cooperative &rural saving and credit cooperative (RUSACCO),MFI			6. To start off-farm business
7. I cannot pay back	7. Loan from other organisation & village saving and lending association			7. To buy food /goods for the household
				8. To pay for travel expense
8. Interest rate is too high	8. From bank			9. To pay for building materials
				10. To pay for health expenses
9. Other				11. For wedding, funeral
				12. To pay other debts

27. Do the household have a bank account and cash saving?

1= Yes 0= No ,

How much did you save_____ in birr?

Social Capital

28. Does the HH has social network like community networks, formal and informal institutions, and mutual support associations, like idir, church trust, and business relationships in your village?
    1=Yes 0= No
29. If yes are social networks effective to overcome vulnerability and support each other during shock and risk?
    1=Yes 0= No
30. Does someone in your household belong to agricultural-related groups?
    1=Yes 0= No

If yes What type of groups? _____

Key (a), Types of Groups		
Tree nursery/tree planting= 1	Irrigation=5	Seed production=9
Water catchment/management=2	Savings/credit related=6	Vegetable production=10
Soil improvement related=3	Agricultural product marketing=7	Other group not mentioned above=11
Crop improvement related=4	Agricultural productivity enhancement related=8	No groups=12

Food security situation

31. What are the sources of getting food?

s/n	Source of food	Tick sources of food as order Major 1, minor (1……9)
1	Own crop production	
2	Own livestock products (milk, meat)	
3	Purchase or exchange in terms of labour (food for work)	
4	Fishing	
5	Wild food	
6	Gifts of food	
7	Barter	
8	Loans	
9	Stocks	
10	Relief food	

32. Number of meals taken by majority of the HHs per day?
    1. Once 2. Two times 3. Three times 4.Four times
33. Type of meal usually eaten at your household level?
    1. Breakfast_____ 2.lunch _____ 3.Dinner_____
34. Is your household income from livelihood activity sufficient to feed household members?

1=Yes 0= No

35. If your response is no to question no. 34, when or in which months of the year is your food shortage is prevailed?

Jan	Feb	Mar	April	May	Jun	Jul	Aug	Sep	Nov	Oct	Dec

36. In the last two years have you been forced to sell any productive assets (agricultural tools), consumer durables, land and livestock in order to meet your household food requirement or for cash emergency for health expenditure?

As distress Assets loss, 1= sometimes 2= often 3= No

37. What coping strategies have you experienced during food insecurity at HH level?

s/n	Coping and adaptive strategies	1.Yes 2.No
1	Eating less preferred food	
2	Reducing or rationing consumption	
3	Use of credit for consumption	
4	Mortgaging or sale of household assets	
5	Searching for other income sources (labor sale)	
6	Sale of durable assets	
7	Distressful migration	
8	Expecting support from relatives /friends	

38. Types of problems/shock experienced by the HH in their locality

s/n	Livelihood affecting events /Specific shock	Yes/No	Rate of occurrence /year	Severity: 1.Very High, 2. Moderate, 3. low
1	Drought			
2	Too much rain or flood			
3	Pests or diseases that affected crops			
4	Pests or diseases that affected loss of livestock			
5	Death of family member			
6	Illness of family member			
7	Prevalence HIV/Aids			
8	Out Migration to other area and farm labor shortage (to where)			
9	In migration to their locality(from where)			
	Divorce, separation or abandonment			
10	Specify others			

Annex II: Focus group discussions (A2)

Focus Group Discussion (FGD) survey instrument for Tulu Moye Geothermal Operation (2018)

Introductory statement

"This Focus Group Discussion (FGD) is carried out by Echnoserve Consulting PLC to collect information on the present situation of the project areas. The FGD will focus on the current major problems, social service delivery, perceptions about Tulu Moye Geothermal development project, related opportunities and threats, etc

General Information

FGD No: _____

Date of FGD (Ethiopian Calendar) _____

Time _____

Name of Moderator: _____ Signature _____

Name of facilitator: _____ Signature_____

Name of supervisor: _____ Signature _____

Name of woreda _____

Name of Kebele _____

List of participants:

	Name	Telephone ne
1		
2		
3		
4		
5		
6		
7		
8		

Questions

1. Crop production situation in their locality (productivity. Disease prevalence, protection)
2. Water availability, operation and management in their locality
3. Major shock environmental, (flood, disease, price inflation)
4. What is the major human disease in this kebele?
5. Health service situation capacity and affordability, quality service
6. Do you get awareness rising from health extension workers about general health prevention techniques?
7. Is there transport service in this kebele, what type and availability?
8. Are you aware of the geothermal energy project in your locality (what do you expect from this project, any threat on health and involuntary resettlement?
9. Is there any migration of people from your locality? Why
10. Food security situation (enough, shortage why)
11. What do you want to be develop in this area?

Annex III: Key Informants Interview

Key Informant Interview (KII) survey instrument for Tulu Moye Geothermal Operation (2018)
Introductory statement "This **Key** Informant Interview (KII) **is** carried out by Echnoserve Consulting PLC to collect information on the present situation of the project areas. The KII will focus on the current major problems, social service delivery, perceptions about Tulu Moye Geothermal development project, related opportunities and threats, etc

Key Informant Interview Question for Kebele leaders or elected official (A3)

Name of Person Interviewed:_____
Organization: _____
Position:_____
Contact Information_____

1. What are the major problems in this kebele in relation
    a. Crop/ farming
    b. Livestock production
    c. In put supply, and input availability,
    d. Environmental problem
2. Is there enough social service delivery in this Kebele
    a. health,
    b. education,
    c. water,
    d. market,
    e. livestock VET service
3. Do you know about the Tulu Moye Geothermal project?
    a. If yes, what do you know
4. What is the feeling of people about the project?
5. What opportunities do you expect from the project
6. What threats do you expected from this project in time of operation?
7. What kind of support and cooperation will be needed to overcome key problem?

Key informant interview questions for Development Agent (A5)
Name of Person Interviewed: _____
Organization: _____
Position: _____
Contact Information_____

1. What is the farming system in this area (crop, livestock, both)?
2. What are the main challenges in crop and livestock production in this area?
3. Is their environmental hazard occurred like flood, drought, livestock and crop disease?
4. Is there enough service delivery to the community (health, education, transport, water, road etc.,

5. Do you provide training/awareness raising to the community? What type of awareness raising?
6. Is there enough input supply with fair price for the farm community?
7. What are the main acute problems in this kebele?
8. What do you propose to minimize the critical problems in this kebele?
9. What are your impressions towards the development of Tulu Moye Geothermal energy in this area regards to benefit and disadvantage if any?

Key informant interview questions with model farmers/ Elder in the Kebele (A4)
Name of Person Interviewed: _____
Organization: _____
Position: _____
Contact Information_____

1. How long did you live in this kebele?
2. What is your family size, your means of living?
3. How many hectares of land and livestock owned by the family?
4. Did you produce enough crop for the family?
5. What is the major problems hindered crop and livestock production?
6. What are the main challenges faced in you living?
7. Is there any water availability and access in your locality, what is the level of its quality, regular availability, how it is managed, administrated?
8. Is there appropriate health service in this area? Are you satisfied with the service?
9. Do you get awareness raising from health post/center about preconditions on disease prevention?
10. How could it be solved so as to avoid those problems?
11. Is there good market to sale and buy goods needed? how long you travel to bigger market?
12. Is there transportation service, how does its fees (fair, expensive)
13. Is there any problems in source of energy, what are the main energy source used now?
14. Do you get training from Development agent regards to crop and livestock production?
15. Is there enough food for your family?
16. How do you solve food shortage for the family?
17. Are you aware of the proposal for the development of the Geothermal energy project in the Tulu Moye area? Yes/no
18. How did you know about it?
    1. Word of mouth 2. Newspaper 3. Radio 4. Television 5. Other
19. Do you think that the proposed geothermal project will affect your family? How?
20. Do you think this Geothermal energy development will create job opportunities (ask what type)
21. What would you like to see improved and/or introduced in this area by the geothermal energy development project?
        1. Roads 2. Public transportation 3. Employment opportunities 4. Access to services (specify which ones) like health, water, any other (Please specify)
22. What considerations do you think that the developer of the Geothermal Energy project should include to ensure that the benefits to the communities and businesses in the surrounding areas are maximized and the negative effects minimized?

Annex IV: Tool for social services assessment: Health Post (B1)

Health Post Physical Facility Survey Checklist

Name of Assessor/ Surveyor: _____
Date assessment conducted:_____
Starting time:_____Ending time:_____
Expert from health post presented
Name:_____
Position:_____
Contact information: Tel:_____
Email:_____

Health Post Name:_____

Location: Kebele:_____

Woreda:_____

No	Points to be checked	Response		Comment
		Yes	No	
1.	PREMISES			
1.1	All rooms have adequate light			
1.2	All rooms have adequate water			
1.3	All rooms have adequate ventilation			
1.4	The Health post is well marked			
1.5	The Health post is easily accessible for person with disability			
1.6	The examination rooms promote patient dignity & privacy			
1.7	The counseling rooms promote patient dignity and privacy			
1.8	The health post identifies potential sources of accidents, like slippery floors, misfit in door and footways, in its compound and acts up on it timely			
1.9	Medical wastes are disposed by incineration or sanitary landfill or other appropriate method specified under the recent Health Care Waste Management National Guideline			
1.10	The Health post has a fire extinguishers placed in visible area			
1.11	The health post has a minimum of the following premises			
	• Waiting area /display area			
	• Examination room			
	• Counseling room			
	• Injection room			
	• Delivery & postnatal room			
	• Store room			
	• Toilet			
	• Hand washing basins			
	• Area for placenta pit			
	• Shower			
	• Laboratory room			
2	PROFESSIONALS			
2.1	Health extension workers*			#=
2.2	Cleaners			#=
3	PRODUCTS			
3.1	The health post has a minimum of the following equipment's			
	• Stethoscope			
	• Sphygmomanometer			
	• Thermometer			
	• Kidney basin			
	• Delivery set			
	• Delivery coach			
	• Examination coach			
	• Storage shelves for Medical equipment, medicines and supplies			
	• Cold box			
	• Adult weighing scale			
	• Child weighing scale			
	• Autoclave or any of similar functional equipment			

	• Stretcher			
3.2	IEC material			
3.3	House Keeping, waste management and IP Equipment and supplies			
4	PHYSICAL FACILITY STANDARD			
4.1	**Location**			
4.1.1	The health post is built reasonably away from conditions like noises, smoke, dust or foul odors, gas depot and waste disposal sites			
4.1.2	The minimum size of the health post premises is 300 m^2			
4.1.3	The health post is built preferably in a terrain with a gentle slope			
4.1.4	The health post is provided with road access			
4.1.5	The health post is provided with water			
4.1.6	The health post is provided with electricity			
4.1.7	The health post is provided with communication facilities like telephone, fax, etc			
4.1.8	The health post is free from dangers of flooding,			
4.1.9	The health post is free from landslide			
4.1.10	The health post is free from theft			
4.1.11	The health post is free from intrusion of stray/wild animals			
4.1.12	The health post is free from pollution of any kind (e.g. air, water and sound),			
4.1.13	The health post is free from fly and mosquito breeding site and health hazards			
4.1.14	Soil in the compound of the health station is dry (not marshy)			
5	PRACTICE STANDARDS			
5.1	Maternal and Child Health			
5.2	Prevention and Control of local Communicable diseases like malaria, TB/Leprosy, HIV/AIDS PMTCT, STI, and Other locally important conditions			
5.3	HEW shall counsel and guide patients with HIV/AIDS receiving ART with focus on adherence			
5.4	HEW shall provide malaria prophylaxis in malaria endemic zones as per the National guidelines for Malaria Treatment			
5.5	The health post has provided information, education and communication (IEC) and behavioral change communication (BCC) service to the community, such as:			
	• Environmental health programs particularly provision of adequate and safe water, appropriate waste disposal system, personal, housing and food hygiene			
	• Breast feeding, supplementary infant feeding and general nutrition education			
	• Family planning			
	• Expanded program on immunization (EPI)			
	• Sexually transmitted diseases (STD) and HIV diseases			
	• TB, leprosy, malaria, etc			
	• Prevention and control of out-breaks and epidemics			
	• Providing school health service			
	• Promotion of community mobilization for health development activities			
	• Initiate and coordinate inter-sectoral activities for health			
5.6	The health post is equipped with gloves, mask, eye protection(goggles) and face shield			
5.7	The health post has an organized waste disposal and removal system			
5.8	Infectious and noninfectious medical waste are placed in portable bins which is leak proof, have tight fitting covers and be kept clean and in good repair until disposal			
5.9	Regular basic cleaning such as dusting, sweeping, polishing and washing of the health post premises and equipments			

*minimum number required are 2

Annex V: Water Point Survey Checklist (B5)

No	Points to be checked	Response		Remarks
		Yes	No	
1	***Location (proximity to source of pollution)***			
1.1	There is a latrine within 30m of the water point			
1.2	There is a manure pit or a rubbish dump within 30m of the water point?			
1.3	There is animal enclosure within 30m of the water point			
1.4	There any chemicals (solvent, agricultural chemicals, etc) within 50m of the water point			
1.5	The fence around the water point is inadequate, allowing animals in			
1.6	The drainage channel is less than 2m long			
2	***Pump Condition (State and functioning of the pump)***			
2.1	The pump is unsteady (has a missing component)			
2.2	The pump is broken			
2.3	There is a pooling of water on the concrete floor around the hand pump			
2.4	There are bolts or screw nuts which are not in place or not well tightened			
2.5	The pump is leaking			
2.6	The yield has decreased			
2.7	The pump action is more heavy than before			
2.8	The pump is making abnormal noise			
3	***Concrete slab and the overall drainage of water***			
3.1	The concrete floor is less than 1m wide around the pump			
3.2	There are cracks in the concrete floor around the pump			
3.3	There are breakages or cracks in the drainage channels			
3.4	There Is stagnant water on the concrete slab			
3.5	There Is stagnant water on the drainage channel			
3.6	There is stagnant water around the water point			
3.7	The concrete slab is dirty			
3.8	The drainage channel is dirty			
4	***Condition of the water-trough and the soak-away pit***			
4.1	The water trough is overflowing			
4.2	The soak-away pit is overflowing			
5	***Water quality***			
5.1	The water is turbid			
5.2	The water has an odour			
5.3	The water has an abnormal taste			
6	***User behavior***			
6.1	The pump is handled badly			
6.2	There is water wastage (e.g. water overflowing from containers)			
6.3	There are actions spoiling super structure (e.g. bicycle leaning against the wall of the structure)			
6.4	The water containers are dirty			
6.5	The water containers are generally uncovered (cans do not have a cork)			
7	***Capacity to monitor and maintain the water point***			
7.1	The water point manager is at the water point all the time that the pump is in use			
7.2	The water point manager is well trained			
7.3	There is at least one mechanic in the locality that periodical maintain the pump			
7.4	There is a water point maintenance program			
7.5	There is a record of any maintenance of the pump			
7.6	There is enough money available and in secure place ready for repair			Mention amount in Birr
7.8	The appropriate maintenance tools are available			

- ***Leakage test***: conducted after stopping the pump for 30 minutes. If more than 5 pump strokes are necessary before the water comes out of the pump, there is a leakage that requires attention
- ***Yield test***: give 40 pump strokes during approximately 1 minute while collecting water in a bucket. The quantity of the water must be more than 10 liters

Annex VI. Traffic data collection format (C1)

Name of Data Collector: _____
Location: _____
Date traffic survey: _____
Starting time:_____Ending time:_____

Category	s/n	Types of traffic	No of tally
1	1	Horse cart	
	2	Bicycle	
	3	Motor bike	
	4	Bajaj	
2	5	Pick-up	
	6	Minibus	
	7	Mid bus	
3	8	Heavy bus	
	9	Light truck	
	10	Medium truck	
	11	Heavy truck	
4	12	Agriculture tractor	
5	13	Others if any	

