

# *Vulnerability and Capacity Assessment Report*

*Conducted in SNNPR, Sidama zone,  
Boricha woreda*

*ERCS*

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# 1. Background

## ***1.1. Location Area and Administrative division***

Sidama administration zone is found in South Nation and Nationalities Peoples Region (SNNPR). It is one of the 13 zones of SNNPR. It is also located in the north eastern part of the region and bounded by Oromiya in the North, east and South east, with Gedio Zone in the South, and Wolayta Zone in the west.

The Astronomical location of sidama zone lies between  $4^{\circ}27^0$  and  $8^{\circ}30^0$  latitude north and  $34^{\circ}21^0$  and  $39^{\circ}11^0$  longitudes east.

Total area of sidama zone is about  $6981.8 \text{ km}^2$  that divides in to 19 woredas and two administrative towns. These 19 woredas includes Aawassa Zuria, Malga, wondogenet, Goricha, wonisho, Chuko Loka Abaya, Bursa, Bona Zuria, Chire, Shebedino, Daule, Aleta Wondo, Darra, Hula, Arorresa, Bensa, Arbegona and Boricha woreda and the two towns' administrations of Yirgalem and Aleta wondo.

According to the regional statistical and population department projection for year of 1998 E.C., the total size of the Sidama population is estimated about 2,719,462. The size of population will account for almost 20percent of the regional population.

In former structure when the zone was divided into 10 woredas, Hawela tula kifleketema was merged in Aawassa zuria woreda. But since 1998 July, 12 kebeles from Hawassa woreda with its 100,000 population become part of Hawassa city transitional administration.

According to 1994 housing and population census projection, the total population of the zone is around 2,719,462 (1998 E.C). The average density of the zone is around 390 per/ $\text{km}^2$ . It is one of the densely populated zones in the region.

From recent Woreda restructuring the largest woreda is Loka Abaya with a total area of  $963.26 \text{ km}^2$  and the smallest one is Wonsho with  $145.28 \text{ km}^2$ .

## **1.2. Boricha woreda**

Boricha woreda is found in the North West part of Sidama Zone of SNNPR. It consists of 39 peasant and 3 urban kebeles. The bordering woredas are in the north, Hawassa zuria, in the east Shebedino, in the south locka Abbaya and in the west bordered by Bilate river and wolita zone. It is in the low land area of the zone, characterized by high temperature and low rain fall annually.

According to the regional statistical abstract of 1997 E.C., the total population size of the woreda is 266,192 out of which 130,938 are female and 135,253 are males. Among this, 3,410 live in urban areas and the rest 262,782 live in rural areas. The total area of the woreda is around 39,405 hectare.

It is usually affected by drought at an interval of 5 to 10 years. In the previous year, people of the woreda had been assisted by government and NGOs during drought periods. All the 39 rural kebeles of the woreda were under assistance and currently, these 39 rural kebeles are categorized under safety net programme.

The topography of the woreda is made up of 78 percent plain lowland and 22 percent rugged land. Due to the removal of vegetation coverage for farming and settlement, most parts of the woreda have been affected by erosion. It lies between the ranges of 1700m-2000m above sea level. The rain fall distribution of the woreda lies between 700mm and 1242mm per annum which is characterized by erratic distribution. The rainy season of the woreda is divided into two major rain fall or crop seasons i.e. “belg” and “meher”. The belg season starts in February and ends in May and is characterized by erratic rainfall. The “meher” season starts in June and ends in mid September which is characterized by normal type of rainfall (“kiremet” rain fall). The share of “meher” season is 20 percent and “Belg” is 80 percent. The temperature of the woreda ranged from 18<sup>0</sup>c – 32<sup>0</sup>c annually. The woreda is also found under the Great Rift Valley region. The soil type of the woreda mostly comprises 80 percent sandy loom black soil and 20percent clay soil.

