



# **PARTICIPATORY RURAL APPRAISAL REPORT: SOUTH ACHEFER DISTRICT**

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## List of abbreviations and acronyms

ACSI	Amhara Credit and Saving Institution
AGP	Agricultural Growth Programme
ARDO	Amhara rehabilitation and Development Organization
BoA	Bureau of Agriculture
CASCAPE	Capacity Building for Scaling Up of Evidence-Based Best Practices in Agricultural Production in Ethiopia Project
DA	Development Agent
FTC	Farmers Training Centre
GOs	Governmental Organisations
NGO	Non-Governmental Organisation
PRA	Participatory Rural Appraisal
WoA	<i>Woreda</i> Office of Agriculture



## Executive summary

Nowadays, participatory methods have become an essential component to be implemented in any development intervention. Hence, the CASCAPE innovation team members of Bahir Dar University were exercising PRA from 02-12 December, 2011 in South Achefer *woreda* in the four project *kebeles*; Abchickeli, Lalibela, Ahuri Keltafa and Kare Gurach. The objectives were to identify potentials, constraints and best practices of agricultural activities in the area.

The PRA was conducted focusing on four major areas; environmental conditions, socio-economic conditions, the actor landscape and agricultural production conditions. Altogether, 25 to 32 participants were selected to represent both genders and all age and wealth strata in different different villages of the *kebele*. The tools used were resource mapping, social mapping, semi-structured interviews, Venn diagrams, wealth ranking, pair-wise ranking, key informant interviews and group discussion.

The results of the PRA indicated that livelihood depends on agricultural production which is mainly practiced in fragmented holdings. Mixed farming is the typical farming system in the area. The natural resources are much degraded and all of them are categorized as scarce except firewood and in some *kebeles*, water. Arable and grazing lands are very limited in extent to carry ever increasing human and animal populations. Moreover, the lands are highly affected by soil erosion and deforestation. The sources of finance for the farming community are ACSI and farmers' cooperatives. Both have some problems in their services. Marketing problems are of great concern to the resource poor small holder farmers in the area. Many GOs and a few NGO institutions are found in all *kebeles*.

The major crops grown include maize, millet, teff, pulses and crop trees. The main livestock and animal types found in the area are cattle, sheep, goats, poultry and bees. Fertilizer price increases, Shortage and poor quality of improved seed, declining soil fertility, and crop diseases and pests were identified as the major constraints for crop production. Likewise, livestock production is facing problems of grazing land and feed shortage, animal health problems and shortage of supply of improved animal breeds.





## 1. Introduction

The Capacity building for scaling up of evidence-based best practices in agricultural production in Ethiopia (CASCAPE) project, is a joint project of the Ethiopian government and The Kingdom of The Netherlands and receives funding from the Dutch Ministry of Foreign Affairs. The project is working in five Ethiopian universities, with the main objectives of enhancing agricultural production and productivity by identifying, proving, documenting and promoting best practices in agricultural production. The universities are: Bahir Dar, Haramaya, Hawassa, Jimma and Mekelle Universities. These universities implement the project in technical and administrative collaboration with Wageningen university in The Netherlands.

CASCAPE works closely with and acts as the technical wing of The Agricultural Growth Program (AGP), for the realisation of the five year Growth and Transformation Plan (GTP) of the country.

### 1.1 Objectives

The objectives of this PRA were:

- a/ To identify opportunities, constraints and intervention points for the improvement of agricultural production and productivity of the area
- b/ To get an insight into, and a clear picture of the farming systems of the community
- c/ To identify best practices, if available, employed to tackle the agricultural production problems being addressed.

### 1.2 Methodology

#### 1.2.1 Geographical area coverage

The PRA was conducted in four selected CASCAPE *kebeles* in South Achefer *woreda*. The *kebeles* were selected based on the criteria of AGP intervention, their potential for agricultural production, agro-ecological variations, and others. The selection of *kebeles* was made by the officials of the *woreda* agriculture office in partnership with the CASCAPE IT members from Bahir Dar University.

#### 1.2.2 Participant selection procedure

The main participants or sources of information were the farming community members who are living in the four CASCAPE *kebeles* in South Achefer *woreda*. A total of between 22 and 32 men and women household heads participated in each *kebele*. The selection of households was deliberately made to represent different strata of the community such as wealth status, age, gender, education level and representatives from different villages. In addition, *woreda* level officials and experts, development agents, cooperative leaders, input distributors, *kebele* leaders and model farmers were contacted as key informants. A *kebele* level workshop was conducted as planned, even though it was done with a limited number of people. The reasons were time shortage and the overlapping of too many meeting schedules at *kebele* level by different government bodies.

For validation of the data collected, it is essential to do triangulation. We approached this by making the team multidisciplinary, by collecting data from various sources and by making direct observations. Direct observation was not, however, carried out fully in each *kebele* because of time constraints.



### 1.2.3 Duration

Our PRA was started on 02 December, 2011 and ended on 12 December, 2011. We spent two days, as planned, in each *kebele*.

### 1.2.4 Methods of data collection

The PRA survey focused on environmental and socio-economic conditions, actor landscape and agricultural production conditions. As PRA demands a multidisciplinary approach, all the team members were working together as one group out of which one member of the team acted as facilitator and the rest as note-takers. In addition, one *woreda* expert and all the development agents in each *kebele* participated in coordinating the PRA meeting.

## 1.3. PRA Tools Used

### 1.3.1. Environmental conditions

The situation in the *kebele* perceived by the community concerning soils (fertility, composition, etc.), water (quality and quantity of groundwater and of surface water), vegetation, and climate (agro-ecological zone, average precipitation rates, etc.) is presented in this section. Results were subsequently compared with figures from other data sources and described in the baseline survey which we conducted. The tools employed were resource mapping and a transect walk as specified during the planning period.

#### **Key questions addressed:**

1. What resources are abundant according to different community groups?
2. What resources are scarce according to different community groups?
3. Which resources are problematic?
4. Do different community groups have equal access to land (e.g. rich/poor, elderly/youngsters, women/men)?
5. Is the land equally fertile?
6. Who makes decisions on land allocation?
7. How is water and firewood collection organised?
8. Where do people go to graze livestock?
9. What are the main environmental constraints as perceived by the community?

### 1.3.2. Socio-economic conditions

Data on socio-economic status (livelihood, income, capital, etc.), facilities and institutions (medical posts, schools, etc.) and infrastructure (roads, etc.) are presented in this section. In this section there were discussions about access to markets and credit. The tools employed were social where institutions such as schools, health posts etc are presented, focus group discussion and wealth ranking.

#### **Key questions addressed:**

1. What are the approximate boundaries of the village with regard to social interaction and social services?
2. How many households are found in the village and where are they located?
3. Is the number of households growing or shrinking?



4. What religious groups are found in the village? Where in the village do the different religious groups live?
5. What ethnic groups are found in the village? Where in the village do the different ethnic groups live?
6. Which are the female headed households and where are they located?
7. What are the main economic activities?
8. How are livelihoods comprised?
9. How access to finance is organised?
10. How is access to markets organised?
11. What are the main economic constraints as perceived by different community groups?

### **1.3.3. Actor landscape**

In this section, the institutions and organisations in the *kebele*, and their relative importance to different sections of the community were described. The only tool used was Venn diagram, as specified during the planning period.

#### **Key questions addressed:**

1. Which organisations/institutions/groups are working in or with the community?
2. Which institutions/groups do the villagers regard as most important, and why?
3. Which groups are addressing household food security and nutrition issues?
4. Which organisations work together?
5. Are there groups which are meant for women or men only?
6. Are some particular groups or kind of people excluded from being members of, or receiving services from certain institutions?

### **1.3.4. Agricultural production conditions**

In this section data on agricultural practices, opportunities and constraints was presented including the most important crops, production strategies and main production constraints. The tools used were semi-structured interview and preparation of a pair wise ranking matrix. A pair wise ranking is a method used to prioritise agricultural problems according to their seriousness. It is done by putting the same problems in the row and column headings and comparing a single problem with the rest.

#### **Key questions addressed:**

1. What are the main crops cultivated/livestock kept by different community groups?
2. What are the agricultural practices for most prevalent crops?
3. How is agricultural input organised?
4. What are most important agricultural production constraints?

## **1.4. Data Analysis Methods**

The PRA data was analysed using descriptive statistics and different PRA tools. Pair wise ranking is widely applied to identify potentials and problems of each *kebele* and locality. The data are presented in the form of charts, diagrams and tables.

## 2. Description of the *woreda* and selected *kebeles*

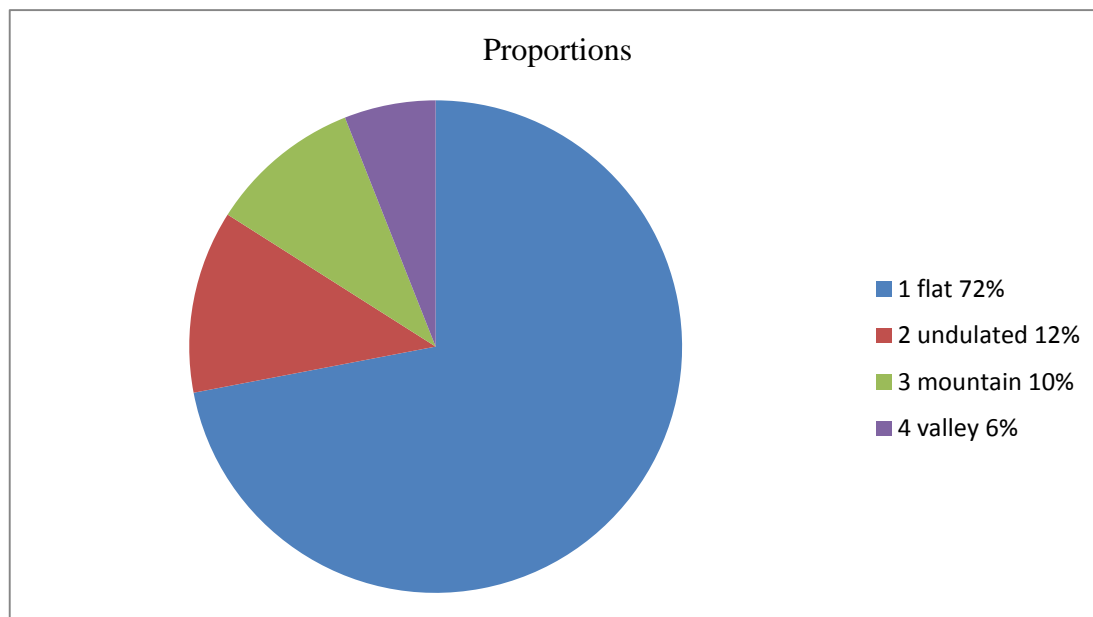
### 2.1 South Achefer *woreda*

#### 2.1.1 Location

South Achefer *woreda*, one of the thirteen *woredas* found in West Gojjam Administrative Zone, is located 60 km south-west of Bahir Dar town, the capital of Amhara Region. It borders North Achefer to the north, Awi zone to the south and west and Mecha *woreda* to the east. It is sub-divided into 18 rural and 2 urban *kebele* administrations, the lowest level in the hierarchy of government administrative system.

#### 2.1.2 Topography and climate

The altitude of South Achefer *woreda* ranges from 1,500 to 2,500 m above sea level. The *woreda* is known for its flat topography, but there are also mountains, valleys and undulating areas (Figure 1).



**Figure 1: Topography of South Achefer *woreda***

87% of the *woreda* has a temperate climate and the remaining 13% has cold climatic conditions. The mean annual rainfall ranges from 1,450 to 1,594 mm.

#### 2.1.3 Population

According to the Amhara Regional State Bureau of Finance and Economic Development 2011 population prediction, the total population of the *woreda* is about 148,974. The rural population is 134,447 or 90.2%, which is high when compared with the national level, 83%. The number of people living in urban areas is 14,528, accounting for 9.8% of the total population of the *woreda*. This clearly indicates that any effort to

improve the productivity of agriculture in this *woreda* will make a considerable contribution to improving the wellbeing of the community at large. Out of the total, the female population is 73,456 or 49.3%, and the male population is 75,519 or 50.7%. Dividing the total population by the total geographical area, we can estimate that the population density is about 1.24 people per hectare, which can be considered as densely populated.

#### 2.1.4 Agriculture and livelihood

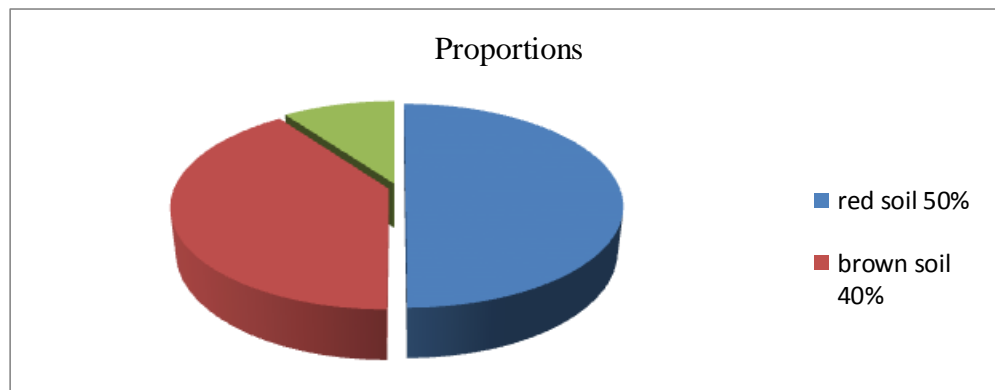
Mixed farming is practised in all parts of the *woreda* and by each of the households in the community. It is at subsistence level and practised in fragmented holdings which mostly lack modern technology. The average land holding at *woreda* level is 1.5 ha per household which ranges from 0 to 3 ha among the farmers in the *woreda*. In the crop sub-sector, the main crops grown include maize, teff, finger millet, wheat, chickpea, beans, niger seed, and cabbage. In the livestock sub-sector, cattle are dominant, and large numbers of poultry, sheep and goats are also kept. Oxen, cows, heifers, bulls, calves, chicken, goats and sheep are found in numbers in most households. Livelihood therefore depends to a large extent on agricultural production and trading. South Achefer is considered as one of the most food secure and surplus producing *woredas* in the region.

#### 2.1.5 Land use

According to the *woreda* agriculture office sources, the total geographical area of South Achefer is about 118,228 ha. The arable and grazing lands are known to be 39,195 and 18,018 ha respectively. The forest land covers about 4,850 ha or 4% of the total geographical area.

#### 2.1.6 Soil

There are three types of soil in the *woreda*



**Figure 2: Soil types of South Achefer *woreda***



## 2.2 Abchikeli *kebele*

Abchikeli surrounds but does not include Durbete town, the capital of South Achefer *woreda*. The total area of the *kebele* is about 6,500 ha, of which arable land forms 3,468 ha and is the major land use type found in the *kebele*. The communally owned grazing land covers 1,887 ha and is the second largest land use type. Forest and bush land cover 1,143 ha.

The total population of the *kebele* is about 8,534, of which about 4,137 are male and 4,397 female. The total population of the *kebele* includes 1,543 male headed and 374 female headed households.

## 2.3 Lalibela *kebele*

Lalibela is located about 20 km north of Durbete town. It has a total area of 5,752 ha, of which 2,776 ha, is arable land, 533 ha is grazing land, and 170 ha is forest.

The total population of the *kebele* is about 10,457 of which the numbers of male and female members are 5,205 and 5,252 respectively. There are 1,755 male headed households and 265 female headed. The model male headed households are 300 while the numbers of model female head households are only 18.

## 2.4 Ahuri Keltafa *kebele*

Ahuri Keltafa is located about 6 km north of Durbete town, and has a total area of about 6,029 ha. The major area of the *kebele*, 4,025 ha, is used as arable land. Grazing land covers about 678 ha, and forest, 378 ha.

The total population is 13,406 of which 6,792 are male and 6,614 are female. The *kebele* has 1,774 male headed households and 330 female headed households. The model male and female headed households are 280 and 35 respectively.

There are two soil types, black and red. Red clay soil predominates and black soil covers only 13.5 ha. That means the soil is suitable to cultivate a diversity of crops including maize, millet, teff, pulses and tree crops.

## 2.5 Kare Gurach *kebele*

Kare Gurach is located about 9 km north-east of Durbete town, the capital of the *woreda*. The majority, 65%, of the *kebele* is used as arable land. The next largest land use type, forest and bush land, covers 20% of the total area of the *kebele*, and grazing land and mountainous areas cover 12% and 3% respectively. Livelihoods depend entirely on agricultural production.

Red soil covers 78% and black soil 22% of the farmland. The major crops grown are maize, millet, teff, pulses and tree crops. Livestock husbandry is also widely practiced with the major livestock types kept being oxen, cows, sheep, goats and chickens.

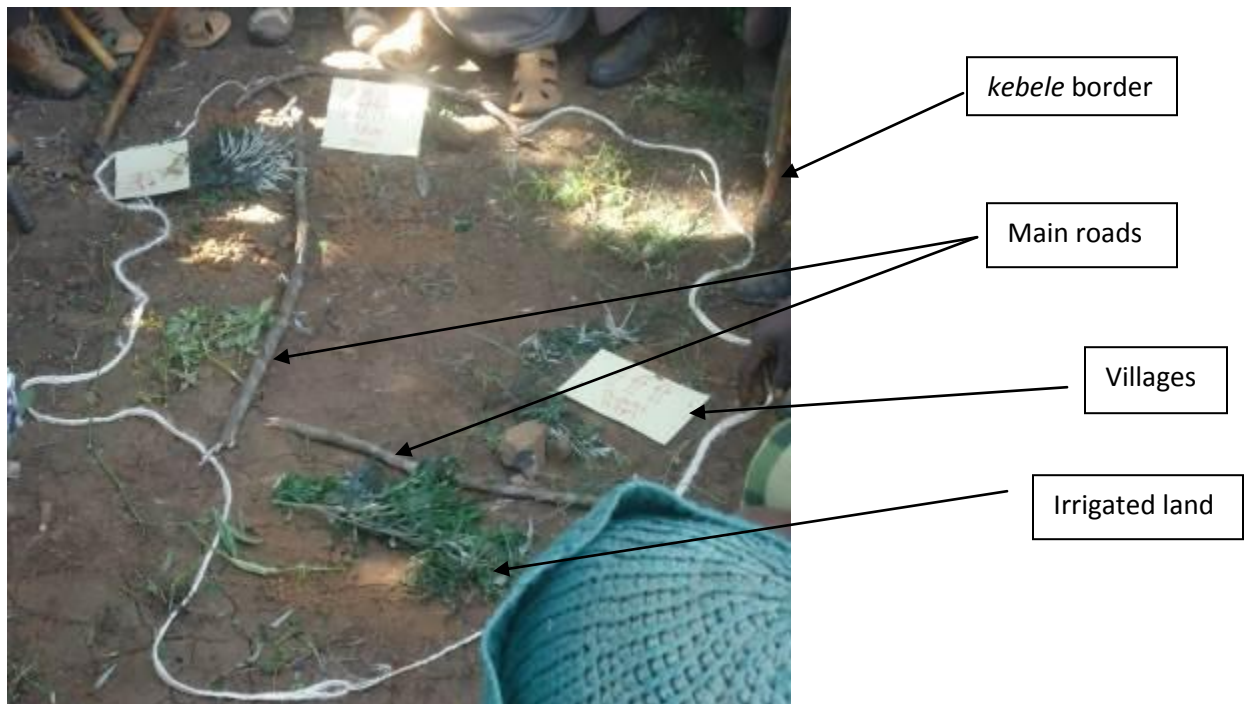
There are 1,660 male headed households out of which 289 are model. The female headed households on the other hand are, 353 of which 24 are model female headed households.