Annex VII. Health Post Monthly Service Delivery Report -April-June 2010 E.C

Activity	Hula Arba Health Pos	Boka Health Post	Hula Arba Health Center	Total
Total New And Repeat Acceptors, Disaggregated By Age	409	323	1025	1757
New Acceptors By Age	257	194	479	930
Less Than 15 Years	0	0	14	14
15-19 Years	13	37	57	107
20 - 24 Years	78	61	142	281
25 -49 Years	166	96	266	528
Repeat Acceptors By Age	152	129	546	827
Less Than 15 Years	0	0	6	6
15-19 Years	4	17	75	96
20 - 24 Years	38	38	148	224
25 -49 Years	110	74	317	501
Total New And Repeat Acceptors, Disaggregated By Method	409	323	1025	1757
New Acceptors, By Method	257	194	479	930
Oral Contraceptives	24	61	71	156
Injectables	62	70	229	361
Implants	134	58	109	301
IUCD			41	41
Others	37	5	29	71
Repeat Acceptors, By Method	152	129	546	827
Oral Contraceptives	8	0	36	44
Injectables	53	0	83	136
Implants	86	129	354	569
IUCD			73	73
Others	5	0	0	5
Antenatal Care Coverage - First Visit				
Number Of Pregnant Women That Received Antenatal Care At Least Once	63	63	449	575
Antental Care Coverage - Four Visits				
Number Of Pregnant Women That Received Antenatal Care: At Least Four Visits	49	49	283	381
Proportion Of Births Attended By Health Extension Workers At Health Post				
Number Of Births Attended By Health Extension Workers At Health Post	0	0		0
Percentage Of Pregnant Women Attending Antenatal Care Clinics Tested For Syphillis				
Number Of Pregnant Women Tested For Syphilis			13	13
Proportion Of Births Attended By Skilled Health Personnel				
Number Of Births Attended By Skilled Health Personnel			393	393
Early Postnatal Care Coverage				
Early First Postnatal Care Attendances 0-48 Hrs (0-2 Days)	0	0	392	392
Early First Postnatal Care Attendances 49-72 Hrs (2- 3 Days)	0	0	0	0
Early First Postnatal Care Attendances 73 Hrs-6 Days (4- 6 Days)	0	0	0	0
Number Of Maternal Deaths In The Community				
Number Of Maternal Deaths At Home	0	0		0
Number Of Maternal Deaths On The Way To Health Facility	0	0		0
Number Maternal Deaths At Health Post	0	0		0
Total Number Of Maternal Deaths In The Community	0	0	0	0
Caesarean Section Rate				
Number Of Women Having Given Birth By Caesarean Section			0	0

Number Of Women Receiving Comprehensive Abortion Care Services	0	0	0	0
Number Of Safe Abortions Performed	0	0	0	0
Less Than 18 Years			0	0
Greater Than Or Equal To 18 Years			0	0
Number Of Post Abortion/Emergency Care	0	0	0	0
Less Than 18 Years			0	0
Greater Than Or Equal To 18 Years			0	0
Institutional Maternal Deaths				
Number Of Maternal Deaths In Health Facility			0	0
Still Birth Rate				
Number Of Still Births	0	0	1	1
Number Of Live Births	0	0	392	392
Proportion Of Kebeles Declared 'Home Delivery Free'				
Number Of Kebeles That Have Been Declared Home Delivery Free	0	0		0
PMTCT				
Percentage Of Pregnant And Lactating Women Who Were Tested For HIV And Who Know Their Results				
Number Of Pregnant Women Tested And Know Their Result During Pregnancy			423	423
Number Of Pregnant Women Tested And Know Their Result During Labour & Delivery			156	156
Number Of Women Tested And Know Their Result During The Postpartum Period			0	0
Number Of Women Tested Positive For HIV			0	0
Number Of HIV Positive Pregnant And Lactating Women Who Received ART At ANC+L&D+PNC For The First Time Based On Option B+.	0	0	0	0
Number Of HIV Positive Pregnant Women Who Received ART To Reduce The Risk Of Mother To Child Transmission During ANC For The First Time			0	0
Number Of HIV Positive Pregnant Women Who Received ART To Reduce The Risk Of Mother To Child Transmission During L&D For The First Time			0	0
Number Of HIV Positive Lactating Women Who Received ART To Reduce The Risk Of Mother To Child Transmission During PNC For The First Time			0	0
Number Of HIV Positive Pregnant And Lactating Women Who Received ARV Prophylaxis	0	0	0	0
Maternal AZT Prophylaxis			0	0
Triple ARV Prophylaxis			0	0
Number Of HIV-Positive Women Who Get Pregnant While On ART And Linked To ANC	0	0	0	0
Number Of HIV-Positive Women Who Get Pregnant While On ART And Linked To ANC			0	0
Percentage Of Infants Born To HIV Infected Women Receiving A Virologic Test For HIV Within 12 Months Of Birth				
Number Of HIV Exposed Infants Who Received An HIV Test Within 2 Months Of Birth, During The Reporting Period			0	0
Number Of HIV Exposed Infants Who Received An HIV Test Between 2 And 12 Months, During The Reporting Period			0	0
Percentage Of Infants Born To HIV-Infected Women Started On Co-Trimoxazole Prophylaxis Within Two Months Of Birth				
Number Of Infants Born To HIV Positive Women Started On Co-Trimoxazole Prophylaxis Within Two Months Of Birth			0	0
Percentage Of Infants Born To HIV-Infected Women Receiving Antiretroviral (ARV) Prophylaxis For Prevention Of Mother-To-Child Transmission (PMTCT)				
Number Of HIV Exposed Infants Who Received Antiretroviral (ARV) Prophylaxis At L&D And PNC			0	0
Percentage Of HIV Exposed Infants Receiving HIV Confirmatory (Antibody Test) Test By 18 Months				
Number Of HIV Exposed Infants Receiving HIV Confirmatory (Antibody Test) By 18 Months- Whose Test Result Is HIV Positive			0	0

Number Of HIV Exposed Infants Receiving HIV Confirmatory (Antibody Test) By 18 Months- Whose Test Result Is HIV Negative			0	0
Child Health				
Number Of Children Under One Year Of Age Who Have Received BCG Vaccine	128	80	122	330
DPT1-Hepb1-Hib1(Pentavalent First Dose) Immunization Coverage (Less Than 1 Year)				
Number Of Children Under One Year Of Age Who Have Received First Dose Of Pentavalent Vaccine	128	80	159	367
DTP3-Hepb3-Hib3 (Pentavalent Third Dose) Immunization Coverage (Less Than 1 Year)				
Number Of Children Under One Year Of Age Who Have Received Third Dose Of Pentavalent Vaccine	188	78	50	316
Pneumococcal Conjugated Vaccine First Dose (PCV1) Immunization Coverage (Less Than 1 Year)				
Number Of Children Under One Year Of Age Who Have Received First Dose Of Pneumococcal Vaccine	128	80	159	367
Pneumococcal Conjugated Vaccine Third Dose (PCV3) Immunization Coverage (Less Than 1 Year)				
Number Of Children Under One Year Of Age Who Have Received Third Dose Of Pneumococcal Vaccine	188	78	50	316
Rotavirus Vaccine First Dose (Rota1) Immunization Coverage (Less Than 1 Year)				
Number Of Children Under One Year Of Age Who Have Received First Dose Of Rotavirus Vaccine	128	80	150	358
Rotavirus Vaccine Second Dose (Rota2) Immunization Coverage (Less Than 1 Year)				
Number Of Children Under One Year Of Age Who Have Received 2nd Dose Of Rotavirus Vaccine	177	73	67	317
Measles Immunization Coverage (Less Than 1 Year)				
Number Of Children Under One Year Of Age Who Have Received Measles Vaccine	135	75	31	241
Full Immunization Coverage (Less Than 1 Year)				
Number Of Children Received All Vaccine Doses Before 1st Birthday	135	74	31	240
Proportion Of Infants Protected At Birth Against Neonatal Tetanus				
Number Of Infants Whose Mothers Had Protective Doses Of TT Against NNT (PAB)	128	77	148	353
Number Of Children Under One Year Of Age Who Have Received First Dose Of Polio Vaccine	128	80	159	367
Number Of Children Under One Year Of Age Who Have Received Third Dose Of Polio Vaccine	188	78	50	316
Vaccine Wastage Rate				
BCG Doses Given (All Ages)	128	80	122	330
BCG Doses Opened	180	150	180	510
Pentavalent (DPT-Hepb-Hib) Doses Given (All Ages)	493	231	290	1014
Pentavalent (DPT-Hepb-Hib) Doses Open	493	231	290	1014
Pneumococcal Conjugated Vaccine Doses Given (All Ages)	493	231	290	1014
Pneumococcal Conjugated Vaccine Doses Opened	498	236	294	1028
Rota Doses Given (All Ages)	305	153	224	682
Rota Doses Opened	305	153	224	682
Polio Doses Given (All Ages)	487	231	290	1008
Polio Doses Opened	510	260	340	1110
Measles Doses Given (All Ages)	135	75	31	241
Measles Doses Opened	160	100	60	320
TT Doses Given	0	81	204	285
TT Doses Opened	0	100	230	330
Early Institutional Neonatal Death	0	0	0	0
Number Of Deaths In The First 24 Hrs Of Life /Institutional/			0	0

Number Of Neonatal Deaths Between 1 And 7 Days Of Life/Institutional/			0	0
Neonatal Death Rate At Community				
Number Of Deaths In The First Seven Days Of Life In The Community	0	0		0
Total Number Of Live Births In The Kebele	0	0		0
Total Number Of Neonatal Deaths In The Kebele	0	0		0
Nutrition				
Percentage Of Low Birth Weight Newborns				
Number Of Live-Born Babies With Birth Weight Less Than 2,500 G	0	0	0	0
Total Number Of Live Births Weighed	0	0	392	392
Percentage Of Underweight Children Aged Less Than 5 Years (Growth Monitoring)				
Number Of Weights Measured For Children Under 5yrs, By Age	4791	4070	424	9285
Age: 0-24 Months	1255	1469	244	2968
Age: 25-59 Months	3536	2601	180	6317
Number Of Weights Recorded With Moderate Malnutrition, By Age (Z-Score Below -2 And -3: Underweight)	181	86	10	277
Age: 0-24 Months	80	57	8	145
Age: 25-59 Months	101	29	2	132
Number Of Weights Recorded With Severe Malnutrition, By Age (Z-Score Below -3: Severely Underweight)	25	19	19	63
Age: 0-24 Months	15	15	10	40
Age: 25-59 Months	10	4	9	23
Proportion Of Children 6 - 59 Months With Severe Acute Malnutrition				
Total Number Of Children Screened For Malnutrition	4789	4060	414	9263
Number Of Children Screened And Have Severe Acute Malnutrition	22	19	19	60
Treatment Outcome For Management Of Severe Acute Malnutrition In Children 6-59 Months				
Number Of Children Recovered			13	13
Number Of Children Defaulted			0	0
Number Of Children Transferred			0	0
Number Of Children Died			0	0
Total Number Of Children Who Exit From Severe Acute Malnutrition Treatment			13	13
Proportion Of Children Aged 6-59 Months Who Received A Dose Of Vitamin A Supplementation				
Number Of Children Aged 6-59 Months Supplemented With Vitamin-A	390	601	216	1207
Prevention And Control Of Diseases				
Communicable Diseases				
HIV/AIDS				
Number Of Individuals Who Have Been Tested For HIV And Who Received Their Results	0	0	1195	1195
VCT				
Clients Receiving HIV Test Results (At VCT)	0	0	592	592
15-19 Years: Males			20	20
: Females			14	14
20-24 Years: Males			187	187
: Females			116	116
25-49 Years: Males			122	122
: Females			59	59
Greater Than Or Equal To 50 Years : Males			45	45
: Females			29	29
Clients Testing Positive For HIV (At VCT)	0	0	0	0
15-19 Years: Males			0	0

: Females			0	0
20-24 Years: Males			0	0
: Females			0	0
25-49 Years: Males			0	0
: Females			0	0
Greater Than Or Equal To 50 Years : Males			0	0
: Females			0	0
PITC				
Clients Receiving HIV Test Results (At PITC)	0	0	603	603
Less Than 1 Year: Males			0	0
: Females			0	0
1-4 Years: Males			0	0
: Females			0	0
5-9 Years: Males			0	0
: Females			0	0
10-14 Years: Males			0	0
: Females			0	0
15-19 Years: Males			10	10
: Females			95	95
20-24 Years: Males			25	25
: Females			173	173
25-49 Years: Males			30	30
: Females			260	260
Greater Than Or Equal To 50 Years: Males			10	10
: Females			0	0
Clients Testing Positive For HIV (At PITC)	0	0	0	0
Less Than 1 Year: Males			0	0
: Females			0	0
1-4 Years: Males			0	0
: Females			0	0
5-9 Years: Males			0	0
: Females			0	0
10-14 Years: Males			0	0
: Females			0	0
15-19 Years: Males			0	0
: Females			0	0
20-24 Years: Males			0	0
: Females			0	0
25-49 Years: Males			0	0
: Females			0	0
Greater Than Or Equal To 50 Years: Males			0	0
: Females			0	0
HIV Care (Pre-ART And ART)				
Newly Enrolled In Pre-ART Care	0	0	0	0
Number Of Adults And Children With HIV Infection Newly Enrolled In Pre ART-Care	0	0	0	0
Less Than 1 Year: Males			0	0
: Females			0	0
1-4 Years: Males			0	0
: Females			0	0

5-9 Years: Males			0	0
: Females			0	0
10-14 Years : Males			0	0
: Females			0	0
15-19 Years : Males			0	0
: Females			0	0
20-24 Years: Males			0	0
: Females			0	0
25-49 Years: Males			0	0
: Females			0	0
Greater Than Or Equal To 50 Years : Males			0	0
: Females			0	0
HIV Positive Persons Receiving Co-Trimoxazole Prophylaxis				
Number Of HIV Positive Persons Receiving CTX Prophylaxis			0	0
Number Of PLHIV Ever Started On ART	0	0	0	0
Number Of Adults And Children With Advanced HIV Infection Ever Started On ART	0	0	0	0
Less Than 1 Year: Males				
: Females				
1-4 Years: Males				
: Females				
5-9 Years: Males				
: Females				
10-14 Years: Males				
: Females				
15-19 Years: Males				
: Females Non-Pregnant				
: Females Pregnant				
20-24 Years: Males				
: Females Non-Pregnant				
: Females Pregnant				
25-49 Years: Males				
: Females Non-Pregnant				
: Females Pregnant				
Greater Than Or Equal To 50 Years: Males				
: Females				
Number Of Adults And Children Who Are Currently On ART	0	0	0	0
Adults Greater Than Or Equal To 15 Years	0	0	0	0
First Line Regimen	0	0	0	0
1a(30) = D4t(30)-3TC-NVP : Males				
: Females				
1a(40) = D4t(40)-3TC-NVP : Males				
: Females				
1b(30) = D4t(30)-3TC-EFV : Males				
: Females				
1b(40) = D4t(40)-3TC-EFV : Males				
: Females				
1c = AZT-3TC-NVP : Males				
: Females				
1d = AZT-3TC-EFV : Males				

: Females				
1e = TDF-3TC-EFV : Male				
: Female				
1f= TDF + 3TC+ NVP : Male				
: Female				
1g= ABC + 3TC + EFV : Male				
: Females				
1h= ABC + 3TC NVP : Male				
: Females				
Others : Male				
: Females				
Adult Second Line Regimen	0	0	0	0
2a = ABC-Ddl-LPV/R : Males				
: Females				
2b = ABC+Ddl-NFV : Males				
: Females				
2c = TDF-Ddl-LPV/R : Males				
: Females				
2d = TDF-Ddl-NFV : Males				
: Females				
2e= AZT-3TC-LPV/R : Male				
: Females				
2f =AZT-3TC-ATV/R : Male				
: Females				
2g= TDF-3TC-LPV/R : Male				
: Females				
2h =TDF-3TC-ATV/R : Male				
: Females				
2i = ABC + 3TC + LPV/R : Male				
: Females				
Others : Male				
: Females				
Children	0	0	0	0
Less Than 1 Year	0	0	0	0
First Line Regimen	0	0	0	0
4a = D4t-3TC-NVP : Males				
: Females				
4b = D4t-3TC-EFV : Males				
: Females				
4c = AZT-3TC-NVP : Males				
: Females				
4d = AZT-3TC-EFV : Males				
: Females				
4e= TDF-3TC-EFV: Males				
: Females				
4f=AZT + 3TC + LPV/R: Males				
: Females				
4g=ABC + 3TC + LPV/R : Males				
: Females				