The total area of land which is used for cultivation is 32,215 hectare out of which 20,638 hectare is used for annual crop and 11,577 hectare is utilized for perennial crops. The total area of range land is 3,231 hectare. The larger portion is conducive for agricultural activities with 77 percent of plain land topography. The climatic and ecological condition is dry temperate being 78 percent of woreda coverage.

### ***1.3. Historical background of vulnerability***

According to the key informants, during the regime of Emperor H/Sellassie, the number of people living in the area was very few and on the contrary, the vegetation coverage (forest and grasses) was very high. Moreover, a lot of wild animals are found in the area and availability of grazing/range land was also abundant. Besides, during this regime, the price of maize per quintal was only 14 birr and the price of a chicken, a fatten sheep, a chicken egg was 0.75 cents, 15 birr, 0.05 cents, respectively. In 1961, there was a drought, but the effect was not disastrous. To resist the drought, the community eats seeds which they have reserved for sowing.

In Derg regime, the forests were decreasing from time to time, but the number of people has been increasing. Before few years ago, the area was covered by different vegetation. During this period, deforestation became high because people cut trees for house hold consumption i.e. fire wood and livelihood purposes. To this effect, the environment has been changed from time to time. In 1974, there was a drought; people also usually eat “Zerzertu” and “koricho” the type of plant/crop which mature soon to cope up with the existing drought. Besides, roots have been eaten by the community. There was also a problem of water. The causes for drought were lack of rain fall. In 1986, there was also a drought. At that time, the price of maize raised up to 200 birr per quintal. Before the drought, it was 30-40 birr per quintal.

Recently, in 2000, there was also a great drought and famine which was caused by lack of rain fall. As a result of this, a great number of children, and more than 300 people were died. Animals and birds were died. A great number of animals have been died due to animal disease called “Gendi beshita”. All crops have been damaged and ensets were

burnt out. Traditional ponds were dried. According to the respondents, the 2000 drought was the most severe one. Mangesi and cholera were seen as effects of drought. In order to alleviate this problem, ERCS, and other NGOs have provided water to the community. DPPA also participated in life saving activity. ERCS has also provided seeds. In 2000, the normal price of maize increased by more than 500 percent and reached up to 800 birr per quintal. At that time, people sold what they have, and the rest who own nothing were begging to cope up with the drought. Production of enset also decreased from time to time.

In 2007, more than 180 equines were died due to drought. Thus, different NGO's have been involved in supporting the victims of drought. In recent days, there is high population pressure, so that the demand for additional farming has been significantly increased. Moreover, the farm land becomes very very small. It doesn't accommodate all the family's need for food consumption. The family size reaches 10-12 in some villages of the woreda. Because of this reason, deforestation becomes high and recurrent drought becomes a common phenomenon.

In general, since 1960's, the woreda has been characterized by erratic rain fall and affected by drought. Due to the growth of population, the need for farm land has been increased from time to time. Thus, most of the community members are engaging in cutting of the trees which in turn aggravates deforestation. Generally, the causes of the drought mainly lie on water shortage, climate change, lack of rainfall, deforestation, population pressure, shortage of farm land, lack of moisture contents and dependency on rain-fed agriculture. The moisture contents of the soil have been decreased from time to time due to deforestation. Moreover, the porosity of the soil is high in sandy loam type of soil. Generally, drought is potential threat of the area.

#### **1.4. Causes of Vulnerability**

The topography of the area made them vulnerable to the drought. Different areas of the woreda have mountain chains due to which gully erosion occurs and erodes the land. In addition to this, the unwise use of natural resources is one of the reasons of vulnerability.

People lack awareness and capacity to conserve the natural resources. Moreover, the indigenous vegetations are totally destructed and replaced by exotic species such as eucalyptus. The type of the soil is shallow and sandy which can not retain water, and susceptible to erosion. Moreover, due to the rugged nature of the land and low water retention capacity of the soil have made the area vulnerable to flood.