## 3. THE PRA RESULTS

### 3.1 Abchikeli *kebele*

#### 3.1.1. Environmental conditions

The identification of the natural resource constraints and opportunities, on which the livelihoods of the rural community depend, is an essential element for successful implementation of any agricultural intervention. This is the logic behind doing an assessment of the status of natural resources as the main component of the PRA work. During our work at Abchikeli *kebele*, the major natural resources identified by the community were water for irrigation and drinking, arable land, grazing land and forest. The findings from different PRA tools employed in the survey were summarised and presented as follows.



**Figure 3: Resource map of Abchikeli *kebele***

Firewood and water were identified as relatively abundant resources. The distribution of drinking and irrigation water for both people and livestock varies from village to village and from season to season. As we have also observed during the transect walk, the surface and groundwater potential of the *kebele* are sufficient for the human and animal populations. The problem lies with the management of drinking water points and irrigation systems.

Most natural resources in the *kebele*, notably arable land, natural forest and grazing land, were categorised as scarce. Natural forest is continuously shrinking because of competition for arable and grazing land uses.



As indicated in the resource map, natural forest covers a very small area when compared with other land use types.

Most of the community discussions concluded that the destruction of the natural forest was a major cause of land degradation. People understood the environmental importance of the natural forest and had witnessed the damage to the farmland, to the settlements and to the free movement of people, caused by flooding. The existing natural forests in most of the *kebeles* are now regenerating, as they are getting due consideration by the communities.

The other major scarce resource in the *kebele* is arable land. The average holding of arable land per farming household is not greater than 1.5 hectares. The distribution varies greatly between young and old farm household groups. The young farmers have less than a hectare, or no land at all, but the elderly own from one to three hectares. According to suggestions from farmers and some secondary sources, 15-25% of the farming community, all of them young farmers, are landless. Land holdings also vary between the bureaucrat and non-bureaucrat household groups. The bureaucrats own only one hectare or less, whereas the rich farmers and the non-bureaucrats own from one to three hectares.

The arable land also has some additional problems. Due to land shortage, the same plot of land may be ploughed continuously for many years. This brings nutrient depletion and breakdown of the soil structure. Soil erosion is another problem which damages the arable land and hence the livelihoods of the smallholder farming households. These factors all cause declining productivity and contribute to emergence of crop diseases and pests. Thus, considering the size of land holdings per household, their distribution and fertility levels, the PRA group of farmers in the *kebele* identified arable land as a problematic resource.

There are no differences in the sizes of arable land holdings between households headed by women or men. Women have equal rights and were treated equally during the land redistribution that took place in 1997. Family size and other criteria were used as a basis of this redistribution of the arable land, which used lottery methods, to avoid biases that might otherwise appear in distributing the fertile and the non fertile plots among potential candidates.

Decisions on crop allocation to land used mostly to be made by the husband. However, in recent times, due to the efforts of different development practitioners, local administrators, gender workers and others, the culture is rapidly changing. In most cases the husband decides on land allocation after a considerable consultation with his wife and other family members, especially with the elder and educated children or other influential members of the family.

Drinking water is obtained from rivers, springs, ponds, developed water points and hand dug wells. The collection is made mostly by female members of the family with a little assistance coming from boys and in rare cases from the husband. This is a culture that the farming community in the *kebele* has difficulty changing. Women in most villages walk for more than 30 minutes each way to fetch drinking water, and wait for hours in queues. This is a tiresome and difficult practice to live with.

As mentioned earlier, firewood is a resource abundantly available in the *kebele*. People use trees they have planted, particularly eucalyptus, and crop residues, as fuel for their fires. Sometimes natural forests are also used as sources of firewood. Animal dung is also used as fuel in rare cases. Firewood is collected equally by men and women, with men specialising in collection from trees. Boys and girls also do a share of firewood collection.

The farming community in the *kebele* mostly practises grazing on communal lands, but a few farmers also allocate some of their plots for grazing. Crop residues as well as those from making the local drinks *Tella* and *Areke* are common sources of feed for animals during the dry season. Free grazing is practised, but the area of grazing land is too small to support the large animal population found in the *kebele*, leading to overstocking. These problems make the communal grazing land unproductive and liable to soil erosion. As a result, big gullies form, which impede the free movement of people and animals.

To conclude, most natural resources in the *kebele* are scarce, and problems related to arable land are a critical constraint in the efforts to improve the living conditions of the smallholding farming community. The increasing population size causes a continuing decrease in the sizes of holdings, and this is made worse by



decreasing soil fertility and soil erosion. Consequently, there is a continuous decline in the productivity of the farmland.

## Summary of findings

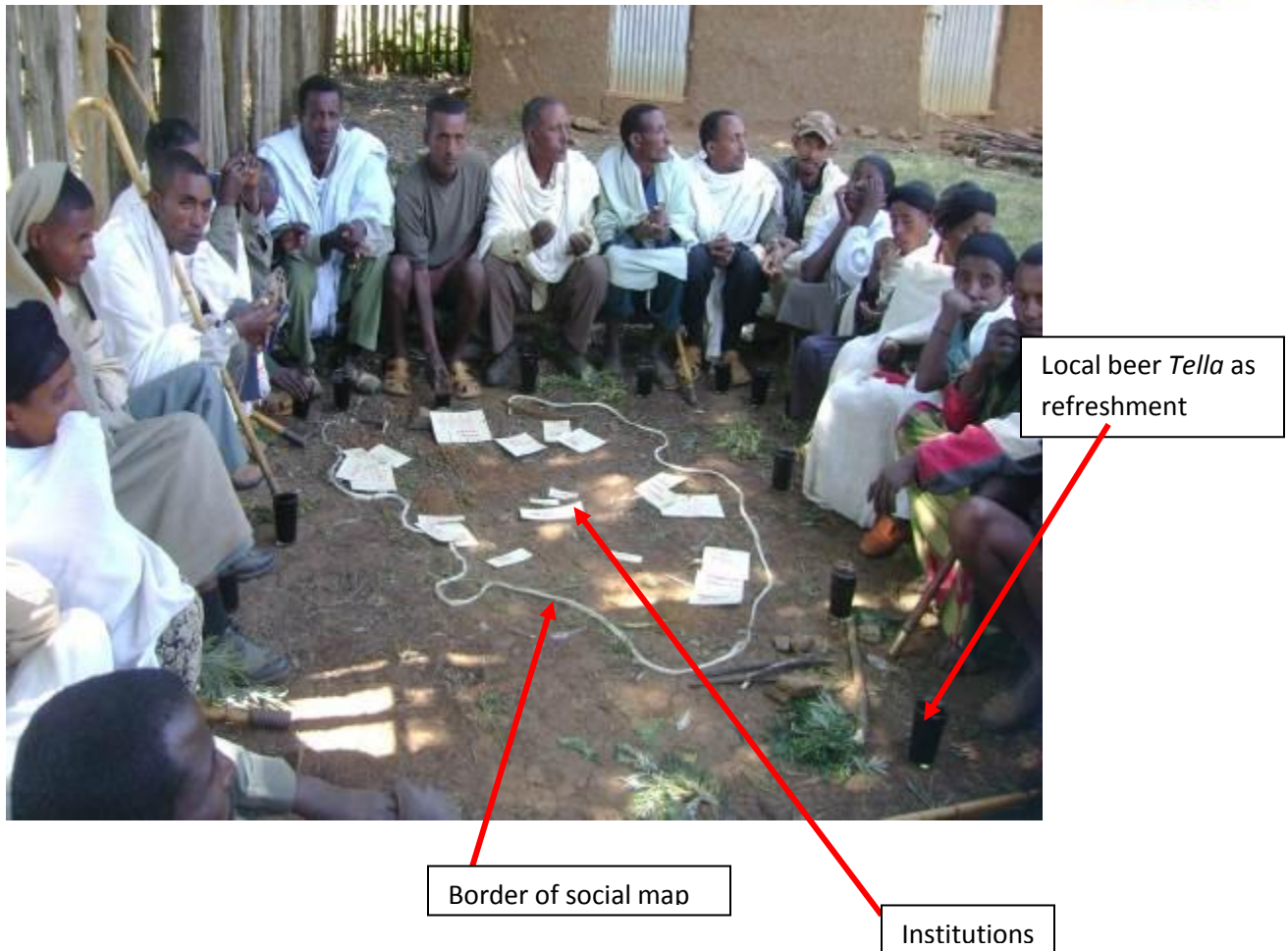
**Table 1: Summary findings in natural resource (Abchikeli kebele)**

No	Items	Findings
1	Abundant resources	Water and firewood
2	Scarce resources	All except the above
3	Most Problematic resource	Arable land
4	Access to land per community group	Not equal between the elderly and young farmers
5	Fertility distribution of the land	Not uniform
6	Decision making on land allocation	Based on discussion and decision among all family members
7	Collection of firewood	Equal responsibility for all family members
8	Collection of water	Women and girls are mainly responsible
9	Livestock grazing	On communal lands, in few cases on private grazing lands
10	Environmental constraints	Soil erosion, deforestation, free grazing

### 3.1.2. Socio-economic conditions

The discussion on socio-economic conditions had been started by encouraging PRA farmers to draw a social map which indicates the boundaries of the *kebeles* in relation to social interaction. Hence, approximate boundaries of Abchikeli with regard to social interaction and social services are wider than what they have drawn as the physical boundaries of the *kebele*. The reason is that there is frequent interaction in many issues such as marriage, idir, ikub, debo and so on with the nearby villages of other *kebeles*. The social network which is made beyond the physical boundary indicates that if some innovations are introduced in the *kebele*, they can be disseminated in a larger area.

The social map also included the socio-economic institutions which are found within the *kebele*. As we are able to understand from the maps, basic institutions such as schools, churches, FTCs, *kebele* administrations, health extension centres and so on are found in every *kebele*. On the other hand, some institutions such as market places, animal health posts, and some NGOs are found only in some *kebeles*. After mapping, semi-structured interviews were conducted. The findings of the semi-structured interviews included the following.



**Figure 4: Social map of Abchikeli kebele**

**Table 2: Institutions found in Abchikeli kebele**

Name of institution	Number	Type
School	5	Social institution
Church	8	Religious institution
Animal health post	1	Economic institution
Cooperative	1	Economic institution
DA office	1	Economic institution
Market place	1	Economic institution
<i>kebele</i> administration	1	Administrative institution
Police	1	Administrative institution



### **3.1.2.1 Demographic characteristics**

According to the perceptions of the PRA discussion group of farmers, the number of households, the total population and the average family size within a typical household are all increasing. They also underlined that the family planning efforts of the government and other organisations have had no significant effect in reducing the rate of increase in population growth. Farmers have a fear of population growth, as the numbers of landless farmers are growing steadily. This was clearly observed during the pair wise ranking of problems exercise.

The Ethiopian Orthodox Church is the only religion across all villages in the *kebele*. There are a very few individuals who are followers of other religions such as Muslims and Protestants. The CASCAPE PRA team of Bahir Dar University, also confirmed in its walk around that no other religious institutions have been built in any of the villages in the *kebele*. All residents are Amhara, where the female-headed households are living in segregation with other community members.

### **3.1.2.2 Livelihood**

Livelihoods are based mainly on agricultural production, in which crop production and animal husbandry are practised side by side. This means mixed farming is dominantly practiced throughout all farming households in Abchikeli. The productivity of agriculture is, however, being challenged by several constraints, which in most cases are interlinked. In addition to agriculture, petty trading is exercised by the farmers, although at a low level as an alternative livelihood option.

### **3.1.2.3 Access to finance**

The Amhara Credit and Saving Institution (ACSI) and cooperatives, serve as the major finance sources for farmers. The PRA group of farmers in Abchikeli *kebele* told us that The Ethiopian Orthodox Church also gives credit services, although on an informal basis. Problems with the credit services of ACSI and the cooperatives include the low level of credit that an individual farmer is able to obtain. The maximum amount is not more than 3,000 Birr (112 euro). This is not sufficient for an individual farmer who is trying to expand his farming practices in multiple disciplines, such as fattening.

The credit service delivery system of cooperatives also faces challenges. These include the delay in the time of delivery for agricultural inputs bought on credit, which usually happens at the end of the sowing season. This causes late sowing, leading to crop diseases and pests later in the season. The result is an overall decline in productivity and the prevalence of long term poverty. Another problem with the credit delivery system of the cooperatives is the inefficiency observed in the system. Farmers have to make repeated claims for credit, wasting time and resources that would otherwise be invested in their farms. A third problem in the credit delivery system of cooperatives, is the low levels of credit that the cooperatives provide for their customers. Discussions with the input and credit department of the *woreda* agriculture office revealed that the delay in input credit is a deliberate attempt to encourage farmers to buy in cash rather than expecting credit every time. Another reason is the incomplete or delayed repayments by the farmers of loans from previous seasons. The regional government borrows from banks by providing its annual budget as collateral. That means any delay in loan repayments by farmers has a big influence on the development efforts of the regional government.

### **3.1.2.4 Market**

The Market in this context refers to the supply, demand and presence or absence of a place for the exchange of commodities. The supply of agricultural outputs, especially at the time of harvest when many farmers need to sell, is very high. At present, prices are decided only by grain merchants, who often fix them at a minimum level.

On the other hand, the demand of farmers for industrial outputs is steadily increasing. The prices of industrial outputs such as iron sheet, clothing, and household items which farmers need for day to day life, are increasing at a growing rate. Furthermore, the supply of some products such as sugar and oil sometimes dries up. These shortages in supply cause farmers to deal with illegal merchants with high prices and low quality goods.

To conclude, farmers are highly but negatively affected by the current market system. That is why the PRA group of farmers in every *kebele* prioritised market problems among the three major problems which are challenging their living conditions.

## Summary of findings

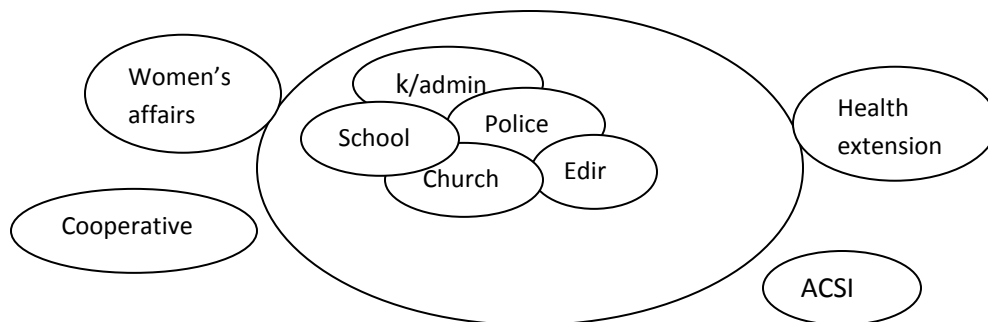
**Table 3: Summary of findings in socio-economic conditions (Abchikeli kebele)**

No	Item	Findings
1	Village boundary in respect to interaction & services	Wider than the administrative boundary
2	Demographic characteristics	<ul style="list-style-type: none"> <li>All inhabitants are Amhara</li> <li>Religion-Ethiopian Orthodox Church</li> <li>Population is increasing</li> <li>Household number is increasing</li> </ul>
3	The main economic activities	Crop and livestock production, petty trading
4	Access to finance	ACSI and cooperatives are the only sources
5	Access to markets	<ul style="list-style-type: none"> <li>Market place is found in the <i>kebele</i></li> <li>The prices of agricultural outputs are very low</li> <li>The prices of industrial outputs are very high</li> </ul>
6	Main economic constraints	<ul style="list-style-type: none"> <li>Land shortage</li> <li>Marketing problem</li> <li>High price of agricultural inputs</li> </ul>

### 3.1.3. Institutions or actors of development

The institutions and actors of development in Tagel Wodefit *kebele* are categorized into two groups, governmental organisations (GOs) and non-governmental organisations (NGOs). Governmental organisations include *kebele* administration, farmers' training centre (FTC), health extension, schools, police, women's affairs, youth association, animal health centre, and cooperatives. The NGOs are the church, Abalo and Amhara Credit and Saving Institution (ACSI). Gender is a cross cutting issue that every development actor has to include in its main activities.

The results of the Venn diagram indicated the organisations that the community members regard as important, and those that are considered to be less important. Some organisations are considered important in some *kebeles* but not in others. Women and men considered different institutions to be important. For example, women acknowledge the importance of health extension workers, women's affairs, the water committee and police. Men usually found FTCs, *kebele* administration, police and schools more important. The institutions considered important across all community groups were *kebele* administration, farmers' training centres, schools, churches, ACSI, police and animal health institutions.



**Figure 5: Venn diagram of Abchikli kebele**

Institutions indicated inside the community boundary are those which are considered to benefit the community the most. Those located at the border are moderate in their services, and those located further away from the border of the community are those which do not discharge their responsibility efficiently.

Many organisations work independently. However, in some cases there are some organisations and groups who work in close cooperation with each other. For example, ACSI works with the kebele administration, farmers' training centre, cooperatives and police. Similarly, the farmers' training centre, kebele administration, community water committee and church are also working together.

### **3.1.4. Agricultural production conditions**

Mixed farming, which comprises crop production and animal husbandry, is the typical farming system in Abchikli kebele. The crop and animal enterprises are dependent on each other for their existence and productivity. The crop enterprise needs animal power for traction and animal manure for soil fertility and compost preparation. The animal enterprise in turn, needs crop residues and some grain for feed from the crop enterprise. Both sub sectors suffer constraints preventing improvements in productivity.

#### **3.1.4.1 Crop production**

The major crops grown in the area under rain-fed conditions are maize, finger millet, teff and niger seed on red soils and teff, niger seed, chick pea and grass pea on Vertisol. Vegetables such as cabbage, potato and sugar cane are grown under irrigation. Almost all the households in Abchikeli kebele, are dependent on subsistence agriculture where the average productivity has decreased substantially due to major constraints, particularly the loss of soil fertility, land shortage and crop pest and disease damage. The system of production is traditional, and ploughing, harvesting and threshing are done by human and animal power only.

#### **3.1.4.2 Land preparation**

Land is prepared using the traditional plough drawn by two oxen. The frequency of ploughing varies from crop to crop and from one soil type to another. Brown (dark red soil) soil and black soil need ploughing more frequently than red soil. Traditionally, teff and finger millet plots need more frequent, intensive ploughing as well as more care than other crops.

### **3.1.4.3 Sowing and weeding (Cultivation)**

The broadcasting method of sowing is usually used for teff, finger millet, and niger seed, because these crops are difficult to plant in rows as the size of the seed is very small. Planting these crops in rows is now becoming more common. Planting in rows is widely adopted for maize and it is advantageous for proper utilization of fertilizer, distribution of the seed and weeding. For broad leaved weeds, farmers commonly use the weedkiller 2,4-D, but for grassy weeds hand weeding is the only option. Weeding in the *kebele* is commonly practised during July to September.

### **3.1.4.4 Harvesting and threshing**

Harvesting and threshing are the most labour intensive and time-consuming activities. Harvesting is commonly practised using sickles and threshing is done on agricultural ground which is cleaned, compacted, and plastered with cow dung. Harvesting is commonly practised during October to December.

### **3.1.4.5 Cropping pattern**

Farmers in Abchikeie *kebele*, predominantly practise the sole cropping system. Fallowing is not currently, practised because of rising demand for agricultural land. The usual cropping systems in addition to sole cropping are crop rotation, which is used to restore soil fertility when farmers integrate pulses with cereals, and lupine is the common legume crop used for crop rotation. Crop rotation is also one way of minimizing weed intensity.

### **3.1.4.6 Livestock production**

The main livestock types found in the *kebele* are cattle such as oxen, cows, bulls, heifers, and calves, and mules and donkeys. There are also substantial numbers of sheep, goats and poultry in each household. Livestock production is a means of livelihood and a measure of wealth status. A wealthy farmer can have more than four oxen and some number of cows, heifers, mules, donkeys and others.