OTHER : Males				
: Females				
Second Line Regimen	0	0	0	0
5a = ABC-Ddl-LPV/R : Males				
: Females				
5b = ABC+Ddl-NFV : Males				
: Females				
5c = TDF-Ddl-LPV/R : Males				
: Females				
5d = TDF-Ddl-NFV : Males				
: Females				
5e=ABC + 3TC + LPV/R: Males				
: Females				
5f=AZT + 3TC + LPV/R : Males				
: Females				
5g= TDF + 3TC + EFV : Males				
: Females				
5h=ABC + 3TC + EFV : Males				
: Females				
5i=TDF + 3TC+ LPV/R : Males				
: Females				
5j=ABC+ 3TC+ LPV/R : Males				
: Females				
OTHER : Males				
: Females				
Children Aged 1-4 Years	0	0	0	0
First Line Regimen	0	0	0	0
4a = D4t-3TC-NVP : Males				
: Females				
4b = D4t-3TC-EFV : Males				
: Females				
4c = AZT-3TC-NVP : Males				
: Females				
4d = AZT-3TC-EFV : Males				
: Females				
4e= TDF-3TC-EFV: Males				
: Females				
4f=AZT + 3TC + LPV/R: Males				
: Females				
4g=ABC + 3TC + LPV/R : Males				
: Females				
OTHER : Males				
: Females				
Second Line Regimen	0	0	0	0
5a = ABC-Ddl-LPV/R : Males				
: Females				
5b = ABC+Ddl-NFV : Males				
: Females				
5c = TDF-Ddl-LPV/R : Males				

: Females				
5d = TDF-Ddl-NFV : Males				
: Females				
5e=ABC + 3TC + LPV/R: Males				
: Females				
5f=AZT + 3TC + LPV/R : Males				
: Females				
5g= TDF + 3TC + EFV : Males				
: Females				
5h=ABC + 3TC + EFV : Males				
: Females				
5i=TDF + 3TC+ LPV/R : Males				
: Females				
5j=ABC+ 3TC+ LPV/R : Males				
: Females				
OTHER : Males				
: Females				
Children Aged 5-14 Years	0	0	0	0
First Line Regimen	0	0	0	0
4a = D4t-3TC-NVP : Males				
: Females				
4b = D4t-3TC-EFV : Males				
: Females				
4c = AZT-3TC-NVP : Males				
: Females				
4d = AZT-3TC-EFV : Males				
: Females				
4e= TDF-3TC-EFV: Males				
: Females				
4f=AZT + 3TC + LPV/R: Males				
: Females				
4g=ABC + 3TC + LPV/R : Males				
: Females				
OTHER : Males				
: Females				
Second Line Regimen	0	0	0	0
5a = ABC-Ddl-LPV/R : Males				
: Females				
5b = ABC+Ddl-NFV : Males				
: Females				
5c = TDF-Ddl-LPV/R : Males				
: Females				
5d = TDF-Ddl-NFV : Males				
: Females				
5e=ABC + 3TC + LPV/R: Males				
: Females				
5f=AZT + 3TC + LPV/R : Males				
: Females				
5g= TDF + 3TC + EFV : Males				

: Females				
5h=ABC + 3TC + EFV : Males				
: Females				
5i=TDF + 3TC+ LPV/R : Males				
: Females				
5j=ABC+ 3TC+ LPV/R : Males				
: Females				
OTHER : Males				
: Females				
Number Of Adults And Children With HIV Infection Newly Started On ART	0	0	0	0
Less Than 1 Year: Males			0	0
: Females			0	0
1-4 Years : Males			0	0
: Females			0	0
5-9 Years : Males			0	0
: Females			0	0
10-14 Years : Males			0	0
: Females			0	0
15-19 Years : Males			0	0
: Females Non-Pregnant			0	0
: Female Pregnant			0	0
20-24 Years : Males			0	0
: Females Non-Pregnant			0	0
: Female Pregnant			0	0
25-49 Years : Males			0	0
: Females Non-Pregnant			0	0
: Female Pregnant			0	0
Grater Than Or Equal To 50 Years : Males			0	0
: Females			0	0
ART Cohort Alive And On ART (From ART Facility Cohort Report) At 12 Months (Survival On ART)				
Number Of Persons On Original 1st Line Regimen, Including Those On Alternate 1st Line Regimen And Those On 2nd Line Regimen			0	0
Number Of Persons On ART In The Original Cohort Including Those Transferred In, Minus Those Transferred Out (Net Current Cohort).			0	0
Percentage Of ART Patients With An Undetectable Viral Load At 12 Month After Initiation Of ART				
Number Of Adult And Pediatric Patients With An Undetectable Viral Load Less Than 1,000 Copies/Ml At 12 Months			0	0
Number Of Adults And Children Who Initiated ART In The 12 Months Prior To The Beginning Of The Reporting Period With A Viral Load Count At 12 Month Visit			0	0
Proportion Of Clinically Undernourished People Living With HIV (PLHIV) Who Received Therapeutic Or Supplementary Food				
Number Of Clinically Undernourished PLHIV That Received Therapeutic Or Supplementary Food	0	0	0	0
Clinically Undernourished PLHIV Who Are On ART And Received Therapeutic Or Supplementary Food	0	0	0	0
Less Than 1 Year: Males			0	0
: Females			0	0
1-4 Years : Males			0	0
: Females			0	0
5-14 Years: Males			0	0
: Females			0	0

15-19 Years : Males			0	0
: Females Non-Pregnant			0	0
: Female Pregnant			0	0
Greater Than Or Equal To 20 Years: Males			0	0
: Females Non-Pregnant			0	0
: Female Pregnant			0	0
Clinically Undernourished PLHIV Who Are NOT On ART That Received Therapeutic Or Supplementary Food	0	0	0	0
Less Than 1 Year: Males			0	0
: Females			0	0
1-4 Years: Males			0	0
: Females			0	0
5-14 Years: Males			0	0
: Females			0	0
15-19 Years: Males			0	0
: Females Non-Pregnant			0	0
: Female Pregnant			0	0
Greater Than Or Equal To 20 Years: Males			0	0
: Females Non-Pregnant			0	0
: Female Pregnant			0	0
Number Of PLHIV That Were Nutritionally Assessed And Found To Be Clinically Undernourished	0	0	0	0
Less Than 1 Year: Males			0	0
: Females			0	0
1-4 Years: Males			0	0
: Females			0	0
5-14 Years : Males			0	0
: Females			0	0
15-19 Years: Males			0	0
: Females Non-Pregnant			0	0
: Females Pregnant			0	0
Greater Than Or Equal To 20 Years: Males			0	0
: Females Non-Pregnant			0	0
: Females Pregnant			0	0
Number Of HIV-Positive Adults And Children Currently Receiving Clinical Care	0	0	0	0
Number Of HIV Positive Adults And Children Who Received At Least One Of The Following During The Reporting Period: Clinical Assessment (WHO Staging) OR CD4 Count OR Viral Load During The Reporting Period, By Age And Sex	0	0	0	0
Less Than 1 Year: Males			0	0
: Females			0	0
1-4 Years : Males			0	0
: Females			0	0
5-9 Years : Males			0	0
: Females			0	0
10-14 Years : Males			0	0
: Females			0	0
15-19 Years: Males			0	0
: Females			0	0
20-24 Years: Males			0	0
: Females			0	0

25-49 Years: Males			0	0
: Females			0	0
Greater Than Or Equal To 50 Years : Males			0	0
: Females			0	0
Number Of Newly Enrolled HIV Positive Adults And Children Who Received Clinical Service (Clinical WHO Staging Or CD4 Count Or Viral Load) During The Reporting Period, By Age And Sex	0	0	0	0
Less Than 1 Year: Males			0	0
: Females			0	0
1-4 Years: Males			0	0
: Females			0	0
5-9 Years: Males			0	0
: Females			0	0
10-14 Years: Males			0	0
: Females			0	0
15-19 Years: Males			0	0
: Females			0	0
20-24 Years: Males			0	0
: Females			0	0
25-49 Years : Males			0	0
: Females			0	0
Greater Than Or Equal To 50 Years : Males			0	0
: Females			0	0
Number Of Persons Provided With Post-Exposure Prophylaxis (PEP)	0	0	0	0
Number Of Persons Provided With Post-Exposure Prophylaxis (PEP) For Risk Of HIV Infection	0	0	0	0
For Occupational Risk			0	0
For Non-Occupational Risk			0	0
Percentage Of HIV Infected Women Using A Modern Family Planning Method				
Number Of HIV Infected Women Aged 15-49 Reporting The Use Of Any Method Of Modern Family Planning	0	0	0	0
Less Than 15 Years			0	0
15-19 Years			0	0
20-24 Years			0	0
25-49 Years			0	0
Malaria				
Malaria Positivity Rate				
Number Of Slides Or RDT Positive For Malaria	0	3	1	4
Less Than 5 Years : Males	0	0	0	0
: Females	0	0	0	0
5-14 Years : Males	0	2	0	2
: Females	0	1	0	1
Greater Than Or Equal To 15 Years : Males	0	0	0	0
: Females	0	0	1	1
Total Number Of Slides Or RDT Performed For Malaria Diagnosis	0	14	20	34
Non-Communicable Diseases				
Cervical Cancer Screening In Women Age 30 - 49 Using VIA/PAP Smear				
Number Of Women Age 30-49 Screened Once With VIA/PAP For Cervical Cancer	0	0	0	0
Normal Cervix			0	0
Precancerous Lesion			0	0
Cancerous Lesion			0	0

Community Ownership				
Proportion Of Functional 1 To 5 Networks				
Functional 1 To 5 Networks	377	234		611
Expected Number Of 1 To 5 Networks	968	569		1537
Quality Of Health Services				
Outpatient Attendance Per Capita				
Number Of Outpatient Visits	51	49	914	1014
OPD Visits Less Than 5: New Male	21	17	141	179
OPD Visits Less Than 5: New Female	27	22	122	171
OPD Visits Less Than 5: Repeat Male	0	3	0	3
OPD Visits Less Than 5: Repeat Female	0	1	0	1
OPD Visits 5-14: New Male	3	3	92	98
OPD Visits 5-14: New Female	0	2	86	88
OPD Visits 5-14: Repeat Male	0	0	0	0
OPD Visits 5-14: Repeat Female	0	0	0	0
OPD Visits Grater Than = 15: New Male	0	1	238	239
OPD Visits Grater Than = 15: New Female	0	0	235	235
OPD Visits Greater Than Or Equal To 15: Repeat Male	0	0	0	0
OPD Visits Greater Than Or Equal To 15: Repeat Female	0	0	0	0
Admission Rate				
Number Of Inpatient Admissions			0	0
Bed Occupancy Rate				
Total Length Of Stay (In Days)			0	0
Number Of Beds				
Average Length Of Stay				
Number Of Inpatient Discharges			0	0
Inpatient Mortality Rate				
Number Of Inpatient Deaths In The Reporting Period			0	0
Proportion Of Blood Units Utilized From Blood Bank Service				
Total Units Of Blood Received From NBTS & Regional Blood Banks			0	0
Total Number Of Units Of Blood Transfused	0	0	0	0
Number Of Units Of Blood Transfused From Direct Family Replacement			0	0
Number Of Units Of Blood Transfused That Is From Blood Bank			0	0
Serious Adverse Transfusion Incidents And Reactions				
Number Of Serious Adverse Transfusion Incidents And Reactions Occurred			0	0
Pharmaceutical Supply And Services				
Essential Drug Availability				
Tracer Drug Availability (Enter 1 If Drug Available Whenever Needed In Month, 0 If Ever Unavailable When Needed)				
Amoxicillin	3	4	6	13
Oral Rehydration Salt	6	5	8	19
Arthemisin / Lumphantrine	1	4	8	13
Mebendazole Tablets			8	8
Tetracycline Eye Ointment	0	2	2	4
Paracetamol	4	5	7	16
Refampicine / Isoniazide / Pyrazinamide / Ethambutol			6	6
Medroxyprogesterone (Depo) Injection	7	8	7	22
Ergometrine Maleate Tablets			5	5
Ferrous Sailt Plus Folic Acid	4	1	3	8
Pentavalent DPT-Hep-Hib Vaccine	5	8	7	20
Zinc	7	8	8	23

Gentamycine	8	1	5	14
Evidence Based Decision Making				
Reporting Completeness				
Total Number Of Reports Received During A Given Time Period			53	53
Total Number Of Reports Expected			53	53
Reporting Timeliness				
Number Of Reports Received Timely (According To Schedule)			53	53
Data Quality Assurance (LQAS At HF)				
LQAS Score	90.833333	90	95	92.368421

Annex VIII: Dhera Health Center - Health Center Monthly Service Delivery Report -April-June 2010E.C

Health Center Monthly Service Delivery Form

S.No	Activity	Number
C1	**Access to Health Service**	
RMH	**Reproductive, Maternal, Neonatal, and Child Health**	
RMH_FP_CAR	**Contraceptive acceptance rate**	
FP_CAR_Age	**Total new and repeat acceptors, disaggregated by age**	**237**
FP_CAR_Age.1	**New acceptors by age**	**101**
FP_CAR_Age.1.1	10 - 14 years	0
FP_CAR_Age.1.2	15 - 19 years	10
FP_CAR_Age.1.3	20 - 24 years	56
FP_CAR_Age.1.4	25 - 29 years	0
FP_CAR_Age.1.5	30 - 49 years	35
FP_CAR_Age.2	**Repeat acceptors by age**	**136**
FP_CAR_Age.2.1	10 - 14 years	0
FP_CAR_Age.2.2	15-19 years	7
FP_CAR_Age.2.3	20 - 24 years	42
FP_CAR_Age.2.4	25 -29 years	0
FP_CAR_Age.2.5	30 - 49 years	87
FP_CAR_Mtd	**Total new and repeat acceptors, disaggregated by method**	**237**
FP_CAR_Mtd.1	**New acceptors, by method**	**101**
FP_CAR_Mtd.1.1	Oral contraceptives	0
FP_CAR_Mtd.1.2	Injectables	77
FP_CAR_Mtd.1.3	Implants	20
FP_CAR_Mtd.1.4	IUCD	0
FP_CAR_Mtd.1.5	Vasectomy	0
FP_CAR_Mtd.1.6	Tubal ligation	0
FP_CAR_Mtd.1.7	Others	4
FP_CAR_Mtd.2	**Repeat acceptors, by method**	**136**
FP_CAR_Mtd.2.1	Oral contraceptives	1
FP_CAR_Mtd.2.2	Injectables	112
FP_CAR_Mtd.2.3	Implants	21
FP_CAR_Mtd.2.4	IUCD	0
FP_CAR_Mtd.2.5	Vasectomy	0
FP_CAR_Mtd.2.6	Tubal ligation	0
FP_CAR_Mtd.2.7	Others	2
RMH_FP_IPPF	**Immediate Postpartum Contraceptive Acceptance(PPFP)**	
FP_IPPF_Age	**Total PPFP acceptors, disaggregated by age**	**0**
FP_IPPF_Age.1	10 - 14 years	0
FP_IPPF_Age.2	15-19 years	0
FP_IPPF_Age.3	20 - 24 years	0
FP_IPPF_Age.4	25 -29 years	0
FP_IPPF_Age.5	30 - 49 years	0
FP_IPPF_Mtd	**Total PPFP acceptors, disaggregated by method**	**0**
FP_IPPF_Mtd.1	Pills(POP)	0
FP_IPPF_Mtd.2	Implants	0
FP_IPPF_Mtd.3	IUCD	0
FP_IPPF_Mtd.4	Tubal Ligation	0
FP_IPPF_Mtd.5	Others	0
RMH_FP_LAFPPR	**Premature Removal of LAFP methods**	
FP_LAFPPR.1	**Total number of premature removal of LAFP within 6 month insertion**	**2**
FP_LAFPPR.1.1	Implants	2
FP_LAFPPR.1.2	IUCD	0