Traditional and backward farming system of the community has also contributed negatively to the vulnerability. Besides, the use of alternative technologies is very limited in the area. From the above findings, we can conclude that potential threat of the woreda is drought.

Climate change, untimely rain fall, low and erratic rain fall, deforestation, population pressure, the rapid expansion of eucalyptus trees were cited as causes of vulnerability. Besides, flush type of flood and winds eroded the loam soil and the hot type of environment, and stony nature of the land were cited as causes of vulnerability in some parts of the woreda.

## **2. Socio-economic condition of the woreda**

The main stay of the woreda is mixed farming i.e. farming and animal rearing. The economic activities are mainly depending on mixed farming and intercropping system. Even though the woreda was known as a famous producer of maize, haricot bean and pepper, from 2000 onwards, it becomes vulnerable to different hazards, such as drought and floods which are caused by shortage of rainfall, deforestation and land degradation. Thus, due to this reason, the woreda is classified as aid seeker. For example, in 2001, 45,000 people looked for food aid, in 2002, 45,000 people, in 2003, 53,000 people and in 2004, 38,000 people have been supported by different GOs and NGOs. Moreover, during these periods, the “meher” production has been reduced by 70 percent due to lack of rain fall. In view of this, different studies have shown that people who need support will be increased in the future.

Currently, a total of 41,855 house holds are beneficiaries of safety net program. Out of which 38,134 house holds are under public work and 3,721 household are under direct support program. Among this, 35,419 are females, and the rest 21,983 are males.

“Enset” or false banana, maize (corn) and “Bolleke” or haricot bean being their staple food. Besides, maize and haricot beans are used as cash crops. But, “Enset” is the most dominant food type of the woreda.

The distinctive environmental condition of Boricha woreda is having no springs and streams. The community uses untreated water which is collected from traditional ponds that can affect the health of the people. Additionally, the prevalence of malaria is very high in the area. Regarding marriage, both polygamy and monogamy are practiced within the community. Moreover, traditional marriage practices such as hereditary marriage and abduction are also exercised in the community.

### **2.1. Livelihood**

The main livelihood of the woreda is mixed agriculture. Livelihood of most of the population is based on cultivating of agricultural land. The rest of people live by using both animals rearing and farming. Most of the community members own less than 0.5 hectare of land so that they couldn't get enough agricultural produces for their livelihood. Since significant part of the society is being land less, so to cope up with, they are obliged to sell their labor locally or in the neighboring towns. Those sections of the society who do not have farm implements especially oxen, are used to rent their land to get their livelihood. Petty trading such as coffee, onion, teff, chat, table salt, and sweet potato are used as alternative income sources. Renting of their land and labor are other income sources of the society.

In addition to that, most people get their income by planting and selling of “enset”. In fact, the share of income which is gained by selling of “enset” is relatively very high when it is compared with other source of livelihood. In the normal year, significant number of the population can get their livelihood by selling maize. Selling of haricot bean becomes the other source of income. The community usually produces potato and



haricot bean twice and maize once in a year, respectively. People use these crops both for consumption and earning of income. Raring of animals is not the basic livelihood for the community. Most people do not have animals to rare. People who lead their livelihood by animal raring are very few. Selling of labor for weeding, construction of traditional houses, loading and unloading of goods are taken as alternative source of income. Women's who are very poor are usually getting their income by selling their labor to relatively rich people for the preparation of "enset" food. However, this job is not taken as a permanent livelihood. Moreover, women's are getting their daily livelihood by selling pepper, vegetable production, chicken and livestock products such as milk and butter and so on.

According to the respondents, the richest own up to 10 live stocks. This is mostly happened in low land areas. On the other hand, in most areas of the woreda, the better off own 2-3 livestock on average and some draft power animals. Most youngsters are not involved in farming because of lack of farm land. The poor are engaging in traditional handicrafts to get their livelihood. Migration and begging are also their alternative income source.