### **3.1.4.7 Organisation of inputs**

Major agricultural inputs such as fertilizer, improved seed and chemicals are distributed to farmers through farmers' cooperatives. The quantities of inputs provided to farmers are sufficient, but the price and quality have become the day to day agenda of debate and dialogue. The high price of fertilizer worries farmers more than anything else.

According to the farmers, hybrid maize and the cr-37 teff variety are the only improved varieties introduced to the area. Hybrid maize was found to be a highly adopted improved variety due to its high productivity in both grain and straw yield as compared to their local variety. The introduction of maize hybrid seed enabled the farmers to grow maize more widely than before.

### **3.1.5. Agricultural production constraints**

#### **3.1.5.1 Crop production constraints**

Pair wise ranking of the major problems in the farming community revealed that the decline in soil fertility, high fertilizer prices, soil erosion, a lack of improved crop seed and crop pests and diseases were the major constraints of crop production.

#### **3.1.5.2 Low soil fertility**

Farmers described the low levels of productivity in terms of many interrelated factors. They considered the loss of soil fertility to be the major factor in declining productivity. They ascribed this mainly to repeated cultivation, without allowing time for the plot to recover (absence of fallowing and crop rotation). In the past, when land was abundant, such plots would be left uncultivated as fallow land to recover, but now, land has become so scarce so that fallowing is difficult to justify. Rotation with legumes as a means of soil fertility restoration is declining, as legumes are less productive and easily damaged by pests when compared with cereals such as maize and millet. Thus, farmers repeatedly cultivate cereals, especially maize, year after year on the same field. Removal of all crop residues for feed and firewood consumption is another major reason for the decline of soil fertility as it affects nutrient recycling and exposes the soil to wind and water erosion. Traditional land preparation which needs frequent ploughing coupled with high levels of rainfall aggravates soil erosion which causes further losses of soil fertility.

Farmers also explained that even though they are applying higher doses of chemical fertilizer than previously, the productivity of each crop is declining. This may be due to changes in the physical and chemical properties of the soil, which results in soil acidity and low organic matter content that affects the nutrient use efficiency.

#### **3.1.5.3 High price of fertilizer**

As the fertility level of the soil is declining year after year, farmers are forced to use increasing levels of fertilizer to maintain the productivity of their plots. The price of fertilizer is increasing so much that resource-poor farmers are finding it increasingly difficult to afford. Thus, considerable numbers of farmers are not applying enough chemical fertilizer to their crop fields, and as a result, they have been unable to maintain the productivity of their land. That is why farmers selected this as their biggest problem during the pair wise ranking of problems.

#### **3.1.5.4 Lack of improved seeds**

Farmers grow maize on most of their plots for reasons of productivity. However, the rate of productivity of maize hybrids is declining. The farmers argued that they use the same amount of fertilizer, the same methods of cultivation, weeding and other activities, and yet the rate of productivity continues to decline. Currently, hybrid maize is produced by farmers and redistributed to other farmers through the regional seed enterprise, and farmers are complaining that the quality of the seed is very low, with high impurity, broken seeds, germination problems and very poor productivity. Improved varieties for other crops such as teff, finger millet, niger seed and chickpea have not been introduced into the *kebele*, but a number of improved varieties of these crops have been released by the regional and national research centres. Farmers explained that a lack of improved varieties for other crops is one of the major gaps of the farming system.

**Table 4: pair wise ranking of problems in crop production**

No	Problems	1	2	3	4	Score	Rank
1	Shortage of crop varieties		2	1	4	1	<b>3</b>
2	Crop disease and pests			2	4	2	<b>2</b>
3	Declining crop productivity				4	0	<b>4</b>
4	High fertilizer price					3	<b>1</b>

### **3.1.5.5 Livestock production constraints**

The livestock production subsector also experiences a number of constraints. The quality and quantity of grazing land is the main constraint which is mentioned repeatedly and insistently. The main problem on the grazing land is overstocking. Furthermore, some farmers are illegally expanding their holdings into the grazing areas which further reduces its area. Lack of rotation in the grazing system limits the productivity of the grazing land. As it is communally owned, the grazing land is usually also affected by soil erosion.

Another constraint of the livestock subsector is the prevalence of animal disease, and the provision of a poor animal health service. Animal disease is not as challenging as it was in past decades, but different types of animal diseases still adversely affect the livestock. Animal health services are much improved on previous decades, but farmers complained about the service delivery, as they are sent to the private sector to buy drugs, which are very expensive and of poor quality.

The livestock sub sector is also constrained by a shortage of improved animal breeds. The productivity of local animals is decreasing due to numerous factors. On the other hand, the supply of improved animals is non-existent, or exists in a very limited supply. This made the sub sector unproductive considering the number of livestock kept by each household.

**Table 5: Pair wise ranking of problems in livestock subsector**

No	Problems	1	2	Score	Rank
1	Animal health problems		1	1	<b>1</b>
2	Shortage of improved animal breeds and feeds			0	<b>2</b>



## Summary of findings

**Table 6: Summary of findings in agricultural production conditions (Abchikeli kebele)**

No	Item	Findings
1	Main	
	• Crops	Maize, millet, teff, pulses, crop trees
	• Livestock	Cattle, sheep goats, poultry, bees
2	Prevalent practices	
	• Crop	<ul style="list-style-type: none"> <li>• Land preparation---by oxen power</li> <li>• Sowing—by broadcast except for maize</li> <li>• Weeding—by hand and using chemicals</li> <li>• Threshing—by animal and human power</li> </ul>
	• Livestock	<ul style="list-style-type: none"> <li>• Free grazing</li> <li>• Crop residues</li> <li>• Residues of local drinks</li> </ul>
3	Organisation of agricultural inputs	
	• Fertilizer	Provided by cooperatives and agriculture offices
	• Improved seed	Provided by cooperatives, agriculture offices, private companies & NGOs
4	Agricultural production constraints	
	• Crop production constraints	<ul style="list-style-type: none"> <li>• Declining soil fertility</li> <li>• High fertilizer price</li> <li>• Crop diseases and pests</li> <li>• Shortage of improved seed</li> </ul>
	• Livestock production constraints	<ul style="list-style-type: none"> <li>• Shortage of grazing land and feed problem</li> <li>• Animal health problem</li> <li>• Shortage of improved animal breeds &amp; AI</li> </ul>



**Table 7: Pair wise ranking of problems (Abchikeli kebele)**

No	Problems	1	2	3	4	5	6	7	8	9	10	11	Score	Rank
1	Shortage of crop varieties		1	1	1	5	1	7	8	9	10	1	5+1+1+1	5
2	Animal health problems			2	4	5	6	7	8	9	10	2	2	9
3	Shortage of improved animal breeds and feeds				4	5	6	7	8	9	10	3	1	10
4	Mismanagement of natural resources					4	6	7	8	4	10	4	5+1+1	6
5	Crop diseases and pests						5	7	8	9	10	5	5+1	7
6	Declining crop productivity							7	8	9	6	6	5	8
7	High fertilizer prices								7	7	7	7	10	1
8	Agricultural marketing problems									8	8	8	9	2
9	Shortage of Credit										9	9	7	3
10	Management of water supply											10	6	4
11	Unequal distribution of land												0	11

**Table 8: Summary of cause effect relationships of problems (Abchikeli kebele)**

<b>No</b>	<b>Problem</b>	<b>Cause</b>	<b>Effect</b>	<b>Solution</b>
1	Shortage of improved crop varieties and provision of low quality seed	<ul style="list-style-type: none"> <li>Supply problem/ limited suppliers</li> <li>Private seed supplying enterprise don't deliver quality seed</li> <li>Some farmers do not readily adopt new varieties</li> </ul>	<ul style="list-style-type: none"> <li>Decline in crop productivity</li> <li>Damagee/ total failure</li> </ul>	<ul style="list-style-type: none"> <li>Government involvement in supply</li> <li>Farmers need guarantee from suppliers</li> <li>Follow-up of seed producing farmers; quality control</li> <li>Community based farmer to farmer seed exchange</li> </ul>
2	Animal health problem	<ul style="list-style-type: none"> <li>Limited vet service &amp; drug supply</li> <li>Insufficient service delivery</li> <li>Skill limitation of animal health workers and technicians</li> </ul>	<ul style="list-style-type: none"> <li>Increased animal mortality</li> <li>Decrease in productivity</li> </ul>	<ul style="list-style-type: none"> <li>Improve drug supply</li> <li>Improve the competence of animal health service providers through different capacity building programs</li> </ul>
3	Shortage of improve animal breed and feeds	<ul style="list-style-type: none"> <li>Limited supply of improved animal breeds</li> <li>Shortage of AI service</li> </ul>	<ul style="list-style-type: none"> <li>Low productivity of animals</li> <li>Low income</li> <li>High incidence of poverty</li> </ul>	<ul style="list-style-type: none"> <li>Improve the coverage of AI service</li> <li>Improve the supply of improved breed animals</li> </ul>
4	Mismanagement of natural resource	<ul style="list-style-type: none"> <li>Lack of sense of ownership</li> <li>Limited awareness</li> </ul>	<ul style="list-style-type: none"> <li>Soil acidity</li> <li>Low productivity</li> <li>Climate change</li> </ul>	<ul style="list-style-type: none"> <li>Establishment of community bylaw for natural resource management and utilization</li> <li>Watershed management</li> </ul>
5	Declining crop productivity	<ul style="list-style-type: none"> <li>Zero fallowing</li> <li>Land shortage</li> <li>Limited rotation of crops</li> </ul>	<ul style="list-style-type: none"> <li>Reduced crop productivity</li> <li>Low household income</li> </ul>	<ul style="list-style-type: none"> <li>Application of compost</li> <li>Practice soil and water conservation measures</li> <li>Use of irrigation for double cropping</li> </ul>
6	High fertilizer price	<ul style="list-style-type: none"> <li>Increased demand</li> <li>Not produced domestically (imported)</li> </ul>	<ul style="list-style-type: none"> <li>Increased cost of production</li> <li>Declining crop yields</li> <li>Low household income</li> </ul>	<ul style="list-style-type: none"> <li>Application of compost</li> <li>Domestic production of fertilizer</li> <li>Improve agricultural marketing facilities</li> </ul>

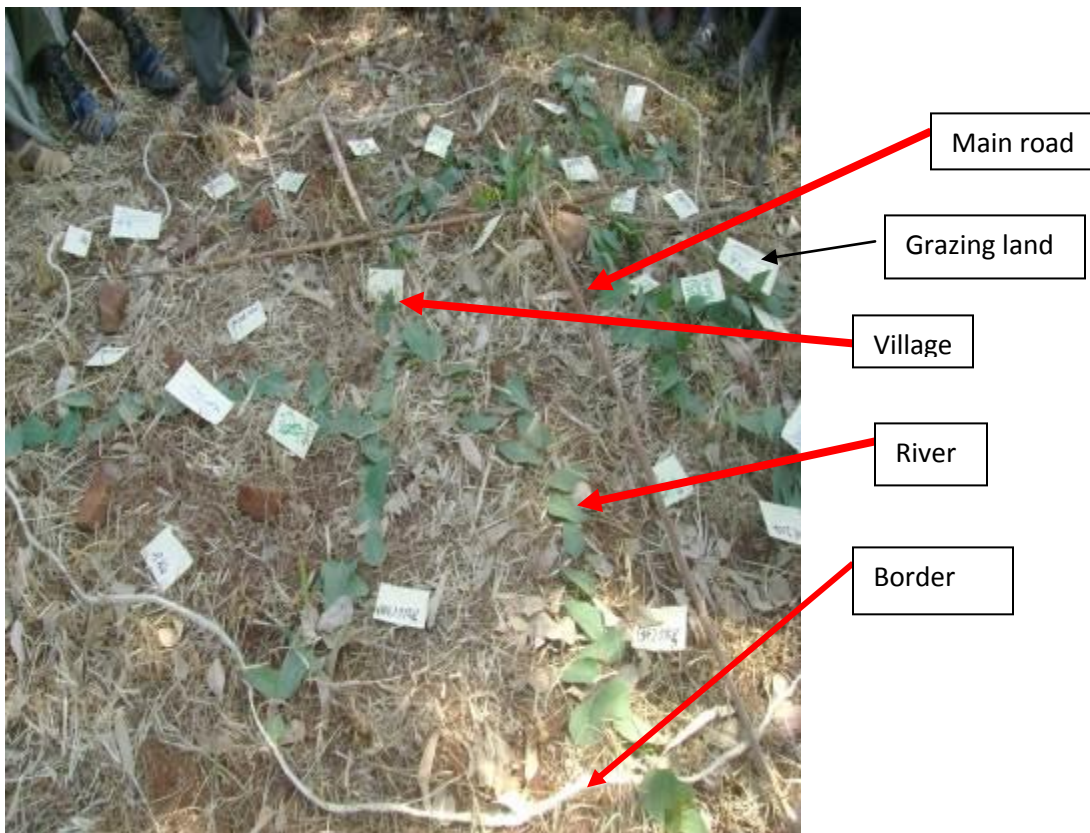


7	Agricultural marketing problems	<ul style="list-style-type: none"> <li>• Malfunctioning of free market</li> <li>• Lack of competitive market</li> <li>• Sale of commodities at harvest time</li> </ul>	<ul style="list-style-type: none"> <li>• Low commodity price</li> <li>• Low income</li> <li>• Poverty</li> </ul>	<ul style="list-style-type: none"> <li>• Government support</li> <li>• Strengthening cooperatives</li> </ul>
8	Credit supply problem	<ul style="list-style-type: none"> <li>• Untimely supply</li> <li>• Shortage of supply</li> <li>• Limited supply of input credit</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced crop yields</li> <li>• Late application of fertilizer</li> <li>• High incidence of diseases &amp; pests</li> </ul>	<ul style="list-style-type: none"> <li>• Demand based</li> <li>• Timely supply (March-May)</li> </ul>
9	Poor management of drinking water	<ul style="list-style-type: none"> <li>• Population increase</li> <li>• Mismanagement of existing water points</li> <li>• Insufficient water supply</li> </ul>	<ul style="list-style-type: none"> <li>• Increasing disease incidence</li> <li>• Time wastage fetching water</li> <li>• Inability to produce backyard vegetables</li> </ul>	<ul style="list-style-type: none"> <li>• Construction of water points by the government</li> </ul>

### 3.2 Lalibela kebele

#### 3.2.1 Environmental conditions

The status of the natural resources in the *kebele*, was identified by inviting the participants to draw their own *kebele* resource map. This light-hearted exercise involved all participants and revealed that the mix and status of natural resources in this *kebele* are very similar to those in Abchikli *kebele*. The main natural resources identified in Amarit *kebele* were water, farmland, forest and grazing land.



**Figure 6: Resource map of Lalibela kebele**

Except for firewood, all resources such as arable land, grazing land, irrigation water, drinking water, and forest were categorized as scarce for all community groups. Arable land scarcity is especially critical for young farmers, none of whom own more than half a hectare. The problems with grazing land are overstocking and mismanagement.

Male and female headed households have equal access to arable land, but young farmers do not have access to land because there has been no redistribution since 1997, due to fear of further land fragmentation. A group of farmers who were categorized as bureaucrats during the land redistribution were allocated smaller areas of land than the rich and the non bureaucrat group of farmers.



The allocation of various crops within a household's land made by discussion and common decision of husband, wife and other family members. In most cases, the husband dominates these discussions, but this varies from household to household.

Collection of firewood is the equal responsibility of husband and wife and children and other family members are also involved. Tree branches, crop residues and cow dung are also used for fuel. Collection of drinking water is done mainly by women and girls, with occasional help from boys.

As we have described in Abchikli *kebele*, farmers use communal grazing lands with a free grazing system. The productivity of the grazing land is very low as it is affected by overgrazing and there is no rotational grazing system.

### **Summary of findings**

**Table 9: Summary of findings in natural resources (Lalibela kebele)**

No	Items	Findings
1	Abundant resources	Firewood
2	Scarce resources	All except the above
3	Most problematic resource	Arable land
4	Access to land by community group	Not equal between the elderly and young farmers
5	Fertility distribution of the land	Not uniform
6	Decision making on land allocation	Based on discussion and decision among all family members
7	Collection of firewood	Equal responsibility for all family members
8	Collection of water	Women and girls are mainly responsible
9	Livestock grazing	Done on communal lands, in few cases on private grazing lands
10	Environmental constraints	Soil erosion, deforestation, free grazing

### **3.2.2. Socio-economic conditions**

A social map of the *kebele* was prepared by participant farmers. The approximate boundary of the social map was found to be wider than the physical boundary of the *kebele*. Institutions such as schools, churches, FTC, *kebele* administration, health extension centre are found in the *kebele*.

**Table 10: Institutions found in Lalibela kebele**

<b>Name of institution</b>	<b>Number</b>	<b>Type</b>
School	4	Social institution
Church	6	Religious institution
Animal health post	1	Economic institution
Cooperative	1	Economic institution
FTC	1	Economic institution
Market place	1	Economic institution
<i>kebele</i> administration	1	Administrative institution
Police	1	Administrative institution
NGOs		Non-governmental organisations

### **3.2.2.1 Demographic characteristics**

The number of households, the total population and the average family size within a typical household are increasing every year. This is a concern, especially as the numbers of landless young farmers continue to grow.

The Ethiopian Orthodox Church is the dominant religion across all villages in the *kebele* and all residents are Amhara, where the female headed households are living in segregation with other community members.

### **3.2.2.2 Livelihood**

Livelihood is based mainly on agricultural production, in which crop production and animal husbandry are practiced side by side. This means mixed farming is dominantly practiced throughout all farming households in the *kebele*. The productivity of agriculture is, however, being challenged by several constraints, which in most cases are interlinked. In addition to agriculture, a low level of petty trading is exercised by farmers as an alternative livelihood option.

### **3.2.2.3 Access to finance**

Here again, ACSI and primary level farmers' cooperatives appear to be the main finance sources for farmers. There are, however, problems in the credit services of both institutions. The problems are similar to those mentioned in Abchikli *kebele*.

### **3.2.2.4 Market**

The market system has problems that are common to other *kebeles* in the *woreda*. The Lalibela PRA group of farmers also mentioned additional problems in the markets of farm outputs. According to them, the government usually restricts the free movement of agricultural outputs during the peak harvest time, in the name of price stabilization,. They also added that the cooperatives cannot assist the farmers during market failure in the farm outputs. This is because cooperatives are not well organised to cope up the influences of grain merchants. In rare



cases, the workers of cooperatives negotiate with grain merchants or act dishonestly during weighing, which undermines the trust of farmers.

The farming communities in this *kebele* are, however, fortunate to have a local market place at Lalibela town which is within the *kebele*.