FP_LAFPPR.1.3	Others	0
FP_TtLAFPR	Total LAFP removal in the reporting period	85
RMH_ANC_1stV	**Antenatal Care coverage â€“First visit**	
ANC_1stV_GA.1	**Total Number of pregnant women that received ANC First visit by gestational week**	**616**
ANC_1stV_GA.1.1	<16 weeks gestation	67
ANC_1stV_GA.1.2	>=16 weeks gestation	549
ANC_1stV_MA.1	**Number of pregnant women that received ANC first visit by maternal age**	**616**
ANC_1stV_MA.1.1	10-14 years	0
ANC_1stV_MA.1.2	15-19 years	52
ANC_1stV_MA.1.3	>= 20 years	564
RMH_ANC_4thV	**Antenatal care coverage â€“ four visits**	
ANC_4thV_MA.1	**Total number of pregnant women that received four antenatal care visits**	**56**
ANC_4thV_MA.1.1	10-14 years	0
ANC_4thV_MA.1.2	15-19 years	13
ANC_4thV_MA.1.3	>= 20 years	43
RMH_ANC_Syph	**Pregnant women attending antenatal care tested for syphilis**	
ANC_Syph.1	**Total Number of pregnant women tested for syphilis**	**420**
ANC_Syph_Rct.1	Test result-Reactive	0
ANC_Syph_NRct.1	Test Result- Non-Reactive	420
ANC_Syph.RX.1	Total Number of pregnant women treated for syphilis	0
RMH_ANC_Hepa	**Pregnant women attending antenatal care tested for hepatitis (B&C)**	
ANC_Hepa.1	**Total Number of pregnant women tested for Hepatitis (B&C)**	**0**
ANC_Hepa_Rct.1	:Reactive	0
ANC_Hepa_NRct.1	:Non-Reactive	0
ANC_Hepa_RX.1	Total number of Reactive Pregnant mother treated for Hepatitis (B&C)	0
RMH_L&D_SBA	**Births attended by skilled health personnel**	
L&D_SBA.1	Total Number of births attended by skilled health personnel	268
RMH_L&D_SBR	**Still births**	
L&D_SBR.SB	Number of still births	6
L&D_SBR.LB	Number of Live births	263
RMH_PNC_E1stV	Early Postnatal Care Coverage	
PNC_E1stV.1.1	**Number of postnatal visits within 7 days of delivery**	**268**
PNC_E1stV.1.2	Early first postnatal care attendances 24 hrs (1 days)	268
PNC_E1stV.1.3	Early first postnatal care attendances 25-48 hrs	0
PNC_E1stV.1.4	Early first postnatal care attendances49-72 hrs	0
PNC_E1stV.1.5	Early first postnatal care attendances 73hrs-7 days	0
RMH_L&D_CS	**Caesarean section**	
L&D_CS.1	Number of women having given birth by caesarean section	0
RMH_CAC	**Number of women receiving comprehensive abortion care services**	
RMH_CAC_SAC	**Number of safe abortions performed**	**0**
CAC_SA.1	10-14 yr	0
CAC_SA.2	15-19 yr	0
CAC_SA.3	20-24 yr	0
CAC_SA.4	25-29 yr	0
CAC_SA.5	30+ yr	0
RMH_CAC_PAC	**Number of post abortion/emergency care**	**10**
CAC_PAC.1	10-14 yr	0
CAC_PAC.2	15-19 yr	0
CAC_PAC.3	20-24 yr	2
CAC_PAC.4	25-29 yr	4
CAC_PAC.5	30+ yr	4

RMH_CAC.1	**Number of women receiving comprehensive abortion care disaggregated by trimester**	**10**
RMH_CAC_FTr.1	First trimester(<12 wk)	10
RMH_CAC_STr.1	Second trimester(>= 12 wk)	0
RMH_IMD_IMMR	**Institutional maternal deaths**	
IMD_IMMR.1	Number of maternal deaths in health facility	0
RMH_TngP_TPR	**Teenage girls <= 19 years tested positive for pregnancy**	
TngP_TPR	**Total number of teenage girls tested positive for pregnancy**	**0**
TngP_TPR.1	10-14 years	0
TngP_TPR.2	15-19 years	0
RMH_TtP	Total number of women tested positive pregnancy	0
RMH_PMTCT	**PMTCT**	
RMH_PMTCT_TST	**Pregnant and lactating women who were tested for HIV and know their results**	
PMTCT_TST.1	Number of pregnant women tested and know their result during pregnancy	452
PMTCT_TST.2	Number of pregnant women tested and know their result during labour & delivery	0
PMTCT_TST.3	Number of women tested and know their result during the postpartum period	0
PMTCT_KNpos	Number of women with known HIV positive status attending ANC, delivery and postpartum for new pregnancy linked from Pre and ART	1
PMTCT_NWpos	Number of new Postive womens during ANC,L&D and Postpartum	1
RMH_PMTCT_ARV	**Percentage of HIV-positive pregnant women who received ART to reduce the risk of mother-to child-transmission (MTCT) during pregnancy, L&D and PNC**	
PMTCT_ARV.1	Number of HIV positive Pregnant women who received ART to reduce the risk of mother to child transmission during ANC for the first time	1
PMTCT_ARV.2	Number of HIV positive Pregnant women who received ART to reduce the risk of mother to child transmission during L&D for the first time	0
PMTCT_ARV.3	Number of HIV positive lactating women who received ART to reduce the risk of mother to child transmission during PNC for the first time	1
PMTCT_ARV.4	Number of HIV-positive women who get pregnant while on ART and linked to ANC	3
PMTCT_IPCR.1	**Total Number of infants within 12 month received virological test result**	**0**
PMTCT_IPCR.1.1	Number of HIV exposed infants who received an HIV test 0- 2 months of birth:	0
PMTCT_IPCR.1.1.1	:Positive	0
PMTCT_IPCR.1.1.2	:Negative	0
PMTCT_IPCR.1.2	Number of HIV exposed infants who received an HIV test 2-12 months of birth	0
PMTCT_IPCR.1.2.1	:Positive	0
PMTCT_IPCR.1.2.2	**:Negative**	**0**
RMH_PMTCT_ICPT	**Percentage of Infants born to HIV-infected women started on co-trimoxazole prophylaxis within two months of birth**	
PMTCT_ICPT.1	Number of infants born to HIV positive women started on co-trimoxazole prophylaxis within two months of birth	2
RMH_PMTCT_IARV	**Percentage of Infants born to HIV-infected women receiving antiretroviral (ARV) prophylaxis for prevention of Women-to-child transmission (PMTCT)**	
PMTCT_IARV.1	Number of HIV exposed infants who received ARV prophylaxis For 6 weeks	1
PMTCT_IARV.2	Number of HIV exposed infants who received ARV prophylaxis For 12 weeks	1

RMH_L&D_+ve	Number of HIV positive women who gave birth at health institution	1
RMH_PMTCT_PRN_TST	**Percentage of partners of pregnant, laboring and lactating women tested for HIV**	
PMTCT_PRN_TST.1	Total Number of partners of pregnant ,laboring and lactating women tested and know their results	0
PMTCT_PRN_Pos.1	Number of partners of pregnant ,laboring and lactating women â€“whose test result is HIV positive	0
RMH_PMTCT_IABT	**Percentage of HIV exposed infants receiving HIV confirmatory (antibody test) test by 18 months**	**0**
PMTCT_IABT_Pos.1	Number of HIV exposed infants receiving HIV confirmatory (antibody test) by 18 months- whose test result is HIV positive	0
PMTCT_IABT_Neg.1	Number of HIV exposed infants receiving HIV confirmatory (antibody test) by 18 months- whose test result is HIV negative	0
NCH	**Neonatal and child health**	
NCH_EPI	**EPI(Immunization Coverages)**	
EPI_BCG1	Number of children under one yr of age who have received BCG vaccine	285
EPI_Penta1.1	Number of children under one yr of age who have received first dose of pentavalent vaccine	266
EPI_Penta3.1	Number of children under one yr of age who have received third dose of pentavalent vaccine	253
EPI_PCV1.1	Number of children under one yr of age who have received first dose of pneumococcal vaccine	287
EPI_PCV3.1	Number of children under one yr of age who have received third dose of pneumococcal vaccine	254
EPI_PV1.1	Number of children under one yr of age who have received first dose of polio vaccine	287
EPI_PV3.1	Number of children under one yr of age who have received third dose of oral polio vaccine	254
EPI_IPV.1	Number of children under one yr of age who have received one dose of inactivated polio vaccine	254
EPI_RT1.1	Number of children under one yr of age who have received first dose of Rotavirus vaccine	287
EPI_RT1.2	Number of children under one yr of age who have received 2nd dose of Rotavirus vaccine	272
EPI_MCV1.1	Number of children under one yr of age who have received first dose of measles vaccine	325
EPI_FI.1	Number of children received all vaccine doses before 1st birthday	325
EPI_MCV2	**Measles second dose coverage**	
EPI_MCV2.1	Number of children under two yr of age who have received measles second dose vaccine	0
EPI_PAB	**Proportion of under one children protected against Neonatal Tetanus(PAB)**	
EPI_PAB.1	Number of Infants whose Womens had protective doses of TT against NNT (PAB)	287
EPI_HPV1	**HPV 1 (Human Papilloma Virus vaccine (1st dose) Immunization coverage (9 yr old girls)**	
EPI_HPV1.1	Number of girls 9 yr of age who have received first dose of human papilloma virus vaccine	0
EPI_HPV2	**HPV 2 (Human Papilloma Virus vaccine (2nd dose) Immunization coverage (9 yr old girls)**	
EPI_HPV2.1	Number of girls 9 yr of age who have received second dose of human papilloma virus vaccine in 6 months interval from the first dose	0
RMH_MV_TT	**TT Vaccination**	
MV_TT1.1	Number of women who have received TT1 vaccination	369
MV_TT2.1	Number of women who have received TT2 vaccination	228
MV.TT3.1	Number of women who have received TT3 vaccination	42
MV.TT4.1	Number of women who have received TT4 vaccination	7
MV.TT5.1	Number of women who have received TT5 vaccination	0

	Birth and Death Notifications	
	Number of birth notifications given	
	Number of death notifications given	
HCSM_VWR	**Vaccine wastage rate**	
VWR_BCG	BCG doses opened / doses given (all ages) / dose damaged / dose expired	294 / 285/ 0 / 0
VWR_Penta	Pentavalent (DPT-HepB-Hib) doses opened / doses given (all ages) / dose damaged / dose expired	 789 / 789/ 0 / 0
VWR_PCV	Pneumococcal conjugated vaccine doses opened / doses given (all ages) / dose damaged /	 814/ 814/ 0 /

	dose expired	0
VWR_RT	Rota doses opened / doses given (all ages) / dose damaged / dose expired	559/ 559/ 0 / 0
VWR_PV	Polio doses opened / doses given (all ages) / dose damaged / dose expired	820/ 813/ 0 / 0
VWR_MCV	Measles doses opened / doses given (all ages) / dose damaged / dose expired	340/ 325/ 0 / 0
VWR_TT	TT doses opened /	520/

	doses given (all ages) / dose damaged / dose expired	 513/ 0 / 0
VWR_IPV	IPV doses opened / doses given (all ages) / dose damaged / dose expired	 260/ 254/ 0 / 0
VWR_HP	HPV doses opened / doses given (all ages) / dose damaged / dose expired	 0/ 0/ 0 / 0
NCH_CHIM	**Child health and illiness management**	
NCH_CHIM_EIND	**Early institutional neonatal death**	**0**
CHIM_EIND.1	Number of neonatal deaths in the first 24 hrs of life/institutional/	0
CHIM_EIND.2	Number of neonatal deaths between 1 -7 days of life/institutional/	0
NCH_CHIM_PnRX	**Under-five children with pneumonia received antibiotic treatment**	
CHIM_PnRX.1	Number of under 5 children treated for pneumonia	72
NCH_CHIM_VSD	**Sick Young infant treated for sepsis / VSD (Very Severe Disease)**	

CHIM_VSD.1	Number of sick young infants 0-2 months treated for sepsis	2
CHIM_VSD.1.1	Number of sick young infants 0-2 months treated for local bacterial infection(LBI)	5
NCH_CHIM_DhRX	**Proportion of children who are treated for Diarrhea**	
CHIM_DhRX.1	Treated by ORS & Zinc	248
CHIM_DhRX.2	Treated by ORS only	0
NCH_CHIM_KMC	**Low birth weight or premature newborns for whom KMC was initiated after delivery**	
CHIM_KMC.1	Total Number of Newborn weighing <2000gm and premature newborns for which KMC initiated	0
CHIM_E4KMC	Total Number of Newborn weighing <2000gm and premature	0
NCH_CHIM_AsfxRS	**Asphyxiated neonates who were resuscitated (with bag & mask) and survived**	
CHIM_AsfxRS.1	Number of neonates resuscitated and survived	0
CHIM_AsfxR	Total number of neonates resuscitated	0
NCH_NTR	**Nutrition**	
NCH_NTR_LBW	**Percentage of Low birth weight newborns**	
NTR_LBW.1	Number of live-born babies with birth weight less than 2,500 g	8
NTR_LBW.2	Total number of live births weighed	265
NCH_NTR_GMP	**Promotion of GMP participation among children under 2 yr**	
NTR_GMP.1	**Number of children less than 2 yr weighted during GMP session**	**1285**
NTR_GMP.1.1	Age: 0 - 5 Months	663
NTR_GMP.1.2	Age: 6 - 23 Months	622
NTR_GMP.MM.1	**Number of weights recorded with moderate malnutrition by age (Z score b/n -2 & -3)'**	**50**
GMP_MM.1.1	Age: 0 - 5 Months	1
GMP_MM.1.2	Age: 6 -23 Months	49
GMP_SM	**Number of weights recorded with severe malnutrition by age (Z score below -3)**	**14**
GMP_SM.1.1	Age: 0 - 5 Months	1
GMP_SM.1.2	Age: 6 - 23 Months	13
C1.2.3	**Children aged <5 years screened for acute malnutrition**	
NTR_S4AM.1	**Total Number of children < 5 years screened for acute malnutrition**	**580**
NTR_S4AM.1.1	Age: 0 â€“ 5 Months	301
NTR_S4AM.1.2	Age: 6 - 59 Months	279
S4AM.MAM.1	**Number of weights recorded with moderate acute malnutrition : moderate underweight**	**69**
S4AM.MAM.1.1	Age: 0 â€“ 5 Months	52
S4AM.MAM.1.2	Age: 6 - 59 Months	17
S4AM.SAM.1	**Number of weights recorded with severe acute malnutrition : severely underweight**	**6**
S4AM.SAM.1.1	Age: 0 â€“ 5 Months	1
S4AM.SAM.1.2	Age: 6 - 59 Months	5
NCH_NTR_SAM_RXO	**Treatment outcome for management of severe acute malnutrition in children under 5 year (OTP and SC)**	
NTR_SAM_Ext	**Total number of children who exit from severe acute malnutrition treatment**	**5**
NTR_SAM_Ext_Rec.1	Number of children recovered	2
NTR_SAM_Ext_died.2	Number of children died	0
NTR_SAM_Ext_TO.3	Number of children transferred out	1
NTR_SAM_Ext_Def.4	Number of children defaulted	0
NTR_SAM_Ext_NR.5	Number of children -non-respondent	0
NTR_SAM_Ext_MTR.6	Number of children â€“medical transfer	1