## ***2.2. Coping mechanisms***

When there is drought, shortage of food will automatically inevitable this is because people had no reserve stocks of food and grain. Thus, in order to cope up with the shortage of food people used different mechanisms. These are producing and consuming early maturing types of crops such as "teff", haricot bean, potato, sweet potato, etc. are used as coping mechanisms.

Moreover, they usually dig wells in swampy areas to cope up with the problem of shortage of water. In addition to this, selling of small ruminants, borrowing money from local money lenders, leasing of their farm land to rich farmers are used as coping mechanisms. Consuming immature part of Enset e.g. corm, feeding of unusual food the so called "Hambeleta" leaves, consuming leaves of coffee, eating fodder ("Furishca") mixing with maize flour, skipping of meals, chewing of "Chat" for the purpose of

skipping meals, and eating of different species, are used for coping mechanisms. Contract or sell of clothes, begging and a heavy dependency on the relief food are also used as coping mechanisms. Finally, migrating to near by areas such as Abela, Humbo, Loca abay).

### **2.3. Causes of food shortage**

Food shortage continuously occurs in the woreda due to shortage and erratic distribution of rain fall, and lack of farming land which is caused by an ever increasing number of population sizes. In addition to this, inability of the society to use the improved technologies is also cited as the causes of food shortage. Traditional and backward farming system of the community has contributed to the problem of getting enough food. According to the Bureau of the agriculture and rural development, only 20 percent of the community utilizes improved seeds and fertilizers. On the other hand, most members of the community do not possess oxen to plough with. A pair “Timad” of oxen serves for more than ten farmers. This shows people have faced shortage of farm tools. Due to this reason, time of sowing elapses. Besides, unwise consumption of what they have harvested and selling of their product with a very low price is the additional reason for the food shortage. Even selling of livestock (bulls and huffers) is common with those who are under safety net packages. Shortage of rain fall at the time of flowering of maize, dependency of most productive age groups on few workers e.g. youths, ever increasing price of food, occurrence of African army worm, death of livestock by black leg diseases are also seen as the major reasons for food shortage. “Temch” has repeatedly destroyed the maize belt as a result of this, the total production has been reduced by 20 percent. There is also maize dry crop disease which dried the entire crop at early stage. The production of “’enset” has been decreased from time to time as a result of drought.

On average there is food or hunger gap for about three to five months in the woreda. The food gap period prolongs from the month of February to June.

### **2.4. Agriculture**

The type of agriculture within the community is mixed-farming, i.e. animal rearing and growing of different crops such as perennial and annual. Perennial plants are coffee, enset, banana, avocado, pumpkins, etc. Annual crops are maize, barely, sorghum, wheat, haricot bean, broad bean, potato, sweet potato, teff, etc.

“Enset” is the dominant perennial staple food of the community which serves as food and fodder to animals. It is also drought resistant and has water retention capacity, especially local variety which is called “medicha”. Among annual crops maize is a staple crop used for home consumption and cash crop. On average, each individual farmer owns 0.5ha of cultivable land for production.

Most of the community uses traditional farm tools such as oxen; spade and “Sharika” to plough their lands. The uses of these farm implements make the community poor in harvesting production. As a result of this, the productivity and production remains low. In addition to growing of crops, the community of the area also engaged in rearing of animals such as cattle, goats and sheep, equines and hens which have economic and social values.

According to the woreda Agriculture and Rural Office, the area has two crop seasons, “Belg” and “Meher”. The “Belg” stays from mid February to May which accounts 80percent of the total production of the area. Moreover, time of sowing begins from mid-February to mid-April. In addition to this, the “Meher” season is also the second crop period which accounts 20percent of the total production of the woreda. In Belg season, the period of land preparation ranges between January and March; and sowing period ranges between March and April. In “meher” season, preparation of land starts in June and stays up to August while sowing period ranges between July and August. The weeding period of “Belg” season lies on the month of March, April and May and harvesting time of “belg” ranges between the month of October and November. On the other hand, the weeding time of the “meher” season lies between the month of August and September, and the harvesting time is between the month of November and December.