### Summary of findings

**Table 11: Summary of findings in socio-economic conditions (Lalibela kebele)**

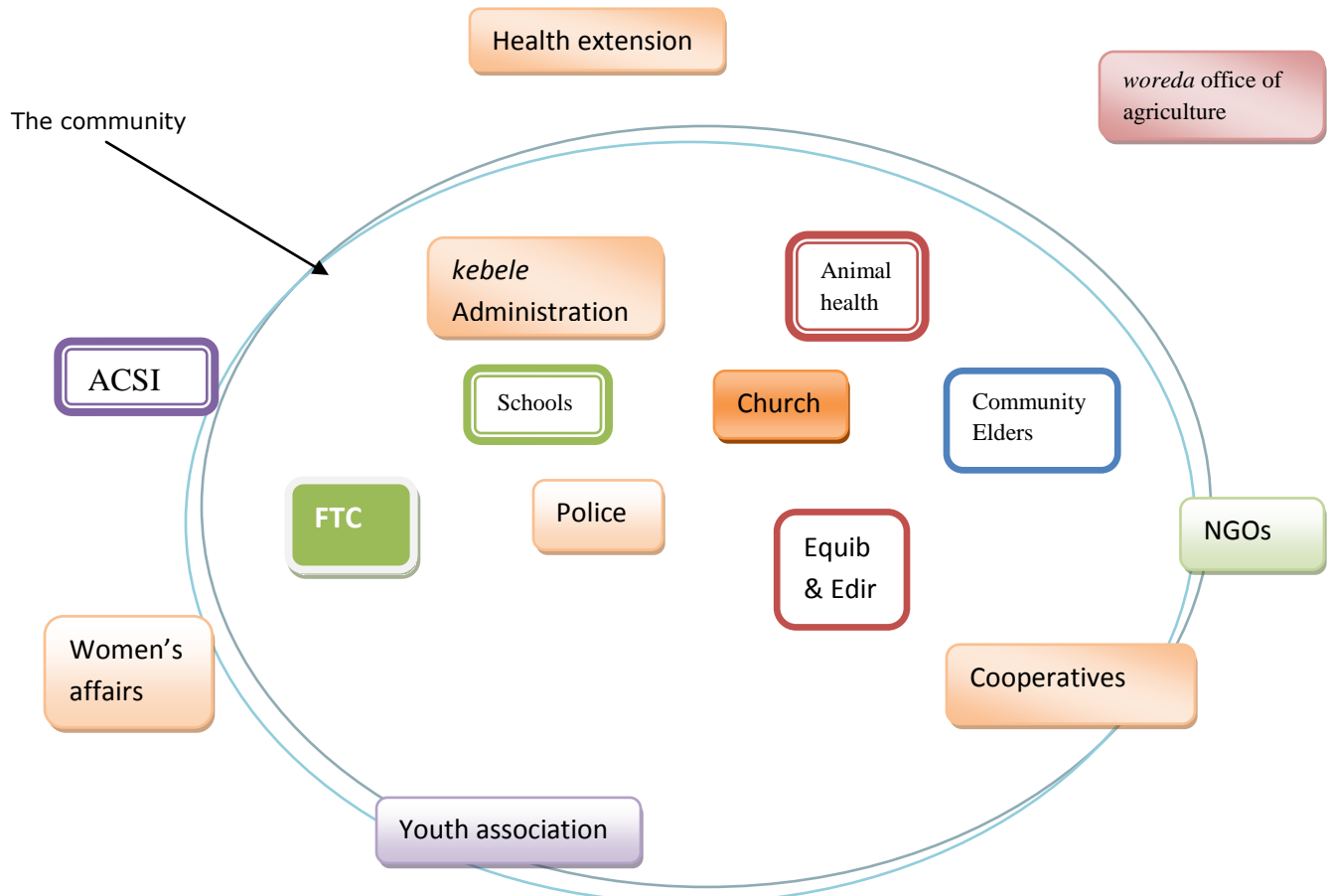
No	Item	Findings
1	Village boundary in respect to interaction & services	Wider than the administrative boundary
2	Demographic characteristics	<ul style="list-style-type: none"> <li>• All inhabitants are Amhara</li> <li>• Religion- Ethiopian Orthodox Church</li> <li>• Population number is increasing</li> <li>• Household number is increasing</li> </ul>
3	The main economic activities	Crop and livestock production, petty trading
4	Access to finance	ACSI and cooperatives are the only sources
5	Access to market	<ul style="list-style-type: none"> <li>• Market place is found in the <i>kebele</i></li> <li>• The prices of agricultural outputs are very low</li> <li>• The prices of industrial outputs are very high</li> </ul>
6	Main economic constraints	<ul style="list-style-type: none"> <li>• Land shortage</li> <li>• Marketing problems</li> <li>• High price s of agricultural inputs</li> </ul>

### 3.2.3. Institutions or actors of development

The institutions fall into governmental organisations (GOs) and nongovernmental organisations (NGOs). Governmental organisations include *kebele* administrations, farmers training centre (FTC), health extension, schools, police, women's affairs, youth association, animal health centre, and cooperatives. The NGOs are the church, Amhara Rehabilitation and Development Organisation (ARDO) and Amhara Credit and Saving Institution (ACSI). Gender is a cross cutting issue that every development actor has to include in its activities.

According to the results of the Venn diagram, the community members prefer some organisations. Similarly, some organisations are considered important in some *kebeles* but not in others. Still women and men choose different institutions according to the services they demand. For instance, women in Lalibela *kebele* strongly demand the services of health extension workers, women's affairs, water committee and police. Men on the other hand prefer FTC, *kebele* administration, police and schools. The important institutions for all community groups are *kebele* administration, farmers training centres, schools, churches, ACSI, police and animal health institutions.





**Figure 7: Actor landscape diagram at Lalibela kebele**

Institutions indicated inside the community boundary are those which are considered to benefit the community the most. Those located at the border are moderate in their services, and those located further away from the border of the community are those which do not discharge their responsibility efficiently.

### 3.2.4. Agricultural production conditions

#### 3.2.4.1 Crop production

The major crops grown are maize, finger millet, teff, and pulses. Irrigation is practised in limited areas and mostly uses a traditional irrigation system with earthen canals.

Major crop production practices such as land preparation, sowing and threshing follow the same methods described above for Abchikeli *kebele*

**Table 12: pair wise ranking of problems in crop production**

No	Problems	1	2	3	4	Score	Rank
1	High fertilizer price		2	1	1	2	<b>2</b>
2	Declining soil fertility			2	2	3	<b>1</b>
3	Lack of improved seed				3	1	<b>3</b>
4	Crop diseases and pests					0	<b>4</b>

#### 3.2.4.2 Livestock production

**Table 13: Livestock numbers in Lalibela kebele as of 2011**

Breed type	Animal type	Locals	Crosses
Cattle	Oxen	3,172	2
	Cow	3,810	15
	Heifer	1,760	2
	Bull	1,420	1
	Calf	1,026	9
	Horse	16	
	Mule	103	
Sheep and goats	Donkey	1,470	
	Sheep	1,408	
	Goat	850	
Poultry	Local chicken	4,678	590
Bees	Modern bee colony	141	
	Transitional colony	1	
	Traditional colony	350	

Source: Lalibela kebele DA office

**Table 14: Pair wise ranking of problems in livestock subsector**

No	Problems	1	2	3	Score	Rank
1	Animal disease		2	1	1	2
2	Animal feed shortage			2	2	1
3	Lack of improved animal breeds				0	3

The main agricultural inputs in the *kebele* are fertilizer, improved seed, chemicals and improved animal breeds. The inputs are distributed through cooperatives and agriculture offices. The price and quality of inputs have become less reliable in recent years.

### Summary of findings

**Table 15: Summary of findings in agricultural production conditions (Lalibela kebele)**

No	Item	Findings
1	Main	
	• Crops	Maize, millet, teff, pulses, crop trees
	• Livestock	Cattle, sheep, goats, poultry, bee
2	Prevalent practices	
	• Crop	<ul style="list-style-type: none"> <li>• Land preparation—by oxen power</li> <li>• Sowing—by broadcast except for maize</li> <li>• Weeding—by hand and using chemicals</li> <li>• Threshing—by animal and human power</li> </ul>
	• Livestock	<ul style="list-style-type: none"> <li>• Free grazing</li> <li>• Crop residues</li> <li>• Residues of local drinks</li> </ul>
3	Organisation of agricultural inputs	
	• Fertilizer	Provided by cooperatives and agriculture offices
	• Improved seed	Provided by cooperatives, agriculture offices, private business & NGOs
4	Agricultural production constraints	
	• Crop production constraints	<ul style="list-style-type: none"> <li>• Declining soil fertility</li> <li>• High fertilizer prices</li> <li>• Crop diseases and pests</li> <li>• Shortage of improved seeds</li> </ul>
	• Livestock production constraint	<ul style="list-style-type: none"> <li>• Shortage of grazing land and feed problem</li> <li>• Animal health problem</li> <li>• Shortage of improved animal breeds &amp; AI</li> </ul>



**Table 16: Pair wise ranking matrix of problems faced by farmers (Lalibela kebele)**

No	Problems	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Score	Rank
1	High fertilizer prices		2	1	1	1	1	1	1	1	1	1	1	1	1	12	2
2	Declining soil fertility			2	2	2	2	2	2	2	2	2	2	2	14	12+1	1
3	Marketing problems				3	3	3	3	3	3	3	11	3	3	14	9	5
4	Shortage of improved seeds					4	4	4	4	9	4	11	4	4	14	7+1	6
5	Supply of credit and agricultural inputs						5	7	5	5	5	11	5	13	14	5	10
6	Animal disease							7	6	9	10	11	6	13	14	2	12
7	Crop diseases and pests								7	9	7	7	7	13	14	6	9
8	Irrigation water problem									8	9	10	11	12	13	0	14
9	Shortage of land for young farmers										9	11	9	13	14	6+1	8
10	Animal feed shortage											11	10	13	14	3	11
11	Drinking water management												11	11	11	10	4
12	Lack of improved animal breeds													13	14	1	13
13	Deforestation														14	7	7
14	Gully formation															11	3

**Table 17: Summary of relationships between problems, causes and effects (Lalibela kebele)**

No	Problem	Cause	Effect	Solution
1	High fertilizer prices	<ul style="list-style-type: none"> <li>• It is not domestic product</li> <li>• Long supply chain</li> </ul>	<ul style="list-style-type: none"> <li>• High debt</li> <li>• Large share of income used to cover fertilizer debt</li> <li>• Household consumption reduced</li> <li>• Decline household income</li> </ul>	<ul style="list-style-type: none"> <li>• Use of compost</li> <li>• Market stabilization by the government</li> </ul>
2	Declining soil fertility	<ul style="list-style-type: none"> <li>• High population pressure</li> <li>• Lack of fallowing</li> <li>• Soil erosion</li> <li>• Deforestation</li> <li>• Free grazing</li> </ul>	<ul style="list-style-type: none"> <li>• Crop yield reductions</li> <li>• Increasing fertilizer consumption</li> <li>• Increasing soil acidity</li> </ul>	<ul style="list-style-type: none"> <li>• Terracing</li> <li>• Watershed treatment</li> <li>• Lime addition</li> <li>• Use of compost</li> </ul>
3	Marketing problems	<ul style="list-style-type: none"> <li>• Price fixing by wholesalers</li> <li>• Absence of free market</li> </ul>	<ul style="list-style-type: none"> <li>• Inability to pay back credit on time</li> <li>• Decline in household income</li> </ul>	<ul style="list-style-type: none"> <li>• Government intervention</li> </ul>
4	Shortage of improved seed	<ul style="list-style-type: none"> <li>• Recklessness of private seed suppliers</li> </ul>	<ul style="list-style-type: none"> <li>• Crop failure</li> <li>• Decline in household income</li> </ul>	<ul style="list-style-type: none"> <li>• Improve the supply of certified seed</li> </ul>
5	Shortage of credit and agricultural inputs	<ul style="list-style-type: none"> <li>• Criteria of 100% loan repayment</li> </ul>	<ul style="list-style-type: none"> <li>• Reduction in productivity</li> <li>• Late sowing</li> </ul>	<ul style="list-style-type: none"> <li>• Don't follow 100 % loan repayment criteria</li> <li>• loan repayment performance should be individually based</li> </ul>



6	Animal diseases	<ul style="list-style-type: none"> <li>• Feed shortage</li> <li>• Poor animal management</li> <li>• Large livestock population</li> <li>• Illegal drug vendors</li> <li>• Disease outbreaks</li> <li>• Shortage of skilled personnel &amp; technicians</li> </ul>	<ul style="list-style-type: none"> <li>• Animal mortality</li> <li>• Low household income</li> <li>• Increase vet service costs</li> </ul>	<ul style="list-style-type: none"> <li>• Reduce number of animals per household</li> <li>• Regular vaccination</li> <li>• Produce and collect sufficient amount of animal feed</li> </ul>
7	Crop disease and pests	<ul style="list-style-type: none"> <li>• Climate change</li> <li>• Time of ploughing</li> </ul>	<ul style="list-style-type: none"> <li>• Crop yield loss</li> <li>• Declining household income</li> </ul>	<ul style="list-style-type: none"> <li>• Timely reporting of incidence</li> <li>• Ash application for pepper</li> <li>• Ploughing at the appropriate soil moisture level</li> </ul>
8	Irrigation water problem	<ul style="list-style-type: none"> <li>• Lack of necessary skills</li> <li>• Unaffordable construction costs</li> <li>• Conflict of interest</li> <li>• No community by laws</li> <li>• Shortage of water</li> </ul>	<ul style="list-style-type: none"> <li>• Failure of crop</li> <li>• Reduction of income</li> </ul>	<ul style="list-style-type: none"> <li>• Construct modern irrigation scheme</li> <li>• Improve capacity building</li> </ul>
9	Shortage of land for young farmers	<ul style="list-style-type: none"> <li>• Family don't allocate land to young members</li> <li>• Poor rules and regulations in the transfer of land</li> </ul>	<ul style="list-style-type: none"> <li>• Migration of young people to hostile and harsh areas</li> </ul>	<ul style="list-style-type: none"> <li>• Revise the rules and regulations for the transfer of land.</li> </ul>
10	Drinking water problems	<ul style="list-style-type: none"> <li>• Inaccessibility of groundwater</li> <li>• Drying out of springs</li> <li>• Siltation of springs</li> </ul>	<ul style="list-style-type: none"> <li>• Shortage of water</li> <li>• Poor quality of drinking water</li> <li>• Susceptibility to water borne disease</li> <li>• Need to travel long distance for fetching</li> <li>• Animals travelled long distance</li> </ul>	<ul style="list-style-type: none"> <li>• Government intervention with community cost sharing in improving the supply and quality of drinking water</li> <li>• Catchment rehabilitation</li> </ul>
11	Gully formation	<ul style="list-style-type: none"> <li>• Deforestation</li> <li>• Mismanagement of natural resources</li> <li>• Poor design of drainage system for rural roads</li> </ul>	<ul style="list-style-type: none"> <li>• Flooding</li> <li>• Siltation</li> <li>• Erosion</li> </ul>	<ul style="list-style-type: none"> <li>• Tree Planting</li> <li>• Construct erosion control measures</li> <li>• Improve the design and construction of rural roads</li> </ul>

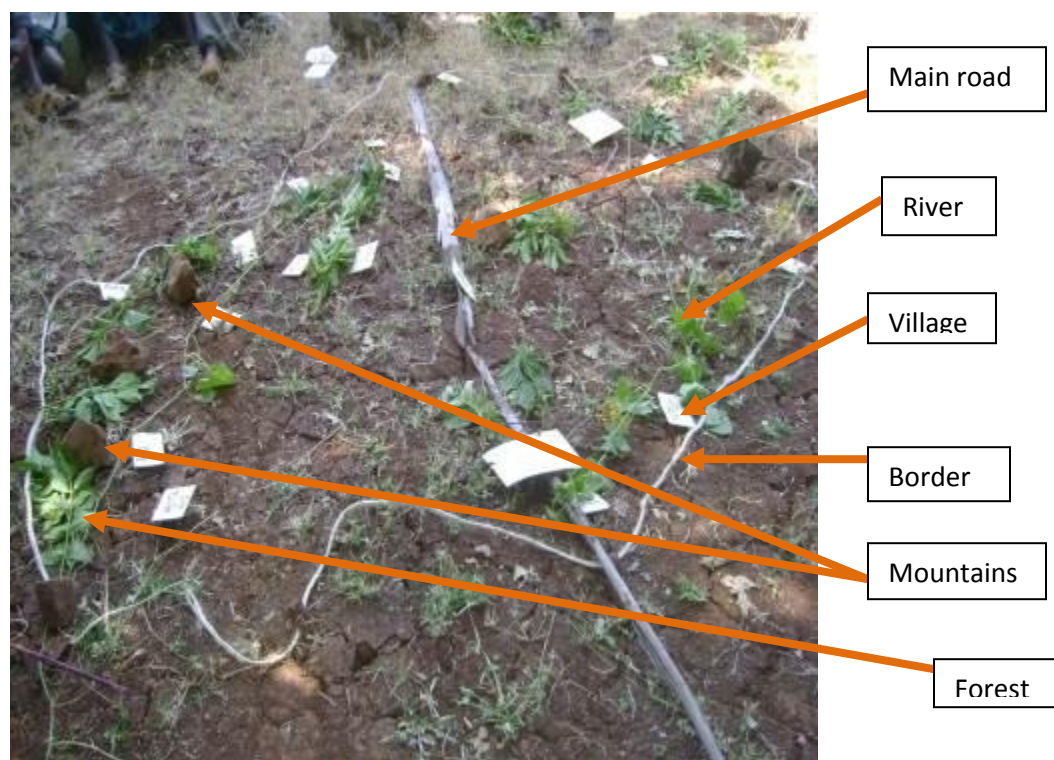
**Table 18: Wealth ranking criteria (Lalibela kebele)**

Criteria	Poor	Medium	Rich
Area of land	Less than 1ha	1-2 ha	More than 3 ha
Number of oxen	Less than 1	2	4
Proportion of households in each category	50%	25%	25%

### 3.3 Ahuri Keltafa kebele

#### 3.3.1. Environmental conditions

As in other study *kebeles*, the discussion of participant farmers about environmental conditions was started after drawing the resource map.



**Figure 8: Resource map of Ahuri Keltafa kebele**



As shown on the resource map above, the natural resources found in the *kebele* are water, arable and grazing lands, forest and so on.

No resource was categorized as abundant except firewood. Young farmers find it particularly difficult to obtain arable land, which is a scarce resource for all community groups. Women and men have equal access to land. All natural resources are highly depleted due to population pressure.

Collection of firewood is carried out equally by men and women, whereas collection of water is traditionally the sole responsibility of women and girls.

### **Summary of findings**

People graze their animals on communally owned grazing lands in a free grazing system.

Table 19: Summary of findings – availability of natural resources (Ahuri keltafa kebele)

<b>No</b>	<b>Items</b>	<b>Findings</b>
1	Abundant resources	Firewood
2	Scarce resources	All except the above
3	Most problematic resource	Arable land
4	Access to land per community group	Not equal between the elderly and young farmers
5	Fertility distribution of the land	Not uniform
6	Decision making on land allocation	Based on discussion and decision among all family members
7	Collection of firewood	Equal responsibility for all family members
8	Collection of water	Women and girls are mainly responsible
9	Livestock grazing	Done on communal lands, in few cases on private grazing lands
10	Environmental constraints	Soil erosion, deforestation, free grazing.

### **3.3.2. Socio-economic conditions**

Participant farmers prepared a social map before discussions on socio-economic issues. The results of the map indicated that the social boundary is wider than the physical one. The institutions found in the *kebele* are presented in Table 20.



**Table 20: Institutions found in Ahuri Keltafa kebele**

<b>Name of institution</b>	<b>Number</b>	<b>Type</b>
School	5	Social institution
Church	5	Religious institution
Animal health post	1	Economic institution
Cooperative	1	Economic institution
FTC	1	Economic institution
Market place	1	Economic institution
<i>kebele</i> administration	1	Administrative institution
Police	1	Administrative institution
Seed nursery sites	2	Economic institution
Grain mill	None	Economic Institution
NGOs	4	Nongovernmental organisations

### **3.3.2.1 Demographic characteristics**

All residents of the *kebele* are Amhara and the dominant religion is the Ethiopian Orthodox Church. The population and the number of households are increasing steadily. Birth control efforts have not yet done much to decrease the rate of population increase.

### **3.3.2.2 Access to finance**

As in the other study *kebeles*, the sources of finance are ACSI and the farmers' cooperatives. The cooperatives' loans are restricted mainly to agricultural inputs such as fertilizers and improved seed. But ACSI provides loans for diversified activities. The services of both institutions have some limitations in the form of low loan limits and inefficient services.

### **3.3.2.3 Market**

The supply of agricultural outputs, especially at the time of harvest when many farmers need to sell, are very high. This means low prices, which damage the productivity and livelihoods of smallholder farmers.