NTR_SAM_Ext_UK.7	Number of children with unknown status	1
NTR_SAM_Adt	Total number of children with SAM admitted to TFP(OTP &SC) during the reporting period	10
NCH_NTR_VAS	**Children aged 6-59 months who received vitamin A supplementation**	
NTR_VAS.1	**Total number of children aged 6-59 months who received Vitamin A supplementation - by age**	**0**
NTR_VAS.1.1	Age: 6 â€“ 11 months	0
NTR_VAS.1.2	Age: 12 â€“ 59 Months	0
NTR_VAS.2	**Total number of children aged 6-59 months who received Vitamin A supplementation - by dose**	**0**
NTR_VAS.2.1	First dose	0
NTR_VAS.2.2	Second dose	0
NCH_NTR_DWR	**Children 24-59 month who received deworming**	
NTR_DWR.1.1	Total number of children aged 24 â€“ 59 months dewormed	16
NTR_DWR.1.2	First dose	16
1.2.6.1	Second dose	0
RMH_PLW_S4AM	**Proportion of pregnant and lactating women (PLW) screened for acute malnutrition**	
PLW_S4AM.1	**Total number of PLW screened for acute malnutrition**	**0**
PLW_S4AM.1.1	MUAC < 23 cm	0
PLW_S4AM.1.2	MUAC >= 23cm	0
RMH_ANC_IFA	**Proportion of pregnant women received iron and folic acid (IFA) supplements at least 90 plus**	
ANC_IFA.1	**Total number of Pregnant women received IFA at least 90 plus**	**199**
ANC_IFA.1.1	10-14 years	0
ANC_IFA.1.2	15-19 years	26
ANC_IFA.1.3	>= 20 years	173
RMH_ANC_DWR.1	Number of pregnant women De-wormed	0
CDC	**Communicable disease control and prevention**	
CDC_HIV	**HIV/AIDS**	
CDC_HIV_HCT	**Percentage of people living with HIV who know their status**	
HIV_HCT.1	**Number of individuals who have been tested for HIV and who received their results**	**1248**
HIV_HCT.2	**Number of individuals who tested positive for HIV**	
HIV_VCT.1	**Clients receiving HIV test results (at VCT)**	**297**
HIV_VCT.1.1	< 1 yr : Male	0
HIV_VCT.1.2	: Female	0
HIV_VCT.1.3	1- 4 yr : Male	0
HIV_VCT.1.4	: Female	0
HIV_VCT.1.5	5-9 yr: Male	0
HIV_VCT.1.6	: Female	0
HIV_VCT.1.7	10-14 yr: Male	0
HIV_VCT.1.8	: Female	0
HIV_VCT.1.9	15-19 yr : Male	27
HIV_VCT.1.10	: Female	21
HIV_VCT.1.11	20-24yr : Male	48
HIV_VCT.1.12	: Female	32
HIV_VCT.1.13	25-49yr : Male	68
HIV_VCT.1.14	: Female	79
HIV_VCT.1.15	>= 50 yr : Male	18
HIV_VCT.1.16	: Female	4
HIV_VCT_Pos.1	**Clients testing positive for HIV (at VCT)**	**7**
VCT_Pos.1.1	< 1 year: males	0
VCT_Pos.1.2	: females	0
VCT_Pos.1.3	1-4 years : males	0

VCT_Pos.1.4	: females	0
VCT_Pos.1.5	5-9 years : males	0
VCT_Pos.1.6	: females	0
VCT_Pos.1.7	10-14 years : males	0
VCT_Pos.1.8	: females	0
VCT_Pos.1.9	15-19 years : males	0
VCT_Pos.1.10	: females	0
VCT_Pos.1.11	20-24years : males	0
VCT_Pos.1.12	: females	0
VCT_Pos.1.13	25-49years : males	1
VCT_Pos.1.14	: females	3
VCT_Pos.1.15	>= 50 years : males	2
VCT_Pos.1.16	: females	1
HIV_PITC.1	**Clients receiving HIV test results (at PITC)**	**951**
HIV_PITC.1.1	< 1 year: males	70
HIV_PITC.1.2	: females	52
HIV_PITC.1.3	1-4 years : males	109
HIV_PITC.1.4	: females	86
HIV_PITC.1.5	5-9 years : males	0
HIV_PITC.1.6	: females	0
HIV_PITC.1.7	10-14 years : males	2
HIV_PITC.1.8	: females	5
HIV_PITC.1.9	15-19 years : males	11
HIV_PITC.1.10	: females	36
HIV_PITC.1.11	20-24years : males	16
HIV_PITC.1.12	: females	238
HIV_PITC.1.13	25-49years : males	19
HIV_PITC.1.14	: females	299
HIV_PITC.1.15	>= 50 years : males	1
HIV_PITC.1.16	: females	7
HIV_PITC_Pos.1	**Clients testing positive for HIV (at PITC)**	**1**
PITC_Pos.1.1	< 1 year: males	0
PITC_Pos.1.2	: females	0
PITC_Pos.1.3	1-4 years : males	0
PITC_Pos.1.4	: females	0
PITC_Pos.1.5	5-9 years : males	0
PITC_Pos.1.6	: females	0
PITC_Pos.1.7	10-14 years : males	0
PITC_Pos.1.8	: females	0
PITC_Pos.1.9	15-19 years : males	0
PITC_Pos.1.10	: females	0
PITC_Pos.1.11	20-24years : males	0
PITC_Pos.1.12	: females	1
PITC_Pos.1.13	25-49years : males	0
PITC_Pos.1.14	: females	0
PITC_Pos.1.15	>= 50 years : males	0
PITC_Pos.1.16	: females	0
C1.3.2.1.1.1.5	**HCT by population group**	
C1.3.2.1.1.1.5.1	**HCT by population group who know their results**	
C1.3.2.1.1.1.5.2	**HCT by population group who tested positive**	
HIV_HCT_PG.1	Female comercial Sex workers : Received result	8
HIV_HCT_PG.1.1	:Positive	0
HIV_HCT_PG.2	Long distance drivers: Received result	5
HIV_HCT_PG.2.1	:Positive	0
HIV_HCT_PG.3	Mobile/Daily Laborers: Received result	31
HIV_HCT_PG.3.1	:Positive	2
HIV_HCT_PG.4	OVC of PLHIV :Received result	1
HIV_HCT_PG.4.1	:Positive	0
HIV_HCT_PG.5	Children of PLHIV :Received result	0
HIV_HCT_PG.5.1	:Positive	0
HIV_HCT_PG.6	Prisoners :Received result	2

HIV_HCT_PG.6.1	:Positive	0
HIV_HCT_PG.7	Partners of PLHIV: Received result	6
HIV_HCT_PG.7.1	:Positive	0
HIV_HCT_PG.8	Other MARPs:Received result	1
HIV_HCT_PG.8.1	:Positive	0
HIV_HCT_PG.9	General population: Received result	1194
HIV_HCT_PG.9.1	:Positive	6
CDC_STI_PITC	**Proportion of STI cases tested for HIV in the reporting period.**	
STI_PITC.1	**Number of STI cases tested for HIV in the reporting period**	**21**
STI_PITC.1.1	Positive: Male	0
STI_PITC.1.2	:Female	0
STI_PITC.1.3	Negative: Male	5
STI_PITC.1.4	: Female	16
CDC_STI.1	**Total number of STI cases in the reporting period**	**30**
CDC_STI.1.1	Male	9
CDC.STI.1.2	Female	21
CDC_HIV_RXC.1	**Number of adults and children who are currently on ART by regimen type**	
HIV_RXC.1.1	**Number of adults (>=15) who are currently on ART**	
HIV_RXC.1.1.1	**Adult aged 15-19**	**19**
HIV_RXC.1.1.1.1	**first line regimen**	**19**
HIV_RXC.1.1.1.1.1	1c=AZT + 3TC+NVP :male	2
HIV_RXC.1.1.1.1.2	:Female	3
HIV_RXC.1.1.1.1.3	1d=AZT+ 3TC+ EFV :male	0
HIV_RXC.1.1.1.1.4	:Female	0
HIV_RXC.1.1.1.1.5	1e=TDF + 3TC + EFV :male	5
HIV_RXC.1.1.1.1.6	:Female	9
HIV_RXC.1.1.1.1.7	1f=TDF + 3TC+ NVP :male	0
HIV_RXC.1.1.1.1.8	:Female	0
HIV_RXC.1.1.1.1.9	1g=ABC + 3TC + EFV :male	0
HIV_RXC.1.1.1.1.10	:Female	0
HIV_RXC.1.1.1.1.11	1h=ABC + 3TC + NVP :male	0
HIV_RXC.1.1.1.1.12	:Female	0
HIV_RXC.1.1.1.1.13	other firstline regimen:male	0
HIV_RXC.1.1.1.1.14	:Female	0
HIV_RXC.1.1.1.1.2	**second line regimen**	**0**
HIV_RXC.1.1.1.1.2.1	2e= AZT +3TC +LPV/r :male	0
HIV_RXC.1.1.1.1.2.2	:Female	0
HIV_RXC.1.1.1.1.2.3	2f =AZT+3TC +ATV/r :male	0
HIV_RXC.1.1.1.1.2.4	:Female	0
HIV_RXC.1.1.1.1.2.5	2g=TDF + 3TC+-LPV/r :male	0
HIV_RXC.1.1.1.1.2.6	:Female	0
HIV_RXC.1.1.1.1.2.7	2h= TDF + 3TC + ATV/r :male	0
HIV_RXC.1.1.1.1.2.8	:Female	0
HIV_RXC.1.1.1.1.2.9	2i= ABC + 3TC+ LPV/r :male	0
HIV_RXC.1.1.1.1.2.10	:Female	0
HIV_RXC.1.1.1.1.2.11	other secondline: male	0
HIV_RXC.1.1.1.1.2.12	:Female	0
HIV_RXC.1.1.1.1.3	**Third Line regimen**	**0**
HIV_RXC.1.1.1.1.3.1	3a= DRV/r+DTG+AZT/3TC :male	0
HIV_RXC.1.1.1.1.3.2	:Female	0
HIV_RXC.1.1.1.1.3.3	3b= DRV/r+DTG + TDF/3TC :male	0
HIV_RXC.1.1.1.1.3.4	:Female	0
HIV_RXC.1.1.1.1.3.5	Other thirdline: male	0
HIV_RXC.1.1.1.1.3.6	:Female	0
HIV_RXC.1.1.2	**Adult aged 20-24**	**34**
HIV_RXC.1.1.2.1	**first line regimen**	**34**
HIV_RXC.1.1.2.1.1	1c=AZT + 3TC+NVP :male	0
HIV_RXC.1.1.2.1.2	:Female	4

HIV_RXC.1.1.2.1.3	1d=AZT+ 3TC+ EFV :male	0
HIV_RXC.1.1.2.1.4	:Female	0
HIV_RXC.1.1.2.1.5	1e=TDF + 3TC + EFV :male	4
HIV_RXC.1.1.2.1.6	:Female	26
HIV_RXC.1.1.2.1.7	1f=TDF + 3TC+ NVP :male	0
HIV_RXC.1.1.2.1.8	:Female	0
HIV_RXC.1.1.2.1.9	1g=ABC + 3TC + EFV :male	0
HIV_RXC.1.1.2.1.10	:Female	0
HIV_RXC.1.1.2.1.11	1h=ABC + 3TC + NVP :male	0
HIV_RXC.1.1.2.1.12	:Female	0
HIV_RXC.1.1.2.1.13	other firstline regimen:male	0
HIV_RXC.1.1.2.1.14	:Female	0
HIV_RXC.1.1.2.2	**second line regimen**	**0**
HIV_RXC.1.1.2.2.1	2e= AZT +3TC +LPV/r :male	0
HIV_RXC.1.1.2.2.2	:Female	0
HIV_RXC.1.1.2.2.3	2f =AZT+3TC +ATV/r :male	0
HIV_RXC.1.1.2.2.4	:Female	0
HIV_RXC.1.1.2.2.5	2g=TDF + 3TC+-LPV/r :male	0
HIV_RXC.1.1.2.2.6	:Female	0
HIV_RXC.1.1.2.2.7	2h= TDF + 3TC + ATV/r :male	0
HIV_RXC.1.1.2.2.8	:Female	0
HIV_RXC.1.1.2.2.9	2i= ABC + 3TC+ LPV/r :male	0
HIV_RXC.1.1.2.2.10	:Female	0
HIV_RXC.1.1.2.2.11	other secondline: male	0
HIV_RXC.1.1.2.2.12	:Female	0
HIV_RXC.1.1.2.3	**Third Line regimen**	**0**
HIV_RXC.1.1.2.3.1	3a= DRV/r+DTG+AZT/3TC :male	0
HIV_RXC.1.1.2.3.2	:Female	0
HIV_RXC.1.1.2.3.3	3b= DRV/r+DTG + TDF/3TC :male	0
HIV_RXC.1.1.2.3.4	:Female	0
HIV_RXC.1.1.2.3.5	Other thirdline: male	0
HIV_RXC.1.1.2.3.6	:Female	0
HIV_RXC.1.1.3	**Adult aged 25-49**	**392**
HIV_RXC.1.1.3.1	**first line regimen**	**392**
HIV_RXC.1.1.3.1.1	1c=AZT + 3TC+NVP :male	19
HIV_RXC.1.1.3.1.2	:Female	33
HIV_RXC.1.1.3.1.3	1d=AZT+ 3TC+ EFV :male	0
HIV_RXC.1.1.3.1.4	:Female	0
HIV_RXC.1.1.3.1.5	1e=TDF + 3TC + EFV :male	109
HIV_RXC.1.1.3.1.6	:Female	212
HIV_RXC.1.1.3.1.7	1f=TDF + 3TC+ NVP :male	5
HIV_RXC.1.1.3.1.8	:Female	14
HIV_RXC.1.1.3.1.9	1g=ABC + 3TC + EFV :male	0
HIV_RXC.1.1.3.1.10	:Female	0
HIV_RXC.1.1.3.1.11	1h=ABC + 3TC + NVP :male	0
HIV_RXC.1.1.3.1.12	:Female	0
HIV_RXC.1.1.3.1.13	other firstline regimen:male	0
HIV_RXC.1.1.3.1.14	:Female	0
HIV_RXC.1.1.3.2	**second line regimen**	**0**
HIV_RXC.1.1.3.2.1	2e= AZT +3TC +LPV/r :male	0
HIV_RXC.1.1.3.2.2	:Female	0
HIV_RXC.1.1.3.2.3	2f =AZT+3TC +ATV/r :male	0
HIV_RXC.1.1.3.2.4	:Female	0
HIV_RXC.1.1.3.2.5	2g=TDF + 3TC+-LPV/r :male	0
HIV_RXC.1.1.3.2.6	:Female	0
HIV_RXC.1.1.3.2.7	2h= TDF + 3TC + ATV/r :male	0
HIV_RXC.1.1.3.2.8	:Female	0
HIV_RXC.1.1.3.2.9	2i= ABC + 3TC+ LPV/r :male	0
HIV_RXC.1.1.3.2.10	:Female	0
HIV_RXC.1.1.3.2.11	other secondline: male	0
HIV_RXC.1.1.3.2.12	:Female	0