When we see distribution of rain fall by seasons, in “Belg” season the rainy season starts in February and ends in April. On the other hand, in “Meher” season, the rainy season starts in the month of June and ends in September.

According to the same source, the total area of the land which is used for cultivation and its percentage share are 32,215 hectare and 82 percent, respectively.

## ***2.5. Water and Sanitation***

Traditional ponds of the area serve as the main water sources for the community. These ponds which are exposed to different pollutants serve for both humans and animals. Thus, it makes the total community vulnerable to water-borne diseases such as AWD, Giardiasis. The traditional ponds serve the community only for three months after which the community starts to move up to 30 km in search of water.

Most people do not use water guard due to their less capacity to buy it and lack of awareness about the usage and advantage of water guard. Besides, there are no alternative sources of water like rivers, lakes, springs etc. The burden of fetching water is totally the duty of females especially daughters.

Most members of the community do not have toilet. Use of improved toilet is at initial stage, only 46 percent of the community use toilet and the rest 54 percent not yet utilize toilet. Moreover, the type of toilet is earth well which is constructed by surrounding materials.

As the traditional ponds dried up, the area becomes swampy and is used for the reproduction of mosquito which highly affects the community. The disposal of wet and dry wastages is practiced in the community even though it is not in appropriate way. Some parts of the community use fluid and solid home disposals as fertilizers. They also burn-out dry wastages. In general, the habits of sanitation of the community are very poor.

According to the Sidama zone water resource development office, two motorized scheme, 14 hand pump, 5 expansion work, 6 bore hole, and 3 modern ponds out of which one is not functional are found in the woreda.

## ***2.6. Health and health related situations of the community***

Malaria, typhoid, AWD, TB, Giardia, eye diseases are commonly prevalent diseases of the area. Among these malaria is the most dominant/common diseases which affect most of the community. The causative agents for the aforementioned diseases are mainly related with impure water fetched from ponds and swampy areas. The cause of TB is due to shortage of food and problem of awareness about the causes of diseases. Swelling in different parts of the body was seen in some members of the community, especially in “Koran gogie” peasant kebele, the cause of which is unknown. It is not also reported to the nearest health post. Mangesi also rarely occurs in the area. Although the community has access to bed net, they do not have awareness about the usage of it. But about 30 percent of the community has awareness about the advantage of the bed net.

According to the Bureau of Finance and Economic development of Sidama zone, there are 2 health centers, 1 upgrading health center, 1 health clinic owned by NGO, and 29 health posts found in the woreda. Regarding to health workers, there are a total of 42 health workers found in the woreda, but there is no physician. Besides, the community in general has awareness about the method of transmission of HIV/AIDS.

## ***2.7. Education***

Most members of the community send their children to school. Nowadays, both females and males have the opportunity to participate in schooling. Participation in elementary schooling has been increasing. This is because of shortage of farm land forced the community to send their children to school that helps them for looking another means of livelihood. However, the number of drop outs increases because of food shortage. Particularly females are obliged to fetch water from distant places, mostly traveling to 10-15 kms. Thus, the rate of drop outs increases in females. There is one secondary school, eleven 2<sup>nd</sup> cycle primary schools and 42 first cycle primary schools found in the woreda.

### **3. Capacity within the community**

There are some capacities within the members of the community which enable it to serve the population at large. These skills are as follows: Pottery, traditional tannery, handcrafts, preparing local “Arekie” and “Tella”. Though these skills are seen within the community, the members using these skills are very few in number. These activities are exercised by highly destituted people.