The prices of industrial outputs which farmers need in everyday life, are, on the other hand, increasing fast. The low prices they receive for their produce combined with the increasing prices of industrially produced goods are making livelihoods of many farmers in the *kebele* difficult to maintain

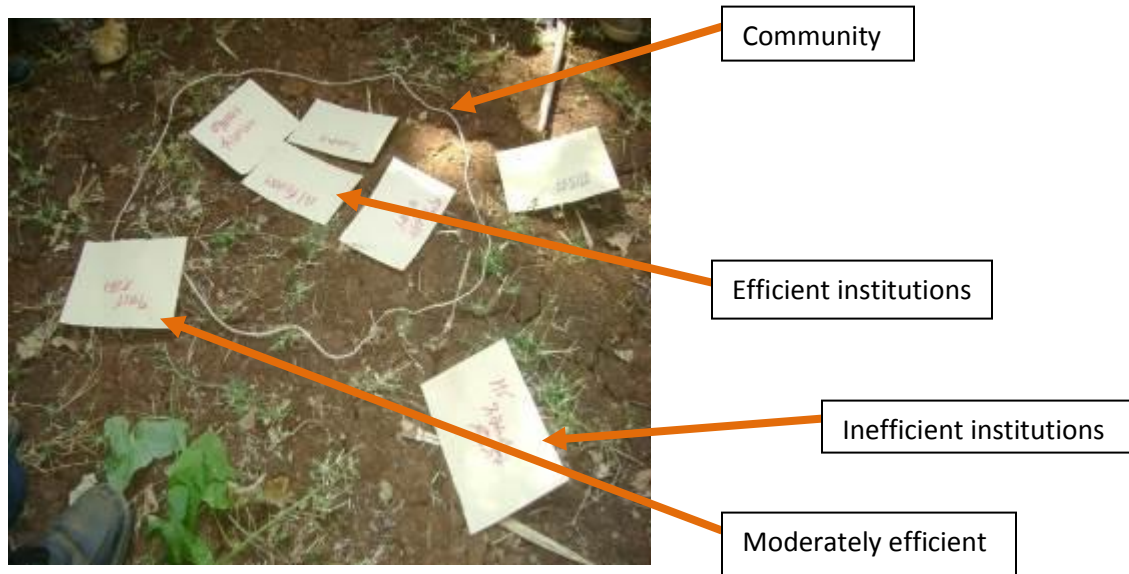
**Summary of findings**

**Table 21: Summary of findings in socio-economic conditions (Ahuri Keltafa kebele)**

No	Item	Findings
1	Village boundary in respect to interaction & services	Wider than the administrative boundary
2	Demographic characteristics	<ul style="list-style-type: none"> <li>• All inhabitants are Amhara</li> <li>• Religion- Ethiopian Orthodox Church</li> <li>• Population is increasing</li> <li>• Household number is increasing</li> </ul>
3	The main economic activities	Crop and livestock production, petty trading
4	Access to finance	ACSI and cooperatives are the only sources
5	Access to markets	<ul style="list-style-type: none"> <li>• Market place is found in the <i>kebele</i></li> <li>• The prices of agricultural outputs are very low</li> <li>• The prices of industrial outputs are very high</li> </ul>
6	Main economic constraints	<ul style="list-style-type: none"> <li>• Land shortage</li> <li>• Marketing problems</li> <li>• High prices of agricultural inputs</li> </ul>

**3.3.3. Actor landscape**

A majority of the institutions working in the *kebele* are governmental organisations. There are also few NGOs such as Abalo, and ACSI.



**Figure 9: Map of actor landscape at Ahuri Keltafa kebele**

Farmers complained about the quality of improved maize seed during the discussion. They emphasised this by removing the improved seed suppliers, especially Abalo, from the community boundary and placing them outside, as



indicated in the Venn diagram. Some organisations such as *kebele* administration, FTC, police, Edir, church and so on are located inside the community border, indicating their perceived importance to the community.

### 3.3.4. Agricultural production conditions

#### 3.3.4.1 Crop production

Crop production is practised in fragmented smallholder farms which lack modern technologies. It is at subsistence level and uses animal power for traction, threshing and other major agricultural activities. Sowing is done in a broadcast system except for maize which has been planted in rows for decades. The major crops grown are maize, finger millet, pulses, and tree crops.

#### 3.3.4.2 Livestock production

The livestock types found in the *kebele* are listed in Table 22.

**Table 22: Livestock number of Ahuri-Keltafa kebele as of 2009**

Breed type	Animal type	Local breeds	Crosses
Cattle	Ox	6,265	1
	Cow	3,120	15
	Heifer	1,008	4
	Bull	2,444	5
	Calf	426	3
	Horse	7	
	Mule	210	
	Donkey	872	
Sheep and goats	Sheep	4,784	
	Goat	925	
Poultry	Local chicken	10,012	445
Bees	Modern bee colony	78	
	Transitional bee colony	8	
	Traditional bee colony	326	

Source: kebele DA office



**3.3.4.3 Organisation of agricultural inputs**

The supply of agricultural inputs is done by cooperatives and by agricultural offices at different levels. They supply fertilizers, improved seed, and improved livestock breeds, either for cash or on loan terms. The NGO Abalo and some private producers are also trying to provide seed to farmers, although at a very limited level.

**Agricultural production constraints**

**3.3.4.4 Crop production constraints**

Crop production constraints mentioned during the PRA survey included fertilizer price increases, poor quality and high price of improved seeds, declining soil fertility, prevalence of crop diseases and pests, arable land shortage, limited supply and poor adoption rate of improved technologies. The constraints are similar across *woredas* and are discussed in detail above under Abchikli *kebele* for reference.

**Table 23: pair wise ranking of problems in crop production**

No	Problems	1	2	3	4	Score	Rank
1	Crop pests and diseases		2	3	4	0	4
2	High fertilizer prices			2	2	3	1
3	Decline in soil fertility				3	2	2
4	Decline in productivity					1	3

**3.3.4.5 Livestock production constraints**

The common problems of the sub-sector which include grazing land shortage, poor animal health service both in quality and coverage, and shortage in supply of improved animal breeds also apply to this *kebele*.

**Table 24: Pair wise ranking of problems in livestock subsector**

No	Problems	1	2	3	Score	Rank
1	Animal diseases		1	1	2	1
2	Animal feed shortage			3	0	3
3	Shortage of improved animal breeds				1	2

## Summary of findings

**Table 25: Summary of findings in agricultural production conditions (Ahuri Keltafa kebele)**

No	Item	Findings
1	Main	
	<ul style="list-style-type: none"> <li>Crops</li> </ul>	Maize, millet, teff, pulses, crop trees
	<ul style="list-style-type: none"> <li>Livestock</li> </ul>	Cattle, sheep goats, poultry, bees
2	Prevalent practices	
	<ul style="list-style-type: none"> <li>Crop</li> </ul>	<ul style="list-style-type: none"> <li>Land preparation—by oxen power</li> <li>Sowing—by broadcast except for maize</li> <li>Weeding—by hand and using chemicals</li> <li>Threshing—by animal and human power</li> </ul>
	<ul style="list-style-type: none"> <li>Livestock</li> </ul>	<ul style="list-style-type: none"> <li>Free grazing</li> <li>Crop residues</li> <li>Residues of local drinks</li> </ul>
3	Organisation of agricultural inputs	
	<ul style="list-style-type: none"> <li>Fertilizer</li> </ul>	Provided by cooperatives and agriculture offices
	<ul style="list-style-type: none"> <li>Improved seed</li> </ul>	Provided by cooperatives, agriculture offices, private companies & NGOs
4	Agricultural production constraints	
	<ul style="list-style-type: none"> <li>Crop production constraints</li> </ul>	<ul style="list-style-type: none"> <li>Declining soil fertility</li> <li>High fertilizer prices</li> <li>Crop diseases and pests</li> <li>Poor access to improved seeds</li> </ul>
	<ul style="list-style-type: none"> <li>Livestock production constraints</li> </ul>	<ul style="list-style-type: none"> <li>Shortage of grazing land and feed</li> <li>Animal health problems</li> <li>Shortage of improved animal breeds &amp; AI</li> </ul>



**Table 26: Pair wise ranking (Ahuri Keltafa kebele)**

No	problems	1	2	3	4	5	6	7	8	9	10	11	12	13	Score	Rank
1	Crop pests and diseases		1	1	1	1	1	7	8	9	10	11	12	1	6+1	6
2	Irrigation problems			3	2	2	6	7	8	9	10	11	12	2	3+1	10
3	Animal diseases				3	3	6	7	8	9	10	11	12	3	4	9
4	Animal feed shortage					5	6	7	8	9	10	11	12	13	0	13
5	Shortage of improved animal breeds						6	7	8	9	10	11	12	13	1	12
6	Shortage of credit and agricultural inputs							7	6	9	10	11	12	6	6	7
7	High fertilizer prices								7	7	7	7	7	7	12	1
8	Deforestation									9	10	11	12	13	5	8
9	Decline in soil fertility										10	11	9	9	9	4
10	Drinking water problems											10	10	10	11	2
11	Marketing problems												11	11	10	3
12	Decline in productivity													12	8	5
13	Lack of labour saving technologies														3	11

**Table 27: Summary of relationship between problems, causes and effects (Ahuri keltafa kebele)**

<b>No</b>	<b>Problem</b>	<b>Cause</b>	<b>Effect</b>	<b>Solution</b>
1	Shortage of improved crop varieties and provision of low quality seed	<ul style="list-style-type: none"> <li>• Supply problem/ limited suppliers</li> <li>• Private seed supplying enterprise don't deliver quality seed</li> </ul>	<ul style="list-style-type: none"> <li>• Decline in crop productivity</li> <li>• Damage/ total failure</li> </ul>	<ul style="list-style-type: none"> <li>• Government involvement in the supply of improved seed</li> <li>• Farmers need guarantee from suppliers</li> <li>• Follow up of seed producing farmers/ quality control</li> <li>• Community- based farmer to farmer seed exchange</li> </ul>
2	Animal health problems	<ul style="list-style-type: none"> <li>• Limited vet service &amp; drug supply</li> <li>• Insufficient service delivery</li> <li>• Skill limitation of health workers</li> </ul>	<ul style="list-style-type: none"> <li>• Increased animal mortality</li> <li>• Decrease in productivity</li> <li>• Lameness animals</li> </ul>	<ul style="list-style-type: none"> <li>• Improve drug supply</li> <li>• Improve the competence of animal health service providers</li> </ul>
3	Shortage of improved animal breeds and feeds	<ul style="list-style-type: none"> <li>• Limited supply</li> <li>• Shortage of AI service</li> </ul>	<ul style="list-style-type: none"> <li>• Low productivity of animals</li> <li>• Low income</li> <li>• High incidence of poverty</li> </ul>	<ul style="list-style-type: none"> <li>• Community level seed multiplication</li> <li>• Improve the supply of improved breed animals</li> </ul>
4	Mismanagement of natural resources	<ul style="list-style-type: none"> <li>• Lack of sense of ownership</li> <li>• Limited awareness</li> </ul>	<ul style="list-style-type: none"> <li>• Soil acidity</li> <li>• Low crop and animal productivity</li> <li>• Climate change</li> </ul>	<ul style="list-style-type: none"> <li>• Establishment of community bylaw for natural resource management and utilization</li> <li>• Watershed management</li> </ul>
5	Decline in crop productivity	<ul style="list-style-type: none"> <li>• Zero fallowing</li> <li>• Land shortage</li> <li>• Limited rotation of crops</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced crop productivity</li> <li>• Low household income</li> </ul>	<ul style="list-style-type: none"> <li>• Application of compost</li> <li>• Practice soil and water conservation measures</li> </ul>
6	High fertilizer price	<ul style="list-style-type: none"> <li>• Increased demand</li> <li>• Not produced domestically (imported)</li> </ul>	<ul style="list-style-type: none"> <li>• Increased cost of production</li> <li>• Reduced crop yield</li> </ul>	<ul style="list-style-type: none"> <li>• Application of compost</li> <li>• Domestic production of fertilizer</li> <li>• Improve agricultural marketing</li> </ul>
7	Agricultural marketing problems	<ul style="list-style-type: none"> <li>• Malfunctioning of free market</li> <li>• Lack of competitive market</li> </ul>	<ul style="list-style-type: none"> <li>• Low commodity prices</li> <li>• Low income</li> <li>• Poverty</li> </ul>	<ul style="list-style-type: none"> <li>• Government support</li> </ul>



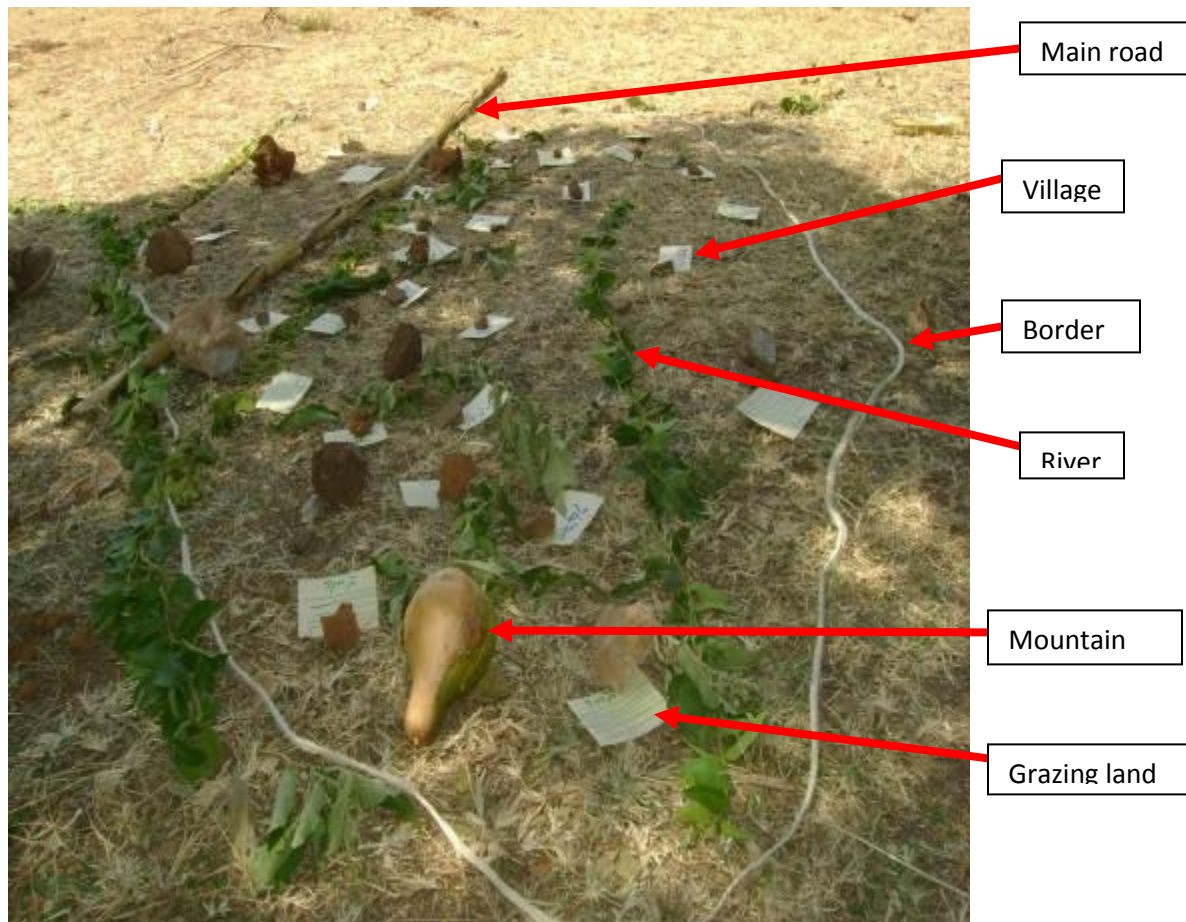
8	Shortage of credit	<ul style="list-style-type: none"> <li>• Untimely supply</li> <li>• Shortage of supply</li> <li>• Limited supply of input credit</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced crop yields</li> <li>• Late application of fertilizer</li> <li>• Incidence of diseases &amp; pests</li> </ul>	<ul style="list-style-type: none"> <li>• Demand based</li> <li>• Timely supply (March-May)</li> </ul>
9	Shortage of drinking water	<ul style="list-style-type: none"> <li>• Population increase</li> <li>• Mismanagement of existing water points</li> <li>• Insufficient water supply</li> </ul>	<ul style="list-style-type: none"> <li>• Increased incidence of disease</li> <li>• Time wastage fetching water</li> <li>• Inability to produce backyard vegetables</li> </ul>	<ul style="list-style-type: none"> <li>• Construction of water points by the government</li> </ul>



### 3.4 Kare Gurach kebele

#### 3.4.1. Environmental conditions

As in the other study *kebeles*, drawing the resource map was the first job carried out by the participant farmers in Kare Gurach *kebele*, and they were able to produce an excellent map (Figure 10).



**Figure 10: Resource map of Kare Gurach kebele**

As indicated in the map, the *kebele* is surrounded by many rivers, some of which are very big, such as the Smaller Nile, traditionally believed to be the head of the bigger Blue Nile. There are also rivers crossing the *kebele* in many places. Kare Gurach *kebele* also has very rich groundwater potential. It is clear that water is an abundant resource in the *kebele*, but there remain many problems in the management of water, both for drinking and irrigation. Firewood is another abundant resource in the *kebele*.

The scarce resources have been covered in the chapters on the other *kebeles*. Land allocation at household level is decided with discussions and common understanding among all family members of the household. Responsibility for collection of firewood and drinking water is similar to the other *kebeles*.



People mainly use communally owned grazing areas to feed their livestock. A few farmers also allocate some of their plots for grazing as well as for local cut and carry practices. Some also provide their animals with residues from making the local drinks *Atela* and *Brint*.

### **Summary of findings**

**Table 28: Summary of findings in availability of natural resources (Kare Gurach kebele)**

<b>No</b>	<b>Items</b>	<b>Findings</b>
1	Abundant resources	Water and firewood
2	Scarce resources	All except the above
3	Most problematic resource	Arable land
4	Access to land per community group	Not equal between the elderly and young farmers
5	Fertility distribution of the land	Not uniform
6	Decision making on land allocation	Based on discussion and decision among all family members
7	Collection of firewood	Equal responsibility for all family members
8	Collection of water	Women and girls are mainly responsible
9	Livestock grazing	Done on communal lands, in few cases on private grazing lands
10	Environmental constraints	Soil erosion, deforestation, free grazing.

#### **3.4.2. Socio-economic conditions**

Participant farmers prepared a social map before discussions on socio-economic issues. The results of the map indicated that the social boundary is wider than the physical one. The institutions found in the *kebele* are presented in Table 29.

**Table 29: Institutions found in Kare Gurach kebele**

<b>Name of institution</b>	<b>Number</b>	<b>Type</b>
School	5	Social institution
Church	5	Religious institution
Cooperative	None	Economic institution
FTC	1	Economic institution
Market place	1	Economic institution
<i>kebele</i> administration	1	Administrative institution
Police	1	Administrative institution
Seed nursery sites	None	Economic institution
NGOs	3	Nongovernmental organisations

#### **3.4.2.1 Demographic characteristics**

The inhabitants of the *kebele* are Amhara. The Ethiopian Orthodox Church is also the sole religious institution in the area. The number of households and the total population are increasing. Efforts by the government and other stakeholders to reduce the rate of population growth have not yet succeeded.

#### **3.4.2.2 Livelihoods**

Livelihoods depend largely on agricultural production where mixed farming is the dominant farming system. Every household in Kare Gurach *kebele* can produce its own consumable agricultural products either by directly producing on its own plot or by sharing in and sharing out arrangements. Food security is not universal, however, and there are a few households which face hunger for a few months each year.