HIV_RXC.1.1.3.3	**Third Line regimen**	**0**
HIV_RXC.1.1.3.3.1	3a= DRV/r+DTG+AZT/3TC :male	0
HIV_RXC.1.1.3.3.2	:Female	0
HIV_RXC.1.1.3.3.3	3b= DRV/r+DTG + TDF/3TC :male	0
HIV_RXC.1.1.3.3.4	:Female	0
HIV_RXC.1.1.3.3.5	Other thirdline: male	0
HIV_RXC.1.1.3.3.6	:Female	0
HIV_RXC.1.1.4	**Adult aged 50+**	**47**
HIV_RXC.1.1.4.1	**first line regimen**	**47**
HIV_RXC.1.1.4.1.1	1c=AZT + 3TC+NVP :male	2
HIV_RXC.1.1.4.1.2	:Female	3
HIV_RXC.1.1.4.1.3	1d=AZT+ 3TC+ EFV :male	0
HIV_RXC.1.1.4.1.4	:Female	0
HIV_RXC.1.1.4.1.5	1e=TDF + 3TC + EFV :male	21
HIV_RXC.1.1.4.1.6	:Female	19
HIV_RXC.1.1.4.1.7	1f=TDF + 3TC+ NVP :male	1
HIV_RXC.1.1.4.1.8	:Female	1
HIV_RXC.1.1.4.1.9	1g=ABC + 3TC + EFV :male	0
HIV_RXC.1.1.4.1.10	:Female	0
HIV_RXC.1.1.4.1.11	1h=ABC + 3TC + NVP :male	0
HIV_RXC.1.1.4.1.12	:Female	0
HIV_RXC.1.1.4.1.13	other firstline regimen:male	0
HIV_RXC.1.1.4.1.14	:Female	0
HIV_RXC.1.1.4.2	**second line regimen**	**0**
HIV_RXC.1.1.4.2.1	2e= AZT +3TC +LPV/r :male	0
HIV_RXC.1.1.4.2.2	:Female	0
HIV_RXC.1.1.4.2.3	2f =AZT+3TC +ATV/r :male	0
HIV_RXC.1.1.4.2.4	:Female	0
HIV_RXC.1.1.4.2.5	2g=TDF + 3TC+-LPV/r :male	0
HIV_RXC.1.1.4.2.6	:Female	0
HIV_RXC.1.1.4.2.7	2h= TDF + 3TC + ATV/r :male	0
HIV_RXC.1.1.4.2.8	:Female	0
HIV_RXC.1.1.4.2.9	2i= ABC + 3TC+ LPV/r :male	0
HIV_RXC.1.1.4.2.10	:Female	0
HIV_RXC.1.1.4.2.11	other secondline: male	0
HIV_RXC.1.1.4.2.12	:Female	0
HIV_RXC.1.1.4.3	Third Line regimen	**0**
HIV_RXC.1.1.4.3.1	3a= DRV/r+DTG+AZT/3TC :male	0
HIV_RXC.1.1.4.3.2	:Female	0
HIV_RXC.1.1.4.3.3	3b= DRV/r+DTG + TDF/3TC :male	0
HIV_RXC.1.1.4.3.4	:Female	0
HIV_RXC.1.1.4.3.5	Other thirdline: male	0
HIV_RXC.1.1.4.3.6	:Female	0
HIV_RXC.1.2	**Number of children (<15) who are currently on ART**	
HIV_RXC.1.2.1	**Children aged <1 yr**	**0**
HIV_RXC.1.2.1.1	**First line regimen**	**0**
HIV_RXC.1.2.1.1.1	4c=AZT+ 3TC+NVP :male	0
HIV_RXC.1.2.1.1.2	:Female	0
HIV_RXC.1.2.1.1.3	4f= AZT +3TC+LPV/r :male	0
HIV_RXC.1.2.1.1.4	:Female	0
HIV_RXC.1.2.1.1.5	4g= ABC+3TC+LPV/r :male	0
HIV_RXC.1.2.1.1.6	:Female	0
HIV_RXC.1.2.1.1.7	other first line :male	0
HIV_RXC.1.2.1.1.8	:Female	0
HIV_RXC.1.2.1.2	**Second line regimen**	**0**
HIV_RXC.1.2.1.2.1	**5e=ABC+3TC+LPV/r :male**	0
HIV_RXC.1.2.1.2.2	:Female	0
HIV_RXC.1.2.1.2.3	5f=AZT + 3TC + LPV/r :male	0
HIV_RXC.1.2.1.2.4	:Female	0
HIV_RXC.1.2.1.2.5	5j=ABC+3TC+LPV/r :male	0
HIV_RXC.1.2.1.2.6	:Female	0

HIV_RXC.1.2.1.2.7	other secondline: male	0
HIV_RXC.1.2.1.2.8	:Female	0
HIV_RXC.1.2.2	**Children aged 1-4 yr**	**0**
HIV_RXC.1.2.2.1	**First line regimen**	**0**
HIV_RXC.1.2.2.1.1	4c=AZT+ 3TC+NVP :male	0
HIV_RXC.1.2.2.1.2	:Female	0
HIV_RXC.1.2.2.1.3	4d=AZT+3TC+EFV :male	0
HIV_RXC.1.2.2.1.4	:Female	0
HIV_RXC.1.2.2.1.5	4f= AZT +3TC+LPV/r :male	0
HIV_RXC.1.2.2.1.6	:Female	0
HIV_RXC.1.2.2.1.7	4g= ABC+3TC+LPV/r :male	0
HIV_RXC.1.2.2.1.8	:Female	0
HIV_RXC.1.2.2.1.9	other first line :male	0
HIV_RXC.1.2.2.1.10	:Female	0
HIV_RXC.1.2.2.2	**Second line regimen**	**0**
HIV_RXC.1.2.2.2.1	5e=ABC+3TC+LPV/r :male	0
HIV_RXC.1.2.2.2.2	:Female	0
HIV_RXC.1.2.2.2.3	5f=AZT + 3TC + LPV/r :male	0
HIV_RXC.1.2.2.2.4	:Female	0
HIV_RXC.1.2.2.2.5	5h=ABC + 3TC + EFV :male	0
HIV_RXC.1.2.2.2.6	:Female	0
HIV_RXC.1.2.2.2.7	5j=ABC+3TC+LPV/r :male	0
HIV_RXC.1.2.2.2.8	:Female	0
HIV_RXC.1.2.2.2.9	other secondline: male	0
HIV_RXC.1.2.2.2.10	:Female	0
HIV_RXC.1.2.2.3	**Third Line regimen**	**0**
HIV_RXC.1.2.2.3.1	6a=DRV/r+RAL + AZT +3TC :male	0
HIV_RXC.1.2.2.3.2	:Female	0
HIV_RXC.1.2.2.3.3	6b=DRV/r+RAL + TDF +3TC :male	0
HIV_RXC.1.2.2.3.4	:Female	0
HIV_RXC.1.2.2.3.5	Other:male	0
HIV_RXC.1.2.2.3.6	:Female	0
HIV_RXC.1.2.3	**Children aged 5-9 yr**	**12**
HIV_RXC.1.2.3.1	**First line regimen**	**12**
HIV_RXC.1.2.3.1.1	4c=AZT+ 3TC+NVP :male	5
HIV_RXC.1.2.3.1.2	:Female	5
HIV_RXC.1.2.3.1.3	4d=AZT+3TC+EFV :male	0
HIV_RXC.1.2.3.1.4	:Female	0
HIV_RXC.1.2.3.1.5	4e= TDF+3TC+EFV :male	0
HIV_RXC.1.2.3.1.6	:Female	0
HIV_RXC.1.2.3.1.7	4f= AZT +3TC+LPV/r :male	0
HIV_RXC.1.2.3.1.8	:Female	0
HIV_RXC.1.2.3.1.9	4g= ABC+3TC+LPV/r :male	2
HIV_RXC.1.2.3.1.10	:Female	0
HIV_RXC.1.2.3.1.11	other first line :male	0
HIV_RXC.1.2.3.1.12	:Female	0
HIV_RXC.1.2.3.2	**Second line regimen**	**0**
HIV_RXC.1.2.3.2.1	5e=ABC+3TC+LPV/r :male	0
HIV_RXC.1.2.3.2.2	:Female	0
HIV_RXC.1.2.3.2.3	5f=AZT + 3TC + LPV/r :male	0
HIV_RXC.1.2.3.2.4	:Female	0
HIV_RXC.1.2.3.2.5	5g=TDF + 3TC + EFV :male	0
HIV_RXC.1.2.3.2.6	:Female	0
HIV_RXC.1.2.3.2.7	5h=ABC + 3TC + EFV :male	0
HIV_RXC.1.2.3.2.8	:Female	0
HIV_RXC.1.2.3.2.9	5i=TDF+3TC+LPV/r :male	0
HIV_RXC.1.2.3.2.10	:Female	0
HIV_RXC.1.2.3.2.11	other secondline: male	0
HIV_RXC.1.2.3.2.12	:Female	0
HIV_RXC.1.2.3.3	**Third Line regimen**	**0**
HIV_RXC.1.2.3.3.1	6a=DRV/r+RAL + AZT +3TC :male	0

HIV_RXC.1.2.3.3.2	:Female	0
HIV_RXC.1.2.3.3.3	6b=DRV/r+RAL + TDF +3TC :male	0
HIV_RXC.1.2.3.3.4	:Female	0
HIV_RXC.1.2.3.3.5	Other thirdline: male	0
HIV_RXC.1.2.3.3.6	:Female	0
HIV_RXC.1.2.4	**Children aged 10-14 year**	**0**
HIV_RXC.1.2.4.1	**First line regimen**	**0**
HIV_RXC.1.2.4.1.1	4c=AZT+ 3TC+NVP : Male	0
HIV_RXC.1.2.4.1.2	: Female	0
HIV_RXC.1.2.4.1.3	4d=AZT+3TC+EFV : Male	0
HIV_RXC.1.2.4.1.4	: Female	0
HIV_RXC.1.2.4.1.5	4e= TDF+3TC+EFV : Male	0
HIV_RXC.1.2.4.1.6	: Female	0
HIV_RXC.1.2.4.1.7	4f= AZT +3TC+LPV/r : Male	0
HIV_RXC.1.2.4.1.8	: Female	0
HIV_RXC.1.2.4.1.9	4g= ABC+3TC+LPV/r : Male	0
HIV_RXC.1.2.4.1.10	: Female	0
HIV_RXC.1.2.4.1.11	other first line : Male	0
HIV_RXC.1.2.4.1.12	: Female	0
HIV_RXC.1.2.4.2	**Second line regimen**	**0**
HIV_RXC.1.2.4.2.1	5e=ABC+3TC+LPV/r :male	0
HIV_RXC.1.2.4.2.2	:Female	0
HIV_RXC.1.2.4.2.3	5f=AZT + 3TC + LPV/r :male	0
HIV_RXC.1.2.4.2.4	:Female	0
HIV_RXC.1.2.4.2.5	5g=TDF + 3TC + EFV :male	0
HIV_RXC.1.2.4.2.6	:Female	0
HIV_RXC.1.2.4.2.7	5h=ABC + 3TC + EFV :male	0
HIV_RXC.1.2.4.2.8	:Female	0
HIV_RXC.1.2.4.2.9	5i=TDF+3TC+LPV/r :male	0
HIV_RXC.1.2.4.2.10	:Female	0
HIV_RXC.1.2.4.2.11	other secondline: male	0
HIV_RXC.1.2.4.2.12	:Female	0
HIV_RXC.1.2.4.3	**Third Line regimen**	**0**
HIV_RXC.1.2.4.3.1	6a=DRV/r+RAL + AZT +3TC :male	0
HIV_RXC.1.2.4.3.2	:Female	0
HIV_RXC.1.2.4.3.3	6b=DRV/r+RAL + TDF +3TC :male	0
HIV_RXC.1.2.4.3.4	:Female	0
HIV_RXC.1.2.4.3.5	6c=DRV/r+DTG + AZT +3TC :male	0
HIV_RXC.1.2.4.3.6	:Female	0
HIV_RXC.1.2.4.3.7	6d=DRV/r+DTG + TDF +3TC :male	0
HIV_RXC.1.2.4.3.8	: Female	0
HIV_RXC.1.2.4.3.9	Other thirdline: male	0
HIV_RXC.1.2.4.3.10	:Female	0
HIV_RXC_LTF	**Number of PLHIV who are documented as Lost/lost to follow up during the reporting period**	
CDC_HIV_RXN	**Number of adults and children with HIV infection newly started on ART**	**10**
HIV_RXN.1	< 1 year: males	0
HIV_RXN.2	: females	0
HIV_RXN.3	1-4 years : males	0
HIV_RXN.4	: females	0
HIV_RXN.5	5-9 years : males	0
HIV_RXN.6	: females	0
HIV_RXN.7	10-14 years : males	0
HIV_RXN.8	: females	0
HIV_RXN.9	15-19years : males	0
HIV_RXN.10	: Females Non-pregnant	0
HIV_RXN.11	: Female Pregnant	0
HIV_RXN.12	20-24years : males	0
HIV_RXN.13	: Females Non-pregnant	1
HIV_RXN.14	: Female Pregnant	1

HIV_RXN.15	25-49years : males	3
HIV_RXN.16	: Females Non-pregnant	0
HIV_RXN.17	: Female Pregnant	3
HIV_RXN.18	>= 50 years : males	1
HIV_RXN.19	: females	1
CDC_HIV_RtR	**Percentage of adult and children on ART treatment after 12 month of initation of ARV therapy (Retention on ART)**	
HIV_RtR.1	**Number of adults and children who are still on treatment at 12 months after initiating ART**	**6**
HIV_RtR.1.1	1-4 years : males	0
HIV_RtR.1.2	: females	0
HIV_RtR.1.3	5-9 years : males	0
HIV_RtR.1.4	: females	0
HIV_RtR.1.5	10-14 years : males	0
HIV_RtR.1.6	: females	0
HIV_RtR.1.7	15-19years : males	0
HIV_RtR.1.8	: Females Non-pregnant	0
HIV_RtR.1.9	: Female Pregnant	0
HIV_RtR.1.10	20-24years : males	0
HIV_RtR.1.11	: Females Non-pregnant	1
HIV_RtR.1.12	: Female Pregnant	1
HIV_RtR.1.13	25-49years : males	0
HIV_RtR.1.14	: Females Non-pregnant	1
HIV_RtR.1.15	: Female Pregnant	3
HIV_RtR.1.16	>= 50 years : males	0
	: females	0
HIV_NCC	**Number of persons on ART in the original cohort including those transferred in, minus those transferred out (net current cohort).**	**4**
HIV_NCC.1	1-4 years : males	0
HIV_NCC.2	: females	0
HIV_NCC.3	5-9 years : males	0
HIV_NCC.4	: females	0
HIV_NCC.5	10-14 years : males	0
HIV_NCC.6	: females	0
HIV_NCC.7	15-19years : males	0
HIV_NCC.8	: Females Non-pregnant	1
HIV_NCC.9	: Female Pregnant	0
HIV_NCC.10	20-24years : males	0
HIV_NCC.11	: Females Non-pregnant	1
HIV_NCC.12	: Female Pregnant	1
HIV_NCC.13	25-49years : males	0
HIV_NCC.14	: Females Non-pregnant	1
HIV_NCC.15	: Female Pregnant	0
HIV_NCC.16	>= 50 years : males	0
HIV_NCC.17	: females	0
CDC_HIV_UVLC_6M	**Percentage of ART patients with an undetectable viral load at 6 month after initiation of ART**	
HIV_UVLC_6M.1	**Total number of adult and pediatric ART patients with an undetectable viral load <1000 copies/ml at 6 month**	**6**
HIV_UVLC_6M.1.1	< 1 year: males	0
HIV_UVLC_6M.1.2	: females	0
HIV_UVLC_6M.1.3	1-4 years : males	0
HIV_UVLC_6M.1.4	: females	0
HIV_UVLC_6M.1.5	5-9 years : males	0
HIV_UVLC_6M.1.6	: females	0
HIV_UVLC_6M.1.7	10-14 years : males	0
HIV_UVLC_6M.1.8	: females	0
HIV_UVLC_6M.1.9	15-19years : males	0
HIV_UVLC_6M.1.10	: Females Non-pregnant	0

HIV_UVLC_6M.1.11	: Female Pregnant	0
HIV_UVLC_6M.1.12	20-24years : males	0
HIV_UVLC_6M.1.13	: Females Non-pregnant	0
HIV_UVLC_6M.1.14	: Female Pregnant	0
HIV_UVLC_6M.1.15	25-49years : males	0
HIV_UVLC_6M.1.16	: Females Non-pregnant	4
HIV_UVLC_6M.1.17	: Female Pregnant	0
HIV_UVLC_6M.1.18	>= 50 years : males	1
HIV_UVLC_6M.1.19	: females	1
HIV_VLC_6M.1	**Number of adults and children who initiated ART in the 6 months prior to the beginning of the reporting period with a viral load count at 6 month visit**	**6**
HIV_VLC_6M.1.1	< 1 year: males	0
HIV_VLC_6M.1.2	: females	0
HIV_VLC_6M.1.3	1-4 years : males	0
HIV_VLC_6M.1.4	: females	0
HIV_VLC_6M.1.5	5-9 years : males	0
HIV_VLC_6M.1.6	: females	0
HIV_VLC_6M.1.7	10-14 years : males	0
HIV_VLC_6M.1.8	: females	0
HIV_VLC_6M.1.9	15-19years : males	0
HIV_VLC_6M.1.10	: Females Non-pregnant	0
HIV_VLC_6M.1.11	: Female Pregnant	0
HIV_VLC_6M.1.12	20-24years : males	0
HIV_VLC_6M.1.13	: Females Non-pregnant	0
HIV_VLC_6M.1.14	: Female Pregnant	0
HIV_VLC_6M.1.15	25-49years : males	0
HIV_VLC_6M.1.16	: Females Non-pregnant	0
HIV_VLC_6M.1.17	: Female Pregnant	4
HIV_VLC_6M.1.18	>= 50 years : males	1
HIV_VLC_6M.1.19	: females	1
CDC_HIV_SVLC	**Percentage of ART clients with a suppressed viral load (<1000 copies/ml) among those with a viral load test at 12 month in the reporting period**	
HIV_SVLC.1	**Total number of adult and paediatric ART patients with an undetectable viral load <1000copies/ml at 12 months in the reporting period**	**13**
HIV_SVLC.1.1	< 1 year: males	0
HIV_SVLC.1.2	: females	0
HIV_SVLC.1.3	1-4 years : males	0
HIV_SVLC.1.4	: females	0
HIV_SVLC.1.5	5-9 years : males	0
HIV_SVLC.1.6	: females	0
HIV_SVLC.1.7	10-14 years : males	0
HIV_SVLC.1.8	: females	0
HIV_SVLC.1.9	15-19years : males	0
HIV_SVLC.1.10	: Females Non-pregnant	0
HIV_SVLC.1.11	: Female Pregnant	0
HIV_SVLC.1.12	20-24years : males	0
HIV_SVLC.1.13	: Females Non-pregnant	0
HIV_SVLC.1.14	: Female Pregnant	0
HIV_SVLC.1.15	25-49years : males	1
HIV_SVLC.1.16	: Females Non-pregnant	0
HIV_SVLC.1.17	: Female Pregnant	9
HIV_SVLC.1.18	>= 50 years : males	2
HIV_SVLC.1.19	: females	1
HIV_VLC.1	**Number of adult and pediatric ART patients with a viral load test in the reporting period**	**91**
HIV_VLC.1.1	< 1 year: males	0
HIV_VLC.1.2	: females	0
HIV_VLC.1.3	1-4 years : males	0
HIV_VLC.1.4	: females	0