#### ***3.1 Institutional capacities***

There are different governmental institutions such as FTC (Farmers’ Training Centers), schools, and health posts, wireless telephone services, found in the woreda. In addition to this, there are also local and international NGO’s such as World Vision Ethiopia, Goal Ethiopia, Mekane Yesus, Meserete Kiristos, Kale Hiwot and Catholic which are currently participated in different development and relief activities.

These organizations assist in health care affairs, sanitation programmes, etc. Moreover, they participate in community conversation programmes about HIV/AIDS and TOT (Training of Trainers). There is also self help programme to capacitate farmers’ cooperatives.

There are also religious institutions such as churches and mosques which serve for both christens like orthodox, catholic, protestant and Muslims.

#### ***3.2. Means of transport***

There is a road which connects the woreda to the zone even though the road is not asphalted road. There are also feeder roads that communicate one kebele with the other, although all the roads are not all weather roads. The road was constructed by the safety net programme by using local materials. The members of the community have

participated in the construction of the road. The community uses donkey and horse to transport goods and people. Equines serve as a draft power.

### **3.3. Cultural integration**

The community has established high bond that helps them to assist each other especially at times of mourning, and weeding, even at times of delivery and sickness. They are also helping each other during the period of drought by lending grains and what they have. There are CBO's mostly "Iddir" existing within the community.

There are security forces ("Yekebele Tataki") in each kebele which are directly commanded by the kebele administration.

### **3.4. Good governance and Justice**

The community believes that there is good governance in the locality even though, the process of getting justice take significant time of the society.

## **4. Composition of the team**

The assessment team members are composed of head quarter DPPD, Sidama Zone ERCS branch, Regional ERCS, and Boricha Woreda Rural and Agriculture Office. The composition of the assessment team looks like the following.

Table 1.1 Name and responsibility of the team

<b>Ser no.</b>	<b>Name</b>	<b>Organization</b>	<b>Position</b>	<b>Responsibility of the team</b>
<b>1</b>	Kefay Baye	ERCS, HQ	Senior Food Security officer	Team leader
<b>2</b>	Azmeraw Bekele	ERCS, HQ	Junior DR officer	Member
<b>3</b>	Tsegaye Tessema	ERCS, Sidama Zone	Branch secretary	Member
<b>4</b>	Sirage Beribo	ERCS, SNNPR	Program Coordinator	Member
<b>5</b>	Abebe Wanna	ERCS Sidama Zone	Branch accountant	Member

<b>6</b>	Aklilu	Borcha BAaRD	Head, FSaDP Desk	Member
<b>7</b>	Tadesse	Borcha BAaRD	Agriculture expert	Member

## 5. Methodology

### 5.1 Primary data collection

The team has communicated with the zone executive committee members and executive members of the Boricha woreda and explains about the purpose of VCA.

The team took four rural kebeles as representative of the woreda namely Koran Goge, Harriro Bedalicha, Shelo Abore, and Mado Mekanica. In consulting with the Boricha woreda cabine members, the four kebeles have been selected by using purposive sampling methods. The team has actively and continuously worked in four kebeles of Boricha woreda which are purposely selected. The team intensively and exhaustively tried to get primary data (information) from those groups of people who are selected from each kebele. The team uses focal group discussion to gather information using unstructured questionnaires or check list. As representative of each kebele, the team has taken ten people and discuss with them. These ten people are composed of different groups of the society. These are two from local elders, two from women's association, two from youth association, two from religious institutions (leaders), and two from kebele/local government representatives. The administrator and the heads of all offices were the other informants who exchanged different facts, views and other relevant information with the team members at woreda level. On average, the team took 5-6 hours to discuss with the informants.

#### 5.1.1. Itinerary

The visit schedule has been planed by the team members and the woreda cabine members. The participants of the focus group discussion in the targeted kebeles have been informed to wait the team one day before the actual discussion conducted. Accordingly, the team has visited the following selected rural kebeles by the following time schedule.