#### **3.4.2.3 Access to finance**

The only sources of credit and loans are ACSI and cooperatives. ACSI gives credit for all kinds of activity, while the cooperatives focus mainly on delivering credits for purchasing of agricultural inputs. Their services are not without shortcomings.

#### **3.4.2.4 Market**

There is a huge marketing problem in the *kebele*. The prices of agricultural outputs are very low but industrial outputs are too expensive. Farmers were also complaining about the absence of a market place in their *kebele* or nearby



areas. They reported that the long distances they travel, the transport costs, the means of transport and the time wasted in transporting their farm outputs to and the industrial commodities from the market were a major difficulty.

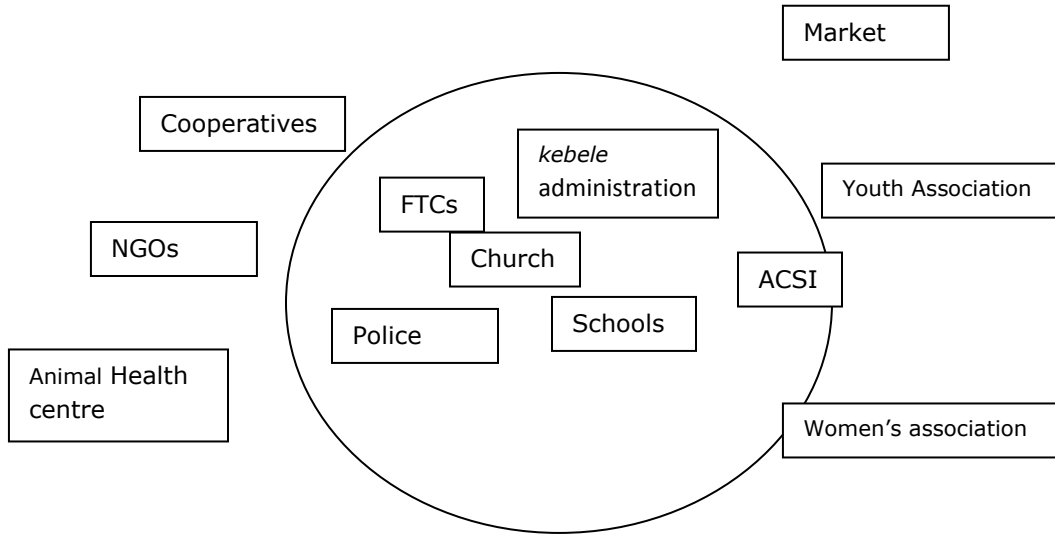
### **Summary of findings**

**Table 30: Summary of socio-economic findings in (Kare Gurach)**

<b>No</b>	<b>Item</b>	<b>Findings</b>
1	Village boundary in respect to interaction & services	Wider than the administrative boundary
2	Demographic characteristics	<ul style="list-style-type: none"> <li>• All inhabitants are Amhara</li> <li>• Religion-Ethiopian Orthodox Church</li> <li>• Population is increasing</li> <li>• Household number is increasing</li> </ul>
3	The main economic activities	Crop and livestock production, petty trading
4	Access to finance	ACSI and cooperatives are the only sources
5	Access to market	<ul style="list-style-type: none"> <li>• The prices of agricultural outputs are very low</li> <li>• The prices of industrial outputs are very high</li> </ul>
6	Main economic constraints	<ul style="list-style-type: none"> <li>• Land shortage</li> <li>• Marketing problems</li> <li>• High price of agricultural inputs</li> </ul>

### 3.4.3. Actor landscape

As in the other *kebeles*, the institutions are governmental organisations (GOs) and non- governmental organisations (NGOs).



**Figure 11: Venn diagram of Kare Gurach kebele**

### 3.4.4. Agricultural production conditions

#### 3.4.4.1 Crop production

The system of production is the same as in the above *kebeles*.

#### 3.4.4.2 Livestock production

The common livestock types in the *kebele* are listed below

**Table 31: Livestock type and number**

Breed type	Animal type	Years	
		2010	2011
Local cattle	Ox	2,801	2,760
	Cow	1,354	2,070
	Heifer	1,048	1,725
	Bull	876	1,311
	Calf	846	1,518
Cross cattle	Ox	4	4
	Cow	15	18
	Heifer	5	11
	Bull	10	2
	Calf	14	8
Sheep and goats	Sheep	1,425	1,518
	Goats	509	552
Equine	Donkey	582	759
	Mule	235	276
	Horse	11	27
Poultry	Local	9,730	870
	Cross	114	262
Bee hives	Local colony	422	621
	Modern	47	47
	Transition	-	-

Source: kebele DA office

**Table 32: Oxen per household, 2011**

No.	Description	Male headed	Female headed	Total
1	Less than one	221	245	466
2	Only one ox	192	69	261
3	Two oxen	1,114	34	1,148
4	Three oxen	46	2	48
5	Four or more oxen	32	-	32

Source: kebele DA office

### 3.4.4.3 Organisation of inputs

Fertilizer is distributed through cooperatives and agricultural offices at different levels. The supply of improved crop varieties involves the private sector and NGOs in addition to cooperatives and agriculture offices. The supply of improved animal breeds is very limited and sometimes non-existent. If it is available, the distribution will be through the agriculture office.

### Agricultural production constraints

#### 3.4.4.4 Crop production constraints

The major crop production constraints are listed in the following table

**Table 33: pair wise ranking of problems in crop production**

No	Problems	1	2	3	4	Score	Rank
1	Declining soil fertility		2	1	4	1	3
2	High fertilizer prices			2	2	3	1
3	Decline in crop productivity				4	2	2
4	Crop pests and diseases					0	4

### 3.4.4.5 Livestock production constraints

The major constraints are shortage of grazing land and animal feed supply, poor veterinary service, and very limited or non-existent supply of improved animal breeds.

**Table 34: Pair wise ranking of problems in livestock subsector**

No	Problems	1	2	3	Score	Rank
1	Grazing land problem		1	3	1	2
2	Shortage of improved animal breeds			3	2	1
3	Animal diseases				0	3

### Summary of findings

**Table 35: Summary of findings in agricultural production conditions (Kare Kurach kebele)**

No	Item	Findings
1	Main	
	• Crops	Maize, millet, teff, pulses, crop trees
	• Livestock	Cattle, sheep, goats, poultry, bees
2	Prevalent practices	
	• Crop	<ul style="list-style-type: none"> <li>• Land preparation-by oxen power</li> <li>• Sowing—by broadcast except for maize</li> <li>• Weeding—by hand and using chemicals</li> <li>• Threshing—by animal and human power</li> </ul>
	• Livestock	<ul style="list-style-type: none"> <li>• Free grazing</li> <li>• Crop residues</li> <li>• Residues of local drinks</li> </ul>
3	Organisation of agricultural inputs	
	• Fertilizer	Provided by cooperatives and agriculture offices
	• Improved seed	Provided by cooperatives, agriculture offices, private enterprises & NGOs
4	Agricultural production constraints	
	• Crop production constraints	<ul style="list-style-type: none"> <li>• Declining soil fertility</li> <li>• High fertilizer prices</li> <li>• Crop diseases and pests</li> <li>• Shortage of improved seeds</li> </ul>
	• Livestock production constraint	<ul style="list-style-type: none"> <li>• Shortage of grazing land and feed problem</li> <li>• Animal health problems</li> <li>• Shortage of improved animal breeds &amp; AI</li> </ul>





**Table 36: Pair wise ranking (Kare Gurach kebele)**

No	Problems	1	2	3	4	5	6	7	8	9	10	11	12	13	Score	Rank
1	Declining soil fertility		2	1	1	5	6	7	8	9	10	11	12	1	3	10
2	High fertilizer prices			2	2	2	2	2	2	2	2	2	2	2	12	1
3	Decline in crop productivity				3	3	6	7	8	3	10	11	12	3	4	9
4	Grazing land problems					5	6	7	8	4	10	11	12	4	2+1	11
5	Deforestation						6	7	8	5	10	11	12	5	4+1	8
6	Crop pests and diseases							6	6	6	10	11	6	6	9	4
7	Shortage of improved seeds								8	7	10	11	12	7	6	7
8	Input problems									8	10	11	8	8	8	5
9	Shortage of improved animal breeds										10	11	12	9	2	12
10	Animal diseases											11	10	10	10	3
11	Marketing problems												11	11	11	2
12	Irrigation problems													12	7	6
13	Lack of labour saving technology														0	13

**Table 37: Summary of problem, cause and effect relation**

No	Problem	Cause	Effect	Solution
1	High fertilizer prices	<ul style="list-style-type: none"> <li>It is not domestic product. Importation necessary</li> <li>Lack of market stability</li> </ul>	<ul style="list-style-type: none"> <li>Declining productivity</li> <li>Large share of annual income used to cover fertilizer debt</li> <li>Affects household consumption</li> <li>Decline in household income</li> </ul>	<ul style="list-style-type: none"> <li>Use of compost</li> <li>Market stabilization</li> </ul>
2	Declining soil fertility	<ul style="list-style-type: none"> <li>Lack of fallowing</li> <li>Soil erosion</li> <li>Deforestation</li> </ul>	<ul style="list-style-type: none"> <li>Yield reduction</li> <li>Increasing fertilizer consumption</li> <li>Increasing Soil acidity</li> </ul>	<ul style="list-style-type: none"> <li>Terracing</li> <li>Watershed treatment</li> <li>Lime addition</li> <li>Reallocate grazing land</li> </ul>
3	Marketing problem	<ul style="list-style-type: none"> <li>Price fixation by wholesalers</li> <li>Lack of government intervention</li> </ul>	<ul style="list-style-type: none"> <li>Inability to pay back credit</li> <li>Decline in household income</li> </ul>	<ul style="list-style-type: none"> <li>Government intervention</li> </ul>
4	Shortage of improved seed	<ul style="list-style-type: none"> <li>Poor quality</li> <li>Insufficient quantity</li> <li>Seeds are in the hands of traders</li> </ul>	<ul style="list-style-type: none"> <li>.</li> </ul>	<ul style="list-style-type: none"> <li>Seeds should be delivered through coop</li> <li>Traders should be excluded from seed trading</li> </ul>
5	Shortage of credit and supply of agricultural inputs	<ul style="list-style-type: none"> <li>Criteria of 100 % loan repayment</li> </ul>	<ul style="list-style-type: none"> <li>Reduction of productivity</li> <li>Late sowing</li> </ul>	<ul style="list-style-type: none"> <li>Don't follow 100 % loan repayment criteria</li> <li>Loan repayment performance should be considered on individual basis</li> </ul>
6	Animal disease	<ul style="list-style-type: none"> <li>Lack of clean drinking water</li> <li>shortage of skilled personnel &amp; technicians</li> </ul>	<ul style="list-style-type: none"> <li>Animal mortality</li> </ul>	
7	Crop diseases and pests	<ul style="list-style-type: none"> <li>Climate change</li> <li>Continuous ploughing</li> </ul>	<ul style="list-style-type: none"> <li>Crop yield loss</li> <li>Decline in household income</li> </ul>	<ul style="list-style-type: none"> <li>Fallowing</li> </ul>



8	Irrigation water problem	<ul style="list-style-type: none"> <li>• Siltation</li> <li>• Lack of modern irrigation scheme</li> <li>• Lack of assisting technologies</li> </ul>	<ul style="list-style-type: none"> <li>• Failure of crop</li> <li>• Reduce income</li> </ul>	
9	Deforestation	<ul style="list-style-type: none"> <li>• Lack of good governance</li> <li>• Guards cooperate with criminals</li> <li>• Lack of awareness</li> <li>• Charcoal sellers</li> </ul>	<ul style="list-style-type: none"> <li>• Land degradation</li> </ul>	<ul style="list-style-type: none"> <li>• More emphasis and guarding.</li> </ul>
10	Grazing land problem	<ul style="list-style-type: none"> <li>• Free grazing</li> <li>• Illegally owning the grazing land</li> </ul>	<ul style="list-style-type: none"> <li>• Decreasing in animal numbers</li> <li>• Soil erosion</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>
11	Lack of improved animal breeds	<ul style="list-style-type: none"> <li>• Lack of focus and support from experts</li> <li>• Shortage of delivery</li> <li>• Distribution of improved chicken breeds to relatives</li> </ul>	<ul style="list-style-type: none"> <li>• Low productivity</li> <li>• Decline in income</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>
12	Lack of labour saving technologies	<ul style="list-style-type: none"> <li>• Lack of knowledge</li> <li>• Shortage of supply</li> </ul>	<ul style="list-style-type: none"> <li>• Wastage of labour</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>
13	Decline of crop productivity	<ul style="list-style-type: none"> <li>• Decline in soil fertility</li> </ul>	<ul style="list-style-type: none"> <li>• Decline in crop yield</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>

**Table 38: Wealth ranking criteria**

<b>Criteria</b>	<b>Poor</b>	<b>Medium</b>	<b>Rich</b>
Size of land	Less than 1ha	1-2 ha	More than 3 ha
No of oxen	Less than 1	2	4 and above
Proportion of households in each category	50%	25%	25%



## 4. STAKEHOLDER WORKSHOPS

### 4.1 Organisation of Workshops and Feedback Received

At the start we had planned to conduct stakeholder workshops at different levels: at community level, at *woreda* level and at regional level. The community workshops at *kebele* level were planned to include participation by all inhabitants of the community. However, at the time of our PRA, the government and other development stakeholders were conducting large-scale conferences. In addition, our PRA was conducted at the peak harvesting season of the area. Nevertheless, a community workshop was conducted in each *kebele* with a limited number of participants. In most cases, the problems raised and prioritized by the PRA group of farmers in each *kebele* were approved by the participants of the workshop. This indicates the success of our PRA work in two major areas. The first is that we were effective in selecting the correct community representatives from each stratum. The second strength was that the brainstorming and discussions with the community revealed the perceptions of the wider community through understanding the local culture, attitudes, concerns and feelings.

*Woreda* and regional level workshops (scoping study) were conducted according to our plan. There were sufficient numbers of participants, who were eager to raise whatever problems and ideas they felt. The innovation themes identified during the various workshops are listed in the following section.

## 4.2 List of Innovation Themes

**Table 39: Proposed Innovation Themes for 2012**

### A. Crop

Commodity	Activities/ themes	Responsible body
Pepper	<ul style="list-style-type: none"> <li>▪ Identification and demonstration of disease and pest control options</li> <li>▪ Establish quality seed supply system</li> </ul>	<ul style="list-style-type: none"> <li>▪ CASCAPE and ARARI</li> <li>▪ CASCAPE and WoA</li> </ul>
Potato	<ul style="list-style-type: none"> <li>▪ Demonstration of high yielding and disease resistant varieties</li> <li>▪ Disease and pest control/ management options</li> <li>▪ Quality seed multiplication</li> <li>▪ Develop potato post-harvest handling system(DLS construction)</li> <li>▪ Demonstration of food preparation</li> <li>▪ Value chain development</li> </ul>	<ul style="list-style-type: none"> <li>▪ CASCAPE &amp; ARARI</li> <li>▪ CASCAPE&amp; BDU scientists</li> <li>▪ CASCAPE &amp; WoA</li> <li>▪ CASCAPE &amp; AGP</li> <li>▪ CASCAPE &amp; ARARI</li> <li>▪ CASCAPE, NIDP &amp; AGP</li> </ul>
Maize	<ul style="list-style-type: none"> <li>▪ Establish quality seed supply system</li> <li>▪ Demonstration of improved varieties for different agro-ecology</li> <li>▪ Enhancing farmer- level hybrid seed production</li> <li>▪ Demonstration of seed Sheller</li> <li>▪ Demonstration of maize – pigeon pea and maize- faba bean intercropping</li> <li>▪ Demonstration of food preparation</li> <li>▪ Disease and pest control options</li> </ul>	<ul style="list-style-type: none"> <li>▪ CASCAPE &amp; BoA</li> <li>▪ CASCAPE</li> <li>▪ Regional seed enterprise</li> <li>▪ CASCAPE &amp; ARARI</li> <li>▪ CASCAPE &amp; ARARI</li> <li>▪ CASCAPE &amp; ARARI</li> <li>▪ CASCAPE</li> </ul>
Wheat	<ul style="list-style-type: none"> <li>▪ Demonstration of high yielding and disease resistant varieties</li> <li>▪ Disease and pest control options</li> <li>▪ Seed multiplication and dissemination</li> <li>▪ Demonstration of food preparation</li> <li>▪ Value chain development</li> <li>▪ Demonstration of wheat threshing machine</li> </ul>	<ul style="list-style-type: none"> <li>▪ CASCAPE &amp; ARARI</li> <li>▪ CASCAPE &amp; ARARI</li> <li>▪ CASCAPE, ISSD &amp; BoA</li> <li>▪ CASCAPE &amp; ARARI</li> <li>▪ CASCAPE &amp; AGP</li> <li>▪ CASCAPE, ARARI, BoA &amp; AGP</li> </ul>
Teff	<ul style="list-style-type: none"> <li>▪ Demonstration/scale up of improved varieties 'Koncho' and 'Etsub'</li> <li>▪ Demonstration of green manure on teff plot before planting</li> <li>▪ Demonstration of row planting and transplanting vs. broadcasting</li> <li>▪ Establish quality seed supply system</li> </ul>	<ul style="list-style-type: none"> <li>▪ CASCAPE &amp; ARARI</li> <li>▪ CASCAPE</li> <li>▪ CASCAPE</li> <li>▪ CASCAPE, ISSD &amp; BoA</li> </ul>
Finger millet	<ul style="list-style-type: none"> <li>▪ Demonstration of head blast disease resistant and high</li> </ul>	<ul style="list-style-type: none"> <li>▪ CASCAPE</li> </ul>



	yielding variety <ul style="list-style-type: none"> <li>▪ Introduction of threshing machine</li> </ul>	<ul style="list-style-type: none"> <li>▪ CASCAPE &amp; ARARI</li> </ul>
Cassava	<ul style="list-style-type: none"> <li>▪ Introduction of cassava</li> <li>▪ Demonstration of food preparation and utilization</li> </ul>	<ul style="list-style-type: none"> <li>▪ CASCAPE &amp; AGP</li> </ul>
Sun flower	<ul style="list-style-type: none"> <li>▪ Introduction of improved varieties</li> </ul>	<ul style="list-style-type: none"> <li>▪ CASCAPE</li> </ul>

## B. Livestock

Commodity/ Theme	Activities/ sub themes	Responsible body
Livestock feed and nutrition development	<ul style="list-style-type: none"> <li>• Demonstration of improved forage varieties on FTCs and model farmers who are involved in dairy production and fattening activities</li> <li>• Facilitation of improved forage seed supply via seed multiplication on FTCs and interested farmers groups and rural youth</li> <li>• Creation of forage seed market linkage</li> <li>• Household level feed package (best cost ration formulation)</li> <li>• Demonstration of small scale silage making</li> <li>• Demonstration of UREA treatment on crop residues</li> <li>• Demonstration of household cattle feeding trough</li> <li>• Strengthening community grazing land management and forage development practice (rotational grazing)</li> </ul>	<ul style="list-style-type: none"> <li>▪ CASCAPE, ARARI &amp; AGP</li> <li>▪ CASCAPE, ARARI &amp; AGP</li> </ul>
Poultry production	<ul style="list-style-type: none"> <li>▪ Demonstration of poultry production system</li> </ul>	CASCAPE& WoA (AGP)
Honey bee production	<ul style="list-style-type: none"> <li>▪ Demonstration of modern honey bee production system integrating with area closure and watershed development</li> </ul>	CASCAPE& WoA (AGP)

## C. Natural Resource management

Theme	Activities/ sub themes	Responsible body
Integrated nutrient management	<ul style="list-style-type: none"> <li>▪ Demonstration of integrated nutrient management</li> </ul>	CASCAPE
Area closure, forage and apiculture	<ul style="list-style-type: none"> <li>▪ Capacity building</li> <li>▪ Introduction of multipurpose tree species, herbaceous grass and legumes</li> </ul>	CASCAPE
Maintain sustainability of soil and water conservation structures	<ul style="list-style-type: none"> <li>▪ Capacity building</li> <li>▪ Introduction of multipurpose tree species</li> </ul>	CASCAPE
Gully rehabilitation	<ul style="list-style-type: none"> <li>▪ Introduction of forage and multipurpose tree species</li> </ul>	CASCAPE



### **4.3 Best Practices**

There are ideas mentioned as best practices by farmers as well as during scoping studies. Some farmers in Lalibela *kebele* tried to control chilli pepper diseases by adding ash under the root and by draining the whole plot.