HIV_VLC.1.5	5-9 years : males	0
HIV_VLC.1.6	: females	2
HIV_VLC.1.7	10-14 years : males	0
HIV_VLC.1.8	: females	1
HIV_VLC.1.9	15-19years : males	2
HIV_VLC.1.10	: Females Non-pregnant	0
HIV_VLC.1.11	: Female Pregnant	2
HIV_VLC.1.12	20-24years : males	2
HIV_VLC.1.13	: Females Non-pregnant	0
HIV_VLC.1.14	: Female Pregnant	2
HIV_VLC.1.15	25-49years : males	24
HIV_VLC.1.16	: Females Non-pregnant	0
HIV_VLC.1.17	: Female Pregnant	45
HIV_VLC.1.18	>= 50 years : males	8
HIV_VLC.1.19	: females	3
CDC_HIV_NTR	**Proportion of clinically undernourished People Living with HIV (PLHIV) who received therapeutic or supplementary food**	
HIV_NTR_S4M	**Number of PLHIV who were assessed/screened for malnutrition**	**1**
HIV_NTR_S4M.1	< 1 year: males	0
HIV_NTR_S4M.2	: females	0
HIV_NTR_S4M.3	1-4 years : males	0
HIV_NTR_S4M.4	: females	0
HIV_NTR_S4M.5	5-9 years : males	0
HIV_NTR_S4M.6	: females	0
HIV_NTR_S4M.7	10-14 years : males	0
HIV_NTR_S4M.8	: females	0
HIV_NTR_S4M.9	15-19years : males	0
HIV_NTR_S4M.10	: Females Non-pregnant	0
HIV_NTR_S4M.11	: Female Pregnant	0
HIV_NTR_S4M.12	20-24years : males	0
HIV_NTR_S4M.13	: Females Non-pregnant	0
HIV_NTR_S4M.14	: Female Pregnant	0
HIV_NTR_S4M.15	25-49years : males	1
HIV_NTR_S4M.16	: Females Non-pregnant	0
HIV_NTR_S4M.17	: Female Pregnant	0
HIV_NTR_S4M.18	>= 50 years : males	0
HIV_NTR_S4M.19	: females	0
HIV_NTR_S4MU.1	**Number of PLHIV that were nutritionally assessed and found to be clinically undernourished (disaggregated by Age, Sex and Pregnancy)**	**1**
HIV_NTR_S4MU.1.1	< 1 year: males	0
HIV_NTR_S4MU.1.2	: females	0
HIV_NTR_S4MU.1.3	1-4 years : males	0
HIV_NTR_S4MU.1.4	: females	0
HIV_NTR_S4MU.1.5	5-9 years : males	0
HIV_NTR_S4MU.1.6	: females	0
HIV_NTR_S4MU.1.7	10-14 years : males	0
HIV_NTR_S4MU.1.8	: females	0
HIV_NTR_S4MU.1.9	15-19years : males	0
HIV_NTR_S4MU.1.10	: Females Non-pregnant	0
HIV_NTR_S4MU.1.11	: Female Pregnant	0
HIV_NTR_S4MU.1.12	20-24years : males	0
HIV_NTR_S4MU.1.13	: Females Non-pregnant	0
HIV_NTR_S4MU.1.14	: Female Pregnant	0
HIV_NTR_S4MU.1.15	25-49years : males	1
HIV_NTR_S4MU.1.16	: Females Non-pregnant	0
HIV_NTR_S4MU.1.17	: Female Pregnant	0
HIV_NTR_S4MU.1.18	>= 50 years : males	0
HIV_NTR_S4MU.1.19	: females	0
HIV_NTR_S4MU.2	**Number of clinically undernourished PLHIV who**	**1**

	received therapeutic or supplementary food by nutrional status	
HIV_NTR_S4MU.2.1	Total MAM who received therapeutic or supplementary food	0
HIV_NTR_S4MU.2.2	Total SAM who received therapeutic or supplementary food	1
HIV_NTR_S4MU_TF.1	**Clinically undernourished PLHIV who received therapeutic or supplementary food dis aggregated by age, sex and pregnancy status**	**1**
HIV_NTR_S4MU_TF.1.1	< 1 year: males	0
HIV_NTR_S4MU_TF.1.2	: females	0
HIV_NTR_S4MU_TF.1.3	1-4 years : males	0
HIV_NTR_S4MU_TF.1.4	: females	0
HIV_NTR_S4MU_TF.1.5	5-9 years : males	0
HIV_NTR_S4MU_TF.1.6	: females	0
HIV_NTR_S4MU_TF.1.7	10-14 years : males	0
HIV_NTR_S4MU_TF.1.8	: females	0
HIV_NTR_S4MU_TF.1.9	15-19years : males	0
HIV_NTR_S4MU_TF.1.10	: Females Non-pregnant	0
HIV_NTR_S4MU_TF.1.11	: Female Pregnant	0
HIV_NTR_S4MU_TF.1.12	20-24years : males	0
HIV_NTR_S4MU_TF.1.13	: Females Non-pregnant	0
HIV_NTR_S4MU_TF.1.14	: Female Pregnant	0
HIV_NTR_S4MU_TF.1.15	25-49years : males	1
HIV_NTR_S4MU_TF.1.16	: Females Non-pregnant	0
HIV_NTR_S4MU_TF.1.17	: Female Pregnant	0
HIV_NTR_S4MU_TF.1.18	>= 50 years : males	0
HIV_NTR_S4MU_TF.1.19	: females	0
HIV_NTR_S4MU_TF.2	**Number of clinically undernourished PLHIV who received therapeutic or supplementary food by nutritional status**	
HIV_NTR_S4MU_TF.2.1	**Total MAM who received therapeutic or supplementary food**	**0**
HIV_NTR_S4MU_TF.2.2	**Total SAM who received therapeutic or supplementary food**	**1**
HIV_PEP	**Proportion of persons provided with Post-exposure prophylaxis (PEP)**	
HIV_PEP.1	**Total number of persons provided with post-exposure prophylaxis (PEP) for risk of HIV infection**	**0**
HIV_PEP.1.1	Occupational risk	0
HIV_PEP.1.2	Non occupational risk	0
HIV_PE4HIV	**Total number of persons exposed for HIV infection and eligible for PEP**	**1**
HIV_PE4HIV.1	Occupational risk	0
HIV_PE4HIV.2	Non occupational risk	1
CDC_HIV_FP	**Percentage of HIV infected women using a modern family planning method**	
HIV_FP_Mtd	**Number of HIV infected women aged 15-49 reporting the use of any method of modern family planning by method**	**3**
HIV_FP.1_LA	Long Acting	0
HIV_FP.1_SA	Short Acting	3
HIV_FP_Age	**Number of HIV infected women aged 15-49 reporting the use of any method of modern family planning by Age**	**3**
HIV_FP_Age.1	10- 14 yr	0
HIV_FP_Age.2	15-19 yr	0
HIV_FP_Age.3	20-24 yr	3
HIV_FP_Age.4	25-49 yr	0
CDC_HIV_TBSC	**TB Screening for HIV positive Clients**	
HIV_TBSC.1	**Number of clients enrolled in HIV care who were screened for TB during the reporting period**	**1066**
HIV_TBSC.1.1	< 1 year: males	0

HIV_TBSC.1.2	: females	0
HIV_TBSC.1.3	1-4 years : males	0
HIV_TBSC.1.4	: females	0
HIV_TBSC.1.5	5-9 years : males	14
HIV_TBSC.1.6	: females	10
HIV_TBSC.1.7	10-14 years : males	28
HIV_TBSC.1.8	: females	22
HIV_TBSC.1.9	15-19years : males	14
HIV_TBSC.1.10	: Females Non-pregnant	0
HIV_TBSC.1.11	: Female Pregnant	24
HIV_TBSC.1.12	20-24years : males	8
HIV_TBSC.1.13	: Females Non-pregnant	15
HIV_TBSC.1.14	: Female Pregnant	47
HIV_TBSC.1.15	25-49years : males	268
HIV_TBSC.1.16	: Females Non-pregnant	26
HIV_TBSC.1.17	: Female Pregnant	496
HIV_TBSC.1.18	>= 50 years : males	48
HIV_TBSC.1.19	: females	46
HIV_TBPos.1	**Total Number of HIV positive clients with active TB**	**0**
HIV_TBPos.1.1	<15 yr : Male	0
HIV_TBPos.1.2	:Female	0
HIV_TBPos.1.3	>15 yr : Male	0
HIV_TBPos.1.4	:Female	0
CDC_Mal	**Malaria**	
Mal_Pos	**Malaria positivity rate**	
Mal_Pos.1	**Number of slides or RDT positive for malaria**	**20**
Mal_Pos.1.1	< 5 years : males	1
Mal_Pos.1.2	:female	0
Mal_Pos.1.3	5-14years : males	2
Mal_Pos.1.4	:female	0
Mal_Pos.1.5	>=15 years : males	12
Mal_Pos.1.6	:female	5
Mal_DX	Total number of slides or RDT performed for malaria diagnosis	574
NCDC	**Non-Communicable diseases**	
NCDC_CA_VIA	**Women between ages 30 â€“ 49 screened with VIA for cervical cancer**	
CA_VIA.1	**Number women between ages 30 â€“ 49 screened with VIA for cervical cancer**	**0**
CA_VIA_NC.1	Normal cervix	0
CA_VIA_PL.1	Precancerous lesion	0
CA_VIA_SCL.1	Suspicious Cancerous lesion	0
CA_SCCAL_RX	**Proportion of women age 30-49 yr with cervical lesion received treatment**	
CA_SCCAL_RX.1	**Number of women 30-49 yr with cervical lesion received treatment**	**0**
CA_SCCAL_RX_CT.1	Crayotherapy	0
CA_SCCAL_RX_LP.1	LEEP	0
NCDC_DM	**Diabetes mellitus**	
NCDC_DM.1	Number of Diabetic patients visited HF during the reporting period	0
DM_RX.1	Number of diabetic patients received treatment during the reporting period	0
DM_CBG.1	Number of Diabetic patients with controlled blood glucose during the reporting period	0
NCDC_HT	**Hypertension**	
NCDC_HT.1	Number of hypertensive patients visited HF during the reporting period	0
HT_RX.1	Number of hypertensive patients received treatment during the reporting period	0
HT_CBP.1	Number of hypertensive patients with controlled	0

	blood pressure during the reporting period	
NCDC_CVD	**Cardio vascular disease**	
NCDC_CVD.1	Number of patients with CVD risk â‰¥ 30% visited HF during the reporting period	0
CVD_RX.1	Number of patients with CVD risk â‰¥ 30% received treatment during the reporting period	0
CVD_CCVD.1	Number of patients with CVD risk â‰¥ 30% with BP and diabetes control and on statin during the reporting period	0
HSQI	**Quality of health Services**	
HSQI_OPD_OPAPC	**Outpatient attendance per capita**	
OPD_OPAPC.1	**Number of outpatient visits**	**2285**
OPD_OPAPC.1.1	OPD visits < 5: â€“ Male	493
OPD_OPAPC.1.2	OPD visits < 5: â€“ Female	388
OPD_OPAPC.1.3	OPD visits 5-10: â€“ Male	89
OPD_OPAPC.1.4	OPD visits 5-10: â€“ Female	163
OPD_OPAPC.1.5	OPD visits 11-19: â€“ Male	96
OPD_OPAPC.1.6	OPD visits 11-19: â€“ Female	63
OPD_OPAPC.1.7	OPD visits 20-29: â€“ Male	130
OPD_OPAPC.1.8	OPD visits 20-29: â€“ Female	210
OPD_OPAPC.1.9	OPD visits 30-45: â€“ Male	140
OPD_OPAPC.1.10	OPD visits 30-45: â€“ Female	214
OPD_OPAPC.1.11	OPD visits 46-65: â€“ Male	55
OPD_OPAPC.1.12	OPD visits 46-65: â€“ Female	223
OPD_OPAPC.1.13	OPD visits >=66: â€“ Male	21
OPD_OPAPC.1.14	OPD visits >=66: â€“ Female	0
FRM_HI_OPAPC.1	Total number of CBHI Members visit made to HF within a month	0
HSQI_IPD_AR	**Admission rate**	
IPD_AR.1	Number of inpatient admissions	0
HSQI_IPD_BOR	**Bed occupancy rate**	**0**
IPD_BOR.1	Total length of stay (in days)	0
IPD_BOR.2	Total Number of beds in the reporting period	33
HSQI_IPD_ALS	**Average length of stay**	
IPD_ALS.1	Number of inpatient discharges	0
HSQI_IPD_IMR	**Inpatient mortality rate**	
IPD_IMR.1	Number of inpatient deaths in the reporting period	0
HSQI_BDB_UBDU	**Proportion of blood units utilized from blood bank service**	
BDB_UBDR.1	**Total units of blood received from NBTS & regional blood banks**	**0**
TtBD_UBDT.1	**Total number of units of blood transfused**	**0**
BDFR_BDUU.1	Number of units of blood transfused from direct family replacement	0
BDB_UBDT.1	Number of units of blood transfused that is from blood bank	0
TtBD_UBDT_SATIR	**Serious adverse transfusion incidents and reactions**	
UBDT_SATIR.1	Number of serious adverse transfusion incidents and reactions occurred	0
HSQI_ERU_MR	**Emergency unit mortality**	
ERU_MR.1	**Total death in the emergency unit**	**0**
ERU_MR.1.1	< 15 yr: Male	0
ERU_MR.1.2	:Female	0
ERU_MR.1.3	>= 15 yr:Male	0
ERU_MR.1.4	:Female	0
ERU_ERA.1	Total number of emergency unit attendance during the reporting period	0
HSQI_RF_RFR	**Referral rate**	**0**
RF_RFR.1	**Number of people referred to other health facility**	**0**
RF_RFR_ER.1	Emergency referral	0