Table 1.2 Schedule of the visit

<i>No</i>	<i>Visited villages/kebeles</i>	<i>Date visited</i>	<i>Time</i>
<b>1</b>	Zone and Woreda Administr. Offices	10/11/2008	8:30AM-4:00PM
<b>2</b>	Koran Gogie	11/11/2008	8:00AM-1:00PM
<b>3</b>	Harrio Bedalicha	12/11/2008	8:30AM-1:00PM
<b>4</b>	Shenio Aboe	13/11/2008	8:30AM-1:00PM
<b>5</b>	Muda Mokannica	14/11/2008	9:00AM-1:00PM

## 5.2. Secondary data collection

The secondary data have been gathered from different sector offices' of agriculture and rural development, water, health, and education offices of Zone and Woreda administration. The written document includes annual reports, statistical surveys and other written documents of different sector offices of the zone and woreda administration offices.

## 6. Constraints

Inaccessibility of rural road in some kebeles, absence of field materials such as, camera, laptop and illness of some team members were some of the constraints observed during conducting the assessment.

## 7. Recommended Solutions of the Community

All members of the community are ready to participate in activities like, nursery preparation, terracing, planting of seedlings, and in every activity that requires their participation to prevent the causes of drought.

The members of the community require awareness creation and capacity building in order to participate in preventive activities. In addition to this, they require external support in general to restore the natural resources and to overcome the immediate problems.

Moreover, the critical problem in most kebeles is total absence of potable water due to which the community becomes victim to different diseases. Therefore, the community recommends having bore-wells in order to solve the problem.

## **8. Recommendation of the assessment team**

### ***8.1. Vulnerability of the area***

Those kebeles which have the same water catchments should be under one watershed development programme.

To mitigate the drought (degradation) related problems of the community, mitigation measures such as watershed development activities, afforestation, area closure and the like should be used. Some of these programs have been currently practiced by different agencies. Thus, scale up of these programs with community participatory methods should be strengthened.

In the same way, the reduction measures of fast rugged lands due to erosion around the Bilate River should be undertaken. Moreover, areas which have the same agro ecology should be covered by different suitable indigenous species.

Poverty is a major problem for not using their agricultural products properly i.e early selling of their products with low price as a result of this facing food shortage after few months. Hence, income generating activities such as diversifying of off-farm activities, up-grading of their existing skills, i.e. train the community members in small-scale industries.

To resist food shortage problem of the community, early maturing and drought resistant crop seed varieties can be provided. In addition to this, to minimize food gap and to increase productivity and income of the community, improved vegetable seeds should be provided.

To minimize the problem of grazing and to increase the productivity of domestic animals, different types of fodder seeds such as elephant grass, rodus grass, vetch, etc. should be available.

The heavy degradation of Bilatie river bank signifies the expansion of desertification towards this woreda in particular. This should be controlled from further soil erosion and migration of the people.

### **8.2. Water shortage**

Boricha Woreda is critically affected by the problem of water shortage in general. Almost all members of the community utilize water for human beings and animals from ponds which are polluted and last only for not more than three months. From the visited kebeles, the team has recognized that there is no availability of water. Thus, there should be a means to provide water from the neighboring kebeles and woredas to the community. The traditional ponds should be changed into modern ones. There is also a possibility to construct dams and to harvest water and distribute to the community. The other recommendation is to enhance utilization of the existing roof catchments. Additional ponds should be constructed in order to make a better access to potable water. As it is mentioned above the existing pond water is used only for three months, thus, there should be a means to prolong the life time of the traditional ponds.

The other recommendation of the team to make better access to potable water to the community further trial of digging bore-well and deep well should be done. Even though, deep well drilling failed in some places of the woreda, as the team has been informed additional trial should be taken for the implementation of deep well drilling. Moreover, to make the community aware about the importance and utilization of water guard training should be conducted.