A few farmers are starting to allocate a portion of their crop land for forage development. In other areas, the communities are experimenting with rotational grazing to make their pasture land more productive.

## **5. Evaluation of PRA process by the team**

The PRA process has been conducted successfully. It was conducted within the time frame and as planned. There were sufficient participants, including a good number of female headed households in each *kebele*. The discussions and other data exchanging mechanisms were conducted openly, democratically and with mutual understanding.

The overlap of too many conferences and meetings by the government bodies and NGOs have created some problems in getting access to the target community groups within the scheduled time and place. In addition, the PRAs were conducted at harvest time which complicated the arrangements.

By making minor adjustments to the plans, the PRA process was successfully completed.



## 6. ANNEX: PARTICIPANTS OF THE PRA

### Environmental conditions

No	Description	<i>kebele</i>			
		Abchikli	Lalibela	Ahuri Keltafa	Kare Gurach
1	Abundant resource per community group	Firewood, water	Firewood	Firewood	Firewood, water
	<b>Tool:</b>	<ul style="list-style-type: none"> <li>Resource map</li> <li>Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>Resource map</li> <li>Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>Resource map</li> <li>Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>Resource map</li> <li>Semi structured interview</li> </ul>
	<b>Group composition:</b>	<ul style="list-style-type: none"> <li>Male = 19</li> <li>Female = 8</li> <li>Total = 27</li> </ul>	<ul style="list-style-type: none"> <li>Male = 24</li> <li>Female = 4</li> <li>Total = 28</li> </ul>	<ul style="list-style-type: none"> <li>Male = 20</li> <li>Female = 6</li> <li>Total = 26</li> </ul>	<ul style="list-style-type: none"> <li>Male = 18</li> <li>Female = 7</li> <li>Total = 25</li> </ul>
	<b>Facilitator(s)</b>	Mekonen Tolla	Mekonen Tolla	Mekonen Tolla	Mekonen Tolla
	<b>Observed limitations:</b>	Less participation from women	Less participation from women	Less participation from women	Less participation from women
	<b>Problems during exercise:</b>	Time limitation	Time limitation	Time limitation	Time limitation
2	Scarce resources per community group	All except the above	All except the above	All except the above	All except the above
	<b>Tool:</b>	<ul style="list-style-type: none"> <li>Resource map</li> <li>Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>Resource map</li> <li>Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>Resource map</li> <li>Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>Resource map</li> <li>Semi structured interview</li> </ul>
	<b>Group composition:</b>	<ul style="list-style-type: none"> <li>Male = 19</li> <li>Female = 8</li> <li>Total = 27</li> </ul>	<ul style="list-style-type: none"> <li>Male = 24</li> <li>Female = 4</li> <li>Total = 28</li> </ul>	<ul style="list-style-type: none"> <li>Male = 20</li> <li>Female = 6</li> </ul>	<ul style="list-style-type: none"> <li>Male = 18</li> <li>Female = 7</li> </ul>





				• Total = 26	• Total = 25
	<b>Facilitator(s)</b>	Mekonen Tolla	Mekonen Tolla	Mekonen Tolla	Mekonen Tolla
	<b>Observed limitations:</b>	Less participation from women	Less participation from women	Less participation from women	Less participation from women
	<b>Problems during exercise:</b>	Time limitation	Time limitation	Time limitation	Time limitation
<b>3</b>	Problematic resources	Arable land	Arable land	Arable land	Arable land
	<b>Tool:</b>	<ul style="list-style-type: none"> <li>• Resource map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Resource map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Resource map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Resource map</li> <li>• Semi structured interview</li> </ul>
	<b>Group composition:</b>	<ul style="list-style-type: none"> <li>• Male = 19</li> <li>• Female = 8</li> <li>• Total = 27</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 24</li> <li>• Female = 4</li> <li>• Total = 28</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 20</li> <li>• Female = 6</li> <li>• Total = 26</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 18</li> <li>• Female = 7</li> <li>• Total = 25</li> </ul>
	<b>Facilitator(s)</b>	Mekonen Tolla	Mekonen Tolla	Mekonen Tolla	Mekonen Tolla
	<b>Observed limitations:</b>	Less participation from women	Less participation from women	Less participation from women	Less participation from women
	<b>Problems during exercise:</b>	Time limitation	Time limitation	Time limitation	Time limitation
<b>4</b>	Access to land per community group	<ul style="list-style-type: none"> <li>• Not equal b/n youth &amp; elders</li> <li>• Equal b/n men &amp; women</li> </ul>	<ul style="list-style-type: none"> <li>• Not equal b/n youth &amp; elders</li> <li>• Equal b/n men &amp; women</li> </ul>	<ul style="list-style-type: none"> <li>• Not equal b/n youth &amp; elders</li> <li>• Equal b/n men &amp; women</li> </ul>	<ul style="list-style-type: none"> <li>• Not equal b/n youth &amp; elders</li> <li>• Equal b/n men &amp; women</li> </ul>
	<b>Tool:</b>	<ul style="list-style-type: none"> <li>• Resource map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Resource map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Resource map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Resource map</li> <li>• Semi structured interview</li> </ul>
	<b>Group composition:</b>	<ul style="list-style-type: none"> <li>• Male = 19</li> <li>• Female = 8</li> <li>• Total = 27</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 24</li> <li>• Female = 4</li> <li>• Total = 28</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 20</li> <li>• Female = 6</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 18</li> <li>• Female = 7</li> </ul>



				• Total = 26	• Total = 25
	<b>Facilitator(s)</b>	Mekonen Tolla	Mekonen Tolla	Mekonen Tolla	Mekonen Tolla
	<b>Observed limitations:</b>	Less participation from women	Less participation from women	Less participation from women	Less participation from women
	<b>Problems during exercise:</b>	Time limitation	Time limitation	Time limitation	Time limitation
<b>5</b>	Fertility distribution of the land	Not uniform	Not uniform	Not uniform	Not uniform
	<b>Tool:</b>	<ul style="list-style-type: none"> <li>• Resource map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Resource map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Resource map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Resource map</li> <li>• Semi structured interview</li> </ul>
	<b>Group composition:</b>	<ul style="list-style-type: none"> <li>• Male = 19</li> <li>• Female = 8</li> <li>• Total = 27</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 24</li> <li>• Female = 4</li> <li>• Total = 28</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 20</li> <li>• Female = 6</li> <li>• Total = 26</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 18</li> <li>• Female = 7</li> <li>• Total = 25</li> </ul>
	<b>Facilitator(s)</b>	Mekonen Tolla	Mekonen Tolla	Mekonen Tolla	Mekonen Tolla
	<b>Observed limitations:</b>	Less participation from women	Less participation from women	Less participation from women	Less participation from women
	<b>Problems during exercise:</b>	Time limitation	Time limitation	Time limitation	Time limitation
<b>6</b>	Decisions made on the land allocation	With discussions	With discussions	With discussions	With discussions
	<b>Tool:</b>	<ul style="list-style-type: none"> <li>• Resource map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Resource map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Resource map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Resource map</li> <li>• Semi structured interview</li> </ul>
	<b>Group composition:</b>	<ul style="list-style-type: none"> <li>• Male = 19</li> <li>• Female = 8</li> <li>• Total = 27</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 24</li> <li>• Female = 4</li> <li>• Total = 28</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 20</li> <li>• Female = 6</li> <li>• Total = 26</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 18</li> <li>• Female = 7</li> <li>• Total = 25</li> </ul>



	<b>Facilitator(s)</b>	Mekonen Tolla	Mekonen Tolla	Mekonen Tolla	Mekonen Tolla
	<b>Observed limitations:</b>	Less participation from women	Less participation from women	Less participation from women	Less participation from women
	<b>Problems during exercise:</b>	Time limitation	Time limitation	Time limitation	Time limitation
<b>7</b>	Collection of firewood	Husband and wife	Husband and wife	Husband and wife	Husband and wife
	<b>Tool:</b>	<ul style="list-style-type: none"> <li>• Resource map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Resource map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Resource map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Resource map</li> <li>• Semi structured interview</li> </ul>
	<b>Group composition:</b>	<ul style="list-style-type: none"> <li>• Male = 19</li> <li>• Female = 8</li> <li>• Total = 27</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 24</li> <li>• Female = 4</li> <li>• Total = 28</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 20</li> <li>• Female = 6</li> <li>• Total = 26</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 18</li> <li>• Female = 7</li> <li>• Total = 25</li> </ul>
	<b>Facilitator(s)</b>	Mekonen Tolla	Mekonen Tolla	Mekonen Tolla	Mekonen Tolla
	<b>Observed limitations:</b>	Less participation from women	Less participation from women	Less participation from women	Less participation from women
	<b>Problems during exercise:</b>	Time limitation	Time limitation	Time limitation	Time limitation
<b>8</b>	Collection of water	Responsibility of females	Responsibility of females	Responsibility of females	Responsibility of females
	<b>Tool:</b>	<ul style="list-style-type: none"> <li>• Resource map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Resource map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Resource map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Resource map</li> <li>• Semi structured interview</li> </ul>
	<b>Group composition:</b>	<ul style="list-style-type: none"> <li>• Male = 19</li> <li>• Female = 8</li> <li>• Total = 27</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 24</li> <li>• Female = 4</li> <li>• Total = 28</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 20</li> <li>• Female = 6</li> <li>• Total = 26</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 18</li> <li>• Female = 7</li> <li>• Total = 25</li> </ul>
	<b>Facilitator(s)</b>	Mekonen Tolla	Mekonen Tolla	Mekonen Tolla	Mekonen Tolla



	<b>Observed limitations:</b>	Less participation from women	Less participation from women	Less participation from women	Less participation from women
	<b>Problems during exercise:</b>	Time limitation	Time limitation	Time limitation	Time limitation
<b>9</b>	Livestock grazing	<ul style="list-style-type: none"> <li>• On communal lands</li> <li>• On private lands</li> </ul>	<ul style="list-style-type: none"> <li>• On communal lands</li> <li>• On private lands</li> </ul>	<ul style="list-style-type: none"> <li>• On communal lands</li> <li>• On private lands</li> </ul>	<ul style="list-style-type: none"> <li>• On communal lands</li> <li>• On private lands</li> </ul>
	<b>Tool:</b>	<ul style="list-style-type: none"> <li>• Resource map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Resource map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Resource map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Resource map</li> <li>• Semi structured interview</li> </ul>
	<b>Group composition:</b>	<ul style="list-style-type: none"> <li>• Male = 19</li> <li>• Female = 8</li> <li>• Total = 27</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 24</li> <li>• Female = 4</li> <li>• Total = 28</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 20</li> <li>• Female = 6</li> <li>• Total = 26</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 18</li> <li>• Female = 7</li> <li>• Total = 25</li> </ul>
	<b>Facilitator(s)</b>	Mekonen Tolla	Mekonen Tolla	Mekonen Tolla	Mekonen Tolla
	<b>Observed limitations:</b>	Less participation from women	Less participation from women	Less participation from women	Less participation from women
	<b>Problems during exercise:</b>	Time limitation	Time limitation	Time limitation	Time limitation
<b>10</b>	Environmental constraints	<ul style="list-style-type: none"> <li>• Erosion</li> <li>• Deforestation</li> <li>• Land shortage</li> </ul>	<ul style="list-style-type: none"> <li>• Erosion</li> <li>• Deforestation</li> <li>• Land shortage</li> </ul>	<ul style="list-style-type: none"> <li>• Erosion</li> <li>• Deforestation</li> <li>• Land shortage</li> </ul>	<ul style="list-style-type: none"> <li>• Erosion</li> <li>• Deforestation</li> <li>• Land shortage</li> </ul>
	<b>Tool:</b>	<ul style="list-style-type: none"> <li>• Resource map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Resource map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Resource map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Resource map</li> <li>• Semi structured interview</li> </ul>
	<b>Group composition:</b>	<ul style="list-style-type: none"> <li>• Male = 19</li> <li>• Female = 8</li> <li>• Total = 27</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 24</li> <li>• Female = 4</li> <li>• Total = 28</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 20</li> <li>• Female = 6</li> <li>• Total = 26</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 18</li> <li>• Female = 7</li> <li>• Total = 25</li> </ul>



	<b>Facilitator(s)</b>	Mekonen Tolla	Mekonen Tolla	Mekonen Tolla	Mekonen Tolla
	<b>Observed limitations:</b>	Less participation from women	Less participation from women	Less participation from women	Less participation from women
	<b>Problems during exercise:</b>	Time limitation	Time limitation	Time limitation	Time limitation

**Socio-economic conditions**

No	Description	<i>kebele</i>			
		Abchikli	Lalibela	Ahuri Keltafa	Kare Gurach
1	Village boundary	Wider	Wider	Wider	Wider
	<b>Tool:</b>	<ul style="list-style-type: none"> <li>• Social map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Social map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Social map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Social map</li> <li>• Semi structured interview</li> </ul>
	<b>Group composition:</b>	<ul style="list-style-type: none"> <li>• Male = 19</li> <li>• Female = 8</li> <li>• Total = 27</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 24</li> <li>• Female = 4</li> <li>• Total = 28</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 20</li> <li>• Female = 6</li> <li>• Total = 26</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 18</li> <li>• Female = 7</li> <li>• Total = 25</li> </ul>
	<b>Facilitator(s)</b>	Molla Tafere	Molla Tafere	Molla Tafere	Molla Tafere
	<b>Observed limitations:</b>	Difficult to draw	Difficult to draw	Difficult to draw	Difficult to draw
	<b>Problems during exercise:</b>	Less participation from women	Less participation from women	Less participation from women	Less participation from women
2	Demographic Characteristics	<ul style="list-style-type: none"> <li>• All Amhara</li> <li>• Religion-Orthodox</li> <li>• No population &amp; household-increasing</li> </ul>	<ul style="list-style-type: none"> <li>• All Amhara</li> <li>• Religion-Orthodox</li> <li>• No population &amp; household-increasing</li> </ul>	<ul style="list-style-type: none"> <li>• All Amhara</li> <li>• Religion-Orthodox</li> <li>• No population &amp; household-increasing</li> </ul>	<ul style="list-style-type: none"> <li>• All Amhara</li> <li>• Religion-Orthodox</li> <li>• No population &amp; household-increasing</li> </ul>



	<b>Tool:</b>	<ul style="list-style-type: none"> <li>• Social map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Social map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Social map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Social map</li> <li>• Semi structured interview</li> </ul>
	<b>Group composition:</b>	<ul style="list-style-type: none"> <li>• Male = 19</li> <li>• Female = 8</li> <li>• Total = 27</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 24</li> <li>• Female = 4</li> <li>• Total = 28</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 20</li> <li>• Female = 6</li> <li>• Total = 26</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 18</li> <li>• Female = 7</li> <li>• Total = 25</li> </ul>
	<b>Facilitator(s)</b>	Molla Tafere	Molla Tafere	Molla Tafere	Molla Tafere
	<b>Observed limitations:</b>	Difficult to draw	Difficult to draw	Difficult to draw	Difficult to draw
	<b>Problems during exercise:</b>	Less participation from women	Less participation from women	Less participation from women	Less participation from women
<b>3</b>	Maim economic activities	<ul style="list-style-type: none"> <li>• Agricultural production</li> <li>• Petty trading</li> </ul>	<ul style="list-style-type: none"> <li>• Agricultural production</li> <li>• Petty trading</li> </ul>	<ul style="list-style-type: none"> <li>• Agricultural production</li> <li>• Petty trading</li> </ul>	<ul style="list-style-type: none"> <li>• Agricultural production</li> <li>• Petty trading</li> </ul>
	<b>Tool:</b>	<ul style="list-style-type: none"> <li>• Social map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Social map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Social map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Social map</li> <li>• Semi structured interview</li> </ul>
	<b>Group composition:</b>	<ul style="list-style-type: none"> <li>• Male = 19</li> <li>• Female = 8</li> <li>• Total = 27</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 24</li> <li>• Female = 4</li> <li>• Total = 28</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 20</li> <li>• Female = 6</li> <li>• Total = 26</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 18</li> <li>• Female = 7</li> <li>• Total = 25</li> </ul>
	<b>Facilitator(s)</b>	Molla Tafere	Molla Tafere	Molla Tafere	Molla Tafere
	<b>Observed limitations:</b>	Difficult to draw	Difficult to draw	Difficult to draw	Difficult to draw
	<b>Problems during exercise:</b>	Less participation from women	Less participation from women	Less participation from women	Less participation from women
		<ul style="list-style-type: none"> <li>• Agricultural production</li> <li>• Petty trading</li> </ul>	<ul style="list-style-type: none"> <li>• Agricultural production</li> <li>• Petty trading</li> </ul>	<ul style="list-style-type: none"> <li>• Agricultural production</li> <li>• Petty trading</li> </ul>	<ul style="list-style-type: none"> <li>• Agricultural production</li> <li>• Petty trading</li> </ul>



<b>4</b>	Livelihood				
	<b>Tool:</b>	<ul style="list-style-type: none"> <li>• Social map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Social map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Social map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Social map</li> <li>• Semi structured interview</li> </ul>
	<b>Group composition:</b>	<ul style="list-style-type: none"> <li>• Male = 19</li> <li>• Female = 8</li> <li>• Total = 27</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 24</li> <li>• Female = 4</li> <li>• Total = 28</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 20</li> <li>• Female = 6</li> <li>• Total = 26</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 18</li> <li>• Female = 7</li> <li>• Total = 25</li> </ul>
	<b>Facilitator(s)</b>	Molla Tafere	Molla Tafere	Molla Tafere	Molla Tafere
	<b>Observed limitations:</b>	Difficult to draw	Difficult to draw	Difficult to draw	Difficult to draw
	<b>Problems during exercise:</b>	Less participation from women	Less participation from women	Less participation from women	Less participation from women
<b>5</b>	Access to finance	<ul style="list-style-type: none"> <li>• ACSI</li> <li>• Cooperatives</li> </ul>	<ul style="list-style-type: none"> <li>• ACSI</li> <li>• Cooperatives</li> </ul>	<ul style="list-style-type: none"> <li>• ACSI</li> <li>• Cooperatives</li> </ul>	<ul style="list-style-type: none"> <li>• ACSI</li> <li>• Cooperatives</li> </ul>
	<b>Tool:</b>	<ul style="list-style-type: none"> <li>• Social map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Social map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Social map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Social map</li> <li>• Semi structured interview</li> </ul>
	<b>Group composition:</b>	<ul style="list-style-type: none"> <li>• Male = 19</li> <li>• Female = 8</li> <li>• Total = 27</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 24</li> <li>• Female = 4</li> <li>• Total = 28</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 20</li> <li>• Female = 6</li> <li>• Total = 26</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 18</li> <li>• Female = 7</li> <li>• Total = 25</li> </ul>
	<b>Facilitator(s)</b>	Molla Tafere	Molla Tafere	Molla Tafere	Molla Tafere
	<b>Observed limitations:</b>	Difficult to draw	Difficult to draw	Difficult to draw	Difficult to draw
	<b>Problems during exercise:</b>	Less participation from women	Less participation from women	Less participation from women	Less participation from women