RF_RFR_NER.1	Non-emergency referral	0
TRCM_RTA_RTI	**Road traffic injuries**	
RTA_RTI.1	**Number of road traffic injury cases dis aggregated by accident type**	**0**
RTA_RTI.1.1	Vehicle occupant	0
RTA_RTI.1.2	Motor cyclist	0
RTA_RTI.1.3	Pedestrian	0
RTA_RTI.1.4	Other	0
HCSM	**Health commodity supply and management**	
HCSM_EDA	**Essential drug availability**	**86.7**
HCSM_EDA_TDR	**Tracer drug availability (enter 1 if drug available whenever needed in month, 0 if ever unavailable when needed).**	
EDA_TDR.1	Amoxicillin dispersible tablet	3
EDA_TDR.2	Oral Rehydration Salts	3
EDA_TDR.3	Zinc Dispersible tablet	3
EDA_TDR.4	Gentamycin Sulphate Injection	3
EDA_TDR.5	Cotrimoxazole	3
EDA_TDR.6	Magnesium Sulphate Injection	3
EDA_TDR.7	Oxytocin Injection	3
EDA_TDR.8	Enalapril tablets	2
EDA_TDR.9	Medroxyprogesterone Injection	3
EDA_TDR.10	Glibenclamide	2
EDA_TDR.11	Adrenaline (Epinephrine) injection	3
EDA_TDR.12	Pentavalent DPT-Hep-Hib Vaccine	3
EDA_TDR.13	Glucose 40%	1
EDA_TDR.14	Dextrose in normal saline	3
EDA_TDR.15	Ferrous sulphate + folic acid	2
EDA_TDR.16	Ciprofloxacin tablet	3
EDA_TDR.17	Ceftriaxone injection	2
EDA_TDR.18	Hydralazine injection	2
EDA_TDR.19	TDF/3TC/EFV adult	3
EDA_TDR.20	RHZE/RH patient kit	3
EDA_TDR.21	Tetanus antitoxine (TAT)	3
EDA_TDR.22	Tetracycline eye ointment	2
EDA_TDR.23	Arthmeter + Lumfanthrine tablet (any packing)	3
EDA_TDR.24	Implanon NXT	3
EDA_TDR.25	Artesuante injection	3
HCSM_Dis_PrDF	**Clients with 100% prescribed drugs filled**	**13.8**
Dis_PrDF.1	Number of clients who received 100% of prescribed drugs	130
Dis_DPrR.1	Total number of clients who received prescriptions	940
EBDM	**Evidence Based Decision Making**	
EBDM_DQ_RC	**Reporting completeness**	
DQ_RC.1	Total number of reports received during a given time period	9.5
DQ_RC.1.1	OPD	9.3
DQ_RC.1.2	Service	9.7
DQ_TtRE	Total number of reports expected	9.7
DQ_TtRE.1	OPD	9.7
DQ_TtRE.2	Service	9.7
DQ_RT	**Reporting timeliness**	
DQ_RT.1	Number of reports received timely (according to schedule)	56
DQ_RT.1.1	OPD	28
DQ_RT.1.2	Service	28
DQ_DA	**Data quality assurance (LQAS at HF)**	
DQ_DA.1	LQAS score for service report	95
DQ_DA.2	LQAS score for OPD report	95
DQ_DA.3	LQAS score for IPD report	95

Annex. IX: Commodity Market prices for Eteya, Haboura and Dehera Market

Market Survey checklist in Haboura Towns; Ziway dugda woreda

Expenditure	Items	Unit	Current market price in ETB	High production season		Low production Season	
				Months	Amount in ETB	Months	Amount in ETB
Agricultural food crops	Teff (red)	Qt	2,000	Nov	2000	July	2,200
	Maize	Qt	560	Nov	600	July	950
	Sorghum	Qt					
	wheat	Qt	1250	Nov	1250	Aug	1500
	Beans	Qt					
	Chick beans	Qt					
	Lentiles	Qt					
	Wheat	Qt					
	Wheat floor	Qt					
	Barely	Qt					
Food Items and non food items							30
	Cheese	Kg					
	Egg	Pieces	3	Nov	3	Aug	3
	Food oil	Liter					
	Raw meat	Kg	200	Nov	200	Aug	180
	Garlic	Kg					
	Red Onion	Kg	17	Nov	17	Aug	15
	Potato	Kg	10	Nov	10	Aug	15
	Carrot	Kg	10	Nov	15	Aug	10
	Cabbage	Kg					
	Red paper	Kg					
	Green Paper	Kg					
	Tomato	Kg	10	Nov	10	Aug	15
	Coffee	Kg					
	Tea leaves	Kg					
	Pasta	Kg	15				
	Macaroni	Kg					
	Packed tomato	Kg					
	Bottled water	Liter	10				
	Orange	Kg					
	Banana	Kg	20				
	Soap	Pieces	5				
	Cloth/uniform	Pieces	600				
	body wash	Pieces	5				
	Salt	Kg	15				
	Sugar	Kg	30				
	Tomato	Kg	10				
Livestock	Oxen	per head	16000	Aug	10000	Nov	16000
	Cow	per head	8000	Nov	8000	Aug	6000
	Sheep	per head	1400	Aug	1000	Nov	1400
	Goat	per head	1500	Aug	1100	Nov	1500
	Camel	per head			N/A		N/A
	chicken (male)	per head	120		170		150
	Chicken (female)	per head	80				
Rent	One bedroom in Hotel	Birr	100				
	Single room in compound	Birr	400				
	House/with compound	Birr	800-1000				
Education fee	School Fee	Per head	10				
	Exercise book	Piece	15				
	Student bags	Piece	150				
	pen	Piece	5				
	pencil	Piece	2				
	Eraser	Piece	2				
	Sharpener	Piece	2				
	copy paper	pack	160				

Expenditure	Items	Unit	Current market price in ETB	High production season		Low production Season	
				Months	Amount in ETB	Months	Amount in ETB
Clothing	Children, uniform	Piece	600				
	Women	Piece	400				
	Men	Piece	800				
Agricultural input	Fertilizers	Qt	1500				
	Pesticides for pest, diseases and weeds	Liter	300				
	Farm tools by type	piece	N/A				
	Improved seed	Qt	3000				
Construction Materials	Reinforcement bar (ፈኖ) 8”	Piece	N/A				
	Reinforcement bar (ፈኖ) 10”	Piece	N/A				
	Cement	Sack (50 kg)	140				
	Window	Piece	1000				
	Door	Piece	3000				
	Chairs	Piece	700-1000				
	Blocket	Piece	8				
	Construction sand	M^3 (1 cargo=18m^3=4000)	133				
	Corrugated iron /thickness (28 guage)	Piece	230				
	Nail(mm)	Kg	100				
	Straw	Bundle	25				
	Paint	Gallon	180				
	Stone (የካባ ድንጋይ)	M^3 (1 cargo=18m^3=2000)	111				
	Scoria	M^3	N/A				
Labour	Masonery	Daily rate	200				
	Handicraft	Daily rate	150				
	Daily labor	Daily rate	120				
Fuel wood	Wood	Bundle	100				
	Charcoal	Sack(big)	470				
	Stove for charcoal	piece	N/A				
	Baking injera plate	Piece	100				
	Electric Injera baking plate	Piece	N/A				
Home funiture	Dining table	Piece	1500				
	Chairs	piece	800				
	TV	Piece/size	N/A				
	Radio	Piece	N/A				
	Dry cell battery	Pieces	5				
	Solar Battery	piece	20				
	Cooking pot different size	Large/small	N/A				
	'	Small	N/A				
	Eating dish	Dozen/half	N/A				
	Knife, different size	Large/small	N/A				
	Other specify (food Preparation and eating equipment						

Expenditure	Items	Unit	Current market price in ETB	High production season		Low production Season	
				Months	Amount in ETB	Months	Amount in ETB
Land rent for vegetables growing	Irrigated	Kert (1/4 of hectare)	1500				
Specify Other (Land rent)	Rainfed	Kert (1/4 of hectare)	800-1000				

Commodity price in Dhera Towns, Dodota Woreda

Expenditure	Items	Unit	Current market price in ETB	High production season		Low production Season	
				Months	Amount in ETB	Months	Amount in ETB
Agricultural food crops	Teff (red)	Qt	2,100	Oct – Feb	1,700	June - Sept	2,200
	Teff (white)	Qt	2,500	Oct – Feb	2,300	June - Sept	2,500
	Maize	Qt	745	Oct – Feb	600		950
	Sorghum	Qt	940	Oct – Feb	650		1000
	wheat	Qt	1320	Oct – Feb	950		1250
	Beans	Qt	1750	Oct – Feb	1200		1600
	Chick beans	Qt	1950	Oct – Feb	1300		1800
	Lentiles	Qt					
	Wheat	Qt	1320		950		1250
	Wheat floor	Qt					
	Barely	Qt	1100		700		1200
Food Items and non food items	Milk	Liter	18		18		18
	Cheese	Kg					
	Egg	Pieces	3.50		3.50		3.50
	Food oil	Liter	69		69		69
	Raw meat	Kg	190		140		160
	Garlic	Kg	30				
	Red Onion	Kg	16		12		22
	Potato	Kg	10		1.50		2.50
	Carrot	Kg	10		6		10
	Cabbage	Kg	9				
	Red paper	Kg	70				
	Green Paper	Kg	20				
	Tomato	Kg	18				
	Coffee	Kg	130				
	Tea leaves	Kg					
	Pasta	Kg	20				
	Macaroni	Kg	26				
	Packed tomato	Kg					
	Bottled water	Liter	10				
	Orange	Kg	40				
	Banana	Kg	29				
	Soap	Pieces	12				
	Cloth/uniform	Pieces	650				
	body wash	Pieces	15				
	Salt	Kg	20				
	Sugar	Kg	45				
	Tomato	Kg	25				
Live stock	Oxen	per head	12167	Oct - Feb	11686	Jun-sep	17000
	Cow	per head	8793	Oct - Feb	10550	Jun-sep	8000
	Sheep	per head	2453	Oct - Feb	3494	Jun-sep	3000

Expenditure	Items	Unit	Current market price in ETB	High production season		Low production Season	
				Months	Amount in ETB	Months	Amount in ETB
	Goat	per head	2400	Oct - Feb	3000	Jun-sep	3500
	Camel	per head	N/A	N/A	N/A	N/A	N/A
	chicken	per head	200	Oct - Feb	170	Jun-sep	150
Rent	One bedroom in Hotel	Birr	80				
	Single room in compound	Birr	400				
	House/with compound	Birr	1500				
Transport fee	Motor Bike	Per head					
	Bajaj	Per head					
	Gari	Per head					
	Minibus	Per head					
	Mid Bus	Per head					
Education fee	School Fee	Per head	15				
	Exercise book	Piece	15				
	Student bags	Piece	150				
	pen	Piece	5				
	pencil	Piece	3				
	Eraser	Piece	5				
	Sharpener	Piece	6				
	copy paper	pack	170				
Clothing	Children, uniform	Piece	450				
	Women	Piece	400				
	Men	Piece	700				
Agricultural input	Fertilizers	Qt	1500				
	Pesticides for pest, diseases and weeds	Liter	N/A				
	Farm tools by type	piece	N/A				
	Improved seed	Qt	3000				
	Reinforcement bar (ፈትል) 10”	Piece	NN/A				
	Cement	Sack (50 kg)	150				
	Window	Piece	1500				
	Door	Piece	3000				
	Chairs	Piece	800				
	Blocket	Piece	8				
	Construction sand	M^3 (1 cargo=18m^3=4000)	222				
	Reinforcement bar (ፈትል)	Piece					
	Corrugated iron /thickness (28 guage)	Piece	250				
	Nail(mm)	Kg	100				
	Straw	Bundle	25				

Expenditure	Items	Unit	Current market price in ETB	High production season		Low production Season	
				Months	Amount in ETB	Months	Amount in ETB
	Paint	Gallon					
	Stone (የካባ ድንጋይ)	M^3 (1 cargo=18m^3=2000)	111				
	Scoria	M^3					
Labour	Masonery	Daily rate					
	Handicraft	Daily rate					
	Daily labor	Daily rate	120				
Fuel wood	Wood	Bundle	100				
	Charcoal	Sack(big)	600				
	Stove for charcoal	piece	N/A				
	Baking injera plate	Piece	3000				
	Electric Injera baking plate	Piece	N/A				
Home funiture	Dining table	Piece	N/A				
	Chairs	piece	800				
	TV	Piece/size	N/A				
	Radio	Piece	N/A				
	Dry cell battery	Pieces	5				
	Solar Battery	piece	N/A				
	Cooking pot different size	Large/small	N/A				
	'	Small	N/A				
	Eating dish	Dozen/half	N/A				
	Knife, different size	Large/small	N/A				
	Other specify (food Preparation and eating equipment						
Land rent for vegetables growing	Irrigated	Kert (1/4 of hectare)	3800-6000				
Specify Other (Land rent)		Kert (1/4 of hectare)					

Annex X: Commodity market price in Eteya town

Expenditure	Items	Unit	Current market price in ETB	High production season		Low production Season	
				Months	Amount in ETB	Months	Amount in ETB
Agricultural food crops	Teff (red)	Qt	2,100	Oct – Feb	1,700	June - Sept	2,200
	Teff (white)	Qt	2,500	Oct – Feb	2,300	June - Sept	2,500
	Maize	Qt	745		600		950
	Sorghum	Qt	940		650		1000
	wheat	Qt	1320		950		1250
	Beans	Qt	1750		1200		1600
	Chick beans	Qt	1950		1300		1800
	Lentiles	Qt	-		-	-	-
	Wheat	Qt	1320		950		1250
	Wheat floor	Qt					
	Barely	Qt	1100		700		1200
Food Items and non food items	Milk	Liter	18		18		18
	Cheese	Kg	-		-		-
	Egg	Pieces	3.50		3.50		3.50
	Food oil	Liter	69		69		69
	Raw meat	Kg	190		140		160
	Garlic	Kg					
	Red Onion	Kg	16		12		22
	Potato	Kg	10		1.50		2.50
	Carrot	Kg	10		6		10
	Cabbage	Kg	9				
	Red paper	Kg	70				
	Green Paper	Kg	20				
	Tomato	Kg	18				
	Coffee	Kg	130				
	Tea leaves	Kg					
	Pasta	Kg	20				
	Macaroni	Kg	26				
	Packed tomato	Kg					
	Bottled water	Liter	10				
	Orange	Kg	40				
	Banana	Kg	29				
	Soap	Pieces	12				
	Cloth/uniform	Pieces	650				
	body wash	Pieces	15				
	Salt	Kg	20				
	Sugar	Kg	45				
	Tomato	Kg	25				
Livestock	Oxen	per head	18288	Oct - Feb	16000	Jun-sep	17000
	Cow	per head	9356	Oct - Feb	5000	Jun-sep	8000
	Sheep	per head	4093	Oct - Feb	3500	Jun-sep	4000
	Goat	per head	4000	Oct - Feb	3000	Jun-sep	3500
	Camel	per head	N/A	N/A	N/A	N/A	N/A
	chicken	per head	250	Oct - Feb	170	Jun-sep	150
Rent	One bedroom in Hotel	Birr	80				
	Single room in compound	Birr		800			
	House/with compound	Birr		2500			
Education fee	School Fee	Per head					
	Exercise book	Piece		15			
	Student bags	Piece					
	pen	Piece	5				
	pencil	Piece	3				
	Eraser	Piece	5				
	Sharpener	Piece	6				

	copy paper	pack					
Clothing	Children, uniform	Piece	450				
	Women	Piece	650				
	Men	Piece	650				
Agricultural input	Fertilizers	Qt	1500				
	Pesticides for pest, diseases and weeds	Liter	N/A				
	Farm tools by type	piece	N/A				
	Improved seed	Qt	3000				
Construction Materials	Reinforcement bar (ፉሮ) 8”	Piece	210				
	Reinforcement bar (ፉሮ) 10”	Piece	300				
	Cement	Sack (50 kg)	105				
	Window	Piece	1000-3000				
	Door	Piece	20000-50000				
	Chairs	Piece	700-1000				
	Blocket	Piece	7				
	Construction sand	M^3 (1 cargo=18m^3=4000)	222				
	Reinforcement bar (ፉሮ)	Piece					
	Corrugated iron /thickness (28 guage)	Piece	250				
	Nail(mm)	Kg	100				
	Straw	Bundle	20-25				
	Paint	Gallon					
	Stone (የካባ ድንጋይ)	M^3 (1 cargo=18m^3=2000)					
	Scoria	M^3					
Labor	Masonery	Daily rate					
	Handicraft	Daily rate					
	Daily labor	Daily rate	150-200				
Fuel wood	Wood	Bundle	100				
	Charcoal	Sack(big)	500-600				
	Stove for charcoal	piece	250				
	Baking injera plate	Piece	150				
	Electric Injera baking plate	Piece	1000				
Home funiture	Dining table	Piece	2500				
	Chairs	piece	800-1000				
	TV	Piece/size	N/A				
	Radio	Piece	N/A				
	Dry cell battery	Pieces	5				
	Solar Battery	piece	150-1500				
	Cooking pot different size	Large/small	N/A				
	'	Small	N/A				
	Eating dish	Dozen/half	N/A				
	Knife, different size	Large/small	N/A				
	Other specify (food Preparation and eating equipment						
Land rent for vegetables growing		Kert (1/4 of hectare)	3000-6000				
Specify Other (Land rent)		Kert (1/4 of hectare)					