### **8.3. Sanitation problem**

The existing way of removal of dry and liquid wastes are good and should be strengthened. All members of the community should be trained and get awareness on how to use traditional toilets. Support should be given to the communities to construct

their private toilets and with in fact hygiene packages. Hygiene awareness creation should also be included. There should be training on how to utilize dry and wet wastes as natural fertilizers or for compost preparation.

#### ***8.4. Health problem***

Since most areas of the woreda are swampy and the dominant disease affecting the community is malaria, there should be a means to drain the swampy places, and provision of bed net to the people.

Many people are affected by TB; the community should get awareness on how this disease is transmitted from one to the other. Since the cause of TB is highly related with the deficit of food, there should be immediate provision of balanced diet, for those who are in need and seek long lasting mitigation of the problem by restoring suitable condition.

To control AWD and other water born diseases, the community should be trained on how to use water guard and to keep the water safe.

There should be closer follow up of diseases like meningitis and eye diseases. There is also goiter which is caused by deficit of iodine. Thus, in order to prevent this disease, community should be aware of using iodized salt.

#### ***8.5. Education problem***

Drop outs of schools are highly exercised which is directly related with the drought. To meet the millennium goal of education, drop outs should be minimized. Especially females are highly victims of these drop outs. This is because only females are obliged to fetch water from far away places. The community believes or accept that the duty of fetching water is the responsibility of females especially daughters. In addition to this, in most kebeles of the woreda, the existing schools are only primary 1<sup>st</sup> cycle that means from grade 1-4 and there is a problem of getting access to the 2<sup>nd</sup> cycle of education i.e. from grade 5-8 and 9-10. These schools are located far away from their villages and they

have to travel on average 5-7 km in order to get these schools. For this reason, drop out of school being a common phenomenon.

Most schools are lacking basic student desks and chairs and the like. Therefore, there should be means to equip the schools with basic school furniture.

## **9. Conclusion**

Borich woreda is drought prone area. Most of the areas are covered by low or limited vegetation, the area is also characterized by land degradation and rugged land which makes it vulnerable to high erosion. Deforestation becomes a common phenomenon in fact with no natural conservation practices. Communities' awareness about the use and advantage of natural conservation practices are very limited. Protection of soils from erosion is also limited.

In general, deforestation, soil erosion, land degradation, loss of moisture content, loss of fertility in the soil, lack of rain fall, have been seen as a major problems of vulnerability to drought in the woreda. In addition to these, population pressure, shortage of cultivation land, and problems of grazing land leads the woreda community vulnerable to different kinds of hazards. Moreover, shortage of cow dung, compost and inadequate supply of artificial fertilizer lead the community more vulnerable to drought. As a result of this, drought, vulnerability and food shortage have been increasing from time to time.

Getting of clean and safe potable water is a crucial problem and almost unthinkable. Mostly, women and children are highly affected by the shortage of water. The burden of searching and fetching of water totally lies on females especially children. As a result of this, water borne disease would become a common phenomenon. The communities are highly affected by water borne diseases. Problem of sanitation is also crucial in the woreda.

There is also fundamental problem of health in the woreda. Malaria, Typhoid, eay disease, TB, are the most common diseases of the area. Among them malaria is the most

dominant and acute problem of the area. In addition to this, AWD is found to be the second problem which affects the society widely.

Drops out of schools are highly practiced during dry season in the community. This is due to shortage of food. Most children couldn't get enough food that helps to get energy to attend their education. The food gap/hunger gap period lies from 3-5 months. This is because of heavily dependency on some annual crops, inability to use improved seeds, lack of income and lack of drought resistance varieties.

The Boricha woreda community has less livelihood alternative income sources. In order to alleviate this problem, different income generating schemes both off farm and on farm, rearing of small ruminants, fattening of animals petty trading, pottery, and handicrafts should be strengthened.

To conclude, if intervention activities take place to mitigate the aforementioned problems of the community, the team believes that the vulnerability condition of the area could be mitigated and the community can lead a better life.