<b>6</b>	Access to markets	<ul style="list-style-type: none"> <li>• Has market place</li> <li>• Agri. Output-low price</li> <li>• Indus. Output-high price</li> </ul>	<ul style="list-style-type: none"> <li>• Has market place</li> <li>• Agri. Output-low price</li> <li>• Indus. Output-high price</li> </ul>	<ul style="list-style-type: none"> <li>• Has market place</li> <li>• Agri. Output-low price</li> <li>• Indus. Output-high price</li> </ul>	<ul style="list-style-type: none"> <li>• No market place</li> <li>• Agri. Output-low price</li> <li>• Indus. Output-high price</li> </ul>
	<b>Tool:</b>	<ul style="list-style-type: none"> <li>• Social map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Social map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Social map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Social map</li> <li>• Semi structured interview</li> </ul>
	<b>Group composition:</b>	<ul style="list-style-type: none"> <li>• Male = 19</li> <li>• Female = 8</li> <li>• Total = 27</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 24</li> <li>• Female = 4</li> <li>• Total = 28</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 20</li> <li>• Female = 6</li> <li>• Total = 26</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 18</li> <li>• Female = 7</li> <li>• Total = 25</li> </ul>
	<b>Facilitator(s)</b>	Molla Tafere	Molla Tafere	Molla Tafere	Molla Tafere
	<b>Observed limitations:</b>	Difficult to draw	Difficult to draw	Difficult to draw	Difficult to draw
	<b>Problems during exercise:</b>	Less participation from women	Less participation from women	Less participation from women	Less participation from women
<b>7</b>	Main economic constraints	<ul style="list-style-type: none"> <li>• Land shortage</li> <li>• Market problem</li> <li>• High input price</li> </ul>	<ul style="list-style-type: none"> <li>• Land shortage</li> <li>• Market problem</li> <li>• High input price</li> </ul>	<ul style="list-style-type: none"> <li>• Land shortage</li> <li>• Market problem</li> <li>• High input price</li> </ul>	<ul style="list-style-type: none"> <li>• Land shortage</li> <li>• Market problem</li> <li>• High input price</li> </ul>
	<b>Tool:</b>	<ul style="list-style-type: none"> <li>• Social map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Social map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Social map</li> <li>• Semi structured interview</li> </ul>	<ul style="list-style-type: none"> <li>• Social map</li> <li>• Semi structured interview</li> </ul>
	<b>Group composition:</b>	<ul style="list-style-type: none"> <li>• Male = 19</li> <li>• Female = 8</li> <li>• Total = 27</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 24</li> <li>• Female = 4</li> <li>• Total = 28</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 20</li> <li>• Female = 6</li> <li>• Total = 26</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 18</li> <li>• Female = 7</li> <li>• Total = 25</li> </ul>
	<b>Facilitator(s)</b>	Molla Tafere	Molla Tafere	Molla Tafere	Molla Tafere
	<b>Observed limitations:</b>	Difficult to draw	Difficult to draw	Difficult to draw	Difficult to draw





	<b>Problems during exercise:</b>	Less participation from women	Less participation from women	Less participation from women	Less participation from women
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### Actor landscape

No	Description	kebele			
		Abchikli	Lalibela	Ahuri Keltafa	Kare Gurach
<b>1</b>	Institutions working in the community	GOs and NGOs	GOs and NGOs	GOs and NGOs	GOs and NGOs
	<b>Tool:</b>	Venn Diagram	Venn Diagram	Venn Diagram	Venn Diagram
	<b>Group composition:</b>	<ul style="list-style-type: none"> <li>• Male = 19</li> <li>• Female = 8</li> <li>• Total = 27</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 24</li> <li>• Female = 4</li> <li>• Total = 28</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 20</li> <li>• Female = 6</li> <li>• Total = 26</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 18</li> <li>• Female = 7</li> <li>• Total = 25</li> </ul>
	<b>Facilitator(s)</b>	Biruhalem Kassa	Biruhalem Kassa	Biruhalem Kassa	Biruhalem Kassa
	<b>Observed limitations:</b>	No limitation	No limitation	No limitation	No limitation
	<b>Problems during exercise:</b>	Less participation from women	Less participation from women	Less participation from women	Less participation from women
<b>2</b>	Most important institutions/Group	Refer from the discussion above	Refer from the discussion above	Refer from the discussion above	Refer from the discussion above
	<b>Tool:</b>	Venn Diagram	Venn Diagram	Venn Diagram	Venn Diagram
		<ul style="list-style-type: none"> <li>• Male = 19</li> <li>• Female = 8</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 24</li> <li>• Female = 4</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 20</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 18</li> </ul>



	<b>Group composition:</b>	<ul style="list-style-type: none"> <li>Total = 27</li> </ul>	<ul style="list-style-type: none"> <li>Total = 28</li> </ul>	<ul style="list-style-type: none"> <li>Female = 6</li> <li>Total = 26</li> </ul>	<ul style="list-style-type: none"> <li>Female = 7</li> <li>Total = 25</li> </ul>
	<b>Facilitator(s)</b>	Biruhalem Kassa	Biruhalem Kassa	Biruhalem Kassa	Biruhalem Kassa
	<b>Observed limitations:</b>	No limitation	No limitation	No limitation	No limitation
	<b>Problems during exercise:</b>	Less participation from women	Less participation from women	Less participation from women	Less participation from women
<b>3</b>	Groups addressing food security & nutrition	All institutions	All institutions	All institutions	All institutions
	<b>Tool:</b>	Venn Diagram	Venn Diagram	Venn Diagram	Venn Diagram
	<b>Group composition:</b>	<ul style="list-style-type: none"> <li>Male = 19</li> <li>Female = 8</li> <li>Total = 27</li> </ul>	<ul style="list-style-type: none"> <li>Male = 24</li> <li>Female = 4</li> <li>Total = 28</li> </ul>	<ul style="list-style-type: none"> <li>Male = 20</li> <li>Female = 6</li> <li>Total = 26</li> </ul>	<ul style="list-style-type: none"> <li>Male = 18</li> <li>Female = 7</li> <li>Total = 25</li> </ul>
	<b>Facilitator(s)</b>	Biruhalem Kassa	Biruhalem Kassa	Biruhalem Kassa	Biruhalem Kassa
	<b>Observed limitations:</b>	No limitation	No limitation	No limitation	No limitation
	<b>Problems during exercise:</b>	Less participation from women	Less participation from women	Less participation from women	Less participation from women
<b>4</b>	Which organisations work together	Almost all	Almost all	Almost all	Almost all
	<b>Tool:</b>	Venn Diagram	Venn Diagram	Venn Diagram	Venn Diagram
	<b>Group composition:</b>	<ul style="list-style-type: none"> <li>Male = 19</li> <li>Female = 8</li> <li>Total = 27</li> </ul>	<ul style="list-style-type: none"> <li>Male = 24</li> <li>Female = 4</li> <li>Total = 28</li> </ul>	<ul style="list-style-type: none"> <li>Male = 20</li> <li>Female = 6</li> </ul>	<ul style="list-style-type: none"> <li>Male = 18</li> <li>Female = 7</li> </ul>



				• Total = 26	• Total = 25
	<b>Facilitator(s)</b>	Biruhalem Kassa	Biruhalem Kassa	Biruhalem Kassa	Biruhalem Kassa
	<b>Observed limitations:</b>	No limitation	No limitation	No limitation	No limitation
	<b>Problems during exercise:</b>	Less participation from women	Less participation from women	Less participation from women	Less participation from women
<b>5</b>	Groups split up to gender	Birhane hiwan & women's affairs work only on women	Birhane hiwan & women's affairs work only on women	Birhane hiwan & women's affairs work only on women	Birhane hiwan & women's affairs work only on women
	<b>Tool:</b>	Venn Diagram	Venn Diagram	Venn Diagram	Venn Diagram
	<b>Group composition:</b>	<ul style="list-style-type: none"> <li>• Male = 19</li> <li>• Female = 8</li> <li>• Total = 27</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 24</li> <li>• Female = 4</li> <li>• Total = 28</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 20</li> <li>• Female = 6</li> <li>• Total = 26</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 18</li> <li>• Female = 7</li> <li>• Total = 25</li> </ul>
	<b>Facilitator(s)</b>	Biruhalem Kassa	Biruhalem Kassa	Biruhalem Kassa	Biruhalem Kassa
	<b>Observed limitations:</b>	No limitation	No limitation	No limitation	No limitation
	<b>Problems during exercise:</b>	Less participation from women	Less participation from women	Less participation from women	Less participation from women
<b>6</b>	Exclusion of groups or people from groups	No exclusion	No exclusion	No exclusion	No exclusion
	<b>Tool:</b>	Venn Diagram	Venn Diagram	Venn Diagram	Venn Diagram
	<b>Group composition:</b>	<ul style="list-style-type: none"> <li>• Male = 19</li> <li>• Female = 8</li> <li>• Total = 27</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 24</li> <li>• Female = 4</li> <li>• Total = 28</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 20</li> <li>• Female = 6</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 18</li> <li>• Female = 7</li> </ul>



				• Total = 26	• Total = 25
	<b>Facilitator(s)</b>	Biruhalem Kassa	Biruhalem Kassa	Biruhalem Kassa	Biruhalem Kassa
	<b>Observed limitations:</b>	No limitation	No limitation	No limitation	No limitation
	<b>Problems during exercise:</b>	Less participation from women	Less participation from women	Less participation from women	Less participation from women

### Agricultural production condition

No	Description	<i>kebele</i>			
		Abchikli	Lalibela	Ahuri Keltafa	Kare Gurach
<b>1</b>	The main:				
	a. Cultivated crops	Maize, millet, teff, pulses, crop trees	Maize, millet, teff, pulses, crop trees	Maize, millet, teff, pulses, crop trees	Maize, millet, teff, pulses, crop trees
	b. Livestock	Cattle, sheep, goats, poultry, bee	Cattle, sheep, goats, poultry, bee	Cattle, sheep, goats, poultry, bee	Cattle, sheep, goats, poultry, bee
	<b>Tool:</b>	<ul style="list-style-type: none"> <li>• Semi structured interview</li> <li>• Pair wise ranking</li> </ul>	<ul style="list-style-type: none"> <li>• Semi structured interview</li> <li>• Pair wise ranking</li> </ul>	<ul style="list-style-type: none"> <li>• Semi structured interview</li> <li>• Pair wise ranking</li> </ul>	<ul style="list-style-type: none"> <li>• Semi structured interview</li> <li>• Pair wise ranking</li> </ul>
	<b>Group composition:</b>	<ul style="list-style-type: none"> <li>• Male = 19</li> <li>• Female = 8</li> <li>• Total = 27</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 24</li> <li>• Female = 4</li> <li>• Total = 28</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 20</li> <li>• Female = 6</li> <li>• Total = 26</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 18</li> <li>• Female = 7</li> <li>• Total = 25</li> </ul>
	<b>Facilitator(s)</b>	<ul style="list-style-type: none"> <li>• Yihalem Denekew</li> <li>• Asresie Hassen</li> </ul>	<ul style="list-style-type: none"> <li>• Yihalem Denekew</li> <li>• Asresie Hassen</li> </ul>	<ul style="list-style-type: none"> <li>• Yihalem Denekew</li> <li>• Asresie Hassen</li> </ul>	<ul style="list-style-type: none"> <li>• Yihalem Denekew</li> </ul>



	<b>Observed limitations:</b>	No limitation	No limitation	No limitation	No limitation
	<b>Problems during exercise:</b>	Less participation from women	Less participation from women	Less participation from women	Less participation from women
<b>2</b>	Prevalent practices:				
	a. Crops	<ul style="list-style-type: none"> <li>• Land preparation-by animal power</li> <li>• Sowing-broadcast and row</li> <li>• Weeding-by hand and chemical</li> <li>• Threshing-by animal and human power</li> </ul>	<ul style="list-style-type: none"> <li>• Land preparation-by animal power</li> <li>• Sowing-broadcast and row</li> <li>• Weeding-by hand and chemical</li> <li>• Threshing-by animal and human power</li> </ul>	<ul style="list-style-type: none"> <li>• Land preparation-by animal power</li> <li>• Sowing-broadcast and row</li> <li>• Weeding-by hand and chemical</li> <li>• Threshing-by animal and human power</li> </ul>	<ul style="list-style-type: none"> <li>• Land preparation-by animal power</li> <li>• Sowing-broadcast and row</li> <li>• Weeding-by hand and chemical</li> <li>• Threshing-by animal and human power</li> </ul>
	b. Livestock	Grazing on communal and private lands	Grazing on communal and private lands	Grazing on communal and private lands	Grazing on communal and private lands
	<b>Tool:</b>	<ul style="list-style-type: none"> <li>• Semi structured interview</li> <li>• Pair wise ranking</li> </ul>	<ul style="list-style-type: none"> <li>• Semi structured interview</li> <li>• Pair wise ranking</li> </ul>	<ul style="list-style-type: none"> <li>• Semi structured interview</li> <li>• Pair wise ranking</li> </ul>	<ul style="list-style-type: none"> <li>• Semi structured interview</li> <li>• Pair wise ranking</li> </ul>
	<b>Group composition:</b>	<ul style="list-style-type: none"> <li>• Male = 19</li> <li>• Female = 8</li> <li>• Total = 27</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 24</li> <li>• Female = 4</li> <li>• Total = 28</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 20</li> <li>• Female = 6</li> <li>• Total = 26</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 18</li> <li>• Female = 7</li> <li>• Total = 25</li> </ul>
	<b>Facilitator(s)</b>	<ul style="list-style-type: none"> <li>• Yihalem Denekew</li> <li>• Asresie Hassen</li> </ul>	<ul style="list-style-type: none"> <li>• Yihalem Denekew</li> <li>• Asresie Hassen</li> </ul>	<ul style="list-style-type: none"> <li>• Yihalem Denekew</li> <li>• Asresie Hassen</li> </ul>	<ul style="list-style-type: none"> <li>• Yihalem Denekew</li> </ul>
	<b>Observed limitations:</b>	No limitation	No limitation	No limitation	No limitation



	<b>Problems during exercise:</b>	Less participation from women	Less participation from women	Less participation from women	Less participation from women
<b>3</b>	Organisation of inputs	<ul style="list-style-type: none"> <li>Fertilizer-by GOs</li> <li>Improved seed-by GOs, NGOs &amp; private</li> </ul>	<ul style="list-style-type: none"> <li>Fertilizer-by GOs</li> <li>Improved seed-by GOs, NGOs &amp; private</li> </ul>	<ul style="list-style-type: none"> <li>Fertilizer-by GOs</li> <li>Improved seed-by GOs, NGOs &amp; private</li> </ul>	<ul style="list-style-type: none"> <li>Fertilizer-by GOs</li> <li>Improved seed-by GOs, NGOs &amp; private</li> </ul>
	<b>Tool:</b>	<ul style="list-style-type: none"> <li>Semi structured interview</li> <li>Pair wise ranking</li> </ul>	<ul style="list-style-type: none"> <li>Semi structured interview</li> <li>Pair wise ranking</li> </ul>	<ul style="list-style-type: none"> <li>Semi structured interview</li> <li>Pair wise ranking</li> </ul>	<ul style="list-style-type: none"> <li>Semi structured interview</li> <li>Pair wise ranking</li> </ul>
	<b>Group composition:</b>	<ul style="list-style-type: none"> <li>Male = 19</li> <li>Female = 8</li> <li>Total = 27</li> </ul>	<ul style="list-style-type: none"> <li>Male = 24</li> <li>Female = 4</li> <li>Total = 28</li> </ul>	<ul style="list-style-type: none"> <li>Male = 20</li> <li>Female = 6</li> <li>Total = 26</li> </ul>	<ul style="list-style-type: none"> <li>Male = 18</li> <li>Female = 7</li> <li>Total = 25</li> </ul>
	<b>Facilitator(s)</b>	<ul style="list-style-type: none"> <li>Yihalem Denekew</li> <li>Asresie Hassen</li> </ul>	<ul style="list-style-type: none"> <li>Yihalem Denekew</li> <li>Asresie Hassen</li> </ul>	<ul style="list-style-type: none"> <li>Yihalem Denekew</li> <li>Asresie Hassen</li> </ul>	<ul style="list-style-type: none"> <li>Yihalem Denekew</li> </ul>
	<b>Observed limitations:</b>	No limitation	No limitation	No limitation	No limitation
	<b>Problems during exercise:</b>	Less participation from women	Less participation from women	Less participation from women	Less participation from women
<b>4</b>	Agricultural production constraints:				
	a. Crop production constraints	<ul style="list-style-type: none"> <li>Decline in soil fertility</li> <li>High fertilizer price</li> <li>Improved seed problem</li> <li>Crop pest &amp; disease</li> </ul>	<ul style="list-style-type: none"> <li>Decline in soil fertility</li> <li>High fertilizer price</li> <li>Improved seed problem</li> <li>Crop pest &amp; disease</li> </ul>	<ul style="list-style-type: none"> <li>Decline in soil fertility</li> <li>High fertilizer price</li> <li>Improved seed problem</li> <li>Crop pest &amp; disease</li> </ul>	<ul style="list-style-type: none"> <li>Decline in soil fertility</li> <li>High fertilizer price</li> <li>Improved seed problem</li> <li>Crop pest &amp; disease</li> </ul>
	b. Livestock production constraints	<ul style="list-style-type: none"> <li>Grazing land &amp; feed problem</li> <li>Animal health problem</li> </ul>	<ul style="list-style-type: none"> <li>Grazing land &amp; feed problem</li> <li>Animal health problem</li> </ul>	<ul style="list-style-type: none"> <li>Grazing land &amp; feed problem</li> <li>Animal health problem</li> </ul>	<ul style="list-style-type: none"> <li>Grazing land &amp; feed problem</li> <li>Animal health problem</li> </ul>



		<ul style="list-style-type: none"> <li>• Shortage of improved animal breeds</li> </ul>	<ul style="list-style-type: none"> <li>• Shortage of improved animal breeds</li> </ul>	<ul style="list-style-type: none"> <li>• Shortage of improved animal breeds</li> </ul>	<ul style="list-style-type: none"> <li>• Shortage of improved animal breeds</li> </ul>
	<b>Tool:</b>	<ul style="list-style-type: none"> <li>• Semi structured interview</li> <li>• Pair wise ranking</li> </ul>	<ul style="list-style-type: none"> <li>• Semi structured interview</li> <li>• Pair wise ranking</li> </ul>	<ul style="list-style-type: none"> <li>• Semi structured interview</li> <li>• Pair wise ranking</li> </ul>	<ul style="list-style-type: none"> <li>• Semi structured interview</li> <li>• Pair wise ranking</li> </ul>
	<b>Group composition:</b>	<ul style="list-style-type: none"> <li>• Male = 19</li> <li>• Female = 8</li> <li>• Total = 27</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 24</li> <li>• Female = 4</li> <li>• Total = 28</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 20</li> <li>• Female = 6</li> <li>• Total = 26</li> </ul>	<ul style="list-style-type: none"> <li>• Male = 18</li> <li>• Female = 7</li> <li>• Total = 25</li> </ul>
	<b>Facilitator(s)</b>	<ul style="list-style-type: none"> <li>• Yihalem Denekew</li> <li>• Asresie Hassen</li> </ul>	<ul style="list-style-type: none"> <li>• Yihalem Denekew</li> <li>• Asresie Hassen</li> </ul>	<ul style="list-style-type: none"> <li>• Yihalem Denekew</li> <li>• Asresie Hassen</li> </ul>	<ul style="list-style-type: none"> <li>• Yihalem Denekew</li> </ul>
	<b>Observed limitations:</b>	No limitation	No limitation	No limitation	No limitation
	<b>Problems during exercise:</b>	Less participation from women	Less participation from women	Less participation from women	Less participation from women